

HANDBOOK OF THE BIRDS OF INDIA AND PAKISTAN

*TOGETHER WITH THOSE OF BANGLADESH,
NEPAL, BHUTAN AND SRI LANKA*

SALIM ALI
AND
S. DILLON RIPLEY

Volume 5
LARKS TO THE GREY HYPOCOLIUS
Synopsis Nos. 872-1063
Plates 64-70
(5 colour & 2 monochrome)

SECOND EDITION

*Sponsored by the
Bombay Natural History Society*

Delhi
OXFORD UNIVERSITY PRESS
Oxford New York
1987

Oxford University Press, Walton Street, Oxford OX2 6DP

NEW YORK TORONTO

DELHI BOMBAY CALCUTTA MADRAS KARACHI

PETALING JAYA SINGAPORE HONG KONG TOKYO

NAIROBI DAR ES SALAAM

MELBOURNE AUCKLAND

and associates in

BEIRUT BERLIN IBADAN NICOSIA

© Oxford University Press, 1972, 1987

Selim ALI 1896

Sidney Dillon RIPLEY 1919

First published 1972

Second edition 1986

(revised to 31 December 1982)

SBN 19 561857 2

Printed in India

Text at Rekha Printers Pvt. Ltd., Okhla Industrial Area, New Delhi 110020

Plates at Printwell, Laxmi Mills Estate, Mahalaxmi, Bombay 400011

Published by R. Dayal, Oxford University Press

YMCA Library Building, Jai Singh Road, New Delhi 110001

SYSTEMATIC INDEX

Order PASSERIFORMES (cont.)

Family ALAUDIDAE: Larks

872 Singing Bush Lark, <i>Mirafra javanica cantillans</i> Blyth	2
873 Bush Lark, <i>Mirafra assamica assamica</i> Horsfield	4
874 ssp <i>affinis</i> Blyth	5
875, 876 Redwinged Bush Lark, <i>Mirafra erythroptera sindiana</i> Ticehurst	7
877 ssp <i>erythroptera</i> Blyth	7
878 Ashycrowned Finch-Lark, <i>Eremopterix grisea</i> (Scopoli)	9
879 Blackcrowned Finch-Lark, <i>Eremopterix nigriceps affinis</i> (Blyth)	10
880 Desert Finch-Lark, <i>Ammomanes deserti phoenicuroides</i> (Blyth)	12
881 Bartailed Desert Lark, <i>Ammomanes cincturus zarudnyi</i> Hartert	13
882 Rufoustailed Finch-Lark, <i>Ammomanes phoenicurus phoenicurus</i> (Franklin)	14
883 ssp <i>testaceus</i> Koelz	16
884 Large Desert Lark, <i>Alaemon alaudipes doriae</i> (Salvadori)	16
885 Short-toed Lark, <i>Calandrella cinerea longipennis</i> (Eversmann)	19
886 ssp <i>dukhunensis</i> (Sykes)	21
887 Hume's Short-toed Lark, <i>Calandrella acutirostris acutirostris</i> Hume	23
888 ssp <i>tibetana</i> Brooks	24
888a Lesser Short-toed Lark, <i>Calandrella rufescens persica</i> (Sharpe)	25
888b ssp <i>leucophaea</i> Severtzov	271
889 Sand Lark, <i>Calandrella raytal adamsi</i> (Hume)	26
890 ssp <i>krishnakumarsinhji</i> Vaurie & Dharmakumarsinhji	27
891 <i>raytal</i> (Blyth)	27
892 Eastern Calandra Lark, <i>Melanocorypha bimaculata torquata</i> Blyth	29
893 Longbilled Calandra Lark, <i>Melanocorypha maxima holdereri</i> Reichenow	30
894 ssp <i>maxima</i> Blyth	31
895 Horned Lark, <i>Eremophila alpestris albogularis</i> (Bonaparte)	33
896 ssp <i>longirostris</i> (Moore)	34
897 <i>elwesi</i> (Blanford)	35
898 Crested Lark, <i>Galerida cristata magna</i> Hume	37
899 ssp <i>chendoola</i> (Franklin)	37
900 <i>lynnesi</i> Whistler	39
901 Malabar Crested Lark, <i>Galerida malabarica</i> (Scopoli)	39
902 Sykes's Crested Lark, <i>Galerida deva</i> (Sykes)	40
903 Skylark, <i>Alauda arvensis dulcivox</i> Brooks	42
903a ssp <i>cantarella</i> Bonaparte	43
904 Eastern Skylark, <i>Alauda gulgula inconspicua</i> Severtzov	44
905 ssp <i>thamarum</i> R. & A. Meinertzhagen	44
906 <i>inopinata</i> Bianchi	45
907 <i>gulgula</i> Franklin	46
908 <i>australis</i> Brooks	47
909 <i>vernayi</i> Mayr	48

Family HIRUNDINIDAE: Swallows

910 Collared Sand Martin, <i>Riparia riparia diluta</i> (Sharpe & Wyatt)	49
911 ssp <i>ijimae</i> (Lönnberg)	51
912 Plain Sand Martin, <i>Riparia paludicola chinensis</i> (J. E. Gray)	51
913 Crag Martin, <i>Hirundo rupestris</i> Scopoli	53
914 Dusky Crag Martin, <i>Hirundo concolor concolor</i> Sykes	55
915 Pale Crag Martin, <i>Hirundo obsoleta pallida</i> (Hume)	56
916 Swallow, <i>Hirundo rustica rustica</i> Linnaeus	57
917 ssp <i>gutturalis</i> Scopoli	59

SYSTEMATIC INDEX

918	<i>tytleri</i> Jerdon	60
919	House Swallow, <i>Hirundo tahitica domicola</i> Jerdon	61
920	ssp <i>javanica</i> Sparrman	62
921	Wiretailed Swallow, <i>Hirundo smithii filifera</i> Stephens	63
922	Indian Cliff Swallow, <i>Hirundo fluvicola</i> Blyth	64
923	Striated or Redrumped Swallow, <i>Hirundo daurica daurica</i> Linnaeus	66
924	ssp <i>rufula</i> Temminck	67
925	<i>nipalensis</i> Hodgson	68
926	<i>japonica</i> Temminck & Schlegel	70
927	<i>erythropygia</i> Sykes	70
928	<i>hypertyhra</i> Blyth	72
929	Larger Striated Swallow, <i>Hirundo striolata mayri</i> Hall	73
930	House Martin, <i>Delichon urbica urbica</i> (Linnaeus)	74
931	ssp <i>cashmeriensis</i> (Gould)	75
932	Nepal House Martin, <i>Delichon nipalensis nipalensis</i> Moore	76
 Family LANIIDAE: Shrikes or 'Butcher Birds'						
933	Grey Shrike, <i>Lanius excubitor lahtora</i> (Sykes)	79
934	ssp <i>pallidirostris</i> Cassin	81
935	<i>aucherii</i> Bonaparte	82
936	<i>homeyeri</i> Cabanis	82
937	Lesser Grey Shrike, <i>Lanius minor</i> Gmelin	83
938	Chestnutrumped Shrike, <i>Lanius collaroides</i> Lesson	83
939	Baybacked Shrike, <i>Lanius vittatus nargianus</i> Vaurie	84
940	ssp <i>vittatus</i> Valenciennes	85
941	Redbacked Shrike, <i>Lanius collario collario</i> Linnaeus	87
942	ssp <i>phoenicuroides</i> (Schalow)	88
943	<i>isabellinus</i> Hemprich & Ehrenberg	89
944	Greybacked or Tibetan Shrike, <i>Lanius tephronotus lahulensis</i> Koelz	91
945	ssp <i>tephronotus</i> (Vigors)	92
946	Rufousbacked Shrike, <i>Lanius schach erythronotus</i> (Vigors)	93
947	ssp <i>caniceps</i> Blyth	96
948	<i>tricolor</i> (Hodgson)	96
949	Brown Shrike, <i>Lanius cristatus cristatus</i> Linnaeus	98
950	ssp <i>lucionensis</i> Linnaeus	100
950a	<i>superciliosus</i> Latham	271
951	Woodchat Shrike, <i>Lanius senator niloticus</i> (Bonaparte)	101
 Family ORIOLIDAE: Orioles						
952	Golden Oriole, <i>Oriolus oriolus oriolus</i> (Linnaeus)	102
953	ssp <i>kundoo</i> Sykes	103
954	Blackknaped oriole, <i>Oriolus chinensis diffusus</i> Sharpe	105
955	ssp <i>tenuirostris</i> Blyth	106
956	<i>andamanensis</i> Tytler	107
957	<i>macrourus</i> Blyth	108
958,	959 Blackheaded Oriole, <i>Oriolus xanthornus xanthornus</i> (Linnaeus)	108
960	ssp <i>ceylonensis</i> Bonaparte	110
960a	ssp <i>reubeni</i> Abdulali	111
961	Maroon Oriole, <i>Oriolus traillii traillii</i> (Vigors)	112
 Family DICRURIDAE: Drongos						
962	Black Drongo or King-Crow, <i>Dicrurus adsimilis albiventer</i> (Hodgson)	114
963	ssp <i>macrocerus</i> Vieillot	117
964	<i>minor</i> Blyth	118
965	Grey or Ashy Drongo, <i>Dicrurus leucophaeus longicaudatus</i> Hay	119
966	ssp <i>hopwoodi</i> Baker	121
966a	<i>salangensis</i> Reichenow	121
966b	<i>leucogenys</i> (Walden)	271

SYSTEMATIC INDEX

vii

967	Whitebellied Drongo, <i>Dicrurus caerulescens caerulescens</i> (Linnaeus)	122
968	ssp <i>insularis</i> (Sharpe)	123
969	<i>leucopygialis</i> Blyth	124
970	Crowbilled Drongo, <i>Dicrurus annectans</i> (Hodgson)	125
971	Bronzed Drongo, <i>Dicrurus aeneus aeneus</i> Vieillot	126
972	Lesser Racket-tailed Drongo, <i>Dicrurus remifer tectirostris</i> (Hodgson)	128
973	Haircrested or Spangled Drongo, <i>Dicrurus hottentottus hottentottus</i> (Linnaeus)	131
974	Andaman Drongo, <i>Dicrurus andamanensis dicruriformis</i> (Hume)	134
975	ssp <i>andamanensis</i> Tytler	134
976	Greater Racket-tailed Drongo, <i>Dicrurus paradiseus grandis</i> (Gould)	136
977	ssp <i>paradiseus</i> (Linnaeus)	137
978	<i>ceylonicus</i> Vaurie	140
979	<i>lophorhinus</i> Vieillot	140
980	<i>otiosus</i> (Richmond)	142
981	<i>nicobariensis</i> (Baker)	142
Family ARTAMIDAE: Swallow-Shrikes or Wood Swallows		
982	Ashy Swallow-Shrike, <i>Artamus fuscus</i> Vieillot	143
983	Whitebreasted Swallow-Shrike, <i>Artamus leucorhynchus humei</i> Stresmann	145
Family STURNIDAE: Starlings, Mynas		
984	Spottedwinged Star, <i>Saroglossa spiloptera</i> (Vigors)	147
985	Glossy Star or Starling, <i>Aplonis panayensis affinis</i> (Blyth)	149
986	ssp <i>tytleri</i> (Hume)	150
986a	<i>albiris</i> Abdulali	272
987	Greyheaded Myna, <i>Sturnus malabaricus malabaricus</i> (Gmelin)	152
988	ssp <i>blythii</i> (Jerdon)	154
989	<i>nemoricola</i> (Jerdon)	155
990	Whiteheaded Myna, <i>Sturnus erythropygius andamanensis</i> (Tytler)	156
991	ssp <i>erythropygius</i> (Blyth)	157
992	<i>katchalensis</i> (Richmond)	158
993	Ceylon Whiteheaded Myna, <i>Sturnus senex</i> (Bonaparte)	159
994	Blackheaded or Brahminy Myna, <i>Sturnus pagodarum</i> (Gmelin)	160
995	Daurian Myna, <i>Sturnus sturninus</i> (Pallas)	162
996	Rosy Pastor, <i>Sturnus roseus</i> (Linnaeus)	163
997	Starling, <i>Sturnus vulgaris poltaratskyi</i> Finsch	166
998	ssp <i>nobilior</i> Hume	168
999	<i>porphyronotus</i> Sharpe	169
1000	<i>minor</i> Hume	170
1001	<i>indicus</i> Blyth	170
1002	Pied Myna, <i>Sturnus contra contra</i> Linnaeus	172
1003	ssp <i>sordidus</i> Ripley	175
1004	<i>superciliaris</i> (Blyth)	175
1005	Chinese or Greybacked Myna, <i>Sturnus sinensis</i> (Gmelin)	176
1006	Common Myna, <i>Acridotheres tristis tristis</i> (Linnaeus)	177
1007	ssp <i>melanosternus</i> Legge	180
1008	Bank Myna, <i>Acridotheres ginginianus</i> (Latham)	181
1009	Jungle Myna, <i>Acridotheres fuscus fuscus</i> (Wagler)	183
1010	ssp <i>mahrattensis</i> (Sykes)	185
1011	<i>fumidus</i> Ripley	186
1012	Orangebilled Jungle Myna, <i>Acridotheres javanicus infuscatus</i> (Baker)	187
1013	Collared Myna, <i>Acridotheres albocinctus</i> Godwin-Austen & Walden	188
1014	Goldcrested Myna, <i>Mino coronatus</i> (Blyth)	189
1015,	1017 Grackle or Hill Myna, <i>Gracula religiosa intermedia</i> A. Hay	191
1016	ssp <i>indica</i> (Cuvier)	194
1018	<i>andamanensis</i> (Beavan)	196
1019	Ceylon Hill Myna, <i>Gracula philogenys</i> Blyth	197

SYSTEMATIC INDEX

Family CORVIDAE: Crows, Magpies, Jays, etc.

1020	Jay, <i>Garrulus glandarius bispecularis</i> Vigors	199
1021	ssp <i>interstinctus</i> Hartert	201
1022	Blackthroated Jay, <i>Garrulus lanceolatus</i> Vigors	202
1023	Green Magpie, <i>Cissa chinensis chinensis</i> (Boddaert)	204
1024	Ceylon Blue Magpie, <i>Cissa ornata</i> (Wagler)	205
1025	Yellowbilled Blue Magpie, <i>Cissa flavirostris cucullata</i> (Gould)	207
1026	ssp <i>flavirostris</i> (Blyth)	208
1027	Redbilled Blue Magpie, <i>Cissa erythroryncha occipitalis</i> (Blyth)	209
1028	ssp <i>magnirostris</i> (Blyth)	212
1029	Magpie, <i>Pica pica bactriana</i> Bonaparte	213
1030	ssp <i>bottanensis</i> Delessert	215
1030a	Indian Tree Pie, <i>Dendrocitta vagabunda bristoli</i> Paynter	216
1031	ssp <i>pallida</i> (Blyth)	217
1032	<i>vagabunda</i> (Latham)	218
1033	<i>parvula</i> Whistler & Kinnear	220
1034	<i>vernayi</i> Whistler & Kinnear	221
1035	Blackbrowed Tree Pie, <i>Dendrocitta frontalis frontalis</i> Horsfield	222
1036	Whitebellied Tree Pie, <i>Dendrocitta leucogastra</i> Gould	223
1037	Himalayan Tree Pie, <i>Dendrocitta formosae occidentalis</i> Ticehurst	225
1038,	1039 ssp <i>himalayana</i> Blyth	226
1040	Andaman Tree Pie, <i>Dendrocitta bayleyi</i> Tytler	228
1041	Hume's Ground Chough, <i>Podoces humilis</i> Hume	229
1042	Nutcracker, <i>Nucifraga caryocatactes multipunctata</i> Gould	231
1043	ssp <i>hemispila</i> Vigors	233
1044	<i>macella</i> Thayer & Bangs	235
1045	Yellowbilled or Alpine Chough, <i>Pyrrhocorax graculus digitatus</i> Hemprich & Ehrenberg	236
1046	Redbilled Chough, <i>Pyrrhocorax pyrrhocorax centralis</i> Stresemann	239
1047	ssp <i>himalayanus</i> (Gould)	241
1048	House Crow, <i>Corvus splendens zugmayeri</i> Laubmann	243
1049	ssp <i>splendens</i> Vieillot	244
1050	<i>protegatus</i> Madarász	246
1051	<i>maledivicus</i> Reichenow	247
1052	Rook, <i>Corvus frugilegus frugilegus</i> Linnaeus	248
1053	Jackdaw, <i>Corvus monedula monedula</i> Linnaeus	250
1054	Jungle Crow, <i>Corvus macrorhynchos intermedius</i> Adams	252
1055	ssp <i>levaillantii</i> Lesson	254
1056	<i>tibetosinensis</i> Kleinschmidt & Weigold	256
1057	<i>culminatus</i> Sykes	256
1058	Carriion Crow, <i>Corvus corone orientalis</i> Eversmann	259
1058a	ssp <i>sharpii</i> Oates	260
1059	Raven, <i>Corvus corax subcorax</i> Severtzov	262
1060	ssp <i>tibetanus</i> Hodgson	264
1061	Brown-necked Raven, <i>Corvus ruficollis</i> Lesson	265

Family BOMBYCILLINAE

Subfamily BOMBYCILLINAE: Waxwings

1062	Waxwing, <i>Bombycilla garrulus garrulus</i> (Linnaeus)	266
1063	Grey Hypocolius, <i>Hypocolius ampelinus</i> Bonaparte	268

ABOUT THE PLATES

Since the publication of Vol. 4 (2nd edition) we received through the munificence of the U.S. Fish & Wildlife Service (Department of Interior) and the well-known American bird painter John Henry Dick a set of 104 immaculate plates (mostly colour, some monochrome) illustrating ALL the birds found in the Indian Subcontinent.¹ Not only are all species represented, but in most cases they are arranged systematically, familywise, i.e. all the mynas together on the same plate, all the crows together, and so on, making it easier and quicker for the user to compare and identify his bird at a glance. For further convenience of reference the new plates are all bunched together at the end. These plates are the same as used in *A Pictorial Guide to the Birds of the Indian Subcontinent* by Sálim Ali and S. D. Ripley, but their serial numbering has been altered as necessary when assigning the plates to the appropriate volumes of the *Handbook*.

Possessors of Vols. 1–10 of the *Handbook* (1st edition), and/or the first four volumes of the 2nd may feel somewhat confused at the numbering of the plates in the present volume which, instead of starting with 55, actually does so with 64. This seeming discrepancy is due to the fact that against the 54 old plates used in the four published volumes of the 2nd edition there are 63 of the new series illustrating the same species plus many additional ones. These 63 new plates will in due course replace the 54 old ones of Vols. 1–4 in the 3rd edition. Till then the anomaly will need to be tolerated, but it is hoped that users will applaud the change as for the better.

Any plate reference in this volume (5, 2/c) to a different *Handbook* volume refers to those that will be published subsequently, i.e. 3rd edition of Vols. 1–4 and 2nd edition of 6–10. Also, any reference to plates in Vol. 5 in the volumes already published, will refer to the 1st edition of Vol. 5 and not the 2nd.

The following symbols are marked on the new plates:

ad- = Subadult
imm = immature
juv = juvenile
S = summer
W = winter
br+ = breeding

br- = non-breeding
↓ = seen from above } For birds
↑ = seen from below } in flight
● = dark phase
○ = pale phase
† = intermediate phase

¹ The Bombay Natural History Society and the authors feel especially beholden to the U.S. Fish & Wildlife Service and to the U.S. Embassy in India for their continued good offices in arranging transport of the plates between the U.S. and India; also for making possible the overseas travel of the artist for carrying out necessary alterations to some of the plates.

PLATES

Synopsis numbers in brackets (SE) = Species Extralimital

Plate 64

- 1 *Mirafra javanica* Singing Bush Lark (872)
- 2 *Mirafra assamica* Bush Lark (873)
- 3 ssp *affinis* of 873. (874)
- 4 *Mirafra erythroptera* Redwinged Bush Lark (877)
- 5 *Eremopterix grisea* Ashycrowned Finch-Lark (878)
- 6 *Eremopterix nigriceps* Blackcrowned Finch-Lark (879)
- 7 *Ammomanes deserti* Desert Finch-Lark (880)
- 8 *Alaudon alaudipes* Large Desert Lark (884)
- 9 *Ammomanes phoenicurus* Rufoustailed Finch-Lark (882)
- 10 *Ammomanes cincturus* Bartailed Desert Lark (881)
- 11 *Melanocorypha maxima* Longbilled Calandra Lark (892)
- 12 *Melanocorypha calandra* Calandra Lark (SE)
- 13 *Calandrella rufescens* Lesser Short-Toed Lark (886a)
- 14 *Calandrella cinerea* Short-toed Lark (886)
- 15 *Calandrella raytal* Sand Lark (891)
- 16 *Melanocorypha maxima* Longbilled Calandra Lark (894)
- 17 *Eremophila alpestris* Horned Lark (897)
- 18 ssp *albigula* of 897. (895)
- 19 *Galerida deva* Sykes's Crested Lark (902)
- 20 *Galerida cristata* Crested Lark (899)
- 21 *Galerida malabarica* Malabar Crested Lark (901)
- 22 *Alauda gulgula* Eastern Skylark (907)
- 23 *Alauda arvensis* Skylark (903)

Plate 65

- 1 *Hemiprocne longipennis* Crested Tree Swift (709)
See Volume 4
- 2 *Riparia riparia* Collared Sand Martin (910)
- 3 *Riparia paludicola* Plain Sand Martin (912)
- 4 *Hirundo obsoleta* Pale Crag Martin (915)
- 5 *Hirundo rupestris* Crag Martin (913)
- 6 *Hirundo concolor* Dusky Crag Martin (914)
- 7 *Delichon nipalensis* Nepal House Martin (932)
- 8 *Delichon dasypus* Asian House Martin (SE)
- 9 *Hirundo smithii* Wiretailed Swallow (921)
- 10 *Delichon urbica* House Martin (930)
- 11 *Hirundo rustica* Swallow (916)
- 12 ssp *tytleri* of 916. (918)
- 13 *Hirundo tahitica* House Swallow (919)
- 14 *Hirundo daurica* Striated or Redrumped Swallow (923)
- 15 ssp *hyperythra* of 923. (928)
- 16 *Artamus leucorhynchus* Whitebreasted Swallow-Shrike (983)
- 17 *Hirundo fluvicola* Indian Cliff Swallow (922)
- 18 *Artamus fuscus* Ashy Swallow-Shrike (982)

Plate 66

- 1 *Hypothymis azurea* Blacknaped Flycatcher (1465)
See Volume 7
- 2 *Terpsiphone paradisi* Paradise Flycatcher (1461)
See Volume 7

PLATES

Plate 66

- 3 *ssp albogularis* of 1455. (1458)
See Volume 7
- 4 *Rhipidura aureola* Whitebrowed Fantail Flycatcher (1451)
See Volume 7
- 5 *Rhipidura albicollis* Whitethroated Fantail Flycatcher (1455)
See Volume 7
- 6 *Lanius vittatus* Baybacked Shrike (940)
- 7 *ssp isabellinus* of 941. (943)
- 8 *ssp phoenicuroides* of 941. (942)
- 9 *Lanius cristatus* Brown Shrike (949)
- 10 *Lanius colluriooides* Chestnutrumped Shrike (938)
- 11 *Lanius minor* Lesser Grey Shrike (937)
- 12 *Lanius excubitor* Grey Shrike (933)
- 13 *Lanius collurio* Redbacked Shrike (941)
- 14 *Lanius senator* Woodchat Shrike (951)
- 15 *Lanius tephronotus* Greybacked or Tibetan Shrike (945)
- 16 *Bombycilla garrulus* Waxwing (1062)
- 17 *Lanius schach* Rufousbacked Shrike (946)
- 18 *ssp tricolor* of 946. (948)
- 19 *Hypocolius ampelinus* Grey Hypocolius (1063)

Plate 67

- 1 *Dicrurus adsimilis* Black Drongo or King-Crow (963)
- 2 *Dicrurus remifer* Lesser Racket-tailed Drongo (972)
- 3 *Dicrurus annectans* Crowbilled Drongo (970)
- 4 *Dicrurus paradiseus* Greater Racket-tailed Drongo (977)
- 5 *ssp lophorhinus* of 977 - outer tail feather. (979)
- 6 *Dicrurus aeneus* Bronzed Drongo (971)
- 7 *Dicrurus hottentottus* Haircrested, or Spangled, Drongo (973)
- 8 *Dicrurus leucophaeus* Grey or Ashy Drongo (965)
- 9 *ssp salangensis* of 965. (966a)
- 10 *Dicrurus andamanensis* Andaman Drongo (975)
- 11 *Surniculus lugubris* Drongo-Cuckoo (588)
See Volume 3
- 12 *Dicrurus caerulescens* Whitebellied Drongo (967)
- 13 *Cinclus cinclus* Whitebreasted Dipper (1773)
See Volume 9
- 14 *Cinclus pallasi* Brown Dipper (1775)
See Volume 9

Plate, 68

- 1 *Aplonis panayensis* Glossy Star or Starling (986)
- 2 *Saroglossa spilogaster* Spottedwinged Star (984)
- 3 *Sturnus malabaricus* Greyheaded Myna (987)
- 4 *ssp blythii* of 987. (988)
- 5 *Sturnus pagodarum* Blackheaded, or Brahminy, Myna (994)
- 6 *Sturnus sturninus* Daurian Myna (995)
- 7 *Sturnus senex* Ceylon Whiteheaded Myna (993)
- 8 *Sturnus erythropygius* Whiteheaded Myna (991)
- 9 *Sturnus vulgaris* Starling (997)
- 10 *Sturnus roseus* Rosy Pastor (996)
- 11 *Sturnus contra* Pied Myna (1002)
- 12 *Acridotheres tristis* Common Myna (1006)
- 13 *Sturnus sinensis* Chinese or Greybacked Myna (1005)

PLATES

xiii

Plate 68

- 14 *Acridotheres ginginianus* Bank Myna (1008)
- 15 *Acridotheres fuscus* Jungle Myna (1009)
- 16 *Mino coronatus* Goldcrested Myna (1014)
- 17 *Acridotheres albocinctus* Collared Myna (1013)
- 18 *Acridotheres javanicus* Orangebilled Jungle Myna (1012)
- 19 *Gracula religiosa* Grackle or Hill Myna (1015)
- 20 *Gracula ptilogenys* Ceylon Hill Myna (1019)

Plate 69

- 1 *Garrulus lanceolatus* Blackthroated Jay (1022)
- 2 *Garrulus glandarius* Jay (1020)
- 3 *Pica pica* Magpie (1029)
- 4 *Cissa chinensis* Green Magpie (1023)
- 5 *Cissa ornata* Ceylon Blue Magpie (1024)
- 6 *Cissa flavigaster* Yellowbilled Blue Magpie (1026)
- 7 *Cissa erythrorhyncha* Redbilled Blue Magpie (1027)
- 8 *Dendrocitta formosae* Himalayan Tree Pie (1038)
- 9 *Dendrocitta leucogastra* Whitebellied Tree Pie (1036)
- 10 *Dendrocitta vagabunda* Indian Tree Pie (1032)
- 11 *Dendrocitta frontalis* Blackbrowed Tree Pie (1035)
- 12 *Dendrocitta bayleyi* Andaman Tree Pie (1040)
- 13 *Nucifraga caryocatactes* Nutcracker (1042)
- 14 ssp *hemispira* of 1042. (1043)
- 15 *Podoces humilis* Hume's Ground Chough (1041)

Plate 70

- 1 *Eudynamys scolopacea* Koel (590)
See Volume 3
- 2 *Pyrrhocorax graculus* Yellowbilled, or Alpine, Chough (1045)
- 3 *Corvus monedula* Jackdaw (1053)
- 4 *Pyrrhocorax pyrrhocorax* Redbilled Chough (1046)
- 5 *Corvus frugilegus* Rook (1052)
- 6 *Corvus splendens* House Crow (1049)
- 7 *Corvus macrorhynchos* Jungle Crow (1057)
- 8 *Corvus corone* Carrion Crow (1058)
9 ssp *sharpii* of 1058. (1058a)
- 10 *Corvus ruficollis* Brown-necked Raven (1061)
- 11 *Corvus corax* Raven (1059)

CHANGES IN TERRITORIAL NAMES

The *Handbook* relies on observations made during the last hundred years, during which period many areas have changed their names and boundaries. The authors have striven to keep up with changes which have taken place during the writing and publication of the ten volumes, and hope the following notes will be helpful in interpretation. They should be supplemented by reference to atlases.

ANDHRA PRADESH. Until 1953 the northern half of Madras State, including the deltas of the Krishna and Godavari rivers and the arid hills of the Eastern Ghats, and the former Hyderabad State.

ARUNACHAL PRADESH. 'The Province of the Dawn.' The Himalayas east of Bhutan, including the Dafla, Abor, Miri and Mishmi hills. Before 1972 this area was the North-East Frontier Agency (NEFA), comprising the Kameng, Subansiri, Siang and Luhit frontier divisions.

ASSAM. Before 1947 this province included Arunachal Pradesh, Meghalaya, Mizoram and Nagaland (q.v.). In 1972 it was restricted to the Brahmaputra Valley.

BANGLADESH. Constituted in 1971, formerly East Pakistan. Besides the Brahmaputra plains it includes the Chittagong Hill Tracts in the south.

BENGAL. Prior to 1947 the Ganges-Brahmaputra delta area, later divided into Bangladesh (q.v.) and West Bengal.

HARYANA. The fertile plains area north and west of Delhi, formerly part of the Punjab (q.v.).

HIMACHAL PRADESH. 'The Snowy Province.' The Himalayan hill States were united under this name in 1948, and in 1966 the area was enlarged by the hill regions of the Punjab.

KARNATAKA. The official name of Mysore since 1973.

LAKSHADWEEP. The official name of the Laccadive Islands group since 1973.

MEGHALAYA. 'Cloud-land.' The Garo, Jaintia, Khasi and Cachar hill districts, constituted a separate State in 1972.

MIZORAM. The Lushai or Mizo Hills area, constituted a separate State in 1972.

NAGALAND. The Naga Hills area, constituted a separate State in 1962.

NEFA. Now Arunachal Pradesh, q.v.

OUDH (= Awadh). The eastern Gangetic plains, now part of Uttar Pradesh ('Northern Province'), the name given in 1950 to the United Provinces (of Agra and Oudh).

PAKISTAN. Before 1972 West Pakistan, including Sind, Baluchistan, Punjab (q.v.), the North-West Frontier Province and Bahawalpur.

PUNJAB. Prior to 1947 the whole of the northern plains area watered by the Indus, and its five tributaries namely Jhelum, Chenab, Ravi, Beas and Sutlej. Divided in 1947 into West Punjab (Pakistan) and East Punjab (India). In 1966 East Punjab was further divided into Punjab, Haryana and Himachal Pradesh (q.v.).

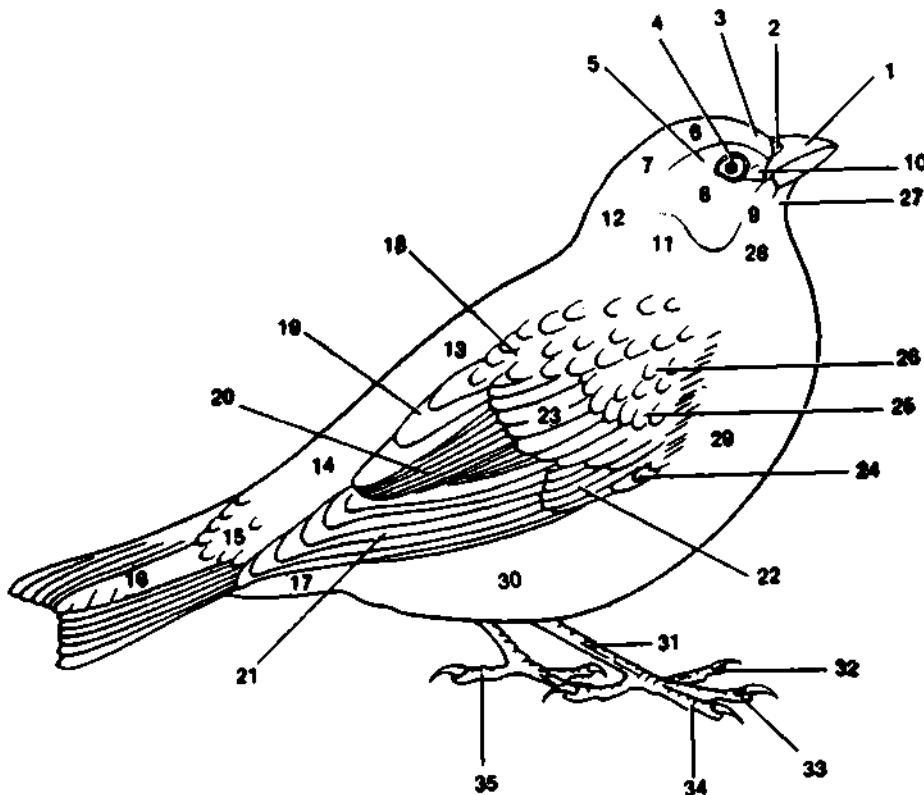
SAURASHTRA The union of States was merged with Bombay in 1956 and since 1960 has been part of Gujarat.

SRI LANKA. The official name of Ceylon since 1972.

TAMIL NADU. The name given to Madras State in 1969.

Terms used in the description of a bird's plumage and parts

Topography of a sparrow



1	Culmen	18	Scapulars
2	Nostril	19	Tertials
3	Forehead	20	Secondaries } (remiges)
4	Iris	21	Primaries }
5	Supercilium	22	Primary coverts
6	Crown	23	Greater coverts
7	Nape	24	Bastard wing (alula)
8	Ear-coverts	25	Median coverts
9	Malar region (malar stripe, moustache)	26	Lesser coverts
10	Lores	27	Chin
11	Side of neck	28	Throat
12	Hindneck	29	Breast
13	Back	30	Belly (abdomen)
14	Rump	31	Tarsus
15	Upper tail-coverts	32	Inner toe
16	Tail (rectrices)	33	Middle toe
17	Under tail-coverts	34	Outer toe
		35	Hind toe (hallux)

ABBREVIATIONS

Bull. BOC	<i>Bulletin of the British Ornithologists' Club</i>
CBCN	<i>Ceylon Bird Club Newsletter</i>
FBI	<i>Fauna of British India, Birds</i>
INB	<i>Newsletter for Birdwatchers, India</i>
J. Orn.	<i>Journal für Ornithologie, Berlin</i>
JBNHS	<i>Journal of the Bombay Natural History Society</i>
PZS	<i>Proceedings of the Zoological Society, London</i>
SF	<i>Stray Feathers</i>
SZ	<i>Spolia Zeylanica</i>

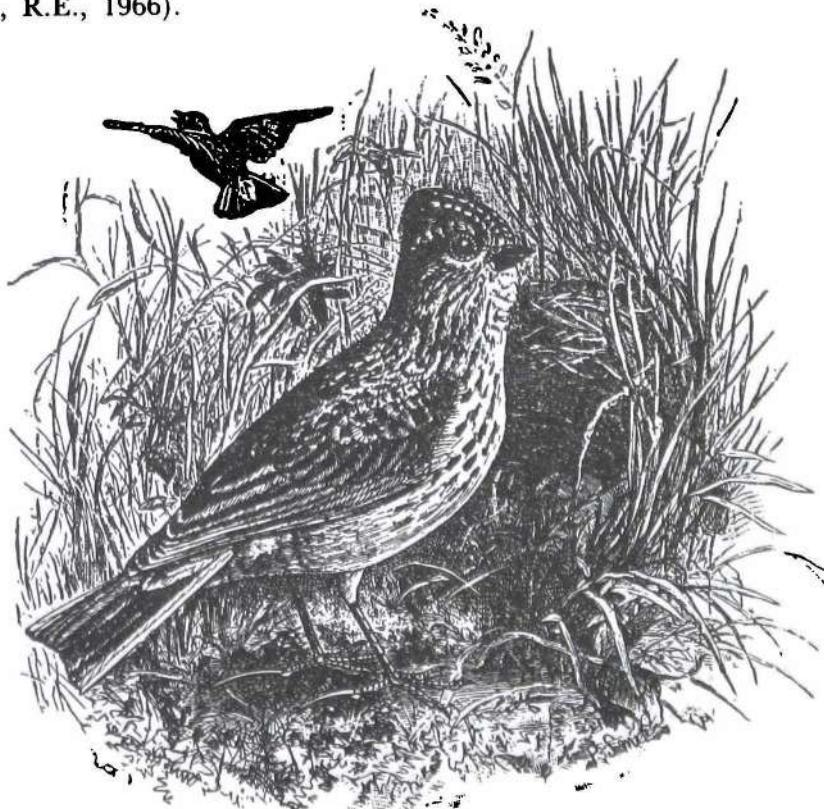
Abbreviated references to persons frequently quoted

Abdulali or HA	Humayun Abdulali
Alexander	W. B. Alexander
Amadon	Dean Amadon
Baker	E. C. Stuart Baker
Biswas or BB	Biswamoy Biswas
Delacour	Jean Delacour
Donald	C. H. Donald
Gibson-Hill	C. A. Gibson-Hill
Hartert	Ernst Hartert
Hume	A. O. Hume
Inglis	C. M. Inglis
Jerdon	T. C. Jerdon
Jones	A. E. Jones
Legge	Col. W. Vincent Legge
Ludlow	Frank Ludlow
Magrath	Major H. A. F. Magrath
Marshall	Cols. C. H. T. & G. F. L. Marshall
Mayr	Ernst Mayr
Meinertzhagen	Col. R. Meinertzhagen
Murphy	R. C. Murphy
Osmaston or BBO	B. B. Osmaston
Peters	J. L. Peters
Phillips	W. W. A. Phillips
Ripley or SDR	S. Dillon Ripley
Sálím Ali or SA	Sálím Ali
Scully	John Scully
Stevens	Herbert Stevens
Stresemann	Erwin Stresemann
Ticehurst or CBT	Claud B. Ticehurst
Whistler or HW	Hugh Whistler
Whitehead	Lt C. H. T. Whitehead

Order PASSERIFORMES (cont.)

Family ALAUDIDAE: Larks

For description see Van Tyne, J. & Berger, A. J., 1959 : 502 ; Baker, E. C. S., 1926, FBI 3 : 302; Vaurie, C., 1951, Bull. Amer. Mus. Nat. Hist. 97 : 435-526; Meinertzhagen, R., 1964, Article 'Lark' in Thomson, A. L. (ed.) *New Dict. Birds*, London and New York. Of the 69 species of the family in the world, 47 live in Africa (Moreau, R.E., 1966).



Skylark (903)

Key to the Genera

	Page
I Wing with nine primaries, the first ¹ reaching to about the tip of wing	
A A tuft of narrow feathers on each side of the crown..... <i>Eremophila</i>	32
B No tuft of feathers..... <i>Calandrella</i>	19
II Wing with ten primaries, the first always very small	
C First primary exceeding primary-coverts in length	
1 Bill as long as head..... <i>Alaemon</i>	16
2 Bill much shorter than head	
a Nostrils not covered by plumelets..... <i>Mirafra</i>	2
b Nostrils quite concealed by plumelets..... <i>Ammomanes</i>	12
D First primary not exceeding primary-coverts	
3 Crest absent, or short and covering whole crown	
c Hindclaw long and straight	

¹ Ascendant (as.), i.e. counting inwards.

i Wings long, reaching almost to tip of tail; inner secondaries falling short of tip of wing by more than length of tarsus.....	<i>Melanocorypha</i>	29
ii Wing shorter, falling decidedly short of tip of tail; inner secondaries falling short of tip of wing by less than length of tarsus	<i>Alauda</i>	41
d Hindclaw short and more curved.....	<i>Eremopterix</i>	8
4 A crest formed of a few long feathers springing from centre of crown	<i>Galerida</i>	36

Genus MIRAFRA Horsfield

Mirafra Horsfield, 1821, Trans. Linn. Soc. London 13: 159. Type, by monotypy, *Mirafra javanica* Horsfield

Bill thick and short; nostrils fully exposed. Wing of ten primaries. First primary between half and two-thirds the length of second; 3rd and 4th primaries, sometimes also 5th, longest and subequal. Hindclaw as long as, or longer than hindtoe; gently curved.

Key to the Species

A Inner web of outer rectrices largely white or very pale rufous.....	<i>M. javanica</i>	2
B Inner web of outer rectrices all brown		
a Rufous on inner and outer webs of primaries separated by a brown band.....	<i>M. assamica</i>	4
b Rufous on inner and outer webs of primaries confluent.....	<i>M. erythroptera</i>	6

872 Singing Bush Lark. *Mirafra javanica cantillans* Blyth

Mirafra cantillans Blyth, 1844-5, Jour. Asiat. Soc. Bengal 13: 960 (Bengal)

Mirafra cantillans bangsi Koelz, 1939, Proc. Biol. Soc. Washington 52: 76
(Hospet, Madras Presidency)

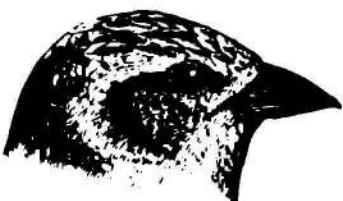
Baker, FBI No. 1229, Vol. 3: 334

Plate 64, fig. 1

LOCAL NAMES. *Agün, Agin* (Hindi); *Burutta pitta, Agin pitta* (Telugu).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. A brown hen-sparrowlike bird of open country with much rufous or chestnut in the wings. This particularly noticeable in flight which is undulating and rather pipit-like, also showing the white outer tail-feathers. Underparts fulvous, with the breast streaked with triangular brown marks. Sexes alike.



x c. 1

Difficult to distinguish from other similar larks except by its habits and behaviour. When aloft in song-flight may easily be confused with

both Small Skylark (907, 908) and Sykes's Crested Lark (902). Possibly distinguishable from the latter, virtually its 'double', by narrowed down

(spike-like) aspect of tail v. more spread-out and blacker; from Small Skylark by greater amount of mimicry in its song.

STATUS, DISTRIBUTION and HABITAT. Resident; not uncommon but extremely local. West Pakistan (Sind, NW. frontier dists., Punjab including the Salt Range), Kashmir, Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Bihar and West Bengal (East Pakistan?); southward throughout the Peninsula to Kerala. Not recorded from Assam, Nepal, Sikkim, Bhutan and Ceylon. Affects dry bush-covered undulating plains and foothills country, locally up to c. 350 m—grassland, fallow cultivation, and sparsely scrubbed sandy semi-desert.

Extralimital. The species in other races occurs in Burma, Thailand, Vietnam, Borneo, Java and Bali.

GENERAL HABITS. Keeps singly or in pairs or small scattered parties, running about on the ground picking seeds and insects. In the breeding season the song-flight of the male is a remarkable performance. The bird rises about 30 m up in the air — a lower ceiling than the Skylark's — and hovers on stiffly quivering wings in the style of the Skylark drifting hither and thither on the breeze, and back and forth over an extensive area for considerable periods (once timed 40+ minutes). He then descends rather precipitately to the ground, alighting on a bush or clod, the performance being repeated after a while.

FOOD. Grass- and weed seeds, ants, weevils and other insects.

VOICE and CALLS. Flight-song, remarkably spirited and sustained; very similar to the Small Skylark's in tone and quality and almost identical with that of Sykes's Crested Lark, incorporating imitations of the calls of practically every bird that shares its habitat. The following species recorded in the mimicry in Kutch: Common Babbler, Tailor Bird, Franklin's, Rufous-fronted and Jungle wren-warblers, Redwinged Bush Lark, Wood Shrike, Purple Sunbird and Rain Quail; elsewhere the chatter of an annoyed Laggar Falcon and the shrill call of Pied Crested Cuckoo have also been heard. The imitations follow one another in rapid succession without the slightest pause, and the song may commonly be heard also during the night, both dark and moonlit.

BREEDING. Season, March to September, chiefly from mid June. Nest, a saucer or shallow cup of grass, lined with finer grasses; sometimes more or less domed. Placed on the ground in a clump of grass on the side of a nullah or in thin scrub jungle, usually well concealed. Eggs, 2 to 4, variable; greyish-, greenish-, or yellowish white, sparsely or densely speckled and blotched all over with various shades of brown. Average size of 40 eggs 20.1×15.4 mm (Baker). Nuptial display similar to that of *Alauda gulgula* (907) and *Galerida deva* (902) qq.v. Share of the sexes in the domestic chores, and incubation period, undetermined.

MUSEUM DIAGNOSIS. Primaries and secondaries with nearly the entire outer web deep rufous or chestnut. Middle pair of rectrices brown, broadly margined with rufous; the next three pairs almost entirely brown; penultimate pair brown on the inner web, rufescent white on the outer; outermost pair rufescent white with a blackish band on inner margin of inner web. For further details of plumage see Baker loc. cit.

In summer (breeding) the pale edges to the feathers of the upperparts get completely abraded, making them look much darker and more rufous.

ALAUDIDAE

Young. Boldly barred above with black and pale fulvous; more profusely and boldly marked with black on breast.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	74-82	c. 10-11	20-21	47-52 mm (Baker)
3 ♂♂	75-81	13-14	—	49-55 mm
1 ♀	80	14	22	51 mm (SA)

COLOURS OF BARE PARTS. Iris hazel brown. Bill horny brown, paler on lower mandible and commissure; mouth bright lemon-yellow. Legs and feet pale brownish flesh colour.

MIRAFRA ASSAMICA Horsfield: BUSH LARK

Key to the Subspecies

- | | | |
|--|-----------------------|---|
| Upperparts ashy brown with dark centres; no tinge of rufous on back..... | <i>M. a. assamica</i> | 4 |
| Upperparts not very dark but very rufous..... | <i>M. a. affinis</i> | 5 |

873. *Mirafra assamica assamica* Horsfield

Mirafra assamica Horsfield 1840 (1839), Proc. Zool. Soc. London: 162 (Assam)
Baker, FBI No. 1231, Vol. 3: 336.

Plate 64, fig. 2

LOCAL NAMES. *Aggiā* or *Aggin* (Hindi); *Bhiriri* (Bengal).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. *Above*, ashy brown streaked with blackish with some chestnut prominent in wings, especially in flight. *Below*, fulvous, coarsely streaked with triangular brown marks. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident; common. From Haryana (Jagadhri, Ambala dist., Jones, JBNHS 31: 1004) eastward through Uttar Pradesh, Nepal (lowlands), Jalpaiguri duars, Bihar and W. Bengal to Assam and Manipur; south to northern Orissa and northern Madhya Pradesh. East Pakistan. Affects open grassland and cultivation; not ascending the hills to any height.

Extralimital. Burma. Other races in Thailand and the Indochinese countries.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 874, q.v.

BREEDING. *Season*, overall March to August, principally May and June. *Nest*, a shallow cup of grass, lined with finer grasses — as typical of most larks. Occasionally domed by the grass growing around it, either arching over naturally or twisted and interlaced by the birds. Placed on the ground in a shallow depression or in an old hoof-print of cattle. *Eggs*, 3 or 4 similar to those of the Singing Bush Lark (872) — greyish-, greenish-, or yellowish white speckled and blotched with brown. Average size of 60 eggs 20·3 × 15·3 mm (Baker).

Nuptial flight thus described: From a prominent raised perch 'the bird launches itself into the air, fluttering its wings very quickly and singing a sweet but not powerful song. When it has risen some 50 feet or so, it stretches both wings out very stiffly and makes a long sliding stoop towards the ground but, before reaching it, again flutters upward. The glide and rise are repeated two or more times before the bird actually drops to the ground or to its original perch, where it often sings for a few seconds after its arrival' (Baker).

MUSEUM DIAGNOSIS. See Key to the Species. Primary-coverts dark brown, externally rufous. Primaries and outer secondaries dark brown, most of them externally margined with chestnut and all of them with a large portion of the inner web chestnut. Tail blackish brown broadly margined with rufous, the penultimate and outer feathers with the greater part of the outer web pale rufous. For other details see Baker, loc. cit.

Differs from *M. a. affinis* (874) in being ashy brown above with no tinge of rufous, the feathers dark-centred.

Young. *Above*, feathers fringed with rufous-white and with subterminal black bars; *below*, pale fulvous, streaked with black on breast.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂♀	82-84	c. 13-14	24-25	45-50 mm (Baker)

Weight 2 ♂♂ 26, 32 g (GD).

COLOURS OF BARE PARTS. Iris brown. Bill: upper mandible dark horny brown, nearly black at tip, yellowish near gape; lower mandible yellowish horn. Legs and feet pinkish- or yellowish brown, or dull flesh colour.

874. *Mirafra assamica affinis* Blyth

Mirafra affinis 'Jerdon' = Blyth, 1845, Jour. Asiat. Soc. Bengal 13: 959
(Southern part of the peninsula of India)

M. (irafr.) affinis Jerdon, 1844-45, Madras Jour. Lit. Sci. 13 (2): 136 (Goomsoor)

Mirafra affinis ceylonensis Whistler, 1936, Jour. Bombay nat. Hist. Soc. 38: 769
(Colombo, Ceylon)

Baker, FBI No. 1233, Vol. 3: 339

Plate 64, fig. 3

LOCAL NAMES. *Chirchira* (Hindi); *Eeli jitta* (Telugu); *Vānampādi kūrūvi* (Tamil); *Leepee* (Madhya Pradesh); *Gomarittā* (Sinhala); *Chempanpati* (Malayalam).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. As in 873, but prevailing tone of coloration rufous-brown instead of ashy brown. The large rufous or chestnut patch in the wing conspicuous in flight, and diagnostic. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident and common. Southern Orissa, southeastern Madhya Pradesh and Andhra, south through Tamil Nadu, Mysore and Kerala. Ceylon in the low-country Dry and Wet zones. Affects cultivation, sparse stony scrub-and-bush jungle and fallow land in open plains and plateau country. Commonly found on laterite and *moorum* soil where its coloration is remarkably obliterative.

GENERAL HABITS. Keeps singly or in pairs or small loose parties, running about quietly on the ground or perched on bushes, rocks, fenceposts and the like, sometimes quite high up in a leafless tree. The most characteristic habit of this and the closely related Redwinged Bush Lark (877) is perhaps their spectacular song- or display-flight chiefly in the breeding season. From some elevated perch the male suddenly flutters vertically up in the air for 10 metres or so, uttering a feeble mousy though spirited *sweer-sweer-sweer* etc. (or *sisisisisisisi . . .*). This is immediately followed by a squeaky *wisee* (or *yusee*) - *wisee-wisee-wisee* etc. getting slower and slower in tempo and fading off towards the end. With this the bird floats or parachutes down in spirals or zigzags or more or less vertically back to the same or a nearby perch, wings held motionless and stiffly upstretched in a wide V above the back, and legs dangling below. In a stiff breeze the bird may sometimes be wafted backward, in 'reverse gear' as it were, or rotated and blown about this way and that. The entire performance lasts about 20 seconds, and at the height of the breeding season is repeated again and again every few minutes throughout the day, and presumably even at night, judging from the song to be heard in the darkness.

FOOD. Grass- and weed seeds, weevils, tiny beetles and other insects.

VOICE AND CALLS. Normal call, uttered from a perch, a quick-repeated mousy *chip-chip-chip-chip* (something between the low *cheep* of the Small Minivet and *chik-chik* of Tickell's Flowerpecker). Song as above.

BREEDING. Season, in South India December to May, chiefly March onwards; in Ceylon March to August, chiefly May, occasionally September. Nest and eggs (c/3 or 4) indistinguishable from those of 873. Average size of 50 eggs 20·6 x 15·5 mm (Baker). When disturbed off nest with hardset eggs or small chicks, parent performs 'broken-wing' distraction display, fluttering and dragging on the ground piteously within a few feet of the observer.

MUSEUM DIAGNOSIS. See keys to the Species and Subspecies. Differs from nominate *assamica* (873) in being more rufous above (*v.* greyish brown) and brighter fulvous below.

No prenuptial moult. Postnuptial moult begins with the body plumage and tertaries, then spreads to the wing-quills and finally to the tail, the tail beginning sometimes after the body and wing moult is nearly finished. This order is apparently also observed in the postjuvenile moult, which is complete (HW).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	77-88	15-18	24-27	42-52 mm
♀ ♀	75-82	13-17	24-28	39-45 mm (SA, HW)

Weight 11 ♂ ♀ 20-30 (av. 26·2) g — SA, SDR.

Birds from Ceylon and Kerala tend to have a sensibly larger bill.

COLOURS OF BARE PARTS. As in 873.

MIRAFRA ERYTHROPTERA Blyth: REDWINGED BUSH LARK

Key to the Subspecies

Paler; more grey, less rufous above..... *M. e. sindiana*

Darker; more tinged with rufous above..... *M. e. erythroptera*

875, 876. *Mirafra erythroptera sindiana* Ticehurst

Mirafra erythroptera sindianus Ticehurst, 1920, Bull. Brit. Orn. Cl. 41: 56
(Karachi, Sind)

Mirafra erythroptera furva Koelz, 1951, Amer. Mus. Novit., No. 1510: 2
(Sihor, Kathiawar)
Baker, FBI No. 1236, Vol. 3: 342

LOCAL NAME. *Agiyā āgān* (Gujarati).

SIZE. Sparrow; length c. 14 cm (5½ in.).

FIELD CHARACTERS. As in 877, q.v., but paler and greyer. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; common. West Pakistan from the Baluchistan frontier east through Sind and Punjab (including Jhelum and Rawalpindi dists.—Waite, JBNHS 59: 961) and Haryana. Western Rajasthan and northern Gujarat (including Kutch dist.). Affects stony sparsely scrubbed semi-desert—fallow fields, grazing land, with scattered *Euphorbia* clumps etc.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 877.

BREEDING. Season, April to September, chiefly June and July (in Kutch). Nest and eggs as in 877.

MUSEUM DIAGNOSIS. Differs from nominate *erythroptera* (877) in being paler and greyer, less ruddy overall. Rufous on wing-quills, flanks, axillaries and under wing-coverts much paler. Intermediates along the boundaries of the subspecies difficult to place.

MEASUREMENTS, not different from the nominate form.

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	73-84	13-15	21-23	46-56 mm (SA)

COLOURS OF BARE PARTS. As in 877.

877. *Mirafra erythroptera erythroptera* Blyth

Mirafra erythroptera Blyth, 1845 (1844), Jour. Asiatic Soc. Bengal 13: 958
(Northern portion of the peninsula of India = northern Deccan)

Baker, FBI No. 1235, Vol. 3: 341

Plate 64, fig. 4

LOCAL NAMES. *Aggiā* (Hindi); *Jhirjhira* (Saugor, M.P.); *Chinna eeli jitta* (Telugu).
SIZE. Sparrow; length c. 14 cm (5½ in.).

FIELD CHARACTERS. *Above*, fulvous brown, streaked with blackish. Bright rufous or chestnut prominent in the wings, especially in flight. *Below*, chin and throat whitish; rest of underparts pale fulvous, the breast spotted with triangular blackish marks. Sexes alike.

Very similar to and easily confused with Madras Bush Lark (874). See Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Uttar Pradesh, Bihar and West Bengal. Southern Gujarat (intergrading with *sindiana* in Kutch and Saurashtra) and eastward through Madhya Pradesh to Orissa; south through Maharashtra, Andhra Pradesh, Tamil Nadu, and Mysore. Not recorded from Kerala. Affects same biotope as 874 — stony and gravelly sparse scrub-and-bush jungle and fallow land, in open plains and plateau country. On laterite and *moorum* soil its coloration particularly obliterative.

GENERAL HABITS, FOOD, VOICE AND CALLS. Almost identical with Madras Bush Lark, including the parachuting display-flight, q.v.; the two species indistinguishable unless in the hand.

BREEDING. Season, overall March to October. Nest, very like that of Madras Bush Lark (874) — a shallow cup of grass lined with finer grasses, often domed over by the growing grass around it. Placed on the ground in a small depression or hoof-print of cattle at the base of a thorn bush or grass tuft, in open scrub or arid waste land. Eggs, 2–4, indistinguishable from those of other *Mirafra* — greyish-, greenish-, or yellowish white, speckled and blotched all over with brown. Average size of 50 eggs 19·5 × 14·5 mm (Baker). Many published nesting records possibly vitiated through confusion in the field with Madras Bush Lark.

MUSEUM DIAGNOSIS. *M. erythroptera* differs from the species *M. assamica* mainly in the pattern of the chestnut on the wings. In the present species the chestnut on the outer and inner webs of the primaries is confluent instead of divided by a brown band or wedge. For distinguishing from *M. e. sindiana* see Key to the Subspecies.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	75–84	13–15	21–23	47–55 mm (SA, HW)

Weight 13 ♂ ♀ 17–27 (av. 21·3) g (SA).

COLOURS OF BARE PARTS. Iris hazel brown. Bill horny brown on culmen, pale flesh on lower mandible and commissure; mouth pale pink. Legs and feet pale flesh colour; claws duskier.

Genus EREMOPTERIX Kaup

Eremopterix Kaup, 1836, Das Thierreich 2: 139. Type, by original designation,

Fringilla otolueca Temminck = *Alauda melanocephala* Lichtenstein

Pyrrhulauda Swainson, 1873, Classif. Bds. 2: 125. New name for *Megalotis* Swainson, 1827. Type, by original designation, *Fringilla otolueca* Temminck

Bill very short and deep with culmen well rounded. Nostrils densely covered with plumulets. Wing of 10 primaries: first primary (as.) very small, not exceeding the primary-coverts; 2nd, 3rd and 4th longest and subequal. Hindclaw short and well curved.

Key to the Species

- | | |
|-------------------------------------|---------------------|
| Forehead and crown ashy brown..... | <i>E. grisea</i> |
| Forehead white, crown blackish..... | <i>E. nigriceps</i> |

878 Ashycrowned Finch-Lark. *Eremopterix grisea* (Scopoli)

Alauda grisea Scopoli, 1786, Del. Flor. et Faun. Insubr. 2: 95
 (Gingee, S. Arcot Dist., India)

Pyrrhulauda grisea siccata Ticehurst, 1925, Bull. Brit. Orn. Cl. 45: 87
 (Deesa, Rajputana [= Banaskantha, Gujarat])

Eremopterix grisea ceylonensis Whistler & Kinnear, 1934, Jour. Bombay nat. Hist. Soc. 37: 105 (Eight miles north of Palatupana, east coast, Ceylon)

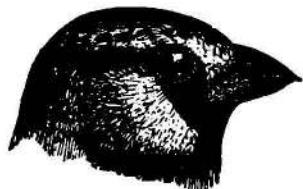
Baker, FBI No. 1245, Vol. 3: 353

Plate 64, fig. 5

LOCAL NAMES. *Diyora*, *Dūri*, *Deoli*, *Dābāk chiri*, *Jothauli* (Hindi); *Māth charāi*, *Dhula chata* (Bengali); *Poti pichikā*, *Piyada pichikā* (Telugu); *Gotowli* (Bihar mirshikars); *Gomarittā* (Sinhala); *Vānāmpādi kūrūvi*, *Mānām vānāmbādi* (Tamil); *Kārimpāndi* (Malayalam); *Bhōn chākli* (Gujarati).

SIZE. Sparrow — ; length c. 13 cm (5 in.).

FIELD CHARACTERS. A small, squat, thick-billed, crestless lark.



× c. 1

Male. Above, sandy brown with ashy crown, whitish cheeks, and a black streak from chin to eye. Below, brownish black.

Female. Sandy brown hen-sparrowlike.

STATUS, DISTRIBUTION and HABITAT. Resident, common; subject to local seasonal withdrawals in the monsoon from heavy rainfall areas. West

Pakistan (Baluchistan, Sind, Bahawalpur, NW. frontier districts, Salt Range) and East Pakistan (Chittagong, Fareedpur, etc.). All India from the Himalayan foothills and terai (including Nepal terai) eastward to W. Bengal and Assam; south throughout the Gangetic Plain and the Peninsula to Kanyakumari, up to c. 1000 m. Also Ceylon in the low-country Dry and Wet zones. Affects stony sparsely scrubbed waste land, cultivation environs and village grazing grounds, paddy stubbles and ploughed fields, scraggy grass-covered sandy stretches by rivers and dry tidal mudflats near the coast, etc.

GENERAL HABITS. Keeps in pairs or small parties; in winter sometimes in largish scattered flocks. Is particularly fond of squatting and feeding on dusty cart-tracks, its coloration camouflaging the bird in a remarkable way. The birds shuffle along, body held low, in short jerky zigzag spurts in search of food. Parties roost at night on open sandy or gravelly ground, the birds squatting individually in tiny saucer-like depressions. Flight undulating — a series of rapid wing-beats (as in hovering) punctuated by momentary pauses. Male has a very spectacular song-flight and aerial display. From his perch on a stone on the ground he soars up vertically for 30 metres or so to hover in wide circles and sing in the typical skylark pattern. On completion of the song the performer nose-dives perpendicularly for a distance with wings pressed to the sides. At the bottom of the dive he suddenly pulls round to face the sky, and using the momentum aided by a few rapid wing-beats, zooms up a few metres once more. On the crest of the wave he reverses to repeat the nose-dive and descend a step lower, and so on (once 40+ dives counted over a stretch of c. 100 metres). Just when perilously near to crashing he opens his wings and flattens out to alight

airily on a clod or stone. The whole performance may occupy 3 to 5 minutes, and the extravagant aerobatics are repeated at short intervals throughout the day.

FOOD. Grass- and weed seeds, ants, weevils and other insects.

VOICE AND CALLS. Song: a spirited trilling warble of the skylark pattern delivered in soaring-hovering flight, punctuated by a long-drawn clear whistle *wheeeech* accompanying each nose-dive — a miniature ‘screaming bomb’!

BREEDING. Season, irregular; continues more or less throughout the year, the principal months varying locally: chiefly February to September in the Peninsula, May and June in Ceylon. Nest, a deepish saucer-like depression in the ground (*c.* 5 cm diameter), maybe merely a hoof-print of cattle, neatly lined with fine grasses, hair or feathers, frequently rimmed around with a parapet of gravel. Placed in the shelter of a stone or small bush in open country — sometimes several nests a few metres from one another. Eggs, 2 or 3, pale yellowish- or greyish white, blotched and speckled with brown and lavender. Evidently female alone lines the nest, but male assists in incubation and tending the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit.

Young (immature). Like female, but with the feathers of upperparts broadly margined with pale rufous.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	74-80	11-13	15-17	40-46 mm
♀ ♀	72-79	11-13	15-17	37-44 mm (SA, HW)

Weight 11 ♂ 14-18 (av. 16) g — SA.

COLOURS OF BARE PARTS. Adult. Iris yellowish brown, reddish brown, or brown. Bill pale horny grey, duskier on culmen; mouth pale pinkish (with admixture of yellow in young birds). Legs, feet and claws brownish flesh colour.

Nestling. Iris brown. Bill greyish white, a black point each at tip of upper and lower mandible; gape and mouth bright orange; a black spot at tip of tongue and one on either side of its base.

879 Blackcrowned Finch-Lark. *Eremopterix nigriceps affinis* (Blyth)

Pyrrhulauda affinis Blyth, 1867, Ibis: 185 (Madras, emended to Karachi, Ticehurst, 1921, Jour. Bombay nat. Hist. Soc. 28: 235)

Baker, FBI No. 1246, Vol. 3: 355

Plate 64, fig. 6

LOCAL NAMES. *Duri, Ddbāk chiri* (Hindi).

SIZE. Sparrow — ; length *c.* 13 cm (5 in.).

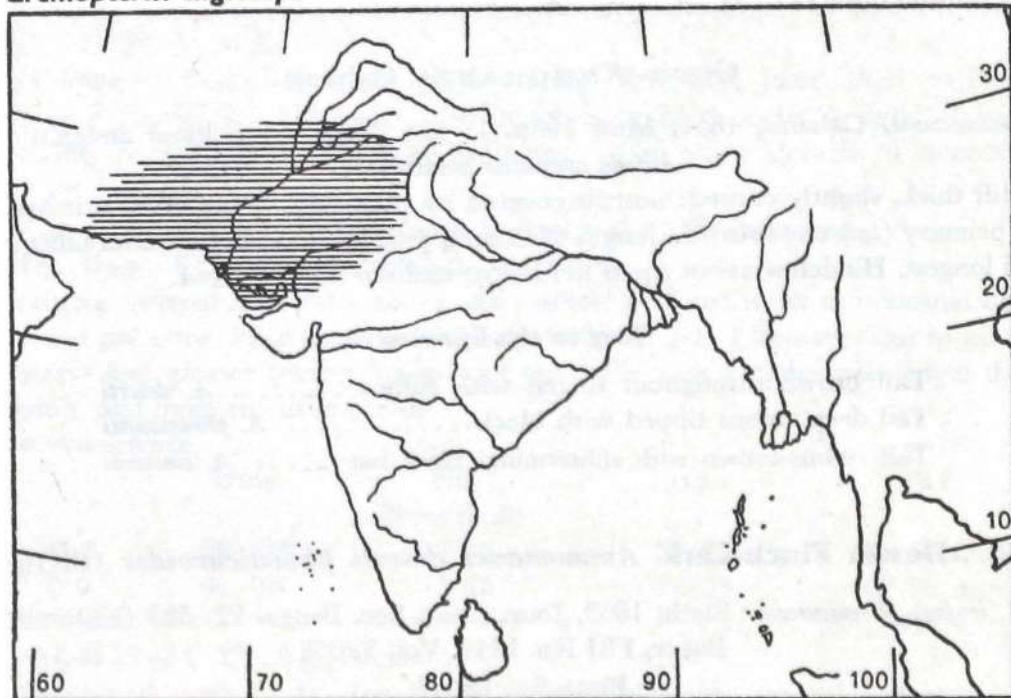
FIELD CHARACTERS. Male very like male Ashycrowned Finch-Lark (878) but much paler and sandier above, with white forehead and chocolate-black crown and nape. Ear-coverts pure white *v.* dirty white.

Female like female 878, but paler and more sandy above; whiter below, more distinctly streaked with brown.

Young (immature) has sandier and paler upperparts than juvenile *grisea*.

STATUS, DISTRIBUTION and HABITAT. Resident and also locally migratory. West Pakistan [Baluchistan on the Makran coast (Ormara, Pasni), Sind, Bahawalpur, Punjab Salt Range]. NW. India in Punjab, Haryana and Western Rajasthan (Jodhpur, Jaisalmer — very common). Has once been

Eremopterix nigriceps



E. n. affinis (879).

identified near Delhi (Najafgarh, February — Frome), and two specimens taken in northern Kutch (Kuar Bet, March 1960 — SA). Status in the last two uncertain; possibly breeds in N. Gujarat, including Saurashtra and Kutch (Shivrajkumar, JBNHS 66 : 625). Affects sandy wastes and the neighbourhood of canal-fed desert cultivation.

Extralimital. Persian Baluchistan, S. Iraq, Arabia, Somalia, Ethiopia, parts of western Egypt and Sudan (Vaurie).

GENERAL HABITS. Met with in scattered parties running about crouchingly to feed. Frequents a more arid sandy biotope than 878 where its pale coloration is even more remarkably adaptive and camouflaging. Courtship flight described as 'a short soar, not very high or of long duration, singing the whole time, followed by a sudden drop to earth' (Meinertzhagen, 1954). Strangely enough no mention is made of the spectacular aerobatics so characteristic of its Ashycrowned congener (878)! This needs verification.

FOOD. Grass- and weed seeds, and insects.

VOICE AND CALLS. Inadequately described.

BREEDING. Season, irregular, stretching chiefly between February and September. Nest and eggs (c/2) as in Ashycrowned Finch-Lark, usually

placed at the foot of a grass-tuft in open sandy country, 'invariably on the northern side evidently to be sheltered from the hot wind' (Sind. Doig, SF 9: 281). Average size of 30 eggs 19.2×13.8 mm (Baker).

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♀	78-83	c. 12 (from skull)	16-17	46-51 mm (Baker, HW)

COLOURS OF BARE PARTS. Iris brown. Bill pale horny, darker on culmen, paler and bluish on lower mandible. Legs and feet pale whitish brown.

Genus *AMMOMANES* Cabanis

Ammomanes Cabanis, 1851, Mus. Hein. 1: 125. Type, by original designation,
Alauda arenicolor Sundevall

Bill thick, slightly curved: nostrils covered by plumelets. Wing of 10 primaries: 1st primary (as.) one-third the length of second; 3rd, 4th and 5th primaries subequal and longest. Hindclaw about equal to hindtoe and not much curved.

Key to the Species

Tail brown throughout tinged with rufous.....	<i>A. deserti</i>	12
Tail deep rufous tipped with black.....	<i>A. phoenicurus</i>	14
Tail rufous-brown with subterminal black bar	<i>A. cincturus</i>	13

880 Desert Finch-Lark. *Ammomanes deserti phoenicuroides* (Blyth)

M.(irafra) phoenicuroides Blyth, 1853, Jour. Asiat. Soc. Bengal 22: 583 (Kashmir)
Baker, FBI No. 1244, Vol. 3: 352

Plate 64, fig. 7

LOCAL NAMES. *Dāshti-chājok* (Baluchi); *Kompi* (Brahui).

SIZE. Sparrow; length c. 16 cm (6 in.).

FIELD CHARACTERS. *Above*, pale earthy brown tinged with pinkish rufous on upper tail-coverts, and with much rufous in the brown wings and tail; cheeks and ear-coverts greyish brown. *Below*, chin, throat and upper breast fulvous-white, faintly dark-streaked. Rest of lower plumage greyish rufous-pink. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident. Common in West Pakistan (Baluchistan, Sind, Bahawalpur, Punjab including the Salt Range); in NW. India in Kashmir and Jammu. Intergrades with *iranicus* in Baluchistan. Affects desolate barren country—stony hill-slopes and nullahs, and rocky ground along the base of the foothills, to c. 2000 m. Also fallow land in desert canal cultivation, e.g. Bahawalpur.

Extralimital. Adjoining portions of eastern Afghanistan. Numerous other races in Iran, Iraq, Arabia and northern Africa.

GENERAL HABITS. Similar to Rufoustailed Finch-Lark (882), q.v. Keeps in pairs or small family parties of 3 or 4 in bare stony environments where its plumage gives it perfect camouflage. In winter loose flocks of 20 or so. Observed drinking at a desert rain-puddle regularly in the morning at about 9.00 hrs., not in flocks like sandgrouse but in relays of 2 or 3 birds

at a time (SA — Bahawalpur). Whether also drinks at other times of day not known. In waterless tracts, the requisite moisture probably imbibed from dew.

FOOD. Seeds of various desert plants and grasses such as *Setaria verticillata* and *Panicum ramosum*. Also insects.

VOICE AND CALLS. Call-note 'a curious plaintive, dreamily uttered peef-peef-peef'. Song, delivered during a hesitating mounting flight with deeply flapping wings, a broken collection of disconnected notes syllabified as peef-poop-peef-poof (Whistler); somewhat reminiscent of that of *Anthus similis* (C. H. T. Whitehead).

BREEDING. Season, April to July, chiefly May and June. Nest and eggs (c/3 or 4) as in 882. Average size of 16 eggs 22·1 × 16·4 mm (Baker). Fledging period about 20 days (Whistler). No other details of breeding biology.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters.

Nestling. Covered with thick long white down.

Young (immature). Paler above, the feathers with indistinct subterminal dark bars and pale tips. First primary (as.) longer, broader and blunter than in adult. Primary- and greater coverts, wing- and tail-quills with broader pale edges than in adult, and more rufous in colour.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	98–107	15–16	22–23	65–70 mm
♀ ♀	96–101	15–16	22–23	62–66 mm (SA, HW)

Weight 13 ♂ ♀ 22–29 g (Paludan).

COLOURS OF BARE PARTS. Iris hazel brown. Bill upper mandible dark horny brown; lower pale horny yellow. Legs and feet pale yellowish brown.

881 Bartailed Desert Lark. *Ammomanes cincturus zarudnyi* Hartert

Ammomanes cinctura zarudnyi Hartert, 1902, Bull. Brit. Orn. Cl. 12: 43

(Mudjinabad, E. Iran)

Baker, FBI No. 1243, Vol. 3: 351

Plate 64, fig. 10

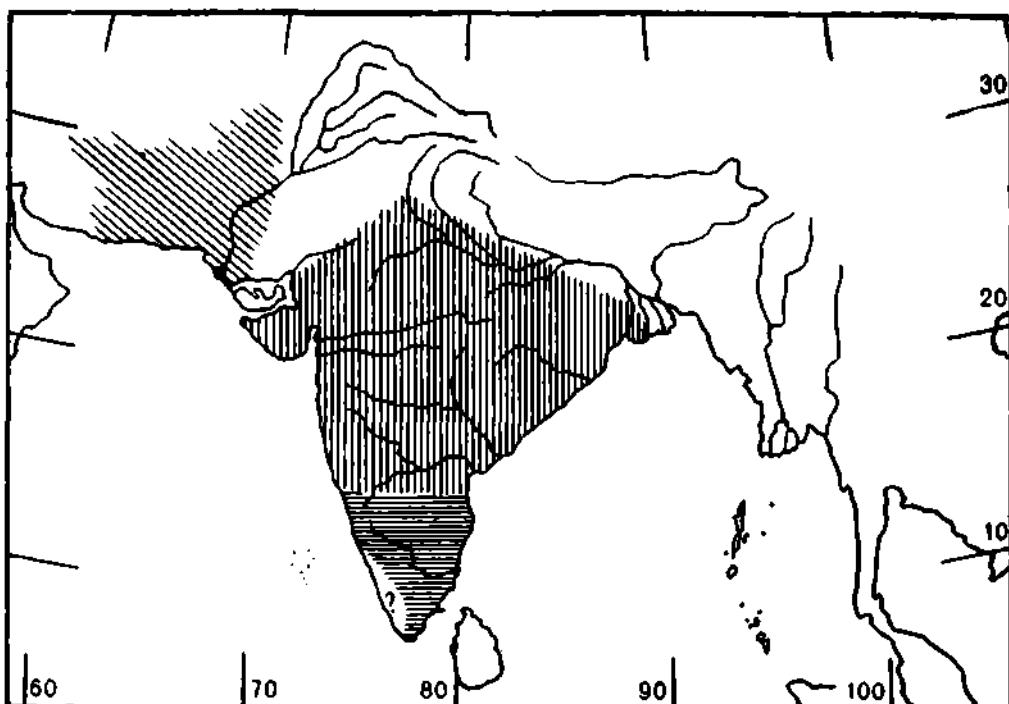
LOCAL NAMES. None recorded.

SIZE. Sparrow; length c. 16 cm (6 in.).

FIELD CHARACTERS. A thick-billed rufous-brown uncrested lark like 882, q.v. See keys to the Species.

STATUS, DISTRIBUTION and HABITAT. Resident West Pakistan. A specimen obtained by Blanford south of Sehwan in Sind, December 1875 (now in British Museum). Common and resident in western Chagai, Baluchistan, as far east as Ras Koh foothills (Christison, *Ibis* 1941: 544). Commoner in Zhob and Loralai than in other districts and probably occurs all over Baluchistan in suitable localities. Biotope as in 882, more rocky and barren wastes up to c. 1500 m.

Extralimital. Eastern Iran from Kirman and southern Khorasan through southern Afghanistan (Vaurie).

Ammomanes phoenicurus and *cincturus*

■ *A. p. phoenicurus* (882). ■ *A. p. testaceus* (883). ■ *A. c. zarudnyi* (881).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 882, but recorded as perching on bushes and telegraph wires to sing, not soaring (Christison MS.)! This anomaly needs verifying.

BREEDING. As in 882, but not recorded within our limits.

MUSEUM DIAGNOSIS. Differs from nominate *phoenicurus* in being somewhat smaller and much paler with the underparts creamy rufous instead of deep rufous.

MEASUREMENTS. Wing ♂♀ c. 97–102 mm (Hartert); 2 ♂? 92, 93 mm (Baker).
COLOURS OF BARE PARTS. As in 882.

AMMOMANES PHOENICURUS (Franklin): RUFOSTAILED FINCH-LARK

Key to the Subspecies

		Pages
A	More rufous, less grey above and below	<i>A. p. testaceus</i>
B	Less rufous, more grey above and below	<i>A. p. phoenicurus</i>

882. *Ammomanes phoenicurus phoenicurus* (Franklin)

Mirastra phoenicura Franklin, 1831, Proc. Zool. Soc. London: 119
(Between Calcutta and Benares)

Baker, FBI No. 1242 (part), Vol. 3 : 350

Plate 64, fig. 9

LOCAL NAMES. *Aggiā, Rētāl* (Hindi); *Lāl bharat* (Bengali); *Khētāriyō* (Gujarati); *Ambḍli jori gādu*, *Dowa pitta* (Telugu); *Vānāmbādi kūrūvi* (Tamil).

SIZE. Sparrow; length c. 16 cm (6 in.).

FIELD CHARACTERS. A rather squat, rufous-brown, stout-billed uncrested lark, with bright rufous tail ending in a black band, particularly conspicuous in flight. Sexes alike. Coloration very obliterative on laterite soil.

STATUS, DISTRIBUTION and HABITAT. Resident; locally common; subject to some seasonal local movements especially in the monsoon. West Pakistan (Jhelum and Shahpur dists., Waite, JBNHS 59 : 961). Mainly south and east of a line roughly from northern Kutch through Ajmer to Delhi; east to W. Bengal (south of Ganges R.) and south to a line from Hubli through Bellary — roughly the 15th parallel: thus in Gujarat (including Kutch and Saurashtra), Rajasthan, Delhi, Haryana, Uttar Pradesh, Bihar, Orissa, West Bengal, Maharashtra, Madhya Pradesh and northern Andhra. Affects open stony scrub-and-bush plains and plateau country, ploughed fields, fallow land, and the neighbourhood of cultivation, perching freely on telegraph wires rather than on bushes.

GENERAL HABITS. Keeps in pairs (very often trios) or small loose parties — sometimes in larger flocks of up to 50 or more. Runs about squatly in short zigzagging spurts in search of food. When disturbed flies off with a curious uncertain twisting flight and soon settles again. Frequently stampedes lurking insect prey from the unevennesses in the ground by a sudden flicking open and shut of the wings. Has a very impressive aerial display, the bird rising 30 m or so up in the air, flying around with deeply flapping wings and singing for several minutes, then rocketing down to earth with wings pulled in at the sides in a series of steps — steep nose-dives and 'wave-crests'. Pattern of the aerobatics very similar to that of Ashycrowned Finch-Lark (878), q.v.

FOOD. Grass- and weed seeds, grains of paddy and other cereals, and insects.

VOICE and CALLS. A pleasant flight-song of several syllables comprising sweet thrush-like notes, *tee-hoo*, and low-pitched husky whistles and chirrups. Frequently parts of this song also uttered from a clod or stone on the ground.

BREEDING. Season, overall February to May, principally March and April. Nest, a cup-like hollow in a bank, or depression in the ground — often in a newly ploughed field — under shelter of a clod of earth or tiny bush. Usually padded with fine soft grass and often parapeted round the rim with pebbles, bits of sticks and other rubbish. Eggs, 2 to 4, creamy or greyish white in ground colour, freckled and spotted with reddish brown, umber-brown or inky purple, more densely at the broad end, forming a cap. Average size of 50 eggs 21.2 x 15.7 mm (Baker). Both sexes take part in lining the nest, incubation (?), and tending the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	100-110	15-17	21-24	57-64 mm
♀♀	98-104	15-16	21-23	52-63 mm
(SA, HW)				

Weight 4 ♂♂ 24-28.5 ; 1 ♀ 23 ; 1 o? 27 g (BB).

COLOURS OF BARE PARTS. Iris hazel brown. Bill horny brown, darker on upper mandible and tips; mouth dull orange, orange-pink, or flesh colour (age ?). Legs and feet brown; claws darker.

883. *Ammomanes phoenicurus testaceus* Koelz

Ammomanes phoenicurus testaceus Koelz, 1951, Amer. Mus. Novit., No. 1510: 3
(Salern, Madras)

Baker, FBI No. 1242 (part), Vol. 3: 350

LOCAL NAMES. *Āmbāli jori gādu*, *Dowa pitta* (Telugu); *Vānāmbādi kūrūvi* (Tamil).

SIZE. Sparrow; length c. 16 cm (6 in.).

FIELD CHARACTERS. As in 882, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to some seasonal local shifts. Peninsular India south of c. 15°N. lat., including Mysore, southern Andhra and Tamil Nadu. Oddly enough not yet recorded from Kerala, though doubtless occurring there in the appropriate biotope. Absent in Ceylon. Affects open stony scrub-and-bush country, fallow land, and the neighbourhood of cultivation.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 882.

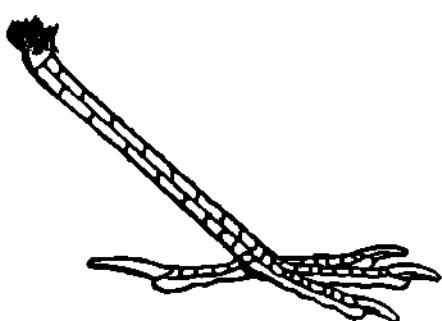
BREEDING. Season, nest, eggs and breeding biology as in the nominate subspecies (882).

MUSEUM DIAGNOSIS. More rich rufous, less grey, above and below than nominate *phoenicurus*.

MEASUREMENTS and COLOURS OF BARE PARTS. As in 882.

Genus ALAEMON Keyserling & Blasius

Alaemon Keyserling & Blasius, 1840, Die Wirbelth. Europas: 36. Type, by monotypy, *Alauda desertorum* Stanley



Foot, to show scutellations on hinder part of tarsus. \times c. 1

Distinguished by large size and long slender bill, slightly curved in its terminal half. Nostrils fully exposed. Wing long, of 10 primaries: 1st primary (as.) just exceeding the primary-coverts; 3rd, or 3rd and 4th primaries longest. Tarsi long and stout; scutellated behind; toes and claws short, the latter curved and blunt. 'Tongue bifid at tip' (Ticehurst).

884 Large Desert Lark. *Alaemon alaudipes doriae* (Salvadori)

Certhilauda doriae Salvadori, 1867-68, Atti R. Accad. Torino 3: 292 (Iran)

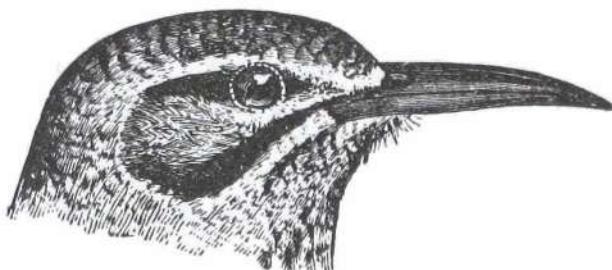
Baker, FBI No. 1205, Vol. 3: 304

Plate 64, fig. 8

LOCAL NAMES. *Rdnn chāndūl* (Gujarati). Alternative English names 'Hoopoe-Lark' or 'Bifasciated Lark'.

SIZE. Myna —; length c. 23 cm (9 in.).

FIELD CHARACTERS. A large sandy grey lark with whitish underparts,

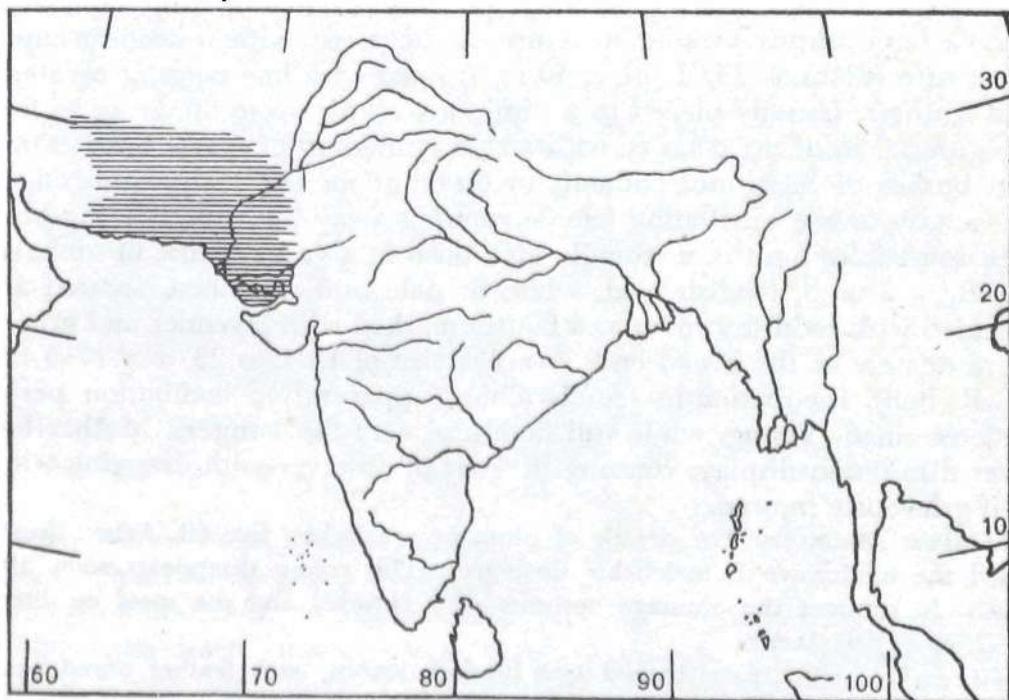


× c. 1

black-streaked on breast. Long slightly curved black bill and china-white legs. General effect on the ground between Crested Lark and Desert Courser. In flight, usually low above the ground, the broad white double band on the black wings and the black-and-white tail very striking, even at long range when the coloration of the bird otherwise masks it completely in the sandy environment. Sexes alike, but female smaller.

STATUS, DISTRIBUTION and HABITAT. Resident. Not uncommon, but local and very thinly scattered. West Pakistan in Baluchistan, Sind and Punjab (Bahawalpur and Multan dists.), and NW. India in and around

Alaemon alaudipes



■ Distributional range

A. a. doriae (884).

the Great and Little Ranns of Kutch. Affects desert areas — undulating swells and mounds of drift sand with sparse bushes of *Salsola* and *Sueda*, etc., or absolutely bare sunbaked salt-encrusted *pâts*.

Extralimital. Eastern Arabia, Iraq, southern Iran and Afghanistan. Other races in the Sahara and northern Africa.

GENERAL HABITS. Usually met with singly or in widely separated pairs, often enormous distances out in flat featureless desert. Actions and behaviour very reminiscent of Desert Courser (439). Runs about hither and thither with mincing steps, stopping abruptly from time to time to pull itself erect or to pick up some morsel from the ground. Trusts to its legs for escape, taking wing reluctantly and only when pressed. Is a very swift runner, and if shot and merely winged it takes all-out sprinting to retrieve the bird! Flight wandering, similar to that of the Crested Lark; also reminiscent of the Hoopoe's, the resemblance being heightened by the black-and-white wing and tail pattern.

FOOD. Tiny beetles (Coleoptera) and other insects mostly picked off grasses; also seeds of *Sueda* and suchlike desert plants.

VOICE AND CALLS. Display. From the top of a bush or sand-mound the male springs up on fluttering wings more or less vertically for maybe 3 or 4 metres and nose-dives back to the perch, singing at the same time and displaying the striking black-and-white patterned wings and tail to best advantage. This manoeuvre is repeated again and again at short intervals. The song is a clear high-pitched mellow 3-noted whistle *tee-tee-tee* followed by a prolonged *tee-hoo* while nose-diving. 'The bird generally rises from the top of a sandhill after a preliminary tuning up of *too-too-tē-tē* whistled rather plaintively and deliberately and softly. The *too* is also an alarm cry' (T. R. Bell, MSS.).

BREEDING. Season, March to July, possibly straggling into September. Nest, a large untidy-looking structure of sticks etc. with a deepish cup in the centre (diam. c. 75, depth c. 40 mm) lined with fine twigs, grass stems, and feathers. Usually placed in a diminutive bush up to 60 cm or so from the ground, in desert country with a thin sprinkling of coarse grass clumps and bushes of *Sueda* etc. Difficult to find but for the male displaying in its vicinity or the incubating female running away from the holding bush. Nest sometimes built in a straggly lone bush in a vast expanse of sunbaked *pāt*. Eggs, 2 or 3, longish oval, white to pale buff, blotched, spotted and speckled with reddish brown and faintly marked with lavender and grey — more densely at the broad end. Average size of 15 eggs 23·8 × 17·5 mm (T. R. Bell). Incubation by female alone (apparently); incubation period undetermined. Young, while still flightless, very fast runners. Mother bird gives distraction display, running in front of observer with dragging wings as if grievously injured.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit. When freshly killed the hindcrown is a delicate dove-grey. This colour disappears soon after death. In summer the plumage becomes very abraded and the spots on breast much more prominent.

JUVENILE. Upperparts barred with blackish brown, each feather edged paler. No spots on breast. Wings and tail as in adult.

Nestling covered with very long pale buffy white down (Ticehurst).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	126–137	30–35	34–37	79–99 mm
♀ ♀	116–119	c. 27	30–32	c. 75 mm (SA)

COLOURS OF BARE PARTS. Iris brown. Bill horny greenish grey: upper mandible pale plumbeous or pale brown, lower paler and more flesh coloured. Legs and feet china-white; claws greenish brown.

Genus CALANDRELLA Kaup

Calandrella Kaup, 1829, Skizz. Entwick. Nat. Syst.: 39. Type, by monotypy,

Alauda brachydactyla Leisler

Alaudula Horsfield & Moore, 1858, Cat. Bds. Mus. E.I. Co. 2: 471. Type, by monotypy, *Alauda raytal* Blyth

Bill rather short and deep. Nostrils concealed by plumelets. Wing of nine primaries: first primary (as.) long, reaching to tip of wing and more or less subequal with the next two or three. Inner secondaries long, reaching almost to tip of wing. Hindclaw a little longer than hindtoe and almost straight.

Key to the Species

	Page
A Inner secondaries falling short of wing-tip	
1 2nd primary about equal to 3rd and 4th (1st is minute)....	C. <i>raytal</i> 26
2 2nd primary shorter than 3rd and 4th.....	<i>rufescens</i> 25
B Inner secondaries reaching tip of wing	
3 5th primary decidedly shorter than 2, 3 and 4.....	<i>cinerea</i> 19
4 5th primary about equal to 2, 3 and 4.....	<i>acutirostris</i> 22

CALANDRELLA CINEREA (Gmelin): SHORT-TOED LARK¹

Key to the Subspecies

	Page
Upperparts strongly suffused with reddish; underparts fulvous	<i>C. c. dukhunensis</i> 21
Upperparts not strongly suffused with reddish; underparts whitish washed with fulvous-brown on breast.....	<i>C. c. longipennis</i> 19

885. *Calandrella cinerea longipennis* (Eversmann)

Alauda longipennis Eversmann, 1848, Bull. Soc. Imp. Sci. Nat. Moscow 21: 219

(Sangara, Dzungaria)

Baker, FBI No. 1221, Vol. 3: 325

LOCAL NAMES. *Pülläk*, *Böghéri* (Hindi); *Akonia* (Bihar mirshikars).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. A sparrow-like bird seen in large flocks in winter in open semi-desert country. *Above*, sandy or greyish brown streaked with blackish; a pale supercilium. Tail blackish with the two outer pairs of feathers largely white. *Below*, dull white, the breast washed and finely striated with brown. Sexes alike.

Gregarious habit (large flocks) and white underparts contrasting with the black tail in flight, distinguish this species from most other larks of this size. *C. acutirostris* (887-8) looks very similar, but has a rufous wash on the rump.

¹ Both Meinertzhagen and Vaurie (loc. cit., p. 1) combine this species with *brachydactyla*.

ALAUDIDAE

STATUS, DISTRIBUTION and HABITAT. Common and abundant winter visitor (September to April) throughout the NW. desert and semi-desert portions: Baluchistan, Sind, Punjab (NW. frontier districts, Bahawalpur, Salt Range, etc.), Haryana, Delhi, western U.P., Rajasthan, N. Gujarat (including Kutch and Saurashtra), northern M.P. (Gwalior, Bhopal, Indore, etc.), and Maharashtra (Bombay). Affects open stony scraggy grassland, flat barren *pâls* among sand-dunes and in semi-desert country, fallow cultivation in sandy riverain tracts, dry tidal mudflats in coastal areas, etc.

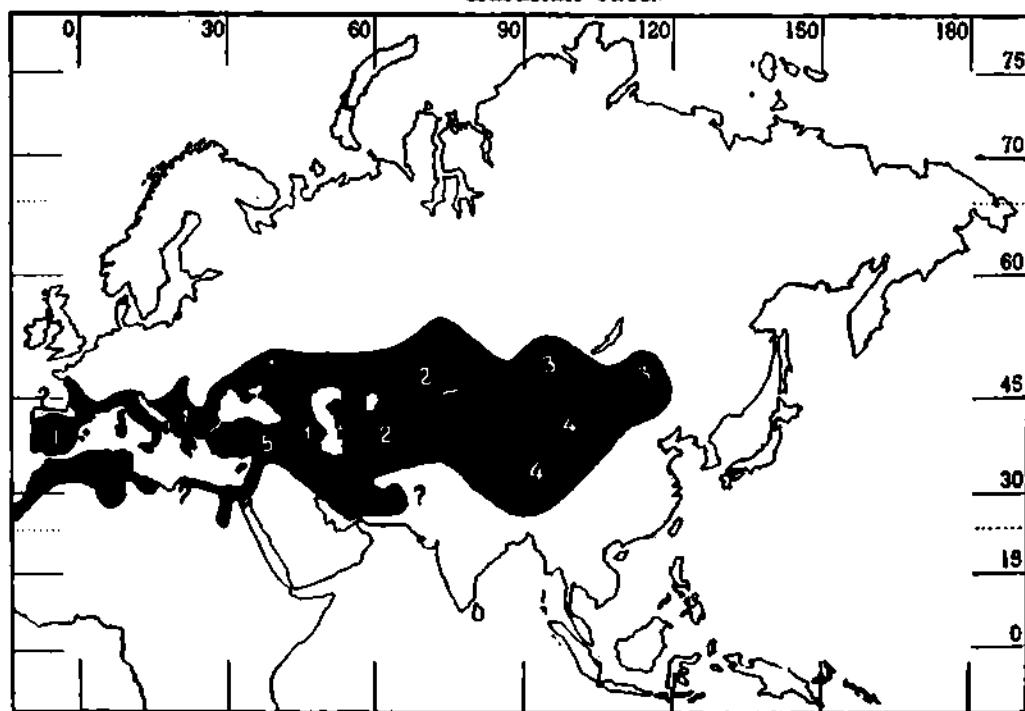
Extralimital. Breeds from southern Russian Altai eastward through northern Mongolia to Transbaikalia, northeastern Mongolia and north-western Manchuria. Winters also in Afghanistan (Vaurie).

MIGRATION. No ringing data. Recorded on southward passage through Droshe and Chitral in large numbers, first week October; very common on return passage northward in April (Fulton, JBNHS 16: 56; Perreau, ibid. 19: 916). Passes southward through Kohat and Kurram Valley in September; common on return passage between last week February and mid April (Whitehead, JBNHS 20: 798). The observational data may also include 886.

GENERAL HABITS. Keeps in straggly flocks running about and feeding on the ground or moving restlessly around the countryside in undulating

Calandrella cinerea

Eurasian races



Breeding

For winter ranges see text

- 1 *brachydactyla*
- 2 *longipennis*
- 3 *orientalis* (RE)
- 4 *dukhunensis* (886)
- 5 *hermonensis* (RE)

pipit-like flight. The flocks are sometimes densely packed and of enormous size — 'clouds' of many hundreds, or thousands — e.g. upon their first arrival in winter quarters and again prior to emigration. The birds are

often seen feeding in the most barren-looking places with hardly a blade of grass growing, but where the ephemeral monsoon vegetation has evidently left an abundant supply of scattered seeds before dying down. The flocks fly out, sometimes considerable distances, to drink at favourite spots on river banks and the like every morning. They roost at night on bare open flats, each individual squatting separately in a round little depression in the soil.

Short-toed Larks become excessively fat before emigration and are then netted everywhere in vast quantities, being in great demand as an epicurean delicacy. They also constitute the staple diet of many of the resident as well as wintering birds of prey.

FOOD. Grass- and weed seeds: those of *Eleusine aristata* and *Eragrostis plumosa* (grasses), and *Trianthema pentandra* (a ficoid), identified among stomach contents (Ticehurst). Also eats insects.

VOICE AND CALLS. Very silent in winter; only an occasional chirp.

BREEDING. Extralimital. Breeding biology as in 887-8.

MUSEUM DIAGNOSIS. 4th visible primary (as.) distinctly shorter than the first three. Upperparts greyer than in *dukhunensis* (886); underparts whiter.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	95-100	12-15	20-21	54-65 mm
♀ ♀	88-94	12-14	20-21	53-57 mm (SA)

Weight 2 ♂ ♂ (winter) 19, 21.5; 3 ♀ ♀ (winter) 18-18.5 g (BB).

Wing 24 ♂ ♂ 91-98 (av. 93.8); 9 ♀ ♀ 85-90 (av. 87.7) mm } Paludan,

Weight 23 ♂ ♂ 19-25 (av. 22.3); 9 ♀ ♀ 19-22 (av. 19.9) g } Afghanistan

COLOURS OF BARE PARTS. Iris brown. Bill: upper mandible horny brown, darker on culmen; lower mandible yellowish horny. Legs and feet fleshy brown.

886. *Calandrella cinerea dukhunensis* (Sykes)

Alauda dukhunensis Sykes, 1832, Proc. Zool. Soc. London: 93 (Dukhun)

Baker, FBI No. 1222, Vol. 3: 326

Plate 64, fig. 14

LOCAL NAMES. *Pülläk*, *Bäghéri* (Hindi); *Ākonīā* (Bihar mirshikars).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. As in 885, but less grey more tawny; doubtfully distinguishable unless in the hand. See Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Probably breeds in Ladakh. Common and abundant winter visitor (September to April) from all along the base of the Himalayas, south through the Gangetic Plain and the Peninsula to Kerala. Less common in Assam and East Pakistan (?).

By and large absent in West Pakistan and the adjoining arid semi-desert portions, but virtually replacing the Yarkand



× c. 1

form (885) in central, eastern and southern India. Affects open stony, scraggy grass-covered country, cultivated tracts, ploughed fields, paddy stubbles, and dry tidal mudflats in coastal areas, etc.

Extralimital. 'Tibet, and Lop Nor to Ala Shan' (Vaurie).

GENERAL HABITS, VOICE AND CALLS. As in 885, q.v. The various Short-toed Larks are notoriously difficult to identify in the field; assertions as to the occurrence, distribution, migration and breeding of this or that species or form, when unsupported by specimens, need to be treated with caution. However, their general habits, behaviour and food are almost identical, as is also the low chirping note occasionally heard in the winter quarters.

FOOD. Among stomach contents of birds from an intensively cultivated area in Bihar, in addition to grass- and weed seeds the following insects were commonly identified: weevils (*Tanymecus indica*, *T. hispidus*, and others), beetles (*Mylocerus discolor*, *Mesomorpha villiger*, and other species, and Aphodiids), ants (*Phidole malinsi*, *Oecophylla smaragdina*, *Camponotus compressus*, and ant pupae), small snails (*Corbicula* and *Planorbis* spp.), and geometrid caterpillars. Weevils constituted the major item (Mason & Lefroy, 1912).

BREEDING. Mainly extralimital. Only once recorded within our area, in the Suru Valley, Ladakh, between c. 3300 and 4000 m in July, by a reliable ornithologist. However, since apparently no specimen was collected, the subspecies remains in doubt and may as well be *longipennis*. Nests, several were found in a colony with those of the Horned Lark (*Eremophila a. longirostris*, 896) on a gentle mountain slope with scattered *Artemisia* and *Trollius* growth; described as a slight depression in the ground made by the bird in the shelter of a tiny plant, lined with a few blades of dry grass and a layer of fine, very soft vegetable down. Eggs, 3, in some cases 2, 'putty colour' mottled all over with yellowish brown. Average size 20.7 × 14.4 mm (B. B. Osmaston, JBNHS 31 : 191).

MUSEUM DIAGNOSIS. Wing formula as in *longipennis* (885). Differs from it in being more rufescent brown above and on flanks; less white, more buff, on the underparts.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	95-103	13-14	20-22	59-60 mm
♀ ♀	92-98	13-14	20-21	51-56 mm (SA, HW, Koelz)

Weight 14 ♂ ♀ 18-23 (av. 20) g — SA.

COLOURS OF BARE PARTS. As in 885.

CALANDRELLA ACUTIROSTRIS Hume: HUME'S SHORT-TOED LARK

Key to the Subspecies

- White on tail less extensive and suffused with fulvous.....
- *C. a. acutirostris* 23
- White on tail more extensive and purer in colour .. *C. a. tibetana* 24

887. *Calandrella acutirostris acutirostris* Hume

Calandrella acutirostris Hume, 1872, Lahore to Yarkand: 265 (Balakchi, upper Karakash Valley, north of Sughet Pass, Karakoram)
Baker, FBI No. 1223, Vol. 3: 327

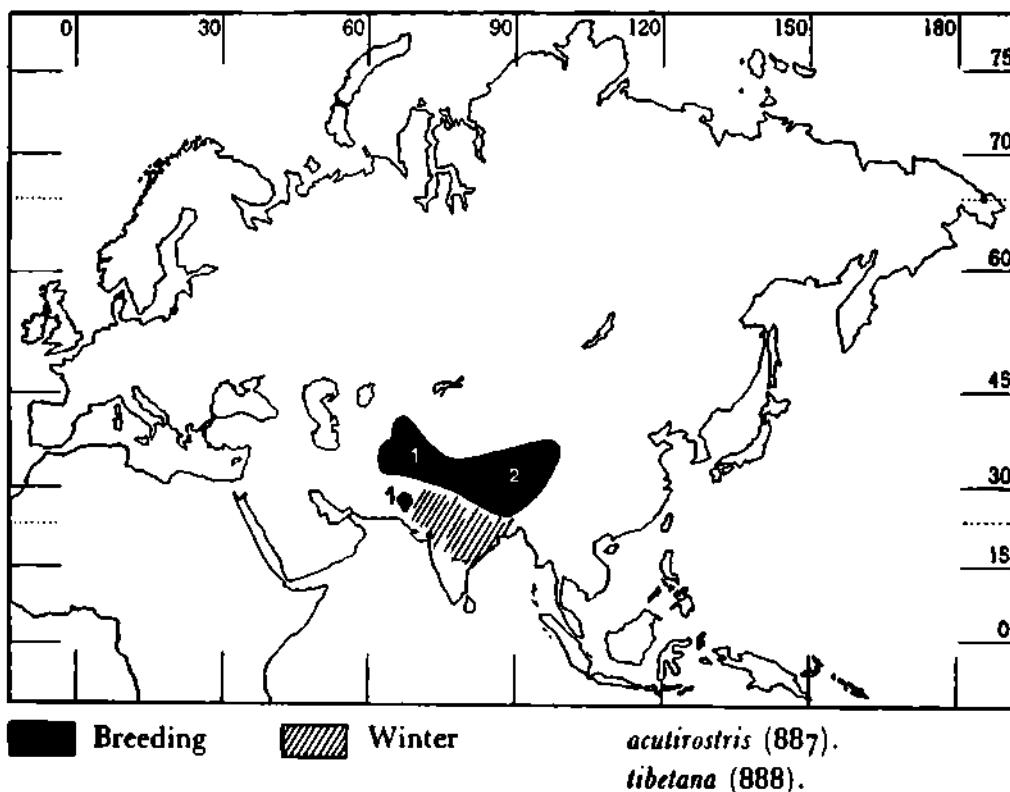
LOCAL NAME. *Bāgheri* (Hindi).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. As in 885, q.v.; not distinguishable from it unless in the hand. Sexes alike. See keys to the Species and Subspecies.

On a good view, in flight, the rufous wash on rump sometimes helps to distinguish this species from *C. cinerea*, especially from the greyer subspecies *longipennis* (885) which otherwise looks identical with it.

STATUS, DISTRIBUTION and HABITAT. Breeds in Baluchistan, Gilgit, and the Sughet Range in Kunlun Shan to Zaskar and Rupshu (up to c. 5000 m), where it intergrades with *tibetana* (888). Chiefly winter visitor to West Pakistan and India south to northern Punjab, Uttar Pradesh and Madhya

Calandrella acutirostris

Pradesh. However, the two races are so close to each other that it is not always possible to assign even museum specimens with certainty. The situation is further complicated by the intermediates, and the extensive overlapping that occurs in their winter ranges. Sight records unsupported by specimens are quite worthless. Affects open, semi-desert country and fallow land, low stony foothills with scanty herbaceous vegetation, etc.

Extralimital. Breeds also in eastern Iran, north, central and eastern Afghanistan, and Badakhshan (Vaurie).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 888.

BREEDING. Season, May to July. Nest and eggs as in 888, but normal clutch in Baluchistan said to be of 4 (Williams, JBNHS 33: 607).

MUSEUM DIAGNOSIS. First four visible primaries (as.) nearly subequal, and longest. Differs from *tibetana* in having the white wedge on inner web of outer tail-feather less in extent, and white outer margin of 2nd tail-feather narrower.

MEASUREMENTS

	Wing	Weight
11 ♂♂	89-96 mm	19-23 g
7 ♀♀	84-90 mm	18-21 g

(Paludan, Afghanistan)

COLOURS OF BARE PARTS. Iris brown. Bill yellowish horny, blackish on culmen and tip. Legs and feet fleshy brown; claws darker.

888. *Calandrella acutirostris tibetana* Brooks

Calandrella tibetana Brooks, 1879, Stray Feathers 8: 488 (Thibet, beyond Sikkim)

Baker, FBI No. 1224, Vol. 3: 328

LOCAL NAME. *Bāghēri* (Hindi).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. As in 887, q.v.; not distinguishable from it or from 885 unless in the hand. See keys to the Species and Subspecies.

STATUS, DISTRIBUTION and HABITAT. From Baltistan, Zaskar, Rupshu, and Lahul (where it intergrades with 887), east through Ladakh, Nepal (recorded at c. 5000 m in May— Biswas, 1961, JBNHS 58 : 443), N. Bhutan and SE. Tibet; breeding from c. 3100 to 5000 m. Winter visitors to Punjab, Uttar Pradesh, Nepal, Sikkim, Madhya Pradesh, Bihar, W. Bengal, Assam and E. Pakistan. Affects open semi-desert country, fallow cultivation and waste land, low stony foothills with scanty herbaceous vegetation, etc.

GENERAL HABITS. Very like those of 885 and other Short-toed Larks, qq.v. In its wintering range keeps in large straggly flocks running about and feeding on bare ground or flying about restlessly. Aerial display in breeding season, when in pairs, consists of a series of wandering wagtail-like flights after soaring aloft for 50 metres or so, each spurt ending in a short hovering and accompanied from time to time by a series of faint disjointed musical notes, mostly the normal sharp *treee*. This performance may continue for ten minutes or more, and ends with a vertical dive of the bird to the ground (Ludlow, SA).

Extralimital. Eastern Tibet and Sikang to Koko Nor (Vaurie).

FOOD. Weed seeds and insects.

VOICE and CALLS. Normal note, a sharp *treee*. Song (as under General Habits) poor and monotonous; also uttered from the top of a rock or stone.

BREEDING. Season, in Ladakh end May to July. Nest, a slight depression in the ground scantly lined with dry grass and compactly felted within with very fine vegetable down or wool (usually white): diameter c. 60 mm, greatest depth c. 35 mm; sometimes parapeted round the rim with gravel. Placed in the shelter of a small plant or stone; frequently in quite exposed situations. Eggs, normally 3, sometimes 2, greyish white faintly stippled

or splashed with pale brown, somewhat more densely at the broad end, there tending to form a ring. Average size of 25 eggs 20×14.5 mm (Ludlow). Both nest and eggs are smaller replicas of those of the Horned Larks (*Eremophila*) which share the same barren environments. Both sexes partake in collecting material and lining the nest; apparently also incubation. Incubation period undetermined. Parent performs 'broken wing' distraction display when nest with chicks approached.

MUSEUM DIAGNOSIS. Wing formula as in the species *acutirostris* (see Key, p. 19). Differs from the nominate race (887) in having the white wedge on inner web of outer tail-feather more extended, and white outer margin of second tail-feather wider.

MEASUREMENTS. Not different from 887.

Whistler (*Ibis*, 1932: 479) gives for a series of carefully sexed birds of the two forms together, as under:

	Wing	Bill (from skull)	Tarsus	Tail
33 ♂♂	98-100	13-15	19-22	(54) 58-65 mm
12 ♀♀	85-92	13-14	19-21	54-60 mm

COLOURS OF BARE PARTS. As in 887.

CALANDRELLA RUFESCENS (Vieillot): LESSER SHORT-TOED LARK

	Key to the Subspecies	Page
A Upperparts rufous sandy	<i>C. r. persica</i>	25
B Upperparts pale grey	<i>C. r. leucophaea</i>	271

888a. *Calandrella rufescens persica* (Sharpe)

Alaudula persica Sharpe, 1890, Cat. Bds. Brit. Mus. 13: 590 (Niris, Iran)
Baker, FBI No. 1227, Vol. 3: 332

Plate 64, fig. 13

LOCAL NAME. *Bāghēri* (Hindi, for Short-toed Larks generally).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. As of 885; distinguishable from it at close range by spotted breast, but usually not unless in the hand. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Winter visitor to W. Pakistan—Baluchistan (this race and/or *leucophaea*), Bahawalpur (JBNHS 42: 730), elsewhere in Punjab (Peshawar and Hissar dists.), and possibly Sind. May be commoner than records suggest, but overlooked amongst other more abundant Short-toed Larks. Affects open sandy semi-desert country.

Extralimital. 'Iranian Plateau, W. Iran (Zagros in Luristan), S. Iran, Seistan to SE. Afghanistan, S. Iraq' (Vaurie).

GENERAL HABITS, FOOD, VOICE and CALLS. Indistinguishable from 885 in winter.

BREEDING. Extralimital. More or less as in 885; described by Blanford, 1876, in *Eastern Persia* 2: 243 (under the name *C. pispoletta*).

MUSEUM DIAGNOSIS. In the species *C. rufescens* the secondaries are markedly shorter than wing-tip — always more than 15 mm. Breast more or less distinctly spotted; black spot on either side of throat (as in *acutirostris* and *cinerea*) lacking. Subspecies *persica* is brown-streaked rufous sandy above; whitish below, spotted on breast. Outer tail-feather largely white.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂	96-105	11-13	20-22	60-64 mm
♀ ♀		(from skull)		(SA, Baker)

COLOURS OF BARE PARTS. Iris grey-brown or brown. Bill horny grey, darker on culmen, yellowish on lower mandible. Legs and feet fleshy brown.

888b. *Calandrella rufescens leucophaea* Severtzov
See Appendix, page 271

CALANDRELLA RAYTAL (Blyth): SAND LARK

Key to the Subspecies

		Page
A	More heavily streaked; much darker and greyer	
 <i>C. r. Krishnakumarsinhji</i>	27
B	Less heavily streaked; paler and more sandy	
a	Bill slenderer and longer..... <i>C. r. raytal</i>	27
b	Bill thicker and shorter..... <i>C. r. adamsi</i>	26

889. *Calandrella raytal adamsi* (Hume))

Alauda adamsi Hume, 1871, Ibis 13: 405 (Agore Valley, Hazara)
Baker FBI No. 1226, Vol. 3: 331

LOCAL NAME. *Rētil* (Hindi).

SIZE. Sparrow —; length c. 13 cm (5 in.).

FIELD CHARACTERS. As in 891, q.v. See Museum Diagnosis.

When in flocks in non-breeding season, may be distinguished from Short-toed Larks, with which they do not associate, by their greyer and whiter appearance, and silvery tinkling note (Ticehurst).

STATUS, DISTRIBUTION and HABITAT. Resident. Baluchistan (Makran coast), Sind, Punjab and Haryana east to the Jumna R., and Kutch. Affects bare sandy banks and islets in the larger northwestern rivers; salt-pan environs and dry open salty mudflats on the sea coast.

EXTRALIMITAL. Persian Baluchistan, west to c. 56° E. long. (Bandar Abbas).

GENERAL HABITS, FOOD, VOICE and CALLS. As in the nominate race (891).

BREEDING. Season, March to September, chiefly June to August. Nest, eggs, and breeding biology as in 891.

MUSEUM DIAGNOSIS. Differs from the nominate race (891) only in having a shorter and thicker bill with the culmen more curved. *C. r. Krishnakumarsinhji* (890) has a similar bill but is distinctly darker, greyer, and more heavily streaked.

Juvenile undergoes a complete moult in autumn; in fresh plumage upperparts tinged with isabelline (Ticehurst).

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂	80-89	11-13	19-20	48-56 mm
♀ ♀	77-82	11-13	19-20	46-50 mm
		(from skull)		(CBT, HW, SA)

COLOURS OF BARE PARTS. As in 891.

890. *Calandrella raytal Krishnakumarsinhji* Vaurie & Dharmakumarsinhji

Calandrella raytal Krishnakumarsinhji Vaurie & Dharmakumarsinhji, 1954, Jour. Bombay nat. Hist. Soc. 52: 8 (Bhavnagar, Saurashtra)

Not in Baker

LOCAL NAME. *Rētāl* (Hindi).

SIZE. Sparrow —; length c. 13 cm (5 in.).

FIELD CHARACTERS. As in 891. See Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Resident. So far known only from the type-locality Bhavnagar in Saurashtra (Gujarat). Affects dry tidal mudflats along the coast (Gulf of Cambay) with scanty growth of rank grasses and saline plants (*Sueda* etc.).

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 891. Common call-note a characteristic *cheruk-cheruk* (Dharmakumarsinhji).

BREEDING. Season, March to September, mainly from June on. Nest and eggs as in the nominate subspecies. Some nests sheltered under discarded dry coconut husks, a favourite site being the railway embankment across the mudflats.

MUSEUM DIAGNOSIS. Differs from both *adamsi* (889) and *raytal* (891) in being more heavily streaked and much darker in all plumages — dark grey above instead of sandy. Bill as in *adamsi*, shorter and thicker than in the nominate form. For details of plumage see Vaurie & Dharmakumarsinhji, loc. cit.

MEASUREMENTS

	Wing	Bill (from skull)	Tail
11 ♂ ♀	76-85	12-13	42-50 mm (Vaurie)

COLOURS OF BARE PARTS. As in 891, but 'bill blackish above and below'.

891. *Calandrella raytal raytal* (Blyth)

Alauda raytal 'Buch.-Hamilton' = Blyth, 1844-45, Jour. Asiatic Soc. Bengal 13: 962 (Lucknow)

Calandrella raytal vauriei Koelz, 1954, Contrib. Inst. Regional Exploration, No. 1: 20 (Palasbari, Assam)

Baker, FBI No. 1225, Vol. 3: 329

Plate 64, fig. 15

LOCAL NAME. *Rētāl* (Hindi).

SIZE. Sparrow —; length c. 13 cm (5 in.).

FIELD CHARACTERS. Like Short-toed Lark (885) but smaller. *Above*, greyish sandy, narrowly streaked with dark brown. *Below*, white, sparsely and indistinctly dark-streaked on sides of breast. A white supercilium and cheeks. Shortish black-and-white tail. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident. N. India east of Jammu R. from Delhi and Haryana south and east through U.P., Nepal terai and plains, Bihar, northern W. Bengal, Bhutan foothills, Brahmaputra Valley in Assam, and E. Pakistan. Also Madhya Pradesh south to Hoshangabad and Mhow. Affects sandy river banks and islets in streams.



× c. 1

Extralimital. Burma, along the lower Irrawaddy, Chindwin and other large rivers in the dry zone.

GENERAL HABITS. Keeps singly or in scattered twos and threes — frequently small flocks of 20 or 30 in non-breeding season — running about and feeding on bare sandy flats in the characteristic zigzag jerky spurts of the family. In breeding season male has an imposing song-flight. He soars aloft some 30 metres or so and flies aimlessly here and there while singing, not by a continuous hovering like the skylark but by intermittent series of rapid wing-flaps and pauses. The performance is short, lasting only a few minutes. The bird thereafter parachutes to the ground in a succession of 5 to 10 steps, wings and tail stiffly open, hovering momentarily at each step — reminiscent of the Tree Pipit's song-flight. In the final step of the descent, he shoots down vertically with closed wings, flattening out when within a metre or so of the ground to settle lightly on a clod or stone.

FOOD. Weed seeds and insects.

VOICE and CALLS. Song — usually uttered in flight, sometimes from a stone or mound — rather similar to that of Sykes's Crested Lark (902) but short and disjointed: a few tinkling notes . . . pause . . . a few more notes . . . pause, and so on. It is commonly interlarded with perfect imitations of the calls of many birds that share its habitat, e.g. the Redwattled Lapwing and Green Sandpiper. When singing from the ground, the crest is raised.

BREEDING. Season, February to May, chiefly March and April before the snow-fed northern rivers come in flood. Nest, a deepish cup-like depression in the ground at the base of a tamarisk seedling, or small arenicolous plant such as *Argemone*, or in the middle of a tuft of grass growing on a sandy river-bed or bank, sometimes in the shelter of a clod of river silt; lined with fine grasses, rootlets, goat's hair or vegetable down. Eggs, normally 3, sometimes 2, yellowish or greyish white with pale specks, freckles and small patches of greyish brown or pale reddish brown; they are small replicas of eggs of the Large Pied Wagtail. Average size of 20 eggs $20 \cdot 1 \times 14 \cdot 6$ mm (Baker). Evidently both sexes take part in all the domestic chores. Incubation period undetermined.

MUSEUM DIAGNOSIS. See Field Characters. Differs from *adamsi* (889) only in having a slenderer and slightly longer bill.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	74-83	c. 11-12	19-20	41-47 mm (Baker)

Bill from skull 12-14 mm (SA).

Weight 3 ♂♂ 18–19 g (BB).

COLOURS OF BARE PARTS. Iris brown. Bill horny brown with a yellow or green tinge, blackish at tip. Legs and feet fleshy yellow.

Genus MELANOCORYPHA Boie

Melanocorypha Boie, 1828, Isis, col. 322. Type, by subsequent designation,

Alauda yeltoniensis J. R. Forster

Bill very thick and gently curved. Nostrils covered by plumulets. Wing very long, of ten primaries; first primary (as.) very minute; tertaries not elongated. Hindclaw long and straight.

Key to the Species

	Page
Wing over 140 mm; first primary white on outer web.. . <i>M. maxima</i>	30
Wing under 130 mm; first primary brown on outer web, narrowly edged fulvous..... <i>M. bimaculata</i>	29

892 **Eastern Calandra Lark.** *Melanocorypha bimaculata torquata*
(Blyth)

Melanocorypha torquata Blyth, 1847, Jour. Asiat. Soc. Bengal 16: 476 (Afghanistan)
Baker, FBI No. 1210, Vol. 3: 312

Plate 64, fig. 11

LOCAL NAME. *Jäl* (Kashmir).

SIZE. Sparrow +; length c. 16 cm (6½ in.).

FIELD CHARACTERS. A large, rather dumpy lark with a very thick bill.
General coloration rather like Rufous Short-toed Lark (886).

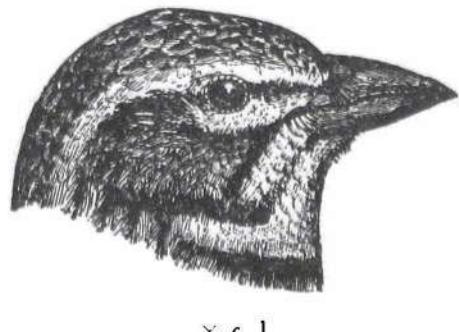
Above, dark brown, each feather edged sandy. A broad white supercilium and a dark line from lores to eye; cheeks and ear-coverts rufous-brown, streaked paler. Tail blackish brown edged paler, all rectrices except central pair white-tipped. *Below*, chin, throat, and sides of neck white. A large black spot on each side of upper breast tending to meet

across throat like a gorget; lower breast fulvous, streaked with brown. Rest of underparts white, washed with fulvous on flanks. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Fairly common winter visitor to Baluchistan (Quetta Valley, coastal Makran), Sind, Kashmir, Punjab, Haryana, Rajasthan and Uttar Pradesh (east to about Jumna river). A specimen collected in Kutch, February (Himmatsinhji, JBNHS 57: 408); another in December (SA). Chiefly passage migrant in Chitral and Gilgit, a few staying on in mild winters. Affects barren semi-desert, sparse cultivation, harvested and fallow fields, and margins of jheels; dry tidal mudflats in coastal areas.

Extralimital. Transcaspia, eastern Iran (Khorasan), N. and NE. Afghanistan; probably eastern Russian Turkestan and Kirghiz steppes (Vaurie).

MIGRATION. No ringing data. Passes through Gilgit in small numbers in October (Scully, SF 10: 134). Return passage starts about February.



× c. 1

Flocks of many thousands reach Kohat and Attock districts in February and early March (Whitehead, *Ibis*, 1909: 245), and Gilgit and Chitral by end February. By middle of March all the birds have moved on. Very plentiful in Chitral during end February and beginning March on northward migration (Fulton, JBNHS 16: 56), large flocks passing up the main valley in early March (Perreau, JBNHS 19: 916).

GENERAL HABITS. Met with in flocks while in its winter quarters, often of considerable size just prior to emigration ('hundreds'), usually in company with Short-toed Larks. The birds keep up a constant 'warbling' while squatted or running about on the ground.

FOOD. Seeds and insects.

VOICE and CALLS. 'Has a melodious call note' (Jones). Song not heard in winter.

BREEDING. Extralimital. *Nest*, a roughly put-together cup of grasses etc. on the ground; c/3 or 4.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters; for details of plumage, Baker loc. cit. Very similar to the nominate form *M. b. bimaculata* (of Transcaucasia, W. and S. Iran) but paler, greyer, and less heavily streaked.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	116-126	17-18	26-27	50-61 mm (Baker, SA)

Weight 3 ♂♂ 47-60 g (Paludan). 1 o? (December) 48 g — SA.

COLOURS OF BARE PARTS. Iris light to dark brown. Bill: upper mandible brown to black; lower mandible greenish horny, yellowish at base. Legs and feet yellowish- or brownish flesh colour, darker on the joints.

MISCELLANEOUS. Is excessively fat during the season of spring migration, when the birds are extensively netted, snared and shot in Kashmir and all along the migration route as an epicurean delicacy. Is also a very favourite cage-bird in those parts on account of its sweet rich song, similar to the skylark's — likewise interlarded with mimicry of other birds' calls — but richer and louder.

MELANOCORYPHA MAXIMA Blyth: LONGBILLED CALANDRA LARK

Key to the Subspecies

- Upperparts darker..... *M. m. maxima*
- Upperparts paler..... *M. m. holdereri*

893. *Melanocorypha maxima holdereri* Reichenow

Melanocorypha holdereri Reichenow, 1911, Orn. Monatsb. 19: 34
(Kloster Shinse, Kansu)

Melanocorypha maxima subgrisea Stegmann, 1937, Orn. Monatsb. 45 (2): 55
(Oring Nor, east Nanshan)

Melanocorypha maxima kashmirica Koelz, 1939, Proc. Biol. Soc. Washington 52: 122
(Hanle, Rupshu, Kashmir)
Baker, FBI No. 1209 (part), Vol. 3: 311

LOCAL NAMES. None recorded.

SIZE. Myna —; length c. 21 cm (8 in.).

FIELD CHARACTERS. As in the nominate form (894), q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Within our limits so far procured only in Ladakh (Rupshu) at c. 4350 m (Hanle) in July, so presumably breeding there. Affects grassy, humpy marshland in the vicinity of the high-elevation lakes in typical Tibetan plateau facies, between 4300 and 4600 m.

Extralimital. Western, northern and eastern Tibet, Sikang (north of Kham), and Tsinghai to Kansu (Vaurie).

GENERAL HABITS. Largely as in 894. In breeding season SA found it singly or in scattered twos and threes keeping to the dry humpy margins of lakes and snow-fed bogs in the Manasarovar region of western Tibet. Males sing from the top of a grassy hump, twitching open the wings excitedly, drooping them at the sides of the partially cocked tail, and turning lightly from side to side. In chasing off a rival the bird flies at him low above the ground with leisurely-looking but deliberate and meaningful wing-beats. Before alighting to supplant, wings held up stiffly in a wide V above back and tail spread out, displaying the white pattern prominently. (For a fuller account of its ecology and biology see Schäfer, 1938: 187–90.)

FOOD. Seeds and insects.

VOICE AND CALLS. Song rather feeble, of disconnected strophes interlarded with perfect mimicry of other birds' calls, e.g. Redshank (*Tringa totanus*) and Green Sandpiper (*T. ochropus*).

BREEDING. Unrecorded within our limits. In adjacent western Tibet (Lake Manasarovar area) SA found it breeding abundantly in June–July. Nest, a cup-like hollow in the ground lined with green grass; sited among the drier humps on the fringe of a seepage bog with spongy semi-floating grassy hummocks ('islets'). Eggs, 2 or 3, rather elongate, olive-creamy densely freckled with brown, almost masking the ground colour. Size c. 29 × 19 mm (SA).

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters. Differs from the nominate form (894) only in being paler.

MEASUREMENTS AND COLOURS OF BARE PARTS. As in 894.

894. *Melanocorypha maxima maxima* Blyth

Melanocorypha maxima Blyth, 1867 (January), Ibis: 46, footnote (Afghanistan, *errone*, restricted to borders of Sikkim by Hartert, 1904)

Baker, FBI No. 1209 (part), Vol. 3: 311

Plate 64, fig. 16

LOCAL NAMES. None recorded.

SIZE. Myna —; length c. 21 cm (8 in.).

FIELD CHARACTERS. A dumpy thick-billed lark, similar to Eastern Calandra (892), but larger, with much more white in tail, and less prominent black spot on sides of breast.

Above, brown, tinged with rufous on head and rump, each feather dark-centred and pale-edged; supercilium and cheeks whitish; ear-coverts golden rufous. Tail brown, all rectrices except middle pair broadly white-tipped, the

outermost feather nearly all white. *Below*, dull white washed with ashy on breast and with fulvous on flanks. A blackish spot on each side of breast; sometimes also a few ill-defined brown spots in the middle. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident. Northern Sikkim and northern Bhutan in the Tibetan plateau facies, above c. 3600 m. Affects barren steppe country and humpy marshland around upland lakes and bogs.

Extralimital. Adjoining southern Tibet (except in the far west where 893 replaces it) and southeastern Sikang (Kham) — Vaurie.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 893, q.v. 'When disturbed it utters a succession of loud musical whistles' (Ludlow).

BREEDING. Not recorded within our limits, but breeds plentifully in suitable situations in adjoining Tibet. *Season, nest and eggs* (c/2 or 3) as in 893. Average size of 5 eggs 29.3 × 18.5 mm (Ludlow).

MUSEUM DIAGNOSIS. See Field Characters and Key to the Species. The nominate form differs from that of Ladakh (893) only in being darker.

Young (immature). *Above*, blackish brown, each feather edged with yellow or yellowish white. *Below*, chin and throat distinctly yellow; rest of underparts washed with yellow, the breast heavily spotted with dark brown.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	143–154	21–24	29–30	83–93 mm (Baker)

COLOURS OF BARE PARTS. Iris dark brown, bill whitish horny or yellow, black at tip. Legs and feet dark brown or 'black mottled with dull red' (Walton).

Genus EREMOPHILA Brehm

Eremophila Brehm, 1828, Isis, col. 322. Type, by subsequent designation,
Alauda alpestris Linnaeus

Otocoris Bonaparte, 1838, Nouv. Ann. Sci. Nat. Bologna 2: 407. Type, by subsequent designation, Gray, 1842, *A. alpestris* Linnaeus

Distinct from all other larks in the possession of 'horns' composed of a few lengthened feathers on either side of the crown in both sexes. Bill of medium length, rather stout. Nostrils densely covered by plumelets. Wing of only 9 primaries: first 3 (as.) subequal, the 2nd generally a fraction the longest. Tarsus strong, of moderate length; hindclaw straight, pointed, about same length as hindtoe or slightly longer. Sexes dimorphic in colour.

Cf. Whistler, H., 1925, Birds of Lahul. *Ibis*: 190–92 (Horned Lark).

Whistler, H., 1932, On some Larks of the Kashmir State. *Ibis*: 470–79.

EREMOPHILA ALPESTRIS (Linnaeus): HORNED LARK

Key to the Subspecies

Males

		Page
A	Black sides of head connected with black of breast.....	<i>E. a. albogularis</i>
B	Black sides of head divided from black of breast by a white band	
a	Larger, wing over 120 mm; less vinous and more strongly streaked above.....	<i>E. a. longirostris</i>
b	Smaller, wing (usually) under 120 mm; more vinous with less distinct streaks above.....	<i>E. a. elwesi</i>

895. *Eremophila alpestris albogula* (Bonaparte)

Otocoris albogula Bonaparte, 1850, Conspl. Gen. Av. 1: 246 (Russian Alps, restricted to Hissar Range by Meinertzhagen, 1928, Ibis: 523)

Otocorys diluta Sharpe, 1890, Cat. Bds. Brit. Mus. 13: 670 (Kashgar and Yarkand) Baker, FBI No. 1206, Vol. 3: 307

Plate 64, fig. 18

LOCAL NAMES. None recorded.

SIZE. Bulbul; length c. 20 cm (8 in.).

FIELD CHARACTERS. A largish high-elevation lark, chiefly pinkish or vinaceous ashy brown above, white below. Face and throat whitish, with contrasty black cheeks running into a broad gorget across upper breast. A black band across crown and two tufts of long narrow feathers on either side ('the horns') confirm its identity.

Female has the crown ashy brown without the distinctive black-and-white markings but more or less streaked with black. Black of face and breast duller

and more restricted.

STATUS, DISTRIBUTION AND HABITAT. Resident in Gilgit and Chitral, moving altitudinally with season. Very common down at c. 1500 m between October and April whence, after forming large flocks ('of over a hundred') it suddenly disappears (Biddulph, SF 9: 354; Scully, ibid. 10: 134). Probably breeding in Chitral at the head of Turikho Valley c. 4000 m and upwards in July (Fulton, JBNHS 16: 56); spotted juveniles taken in August (Biddulph, SF 10: 274). A solitary straggler obtained in Rawalpindi dist., Punjab in March (Whistler, JBNHS 32: 218). Affects grassy pasture lands, banks of rivers, old moraines, and barren stony steppe country.

EXTRALIMITAL. Iran in Yezd, and NE. Iran eastward from Gurgan through Khorasan, the mountains of Afghanistan, Transcaspia, Pamirs, and western Tien Shan south to Kashgar and Yarkand in W. Sinkiang (Vaurie).

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 896 q.v.

BREEDING. As in 896.

MUSEUM DIAGNOSIS. Black areas of cheeks and upper breast confluent; forehead, face and throat in male always white, not yellowish.

YOUNG (immature). Above, fulvous-brown, each feather tipped with white and subtipped blackish. Supercilium, sides of head, chin and throat yellowish; lores and ear-coverts mottled with brown. Below, breast brownish white with black spots; rest of underparts pure white.

MEASUREMENTS

(from skull)

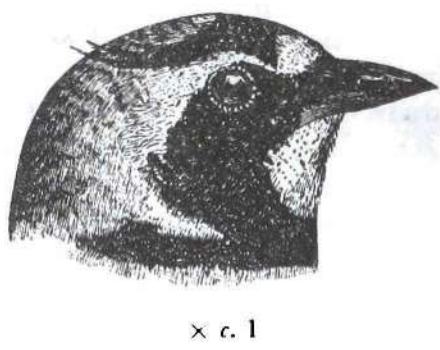
		Wing	Bill
10	♂ ♂	112-119	15-17 mm
4	♀ ♀	105-109	15-16 mm

(Ludlow & Kinnear)

	Wing	Weight
20	♂ ♂	116-124 mm
10	♀ ♀	104-116 mm

(Paludan, Afghanistan)

COLOURS OF BARE PARTS. As in 896.



896. *Eremophila alpestris longirostris* (Moore)

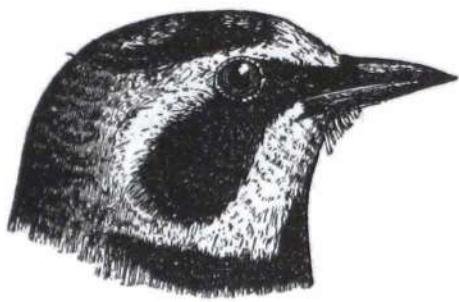
Otocoris longirostris Moore, 1856 (February), ex Gould MS., Proc. Zool. Soc. London 23: 215, pl. 3 ('Neighbourhood of Agra' corrected to Kulu)

Eremophila alpestris deosai R. & A. Meinertzhagen, 1926, Bull. Brit. Orn. Cl. 46: 84 (Deosai Plateau, between Baltistan and Kashmir)
Baker, FBI No. 1207, Vol. 3: 309

LOCAL NAMES. None recorded.

SIZE. Bulbul; length c. 21 cm (8½ in.).

FIELD CHARACTERS. As in 895 but with a white band separating black cheeks from the broad pectoral gorget. See Museum Diagnosis.



× c. 1

Female like male but with no black band across forecrown. Whole crown streaked dull black; 'horns' little more than black border to white supercilium; black of cheeks and gorget duller and more restricted.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to some altitudinal movement in winter. Baluchistan and NW. Kashmir from the Karakoram

south to Baltistan, Zaskar, Lahul and Spiti, Kulu; intergrading with *elwesi* (897) in Rupshu (SE. Kashmir); from c. 3500 m up to snowline. Affects barren, stony steppe country, with scanty tufts of grass and herbaceous plants — *Artemesia* etc.; occasionally also alpine meadows.

GENERAL HABITS. One of the commonest and most abundant birds in its characteristic stony upland habitat where its coloration is remarkably obliterative. Keeps in pairs or trios; in non-breeding season in scattered flocks, sometimes of considerable size — 50 or more. Usually unafraid and confiding, running about in short spurts like a small plover or wagtail to feed, frequently in close proximity of caravans and encampments. Under excitement, as when facing up to a rival, the horns are raised. Flies with deliberate leisurely-looking full wing-beats, reminiscent of the Crested Lark (*Galerida cristata*, 899).

FOOD. Weed seeds and insects; occasionally barley gleaned in harvested upland fields.

VOICE AND CALLS. A single rather mournful note *peo* occasionally uttered in flight, also reminiscent of Crested Lark's. In breeding season male sings from a rock a short, insignificant squeaky song of disjointed strophes of the volume and tone quality of a leaf warbler's trill; 'somewhat resembles that of the Corn Bunting, and also song of the Indian Redstart' (Osmaston). Apparently has no song-flight.

BREEDING. Season, May to July. Nest, a cup-like depression in the ground about 7 cm across and 4 cm deep, neatly felted with dry grass, hair, wool or vegetable down usually white in colour. Placed in the shelter of a tiny plant or stone, usually on its leeward side as protection from the prevailing gales; sometimes quite in the open. Eggs, normally 3, sometimes 2, longish ovals, slightly glossy and often sharply pointed at the smaller end; pale

yellowish buff in ground colour densely freckled and mottled with some shade of dark brown. Average size of 11 eggs 24.5×17.4 mm (Osmaston). Female does (at least most of) the nest lining and incubation; male helps in feeding the young. Period of incubation undetermined.

MUSEUM DIAGNOSIS. See Key to the Subspecies; for details of plumage, Baker loc. cit. Frontal band in ♂ entirely white. Nasal plumes white at base, black at tip.

Chick (newly hatched) clothed in sparse straggly creamy white down. Supra-orbital, occipital, humeral, spinal, alar, and femoral tracts present. One terminal and two basal tongue-spots.

Young (immature), able to fly. ♂♀: Entire upperparts dark earthy brown each feather fringed or tipped with a pale yellowish buff spot, giving a spotted appearance. Lores and a patch behind eye yellowish white. Ear-coverts coalescing with a narrow moustachial streak earthy brown with pale yellowish buff fringes. Chin, throat, and a partial collar extending behind ear-coverts pale yellowish white. Breast yellowish buff, faintly spotted with blackish brown; abdomen, flanks and under tail-coverts white. Wings and coverts dark brown, all feathers broadly edged with yellowish or rufous-buff, this edge being white on basal half of second primary. Tail dark brown, the feathers edged and tipped with pale yellowish buff, most broadly on the outermost feather; central pair of tail-feathers mottled with rufous-brown. Mouth and gape yellow: no tongue-spots as in the chick. Bill, ♂ horny yellow, tip blackish; ♀ horny. Legs plumbeous-horn, soles yellowish (Whistler).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	125-131	17-20	22-24	85-92 mm
♀ ♀	115-124	18-20	22-24	76-85 mm (HW)

COLOURS OF BARE PARTS. Iris brown. Bill black, base of lower mandible livid slate (in ♀ entire bill livid slate); mouth livid. Legs and feet black; soles horn colour.

897. *Eremophila alpestris elwesi* (Blanford)

Otocoris Elwesi Blanford, 1872, Jour. Asiatic. Soc. Bengal 41 (2): 62
(Kongra Lama Pass, Sikkim)
Baker, FBI No. 1208, Vol. 3: 310

Plate 64, fig. 17

LOCAL NAMES. None recorded.

SIZE. Bulbul; length c. 20 cm (8 in.).

FIELD CHARACTERS. Both sexes as in 896, q.v. — also with a white band separating black cheeks from the broad pectoral gorget. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to some altitudinal movement in winter. From Rupshu and central Ladakh [where it intergrades with *longirostris* (896) in the region of Leh], eastward through Ladakh and the Himalayas, including Nepal, Sikkim, Bhutan and NEFA; from

c. 3600 m up (obtained at c. 5500 m by Blanford. Observed on Mt. Everest at 6300 m). Descending to c. 3000 m in winter, occasionally lower (obtained at c. 1500 m in Sikkim by SA and BB). Affects bleak stony hillsides and barren windswept steppes, thinly dotted with scanty tufts of grass, *Artemesia* plants and *Caragana* bushes—the typical Tibetan Plateau facies.

Extralimital. Northern Sikang on the steppes on the upper course of the Hwang ho, Yalung, and Yangtze, and westward through southern Tibet to Ladakh.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 896.

BREEDING. Season, nest, eggs (c/2 or 3) and breeding biology as in 896. Average size of 4 eggs 23.5 × 16.5 mm (Ludlow).

MUSEUM DIAGNOSIS. A small-billed race; paler, less streaked and more vinous above than *longirostris* (896). However, in fresh plumage upperparts darker and warmer than in *albigula* or *longirostris*; deeper pink on nape, this colour extending further down on the back and more so than in either of the above (Meinertzhagen).

MEASUREMENTS (of more or less topotypical Sikkim and Bhutan birds)

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	114–123	13–15	22–23	76–89 mm
♀ ♀	109–112	13–15	22–23	73–87 mm
				(HW, SA, BB, RM)

Weight 5 ♂♂ 32–37; 3 ♀ ♀ 29–34 g (GD).

COLOURS OF BARE PARTS. Iris brown. Bill: upper mandible horny black; lower plumbeous, brownish at tip. Legs, feet, soles and swollen pads under joints of toes greyish white; claws dark horny brown.

Genus GALERIDA Boie

Galerida Boie, 1828, Isis, col. 321. Type, by subsequent designation, *Alauda cristata* Linnaeus

Bill long and powerful. Nostrils covered by short plumelets. Head adorned with a thin but long upstanding crest. Wing of 10 primaries: first primary (as.) very small; 2nd reaches to nearly tip of wing; 3rd, 4th and 5th subequal and longest: in some individuals 2nd = 3rd. Hindclaw very straight, of about same length as hind toe.

Key to the Species

		Page
A	Bill from skull usually over 19 mm; general colour above grey-brown	<i>G. cristata</i> 36
B	Bill from skull under 18 mm ; general colour rufous	
a	Wing under 90 mm; pectoral streaks few and narrow.....	<i>G. deva</i> 40
b	Wing over 92 mm; pectoral streaks numerous and broad.....	
	<i>G. malabarica</i> 39

GALERIDA CRISTATA (Linnaeus): CRESTED LARK

Key to the Subspecies

Generally bigger; wing usually over 105 mm.....	<i>G. c. magna</i> 37
Smaller; wing usually under 102 mm.....	<i>G. c. chendoola</i> 37
Size intermediate; wing 97–106 mm; much greyer..	<i>G. c. lynesi</i> 39

898. *Galerida cristata magna* Hume*Galerida magna* Hume, 1871, Ibis: 407 (Yarkand)

Baker, FBI No. 1238, Vol. 3: 345

LOCAL NAMES. *Chāndūl* (Hindi for all Crested Larks); *Chāgok*, *Chotāb*, *Chāgūl* (Baluchi); *Kamalak* (Persian).

SIZE. Sparrow +; length c. 18 cm (7 in.).

FIELD CHARACTERS. As in 899, q.v. Indistinguishable from it unless in the hand. But when both races side by side in the field (winter) may be identified by its larger size and more sandy colour. See Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Breeds in Baluchistan [Kalat, Quetta and Fort Sandeman dists.; probably central Makran where intergrading with *chendoola* (899) occurs]. Also breeds in the frontier mountains of West Pakistan (Kohat dist. and Chitral), above c. 2300 metres. Winters in Sind and NW. Punjab (Peshawar dist., where most numerous on spring and autumn passage. Briggs, JBNHS 32: 755). Affects desert tracts as well as cultivated semi-desert areas, often in the environs of towns and villages.

Extralimital. Southeastern Iran, Transcaspia, Afghanistan, Russian and Chinese Turkestan, Kansu, Mongolia. Winters in northern Iran (Vaurie).

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 899.

BREEDING. Season, March to mid May. Nest, eggs (c/4 or 5) and breeding biology as in the Indian bird. Average size of 60 eggs 22·6 × 17·1 mm (Baker).

MUSEUM DIAGNOSIS. Paler and more sandy than *chendoola* (899) and with a slightly thicker bill; but differs from it chiefly in being larger.

MEASUREMENTS

		Wing	Bill (from skull)
	♂♂	109–116	20–22 mm
	♀ ♀	106–109	20–22 mm
			(CBT, Sind)
		Wing	Weight
18	♂♂	105–116 mm (110·7)	31–43 g (39·0)
11	♀ ♀	100–106 mm (103·1)	37–51 g (av. of 9, 41·9 g) (Paludan, Afghanistan)

COLOURS OF BARE PARTS. As in 899.

899. *Galerida cristata chendoola* (Franklin)*Alauda Chendoola* Franklin, 1831, Proc. Zool. Soc. London: 119

(Between Calcutta and Benares)

Baker, FBI No. 1237, Vol. 3: 343

Plate 64, fig. 20

LOCAL NAMES. *Chāndūl* (Hindi, for all Crested Larks); *Ghāghās chāndūl* (Gujarati).

SIZE. Sparrow +; length c. 18 cm (7 in.).

FIELD CHARACTERS. A largish lark with a jaunty, upstanding pointed crest.



x c. 1

Above, sandy brown streaked with blackish. *Below*, white, fulvous and boldly streaked with dark brown on breast. Sexes alike.

STATUS, DISTRIBUTION AND HABITAT. Resident; subject to some seasonal local movements. From Sind and the NW. frontier districts of West Pakistan, east through Kashmir foothills, Punjab (including Salt Range),

Haryana, Delhi, Uttar Pradesh, Nepal plains, Bihar and northern Madhya Pradesh; south in Rajasthan, northern Gujarat (including Saurashtra and Kutch). Affects open sandy or salt-encrusted semi-desert country, chiefly plains, and the neighbourhood of cultivation in such; grassy sandy riverain tracts; dry tidal mudflats in coastal areas.

GENERAL HABITS. Keeps in pairs or small scattered flocks. Pointed crest generally carried erect as the bird runs about picking food on the ground. Perches freely on bushes, fence-posts, and telegraph wires, etc. It is a favourite cage-bird for its song, and thrives well in captivity.

FOOD. Grains, weed seeds and insects — locust hoppers, ground beetles, ants, cutworms, etc.

VOICE AND CALLS. Normal note a liquid, rather plaintive *ti-ee* or *tee-urr*. Song, a clear pleasant warbling, also with occasional imitations of other birds interlarded, but of short, disjointed repeated strophes and comparatively colourless. Delivered during a modest song-flight, the bird fluttering up a few metres, flying about rather aimlessly over a circumscribed area with a leisurely fluttering or hovering action, then planing down to earth on stiffly outspread slightly quavering wings to alight on a stone or clod. The song is also uttered from a perch.

BREEDING. Season, overall March to August, chiefly April to June. Nest, a shallow cup of grass and roots in a hollow scraped in the ground, or old hoof-print of cattle, lined with finer grasses or hair. Concealed under a clod in a ploughed or fallow field, or at the foot of a grass-tuft or small plant (e.g. *Sueda*) in sandy country; often banked up round the edge with flakes of sunbaked earth or cowdung. Eggs, 3 or 4, dull yellowish- or greenish white, speckled and blotched with brown and purple, usually more densely at the broad end. Average size of 50 eggs 21.5×16.4 mm (Baker). Both sexes take part in building the nest, incubation, and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. See keys to the Species and Subspecies. Differs from *magna* (898) in being darker and browner (less sandy) and having a slightly slenderer bill; but chiefly in being smaller.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	98-105	19-23	23-26	54-63 mm
♀ ♀	92-98	19-23	23-27	51-55 mm (SA)

Weight 10 ♂ ♀ 24-32 (av. 28) g — SA, BB.

COLOURS OF BARE PARTS. Iris hazel brown. Bill horny greyish white or brownish flesh-colour, duskier on culmen; mouth yellowish flesh. Legs and feet brownish flesh; claws horny brown.

900. *Galerida cristata lynesi* Whistler

Galerida cristata lynesi Whistler, 1928, Bull. Brit. Orn. Cl. 49: 52 (Gilgit)
Not in Baker

LOCAL NAMES. None recorded.

SIZE. Sparrow +; length c. 18 cm (7 in.).

FIELD CHARACTERS. As in 899, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Known so far only from Gilgit Valley, western Kashmir. Presumably resident.

GENERAL HABITS, FOOD, VOICE and CALLS. Not specifically recorded; doubtless as in 898 and 899.

BREEDING. Not recorded.

MUSEUM DIAGNOSIS. Less brown, greyer and colder in tint than *chendoola* (899).

MEASUREMENTS and COLOURS OF BARE PARTS. As in 899.

901 Malabar Crested Lark. *Galerida malabarica* (Scopoli)

Alauda malabarica Scopoli, 1786, Del. Flor. et Faun. Insubr. 2: 94 (Malabar)

Galerida malabarica propinqua Koelz, 1939, Proc. Biol. Soc. Washington 52: 76
(Londa, Bombay)

Cf. Koelz, W., 1954, Contrib. Inst. Regional Exploration, No. 1: 33 (further comments on *propinqua*)

Baker, FBI No. 1241, Vol. 3: 348

Plate 64, fig. 21 |

LOCAL NAMES. *Chinna chāndūl* (Telugu); *Kondai vānāmbādi* (Tamil); *Kombān vānāmbādi* (Malayalam).

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. A rufous-brown lark with an upstanding pointed crest very similar to the larger and sandier Indian Crested Lark (899), q.v. Sexes alike. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, apparently with some seasonal local movements, not worked out. Western peninsular India from c. 23°N. in Gujarat (Ahmedabad — 3 specimens, Hume coll. in B.M.), southward through western Maharashtra, western Mysore, western Tamil Nadu, and Kerala; plains and hills up to c. 2000 m. Affects open sparse scrub jungle, forest clearings, cultivation environs, grass-covered stony hill slopes with sheet-rock outcrops, etc. in dry- and moist-deciduous biotope; treeless downs in the S. Indian hills and grassy edges of tidal mudflats in coastal areas. Both this species and the next (902) usually found on dark soils matching the general tone of their plumage.

GENERAL HABITS. Very similar to those of Indian Crested Lark (899). In non-breeding season keeps in scattered parties of 5 to 8 birds or flocks of up to 30 or so. Wanders a great deal locally according to season, but pattern of movements not yet understood.

FOOD. Weed seeds, often plucked off the living plant; paddy grains gleaned in stubbles, and insects — grasshoppers, ground beetles, ants, etc.

BREEDING. Season, varying with locality, practically all the year except perhaps the months of heaviest rainfall. Nest, a shallow cup of grass and rootlets lined with finer material, in a small depression in the ground, sheltered by a stone or grass-tuft. Eggs, 2 or 3, greyish white or creamy buff freely speckled all over with various shades of brown, with underlying specks and spots of lavender and grey. Average size of 40 eggs $21\cdot5 \times 15\cdot5$ mm (Baker). Breeding biology as in 899.

MUSEUM DIAGNOSIS. Smaller than 899 and with the upperparts rufous-brown instead of grey-brown. Differs from *G. deva* (902) in being larger, with the breast more heavily streaked with blackish.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	92-105	16-18	23-24	49-58 mm
♀♀	91-94	16-17	23-24	46-52 mm (SA)

COLOURS OF BARE PARTS. Iris hazel brown. Bill horny brown, paler on lower mandible; mouth chrome yellow (in nestling bright orange-red). Legs and feet fleshy brown; claws horny brown.

902 Sykes's Crested Lark. *Galerida deva* (Sykes)

Alauda deva Sykes, 1832, Proc. Zool. Soc. London: 92 (Dukhun)

Mirafra cantillans bangsi Koelz, 1939, Proc. Biol. Soc. Washington 52: 76
(Hospet, Madras)

Baker, FBI No. 1240, Vol. 3: 347

Plate 64, fig. 19

LOCAL NAME. *Chinna chāndūl* (Telugu).

SIZE. Sparrow±; length c. 13 cm (5 in.).

FIELD CHARACTERS. A small rufous-brown lark with an upstanding pointed crest, similar to 899 and 901, qq.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; with some little understood seasonal local movements. Eastern Rajasthan, northern Gujarat and Kutch, east through the Gangetic Plain to c. 82° E. long. and south through the Peninsula, chiefly the central plateau, to southern Mysore (Rameswaram island?, Biddulph, JBNHS 40: 244); plains and hills to c. 1000 m. Affects stony, sparsely scrubbed ghat and plateau country, dry cultivation, etc. — usually dark coloured soils.

Range and habitats overlap those of 901 in many areas, but by and large this occupies the central plateau country farther inland from the coast. Some sight records almost certainly vitiated by confusing similarity, especially in song-flight, with *Mirafra j. cantillans* (872) and also Small Skylark (*Alauda gulgula*).

GENERAL HABITS. Similar to the Indian and Malabar Crested Larks (899 and 901), but song-flight and song entirely different: almost identical with those of Singing Bush Lark (872) and Small Skylark (907, 908) qq.v. In one recorded case presence of Yellow-eyed Babbler in an apparently unlikely

locality in Kutch initially suggested by this lark's vocal mimicry leading to subsequent confirmation (SA).

FOOD. Weed seeds and insects.

VOICE and CALLS. Song — delivered in soaring, hovering, wandering flight — almost identical with that of Singing Bush Lark (872) q.v. Of similar pattern and only slightly inferior, if at all, to the spirited melody of the Skylark, also embracing the same rapid succession of mimicked calls of other birds.

BREEDING. Season, overall March to September, chiefly May to August. Nest, site, and eggs (c/2 or 3, rarely 4) as in 901; the last smaller and somewhat more finely stippled with brown. Average size of 50 eggs 19.9×14.6 mm (Baker). Breeding biology as in 899.

MUSEUM DIAGNOSIS. Differs from Malabar Crested Lark (901) in being smaller, with the underparts darker and more rufous, without the whitish abdomen. Streaking on breast sparser and narrower.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	84-92	13-15	20-21	46-54 mm
♀ ♀	78-86	13-15	20-21	43-50 mm (SA)

Weight 5 ♂ ♀ 18-22 g (SA).

COLOURS OF BARE PARTS. Iris hazel brown. Bill pale flesh colour, horny brown on culmen; mouth pinkish yellow. Legs and feet brownish flesh.

Genus ALAUDA Linnaeus

Alauda Linnaeus, 1758, Syst. Nat., ed. 10, 1: 165. Type, by original designation
Alauda arvensis Linnaeus

Bill slender and feeble, more so than in *Calandrella*. Nostrils covered by plumulets. Wing of 10 primaries: first primary (as.) minute, of variable length in different subspecies; 2nd, 3rd and 4th primaries also variable in length, but wing always short, not reaching beyond middle of tail. Inner secondaries very long, but shorter than wing-tip. Tarsus long and fairly stout; hindclaw very long and nearly straight.

Key to the Species

	Page
Fifth primary falls short of tip of wing by more than 5 mm....
.....	<i>A. arvensis</i>
Fifth primary falls short of tip of wing by less than 5 mm....
.....	<i>A. gulgula</i>

ALAUDA ARVENSIS Linnaeus: SKYLARK

Key to the Subspecies

Upperparts paler, more sandy.....	<i>A. a. dulcivox</i>	42
Upperparts darker, less sandy.....	<i>A. a. cantarella</i>	43
Cf. Vaurie, C., 1951, Bull. Amer. Mus. Nat. Hist. 97: 510.		

903. *Alauda arvensis dulcivox* Brooks

Alauda Dulcivox Brooks, 1873, Stray Feathers 1: 484 ('Himalayas and plains of North-Western Punjab', emended to Djarkent, Russian Turkestan by Vaurie, 1951, loc. cit.: 511)

Alauda cinerascens Ehmcke, 1904, Jour. f. Orn.: 313 (Barnaul, west Siberia)
Baker, FBI No. 1211, Vol. 3: 315
Plate 64, fig. 23

LOCAL NAME. *Bhārāt* (Hindi).

SIZE. Sparrow +; length c. 18 cm (7 in.).

FIELD CHARACTERS. A dark-streaked sandy brown lark,mistakable for a pipit but of squatter build and with relatively short tail; also with outer rectrices white. A short crest visible more clearly when raised. Sexes alike. See Key to the Species, and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Winter visitor, fairly common and abundant between November and March in West Pakistan and India — Baluchistan [valleys and plains: Quetta, Chagai (subspecies?), probably central Makran], Chitral, Gilgit, Punjab (NW. frontier districts), northern Kashmir, Himachal Pradesh, Haryana, and western Uttar Pradesh south to c. 28°N., Central Nepal — December (Fleming, 1969, JBNHS 65: 329). From plains level to c. 1500 m in winter; c. 3000 m and higher in summer. Affects grassy meadows and the neighbourhood of cultivation.

EXTRALIMITAL. Western Siberia, SE. Russia . . . south along the borders of Russian Turkestan through western and central Altai, western Tien Shan and Pamirs to N. Afghanistan. (For details see Vaurie, 1959, 2: 55-6.)

GENERAL HABITS, FOOD, VOICE and CALLS. As in the Small Skylark (907, 908), but song louder and more musical. Gregarious in winter; often large flocks. In song-flight does not hover with continuous quivering wing-beats like *A. gulgula* but with intermittent momentary pauses, more reminiscent of Sand Lark (*Calandrella raytal*, 891).

BREEDING. EXTRALIMITAL. No authentic record of nesting within our limits. A full fledged young obtained by Fulton at c. 3300 m in Chitral in June (Perreau, JBNHS 19: 916), but no other evidence. 'All records of any *arvensis* breeding in Baluchistan are erroneous' (Ticehurst, ibid. 31: 874).

MUSEUM DIAGNOSIS. See Key to the Species. Besides the longer wing-tip *A. arvensis* differs from *A. gulgula* in having much more spotting on the breast.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
5 ♂♂	114-120	15-16	24-25	66-76 mm
9 ♀♀	104-120	14-16	24-25	61-70 mm (HW)

COLOURS OF BARE PARTS. Iris hazel or dark brown. Bill: upper mandible horny brown; lower yellowish horny. Legs and feet fleshy brown or yellowish brown.

903a. *Alauda arvensis cantarella* Bonaparte

Alauda cantarella Bonaparte, 1850, Cons. Gen. Av. 1: 245 (Central Italy; restricted to Gubbio in the Roman Apennines by Meinertzhagen, 1951)

Alauda arvensis armenicus Bogdanov, 1879, Trudy Obshestva Estest. Imp. Kazan Univ. 8 (4): 74 (Akhalzykh, Tiflis, Transcaucasia)

Alauda subtilis Ehmcke, 1904, Ann. Hist.-Nat. Mus. Natl. Hungarici 2: 301 (Podgorica, Montenegro [Titograd, Yugoslavia])
Not in Baker, FBI

LOCAL NAMES. None recorded.

SIZE. Sparrow +; length c. 18 cm (7 in.).

FIELD CHARACTERS. As of 903, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Winter visitor. Possibly more frequent than the only two specimens collected in W. Pakistan (Bahawalpur, February)¹ would suggest, but overlooked amongst *dulcivox*.

Extralimital. Southern Europe from Spain eastward through the Balkan Peninsula, Greece and Bulgaria to Crimea, Caucasus, Transcaucasia, northern Iran, etc. For details see Vaurie, 1959, 2: 55.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 903.

BREEDING. Extralimital.

MUSEUM DIAGNOSIS. Slightly darker than *dulcivox*, less sandy in fresh plumage.

MEASUREMENTS

	Wing	Bill (from skull)	Tail
1 ♂	115	15	70 mm
1 ♀	108	14	67 mm (HW)

COLOURS OF BARE PARTS as in 903.

ALAUDA GULGULA Franklin: EASTERN SKYLARK

Key to the Subspecies

	Page
A Belly white; pale rufous wash across chest and flanks; upperparts pale sandy grey.....	<i>A. g. inconspicua</i> 44
B Belly rufous; darkest and most richly coloured on upperparts. Wing male c. 91–102; female 88–92 mm.....	<i>A. g. australis</i> 47
C Belly rufous; upperparts not so dark as next. Wing averages smaller; male c. 88–95; female 82–89 mm.....	<i>A. g. gulgula</i> 46
D Belly white or paler than last two; upperparts darker above than last but not so dark as <i>australis</i> . Wing averages larger; male c. 96–105; female 90–99 mm	<i>A. g. vernayi</i> 48
E Not so heavily streaked and much greyer than B, C, or D	
1 Wing averages larger: male c. 101–112; female 92–101 mm.....	<i>A. g. inopinata</i> 45
2 Similar in coloration to last except in fresh plumage when it is a little darker and slightly more rufous. Wing averages smaller: male c. 98–108; female 92–96 mm.....	<i>A. g. thamarum</i> 44

¹ Identified earlier as *A. a. intermedia* Swinhoe (Whistler, JBNHS 42: 729–30).

Geographical variation in this species is clinal and single specimens notoriously difficult — often impossible — to identify subspecifically. Series in comparable plumages are not usually available, hence there has been much confusion in published literature concerning the taxonomy, nomenclature and ranges of the various races. The present arrangement also will doubtless need minor readjustments as more precise knowledge becomes available.

904. *Alauda gulgula inconspicua* Severtzov

Alauda inconspicua Severtzov, 1873, Vertik. Turkest. Zhivotn.: 142 (Turkestan)

Alauda gulgula punjaubi Whistler, 1936, Jour. Bombay nat. Hist. Soc. 38: 767
(Ferozepore, Sutlej River)

Alauda gulgula dharmakumarsinhji Abdulali, 1975, JBNHS 72: 448 (Bhavnagar, Gujarat)

Baker, FBI No. 1219, Vol. 3: 322

LOCAL NAMES. *Bhārdt, Chāndūl* (Hindi).

SIZE. Sparrow +; length c. 17 cm (6½ in.).

FIELD CHARACTERS. As in the nominate race (907), q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to local migratory and nomadic movements. Baluchistan (breeding below c. 2000 m), Sind, Gujarat (including Kutch and Saurashtra), Rajasthan, Haryana, and eastward through southern Uttar Pradesh and Bihar to about long. 85°E. (Singapore), intergrading marginally with adjacent populations. Affects open grassy and cultivated areas.

Extralimital. Iran, Afghanistan, Transcaspia and Russian Turkestan.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 907.

BREEDING. Season (in Baluchistan), May–June. Nest, site, eggs (normally c/3), and breeding biology, as in the nominate subspecies.

MUSEUM DIAGNOSIS. Differs from *A. g. gulgula* (907) in its markedly paler coloration, both above and below, in fresh as well as worn plumage. *Above*, pale fringes to feathers of upperparts colder in tint; dark central streaking narrower and less intense. *Below*, buff not extending from breast to vent, but largely replaced by white on abdomen. Size slightly larger.

MEASUREMENTS

	Wing	Bill (from skull)
♂ ♂	90–101	16–17 mm
♀ ♀	86–98	15–17 mm
(HW, CBT)		

Weight 19 ♂♂ 24–30; 7 ♀♀ 24–29 g (Paludan, Afghanistan). 4 ♂♀ 24–30 g (SA., Bharatpur).

COLOURS OF BARE PARTS. As in 907 and other races.

905. *Alauda gulgula ihamarum* R. & A. Meinertzhagen

Alauda arvensis ihamarum R. & A. Meinertzhagen, 1926, Bull. Brit. Orn. Cl. 46: 100 (Ladak)

Alauda guttata Brooks, 1872, Jour. Asiatic. Soc. Bengal 41: 84 (Kashmir)
nec *Alauda guttata* Lafresnaye, 1839, Rev. Zool.: 259

Baker, FBI No. 1214, Vol. 3: 318

LOCAL NAMES. *Bhārāt* (Hindi); *Dider, Didru* (Kashmiri).

SIZE. Sparrow +; length c. 17 cm (6½ in.).

FIELD CHARACTERS. As in the nominate race (907), q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to seasonal local migratory and nomadic movements, altitudinal as well as spatial. The western Himalayas in Gilgit, Baltistan, Ladakh, Zaskar, rest of Kashmir, Himachal Pradesh (Spiti, Lahul), Garhwal, Kumaon and Nepal (winter visitor to the Valley). Breeding in summer from c. 1600 m in Kashmir up to c. 4300 m in Ladakh (Indus, Nubra, Dras and Suru valleys). Affects grassy margs, upland pastures, newly ploughed fields and cultivation, etc.

Extralimital. Pamirs.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 907.

BREEDING. Season, May to July. Nest and eggs (c/3 or 4) as in the nominate race. Average size of 41 eggs 23·1 × 16·3 mm (Osmaston). Site usually a grass meadow or a lucerne or young barley field.

MUSEUM DIAGNOSIS. Similar to *A. g. gulgula* (907) but larger, darker, and less rufous on the upperparts. Spotting on breast larger, more blackish and with a tendency to coalesce at the sides in a large black spot. Differs from *inconspicua* (904) in being darker, browner and less sandy; more heavily and broadly dark-streaked on the upperparts.

MEASUREMENTS

	Wing	Bill (from skull)
♂ ♂	98–108	13–16 mm
♀ ♀	93–97	14–15 mm (HW)

COLOURS OF BARE PARTS. As in 907 and other races.

906. *Alauda gulgula inopinata* Bianchi

Alauda japonica inopinata Bianchi, 1905, Ann. Mus. St Pétersbourg

9: 24, 30, 31 (Tibet)

Baker, FBI No. 1212, Vol. 3: 316

LOCAL NAMES. *Cho-mo, Nam-che* = 'sky bird' (Tibet).

SIZE. Sparrow +; length c. 17 cm (6½ in.).

FIELD CHARACTERS. As in the nominate race (907), q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Breeds in the Mt Everest region; presumably also in the Tibetan facies of Nepal and Sikkim. Winter visitor to Nepal, Darjeeling dist. (northern W. Bengal), Sikkim, Bhutan, N. Assam plains. Affects upland pastures, moist grassland and cultivation.

Extralimital. Northern Kansu, southwestward through Tsinghai and Sikang (south to northern Yunnan) to S. Tibet. In winter also to N. Burma (Vaurie).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 907.

BREEDING. Extralimital. As in 905 and other races.

MUSEUM DIAGNOSIS. Larger than *lhamarum* (905) and duller, less dark and rufous in fresh plumage.

MEASUREMENTS

		Wing	Bill (from skull)	Tail
8	♂ ♂	102-108	15-16	60-68 mm
3	♀ ♀	96-99	15-16	54-60 mm
(Kinnear, BB)				

COLOURS OF BARE PARTS. As in 907 and other races.

907. *Alauda gulgula gulgula* Franklin

Alauda gulgula Franklin, 1831 (1830-1831), Proc. Zool. Soc. London : 119

(The Ganges between Calcutta and Benares)

Baker, FBI No. 1215, Vol. 3 : 319

Plate 64, fig. 22

LOCAL NAMES. *Bhārāt* (Hindi) ; *Jhūnti bhārāt* (Bengali) ; *Bārāta pitta* (Telugu) ; *Vānāmbādi kūrūvi* (Tamil) ; *Gomarittā* (Sinhala).

SIZE. Sparrow +; length c. 17 cm (6½ in.).

FIELD CHARACTERS. *Above*, brown, each feather centred blackish and edged tawny. An indistinct tuft on crown, visible more clearly when partially erected. *Below*, pale fulvous-buff; darker fulvous on breast, faintly streaked and spotted with blackish. Sexes alike. See Museum Diagnosis.

Doubtfully distinguishable from Skylark (903), but is slightly smaller with the markings on breast less prominent and outer rectrices rufescent-white *contra* pure white. When crest invisible can be told from Indian Pipit (1859, 1860), also confusingly similar, by the lark's somewhat dumpier build, relatively shorter tail, and more crouching stance on ground.

STATUS, DISTRIBUTION and HABITAT. Resident; subject to some seasonal local movements. Peninsular India south of the range of *inconspicua* (excluding that of *australis*, q.v.), i.e. from northern Maharashtra (c. 20°N.) to Mysore, east through Tamil Nadu, Andhra, Madhya Pradesh, Orissa, Bihar (east of c. 85°E.), Nepal (Fleming & Traylor, 1961, *Fieldiana, Zool.*, 35: 474), West Bengal, Assam and East Pakistan; plains and foothills. Also Ceylon, in the low country. Peripheral intergrading with adjacent populations renders exact boundaries undefinable. Affects damp open grassland on the edge of tanks and jheels, young wheat fields and ground crops (lucerne, gram, vetches, etc.), stretches of rank grass bordering salt pans and tidal mudflats in coastal tracts; even maidans and playing fields in built-up urban localities.

Extralimital. Northern Burma.

GENERAL HABITS. Keeps in twos and threes or small scattered parties running about on grassland in short spurts with the typical crouching gait of larks. When approached, squats tight making full use of its obliterative coloration, springing up suddenly when almost trod upon, to fly away with its characteristic fluttering undulating flight. The skylark's chief claim to distinction is in its remarkably lively, beautiful and sustained aerial song. It is delivered by the male chiefly in the breeding season but sporadically also throughout the year. From a perch on a clod or stone, the bird soars almost vertically up on rapidly quivering wings — legs

dangling loosely below — singing as he mounts higher and higher till almost lost to sight. He remains suspended in the heavens more or less stationary at this pitch, hovering on vibrating wings and wasted here and there by the wind, while he continues to pour forth an unbroken torrent of spirited loud and clear melodious warbling. This exuberant performance may last for over ten minutes without an instant's pause; at the end of it the singer closes his wings and drops like a stone for some distance, opens them out to hover a little, drops once more, and so on step by step, until when within a few metres of the ground he flattens out at a tangent and lightly comes to rest near the starting-point. Several birds frequently perform over the same bit of grassland as if in vocal rivalry. Snatches of the song sometimes also delivered from a perch on a clod or stone. Both song-flight and song very similar to those of Singing Bush Lark (872) and Sykes's Crested Lark (902) and may be easily confused with either when the bird is soaring aloft.

VOICE and CALLS. Song as above — a sustained, continuous, melodious warbling, interlarded (perhaps less freely than in the other two) with convincing mimicry of the calls of numerous other birds.

FOOD. Weed seeds, tiny root bulbs and insects; frequently some grit present in stomachs.

BREEDING. Season, overall March to August, principally April, May and June. Nest, a cup-like scrape or depression in the ground lined with grass, under shelter of a clod or grass-tuft in cultivation or grassland. Eggs, 3, sometimes 2 and rarely 4, rather variable in colour, usually greyish- or yellowish white densely and finely spotted with yellowish brown or purplish brown. Average size of 65 eggs $20\cdot 6 \times 15\cdot 3$ mm (Baker). Both sexes share all the domestic chores. Period of incubation undetermined.

MUSEUM DIAGNOSIS. See keys to the Species and Subspecies, and Field Characters; for details of plumage Baker, loc. cit.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂	87-93	14-16	22-26	49-56 mm
♀ ♀	82-88	13-15 (from skull)	21-25	49-51 mm (HW)

COLOURS OF BARE PARTS. Iris hazel brown. Bill: upper mandible horny brown, lower pinkish flesh; mouth pink, or yellowish flesh. Legs, feet, claws brownish flesh colour.

908. *Alauda gulgula australis* Brooks

Alauda australis Brooks, 1873, Stray Feathers 1: 486 (Ootacamund, Nilgiris)
Baker, FBI No. 1216, Vol. 3: 320

LOCAL NAMES. *Bhārāt* (Hindi); *Bhārāta pitta*, *Nicla pichikā* (Telugu); *Vānāmbādi kūrūvi* (Telugu); *Vānampātikkili* (Malayalam); *Gomarittā* (Sinhala).

SIZE Sparrow +; length c. 17 cm ($6\frac{1}{2}$ in.).

FIELD CHARACTERS. As in 907, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Nilgiri, Palni and associated hills, Kerala, and Ceylon in the Hill zone of Central and Uva Provinces. From the coastal plain (in Kerala) to at least c. 1600 m. Two specimens

identified from Hyderabad and Chanda in south Deccan (Whistler JBNHS 36: 913-14). Affects damp grassy tank margins, rolling down and grassy rounded hilltops, e.g. in Nilgiris, Kerala, Ceylon; cultivation environs, dry paddy stubbles in coastal and backwater areas (Kerala).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 907 and other races.

BREEDING. *Season*, chiefly November to April/May; in Ceylon chiefly March and April. *Nest*, site, and *eggs* (normally c/3) and breeding biology as in the nominate race. Average size of 20 eggs $21\cdot 7 \times 15\cdot 9$ mm (Baker)

MUSEUM DIAGNOSIS. Differs from nominate *gulgula* (907) in being larger and darker, with the upperparts brighter and more rufous; from *inconspicua* by darker coloration.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	90-102	14-17	22-26	49-56 mm
♀ ♀	84-93	13-17	22-25	48-54 mm (HW, SA)

COLOURS OF BARE PARTS. As in 907 and other races.

909. *Alauda gulgula vernayi* Mayr

Alauda arvensis vernayi Mayr, 1941, Ibis: 375 (Changyinkhu, Burma-Yunnan border)
Not in Baker, FBI

LOCAL NAMES. None recorded.

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. As in 907, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Central and eastern Bhutan west at least to Byakar (Bumthang Valley).

Extralimital. Southern Tibet, northern Burma, Yunnan.

GENERAL HABITS, FOOD, VOICE and CALLS. Presumably as in 907 and other races.

BREEDING. In E. Bhutan (Ludlow, Ibis 1937: 481) and NEFA (ibid. 1944 365) south of the main range, above 1500 m.

MUSEUM DIAGNOSIS. A very dark and richly coloured race with broad and heavy markings, darker and more rufous than *thamarum* or *inopinata* (Vaurie).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	96-105	14-16	25-27	58-68 mm
♀ ♀	90-98	c. 15	25-26	54-65 mm (SA, Mayr)

Weight 4 ♂♂ 27-33; 2 ♀ ♀ 29, 29 g (SA).

COLOURS OF BARE PARTS. Not recorded. Doubtless as in 907.

Family HIRUNDINIDAE : Swallows

For characters and other particulars see Baker, E.C.S., 1926, FBI 3: 225; Thomson, A. L. (ed.), 1964, *New Dict. Birds*. London & New York (Article 'Swallow'); Van Tyne, J. & Berger, A. J., 1959: 503; Witherby *et al.*, 1938, 2: 226.

Cf. Mayr, E. (in Mayr, E., & Bond, J.), 1943, Ibis 85: 334-9; Vaurie, C., 1951, Amer. Mus. Novit., No. 1529: 1-47.

Key to the Genera

	Page
A Tarsus and toes feathered.....	<i>Delichon</i> 73
B Tarsus and toes bare, or with a tuft of feathers only	
a Upper plumage unglossed brown; tail-feathers without spots <i>Riparia</i> 49	
b Upper plumage glossy blue-black; tail with or without spots, or unglossed brown with tail-spots..... <i>Hirundo</i> 52	

Genus **RIPARIA** Forster

Riparia Forster, 1817, Syn. Cat. Brit. Bds.: 17. Type, by monotypy, *Hirundo riparia* Linnaeus



X c. 1

Key to the Species

	Page
A tuft of feathers behind tarsus; a well-defined collar across breast	<i>R. riparia</i> 49
Tarsus quite bare; collar across breast obsolete or absent....	
..... <i>R. paludicola</i> 51	

RIPARIA RIPARIA (Linnaeus): COLLARED SAND MARTIN

Key to the Subspecies

Paler; edgings to wing-quills sandy grey.....	<i>R. r. diluta</i> 49
Darker; edgings to wing-quills whiter and more conspicuous..	
..... <i>R. r. ijimae</i> 51	

910. *Riparia riparia diluta* (Sharpe & Wyatt)

Cotile diluta Sharpe & Wyatt, 1893, Monogr. Hirund. 1: 63 (Chimkent north of Tashkent)

Cotyle subsoecata Adams, 1859, Proc. Zool. Soc. London: 176, *nomen nudum*. (Quoted in synonymy of *Riparia sinensis* by Horsfield & Moore, 1854)

Riparia riparia plumipes Zarudny, 1916, Mess. Orn.: 34 (Turkestan)

Riparia riparia indica Ticehurst, 1916, Ibis: 71 (Jhelum, Punjab)

Riparia riparia taczanowskii Stegmann, 1925, Compt. Rend. Acad. Sci. URSS., ser. A: 39 (Sidemi, near Vladivostock)

Riparia riparia tibetana Stegmann, 1925, Compt. Rend. Acad. Sci. URSS., ser. A: 39 (Dza Chu R., Sikang, restricted by Meise, 1937, Jour. f. Orn. 85: 575)

Baker, FBI No. 1145, Vol. 3: 232

Plate 65, fig. 2

LOCAL NAME. *Ababil paki* (Sind).

SIZE. Sparrow - ; length c. 13 cm (5 in.).

FIELD CHARACTERS. A small swallow, smoky grey-brown above, darker on wing- and tail-quills. *Below*, white, with a broad smoky grey band across

breast; sides of neck, throat and flanks more or less suffused with smoky grey. Sexes alike.

Young (immature). Feathers of upperparts conspicuously edged with pale rufous; chin and throat fulvous.

STATUS, DISTRIBUTION¹ and HABITAT. Widely but sporadically distributed; partly migratory, partly resident; subject also to considerable local movements as yet little understood. Baluchistan, Sind, NW. frontier districts of West Pakistan, Kashmir, Ladakh, Himachal Pradesh, Haryana, Uttar Pradesh, Nepal (?), Bihar, northern West Bengal, Bhutan and Assam (Brahmaputra Valley), Cachar south to Manipur: plains level to c. 4500 m. Breeds over most of this range. Affects the neighbourhood of large streams and rivers with vertical earth cliffs affording potential nesting sites.

Extralimital. SW. Siberia, E. Iran, Afghanistan, Russian Turkestan, NE. China, Burma, etc. (For details see Vaurie, 1959, 2: 4.)

GENERAL HABITS. Highly gregarious. Keeps in large flocks of 50 to a hundred birds or more, often in association with Cliff and other swallows and swifts. Huge congregations collect at reed-bed roosts (sometimes shared with swallows) and for colonial nesting. The birds fly about individually and in scattered parties, sometimes quite high up in the air, hawking insects in open riverain tracts, by marshes and tanks, or above fired grass fields. Commonly seen perched in long close-packed rows along telegraph wires sunning and preening themselves in the morning.

FOOD. Insects: Diptera and small beetles (Coleoptera) etc. taken on the wing.

VOICE AND CALLS. When flying around nest colony, a hard *tet* or *brit*. Song, a short grating twittering.

BREEDING. *Season*, November to May, chiefly February to April. *Nest*, a pad of dry grass, straw and roots lined with a few feathers. Placed at the end of a horizontal tunnel often a metre or more deep; in large colonies, often a hundred holes or more honeycombing steep sandy banks of rivers; sometimes in company with Bank Mynas. An occupied colony presents a scene of great bustle and activity, the birds clinging to the cliff face or fluttering outside the holes, constantly coming and going and flying around uttering twitters and chirrups. *Eggs*, 3 or 4, glossy pure white, small replicas of those of the House Martin (*Delichon*). Average size of 40 eggs 16.5 x 12.1 mm (Baker). Both sexes partake in digging the tunnel and incubation. Incubation period undetermined.

MUSEUM DIAGNOSIS. See Field Characters and Key to Subspecies; for details of plumages and morphology (also bionomics) of the extralimital nominate race — which is darker on the underparts and with a more clear-cut breast-band — Witherby *et al.*, 1938, 2: 239-42.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂ (99)	102-108}	c. 6	c. 10	46-51 mm
♀ ♀	102-108}	(from feathers)		(Baker, SA)

¹ The status of the sand martins found within our limits needs clearing up by a methodical collecting of specimens, especially of breeding birds. The superficial similarity of the two species makes the published sight records unreliable, and has doubtless led to a good deal of confusion and ambiguity.

Weight 18 ♂♀ 10–14 (av. 11·5) g — SA. 3 ♂♂ 14–15; 2 ♀♀ 14, 15 g (Paludan, Afghanistan).

COLOURS OF BARE PARTS. Iris dark brown. Bill black. Legs and feet dark brown.

911. *Riparia riparia ijimae* (Lönnberg)

Clivicola riparia ijimae Lönnberg, 1908, Jour. Coll. Sci. Tokyo 23 (14): 38

(Tretia Padi, Sakhalin)

Baker, FBI No. 1147, Vol. 3: 234

LOCAL NAMES. Not recorded.

SIZE. Sparrow —; length c. 13 cm (5 in.).

FIELD CHARACTERS. As in 910, q.v.

STATUS, DISTRIBUTION and HABITAT. Not uncommon but sporadic. Resident and partly migratory. Assam and adjoining areas of East Pakistan (Sylhet); NEFA (?); Nagaland (?), Manipur, Gujarat (JBNHS 72: 853). Affects open riverain tracts with vertical sandy banks to the streams.

Extralimital. Transbaikalia eastward to Amur-land and N. Japan. In winter Thailand, Burma, Indochinese countries, etc. (For details see Vaurie, 1959, 2: 3.)

GENERAL HABITS, FOOD, VOICE and CALLS. As in 910.

BREEDING. Season, in Assam October–November with a recrudescence in March and April. Nest and eggs (c/4–6) as in 910. Average size of 20 eggs 17·5 × 11·9 mm (Baker). Baker found both species of *Riparia* nesting in the banks of Brahmaputra river at Dibrugarh, but each spe-

cies kept entirely to itself and he never noted mixed colonies.

MUSEUM DIAGNOSIS. See Key to the Subspecies.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂♀	99–107	c. 5–6 (from feathers)	c. 12	49–52 mm (Baker)

COLOURS OF BARE PARTS. As in 910.

912 Plain Sand Martin. *Riparia paludicola chinensis* (J. E. Gray)

Hirundo chinensis J. E. Gray, 1830, Ill. Indian Zool. 1 (2), pl. 35, fig. 3 (China)
Hirundo brevicaudata Horsfield, 1840 (1839), Proc. Zool. Soc. London: 156 (Assam)

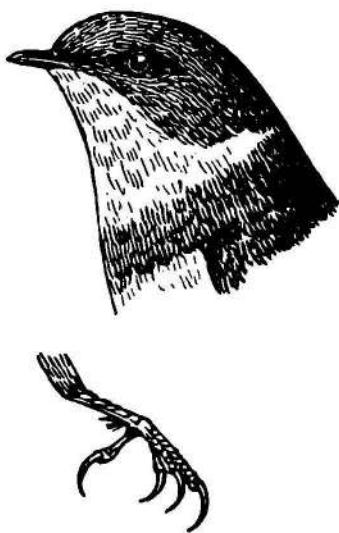
Clivicola bilkewitchi Zarudny, 1910, Orn. Monatsb. 18: 147 (Termez)

Baker, FBI No. 1148, Vol. 3: 235

Plate 65, fig. 3

LOCAL NAMES. *Abāli*, *Abābil* (Hindi); *Nakuti* (Bengali).

SIZE. Sparrow —; length c. 12 cm (4½ in.).



× c. 1

FIELD CHARACTERS. Similar to 910 but somewhat smaller and without the dark breast-band.

Adult. *Above*, greyish brown, rather darker on crown and paler on rump; wing-quills and tail darker brown. *Below*, chin to lower breast smoky grey; rest of underparts white. Sexes alike.

Young (immature). Feathers of upperparts, wings and tail broadly margined with pale rufous. Grey of throat and breast paler.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to local movements. Indian range largely overlapping that of Collared Sand Martin (910, 911), but see footnote under 910. W. Pakistan (Baluchistan, Sind, Punjab), Ladakh and N. India from the Himalayan foothills including Nepal (terai, Kathmandu Valley, etc.), Bengal duars, Bhutan foothills (?) ; south through Rajasthan, Gujarat and Maharashtra to Bombay, Nasik, Satara (*c.* 18°N.), etc., east through Madhya Pradesh and Orissa to Assam and East Pakistan. Affects riverain tracts with vertical sandy banks along the streams, and alluvial cliffs — potential nesting-sites.

Extralimital. Russian Turkestan, E. Afghanistan, Burma, N. Thailand, S. Yunnan, the Indochinese countries, Formosa and N. Luzon. Resident or wandering locally (Vaurie). Other races in Africa.

GENERAL HABITS, FOOD, VOICE and CALLS. As in Collared Sand Martin (910), q.v.

BREEDING. Season, over most of its Indian range October to February. 'Rarely, as in Assam, a second brood may be raised in April and May' (Baker). Nest and eggs (*c.* 2–4; in Assam 5–6) as in 910. Average size of 100 eggs 17 × 12 mm (Baker).

MUSEUM DIAGNOSIS. See Key to the Species.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	90–96	<i>c.</i> 8	10–11	37–45 mm (SA, GD)

Weight 1 ♂ 10; 2 ♀ ♀ 9·5, 10 g (GD).

COLOURS OF BARE PARTS. Iris dark brown. Bill black. Legs and feet dark brown.

Genus HIRUNDO Linnaeus

Hirundo Linnaeus, 1758, Syst. Nat., ed. 10, 1: 191. Type, by subsequent designation, *Hirundo rustica* Linnaeus

Cecropis Boie, 1826, Isis (10), col. 971. Type, by subsequent designation, *Hirundo capensis* Gmelin = *Hirundo cucullata* Boddaert

Ptyonoprogne Reichenbach, 1850, Syst. Av., Pl. 67, fig. 6. Type, by monotypy, *Hirundo rupestris* Scopoli

Krimnochelidon Walden, 1876, Ibis: 356. Type, by subsequent designation, *Hirundo concolor* Sykes (Baker, 1930, FBI 7: 255)

Comprises the true swallows. Bill short, wide at gape, flat and triangular. Tarsi and feet unfeathered. Wings very long and pointed reaching beyond angle of tail-fork. In the majority upperparts deep glossy steel-blue and tail deeply forked, the lateral pair of rectrices greatly elongated, with the terminal half attenuated. In some (Crag Martins) upperparts dull brown and tail nearly square or only slightly forked as in *Riparia* but always showing white spots on rectrices. Nests built of mud, attached to substrate.

Key to the Species

		Page
I	Upper plumage unglossed brown	
A	Chin and throat streaked or spotted	
1	Tail over 50 mm; under tail-coverts much darker than abdomen.....	<i>H. rupestris</i> 53
2	Tail under 50 mm; under tail-coverts and abdomen concolorous.....	<i>H. concolor</i> 55
B	Chin and upper throat unstreaked.....	<i>H. obsoleta</i> 56
II	Upper plumage glossy blue-black	
C	Rump blue or brown; lower parts not streaked	
3	White spots on tail	
a	A complete or semi-complete pectoral band.....	<i>H. rustica</i> 56
b	No trace of pectoral band	
i	Chin, throat and foreneck white.....	<i>H. smithii</i> 63
ii	Chin, throat and foreneck chestnut.....	<i>H. tahitica</i> 61
4	No white spots on tail; chin, throat and breast profusely streaked with blackish.....	<i>H. fluvicola</i> 64
D	Rump chestnut; lower parts streaked	
5	Shaft-streaks on rump absent or obsolete; lower parts decidedly tinged with rufous with fine striations.....	<i>H. daurica</i> 66
6	Shaft-streaks on rump distinct; lower parts nearly white with coarse striations.....	<i>H. striolata</i> 73

913 Crag Martin. *Hirundo rupestris* Scopoli

Hirundo rupestris Scopoli, 1796, Annus I, Hist. Nat.: 167 (Tyrol)
Baker, FBI No. 1149, Vol. 3: 236

Plate 65, fig. 5

LOCAL NAMES. Not recorded.

SIZE. Sparrow; c. 14 cm (5½ in.).

FIELD CHARACTERS. Very like Dusky Crag Martin (914), q.v. Slightly larger and paler (ashy brown) above, with much paler (almost whitish) underparts and blackish under tail-coverts, clearly contrasting in overhead flight. Sexes alike.

Young (immature) has feathers of upperparts margined with rufous. Entire underparts pale dull rufous. (For details see Museum Diagnosis.)

STATUS, DISTRIBUTION and HABITAT. A montane form, breeding in the Himalayas in West Pakistan (Rawalpindi and Peshawar dists.), and through Chitral, Gilgit, Ladakh, Kashmir, Himachal Pradesh, Garhwal, Kumaon, Népal, Sikkim (?), and Bhutan, between 1600 and 5000 m. Also in northern Baluchistan (Quetta and Ziarat dists.) between 2000 and 3500 m. Winters throughout the hilly portions of the Indian subregion (Sahyadris or Western Ghats, Satpuras, Nilgiris, Palnis and other peninsular hills) — south to Mysore and Tamil Nadu; probably also Kerala whence not yet recorded. Records from eastern parts of the Peninsula scarce or lacking. Affects grassy hills with crags and precipices; is a regular *habitat* of ancient hill-forts.

HIRUNDINIDAE

Extralimital. S. Europe, NW. Africa through C. Asia (including Iran and Afghanistan) to Manchuria. (For details see Vaurie, 1959, 2: 6.) Not recorded in winter in Burma or Thailand.

MIGRATION. No ringing data. By end of March has mostly departed from peninsular India. Arrives in Gilgit and Chitral between third week March and mid April; remains till October, breeding between c. 1600 and 4000 m (Scully, SF 10: 100; Fulton, JBNHS 16: 55; Perreau, ibid. 19: 914).

GENERAL HABITS. In its winter quarters keeps in loose parties, flying about scattered individually in company with Dusky Crag Martins and other swallows around and in the environs of crags and precipices, and ancient hill-forts. Flight swallow-like — flaps interspersed with sailing glides and much agile banking and turning, punctuated by swoops to capture an insect, sometimes from near the ground or the surface of water; also drinking thus. Spends most of the day foraging on the wing; rests for short periods in between on ledges of rocky cliffs or fort walls. Roosts in company at night in similar situations.

FOOD. Dipterous insects, small flying beetles, etc.

VOICE and CALLS. A soft low *chit-chit* uttered at rest and in flight. Song not recorded in India.

BREEDING. Season, April to June; at the highest elevations later and up to July. Nest, similar to the Western Swallow's (916), a deepish oval saucer of conglomerated mud pellets collected when wet; lined with grass and feathers. Attached like a bracket to a rock face, usually sheltered by an overhang. Built singly or in small colonies usually on inaccessible rocky cliffs and the vertical sides of narrow gorges, often directly over a stream. Eggs, 3 or 4, also like Swallow's — white boldly speckled and spotted with pale chocolate-brown with a few underlying purplish grey markings. Average size of 20 Indian-taken eggs 21.2 × 14.3 mm (Baker). Both sexes share in incubation and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. See Key to the Species. A large white spot on inner web of all tail-feathers except the central and outermost pairs.

Young (immature). Like adult but upperparts and all coverts, except primary- and under-tail, with narrow rufous-ashy tips, more pronounced on rump and upper tail-coverts, tips of wing-coverts and tertials. White spots on rectrices smaller.

In contrast with other migratory swallows the adults moult before leaving the breeding area. For particulars of moult see Stresemann, E., & V., 1969, J. Orn. 110 (1): 39-42.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	127-134	11-12	11-12	53-57 mm (SA)

Weight 7 ♂ ♀ 17-21 (av. 19) g — Paludan.

COLOURS OF BARE PARTS. Iris dark brown. Bill black. Legs and feet pale fleshy brown.

914 Dusky Crag Martin. *Hirundo concolor concolor* Sykes*Hirundo concolor* Sykes, 1833, Proc. Zool. Soc. London: 83 (Dukhun)

Baker, FBI No. 1150, Vol. 3: 237

Plate 65, fig. 6

LOCAL NAMES. *Chātān ḍbābil* (Hindi); *Katrikappa'sm* (Malayalam).

SIZE. Sparrow —; length c. 13 cm (5 in.).

FIELD CHARACTERS. A sooty brown swallow with short square-cut tail. Underparts only slightly paler than upper; chin, throat and foreneck dull rufous finely streaked with blackish. A roundish white spot on all tail-feathers except the middle and outermost pairs, conspicuous when the bird banks or wheels in flight. Sexes alike.

Similar to 913 but somewhat smaller and with darker underparts.

STATUS, DISTRIBUTION and HABITAT. Resident. Widely but patchily distributed, and subject to local movements. Along the base of the Himalayas and southward through the entire Peninsula to extreme Tamil Nadu and Kerala. From Haryana, Rajasthan, N. Gujarat and Kutch, in the west, to Bihar and West Bengal in the east. Plains and hills to at least 1800 m. Affects the neighbourhood of rocky hills with crags and ancient fortifications; old buildings, preferably of stone, deserted or occupied, even in the midst of noisy populous cities, e.g. Bombay.

Extralimital. A darker subspecies [*sintaungensis* (Stuart Baker)] in Burma and N. Thailand.

GENERAL HABITS. Similar to those of the migratory species (913). Usually seen in pairs or small parties hawking insects round crags and old buildings, resting betweenwhiles on ledges and cornices etc., sometimes even inside verandas. Very much at home among rock-cut caves and ancient hill-forts (e.g. Ajanta, Ellora, Daulatabad) and old buildings in deserted historical cities like Mandu in Madhya Pradesh, and Fatehpur Sikri.

FOOD, VOICE and CALLS. As in 913.

BREEDING. Season, varies somewhat with locality, but over its range covers more or less the entire year except perhaps November and December; in two well-marked peaks February–March and July–August. Often two broods (or more?) raised. Nest, like that of 913 — a deepish oval saucer of mud, c. 12 cm long × 8 cm wide, attached bracketwise to a vertical wall or rock face, lined with fine grass, tow, and feathers. As a rule single; sometimes in a small scattered colony. Built under eaves, archways and road culverts, or against rafters in deserted or occupied dwellings, old mosques and tombs and on ceiling of rock-cut caves as well as on natural cliffs, usually sheltered by an overhang. Same site used in subsequent years, not necessarily by same pair. Eggs, 2 to 4, white, minutely speckled and spotted with various shades of reddish brown. Average size of 100 eggs 17·6 × 12·8 mm (Baker). Both sexes take part in nest-building, incubation, and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. See Key to the Species.

Young (immature). Like adult but upperparts and wings narrowly margined with rufous-grey. Chin and throat paler, and dark streaks absent.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♀	105–113	9–11 (from skull)	9–10	42–46 mm (SA, HW)

Weight 4 ♂♀ 12-14 g (SA).

COLOURS OF BARE PARTS. Iris brown. Bill blackish brown; mouth pinkish grey. Legs and feet pinkish brown; claws brown.

915 Pale Crag Martin. *Hirundo obsoleta pallida* (Hume)

Ptionoprogne Pallida Hume, 1872, Stray Feathers 1: 1 (Along the Gaj... Sindh...)

Kurrachee... Mekran coast = Sind)

Baker, FBI No. 1151, Vol. 3: 238

Plate 65, fig. 4

LOCAL NAMES. None recorded.

SIZE. Sparrow -; length c. 13 cm (5 in.).

FIELD CHARACTERS. A sandy version of Dusky Crag Martin (914). *Above*, pale brownish grey; wings and tail darker. *Below*, rusty cream colour, more albescent on chin and throat. Sexes alike. Confusable with *H. rupestris* (913). See Key and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to local movements. West Pakistan [Baluchistan, Sind (Khirthar range), and Punjab in the NW. frontier districts], breeding chiefly in the foothills and higher up. Also Kutch (Stoliczka), whence however not recently reported. Affects bare hilly country with crags and precipices.

EXTRALIMITAL. Extends westward through S. Afghanistan and SE. Iran. Other races in Iraq, E. Arabia and N. Africa.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 913 and 914, qq.v.

BREEDING. Season, nest and eggs apparently as in 914, but imperfectly known. 'Average size of [?] eggs 18.2 x 13.3 mm' (Williams, JBNHS 33: 606). Apparently breeding in Fort Munro and Quetta districts of Baluchistan, but the records equivocal. May breed in Khirthar hills of Sind.

MUSEUM DIAGNOSIS. Axillaries and under wing-coverts ashy brown, the latter with pale tips. Flanks, vent and under tail-coverts pale brownish grey, the last with pale tips. White 'mirrors' on all but central and outer pairs of rectrices towards the tips.

MEASUREMENTS

		Wing	Bill (from feathers)	Tarsus	Tail
8	♂♂	116-125			
12	♀♀	116-123 }	7-8	c. 10	49-52 mm
12 ad.	♂♀	118-125	—	—	(CBT) — mm

COLOURS OF BARE PARTS. As in 914.

(Vaurie)

HIRUNDO RUSTICA Linnaeus: SWALLOW

Key to the Subspecies

- | | Page |
|---|----------------------------|
| A Pectoral band almost complete; chin and throat chestnut, abdomen pale rufous..... | <i>H. r. rustica</i> 57 |
| B Pectoral band broken; chin and throat chestnut; abdomen practically white..... | <i>H. r. gutturalis</i> 59 |
| C Pectoral band broken; chin, throat and abdomen deep chestnut.... | |
| | <i>H. r. tytleri</i> 60 |

916. *Hirundo rustica rustica* Linnaeus

Hirundo rustica Linnaeus, 1758, Syst. Nat., ed. 10, 1: 191 (Sweden)

Hirundo rustica afghanica Koelz, 1939, Proc. Biol. Soc. Washington 52: 75
(Baghlan, Afghanistan)

Cf. Ticehurst, C. B., 1927, JBNHS 32: 349.
Baker, FBI No. 1152, Vol. 3: 240

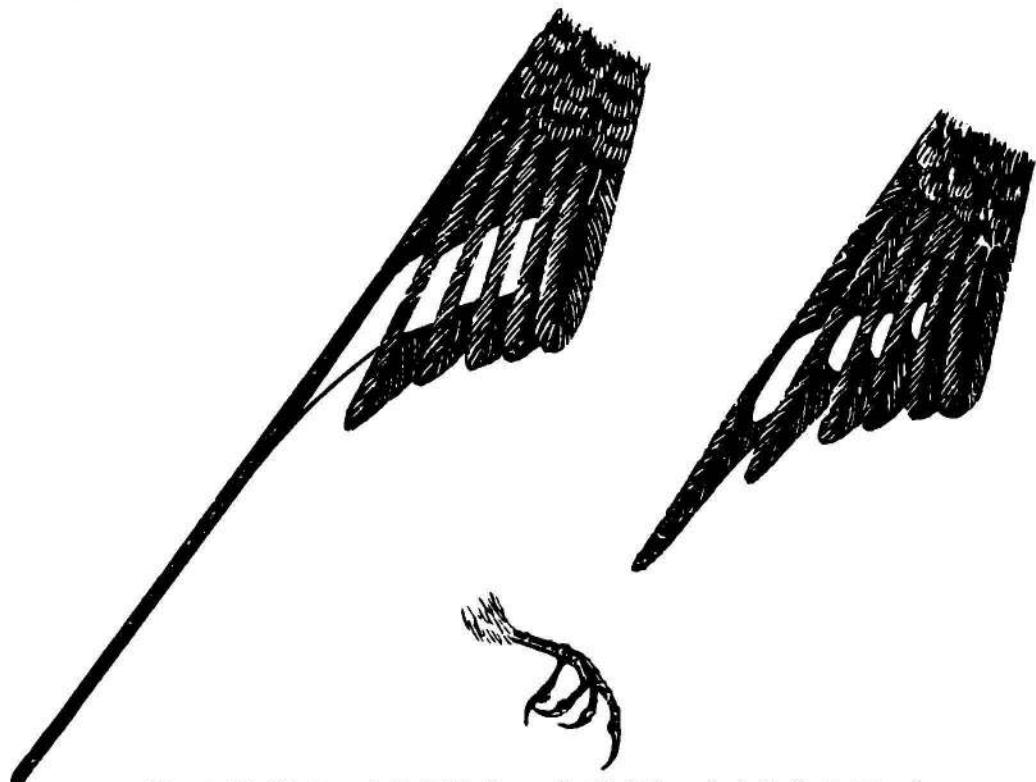
Plate 65, fig. 11

LOCAL NAMES. *Abābil* (Hindi and Bengali — generally for all swallows, martins and swifts); *Katij* (Kashmir); *Kir kishi*, *Totaki* (Brahui — Baluchistan); *Talai illātha kūrūvi*, *Adai källän kūrūvi*, *Tām-pādi* (Tamil); *Wānā kovela* (Telugu); *Paras pitta* (Gond); *Wēhi lihiniyā* (Sinhala); *Vayalkōti* (Malayalam).

SIZE. Sparrow ±, with long forked tail; overall length c. 18 cm (7 in.).

FIELD CHARACTERS. Adult. Glossy steel-blue above, pale pinkish white below with the typical deeply forked swallow tail (outer rectrices greatly elongated and attenuated on terminal half). Forehead, chin, and throat chestnut, the last bordered below by a blue-black pectoral or breast band. Sexes alike.

In banking flight white spots on tail-feathers (all but the central pair) clearly visible.



One half of tail : adult (left), juvenile (right) and right foot, $\times c. 1$

Young (immature) browner, less glossy above; pectoral band brown; chestnut parts much paler. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Breeds in Baluchistan north and west of a line from Gwadar (c. 25°N., 62°E.) to Sibi, Bannu, Chitral (probably also Gilgit and Ladakh), Kashmir (Srinagar Valley), Himachal

Pradesh, Garhwal, Kumaon and Nepal (Kathmandu Valley); plains and hills to c. 3000 m. Winters (c. September/October to March/April) more or less throughout the subcontinent, intermixed with the eastern subspecies *gutturalis* (917). Indistinguishable from the latter unless in the hand, and then only in good plumage. Affects open country, in the neighbourhood of rivers, jheels, cultivation and human habitations. A single record from Ceylon (Whistler, 1944: 190). In summer common around many west Himalayan hill-stations and upland villages.

Extralimital. Europe north to between 60 and 70°N. (including Great Britain, Mediterranean countries and islands), and western Asia: Transcaucasia, Asia Minor, Iraq, E. Arabia, Iran, Afghanistan, Russian Turkestan. (For further details see Vaurie, 1959, 2: 9.)

MIGRATION. No ringing data. Begins arriving in Baluchistan and over most of its breeding range late February/early March, continuing into April. Autumn exodus commences by end August; the majority have departed for the wintering grounds by end September.

GENERAL HABITS. Highly gregarious in winter. When first arrived on migration, often seen in enormous close-packed swarms occupying long stretches of several strands of telegraph wires, widely scattered over the entire range, sunning themselves in the mornings. The restless congregation launches out in the air from time to time and gradually returns to the perch. Hawks winged insects usually low over meadows, standing crops, reed-beds, or open water in company with other swallows and swifts. Flight swift: a few rapid wing-beats followed by a graceful glide or swoop, with agile banking and turning movements. Loose parties beat back and forth over water, almost skimming the surface, with slow deliberate wing-beats as they fly upwind, scooping up floating insects. At the end of the beat the bird wheels round and shoots back non-stop downwind to the starting point. The slow upwind hunt is resumed, taking full advantage of the resistance to scan the surface. In upcountry towns and villages commonly seen hawking insects in congested bazaars among the bustling shoppers and traffic, the birds shooting up and down at high speed — almost skimming — close above the narrow horse-dung littered streets in pursuit of flies and midges, (clocked at 25–30 m.p.h.!), twisting and turning adroitly, weaving in and out amongst tongas, loiterers, sacred cows and miscellaneous obstacles. Vast congregations collect to roost in partially submerged reed- and tamarisk beds, sugarcane fields, coastal mangroves, and the like, sometimes sharing these with wagtails and sand martins. The swallows arrive in the late gloaming looking like a dense swarm of midges, and after milling around high overhead for a few moments drop suddenly into the reeds, first by ones and twos, then by scores and hundreds, like thick flurries of falling leaves.

FOOD. Chiefly midges, gnats and other dipterous insects captured in the air or scooped off water; sometimes ants on the ground by alighting and shuffling about.

VOICE AND CALLS. Pleasant twittering notes uttered on the wing and while at perch. Song, a rather feeble musical twittering by male in the breeding season, lasting up to 15 seconds or more.

BREEDING. Season, chiefly mid April to end May. Nest, very like the Crag Martin's: a deepish saucer of conglomerated mud pellets collected at a

puddle while wet, drying to terracotta hardness; sometimes lined with grass and straw, and a few downy feathers. Attached like a bracket to a wall near the ceiling or side of a beam or rafter within a building, frequently a dwelling house or bazaar shop, within arm's reach of the human inmates. In Kashmir a favourite site is the beams under the hull of a houseboat just above water line. The same site, and often the same nest repaired, is used in successive seasons. Eggs, 4 to 6, white, dotted and speckled with reddish- or purplish brown, more densely at the broad end. Average size of 78 Kashmir eggs 19.6×13.7 mm (Osmaston). Both sexes take part in building the nest and feeding the young. Incubation chiefly by female; period 14-16 days. Flying young commonly fed in mid-air.

MUSEUM DIAGNOSIS. For details of plumages and structure (also bionomics) see Witherby *et al.*, 1938, 2: 226-33. Differs from the eastern subspecies *gutturalis* (917) in having the blue-black pectoral band (below chestnut of throat) unbroken in the middle. Most dependable diagnostic character is the wing length: over 120 mm v. (usually) under 118 in *gutturalis*.

YOUNG (immature). Like adult but upperparts, wings, and tail much less glossy; forehead nearly white; chin and throat pale rusty; pectoral band greyish black. Fork of tail less deep. Outermost pair of rectrices always broader than in adult.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	central	outer
♂ ♂	120-129	10-12	10-13	34-46	93-122 mm
♀ ♀	116-128	—	—	40-48	76-107 mm

Outermost pair of rectrices usually broader in female than in male but sometimes equally narrow.
(Witherby)

Weight 10 ♂ ♂ 16-22 (av. 18.1); 6 ♀ ♀ 16-20 (av. 18.3) g (Paludan).

COLOURS OF BARE PARTS. Iris dark brown. Bill, legs and feet black.

917. *Hirundo rustica gutturalis* Scopoli

Hirundo gutturalis Scopoli, 1786, Del. Flor. et Faun. Insubr. 2: 96

(New Guinea, errore, Panay = Philippines, Hartert, 1910)

Hirundo rustica ambigua Stresemann, 1940, Orn. Monatsb. 48: 89 (Sikkim)

Baker, FBI No. 1153, Vol. 3: 241

LOCAL NAMES. As for 916.

SIZE. Sparrow±, with long forked tail; overall length c. 18 cm (7 in.).

FIELD CHARACTERS. As in 916, q.v. Subspecies indistinguishable in the field. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Breeds in the Himalayas from Nepal (where it intergrades with nominate *rustica*) eastward through Darjeeling, Sikkim, Bhutan, and NEFA, to c. 3000 m; also in the Assam hills south of Brahmaputra river. Winters south to the extreme tip of the Peninsula and in Ceylon, largely overlapping the winter range of *rustica*. Winters also in the Laccadive, Maldives, Andaman and Nicobar islands. Affects open country — cultivation, jheel environs, coastal backwaters, etc.

Extralimital. Breeds in Tibet, Burma (?), China, Japan; winters over most of SE. Asia. For particulars see Vaurie, 1959, 2: 10.

MIGRATION. No ringing data in India. Arrives in Mysore and the Nilgiris between mid September and first week October (Betts); in Ceylon from 3rd or 4th week September (Phillips); in the Andamans about 3rd week September. Departs from the Andamans in April (Osmaston).

That our winter visitors may also derive from a very extensive area is suggested by the Eastern Swallows ringed in Bangkok City in winter from a single roosting congregation, recovered in such far-flung places as Siberia, North and South Korea, Taiwan and Malaya (McClure, H. E., 1968, Report No. FE-315-2, Migratory Animals Pathological Survey: 133).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 916. Roosting in vast congregations on power transmission wires and pylons in suburban Bombay reported (George, P. V., JBNHS 62 (1): 160).

BREEDING. Season, May to June/July. Nest, eggs (c/4-6) and breeding biology as in 916.

MUSEUM DIAGNOSIS. Differs from nominate *rustica* (916) in having the blue-black pectoral band usually broken in the middle or with the chestnut of throat encroaching on it. Best diagnostic character is the shorter wing, usually under 118 mm.

Young (immature) recognizable from juvenile *rustica*, on a series, by the pectoral band not being so solidly dark, and the underparts whiter, not pale buff (Ticehurst, *Ibis* 1938: 623).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail central outer
♂ ♂	110-123	11-12	9-13	27-46 72-96 mm
♀ ♀	108-113	11-13	10-13	39-55 67-73 mm (SA, HW)

Weight 36 ♂ ♀ (possibly mixed with some *rustica*) 12-20 (av. 16) g — SA.

COLOURS OF BARE PARTS. As in 916.

918. *Hirundo rustica tytleri* Jerdon

Hirundo Tytleri Jerdon, 1864, Bds. India 2 (3): 870 (Dacca)

Baker, FBI No. 1154, Vol. 3: 242

Plate 65, fig. 12

LOCAL NAMES. As for 916 where applicable. *Lâl âbâbil* (Bengali).

SIZE. Sparrow ±, with long forked tail; overall length c. 18 cm (7 in.).

FIELD CHARACTERS. As of 916, q.v., but entire underparts chestnut instead of pinkish white. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Irregular winter visitor abounding in some years, scarce or absent in others — Bhutan, NEFA, Assam, Nagaland, Manipur and East Pakistan. Common and regular in winter at the Salt Lakes near Calcutta along with *rustica* and *gutturalis* (BB). Affects open well-watered country, cultivation, broad sandy river banks, etc.

Extralimital. Winters also in northern Burma. Breeds in extreme NE. Asia and Kamchatka.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 916. On Logtak Lake, Manipur, large numbers observed in January roosting together with *H. r.*

gutturalis on loosely drifting rafts of water hyacinth (*Eichhornia*) on open water. Hawking insects commenced in the misty morning as soon as there was sufficient light (SA).

BREEDING. Extralimital. Breeding biology as in 916, 917.

MUSEUM DIAGNOSIS. See Field Characters and Key to the Subspecies.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail central	outer	
♂ ♀	115-124	10-13	11-12	32-35(41)	74-79(105)	mm (SA)

COLOURS OF BARE PARTS. As in 916.

HIRUNDO TAHITICA Gmelin: HOUSE SWALLOW

Key to the Subspecies

- | | | |
|--|-----------------------|----|
| Upper plumage glossed with purple-blue; bill much larger..... | <i>H. t. javanica</i> | 62 |
| | | |
| Upper plumage glossed with green; bill much smaller... <i>H. t. domicola</i> | | 61 |

919. *Hirundo tahitica domicola* Jerson

Hirundo domicola Jerdon, 1844, Madras Jour. Lit. Sci. 13: 173 (Nilgiri Hills)
Baker, FBI No. 1156, Vol. 3: 244

Plate 65, fig. 13

LOCAL NAMES. *Kānakātrikakkili* (Malayalam); *Wehi lihiniyā* (Sinhala); *Tāmpādi Talai illāda kūruvi* (Tamil).

SIZE. Sparrow —, with deeply forked tail; length c. 13 cm (5 in.).

FIELD CHARACTERS. Adult. *Above*, forehead chestnut; rest of upperparts, including deeply forked tail, black with a metallic green gloss. *Below*, chin, throat and upper breast chestnut; rest of underparts pale ashy. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident; largely sedentary. Hills of southwest India from the Nilgiris southward through Kerala, and Ceylon; from c. 700 to 2400 m. In Ceylon visits the Wet zone foothills to as low as 300 m when not breeding (Phillips). Affects grassy hill slopes around tea and coffee plantations and the proximity of bungalows, factory sheds, labour barracks, etc.

GENERAL HABITS, FOOD, VOICE and CALLS. Similar to 916. Parties frequently seen perched huddled together on bare upper branches of dead trees in clearings. Tame and confiding, nesting freely within inhabited bungalows and sheds, flying in and out of verandas and living-rooms regardless of noisy inmates and blaring radios. Flying juveniles fed by parent in mid-air, both birds fluttering and halting momentarily while food transferred to youngster's gape.

BREEDING. Season, in S. India chiefly March to May; in Ceylon December to June, chiefly February to April. Nest, a half-saucer of mud pellets, as in 916, attached to wall or rock-face, under road culverts or in tunnels; most commonly under eaves or against ceiling beams and rafters in houses; sometimes two or three nests in the same shed or veranda. Same site and nest (repaired if necessary) often used year after year. Eggs, 2 or 3, very

HIRUNDINIDAE

like Crag Martin's or Western Swallow's, white, minutely spotted and speckled with various shades of reddish brown. Average size of 50 eggs $17\cdot4 \times 12\cdot5$ mm (Baker). Both sexes take part in nest-building, incubation, and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. Differs from *H. t. javanica* (920) in having a smaller bill, and upper plumage glossed with green *v.* purple-blue.

Young (immature). Like adult but upperparts less metallic; chestnut forehead less defined. Chestnut of chin, throat, and breast softer and paler; rest of underparts faintly washed with pinkish white. Tertiaries and their coverts, and under tail-coverts broadly edged at tips with pinkish white. Outer rectrices blunter at tip than in adult.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail (outer)
♂ ♀	99-105	10-11	c. 11	44-47 mm (SA)

Breadth of bill at forehead c. 6 mm (Baker).

COLOURS OF BARE PARTS. Adult. Iris brown. Bill brownish black; mouth yellowish pink. Legs and feet horny brown; claws like bill. Immature. Iris brown. Bill horny brown, yellow near gape; mouth and gape yellow. Legs and feet pinkish brown; claws horny brown.

920. *Hirundo tahitica javanica* Sparrman

Hirundo javanica Sparrman, 1789, Mus. Carls., fasc. 4, pl. 100 (Java)
Baker, FBI No. 1155, Vol. 3: 243

LOCAL NAMES. None recorded.

SIZE. Sparrow \pm ; length c. 14 cm ($5\frac{1}{2}$ in.).

FIELD CHARACTERS. As of 919, q.v. See Key to the Subspecies.

STATUS, DISTRIBUTION and HABITAT. Breeding, and apparently resident: Andaman Islands. Not recorded in the Nicobars. Affects open country along sea coast.

Extralimital. Southern Burma from Arakan to Tenasserim. The species ranges over Malay Peninsula and Indonesia.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 916 and 919, qq.v.

BREEDING. Season, in Andamans, as yet known, May and June. Nest and eggs (c/2-4) as in 919. Built in verandas of houses (Port Blair, Butler, JBNHS 12: 557) and caves on the shore (North Button I., Osmaston, ibid. 17: 161). Average size of 40 eggs $17\cdot5 \times 12\cdot7$ mm (Baker).

MUSEUM DIAGNOSIS. See Key to the Subspecies.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	97-107	c. 10·5	c. 10-12	— mm

Breadth of bill at forehead c. 7·5 mm.

(Baker)

COLOURS OF BARE PARTS. Iris dark brown. Bill black. Legs and feet brownish black.

921 Wiretailed Swallow. *Hirundo smithii filifera* Stephens

H.(irundo) filifera Stephens, 1825, in Shaw's Gen. Zool. 13: 78 (India, ex Latham) restricted to Kanpur, Uttar Pradesh, by R. K. Brooke, 1974, Durban Mus. Novitates 10: 137)

Hirundo smithi bobrinskoi Stachanow, 1930, Orn. Monatsb. 38: 76 (Tchubek, Bokhara) Baker, FBI No. 1157, Vol. 3: 245

Plate 65, fig. 9

LOCAL NAME. *Leishra* (Hindi).

SIZE. Sparrow ±; length c. 14 cm (5½ in.) excluding tail-wires.

FIELD CHARACTERS. Adult. Glossy steel-blue above, with a bright chestnut cap. Readily distinguished from other swallows both at rest and in flight by glistening pure white underparts and two long fine 'wires' projecting from tail. Sexes alike, but tail-wires of female shorter.

STATUS, DISTRIBUTION and HABITAT. Summer (breeding) visitor to the cold-winter parts of W. Pakistan and N. India—N. Baluchistan, upper Sind, NW. frontier districts, Punjab, Ladakh, Kashmir, Himachal Pradesh, etc. Also Nepal, Sikkim, Bhutan and NEFA (?). Normally to c. 1500 m in the Himalayas, but has been recorded breeding up to c. 2700 m, above Chakrata [Vaid, 1965, *Indian Forester* 91(11)]. Resident elsewhere in the Peninsula subject to local movements, east to Assam and E. Pakistan, breeding south to N. Kerala (Cannanore dist.) and the Nilgiris. A straggler recorded in Ceylon (Wynell-Mayow, 1966, JBNHS 63: 442). Affects open country, cultivation and habitations essentially in the neighbourhood of water — rivers, jheels, reservoirs, etc.

Extralimital. Russian Turkestan, Afghanistan, Burma, N. Thailand, Laos, central Vietnam. Nominate *smithii* in tropical Africa.

GENERAL HABITS. Similar to other swallows, cf. 916, but is more narrowly attached to the vicinity of water; rarely met away from canals, jheels, reservoirs and the like. Loose parties skim the water surface or shoot along close to the ground over adjacent meadows or cultivation, hawking insect prey. Flight swift — a few rapid wing-flaps punctuated with graceful swoops and glides and agile turning and banking movements. Roosts in partially submerged tamarisk- and reed-beds in association with wagtails, reed warblers and other swallows.

FOOD. Small flying insects, mainly midges, gnats and other Diptera; winged ants and termites, etc.

VOICE and CALLS. A cheerful low *chit-chit* while flying about. Song of male, a musical twittering double *chirrik-weet*, *chirrik-weet* repeated every two seconds or so from perch near nest. A sharp angry *chichip*, *chichip*, reminiscent of wagtail's, by way of 'war cry' while attacking an intruder, e.g. nest-pirating sparrow.

BREEDING. Season, overall March to September, the principal periods varying locally. Nest, as of Crag Martin or Swallow, an oval mud saucer c. 13 × 8 cm, lined with fine grass and feathers, attached bracketwise to a vertical surface, e.g. wall or rafter in a veranda, under arch of bridge or culvert, or under rock overhang flanking a stream. In the last situation often less than a metre above the water, and frequently in proximity of nest of Large Pied Wagtail which builds in identical situations. Wet mud collected by the birds at a puddle and plastered on substrate very gradually, pellet

by pellet, to allow for hardening into a firm foundation; thus nest may take over a week to complete. Nest usually single; occasionally several close to one another but not clustered. Same site and nest (repaired or rebuilt) used year after year; two, sometimes three, successive broods raised in a season. In urban localities even occupied nests frequently usurped by House Sparrows. Eggs, 3 to 5, very like Western Swallow's, white or pinkish white minutely speckled and spotted with reddish brown. Average size of 120 eggs 18.4×13.1 mm (Baker). Both sexes partake in building the nest and feeding the young. Flying young fed in mid-air. Incubation apparently by female alone: 14 or 15 days. Young leave nest on 15th or 16th day but return to it to roost at night until driven off by hostile demonstrations and 'war cries' of the parents wanting it for the next brood.

MUSEUM DIAGNOSIS. See Key to Species.

Young (immature). Crown paler and browner; upperparts dull sooty brown, showing the steely gloss in patches here and there. No wires in tail. Underparts tinged with fulvous. Fledgeling leaves nest in this dress, which is retained till it moults into adult plumage.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer (including 'wire')
♂ ♂	113-122 }		11-12	9-11	30-36 109-173 mm
♀ ♀	108-116 }				30-36 51-71 mm (SA, HW)

COLOURS OF BARE PARTS. Iris brown. Bill blackish brown; mouth pale lemon-yellow. Legs, feet and claws blackish brown.

922 Indian Cliff Swallow. *Hirundo fluvicola* (Blyth)

Hirundo fluvicola Blyth, 1855, Jour. Asiatic Soc. Bengal 24: 470 (Bundelkund ex Jerdon)

Baker, FBI No. 1158, Vol. 3: 246

Plate 65, fig. 17

LOCAL NAMES. *Nāhār ābāb*. ('indi); *Bhēkhād ābābil* (Gujarati).

SIZE. Sparrow —; length c. 12 cm ($4\frac{1}{2}$ in.).

FIELD CHARACTERS. A small swallow with a very slightly forked tail. *Above*, glossy steel-blue with dull chestnut forehead and crown, and pale brown rump. *Below*, fulvous white, profusely streaked with blackish on sides of head, chin, throat and breast. Sexes alike.

For young see Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Resident, partly migratory. Like Wiretailed Swallow, a summer (breeding) visitor — end February to September — to cold-winter areas in northern W. Pakistan and NW. India. Elsewhere resident — common in the Gangetic Plain — but with marked local movements: east and south of a line from about Rawalpindi through Sambhar Lake (Rajasthan) to the Gulf of Cambay, with a western extension into Saurashtra (breeding in Jamnagar) and Kutch. Eastward along the lower Himalayas up to c. 700 m from Jammu and S. Kashmir to Gonda and Mirzapur districts, U.P.; Bihar (?), and southward through

the Peninsula to c. 11°N. (Coimbatore). Not recorded east of c. 84°E. — in Bengal, Assam or E. Pakistan. Stuart Baker's 'east to Sikkim' is shown to be erroneous (Whistler, JBNHS 36: 841), while its breeding in Baluchistan (Williams, ibid. 33: 606) is incredible and probably due to mistaken identity. Confirmation desirable. One sight record in Ceylon (Phillips, JBNHS 47: 740). Affects open country and cultivation in the vicinity of water — rivers, canals, moats, reservoirs, etc.

Extralimital. Eastern Afghanistan.

GENERAL HABITS. Highly gregarious. Usually keeps in large rabbles, hawking midges etc. in close proximity of water along with other swallows. On wintry mornings often seen sitting in densely packed rows on telegraph wires near or over water till the sun is well up. At one point the congregation suddenly 'explodes' as to a given signal, and the birds disperse to feed in small groups. Flight comparatively feeble and wandering, with fewer glides and swoops than in Western Swallow.

FOOD. Midges, gnats and other dipterous insects.

VOICE and CALLS. A sharp *trr, trr* uttered in flight. A twittering chirp in uneven chorus while clinging outside nest and shivering wings. Song, if any, not described.

BREEDING. *Season,* in cold-winter northern districts chiefly March to June; elsewhere practically all year with peak periods December to April and July to October. Often two (or three?) successive broods. *Nest,* colonial — a large agglomeration of mud, reminiscent of an untidy honeycomb or a cluster of potter wasp nests — sometimes of a hundred or more 'pots' fused together, each with a short narrow outwardly projecting entrance-tube, 5 to 12 cm long. Egg-chamber cosily lined with grass and feathers. The whole mass attached under masonry bridges spanning rivers, canals, and moats of ancient forts, under gateway arches of archaeological monuments and the like, usually above or close to water, often within populous towns. The same colony, with the nests repaired and some replaced, is occupied year after year, the site becoming traditional if left unmolested.

Breeding biology needs detailed study. Superficial observation suggests polygyny or promiscuity, many seemingly promiscuous copulations taking place on the ground while a party is collecting mud at a rain puddle. Two cases reported of a large proportion of fledged young in a colony being unaccountably found dead within the nests, in every case with the desiccated remains protruding from the narrow entrance-hole (Begbie, JBNHS 16: 512; Young, ibid. 16: 753).

Parties of some 20 or 30 birds fly out together to collect wet mud pellets, and back to the colony. The traffic continues all day, especially morning and afternoon. The returning birds mill around the nests in a jumble, entering and leaving the spouts; how each recognizes its own nest is a puzzle. *Eggs,* generally 3, occasionally 4, white, sometimes smudged with yellowish brown or pale sepia spots. Average size of 125 eggs 18.5 × 13.1 mm (Baker). Both sexes share in building the nest and feeding the young; apparently also in incubation. Period undetermined.

MUSEUM DIAGNOSIS. See Key to the Species.

Young (immature). Head brownish; feathers of mantle margined with rufous; of rump and wings with fulvous.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail central	outer
♂♀	89-94	c. 6	9-10	—	40-44 mm (Baker)
2 ♂♂	93, 96	(from skull) 9	11	38	44 mm (SA)

Weight 14 ♂♀ 8-12 (av. 9.7) g — SA.

COLOURS OF BARE PARTS. Iris brown. Bill black. Legs and feet blackish brown to black.

HIRUNDO DAURICA Linnaeus: STRIATED or REDRUMPED SWALLOW Key to the Subspecies

		Page
I	Lower plumage pale rufous or albescent rufous	
A	Rump and upper tail-coverts of practically the same colour throughout	
1	Wing mostly 120 mm or over	
a	Lower parts less heavily streaked; rump unstreaked.....	H. d. daurica 66
b	Lower parts more heavily streaked; rump with faint streaks.....	H. d. japonica 70
2	Wing mostly under 120 mm	
c	Striations on lower plumage much broader than the shafts.....	H. d. nipalensis 68
d	Striations on lower plumage hardly broader than the shafts.....	H. d. erythropygia 70
B	Rump paler posteriorly and becoming creamy white on the upper tail-coverts.....	H. d. rufula 67
II	Lower plumage chestnut.....	H. d. hyperythra 72

923. *Hirundo daurica daurica* Linnaeus

Hirundo daurica Linnaeus, 1771, Mantissa Plant.: 528 Siberia, restricted to Sung-hua Chian, Heilungkien, China, near its confluence with the Amur River, by

R.K. Brooke, 1974, Durban Mus. Novitates 10: 136)

Lillia substriolata Hume, 1877, Stray Feathers 5: 268 (Cachar)

Baker, FBI No. 1159, Vol. 3: 248

Plate 65, fig. 14

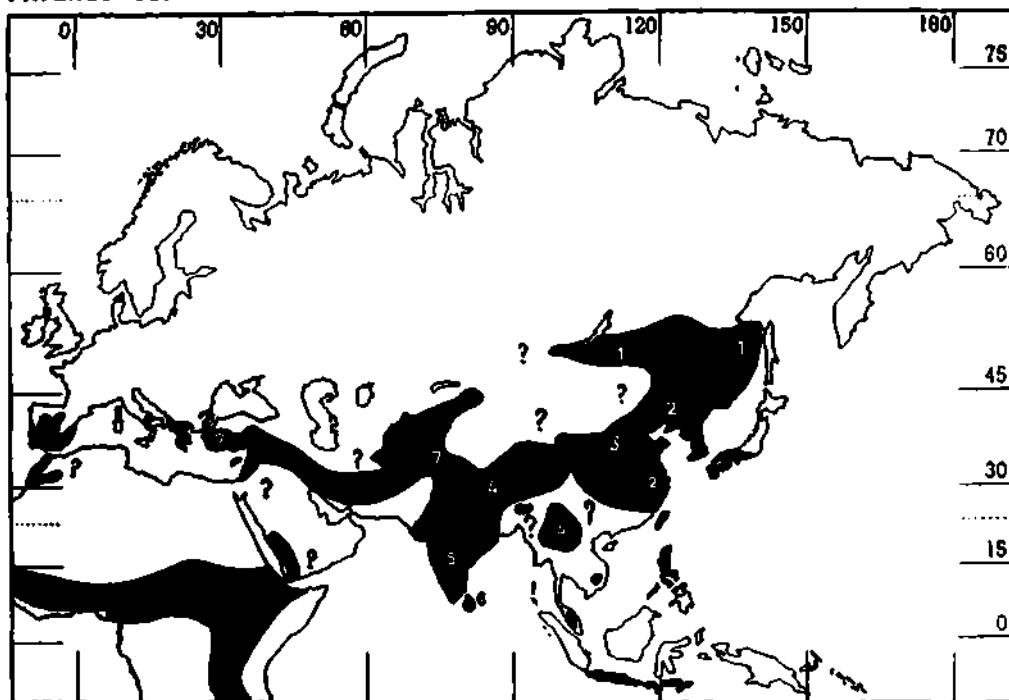
LOCAL NAME. *Midili* (Khasia).

SIZE. Sparrow ±; overall length c. 20-23 cm (7½ in.) depending on length of tail.

FIELD CHARACTERS. As of 927, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Winter visitor. Central Nepal (JBNHS 49: 380) east to Bhutan, Assam and associated states.

Extralimital. Southern Siberia, eastward through the Baikal region, northern Mongolia and Transbaikalia; central western China. (For details see Vaurie, 1959, 2: 14.) Winters also in the Indochinese countries.

Hirundo daurica

■ Breeding

For winter ranges see text

- 1 *daurica* (923). 4 *nipalensis* (925).
- 2 *japonica* (926). 5 *erythropygia* (927).
- 3 *gephyra* (RE). 6 *hyperythra* (928).
- 7 *rufula* (924).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 927 and other races.

BREEDING. Extralimital. Nest, eggs and breeding biology as in 925 and 927.

MUSEUM DIAGNOSIS. 'More heavily streaked below than *rufula* [924] and with the rufous nuchal band interrupted with blue; less heavily streaked below, the streaks narrower than in *japonica* [926]; ground colour of the underparts more buffy than in *nipalensis* [925]; averages larger than the other three' (Vaurie). Differs from *erythropygia* (927) in markedly larger size and broader streaking of underparts.

MEASUREMENTS

♂ ♀ Wing 125–138 mm (Hartert)

♂ ♀ Wing 121–133; tail 93–119 mm (Vaurie)

COLOURS OF BARE PARTS. As in 927.

924. *Hirundo daurica rufula* Temminck

Hirundo rufula Temminck, 1835, Man. d'Orn. 3: 298 (Egypt)

Lillia temminckii Hume, 1877, Stray Feathers 5: 259. New name for *rufula*

Hirundo scullii Seebold, 1883, Ibis: 167 (Gilgit)

Baker, FBI No. 1163, Vol. 3: 252

LOCAL NAMES. As for 927; *Phairni* (Kashmir).

SIZE. Sparrow ±; length c. 19 cm (7½ in.) including long tail.

HIRUNDINIDAE

FIELD CHARACTERS. As of 927, q.v., but rump much paler, almost whitish. See Key to the Subspecies and Museum Diagnosis.



One half of tail, showing shape of rectrices and pattern, $\times c. 1$

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer
$\sigma^{\delta} \varphi$	112-126	9-10	12-14	39-47	85-102 mm (HW)

$\sigma^{\delta} \varphi$ Wing 113-127; tail 91-108 mm (Vaurie)

Weight 4 $\sigma^{\delta} \sigma^{\delta}$ 14-17 g (Paludan, Afghanistan).

COLOURS OF BARE PARTS. As in 927 and other races.

925. *Hirundo daurica nipalensis* Hodgson

Hirundo Nipalensis Hodgson, 1836, Jour. Asiatic. Soc. Bengal 5: 780 (Nepal)

Hirundo daurica gephryra Meise, 1934, Abhandl. Ber. Mus. Dresden, 18, No. 2: 48
(Sungpan, Szechwan)

Baker, FBI No. 1161, Vol. 3: 250

LOCAL NAMES. As for 927; *Phairni* (Kashmir).

SIZE. Sparrow \pm ; length c. 19 cm (7½ in.) including long tail.

FIELD CHARACTERS. As in 927, q.v. but with paler chestnut rump. See Key to the Subspecies and Museum Diagnosis.

Large gatherings huddled on telegraph wires in winter.

STATUS, DISTRIBUTION AND HABITAT. Resident and/or summer visitor (March to September/October). Northern Baluchistan, Punjab (NW. frontier districts), Gilgit, Chitral, Ladakh, Kashmir, Himachal Pradesh; between c. 1000 and 3300 m. Affects open but broken hilly country, near and away from human habitations.

Extrazonal. Breeds in parts of southern Europe and eastward through western Asia (Middle-East countries) to Afghanistan and Russian Turkestan. (For details see Vaurie, 1959, 2: 12.)

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 927.

BREEDING recorded in N. Baluchistan (Quetta and Fort Sandeman districts), Punjab (Fort Munro), Chitral, Kashmir and Himachal Pradesh. *Season*, chiefly April to July. *Nest, eggs* (c/3 or 4) and breeding biology as in Indian Striated Swallow (927).

MUSEUM DIAGNOSIS. 'Underparts varying from buffy to whitish with very narrow, faint or obsolete dark shaft-streaks' (Vaurie). Differs from *erythropygia* (927) in having finer striations on underparts, and chestnut on rump paling off to creamy white posteriorly.

STATUS, DISTRIBUTION and HABITAT. Breeds in the Himalayas from Kulu in Himachal Pradesh eastward through Garhwal, Kumaon, Nepal, Sikkim, Bhutan and NEFA; between c. 1200 and 3200 m in the western Himalayas, in a lower zone in the eastern. Winters (October/November to February/March) more or less throughout the Peninsula from Uttar Pradesh southward to Kerala, and from Gujarat and Rajasthan eastward to Orissa. In winter several subspecies are found side by side in the Indian plains, impossible to differentiate in the field with certainty: hence their movements and non-breeding ranges remain unclear. Affects cultivation, forest clearings and lightly scrubbed open country in winter; in summer (when nesting) grassy slopes and rocky hills around upland pastures and scattered homesteads, as well as populous hill villages and hill-stations.

Extralimital. Extends eastward to southwestern Sikang. Winters also in Burma.

GENERAL HABITS. Very gregarious in winter; scattered pairs or family parties in summer. Great influx of Himalayan migrants in the north and central Indian plains and Deccan from about November. Enormous congregations (swarms) commonly met with on winter mornings perched in close-packed rows of hundreds, or thousands, on telegraph wires often occupying several adjacent strands of wire over stretches of 200 metres or more, sometimes even overflowing on to neighbouring trees or the ground. Frequently the swarms settle sprawled out on damp, sandy river beds and shoals, or in newly ploughed fields. From time to time the birds launch out spontaneously to fly around in a dense rabble and gradually re-settle. The gathering disperses to hawk insects as the sun gets warmer. The sunning congregation becomes smaller day by day, gradually splitting up into smaller parties and moving on or scattering over the countryside for the season. The birds roost at night in partly submerged reed-beds and the like.

FOOD, VOICE and CALLS. As in 927.

BREEDING. Season, overall April to August chiefly May to July. Nest, eggs (c/3 or 4, rarely 5), and breeding biology as in Indian *erythropygia* (927). Two broods often raised in succession in same nest; sometimes three. Nest stuck against ceiling in a veranda or living-room of occupied or derelict hill-station bungalows, busy bazaar shops, under masonry culverts or rock overhangs and in tunnels and the like; nests usually individual; sometimes two or three in the same structure, but well apart — not colonially. The same site and nest, repaired if necessary, may be used year after year.

MUSEUM DIAGNOSIS. Streaks on underparts coarser than in *erythropygia*, especially in winter. Rump paler chestnut (seasonally variable but never so dark as in *erythropygia*) and distinctly dark shaft-streaked. Differs from *rufula* in having more heavily streaked underparts and darker chestnut rump.

Young (immature) has no, or only obsolete, striations on breast.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	central	Tail outer
♂ ♀	111-123	9-11	13-15	37-43	81-102 mm (once 107) (SA, HW)
7 ♂♂	115-120	10-11	—	—	86-102 mm
7 ♀ ♀	109-120	10-11	—	—	82-95 mm (BB)

Weight 2 ♀ ♀ 16, 18 g (GD).

COLOURS OF BARE PARTS. As in 927.

926. *Hirundo daurica japonica* Temminck & Schlegel

Hirundo alpestris japonica Temminck & Schlegel, 1847, in Siebold's Fauna Jap., Aves, Pl. 11: 33 (Japan)

Not in Baker, FBI cf. *H. d. daurica*, Vol. 3: 248

LOCAL NAMES. None recorded.

SIZE. Sparrow ±; length c. 19 cm (7½ in.) including long tail.

FIELD CHARACTERS. As in 927, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. A winter migrant to Uttar Pradesh, Madhya Pradesh, Gujarat (Saurashtra), Mysore (Londa), Tamil Nadu, Andhra, W. Bengal, Assam and presumably East Pakistan. A doubtful specimen from Andaman Is. (Port Blair); another taken recently in central Nepal, January (Fleming, JBNHS 65: 330). Owing to overlapping of several races in the winter quarters, their movements and non-breeding ranges unclear.

EXTRALIMITAL. Breeds in Manchuria, Korea, Japan, NE. and E. China; winters also in N. Thailand and Burma. (For details see Vaurie, 1959, 2: 13.)

GENERAL HABITS, FOOD, VOICE and CALLS. Presumably as in 927.

BREEDING. Extralimital.

MUSEUM DIAGNOSIS. Distinctly more heavily streaked below than nominate *daurica* and with faint streaks on rump which are usually absent or fainter in nominate *daurica*; somewhat smaller. Wing ♂ ♀ 114–125; tail 85–106 mm (Vaurie, 1959, 2: 13).

COLOURS OF BARE PARTS. As in 927 and other races.

927. *Hirundo daurica erythropygia* Sykes

Hirundo erythropygia Sykes, 1832, Proc. Zool. Soc. London: 83 (Dukhun, Poona)
Baker, FBI No. 1162, Vol. 3: 251

LOCAL NAMES. *Māṣjid ābābil* (Hindi); *Vārāyāṅkāṭrikā* (Malayalam); *Kēnchi dbābil* (Gujarati).

SIZE. Sparrow ±; length c. 19 cm (7½ in.) including long tail.

FIELD CHARACTERS. A deeply fork-tailed swallow. *Above*, glistening steely blue-black; a narrow supercilium and sides of head chestnut connected by a chestnut half-collar on hindneck; rump chestnut, conspicuous and diagnostic in banking flight. *Below*, fulvous white, finely streaked with dark brown. Terminal half or one-third of under tail-coverts abruptly black. Sexes alike. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; largely sedentary with slight seasonal local movements. More or less throughout the subcontinent, from c. 1200 m in the outer Himalayan foothills and terai south to Kerala, and

eastward from Punjab, Rajasthan and northern Gujarat (including Kutch and Saurashtra) to West Bengal. Plains and peninsular hills up to c. 1600 m. Not in Sind, Assam or East Pakistan. Rare straggler to Ceylon in winter. Affects open cultivated country and clearings in light deciduous forest, preferably the neighbourhood of archaeological ruins — old forts, mosques, temples, etc. — and rocky hills.

GENERAL HABITS. Much less gregarious than the migratory races, e.g. *nipalensis*. Keeps in pairs, family parties or small flocks hawking insects all day in company with swifts, crag martins and other swallows, alighting to rest from time to time on ledges, telegraph wires or tree-tops. Is less closely attached to the neighbourhood of water — reservoirs, streams, canals, etc. — than Wiretailed Swallow, and commonly met with hawking over drier country. Flight slower and more deliberate than that of Wiretailed, with fewer swoops. Numbers gather to hawk insects fleeing from fired grassfields and forest clearings, in mixed company with other birds. Threshing and winnowing floors and open-air grain markets, bazaars, railway goods yards and shipping docks where insects abound are also favourite hunting grounds.

FOOD. Gnats, midges and tiny flying beetles and bugs — Diptera, Coleoptera and Hemiptera. Winged ants and termites etc.

VOICE AND CALLS. Flight note, 'a loud low-pitched *cheer*, a sparrow-like chirp, and a more nasal *queenk*' (Nichols); more plaintive, and distinct from *rustica*'s. Song, in breeding season, a cheerful subdued twittering, often uttered by the male while the pair is sitting side by side, and also near the nest (SA).

BREEDING. Season, overall April to August, the principal periods varying locally. Nest, typically retort-shaped, of conglomerated mud pellets — a bulbous hemisphere c. 15 cm in outside diameter, with a prolonged horizontal entrance-tunnel c. 15–18 cm, of c. 4 cm bore. The whole is stuck flat against the ceiling of a deserted or occupied dwelling, under the dome of ancient mosques or tombs, under masonry arches of bridges over canals, under natural rock overhangs and suchlike situations. In the developing India of today reinforced concrete road culverts are increasingly favoured. Egg-chamber copiously lined with grass, feathers and vegetable down. Eggs, 3 or 4, rarely 5, pure white. Average size of 60 eggs $21\cdot0 \times 14\cdot4$ mm (Baker). Often two or three successive broods raised in the same nest. Same site and nest, repaired or rebuilt as necessary, may be used year after year. Both birds share in nest construction, collecting mud blobs at nearby rain puddles, shuttling back and forth more or less together. Nest takes several days to complete as one mud layer must set before the next is put on; the whole dries to terracotta hardness. Both sexes incubate by turns, and both birds roost within at night even when incubation in progress. Family parties keep together by day and roost within nest at night until young become fully independent. While one bird is incubating the other will often continue to add fresh mud to the rim of the entrance-tunnel. Its diameter evidently constricts on drying, sometimes with fatal results to the inmates. Two cases recorded of birds getting stuck in the exit while trying to leave nest, and dying in that position (Davison, SF 10 : 345 ; Himmatsinhji, JBNHS 56 : 631) cf. also Cliff Swallow, p. 65. Incubation period undetermined. Nest built singly, not in colonies; frequently close to 'nest villages' of House Swifts. Often usurped by the latter and by House Sparrows.

HIRUNDINIDAE

MUSEUM DIAGNOSIS. Size small. Rump uniform dark chestnut without blackish shaft-streaks. Striations on underparts narrow. Tail-fork comparatively shallow. An indistinct white patch on inner web of outermost rectrices. Shape and proportions of adult tail similar to that of juvenile in other races.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer
♂ ♀	104-116	9-10	13-15	39-46	70-82 mm (SA, HW)

Weight 7 ♂ ♀ 15-19 (av. 16.7) g — SA.

In the flesh tarsi conspicuously stouter than in *H. rustica*.

COLOURS OF BARE PARTS. Iris brown. Bill brownish black; mouth pale yellowish grey. Legs, feet and claws brownish black.

928. *Hirundo daurica hyperythra* Blyth

Hirundo hyperythra Blyth, 1849, Jour. Asiatic Soc. Bengal 18: 814

(Ceylon, ex Layard MS.)

Baker, FBI No. 1164, Vol. 3: 253

Plate 65, fig. 15

LOCAL NAMES. *Wéhi lihiniyā* (Sinhala); *Tām pādi*, *Tālāi illāda kūrūvi* (Tamil).

SIZE. Sparrow ±; length c. 19 cm (7½ in.) including long tail.

FIELD CHARACTERS. As in 927, q.v., but underparts deep chestnut, faintly and narrowly striated. Nuchal collar absent or ill-defined; rump much darker chestnut. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Race peculiar to Ceylon. Plentiful throughout the low country (except perhaps the Jaffna Peninsula and neighbouring islands) and hills to c. 1200 m. Affects open grassy country, paddy-fields and grass-covered hillsides.

GENERAL HABITS and FOOD. As in 927.

VOICE and CALLS. Loud, musical, distinctive, 'easily recognized when once heard' (Henry).

BREEDING. Season, chiefly March to July, but occasionally in September and from November to January (Phillips). Nest and eggs (c/2 or 3) as in 927. Average size of 7 eggs 21·3 × 14·3 mm (Baker).

MUSEUM DIAGNOSIS. See Field Characters (above) and Key to the Subspecies.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail	
				c. 7	c. 12-13
♂ ♀	102-122				75-78 mm (Baker)

Weight 2 ♂ ♂ 14, 16 g (SDR).

COLOURS OF BARE PARTS. 'Iris sepia brown. Bill blackish brown. Legs and feet vinous brown' (Wait).

929 Larger Striated Swallow. *Hirundo striolata mayri* Hall

Hirundo striolata mayri Hall, 1953, Ibis 95: 547

(Singhaling, Hkamti, Upper Chindwin, Burma)

Hirundo daurica khasica Koelz, 1954, Contrib. Inst. Regional Exploration, No. 1: 20 (Boko, Assam)

Baker, FBI No. 1160, Vol. 3: 249

Cf. Mayr, E., 1941, Ibis: 367; Hall, B. P., 1953, ibid. 95: 547.

LOCAL NAME. *Inrui gobi* (Kacha Naga).

SIZE. Sparrow ±; length c. 19 cm (7½ in.) including long tail.

FIELD CHARACTERS. As in 927, q.v. See Key to the Species.

STATUS, DISTRIBUTION and HABITAT. Partly resident, partly winter visitor. Assam hills south of Brahmaputra R. (Khasi, N. Cachar, etc.) and in the Margherita area (Lakhimpur dist.), Nagaland, Manipur, and the hills of East Pakistan (?).

Extralimital. Burma, Thailand, and Indochinese countries.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 927.

BREEDING. Season, in Assam (c. 1000–1400 m) April and May. Nest and eggs (c/3 to 5 generally 4) pure white as in races of *daurica*. ‘Exceptionally an egg may be found with a few faint reddish specks on the larger end.’ Average size of 30 Assam eggs 21·4 × 14·7 mm (Baker).

MUSEUM DIAGNOSIS. Rufous collar on hindneck absent or broadly interrupted. Much more heavily and coarsely streaked on underparts than *H. d. nipalensis*; rump-band narrower, darker chestnut, with the shaft-streaks sometimes ill-defined.

MEASUREMENTS

9 ♂♀ Wing 120–124; tail 83–97 mm (Mayr, SDR)

Weight 1 ♀ 22 g (SDR).

COLOURS OF BARE PARTS. As in 927 and other races of *daurica*.

Genus DELICHON Horsfield & Moore

Delichon Horsfield & Moore, 1854, Cat. Bds. Mus. E.I. Co. 1: 384. Type, by monotypy, *Delichon nipalensis* Moore

Distinguished from all other swallows by wholly feathered or ‘stockinged’ tarsi and toes. Rump conspicuously white. Tail varying from deeply forked to almost square.

Key to the Species

	Page
Under tail-coverts white, tail deeply forked.....	73
Under tail-coverts black, tail square.....	76

DELICHON URBICA (Linnaeus): HOUSE MARTIN

Key to the Subspecies

Longer upper tail-coverts black

Lower plumage pure white.....	74
-------------------------------	----

Lower plumage smoky or greyish white.....	75
---	----

<i>D. u. urbica</i>	74
---------------------	----

930. *Delichon urbica urbica* Linnaeus

Hirundo urbica Linnaeus, 1758, Syst. Nat., ed. 10, 1: 192 (in Europe = Sweden)
Baker, FBI No. 1141, Vol. 3: 226

Plate 65, fig. 10

LOCAL NAMES. None recorded.

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. A small black and white swallow with short forked tail. *Above*, glossy blue-black with glistening white rump; *below*, pure white including feathered legs and feet. Sexes alike.



Tail, 'stockinged' foot, head and bill, \times c. 1

In flight its diagnostic points are: white rump as in House Swift; white underparts as in Wiretailed Swallow; short slightly forked tail as in Cliff Swallow.

STATUS, DISTRIBUTION and HABITAT. Summer visitor to Baltistan, Gilgit, and Ladakh east to Lahul and Spiti (Vaurie, 1959), breeding between c. 3000 and 4500 m. Sporadic in winter, and/or on migration, in the NW. frontier districts of W. Pakistan and N. Baluchistan, Nepal foothills (specimen, April, Fleming, JBNHS 65: 330), and in peninsular India mostly down the western side. Recorded from Gujarat, Saurashtra, Maharashtra, Madhya Pradesh, Mysore, Nilgiri Hills and Kerala—as late as end April and mid May. For particulars of occurrences in the Peninsula see Editors, JBNHS 65: 222. Has also occurred in Laccadive and Maldives Is. (Mathew & Ambedkar, JBNHS 61: 189; Phillips & Sims, ibid. 56: 214). Affects open valleys and grassy hillsides with cliffs.

EXTRALIMITAL. Russian Turkestan, Afghanistan, Iran, Transcaspia, Asia Minor; the Mediterranean countries and nearly all Europe (including Great Britain) north to Scandinavia. For particulars see Vaurie, 1959, 2: 15.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 931.

BREEDING. Season, in Ladakh, June and July. Nest and eggs, as in *cashmeriensis* (931).

There is considerable confusion in published (sight) records, and both *urbica* and *cashmeriensis* are reported breeding in the same localities, often

together. If this is verified by further study they will have to be treated as separate species.

MUSEUM DIAGNOSIS. See Key to the Subspecies. Tail more deeply forked than in *cashmeriensis*: depth of fork c. 16–22 mm v. c. 5–9 mm (CBT). For details of plumages and structure, also bionomics, see Witherby *et al.*, 1938, 2: 235–8.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail central	Tail outer
Of an Indian series					
♂ ♀	106–113	9–10	10–11	—	42–47 mm (CBT, HW)
British birds					
♂ ♂	106–113	8–9	10–13	35–45	58–63 mm
♀ ♀	104–112	—	—	35–43	57–63 mm (Witherby)

Weight 1 ♂ 17 g (Paludan).

COLOURS OF BARE PARTS. Iris brown. Bill black (adult) or horn brown (immature). Legs and feet pinkish yellow, covered with white feathers.

931. *Delichon urbica cashmeriensis* (Gould)

Chelidon Cashmeriensis Gould, 1858, Proc. Zool. Soc. London: 356 (Kashmir)
Baker, FBI No. 1142, Vol. 3: 228

LOCAL NAMES. None recorded.

SIZE. Sparrow; length c. 15 cm (6 in.).

FIELD CHARACTERS. As in 930, q.v., but with the rump and underparts sullied with smoky grey, not glistening white. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident, and partly local migrant. Breeds in the Himalayas between c. 1500 and 5000 m altitude. Chitral, Gilgit, Kashmir, Himachal Pradesh and eastward through Nepal, Sikkim, Bhutan and NEFA. Sight records often confused with *D. u. urbica*. Winter range imperfectly known but occurs in the foothills, terai and duars, and in the northern plains from Ambala east through Kumaon, U.P., Bihar to Assam and East Pakistan (?). Affects open valleys, grassy hillsides with cliffs, and the environs of mountain villages.

Extralimital. SE. Afghanistan, SE. Tibet, eastward to Kansu (for particulars see Vaurie, 1959, 2: 16–17). Recorded in winter from N. Thailand and N. Burma.

GENERAL HABITS. Typical swallow, cf. 927. Highly gregarious while nesting as well as at other times. Loose parties commonly seen hawking midges and tiny winged insects in company with Striated and other swallows and house swifts high above gorges and stream valleys, terraced fields, or above the rising smoke of forest fires. In Kashmir canals and waterways are favourite hunting resorts. Flight swift and graceful — a few rapid wing-beats followed by effortless glides and swoops, and agile twisting, turning and banking movements.

FOOD. Insects, chiefly Diptera, taken on the wing.

VOICE and **CALLS**. Not intelligibly described: only as 'squeaks and twittering'.

BREEDING. *Season*, chiefly end May to mid July. *Nest*, a deep earthen cup, or rounded 'pot', of agglomerated mud pellets attached under a rock-ledge or overhang on a high cliff-face, leaving a narrow slit between ceiling and nest-top for the bird to squeeze in. Sometimes nest-top actually connected to ceiling, in which case a small lateral entrance-hole left at top. Architecture of nest varies according to site and contours of substrate. Nests built solitarily or in small scattered groups — 10 to 12 (or more) — not in clusters like House Swifts'; lined with grass and feathers. In high mountain villages sometimes builds under eaves or window corners of wooden houses, the nests looking singularly like enlarged nests of potter wasps (*Eumenes*). *Eggs*, 3 or 4, white, unmarked. Average size of 80 eggs 17.9×12.7 mm (Baker). Incubation period undetermined. Often two broods raised. Both sexes take part in nest-building, incubation and feeding the young. Food brought assiduously every few minutes, the birds fluttering at nest momentarily without alighting, hurriedly transferring the morsels to the widely gaping bills crowding the entrance, and flying off to fetch more. Young apparently fend for themselves on leaving nest though returning to roost in it with parents the first few nights. Not observed being fed in mid-air like other swallows.

MUSEUM DIAGNOSIS. See Field Characters. Differs from *D. u. urbica* (930) further in having the ear-coverts mostly dark brown (v. white); axillaries and underwing dark brown; fork in tail shallower.

Young (immature). *Above*, rump white, sometimes with a pale vinous wash; rest of upperparts, including wings and tail, dark brown with slight gloss on mantle and scapulars. *Below*, as in adult, or washed with pale vinous.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	99-105	8-10	9-11	38-43 mm (CBT, HW)

Weight 1 ♂ 14.7 g (GD); 1 o? 15 g (SA).

COLOURS OF BARE PARTS. As in 930.

932. Nepal House Martin. *Delichon nipalensis nipalensis* Moore

Delichon nipalensis 'Hodgson' = Moore in Horsfield & Moore, 1854, Cat. Bds. Mus. E.I. Co. 1: 384 (Nepal)

Delichon nipalensis bartletti Koelz, 1952 (Sept.), Jour. Zool. Soc. India 4: 43
(Hmuntha, Lushai Hills)

Hirundo cuttingi ernstmayri Wolters, 1953 [Feb.], (1952), Bonner Zool. Beitr. 3: 280
(New name for *D. nipalensis* Moore if placed in genus *Hirundo*, preoccupied)

Baker, FBI No. 1144, Vol. 3:230

Plate 65, fig. 7

LOCAL NAMES. *Bérē dao* (Cachari); *Inrui bi* (Naga).

SIZE. Sparrow±; length c. 13 cm (5 in.).

FIELD CHARACTERS. A small black and white swallow with a short square-cut tail. *Above*, steely blue-black including ear-coverts, wings and tail. Rump

glistening white. A broken white collar on hindneck. *Below*, chin and throat dull black; under tail-coverts glossy black. Rest of underparts pure white including 'stockinged' legs and feet. Sexes alike.

Could casually be confused with *D. urbica*, but on a good view, black throat and under tail-coverts, and square-ended tail (*v.* forked) diagnostic.

STATUS, DISTRIBUTION and HABITAT. Resident, with some local (mostly altitudinal) movements. The Himalayas from Garhwal and Kumaon through Nepal, Sikkim, Bhutan and NEFA; Assam hills south of Brahmaputra R., Nagaland, Manipur, Mizo; East Pakistan hills (?). Breeding between c. 1000 and 4000 m; down to c. 300 m in winter. Affects river valleys, mountain ridges with vertical cliffs, etc.

Extralimital. N. Burma and N. Vietnam.

GENERAL HABITS. Highly gregarious; very similar to those of the Kashmir House Martin (931), q.v. Subject to sudden sporadic appearances and disappearances in winter. The birds fly round continuously in a scattered rabble hawking insects high up in the air or skimming the tree-tops and bushes. From time to time one will suddenly climb almost vertically for 10 metres or so (to take a midge?) and then dive and flatten out when quite close to the bush or ground again. The fast smooth-flowing flight with its swoops, glides and 'tight' turns has been likened to skating.

FOOD. Tiny winged insects, mostly Diptera.

VOICE and CALLS. On the whole very silent. Occasionally utters a short high-pitched *chi-i* in flight (Lister).

BREEDING. Season, overall April to July, the peak periods varying locally and with altitude. Nest, as in Kashmir House Martin, a deep earthen bowl or 'pot', lined with fine grass and feathers, attached under a rock overhang on a vertical cliff-face, with a narrow slit or hole near top for entrance. Not recorded nesting in houses. Nests colonial, often 25 to 50 or so under the same overhang close together, sometimes almost touching one another, but not agglomerated in a mass or 'village' like House Swifts'. Eggs, 3 or 4, rarely 5, white, unmarked, very like those of 931. Average size of 21 eggs 18.6 x 12.8 mm (Baker). Both sexes share in building the nest, incubation, and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. See Field Characters.

Young (immature). Like adult but black of upperparts less glossy, and white of underparts sullied with buff.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	90-98	7-9	11-12	37-41 mm (SA)

Weight 1 ♂ 14, 1 ♀ 16 g (SA).

COLOURS OF BARE PARTS. Iris brown. Bill black. Legs and feet (through white stockings) pale brownish flesh; claws horny brown.

A significant difference in the pattern of moult and plumage renewal between this species and *D. u. cashmeriensis*, closely correlated with their ecological peculiarities, has recently been described. See Stresemann, E., & V., 1969, 'Die Mauser von *Ptyonoprogne rupestris* und *Delichon nipalensis*'. *Jour. Orn.* 110 (1): 39-52.

Family LANIIDAE: Shrikes or 'Butcher Birds'

For morphological characters and description see Van Tyne, J. & Berger, A. J., 1959: 534; Baker, E. C. Stuart, 1924, FBI 2: 283-4; Olivier, G. G., 1964, Article 'Shrike' in Thomson, A. L. (ed.), *New Dict. Birds*. London and New York.

Of the 64 species in the family 55 live in Africa (R. E. Moreau, 1966).



Grey Shrike (933)

Genus LANIUS Linnaeus

Lanius Linnaeus, 1758, Syst. Nat., ed. 10, 1: 93. Type, by subsequent designation,
Lanius excubitor Linnaeus

Cf. Olivier, G., 1944, Monogr. des Pies-Grièches du genre *Lanius*, Rouen: 1-324
Bill very stout and laterally compressed, the upper mandible downcurved and hooked, and with a large tooth and a deep notch near the tip. Nostrils nearly round, almost hidden by numerous bristles. Plumage firm but not spinous. Wings pointed. Tail equal to or longer than wing, strongly graduated.

Key to the Species

		Page
I	Upper tail-coverts and central tail-feathers of totally different colours	
A	A white patch on primaries	
a	Tail all black and white, the colours sharply defined	
1	Back grey	
i	Forehead grey.....	<i>L. excubitor</i> 79
ii	Forehead black.....	<i>L. minor</i> 83
2	Back chestnut	
iii	Upper tail-coverts pale grey.....	<i>L. vittatus</i> 84
iv	Upper tail-coverts chestnut.....	<i>L. colluriooides</i> 83

		Page
3 Back black.....	<i>L. senator</i>	101
b Tail black or brown and rufous, the colours blending		
4 Crown of head grey or black.....	<i>L. schach</i>	93
B No white patch on primaries		
c Head and back grey.....	<i>L. tephronotus</i>	91
d Head grey, back chestnut.....	<i>L. collaris</i>	87
II Upper tail-coverts and central tail-feathers same colour		
C Colour of crown and back nearly the same, rufous or brown....	<i>L. cristatus</i>	98

LANIUS EXCUBITOR Linnaeus: GREY SHRIKE

Key to the Subspecies

A Middle pair of rectrices all black		
a Lesser wing-coverts with or without grey tips.....	<i>L. e. lahtora</i>	79
b Lesser wing-coverts entirely grey		
1 Inner webs of secondaries chiefly white.....	<i>L. e. pallidirostris</i>	81
2 Inner webs of secondaries chiefly black.....	<i>L. e. aucheri</i>	82
B Middle pair of tail-feathers with white bases.....	<i>L. e. homeyeri</i>	82

933. *Lanius excubitor lahtora* (Sykes)

Collurio Lahtora Sykes, 1832, Proc. Zool. Soc. London: 86 (Dukhun)
Baker, FBI No. 706, Vol. 2: 285

Plate 66, fig. 12

LOCAL NAMES. *Dūdiya lātorā*, *Sāfēd lātorā*, *Bādā lātorā* (Hindi); *Dūdhio* or *Mōto lātoro* (Gujarati); *Kachkacha*, *Ānjānā* (Bengal); *Peddā kiriti gādu* (Telugu).

SIZE. Myna ±; overall length c. 25 cm (9½ in.) including long tail.

FIELD CHARACTERS. A 'bull-headed' silvery grey bird with longish graduated black-and-white tail. Wings black with a pure white patch or 'mirror' which flashes conspicuously in flight. A broad black band from forehead and bill backward across eye to ear-coverts. Heavy hooked bill like a bird of prey's. Sexes alike.



STATUS, DISTRIBUTION and HABITAT.
Resident; local movements (winter

dispersal) not worked out. Breeds in Baluchistan (Las Bela to Nal in south Kalat, Sibi plain), Sind, NW. frontier districts, Punjab, Rajasthan, Gujarat (including Kutch and Saurashtra) and through the Bombay Deccan south to Mysore (Belgaum); east through Madhya Pradesh, Maharashtra (to c. Nagpur), and Andhra (north of Kistna R.) to Bihar and southern W. Bengal; E. Pakistan (nr. Kushtia, c. 23°54'N., 89°07'E. — H. Rashid, 1967); from plains level to c. 1200 m. Two records from Tamil Nadu (Cuddapah dist.); several unconfirmed sight records from Ceylon (Phillips, Hoffmann). Affects open semi-desert country, sparse scrub jungle, edges of desert cultivation, and thorn- and dry-deciduous forest.

GENERAL HABITS. Bold and aggressive. Keeps singly or in widely separated pairs, perched upright on an exposed thorn bush or telegraph wire surveying the surroundings. Pounces from time to time on crawling prey which is either carried back in bill to the perch or disposed of on the ground, held underfoot and torn to pieces before being devoured by vicious jabs and upward tugs of the sharp hooked beak. Each individual has a staked-out feeding territory, frequented day after day and jealously guarded against interlopers. Has the well-known habit, shared by many of its congeners, of maintaining a 'larder' where surplus food (locusts, lizards, young mice, young birds, etc.) is impaled on thorns etc. to be eaten at leisure (hence the English name 'butcher bird'). Everywhere excessively wary and usually difficult to approach: this evidently an inherent trait and not the result of persecution. In common with other shrikes has the shikra-like trick of dropping from its perch when alarmed or suspicious and flying off at high speed flat along the ground on rapidly 'vibrating' wings, swooping steeply upwards to settle on another exposed bush-top a hundred metres or so away.

FOOD. Entirely carnivorous. Insects — locusts (adults and hoppers), *Chrotognathus* spp., black ants (e.g. *Myrmecocystus laevis*) and other Hymenoptera, *Agrotis* caterpillars, beetles, bugs, etc. (Hussain & Bhalla, JBNHS 39: 834). Also lizards, young rodents (mice, squirrels, etc.), and young or sickly birds (full-grown lark and young Brahminy Myna recorded); known to attack a wounded sandgrouse and drill a hole through back of its skull (O'Brien, JBNHS 26: 667).

VOICE and CALLS. Common call 'a harsh *kwi-rik, kwi-rik*' (Dharma-kumarsinhji). Notes of concern a grating *che-che* uttered by parent from near by when its nest being examined. In breeding season male has a short lively tinkling song, rather like Grey Tit's, but more musical. Like other shrikes, is an accomplished mimic of other birds' calls.

BREEDING. Season, overall January to October, mainly March to June. Nest, a deep compact cup of thorny twigs and grass intermixed with rags, hair, lumps of cotton, feathers, wool, etc. with the rags and rubbish hanging untidily from the structure. Size between c. 13 and 18 cm across externally, with the cup c. 8 to 10 cm in diameter and c. 6–7 cm deep. Placed in a babool or *Prosopis* tree or in a thorn bush, 2 to 4 metres up; commonly in the same locality and in more or less the same site year after year (sometimes the old nest renovated) unless disturbed. Old nests of crows and babbler often appropriated and adapted. Eggs, 3 to 6, considerably variable in colour and size. Commonest type pale greenish white thickly blotched and spotted with purplish brown, especially at the broad end. Some eggs very reminiscent of House Crow's. For range of variations see Baker, *Nidification* 2: 254–5. Average size of 100 eggs 25.9×19.7 mm (Baker). Both sexes take part in nest-building, incubation and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. See keys to the Species and Subspecies. Underparts pure white. Bill heavier and tail longer than in *pallidirostris* (934). Black frontal band 4–5 mm wide; narrower in first-winter plumage.

Young (immature). *Above*, grey clouded with brown, with obsolete dark bars; tertials and all wing-coverts tipped fulvous. *Below*, white tinged with fulvous. Post-juvenile moult includes body, all coverts except primary-, and the tertials. First-winter plumage distinguished by pale tips to primary-coverts.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	108-115	20-26	30-33	106-122 mm
♀ ♀	105-113	19-25	29-32	107-118 mm (SA)

Weight 1 ♂ 52 ; 3 ♀ 55-66 g (BB).

COLOURS OF BARE PARTS. Iris dark brown. Bill horny black; mouth pale pink or greyish pink. Legs, feet and claws blackish brown.

MISCELLANEOUS. Young birds easily reared in captivity, becoming quite tame, flying freely and coming at call. In Mogul times was trained, along with falconets (*Microhierax*) to hunt sparrows and even larger birds.

934. *Lanius excubitor pallidirostris* Casin

Lanius pallidirostris Cassin, 1852, Proc. Acad. Sci. Philadelphia 5: 244

(East Africa = Eritrea *vide* Meinertzhagen, 1954, Birds. Arabia: 164)

Baker, FBI No. 707, Vol. 2: 287

LOCAL NAMES. None recorded.

SIZE. Myna ±; overall length c. 25 cm (9½ in.) including long tail.

FIELD CHARACTERS. As in 933, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Summer (breeding) visitor — March to October/November — to northern Baluchistan from Kalat to Fort Sandeman between c. 1500 and 2100 metres. Resident and breeding (?) in coastal Makran. Straggles in winter to the Sibi plain, Sind, Punjab and Rajasthan: probably often overlooked among the commoner *lahtora*. Affects open semi-desert country.

EXTRALIMITAL. The desert and semi-desert parts of the Astrakhan region east to Zaisan Nor, Dzungaria, S. Mongolia, southward to the Aral-Caspian region, Russian Turkestan, Transcaspia, NE. Iran, etc. In winter to Iraq and NE. Africa. For particulars see Vaurie, 1959, 2: 114.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 933.

BREEDING. Breeds in the valleys on the lower parts of the higher hills in N. Baluchistan. Season, nest, eggs and breeding biology as in *lahtora* (933).

MUSEUM DIAGNOSIS. Differs from *aucherii* (935) and *lahtora* (933) in lacking, or almost lacking, the black frontal band; lores more dusky, not so pure black; no grey on under wing-coverts; underparts usually with a faint pinkish wash. Bill horn colour v. black.

MEASUREMENTS

	Wing	Tail
♂ ♀	105-112 (rarely up to 117)	104-116 mm

Outermost rectrices 25-30 mm shorter than central pair.

(Hartert)

Females usually smaller than males.

COLOURS OF BARE PARTS. Iris brown. Bill horn colour (except in a very few adults). Legs, feet and claws blackish brown.

935. *Lanius excubitor aucheri* Bonaparte

Lanius aucheri Bonaparte, 1853, Rev. Mag. Zool. 5: 294 (Persia)
 Baker, FBI No. 708, Vol. 2: 288

LOCAL NAMES. None recorded.

SIZE. Myna ±; length c. 25 cm (9½ in.) including long tail.

FIELD CHARACTERS. As in 933, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. A scarce winter visitor to N. Baluchistan; more common in central and coastal Makran, from the valley of the Hingol river westward; Quetta dist.; Bahawalpur, Punjab (JBNHS 72: 548). Arrives early September. Affects semi-desert scrub country.

Extralimital. West coast of the Red Sea in Eritrea, Ethiopia, and Somalia. N. Arabia, Sinai Peninsula, Palestine, Iraq, S. Iran, etc. For particulars see Vaurie, 1959, 2: 113.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 933.

BREEDING. Extralimital; as in 933.

MUSEUM DIAGNOSIS. Frontal black band narrower; grey of upperparts uniform, not paling on rump and upper tail-coverts as in *lahtora*. Lesser coverts grey; inner edge of inner web of secondaries usually white the rest brown, but this rather variable. Underparts with a greyish wash.

Young (immature). Above, pale grey washed with isabelline; ear-coverts dark brown. Below, white washed with cream on breast and with a few shadows of dark barring; wing-coverts and tertials dark brown tipped with buffish white.

MEASUREMENTS

	Wing	Tail
♂ ♀	107-116	c. 106-118 mm
	(mostly 106-110)	(Hartert)

COLOURS OF BARE PARTS. As in 933.

936. *Lanius excubitor homeyeri* Cabanis

Lanius Homeyeri Cabanis, 1873, Jour. f. Orn. 21: 75 (Sarepta)
Lanius excubitor var. *leucoptera* Severtzov, 1875, Stray Feathers 3: 430
 (Upper Naryn River, Turkestan)
Lanius Przewalskii Bogdanov, 1881, Wur. der Russ. Faun.: 147 (Tashkent)
 Baker, FBI No. 709, Vol. 2: 289

LOCAL NAMES. None recorded.

SIZE. Myna ±; length c. 25 cm (9½ in.) including long tail.

FIELD CHARACTERS. As in 933, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Vagrants recorded between November and January only from Baluchistan (Quetta), Gilgit,¹ and Kashmir (Avantipur near Srinagar — F. Ludlow); perhaps driven south in hard winters.

¹ Originally identified, possibly quite correctly, as *homeyeri*, the specimens not now available for re-examination. However, assigned by Vaurie to *leucopterus* which he recognizes as distinct. He describes *leucopterus* as similar to *homeyeri* but distinctly paler, with the rump and upper tail-coverts white, not grey or tinged with greyish, and with the white area in the wing very much larger. It is also said to average very slightly larger: Wing 10 ♂♂ 116-123 (av. 118·5) v. 10 ♂♂ of *homeyeri* Wing 113-119 (av. 115) mm. Further specimens needed for study.

Extralimital. From Bulgaria, Rumania and SE. Russia eastward across W. Siberia to the Yenisey Valley. For particulars see Vaurie, 1959, 2: 109.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 933 and other subspecies.
BREEDING. Extralimital.

MUSEUM DIAGNOSIS. Differs from other subspecies in having the frontal band whitish. Grey of upperparts paler than in *lahtora* (about the same as in *pallidirostris*); rump and upper tail-coverts whitish; lesser wing-coverts grey; basal part (c. 25 mm) of tail-feathers white; black of flight-feathers confined to c. 25 mm on subterminal part of secondaries and to c. 40 mm of primaries.

MEASUREMENTS

10 ♂♂ Wing 113–119 (av. 115) mm — Vaurie

COLOURS OF BARE PARTS. As in 933.

937 Lesser Grey Shrike. *Lanius minor* Gmelin

Lanius minor Gmelin, 1788, Syst. Nat. 1: 308 (Italy)

Lanius minor turanicus Fediuschin, 1927, J.f.Orn.75: 493 (Ishak Sai, Ferghana)

Not in Baker, FBI

Plate 66, fig. 11

LOCAL NAMES. None recorded.

SIZE. Myna ±; length c. 23 cm (9 in.) including tail.

FIELD CHARACTERS. A slightly smaller edition of the Grey Shrike in general effect, but the forehead black *contra* grey with a narrow black frontal band.

STATUS, DISTRIBUTION and HABITAT. Status? Has been obtained on passage (?) in N. Baluchistan (near Quetta in May, and at Chaman in April); there is a specimen from Kandahar in the British Museum (14.iv.1881). May occur in the NW. frontier districts of West Pakistan. Affects open semi-desert and cultivation with scattered thorn bushes.

Extralimital. Afghanistan, Iran, Asia Minor, S. Europe, etc. For particulars see Vaurie, 1959, 2: 106–7.

BREEDING. Extralimital.

MUSEUM DIAGNOSIS. Upper breast and flanks tinged with rose-pink; rest of underparts white. Differs from *excubitor* also in wing formula: 1st primary (as.) equal to or slightly longer (c. 3 mm) than primary coverts; 2nd primary shorter than 3rd by c. 2 mm. In *excubitor* group 1st primary never less than 18 mm longer than primary coverts; 2nd primary at least 6 mm shorter than 3rd (Meinertzhagen).

MEASUREMENTS

	Wing	Tarsus	Tail
♂♀	c. 115–123	c. 25	85–95 mm (Hartert)

Females usually somewhat smaller

Weight 2 ♂♂ 42, 48; 2 ♀♀ 46, 46 g (Paludan, Afghanistan).

COLOURS OF BARE PARTS. Iris brown. Bill, legs, feet and claws black.

938 Chestnut-rumped Shrike. *Lanius colluriooides* Lesson

Lanius colluriooides Lesson, 1832, in Bélanger, Voy. Ind.-Orient., Zool.: 250–1 (Pegu)

Baker, FBI No. 711, Vol. 2: 291

Plate 66, fig. 10

LOCAL NAMES. None recorded in India.

SIZE. Bulbul +; length c. 23 cm (8½ in.).

FIELD CHARACTERS. Male. *Above*, forehead, lores, ear-coverts and around eyes black, shading to dark ashy on crown and paling on nape and sides of neck; rest of upperparts chestnut. Wings blackish brown with a white 'mirror' or speculum conspicuous in flight. *Below*, chin, throat and under tail-coverts white; rest pale fulvous or whitish. Tail black-and-white, the two central pairs of rectrices tipped with rufous, the others with whitish.

Female like male but lores and nasal feathers whitish.

STATUS, DISTRIBUTION AND HABITAT. Passage migrant in the plains and foothills of eastern Assam (Cachar dist.), Nagaland (?), Manipur, and perhaps East Pakistan. Records of breeding in N. Cachar need confirmation. Affects gardens, secondary jungle and outskirts of cultivation.

Extralimital. Burma, Thailand, Yunnan, Indochinese countries.

GENERAL HABITS. Typical shrike, cf. 933. Usually met with singly, perched on a dead tree-stump, telegraph wire or other point of vantage, swaying its tail, darting to the ground every now and again to take an insect, and often returning to the same perch.

FOOD. Grasshoppers and other insects, lizards and small terrestrial animals.

VOICE AND CALLS. Harsh grating as well as musical notes. Song, described as 'sweet and full'.

BREEDING. Extralimital.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters.

Young (immature). *Above*, whole head dark brown, the forehead feathers with tiny pale centres and all with small pale tips; rest of upperparts, median and lesser coverts rufous, barred with dark brown; rest of wings dark brown with fulvous instead of ferruginous edges; white bases of flight-feathers rather less than in adult. Tail pattern as in adult but brown replaces black and the white is sullied by rusty; rectrices narrower and more pointed. Postjuvenile and postnuptial moults complete, August to October. No spring moult (Ticehurst MSS.).

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	85-94	17-19	c. 25	92-102 mm (CBT)

COLOURS OF BARE PARTS. Iris reddish brown. Bill horny brown, black at tip and on culmen, flesh at base. Legs and feet dark slate.

LANIUS VITTATUS Valenciennes: BAYBACKED SHRIKE

Key to the Subspecies

- Paler above and averaging larger..... *L. v. nargianus*
- Darker above and smaller..... *L. v. vittatus*

939. *Lanius vittatus nargianus* Vaurie

Lanius vittatus nargianus Vaurie, 1955, Amer. Mus. Novit., No. 1752: 10

(Champ, southern Persian Baluchistan)

Baker, FBI No. 710, Vol. 2: 289 (= *vittatus*)

LOCAL NAMES. *Nargiani* (Baluchi); *Gunah* (Brahui).

SIZE. Bulbul; length c. 18 cm (7 in.).

FIELD CHARACTERS. As in 940, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident throughout central and coastal Makran south of Las Bela and in the Sibi Plain. Summer (breeding) visitor to N. Baluchistan, arriving end March, departing August/September, ascending some of the higher hills to c. 1600 m. Intergrades with nominate *vittatus* in Sind and NW. Punjab. Affects open scrub country and outskirts of cultivation.

Extralimital. Adjoining Persian Baluchistan, E. Persia and S. Afghanistan. Reported from Transcaspia.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 940.

BREEDING. Season, April to June. Nest, eggs and breeding biology as in 940.

MUSEUM DIAGNOSIS. 'Paler above in both sexes than nominate *vittatus*; averaging larger, in 10 ad. ♂♂ (paratypes), wing 86–92 (88·8), bill 17–20 (18·5), as against 82–88 (85·5) and 15·5–18 (16·5) in 10 ♂♂ from southern Madras' (Vaurie).

Weight 1 ♂ 26 g (Paludan, Afghanistan).

COLOURS OF BARE PARTS. As in 940.

940. *Lanius vittatus vittatus* Valenciennes

Lanius vittatus Valenciennes, 1826, Dict. Sci. Nat., éd. Levrault 40: 227 (Pondicherry)
Baker, FBI No. 710, Vol. 2: 289

Plate 66, fig. 6

LOCAL NAMES. Pāchānāk (Hindi); Pāchnāk lātoro (Gujarati); Boro (Sindi); Chhoto kilatora, Khayerī kārkata (Bengali); Chinna bilinki, Venne dega (Telugu); Kichān kūrūvi (Tamil); Asurakkili (Malayalam).

SIZE. Bulbul; length c. 18 cm (7 in.).

FIELD CHARACTERS. Smaller than Rufousbacked Shrike. *Above*, head white-and-grey with a broad black band across forehead encircling eye and reaching back to end of ear-coverts; back chestnut-maroon; rump whitish. *Below*, white; fulvous on breast, rusty on flanks. Sexes alike, but frontal band somewhat narrower in female.

Small size, chestnut back, white rump, contrasty black-and-white tail, and roundish white 'mirrors' on black wings diagnostic in flight.

Immature birds with rufous tail and minus white wing-mirror, confusingly like Pale Brown or Rufous shrikes (942, 943) but usually show some grey on lower rump.

STATUS, DISTRIBUTION and HABITAT. Resident, with marked seasonal movements, particularly in the northern parts. All India and W. Pakistan from along the outer Himalayan ranges (to c. 2000 m) — including Chitral, Kashmir south of Pir Panjal range, and Nepal terai — south throughout the Peninsula to Kanyakumari, and from Sind eastward to West Bengal; plains and hills. Not Assam, East Pakistan or Ceylon. Affects dry open scrub country and outskirts of cultivation. Preferential habitat intermediate between dry semi-desert of Grey Shrike (933) and wooded, well-watered facies of Rufousbacked (946).

GENERAL HABITS. Typical shrike. Very parochial, inhabiting the same beat day after day and jealously guarding it against interlopers. Usually

seen solitary or in separated pairs keeping a look-out for prey from some exposed perch — bush-top, dead tree or telegraph wire — swinging its tail from side to side, dropping to the ground now and again to seize its quarry and returning to the same or a nearby perch. Quarry held underfoot and torn to pieces with the sharp hooked bill before being devoured. 'Larders' less common than in Grey or Rufous-backed shrikes.

FOOD. Caterpillars, beetles, ants and other Hymenoptera and Neuroptera. Also large insects, e.g. crickets and grasshoppers, as well as lizards, and occasionally young mice and nestling birds.

VOICE AND CALLS. Normally a harsh, rather scolding *chur-r* or *chee-urr*, sometimes sounding very like the squealing of a frog caught by a snake. In breeding season a pleasant, rambling, warbling song (σ^1) interlarded with faithful mimicry of many other birds' calls.

BREEDING. *Season*, overall February to September; chiefly February to April in South India, May to July elsewhere. *Nest*, a neat compact cup of grass, rags, wool, tow and feathers with much cobweb on the exterior as binding material. Placed at moderate heights (c. 2 to 4 m up) in the fork of a thorn tree such as *Acacia*, *Prosopis* or *Zizyphus*. *Eggs*, 3 to 5, very variable in coloration and markings; commonest type pale greenish white, thickly blotched and spotted with purplish brown, especially at the broad end. Average size of 100 eggs $20\cdot8 \times 15\cdot7$ mm (Baker). Both sexes share in building the nest, incubation (?) and feeding the young. Incubation period undetermined. Often two broods raised in a season, usually with a fresh nest for each.

Courtship. Male alights close to female on a branch, the two sometimes almost touching each other. He cranes out his neck stiffly and with tail partially cocked utters harsh excited cries, his face turned away from the female the while but obviously talking 'at' her. She remains seemingly unconcerned, and while being serenaded may even fly down to the ground to pick an insect and back to a different perch. Here she is promptly followed by the male who repeats his amorous antics. He may vary the harsh cries by the pretty warbling mimicking song. His face still remains turned away from her during the performance but his body inclined towards her in a sidling posture. Every little while she utters a harsh *chee-ur* (of approval or encouragement ?) whereupon the male hops stiffly a couple of centimetres closer to her, maintaining the same rigid stance of head and body. Copulation probably follows, but not observed. Sometimes two males may pay court in this manner to the same female, each making a sudden dash at his rival betweenwhiles in an attempt to beat him off.

MUSEUM DIAGNOSIS. See keys to the Species and Subspecies, and Field Characters.

Young (immature). Uppercparts mealy grey, tinged rufous on mantle and upper tail-coverts, and all with dark bars and pale tips; ear-coverts brown; greater coverts and tertials rufous with pale tips and dark contour lines; primary coverts and flight-feathers dark brown with pale tips and narrow rufescent outer edges; a faint indication of white wing-patch of adult (in σ^1 only ?). Tail rufous with subterminal dark brown contour lines and pale tips; outer pair of rectrices rufous-white. *Below*, white with variable amount of dark wavy bars on flanks and breast. Postjuvenile moult includes body, all wing-coverts except primary-, tertials and a variable number of tail-feathers.

First-year. A dull edition of adult except for the unmoulted parts of wing and tail. Frontal black band may be absent; band through eye may be brown; nape to mantle may be washed with ashy grey; sides of breast may be marked with dark crescents. Some may breed during next spring in this dress, others presumably moult to adult (Ticehurst MSS.).

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♀	82-90	15-18 (from skull)	21-24	81-96 mm (usually under 90) (SA, HW)

Weight 17 ♂ ♀ 18-24 (av. 20.8) g — SA, BB.

COLOURS OF BARE PARTS. Iris brown. Bill dark horny brown or black (in immature paler at base of lower mandible); mouth pink (in imm. yellow). Legs, feet and claws plumbeous- or horny black, paler in immature.

LANIUS COLLURIO Linnaeus: REDBACKED SHRIKE

Cf. Stegmann, B., 1930, *Orn. Monatsb.* 38: 106-18

Key to the Subspecies

	Page
A Tail black and white; back chestnut contrasting with ashy head and nape	<i>L. c. collurio</i>
B Tail rufous; head, nape and back concolorous, a light brownish grey	87
1 A conspicuous wing-patch.....	<i>L. c. phoenicuroides</i>
2 Wing-patch concealed.....	<i>L. c. isabellinus</i>
	88
	89

941. *Lanius collurio collurio* Linnaeus

Lanius Collurio Linnaeus, 1758, Syst. Nat., ed. 10, 1: 94 (Sweden)

L.(anius) collurio pallidifrons Johansen, 1952, Jour. f. Orn. 92: 199
(Tomsk, West Siberia)

Baker, FBI No. 717, Vol. 2: 298

Plate 66, fig. 13

LOCAL NAMES. None recorded.

SIZE. Bulbul —; length c. 17 cm (7 in.).

FIELD CHARACTERS. Male (adult), confusingly similar to Baybacked Shrike (940) in size and coloration. Distinguished from it by absence of white wing-speculum and by greater amount of white in tail.

Female (adult), like male but duller; usually without the black band through eye.

Young birds impossible to differentiate in the field from immature *phoenicuroides* (942); for distinguishing in the hand see Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Regular autumn passage migrant in small numbers through W. Pakistan and extreme western Rajasthan and N. Gujarat via Arabia and east Africa to its winter quarters in Africa. Recorded in Gilgit, Sind (Karachi), N. Gujarat (Banaskantha, Kutch, Saurashtra). Return passage in spring evidently largely misses out these parts: only sporadic solos sight-recorded in Kutch (end March) and at Quetta (May). Affects open scrub jungle and outskirts of cultivation.

Extralimital. Most of Europe, east to W. Altai, south to Caucasus, Asia Minor, Iran. Winters in tropical and S. Africa.

GENERAL HABITS, FOOD, VOICE and CALLS. Typical of the family.

BREEDING. Extralimital; largely as in 940.

MUSEUM DIAGNOSIS. See keys to the Species and Subspecies; for details of plumages, and bionomics, Witherby, 1938, I: 292-6; Baker, loc. cit.

Young (immature). *Above*, buff to rufous, barred with black crescents; ear-coverts dark brown; wing-coverts and tertials dark brown with rufous edges and tips and subterminal dark contour lines. Tail as in adult female (i.e. brown, all but the two central pairs of rectrices with narrow white tips and edges and dark subterminal contour lines) but more rufous. *Below*, creamy white with dark crescents on breast and sides.

In the hand young bird can be told apart from immature *phoenicuroides* by being more barred and more rufescent above. Tail darker rufous; outer web of outer rectrices white, not rufous.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♂	88-98	12-14	22-25	70-82 mm
♀ ♀	87-96	—	—	— mm

(Witherby)

COLOURS OF BARE PARTS. Iris dark brown. Bill black (♂), brown (♀ and imm.). Legs, feet and claws blackish (♂), brownish grey (♀ and imm.).

942. *Lanius collurio phoenicuroides* (Schalow)

Otomela phoenicuroides Schalow, 1875, Jour. f. Orn. 23: 148 (Tschimkent)

Baker, FBI No. 722, Vol. 2: 303

Plate 66, fig. 8

LOCAL NAMES. *Lâl lâtora* (Quetta); *Ganj* (Brahui).

SIZE. Bulbul —; length c. 17 cm (7 in.).

FIELD CHARACTERS. Pale sandy brown above, buffy whitish below, with rusty red rump and tail. Closely resembles Pale Brown Shrike (943), but crown rufous-brown contrasting with sandy brown back. Supercilium usually more distinct and white; lores and band through eye black; white speculum usually more prominent. Underparts white with a rosy tinge.

Female. Like male but rather less bright above and with some fine brown squamations on underparts. Eye-streak and speculum less pronounced.

Young birds impossible to differentiate in the field from immature *collurio* (941); for distinguishing in the hand see Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Breeds in West Pakistan in the hills of NE. Baluchistan near Quetta (Murdan, Takatu, Khaliphat, Ziarat) between c. 1800 and 2700 m. Regular autumn passage migrant in NW. Frontier districts, Gilgit, S. Punjab, Makran, Sind, Rajasthan (Mount Abu, Jodhpur); small numbers overwintering (September to March) in N. Gujarat and Kutch where intermediates between this form and *isabellinus* have been collected. Affects sparsely scrubbed semi-desert.

Extralimital. Mountains of Turkestan, Tien Shan, Pamirs, Transcaspia, Dzungaria, N. Afghanistan, Iran. In winter to Arabia and NE. Africa

(Sudan, Ethiopia, etc.). For further particulars of range see Vaurie, 1959, 2: 98.

GENERAL HABITS, FOOD, VOICE AND CALLS. Typical of the shrikes, cf. 933, 940.

BREEDING. Season, in Baluchistan April to June. Nest, a massive cup of fine flexible twigs, grass, fibres, etc. and untidy bits of wool and rags where available, lined with soft grass or hair. Placed in the centre of a low thorny bush or in the fork of a branch with the main stem of a roadside tree, 3 to 5 metres up. Eggs, 5, occasionally 6, as typical of the shrikes (cf. 940), greenish white with the usual variations. A variety with salmon-pink ground reported as common in the Quetta neighbourhood. Average size of 20 eggs $22\cdot8 \times 16\cdot2$ mm (Williams).

MUSEUM DIAGNOSIS. Compared with *cristatus* (943) wing-coverts darker; upper tail-coverts and tail more sooty red; outermost rectrices fall short of tail-tip by 10–16 mm.

Compared with *cristatus* (940) tail more sooty red; crown and back contrasting, not uniform rich russet brown; outermost rectrices longer.

Young (immature). Like female but less contrast between crown and upperparts; a good deal of dark and pale cross-barring on upperparts and lesser coverts; greater coverts, tertials and tail with dark submarginal contour lines and pale tips. Underparts with ochraceous tinge and dark squamate markings except on throat and under tail-coverts. Not so saturated above as in *cristatus* (Ticehurst MSS.).

In the hand young bird can be told apart from immature *collurio* (941) by being less barred, less rufescent above. Tail paler rufous; outer web and tip of outer rectrices rufous, not white.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂♂	91–97	17–20	25–27	78–85 mm
♀♀	90–94	17–20 (from skull)	24–25	78–83 mm (SA)

Weight 7 ♂♂ 24–29; 5 ♀♀ 25–28 g (Paludan, Afghanistan); 4 oo? (Nov./ Dec.) 28–34 g — SA, Kutch.

COLOURS OF BARE PARTS. Iris dark brown. Bill black. Legs, feet and claws black. In immature bill horn brown above, flesh-coloured below.

943. *Lanius collurio isabellinus* Hemprich & Ehrenberg

Lanius isabellinus Hemprich & Ehrenberg, 1833, Symb. Phys. Avium sol. e.
(Kunfuda, Arabia)

Baker, FBI No. 721, Vol. 2: 302

Plate 66, fig. 7

LOCAL NAME. *Mulhalo* (Sindi).

SIZE. Bulbul —; length c. 17 cm (7 in.).

FIELD CHARACTERS. A pale sandy brown shrike with rusty red rump and tail; very similar to the Rufous (942) but uniformly coloured above, without the contrast between crown and back.

Male. Feathers at base of upper mandible, lores and supercilium fulvous white; a spot in front of eye, and ear-coverts black. A hidden white speculum

at base of brown primaries, barely visible in flight. Tail dull rufous, the central rectrices browner. *Below*, pale fulvous, richer on flanks.

Female. Like male but with eye-spot and ear-coverts brown instead of black. Wing-speculum usually absent; underparts sometimes with faint dark squamations on breast.

Young (immature). Field identification unsatisfactory; see Museum Diagnosis.

STATUS, DR

EXTRALIMITAL. From Issyk-kul and Dzungaria west through plains of Turkestan to the Kirghiz Steppes. Winters largely in Arabia and NE. Africa.

GENERAL HABITS, FOOD, VOICE AND CALLS. Typical of the family, cf. 933, 940.

BR

MUSEUM DIAGNOSIS. See keys to the Species and Subspecies, and Field Characters. 2nd primary (as.) equal to, or just longer or shorter than 5th (Ticehurst).

A good distinction between *isabellinus* and *phoenicuroides* on the one hand and *cristatus* on the other is the comparative shortness of the outermost rectrix in the former: from tip of this feather to tail-tip 10–16 mm in *isabellinus* (and *phoenicuroides*), 19–24 mm in *cristatus*.

Adults of this shrike and *cristatus* (949) have complete moults in both spring and autumn which take place in the winter quarters. Summer and Winter plumages alike.

On the moult of this group of shrikes see Stresemann, E. and V., 1972, J.f.Orn. 113 (1): 60–74

Young (immature). Supercilium pale and inconspicuous. Upperparts as in adult but finely and sparingly barred with dark brown; dark submarginal contour lines on greater coverts and tertials, but those on tail hardly visible; pale tips to primary coverts. *Below*, dull white spangled with brown crescentic bars.

MEASUREMENTS

		Wing	Tail
9 ♂♂		89–94 (av. 91·0)	76–84 mm (av. 79·2)
4 ♀♀		86–95	70–81 mm (Paludan)

Weight 1 ♂ 26 g (BB). 3 ♂♂ 28–33; 3 ♀♀ 27–32 g (Paludan, Afghanistan). Bill (from skull) 18–20 mm (SA).

COLOURS OF BARE PARTS. Iris dark brown. Bill dark brown above and at tip, horn-flesh colour on rest. Legs, feet and claws slaty black.

LANIUS TEPHRONOTUS (Vigors): GREYBACKED OR TIBETAN SHRIKE

Cf. Dunajewski, A., 1939, *Jour. f. Orn.* 87: 38; Mayr, E., 1947, JBNHS 47: 125-7;
Biswas, B., 1950, *ibid.* 49: 444-55

Key to the Subspecies

Back dark grey; rufous more extensive, generally up to the hind-most scapulars.....	<i>L. t. lahulensis</i>	91
Back slaty; rufous less extensive.....	<i>L. t. tephronotus</i>	92

944. *Lanius tephronotus lahulensis* Koelz

Lanius tephronotus lahulensis Koelz, 1950, Amer. Mus. Novit., No. 1452: 7

(Kolung, Lahul, Punjab, India)

Baker, FBI No. 716 (part), Vol. 2: 297

LOCAL NAMES. None recorded.

SIZE. Bulbul+; length c. 25 cm (10 in.).

FIELD CHARACTERS. As in 945, q.v. See Key to the Subspecies and Museum Diagnosis. Confusingly like *L. s. caniceps* (947) of southern peninsular India but grey of upperparts darker, and usually only rump and upper tail-coverts cinnamon. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident and altitudinal migrant. Northern Kashmir, Baltistan, east to Ladakh (Kargil and Suru valleys), and Himachal Pradesh (Lahul, Spiti, Kulu, etc.). Breeds between c. 2700 and 3600 m; descends to lower elevations in the NW. Himalayas in winter. Affects open scrub and secondary growth in and around abandoned hill cultivation clearings.

Extralimital. Probably adjacent western Tibet.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 945.

BREEDING. Season, chiefly June and July. Nest, an untidy bulky cup, largely composed of wool intermixed with thorny twigs, grass, rags and feathers bound together with fibres; usually lined with fine grass stems. Placed 1.5 to 3 metres or so up in a fair-sized thorn bush or small tree (*Berberis*, *Hippophae*, etc.). Position usually given away by the birds' harsh scolding chatter in the vicinity. Eggs, 4 to 6, somewhat variable in ground colour, most commonly pale grey-green blotched and spotted with grey-brown or brown, with numerous secondary markings of lavender and grey. Average size of 200 eggs [including those of the Tibetan form (945)] 24.9 × 18.7 mm (Baker).

MUSEUM DIAGNOSIS. Similar to nominate *tephronotus* but paler grey above, and usually with a white area at the base of the primaries (which is lacking or very poorly indicated in nominate *tephronotus*). Bill weaker, more slender and not so high. Averages somewhat smaller: Wing 10 ♂♂ 93-103 (97) mm, as against 98-105 (100.5) mm in 10 ♂♂ of nominate *tephronotus* (Vaurie).

MEASUREMENTS

		Wing	Bill (from skull)	Tail
17	♂♂	92-103 (av. 96.9)	20-23 (21.3)	109-120 mm (115.8)
6	♀ ♀	93-96 (94.9)	21-23 (22)	105-111 mm (108.8) (BB)

COLOURS OF BARE PARTS. As in 945.

945. *Lanius tephronotus tephronotus* (Vigors)

Collurio tephronotus Vigors, 1831, Proc. Zool. Soc. London: 43 (Himalayas, restricted to Gyantse, Tibet, by Baker, 1924, FBI 2: 297; re-restricted to 'Foothills of the Himalayas near Darjeeling, where breeding birds of the Gyantse district may be expected to winter' by Mayr, 1947, loc. cit.: 127)

Lanius nipalensis Hodgson, 1837, Ind. Rev. 1: 445 (Nepal)

Baker, FBI No. 716, Vol. 2: 297

Plate 66, fig. 15

LOCAL NAMES. *Bhadraya* (Nepal hills); *Bagaha tenthā* (Nepal plains); *Sakrik pho* (Lepcha); *Totem* (Bhutanese); *Tré tré* (Tibetan).

SIZE. Bulbul +; length c. 25 cm (10 in.).

FIELD CHARACTERS. Superficially very like Rufous-backed Shrike. *Above*, narrow forehead and a broad band through eyes to ear-coverts black. Crown, nape, hindneck, and back dark leaden grey or slaty. Rump and upper tail-coverts rufous, this colour not extending beyond rump; tail chestnut-brown. Wings black, only sometimes with an insignificant white patch or 'mirror'. *Below*, rufous, paler on abdomen. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Breeds in Garhwal, Kumaon and eastward through Nepal (?), Sikkim, Bhutan and NEFA, between c. 2700 and 4500 m. Winters at lower elevations and in the foothills and adjoining plains in Uttar Pradesh, Nepal Valley, Bihar, Madhya Pradesh (straggler), West Bengal, Assam, Manipur, and probably northern E. Pakistan. Affects open scrub, semi-cultivation, gardens and orchards.

EXTRALIMITAL. Breeds also in eastern Tibet north to Sikang, south to N. Yunnan, east to W. Szechuan. Winters in Burma, S. Yunnan, N. Thailand and the Indochinese countries. For details see Vaurie, 1959, 2: 105.

GENERAL HABITS. A high-elevation shrike, descending to its winter quarters in September/October and leaving again by March/April. Habits and behaviour typical of the family; very similar to those of Rufous-backed and South Indian Grey-backed shrikes (946, 947) qq. v. Seen singly or in widely separated pairs keeping a look-out for creeping prey from bush-tops. Noisy and conspicuous. Has jealously guarded feeding territories where intrusion by others of its kind is actively resented. On disturbance or alarm drops from its perch and flies with rapid wing-beats flat along the ground sweeping upward to settle on another vantage point a hundred metres or so away.

FOOD. Crickets, grasshoppers, caterpillars and other insects; lizards, nestling birds, baby mice, etc. Also maintains 'larders' of surplus food impaled on thorns.

VOICE and CALLS. Harsh grating cries as if seized by hawk; most noisy towards sunset. Also mimics other birds' calls.

BREEDING. Season, nest and eggs (c/3-6) as in 944.

MUSEUM DIAGNOSIS. Like *lahulensis* (944) but somewhat larger, darker, more slaty grey above. Bill stouter. White supercilium and white wing-spot often, but not always, absent. Rufous on lower plumage usually richer and more extensive than in *schach erythronotus*.

'Postnuptial moult completed by December and some, apparently first year birds, perform a complete moult in April' (CBT).

Young (immature). Breast, belly and flanks more or less spangled with narrow dark brown bars; some indication of this also on upper tail-coverts. As in *erythronotus* there is variation in the white wing-spot, white supercilium, tail, and in the amount of postjuvenile moult.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	95–108	20–23	28–30	102–119 mm (SA, BB, HW)

Weight 8 ♂♂ 39–51; 4 ♀ ♀ 43–54 g (GD, SA, BB).

COLOURS OF BARE PARTS. Iris brown. Bill horny brown or black, paler at base of lower mandible. Legs, feet and claws horny black.

LANIUS SCHACH Linnaeus: RUFOUSBACKED SHRIKE

Cf. Biswas, B., 1950, JBNHS 49: 444–55; Vaurie, C., 1955, Amer. Mus. Novit., No. 1752: 13; Rand, A. L. & Fleming, R. L., 1957, Fieldiana, Zoology 41: 189–92

Key to the Subspecies

		Page
A	Head black	<i>L. s. tricolor</i>
B	Head grey	
1	Upper back more or less suffused with rufous.....	<i>L. s. erythronotus</i>
2	Upper back with no tinge of rufous.....	<i>L. s. caniceps</i>

946. *Lanius schach erythronotus* (Vigors)

Collurio erythronotus Vigors, 1831, Proc. Zool. Soc. London: 42 (Himalayas, restricted to Lucknow by Baker, 1924, FBI 2: 295; re-restricted to Simla-Almora dist. by Ticehurst & Whistler, 1924, Ibis: 468–73)

Baker, FBI No. 714, Vol. 2: 295

Plate 66, fig. 17

LOCAL NAMES. *Mattiā lātora*, *Kājāla lātora* (Hindi); *Mājhla lātora* (Saugor, M.P.); *Hara wātaj* (*wātaj* = executioner, Kashmiri); *Yerra lilinchi* (Telugu).

SIZE. Bulbul +; length c. 25 cm (10 in.).

FIELD CHARACTERS. A typical shrike with large head, stout laterally compressed hook-tipped bill, and longish graduated tail.

Adult. *Above*, forehead and a broad band through eye black; crown, nape, sides and hindneck, and upper back clear grey diffusing to rufous or cinnamon on rest of upperparts. Tail black and rufous. *Below*, chin, throat and upper breast white; rest of underparts pale rufous. Wings blackish with a white wing-spot or mirror, conspicuous in flight. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Breeds in W. Pakistan and India, in NE. Baluchistan, Sind, Punjab (NW. frontier districts, Murree hills, Salt Range, etc.), Chitral, Gilgit, Astor, Ladakh, Kashmir, along the outer ranges of the W. Himalayas eastward to Kumaon (Almora dist.) up to c. 3000 m. Arrives early April, leaves c. September. Also breeds in U.P. southward to E. Maharashtra (Nagpur); in the west, in Rajasthan and southward through Gujarat and W. Maharashtra to N. Mysore (Belgaum).

Intergrades with *caniceps* (947) and *tricolor* (948) on the southern and eastern edges of its breeding range.

In much of the above areas commoner in winter, in addition to spreading out then to W. Bengal, Andhra Pradesh (Hyderabad), E. Madhya Pradesh (Bastar dist.), and coastal Makran in Baluchistan. However, the wide overlap of the similar-looking races in winter has resulted in some confusion and ambiguity in the records for the Peninsula.

Affects openly wooded, well-watered country — cultivation, gardens, orchards, roadside hedges, etc. Partial to groves of young date and palmyra palms.

Extralimital. Southern Russian Turkestan, eastward to Ferghana; southward to Transcaspia, NE. Iran, Afghanistan. For particulars see Vaurie, 1959, 2: 105-6.

GENERAL HABITS. As of the family. Pugnacious, bold and rapacious; keeps singly or in widely separated pairs, each to its own particular beat or feeding territory, haunting the same day after day all through the season and guarding it fiercely against intrusion by others of its kind. Perches upright on an exposed bush-top, stake, or telegraph wire keeping a sharp look-out for crawling prey. Glides down at an angle, swiftly and silently, to seize the quarry in bill and bear it away. Often pirates food from other birds, even bigger than itself, by bouncing into them bodily while on the ground, knocking them down and making off with the prize before they have recovered from their outraged surprise! Kills young sparrows, mice and other small animals by pouncing and smothering them on the ground and striking viciously and repeatedly on the head with the powerful bill. Often only the brain eaten, the rest impaled on a thorn along with other surplus food as a larder. Will sometimes hawk insects (moths, winged termites, etc.) in the air, launching short sorties from a perch, turning and twisting on the wing in pursuit and returning to base with the quarry.

FOOD. Any small living creature that can be overpowered: crickets, locusts and hoppers, grasshoppers, caterpillars, ants and other Hymenoptera, beetles and other insects; lizards, frogs, fledgling, sickly or disabled birds, young field mice, etc. Also earthworms, and once a two-inch *chilwa* fish (*Chela argentea*). Once reported eating ripe fruit of neem (*Melia* sp.) — Neelakantan, JBNHS 50: 666-7.

VOICE AND CALLS. Vociferous and noisy, particularly in breeding season. Normal notes harsh, grating, complaining cries as if in distress, reminiscent of squealing of frog caught by snake. Note *gərlək gərlək* or *julək julək* followed by a yapping *yaon yaon*. When angry, harsh scolding cries 'closely resembling those of a Corncrake (*Crex crex*) heard in the distance' (Magrath). In breeding season has a beautiful subdued musical song, uttered in the nature of a soliloquy, sustained unbrokenly sometimes for fifteen minutes or more at a stretch. Is an accomplished and versatile mimic of other birds' calls which are freely interlarded in its own song. Among species imitated to perfection the following recorded: pariah kite, common and pied mynas, house and yellowthroated sparrows, swallow, swift, parakeet, redvented bulbul, common, jungle, and yellow-eyed babblers, grey and black partridge, yellow- and redwattled lapwings, common sandpiper, large and small green bee-eaters, baya (chorus), Indian nightjar, rain quail, large

cuckoo shrike, purple sunbird (song), koel, pied crested-, hawk-, common and Indian cuckoos, magpie-robin. Other sounds such as call of striped squirrel and yelping of new-born puppies also realistically woven into the song and following one another in smooth succession. Is very quick to learn, and often reproduces the calls long after the originals have left the locality, signifying a remarkably retentive memory.

BREEDING. Season, overall March to July; chiefly April–May in the plains, May to July in Kashmir and elsewhere in the Himalayas. Nest, a bulky, deepish, loosely built cup of thorny twigs, rubbish, dirty rags, wool, hair, bits of papery bark, roots, etc. lined with fine grass stems. It measures c. 18–19 cm across on the outside; diameter of cup c. 7–8 cm, depth c. 5–6 cm. Placed 3 or 4 metres up amongst a cluster of twigs in a willow or thorny tree; occasionally at the base of leaf-stalks in a small date or palmyra palm. Eggs, 3 to 6, usually 4 or 5, somewhat variable in shape, colour and size: mostly greyish or greenish white in ground colour, fairly heavily marked with sepia or dark grey or yellowish brown in a zone at the big end. Average size of 95 eggs 23×17.9 mm (Osmaston). Both sexes take part in building the nest, incubation and tending the young. Incubation period undetermined. Often has two successive broods (sometimes three) using the same nest for both. Commonly brood-parasitized by the cuckoos *Cuculus canorus*, *C. varius* and *Clamator jacobinus*.

MUSEUM DIAGNOSIS. See Key to the Subspecies. White wing-speculum large. Rufous of rump extends to mantle; in *caniceps* more or less confined to rump. But there is some variation in the amount of rufous colour in the upperparts, and individual winter specimens are often impossible to place with certainty.

Young (immature). General colour scheme as in adult but feathers of upperparts with narrow dark brown bars, and with ochraceous or fulvous tips on head and neck; band through eye blackish brown (*v.* black); primary coverts dark brown, rest of coverts dark brown with rufescent tips and edges; flight-feathers dark brown with pale tips; tail brown tinged with rufous, and with paler tips. *Below*, chin and throat white; rest of underparts cream coloured with dark cross-bars on breast and flanks.

First-year birds recognized by browner wings without the white mirror, browner unmoulted parts of tail, and sometimes a brownish cast to the grey of the upperparts.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	88–98	19–23	27–30	107–127 mm
♀ ♀	87–95	19–23	25–29	107–119 mm (BB, SA)

Weight 6 ♂♂ 37–41; 5 ♀ ♀ 33–41 g (Paludan — Afghanistan).

COLOURS OF BARE PARTS. Iris brown. Bill black, flesh coloured at base of lower mandible. Legs, feet and claws brownish black.

947. *Lanius schach caniceps* Blyth

Lanius caniceps Blyth, 1846, Jour. Asiatic Soc. Bengal 15: 302 (India, restricted to Madras by Whistler & Kinnear, 1930, Jour. Bombay Nat. Hist. Soc. 34: 396)

Lanius schach kathiawarensis Koelz, Amer. Mus. Novit., 1452: 7 (Jamwala, Junagadh, Kathiawar Peninsula, India)

Lanius lepidotus Deraniyagala, 1959, Admin. Rep. of the Dir. of Nat. Mus. for 1958, p. E 33 (Ilupaikadavi, Northern Province, Ceylon)

Baker, FBI No. 715, Vol. 4: 296

LOCAL NAMES. Same as for 946; *Kättu kürüvi*, *Pey kürüvi* (Tamil).

SIZE. Bulbul +; length c. 25 cm (10 in.).

FIELD CHARACTERS. As of 946, q.v. See Museum Diagnosis.

Immature birds easily confused in the field with various subadult stages of *Lanius collaris phoenicurooides* (942) and *L. c. isabellinus* (943), but *schach* has the upperparts greyer *v.* browner in the others.

STATUS, DISTRIBUTION AND HABITAT. Resident, subject to local seasonal movements, thus only a winter visitor in parts of its range. NW. Ceylon (dry coastal belt in Jaffna Peninsula and offshore islands). Peninsular India from the extreme south to Kutch and Saurashtra in Gujarat, thence eastward through Madhya Pradesh and Andhra; plains level to c. 1200 m. Intergrades with *erythronotus* at the northern edge of its breeding range. Affects deciduous openly wooded country—cultivation, orchards, date groves, etc.

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 946. In Ceylon, frogs reported to be a favourite prey. Also takes mantises (Mantidae) and dragonflies (Libellulidae).

BREEDING. Season, in India chiefly March to May–June (up to July–August in Kutch); in Ceylon December to June, chiefly April–May. Nest, and eggs (c/3 to 6; in Ceylon, 2 to 4) and breeding biology as in 946. Average size of 100 eggs 22·6 × 18·0 mm (Baker).

MUSEUM DIAGNOSIS. Differs from *erythronotus* (946) in having the grey of head and mantle paler and extending down to rump, which alone (with the upper tail-coverts) is cinnamon-rufous. But there is a continuous cline in this character and individual examples are difficult to assign with certainty, especially in winter when there is an intermingling of the subspecies.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂	90–98	19–22	26–29	113–127 mm
♀ ♀	87–95	19–22	26–29	100–118 mm
(from skull)		(SA, BB, HW)		

Weight 7 ♂ ♀ 33–38 g (SA).

COLOURS OF BARE PARTS. As in 946.

948. *Lanius schach tricolor* (Hodgson)

(*Collurio*) *Tricolor* Hodgson, 1837, Ind. Rev. 1 (10): 446 (Nepal, restricted to Kathmandu, Nepal Valley, by Biswas, 1950, loc. cit., below: 451)

Baker, FBI No. 712, Vol. 2: 292 (= *n. nigriceps*)

Plate 66, fig. 18

LOCAL NAME. *Sakrik pho* (Lepcha).

SIZE. Bulbul +; length c. 25 cm (10 in.).

FIELD CHARACTERS. A typical shrike with black head and a small white patch or 'mirror' on the blackish wings, particularly conspicuous in flight.

Above, crown, sides of head, nape and hindneck black. Upper back ashy grey changing to light chestnut on rest of upper plumage. Tail black, tipped and margined with rufous. *Below*, cheeks, chin and throat white shading to pale rufous on breast and to bright rufous on rest of lower plumage excepting abdomen which is whitish. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Breeds in the Himalayas between c. 3000 and 4300 m, in Garhwal, Kumaon, Nepal and eastward through Sikkim, Bhutan and NEFA. Winters at lower elevations in the above areas (below c. 2200 m) and in the plains of Uttar Pradesh (westernmost record Jagadhri, Ambala dist.—Jones, JBNHS 26: 675), Bihar, Orissa, W. Bengal, Assam, Nagaland, Manipur, and E. Pakistan. Affects open wooded country: light forest, scrub jungle, gardens and orchards, etc. Very partial to tall grassland with scattered bushes.

A large hybrid zone between this and the two preceding forms (946 and 947) occurs in the hills of eastern Uttar Pradesh and western Nepal. [Recorded breeding in W. Bengal (24-Parganas dist.)—S. C. Law, JBNHS 36: 261–2.] Wintering specimens showing intermediate characters have been taken in U.P., Nepal, Bihar, Madhya Pradesh, south to Orissa and northern Andhra in the Eastern Ghats.

Extralimital. Burma, Yunnan, Thailand, Vietnam.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 946, q.v. Keeps singly perched on bush-tops, telegraph wires, etc. whence it makes sallies to the ground for creeping prey. Has the usual harsh chattering and scolding notes of shrikes, but is also a very good songster and accomplished mimic. During the breeding season the male delivers a song of considerable sweetness, range and duration, interlarded with numerous other birds' calls and snatches of song.

BREEDING. *Season*, April to July, chiefly May and June. *Nest*, as in 946 — a massive, compact cup of grass-stems, thorny twigs, etc., lined with softer grass, roots and fibres; built in shrubs, bamboo clumps or small trees mostly up to c. 6 m from the ground. *Eggs*, 4–6, variable, pink to buff or pale green, blotched and spotted with greyish-, reddish-, or purplish brown, more densely at the broad end. Average size of 200 eggs 23.6×17.9 mm (Baker). Both sexes share in building the nest, incubation, and feeding the young. Incubation period, *fide* Baker, 14–15 days.

MUSEUM DIAGNOSIS. See Field Characters and Key to the Subspecies; for a full discussion on *Lanius schach* and its subspecies in SE. Asia — B. Biswas, 1950, JBNHS 49: 444–55.

Young (immature). *Above*, upperparts and sides of head pale ochraceous brown with small black bars on head and larger V-shaped bars on mantle — all with ochraceous tips; lower back and rump pale dull ochraceous with no bars; upper tail-coverts rufous; lores and ear-coverts blackish. *Below*, creamy white with no bars; under tail-coverts tinged fulvous. Wing-coverts dark brown with rusty spots and tips. Tail brown, not black; outer two pairs of rectrices dull fulvous (not black) with rufous-white outer webs sharply defined. Postjuvenile moult of body and apparently all coverts except primary. First-year birds distinguished by juvenal tail (Ticehurst, MSS.).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	93-101	20-23	29-34	115-135 mm
♀ ♀	92-96	20-23	27-29	106-126 mm (SA, BB)

Weight 8 ♂♂ 39-50; 2 ♀ ♀ 43, 43 g (SA, GD, Paynter).

COLOURS OF BARE PARTS. Iris dark brown. Bill black, horny or flesh coloured at base in winter. Legs and feet slaty- or brownish black.

LANIUS CRISTATUS Linnaeus: BROWN SHRIKE

Key to the Subspecies

Crown practically the same colour as back	<i>L.c. cristatus</i>	98
Crown and rump redder	<i>L.c. superciliosus</i>	271
Crown grey	<i>L.c. lucionensis</i>	100

949. *Lanius cristatus cristatus* Linnaeus

Lanius cristatus Linnaeus, 1758, Syst. Nat., ed. 10, 1: 93 (Benghala)

Baker, FBI No. 719, Vol. 2: 300

Plate 66, fig. 9

LOCAL NAMES. *Kārkātā* (all shrikes — Bengali); *Kerkheta* (Hindi); *Batte gādu, Batte kīrītī gādu* (Telugu).

SIZE. Bulbul ±; length c. 19 cm (7½ in.).

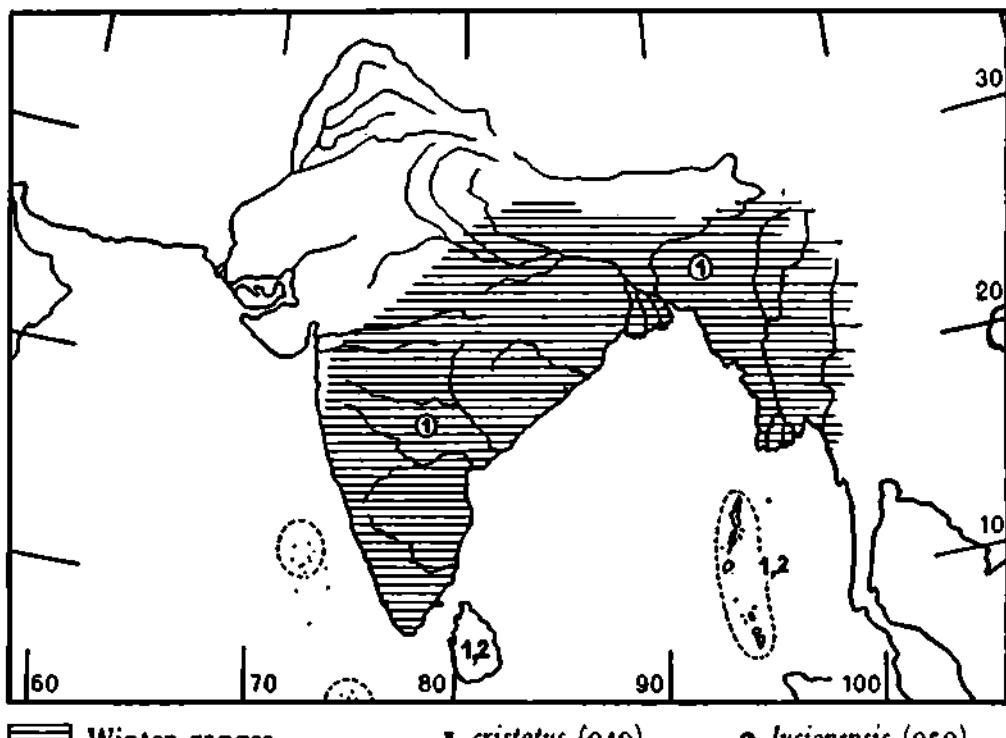
FIELD CHARACTERS. Adult. Entire upperparts including crown, rump and upper tail-coverts reddish brown; forehead and supercilium white; a black line through eyes to ear-coverts. Tail rufous-brown. Wings brownish black, edged rufous; no white 'mirror' or speculum. Below, chin, cheeks and throat white; rest pale fulvous, tinged with variable amount of rufescent on breast and belly. Sexes alike.

Some adults have the breast and sides spangled with dark crescentic bars.

Easily confused in the field with the very similar *L. c. phoenicurooides* (942) and *L. c. isabellinus* (943) along its western limits, but is darker and with the tail less red. See Key to the Species and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Winter visitor. All India including NEFA, Assam, Nagaland and Manipur together with Nepal, Sikkim, Bhutan and E. Pakistan, roughly south and east of a line from Ahmednagar through the Surat Dangs (Gujarat), Mhow (Madhya Pradesh), Lucknow, Meerut, Dehra Dun (U.P.). Also winters in Ceylon (common), and the Laccadive, Maldives, Andaman and Nicobar islands. From plains level to c. 2100 m in the Himalayas and in the peninsular and Assam hills. Affects forest edges and clearings, secondary scrub jungle and grass-covered hillsides with scattered bushes and small trees etc. in dry-deciduous and semi-evergreen biotope. Arrives chiefly August-September: mostly gone by mid April, some individuals staying on till early June.

Extralimital. Breeds in Siberia from Tomsk to the Kolyma R. and Kamchatka south to N. Mongolia and N. Amurland. (For details see Vaurie,

Lanius cristatus

■ Winter ranges 1. *cristatus* (949). 2. *lucionensis* (950).

1959, 2: 100.) Winters also in Burma, Thailand, Malay Peninsula, Indo-chinese countries, etc. Some non-breeding birds apparently oversummer in the Andamans.

GENERAL HABITS. Typical of the shrikes, cf. 933, 946. Perhaps more crepuscular than others: commonly seen on the move and hunting till well after dusk, when also it is particularly noisy.

FOOD. Locusts, grasshoppers, crickets and other insects; sickly or fledgling birds, baby mice, lizards, etc. A white-eye (*Zosterops*) has been found impaled in its larder.

VOICE and CALLS. A harsh loud swearing or scolding *chr-r-r-r* commonly uttered: distinguishable from that of Rufous-backed Shrike. Only sub-song occasionally heard in its winter quarters — a sweet but faint, almost inaudible warbling, like a very subdued and mellow version of the Rosy Pastor's chattering song, with mimicry of other bird-calls interlarded. Singing often detected only by the pulsations of the bird's throat and the accompanying up-and-down vibrations of the tail (SA).

BREEDING. Extralimital. Alleged nesting within Indian limits — N. Cachar and Khasi hills (Baker) — lacks substantiation.

MUSEUM DIAGNOSIS. Differs from *L. c. phoenicuroides* (942) in having the tail browner, and rump and upper tail-coverts concolorous with back v. contrasting rusty red. Most reliably diagnosed from it by comparative lengths of outermost rectrices: distance from tip of this feather to tip of central rectrices 19–24 mm, against 10–16 mm in *phoenicuroides* (and *isabellinus*).

Adults have two complete moults — in spring and autumn — in the winter quarters (cf. *isabellinus*, 943).

Young (immature). Juvenile like that of *Lanius c. phoenicuroides* (942), q.v., but darker, more saturated rufous above. Outer tail-feathers shorter but with the same

dark subterminal contour lines by which first-year birds can always be recognized; these contour lines also present on the greater coverts and tertials.

First-year birds ($\sigma^1 \varphi$) richer, darker and more rufous-brown above than first-year *phoenicuroides*, with the same dark contour lines to tertials and crescentic barring below (Ticehurst, MSS.).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
$\sigma^1 \sigma^1$	85-89	18-20	24-26	78-86 mm
$\varphi \varphi$	80-89	18-20	24-26	78-89 mm (SA, HW)

Weight 3 $\sigma^1 \sigma^1$ 30-39; 2 $\varphi \varphi$ 33, 34 g (GD, Paynter). 14 $\sigma^1 \varphi$ (winter) 21-35 (av. 28.0) g — SA.

COLOURS OF BARE PARTS. Iris brown. Bill horny brown, paler at gape and base of lower mandible; mouth pale pinkish flesh. Legs and feet plumbeous or bluish grey; claws horny brown.

950. *Lanius cristatus lucionensis* Linnaeus

Lanius lucionensis Linnaeus, 1766, Syst. Nat., ed. 12, 1: 135 (Luzon)
Baker, FBI No. 720, Vol. 2: 302

LOCAL NAMES. Same as for 949.

SIZE. Bulbul ±; length c. 19 cm (7½ in.).

FIELD CHARACTERS. As of *cristatus* (949), q.v., but with forehead and supercilium greyish white; crown greyish brown contrasting with rest of upperparts; rump and upper tail-coverts tinged with rufous. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Winter visitor (September to April) chiefly to the Andaman and Nicobar islands (common), and Ceylon (occasional or regular?); believed to reach there via the Andamans. One old record for Kerala (Hume, 1876, SF 4: 393). Affects secondary jungle, gardens around habitations, and forest clearings for settlements, hill and plain.

EXTRALIMITAL. Breeds in Szechuan, E. China, Korea. Winters also in Burma, Thailand, Malaya, Indonesian islands, Philippines, Taiwan, etc.

GENERAL HABITS and FOOD. As in 949.

VOICE and CALLS. Harsh chattering as in 949. Song reminiscent of a Sedge Warbler's; also that of Thickbilled Warbler (*Phragmaticola aedon*, 1549) — P. F. Wickham, Burma.

BREEDING. Extralimital. Non-breeding examples taken in the Andamans in June and July suggest possibility of some oversummering there.

MUSEUM DIAGNOSIS. See Field Characters and Key to the Subspecies. Edges of tertaries and of secondaries paler rufous than in *cristatus*.

First-year birds have the entire upperparts more greyish brown than in *cristatus*.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
$\sigma^1 \varphi$	87-92	c. 15	c. 24-25	77-89 mm (Baker)

Wing $\sigma^1 \varphi$ 90-94 mm (Hartert).

COLOURS OF BARE PARTS. As in 949.

950a. *Lanius cristatus superciliosus* Latham (See Appendix, page 271)

951 Woodchat Shrike. *Lanius senator niloticus* (Bonaparte)*Enneoctonus niloticus* Bonaparte, 1853, Rev. Mag. Zool. 5: 439 (White Nile)

Baker, FBI No. 718, Vol. 2: 299

Plate 66, fig. 14

LOCAL NAMES. None recorded.

SIZE. Bulbul —; length c. 17 cm (6½ in.).

FIELD CHARACTERS. Adult. *Above*, broad forehead and band through eye black; crown, nape and hindneck rich chestnut: upper back black shading to grey on rump and to white on upper tail-coverts: wings and mantle blackish with prominent white shoulder-patches and a short white wing-bar; tail black with outer rectrices largely white. *Below*, white washed with fulvous. Sexes alike.

Young (immature). *Above*, pale grey, barred throughout with blackish, and with traces of the wing-patch. *Below*, white, faintly barred on breast and flanks with wavy brown lines. Differs from similar-looking young Red-backed Shrike (*L. c. collaris*, 941) in being less rufous with much paler scapulars and rump, and traces of short whitish wing-bar.

STATUS, DISTRIBUTION and HABITAT. No specimens from within our limits, but may occur sporadically in W. Pakistan. Murray's record from Daolatpur in Upper Sind shown to be erroneous (Ticehurst, 1922, *Ibis*: 610). Baker's identification of an unpreserved specimen from Quetta (Baluchistan) cannot be substantiated.

Extralimital. Palestine north to Syria, east to Iraq, Iran and Persian Baluchistan. For details see Vaurie, 1959, 2: 103.

Family ORIOLIDAE: Orioles

For morphological characters and description see Van Tyne, J. & Berger, A. J., 1959: 506; Baker, E. C. Stuart, 1926, FBI 3: 4; Moreau, R. E., 1964, Article 'Oriole' in Thomson, A. L. (ed.) *New Dict. Birds*. London & New York.

Genus ORIOLUS Linnaeus

Oriolus Linnaeus, 1766, Syst. Nat., ed. 12, 1: 160. Type, by tautonymy, *Coracias Oriolus* Linnaeus

Head uncrested. Bill about same length as head; culmen generally curved, tip notched and bent; nostrils elongate and exposed; rictal bristles fairly strong. Wing long and pointed: first primary (as.) longer than half the second. Tail much shorter than wing, slightly graduated. Tarsus short and scutellated.

Key to the Species

Page

A General colour black and yellow		
a Nape black; crown yellow or greenish yellow.....	<i>O. chinensis</i>	104
b Nape and crown yellow or greenish yellow.....	<i>O. oriolus</i>	101
c Nape and crown black.....	<i>O. xanthornus</i>	108
B General colour black and maroon.....	<i>O. traillii</i>	112

ORIOLUS ORIOLUS Linnaeus: GOLDEN ORIOLE

Key to the Subspecies

Black of lores not extending behind eye..... *O. o. oriolus* 102

Black of lores extending to behind the eye..... *O. o. kundoo* 103

Cf. Vaurie, C., 1958, Amer. Mus. Novit., No. 1869: 1-4 for a review of the species.

952. *Oriolus oriolus oriolus* (Linnaeus)

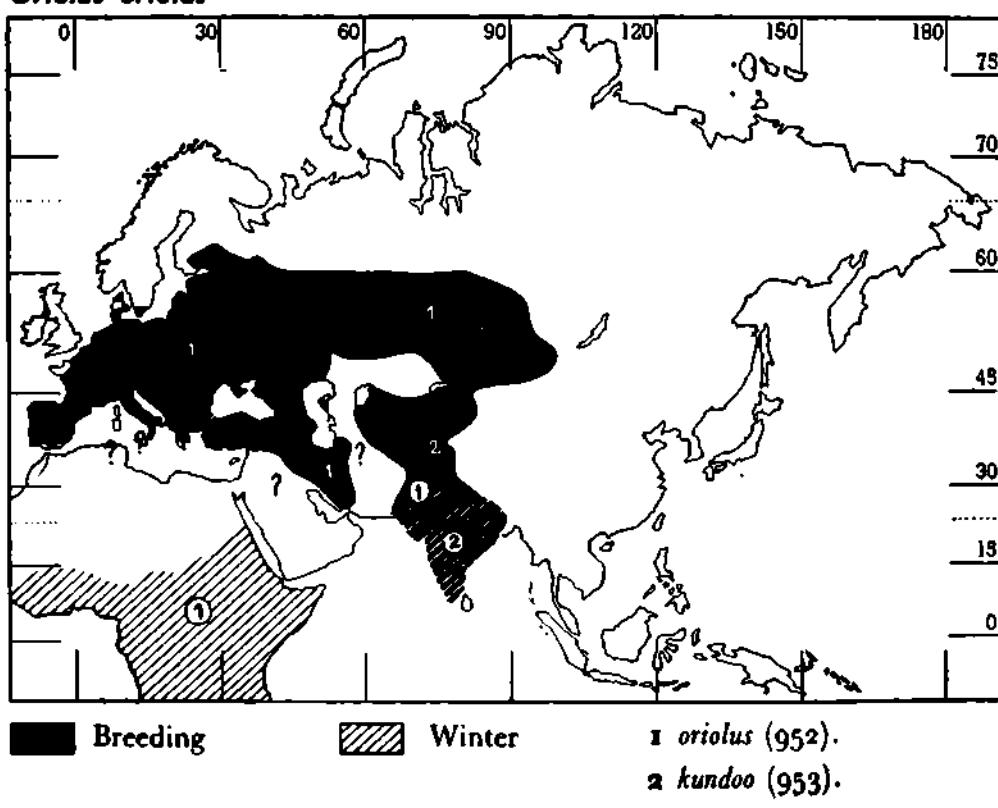
Coracias Oriolus Linnaeus, 1758, Syst. Nat., ed. 10, I : 107 (Sweden)
 Baker, FBI No. 952, Vol. 3 : 5

LOCAL NAMES. As for 953.

SIZE. Myna; length c. 25 cm (10 in.).

FIELD CHARACTERS. As of 953, q.v. See Key to the Subspecies.

STATUS, DISTRIBUTION and HABITAT. A vagrant on passage in West Pakistan on the Makran coast and Karachi. One record for Ceylon (Ripley, 1944, *Ibis*: 409).

Oriolus oriolus

This is one of the European species which, like *Lanius collurio*, *Oenanthe oenanthe*, *Sylvia communis* and some others, just fringe our western limits on migration passage between palaearctic Asia and Africa.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 953.

BREEDING. Extralimital. As in 953.

Extralimital. Mainly palaearctic Europe and Asia. For details see Vaurie, 1959, 2: 116-17.

MUSEUM DIAGNOSIS. 'Adult ♂ like *kundoo* (953) but no black behind eye; yellow on primary-coverts and tips of secondaries less wide; some outer scapulars marked with black on outer webs; yellow tips of tail not so wide, about one-third instead of over one-half. Bill broader and shorter. Wing longer.'

'Adult ♀ less yellow above and below than female *kundoo*; basal part of tail blacker and yellow tips much narrower: 25-35 mm on outer feather against 40 mm or more in *kundoo*' (Ticehurst, MS.).

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂	150-161	22-26	21-24	77-85 mm
♀ ♀	146-157	—	—	— mm (from feathers) (Witherby)

COLOURS OF BARE PARTS. As in 953.

953. *Oriolus oriolus kundoo* Sykes*Oriolus Kundoo* Sykes, 1832, Proc. Zool. Soc. London: 87 (Dukhun)*Oriolus oriolus baltistanicus* Koelz, 1939, Proc. Biol. Soc. Washington 52: 72
(Dagoni, Baltistan)

Baker, FBI No. 953, Vol. 3: 6

Vol. 4, Plate 63

LOCAL NAMES. *Peelāk* (Hindi, Gujarati, Marathi); *Poshnul, Poshinul* (Kashmiri); *Sonā bāū* (Bengali); *Vāngā pāndu* (Telugu); *Mānjākkili* (Malayalam).

SIZE. Myna; length c. 25 cm (10 in.).

FIELD CHARACTERS. Male, overall bright golden yellow, with black in wings and tail and a conspicuous black streak from lores through and behind eye.

Female and young male, duller and greener yellow with underparts paler (whitish) and streaked with dull brown. Some adult females indistinguishable from male.

STATUS, DISTRIBUTION AND HABITAT. Summer (breeding) visitor, c. April/May to August/September, in N. Baluchistan (Quetta, Fort Sandeman), Gilgit, Chitral, Ladakh (rare), Baltistan, Kashmir (very common in the Vale), and the Himalayas east to Nepal, (Sikkim?) — foothills and normally up to c. 1800 m (recorded up to 3500 m), migrating south into the Peninsula in winter. Small numbers also resident and patchily breeding in Rajasthan, the Punjab and Gangetic plains east to Bihar (Darbhanga), W. Bengal (Calcutta) and occasionally E. Pakistan; stragglers recorded in Cachar (Assam). South through Kutch and Gujarat at least to c. Bombay. In winter found throughout the rest of the Peninsula as well, south through Mysore and Kerala, low country and hills to c. 1800 m. Sparse winter visitor (occasional or possibly regular) to northern Ceylon especially the Jaffna Peninsula.

Status difficult to define accurately: varies with locality and season between resident, seasonal visitor, local and/or extralimital passage migrant.

Affects well-wooded country, secondary deciduous and semi-evergreen forest, urban gardens with large trees, groves and orchards in cultivation and around villages, etc.

Extralimital. Afghanistan, Pamirs, Tien Shan, Turkestan.

GENERAL HABITS. Keeps singly or in pairs, by itself or in loose association with itinerant feeding parties of birds like jungle babblers, flycatchers and drongos. Chiefly arboreal and frugivorous but also takes insects, occasionally even descending to the ground to pick up one. Very silent in winter; increasingly heard with the approach of hot weather and its breeding season. Commonly bathes by taking repeated flying dips at the surface of a pond, then shuffling its plumage and preening on a nearby perch. Flight strong and dipping; has been clocked at c. 40 km per hour (Acharya, JBNHS 38: 403).

MIGRATION. No. B-2575 ringed Bhavnagar, Gujarat (21°46'N. 72°11'E.) 29.ix.1961, recovered near Ordjonikidzeabad, Tadzhikistan (38°29'N. 68°58'E.) 10.vi.1971—after 9 years, 8 months, 16 days (ssp. unconfirmed).

FOOD. Wild figs (*Ficus* spp.); lantana and other berries; flower-nectar (*Salmalia malabarica*, *Erythrina indica* and spp.); insects and caterpillars. Among stomach contents in an intensively cultivated area in Bihar the following have been identified: weevils (*Mylocerus maculosus* and other species), hemipterous bugs (*Dysdercus cingulatus*, *Lygaeus hospes*), ants (*Crematogaster compressus*), and various spiders (Mason & Lefroy, 1912).

VOICE and CALLS. Most commonly a harsh *chee-ah*; also rich, flutey melodious notes *pee-lo* or *pee-lo-lo*. A sweet prolonged musical undertone song, rather like the soliloquy of Rufous-backed Shrike (*Lanius s. erythronotus*, 946) but richer, delivered in the proximity of the nest (SA).

BREEDING. Season, overall April to August varying with locality: most general May and June. Nest, a compactly woven deep cup of grass and bast fibres c. 9 cm across (inside) and 6 cm deep; firmly bound into a fork of twigs near the tip of an overhanging branch, suspended like a hammock or cradle. Exterior of nest often draped with cobwebs, bits of papery bark, rags and other rubbish. Built in trees between 6 and 20 metres from the ground, usually under 12 m. Trees commonly selected: mango, sheesham, jak and toon in the Peninsula; chenar, willow, poplar and *Catalpa* sp. in Kashmir. Eggs 2-4, normally 3, china-white blotched and stippled with dark reddish brown or black. Average size of 17 Kashmir eggs 29.3 × 20.3 mm (BBO). Both sexes take part in building the nest, incubation, and feeding the young. Incubation period undetermined.

Nest often built in same tree, even in same branch, as holds a drongo's nest for the protection from marauders afforded by these intrepid 'guardians'. But orioles themselves become quite bold and bellicose when nesting, and will fearlessly attack and put to rout big birds like crows, and even a shikra, trespassing within the nest precincts. Frequently brood-parasitized by various cuckoo species.

MUSEUM DIAGNOSIS. For description of plumage at different ages, and moults, see Whistler, H., in Ali, Sálim, 1936, JBNHS 38: 497-8.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂♂	135-147	29-33	22-24	86-94 mm
♀ ♀	133-143	29-33 (from skull)	23-24	81-92 mm (SA, HW)

Weight 2 ♂♂ 65, 70; 2 ♀ ♀ 60, 63 g (Paludan). 8 ♂♀ 62-71 (av. 66.2) g — SA.

COLOURS OF BARE PARTS. Iris crimson (ad.), brown to brownish red (imm.). Bill flesh pink (ad.), horny brown (imm.); mouth pink. Legs and feet slate blue; claws dusky.

ORIOLUS CHINENSIS Linnaeus: BLACKNAPED ORIOLE

Key to the Subspecies

		Page
A	Outer web of secondaries broadly yellow	
a	Nape-band more than 12 mm wide; bill stout.....	<i>O. c. diffusus</i>
b	Nape-band narrow, never more than 12 mm wide; bill slender..	<i>O. c. tenuirostris</i>
B	Outer web of secondaries showing very little yellow	
c	Wing under 140 mm.....	<i>O. c. andamanensis</i>
d	Wing over 150 mm	<i>O. c. macrourus</i>

954. *Oriolus chinensis diffusus* Sharpe

Oriolus diffusus Sharpe, 1877, Cat. Bds. Brit. Mus. 3: 197.

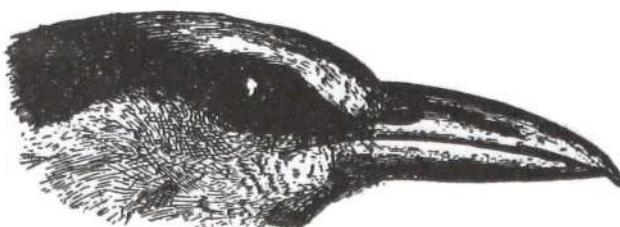
New name for *Oriolus indicus* Jerdon, 1845 (Malabar), preoccupied
Baker, FBI No. 954, Vol. 3: 7

Vol. 4, Plate 63

LOCAL NAMES. As for other yellow orioles, cf. 953. *Sakhiati* (Assam).

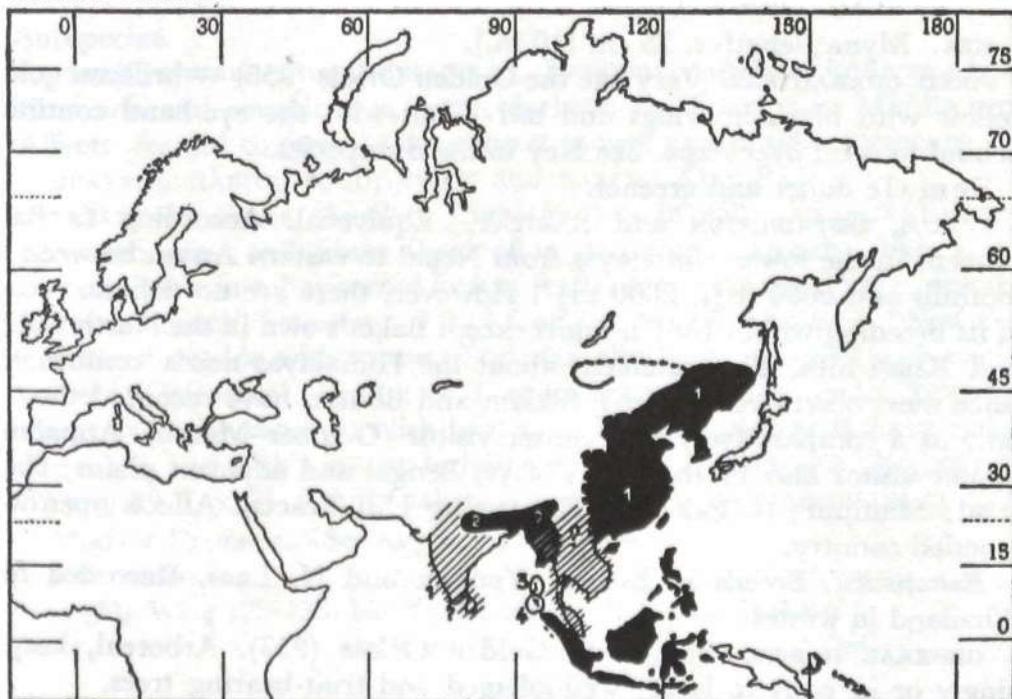
SIZE. Myna; length c. 25 cm (10 in.).

FIELD CHARACTERS. As of 955, q.v. See Key to the Subspecies.



× c. 1

STATUS, DISTRIBUTION and HABITAT. Occasional winter visitor: recorded in Mysore, Kerala, Tamil Nadu, Andhra Pradesh, Assam and E. Pakistan. Ceylon (once). Solos twice sight-recorded in the same residential garden in Bombay City, both in February — 1944 and 1946 (Rev. R. Dyke Acland,

Oriolus chinensis

Breeding

Winter

Unnumbered, other races

1 *diffusus* (954).

2 *tenuirostris* (955).

3 *andamanensis* (956).

4 *macrourus* (957).

pers. comm. — subspecies?). Affects mixed deciduous and evergreen secondary jungle, rubber plantations, etc. and well-wooded gardens in urban areas.

Extralimital. Breeds in eastern Siberia (Khabarovsk Province), Ussuriland, Manchuria, NE. China, Korea, Yunnan, N. Vietnam. (For details see Vaurie, 1959, 2: 118.) Winters mostly in the Indochinese countries, Malay Peninsula, Thailand, Burma.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 955.

BREEDING. Extralimital. As in 955.

MUSEUM DIAGNOSIS. See Key to the Subspecies.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	147-155	28-31	c. 24	89-95 mm (Baker)

COLOURS OF BARE PARTS. As in 955.

955. *Oriolus chinensis tenuirostris* Blyth

O.(riolus) tenuirostris Blyth, 1846, Jour. Asiat. Soc. Bengal 15: 48

(Central India; restricted to Assam by Deignan, 1945, Bull. U.S. Nat. Mus., No. 186: 296)

Baker, FBI No. 955, Vol. 3: 9

Vol. 4, plate 63

LOCAL NAMES. As in 953.

SIZE. Myna; length c. 25 cm (10 in.).

FIELD CHARACTERS. Very like the Golden Oriole (953) — brilliant golden yellow with black in wings and tail — but with the eye-band continued behind to meet over nape. See Key to the Subspecies.

Female duller and greener.

STATUS, DISTRIBUTION and HABITAT. Equivocal. According to Baker 'breeds in the lower Himalayas from Nepal to eastern Assam between the foothills and 6000 ft [c. 2000 m]'. However, there are no definite records of its breeding within Indian limits except Baker's own in the North Cachar and Khasi hills. The statement about the Himalayas needs confirmation since most observers in Nepal, Sikkim and Bhutan have recorded the bird only as a comparatively rare winter visitor (October-March). Apparently winter visitor also to the duars of W. Bengal and adjacent plains; Nagaland; Manipur; E. Pakistan (Chittagong Hill Tracts). Affects open well-wooded country.

Extralimital. Breeds in Burma, Yunnan and N. Laos. Recorded from Thailand in winter.

GENERAL HABITS. Similar to Golden Oriole (953). Arboreal, keeping singly or in pairs to large, well-foliaged and fruit-bearing trees.

FOOD. Fruits, berries and insects. Wild figs (*Ficus* spp.), and berries of *Trema orientalis* specifically mentioned; also nectar of *Salmania* and *Erythrina* flowers.

VOICE and CALLS. Melodious liquid flute-like notes, similar to Golden Oriole's but with a distinct diagnostic quality. 'A pleasing long-drawn

rather surprised *wheeow* or a liquid *chuck, tarry-you*' (W. T. Loke); 'a curious *miaow* like a peevish cat' (Smythies). Also a harsh grating cry, monotonously repeated.

BREEDING. Season, chiefly May and June. Nest and eggs (c/2 or 3), as in 953, the latter described as 'a beautiful pale pink, the markings nearly all surrounded by a reddish halo as if they had run'. Average size of 30 eggs 27.9×20.7 mm (Baker). Breeding biology as in 953.

MUSEUM DIAGNOSIS. See Key to the Subspecies.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	142-155	30-33	more or less as in <i>diffusus</i> (Baker)	

Weight 5 ♂ ♀ 2.5-3.25 oz. = c. 72-92 g (Scully, Davison).

COLOURS OF BARE PARTS. Iris blood-pink, eyelids paler. Bill livid pink, brighter in summer. Legs and feet plumbeous; claws black.

956. *Oriolus chinensis andamanensis* Tytler

Oriolus andamanensis Tytler, in Beavan, 1867, Ibis: 326
(South Andamans)

Baker, FBI No. 957, Vol. 3: 10

LOCAL NAMES. None recorded.

SIZE. Myna —; length c. 23 cm (9 in.).

FIELD CHARACTERS. As of 955, q.v.: slightly smaller. See Key to the Subspecies.

STATUS, DISTRIBUTION and HABITAT. Resident; endemic. Andaman Islands. Common and conspicuous, particularly in the South and Middle groups. Affects wooded country — open forest as well as around settlements.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 953.

BREEDING. Season, April to June. Nest, as in 953: the typical deep cup of woven grass and fibres (here often coconut), suspended like a cradle or hammock in a horizontal fork of leafy twigs near the tip of a pliant out-hanging branch, between c. 3 and 6 or 7 m from the ground. 'Nest usually decorated outside with sprays of a small climbing Asclepiad with orbicular leaves' (Osmaston). Eggs, 2 or 3, white generally more or less tinged with claret and with dark purplish brown spots which appear to have run from the edges, and with a few underlying grey spots (Osmaston). Average size of 30 eggs 29.7×21.6 mm (Baker). Breeding biology presumably as in 953.

MUSEUM DIAGNOSIS. See Key to the Subspecies.

MEASUREMENTS

♂ ♀ Wing 129-136; bill (from feathers) 27-28 mm (Baker)

	Wing	Bill (from skull)	Tail
5 ♂ ♂	130-140 (av. 136.6)	29-31	90-104 mm (av. 98)
1 ♀	133	28	92 mm (HA)

COLOURS OF BARE PARTS. As in 953.

957. *Oriolus chinensis macrourus* Blyth

O.(riolus) macrourus Blyth, 1846, Jour. Asiat. Soc. Bengal 15: 46, 370
 (Nicobar Islands)
 Baker, FBI No. 956, Vol. 3: 10

LOCAL NAME. *Macheon* (Nicobarese).

SIZE. Myna; length c. 25 cm (10 in.).

FIELD CHARACTERS. As of 953, q.v. See Key to the Subspecies.

STATUS, DISTRIBUTION and HABITAT. Resident; endemic. Nicobar Islands. Recorded on Car Nicobar, Central Nicobars, Nancowry, Camorta, Trinkat, Great Nicobar, etc. Affects wooded country — open forest as well as around settlements.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 953 and other races. Call described as 'a long-drawn modulated whistle sounding like *pee-u*' (Butler, JBNHS 12: 396); as 'quite different from the Andaman bird... *chee-e op*' (Abdulali, ibid. 61: 549).

BREEDING. Not recorded.

MUSEUM DIAGNOSIS. See Key to the Subspecies.

MEASUREMENTS

♂♀ Wing 150–159; bill (from feathers) 33–35 mm (Baker)

	Wing	Bill	Tail
		(from skull)	
8 ♂♂	151–160 (av. 154·8)	29–33 (av. 31·4)	108–119 mm (av. 114)
4 ♀♀	142–156	31–33	110–117 mm (HA)

COLOURS OF BARE PARTS. As in 953.

ORIOLUS XANTHORNUS (Linnaeus): BLACKHEADED ORIOLE

Key to the Subspecies

	Page
A Larger, Yellow edging on inner secondaries and tertaries variably broad; Wing 130–150 mm	<i>O. x. xanthornus</i> 108
B Smaller. Yellow edging on inner secondaries and tertaries reduced to terminal spots; Wing 122–134 mm	
a Edging to secondaries paler	<i>O. x. ceylonensis</i> 111
b Edging to secondaries deeper	<i>O. x. reubeni</i> 110

958, 959. *Oriolus xanthornus xanthornus* (Linnaeus)

(*Coracias*) *Xanthornus* Linnaeus, 1758, Syst. Nat., ed. 10, 1: 108
 (in America = Chandernagor, Bengal)

Oriolus Maderaspatanus Franklin, 1831. Proc. Zool. Soc. London : 118 (Ganges between Calcutta and Benares, and in the Vindhyan Hills, etc., restricted to Jubbulpore by Whistler & Kinnear, 1934 Jour. Bombay Nat. Hist. Soc. 36 : 585)

Baker, FBI No. 958 (part), Vol. 3: 11

Vol. 4, plate 63

LOCAL NAMES. *Peelāk, Zārdāk* (Hindi); *Pāhāri topidār peelāk* (Lucknow); *Pirōlā* (Gorakhpur, U.P.); *Bēnē bāū, Hāldē pakhi* (Bengali); *Hokhi, Hoti* (Assamese).

SIZE. Myna; length c. 25 cm (10 in.).

FIELD CHARACTERS. Adult. Brilliant golden yellow with jet black head, throat and upper breast, and some black in wings and tail. Sexes alike, but upperparts of female tinged with olive.

Young (immature) paler. *Above*, forehead yellow, crown and sides of head blackish streaked with yellow. *Below*, chin and throat white, breast yellow, streaked black.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to local movements. The Himalayan foothills (mostly under 1200 m), duns, bhabar, terai, duars and adjoining plains, from Himachal Pradesh eastward to NEFA, Assam, Manipur and E. Pakistan. Gangetic Plain and all peninsular India including Rajasthan, Gujarat and Kutch, south to Kanyakumari. Affects well-wooded country—open forest, mango groves, etc. around habitations and cultivation, gardens and compounds with large trees within urban limits, etc.

Extralimital. Burma south to Tenasserim; Shan States; Thailand. Other races extend the species to the Indochinese countries, Malay Peninsula, Sumatra, Borneo, etc.

GENERAL HABITS. Very similar to those of the Golden Oriole (953). Chiefly arboreal and frugivorous, but also takes insects and will sometimes even descend to the ground for one. Keeps singly or in pairs; in family parties of 3 or 4 after the breeding season until the young can fend for themselves. Often in loose association with mixed hunting parties of insect-eating birds, bulbuls, etc., flying about from tree to tree.

FOOD. Predominantly banyan, peepul and other wild figs (*Ficus* spp.); berries, and flower-nectar (e.g. of *Salmalia*, *Bombax* and *Erythrina* spp.). Also moths, weevils, hemipterous bugs, ants and other insects — same as under 953, q.v.

VOICE and CALLS. A loud, harsh, rather nasal *kwaak*, and melodious fluty whistles like the Golden Oriole's, yet distinctive. Rendered as *wye-you* (Y, U) or *wye-you-you*. During the midday heat in the breeding season, male delivers a long-drawn broken song in the nature of a soliloquy from a shady branch (once timed 15 minutes!): a syncopated jumble of mellow fluty notes interspersed with harsh *cheeahs* and *kwaaks*, reminiscent of the Rufous-backed Shrike's compositions (SA). While calling the bird bends low with tail fully spread.

BREEDING. Season, March to August, principally March and April. Nest, like the Golden Oriole's — a deep cup of woven grass and bast-fibres, slung like a hammock within a fork of twigs near the end of an overhanging branch in some large leafy mango, sheesham or similar tree, 4 to 10 m or so from the ground. Eggs, 2 to 4, usually 3, warm salmon-pink in ground colour, spotted with chestnut-brown to deep red-brown, with underlying spots

of dark inky purple. Average size of 60 eggs 28.0×19.4 mm (Baker). Both sexes share in building the nest, incubation, and tending the young. Incubation period unrecorded. Commonly builds in the same tree, often even on the same leafy branch, as holds a nest of the Black Drongo (*Dicrurus adsimilis*), doubtless for the protection afforded by these pugnacious birds against nest-robbing crows and other marauders.

MUSEUM DIAGNOSIS. Distinguished (a) by large size, and (b) by the very extensive yellow on inner secondaries and tertaries forming a broad edging.

First-year birds have a broad yellow band on forehead, accompanied by yellow edging to all the black feathers of crown and nape. May breed in this plumage.

MEASUREMENTS

		Wing	Bill (from skull)	Tail
20	♂♂	135-151	30-33	86-100 mm
<i>Female not significantly smaller.</i>				
2	♂♂	143, 143	31, 32	96, 99 mm (HW)
2	♀♀	137, 139	30, 31	92, 93 mm (BB)

Weight 1 ♂ 79 g (BB).

COLOURS OF BARE PARTS. Iris crimson. Bill fleshy pink. Legs and feet deep plumbeous: claws black; pads white (Biswas).

960. *Oriolus xanthronus ceylonensis* Bonaparte

O.(riolus) ceylonensis Bonaparte, 1850, Comp. Gen. Av. 1: 347 (Ceylon)
Baker, FBI No. 959, Vol. 3: 12

LOCAL NAMES. *Kāhā kūrūlla*, *Woraka maddula* (Sinhala); *Māmbālā kūrūvi* (Tamil).

SIZE. Myna —; length c. 24 cm (9½ in.).

FIELD CHARACTERS. As of 958, q.v. Appreciably smaller. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Endemic in Ceylon. Widely distributed and plentiful locally throughout the well-wooded areas of the lowlands and lower hills to c. 1200 m, occasionally up to c. 2000 m.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 958, q.v. Notes described as 'loud melodious flutings — *h'yaw haw wheeyou*, the *whee* much higher in the scale than the rest' (Henry); a harsh *kuwak* besides.

BREEDING. Season, October to May, chiefly March and April, occasionally August. *Nest* and *eggs* (normally c/2) as in the Indian races, but eggs apparently whiter, only faintly tinged with pink. Average size of 40 eggs 27.0 × 19.4 mm (Baker). Breeding biology as in 958.

MUSEUM DIAGNOSIS. Size small. Yellow on inner secondaries and tertaries as in 959: reduced to terminal spots. Adult female differs from adult male in being paler, less rich yellow on the upperparts.

First-year birds have the yellow on the head reduced to a narrow or almost obsolete frontal band. In first-year plumage, retained till the second autumn, both sexes have the black of the chin and throat replaced by black and white striping; breast more or less obsoletely streaked; wings duller and more washed with green (Whistler).

MEASUREMENTS

		Wing	Bill (from skull)	Tarsus	Tail
17	♂♂	124–135	28–32	23–25	77–84 mm
7	♀ ♀	123–131	28–30	22–24	75–84 mm (HW)

COLOURS OF BARE PARTS. As in 958.

960a. *Oriolus xanthornus reubeni* Abdulali

Oriolus xanthornus reubeni Abdulali, 1976 (1977), JBNHS 73 : 395, new name for *Oriolus xanthornus andamanensis* Abdulali, JBNHS 63 : 422 (Wrightmyo, South Andaman) preoccupied by *Oriolus andamanensis* Tytler (in Beaven, 1867, Ibis: 326)

SIZE. Myna — ; length c. 24 cm (9½ in.)

FIELD CHARACTERS. As for 958. See Key to the Subspecies, q.v.

STATUS, DISTRIBUTION and HABITAT. Resident. Andaman Islands.

MEASUREMENTS

	Wing	Tail
6	122–134	72–84 mm
5	125–130	76–82 mm (Abdulali)

961 Maroon Oriole. *Oriolus trullii trullii* (Vigors)*Pastor Trullii* Vigors, 1832, Proc. Zool. Soc. London, pt. 1: 175(Himalayas-Darjeeling *vide* Baker, 1921, Jour. Bombay nat. Hist. Soc. 27: 698)

Baker, FBI No. 961, Vol. 3: 14

Vol. 4, plate 63

LOCAL NAMES. *Melambok* (Lepcha); *Tania pia* (Bhutanese); *Singanee* (Nepali).**SIZE.** Myna +; length c. 28 cm (11 in.).**FIELD CHARACTERS.** Male (adult), overall glossy crimson-maroon. Head, neck and wings black; tail chestnut-maroon.

Young (immature) male like adult female.

Female (adult), more or less like adult male above, but underparts greyish white streaked with blackish.

In overhead flight against the clear sky appears as a dark bird with square-cut claret-crimson tail.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to seasonal local movements. The lower Himalayas to c. 2400 m from Himachal Pradesh (Kotgarh, c. 77°30'E.) eastward through Garhwal, Kumaon, Nepal, Sikkim, N. Bengal (Darjeeling dist. and duars), Bhutan, and NEFA. Assam hills south of Brahmaputra R., Nagaland, Manipur; E. Pakistan (Chittagong Hill Tracts). Affects moist-deciduous and evergreen forest, chiefly in the duars and foothills but extends into adjacent plains.**Extralimital.** Burma to Shan States and N. Tenasserim; N. Yunnan; N. and W. Thailand and the Indochinese countries. Another race in Vietnam.**GENERAL HABITS.** Very similar to those of the yellow orioles, 953, 958, qq.v. Keeps singly or in pairs much to the tree-tops in high dense forest, chiefly in the foothills; commonly in association with drongos, minivets, nuthatches, etc. Sometimes descends into low bushes or to the forest floor.**FOOD.** Wild figs and berries; insects; flower-nectar.**VOICE and CALLS.** A harsh *kee-ah*, usually followed by rich liquid fluty whistles like *pi-lo-lo*, indistinguishable from those of the Golden Oriole, but more varied. Some calls reminiscent of snatches of song of *Zoothera citrina*; some others of the rattling 'laugh' of a woodpecker!**BREEDING.** Season, principally April and May. Nest, a deep massive cup of woven bast fibres bound with cobwebs and suspended hammockwise in the horizontal fork of a branch 4 to 10 m or so up, in thick jungle. Eggs, 2 or 3, pinkish white spotted with black or reddish brown. Average size of 24 eggs 29.4 × 20.6 mm (Baker). Both sexes share in building the nest, incubation, and tending the young. Incubation period unrecorded.**MUSEUM DIAGNOSIS.** Subadult ♂ has the mantle sullied with black; bases of feathers of upper- and underparts greyish, not snow-white as in adult; traces of dark streaks on belly; outer webs of rectrices black or partly so.

Subadult ♀, like adult but with traces of whitish margins on throat feathers.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	141-153	31-35	25-27	99-110 mm
♀♀	140-146	29-33	25-26	100-112 mm (SA. BB)

Weight 7 ♂♂ 67-81; 3 ♀♀ 67-68 g (SA, GD, BB).

COLOURS OF BARE PARTS. Iris (adult) biscuit colour to creamy white; (imm.) brown. Bill pale bluish grey. Legs and feet plumbeous; claws horny brown.

Family DICRURIDAE: Drongos

For morphological characters and description see Van Tyne, J. & Berger, A. J., 1959 : 505; Baker, E. C. Stuart, 1924, FBI 2 : 352; Vaurie, C., 1964, Article 'Drongo' in Thomson, A. L. (ed.) *New Dict. Birds*. London & New York.

Genus DICRURUS Vieillot

Dicrurus Vieillot, 1816, Anal. nouv. orn.: 41. Type, by subsequent designation (G. R. Gray), *Corvus Balicassius* Linnaeus

Chibia Hodgson, 1836, Ind. Rev. 1: 324. Type, by subsequent designation (G. R. Gray), *Edolius barbatus* J. E. Gray = *Corvus hottentottus* Linnaeus

Bhringa Hodgson, 1836, Ind. Rev. 1: 325. Type, by monotypy, *Bhringa tectirostris* Hodgson

Chaptia Hodgson, 1836, Ind. Rev. 1: 326. Type, by monotypy, *Chaptia muscipetoides* Hodgson = *Dicrurus aeneus* Vieillot

Dissemurus Gloger, 1841, Gemein. Hand. Hilfs. Naturg.: 347. Type, by monotypy, *Cuculus paradiseus* Linnaeus

Dissemuroides Hume, 1873, Stray Feathers 1: 408. Type, by original designation, *Dissemuroides dicruriformis* Hume

Dissemurulus Oates, 1889, Fauna Brit. India, Bds. 1: 322. Type, by monotypy, *Dicrurus lophorhinus* Vieillot

Cf. Vaurie, C., 1949, Bull. Amer. Mus. Nat. Hist. 93 : 205-342

Coloration chiefly glossy jet black; greyish or slaty in some species. Bill stout, sharply carinated; covered at base by dense short feathers partially concealing nostrils. Head uncrested, or with variably pronounced tuft on forehead. Tail variable in shape and structure: long and deeply forked, or with outer rectrices upcurved at end, or prolonged as bare shafts ending in rackets or spatulae. Wings long and pointed, of ten primaries. Legs short with strong toes and sharp curved claws.

Key to the Species

	Page
I Outer rectrices greatly lengthened and part of shafts bare	
A Terminal portion of outermost rectrices equally webbed on both sides	128
B Terminal portion of outermost rectrices much more broadly webbed on the inner than on the outer side (though seemingly vice versa)	135
II Outer rectrices not greatly lengthened; no portion of shaft bare	
C Forehead tufted	
a Tuft composed of a few hair-like feathers more than three centimetres long	131
b Tuft composed of a few hair-like feathers, less than two centimetres long	133
c Tuft composed of ordinary feathers less than two centimetres long	140

D	Forehead not tufted	Page
d	Bill depressed; width greater than depth at nostrils <i>D. aeneus</i>	126
e	Bill deep; width and depth at nostrils equal	
1	Upper plumage deep glossy black	
i	Outermost rectrices exceeding central ones by about length of tarsus and distinctly curved <i>D. annectans</i>	125
ii	Outermost rectrices exceeding central pair by more than twice the length of tarsus and only faintly curved	
..... <i>D. adsimilis</i>	114
2	Upper plumage grey	
iii	Lower plumage uniform grey <i>D. leucophaeus</i>	119
iv	Lower plumage partly white <i>D. caerulescens</i>	122

DICRURUS ADSIMILIS (Bechstein): BLACK DRONGO OR KING-CROW

Key to the Subspecies

A	Large size; wing c. 145–165; tail c. 150–180 mm	
..... <i>D. a. albirictus</i>	114
B	Medium size; wing c. 130–145; tail c. 135–165 mm <i>D. a. macrocercus</i>	117
C	Small size; wing c. 125–140; tail c. 130–160 mm <i>D. a. minor</i>	118

Cf. Ticehurst, C. B., 1933, JBNHS 36: 927–9 (Résumé of races of *D. macrocercus*)

962. *Dicrurus adsimilis albirictus* (Hodgson)

(*Bhuchanga*) *Albirictus* Hodgson, 1836, Ind. Rev. 1 (8): 326 (Nepal)

Dicrurus macrocercus liipi Koelz, 1954, Contrib. Inst. Regional Exploration, No. 1: 15
(Palasbari, Assam)¹

Baker, FBI No. 767, Vol. 2: 357

LOCAL NAMES. *Bujāngā*, *Būchāngā*, *Kōtwāl*, *Kālkālāchi* (Hindi); *Japal kalchit* (Punjab); *Finga* (Bengali); *Thampal* (NW. Pakistan); *Kolaho*, *Gohalo* (Brahui); *Charoi*, *Cheiroi* (Manipur); *Phenchu* (Nowgong, Assam).

SIZE. Bulbul +; length, including long forked tail, c. 31 cm (12½ in.).

FIELD CHARACTERS. Slim, glossy jet black with long deeply forked tail. Sexes alike. When outer tail-feathers moult (August-September), tail-fork disappears giving the bird a curiously puzzling look.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to some seasonal local and altitudinal migration. West Pakistan and northern India from Baluchistan east to Kashmir, eastward along the Himalayas to Nepal, Sikkim, Bhutan foothills, NEFA (= Arunachal Pradesh), Assam, Nagaland, Manipur and East Pakistan. South to Rajasthan, Uttar Pradesh, Bihar and W. Bengal. Intergrades with *macrocercus* (963) in Sind, southern Rajasthan and southern Uttar Pradesh, and with *cathoecus* (of Burma) in SE. Assam and Manipur. From plains level to c. 2100 m in summer (breeding visitor, March/April to September/October), descending to lower altitudes in winter. Affects

¹ This name refers to the easternmost population of *albirictus* which here begins to show a trend towards *cathoecus* of Burma.

light hill forest (oak, rhododendron, etc.) and openly wooded country, often about cultivation and outskirts of habitations.

Extralimital. Adjacent SE. Iran and E. Afghanistan.

GENERAL HABITS. Arboreal and wholly carnivorous: of great economic usefulness to agriculture in destroying vast quantities of insect pests. Usually seen singly perched on leafless tree-tops, telegraph wires, fence posts, or earthen bunds separating fields. From such exposed look-out posts swoops to the ground for prey or launches sallies in aerial pursuit. Sometimes settles on the ground to pick up ants or winged termites emerging from their holes. Commonly in attendance on grazing cattle or wild herbivores, snatching the insects disturbed by the animals' movements through the grass, riding upon their backs, jogging along complacently with their progress. Often indulges in unabashed piracy, setting upon foraging birds with speed and determination, pursuing them relentlessly with agile twists and turns and forcing them to jettison their lawful prize. Whereupon the drongo retrieves the quarry in mid-air (sometimes in its feet) and calmly flies back with it to a perch, holding the insect down in its claws and tearing it to pieces with the hooked bill before devouring. Considerable numbers will collect at forest fires or fired grassland to hunt the insects fleeing through the rising smoke. Is one of the earliest risers amongst birds, often astir and calling well before dawn; similarly, is one of the last birds to retire, sometimes hunting till well into the dusk: then frequently seen flying up vertically at intervals to snatch a winged termite or other crepuscular insect, diving with closed wings back to the perch. Several birds thus engaged after winged termites is a common sight. Is bold and pugnacious, and very swift and agile on the wing. A pair will fearlessly attack and put to flight large birds like crows, and even raptors, blundering within the precincts of the nest-tree with angry 'war-cries' and much ferocity, the pair manoeuvring in concert, shooting straight into the intruder from below and the sides, diving at it from above and describing circles round it — like fighter planes tackling a heavy bomber — leaving the outraged visitor nonplussed and defenceless while making a hasty getaway. Numbers concentrate to roost in company, particularly during winter, in bamboo clumps etc., the birds dispersing in ones and twos at early dawn for their respective feeding territories. Bathes on the wing, plunging down and dipping at the surface of a pool or stream, then returning to a nearby perch to shake off the water and preen. At approach of breeding season two birds, frequently a trio (sex?), will sit close together or face to face and talk loudly 'at' one another ('argue') in harsh scolding notes, raising head and forepart of body and bobbing violently up and down — like hammering with the bill — and fluttering the wings from time to time as if to emphasize some important point in the argument. The significance of these postures in the courtship behaviour needs study.

FOOD. Predominantly insects; on occasion lizards, small birds (*Prinia*, *Zosterops*, *Aegithina* recorded) and small bats (Microchiroptera). Very partial to flower-nectar, e.g. of *Salmania malabarica*, *Bombax insigne*, *Butea monosperma*, *Erythrina* spp., and many others, and from the pollen invariably found on forehead and throat-feathers, doubtless helps in cross-pollination. Moths and butterflies (occasional); of the latter the following identified: *Danais*

limniace and/or *septentrionis*, *D. aglaea*, *D. chrysippus*, *Euploea coreta*, *E. core*, *Hypolimnas bolina* and *Catopsilia crocale* (Leslie Andrews, JBNHS 20: 850). Among stomach contents of specimens from an intensively cultivated tract in Bihar the following insects (mainly agricultural pests) classified: locusts, grasshoppers and crickets (*Gryllotalpa africana*, *Gryllodes melanoccephalus*, *Chrotogonus* spp., *Brachytrypes achatinus*), beetles (*Myllocerus discolor*, *M. maculatus*, *Opatrium depresso*), bugs (*Nezara viridula*), ants (*Myrmecocystus setipes*, *Camponotus compressus*, *Oecophylla smaragdina*), termites, bees, etc. (Mason & Lefroy, 1912). Has been observed to capture the ferocious rock bee, *Apis dorsata*. For a note on being hand-fed in a congested urban locality see Lavkumar Khachar, JBNHS 73: 390-1976.

VOICE AND CALLS. Normal and most common, a defiant-sounding harsh shikra-like double-noted *ti-tiu*; also a harsh *cheece-cheece-chichuk*, and chattering. Particularly noisy at dusk. At commencement of breeding season, indulges in noisy duets *chseece-ti* or *cheece-titi* (*cheece* harsh; rest musical) chiefly during the hour or two preceding daybreak.

BREEDING. Season, overall April to August, principally May and June. Nest, a flimsy-bottomed shallow cup of fine twigs, grasses, bents and fibres cemented together and bound to the substrate with cobwebs. Placed in a horizontal fork of twigs usually near the extremity of a branch between 4 and 12 metres from the ground. Mango (*Mangifera indica*), sheesham (*Dalbergia sissoo*), babool (*Acacia nilotica*) and kandi (*Prosopis spicigera*) in the plains, and oaks (*Quercus*) in the hills — preferably a tree standing by itself in the open with an unobstructed view of the surroundings — are widely favoured. Eggs, 3 or 4, somewhat variable: mostly whitish or pinkish cream, spotted and blotched with black or reddish brown. Average size of 60 eggs $27 \cdot 1 \times 19 \cdot 8$ mm (Baker). Both sexes take part in building the nest, incubation and tending the young. Nests sometimes brood-parasitized by various cuckoos: Drongo-Cuckoo (*Surniculus lugubris*, 588) and Koel (*Eudynamys scolopacea*, 590) thus recorded. Mild mannered birds such as orioles, doves, green pigeons and bulbuls commonly build in the same tree as holds a Black Drongo's nest, thereby profiting from the bird's vigilance and pugnacity in warding off potential marauders. For 'Helpers at Nest' see Thangamani et al. JBNHS 78: 602.

MUSEUM DIAGNOSIS. The largest-winged and longest-tailed form. White rictal spot usually present. For plumage changes from juvenile to adult, see under *Dicrurus a. macrocercus* (963).

MEASUREMENTS

	Wing	Bill (from skull)	Tail (outer)	Depth of fork
♂ ♀	143-167	24-28	152-180	— mm (CBT)
5 ♂ ♂	153-156	25-28	159-172	51-63 mm
3 ♀ ♀	149-153	26 (2)	159-166	48-56 mm

Weight 4 ♂ ♂ 39-59; 1 ♀ 41 g (Paludan, GD). (BB)

There is considerable overlap in the measurements of both wing and tail in the sexes, and adult males and females cannot be separated on measurement alone.

COLOURS OF BARE PARTS. Iris blood red to deep crimson (reddish brown to brownish red in first-year birds). Bill, legs, feet and claws black; pads grey (Biswas).

963. *Dicrurus adsimilis macrocercus* Vieillot

Dicrurus macrocercus Vieillot, 1817, Nouv. Dict. d'Hist. Nat., nouv. éd., 9: 588, based on 'Le Drongolon' of Levaillant, 1805, Ois. d'Afr. 4, pl. 174: 72 (India, restricted to Orissa by Baker, 1924, FBI 2: 356, re-restricted to Madras City by Vaurie, 1949, loc. cit.: 237)

Dicrurus macrocercus peninsularis Ticehurst, 1932, Bull. Brit. Orn. Cl. 53: 20

(Madras City)

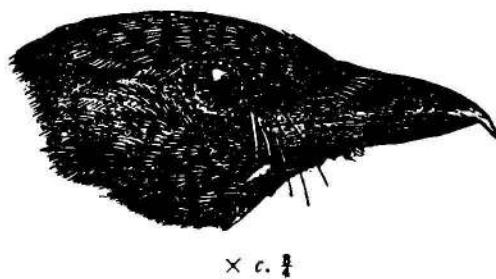
Baker, FBI No. 766, Vol. 2: 356

Plate 67, fig. 1

LOCAL NAMES. *Kōlsā*, *Būchāngā* or *Būjāngā*, *Kōtwāl*, *Kālkālāchi* (Hindi); *Karanjuā* (Madhya Pradesh); *Finga* (Bengali); *Kānchh*, *Kālkānchh* (Kutch); *Kunik*, *Kālkālāchi* (Sind); *Pāssālā poli gādū* (Telugu); *Kari kārumān*, *Karichān*, *Karuwattu vali* (Tamil); *Kakka tāmpurātti*, *Anaranchi* (Malayalam); *Kosita*, *Kālo koshi* (Gujarati); *Ghosia*, *Kōtwāl* (Marathi).

SIZE. Bulbul + ; length, including long forked tail, c. 31 cm (12½ in.).

FIELD CHARACTERS. As of 962, q.v. See Museum Diagnosis.



STATUS, DISTRIBUTION and HABITAT. Common resident, subject to some seasonal local migration. Throughout peninsular India south of a line roughly from Kutch and Saurashtra eastward through Madhya Pradesh and Orissa to southwest Bengal (intergrading with *albirictus* north of this area). From plains level to c. 2100 m; rarer in the hills. Affects

open deciduous forest and cultivated country, chiefly in the neighbourhood of habitations.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 962.

BREEDING. Season, chiefly March to June/July. Nest, eggs (c/3 or 4, rarely 5), and breeding biology as in the northern form (962).

MUSEUM DIAGNOSIS. Smaller than Himalayan-north Indian *albirictus*; larger than Ceylonese *minor* (964). White rictal spot usually present.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer
♂ ♀	130-145	23-26	—	—	135-161 mm (CBT)
♂ ♂	130-147	23-26	19-23	90-102	134-168 mm
♀ ♀	130-144	23-26	19-23	93-98	143-157 mm (SA, HW)

Weight 15 ♂ ♀ 40-51 (av. 45.7) g — SA.

All three subspecies go through the same plumage stages as follows:

The juvenile differs from the adult in having,

1. body plumage softer and browner with very little metallic gloss and that confined to the upper plumage,

2. wings and tail shorter and duller with less gloss,

Tail, \times c. $\frac{1}{2}$

3. under wing-coverts edged with white; outer edge of secondaries may also be narrowly edged white.

The postjuvenile moult does not include,

1. primaries, secondaries and tertiaries; primary-, greater-, and sometimes a few median coverts; under wing-coverts,

2. tail.

The first-winter and summer plumage is distinguished from adult plumage by,

1. long upper tail-coverts being usually edged with white,

2. lower plumage less glossy, the feathers from lower breast to under tail-coverts being fringed with white to a variable extent (these gradually wear down and in summer are less noticeable),

3. duller, more faded appearance of the unmoulted parts of the juvenile plumage, and the white edging on the under wing-coverts.

This plumage is retained until the autumn when the first complete moult gives fully adult plumage in the second winter. Adults occasionally have the under tail-coverts edged with white, but never so the upper tail-coverts or the under wing-coverts (Whistler).

COLOURS OF BARE PARTS. As of 962.

964. *Dicrurus adsimilis minor* Blyth

Dicrurus minor Blyth, 1854, Cat. Bds. Mus. Asiatic. Soc., Pref. app. 3, No. 1219: 22
(Ceylon)

Baker, FBI No. 768, Vol. 2: 358

LOCAL NAMES. *Kāudā* (Sinhala); *Erāttai vālān kūruvi* (Tamil).

SIZE. Bulbul +; length, including longish forked tail, c. 26 cm (11 in.).

FIELD CHARACTERS. As of 962, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Endemic to Ceylon. Common in the low-country Dry zone in the northwest coastal areas from Puttalam to Jaffna Peninsula, occasionally straying in winter to other districts in the Wet and Hill zones (Phillips). Affects openly wooded country.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 962. Notes described as 'loud, ringing and varied, some of them very musical' (Henry). Is a good mimic of other birds' calls.

BREEDING. Season, February to June, chiefly April and May. Nest, eggs (c/2 or 3, rarely 4), and breeding biology as in the Indian subspecies. Average size of 21 eggs 24.2 \times 18.1 mm (Baker).

MUSEUM DIAGNOSIS. The smallest of the three Indian forms, with a smaller, weaker bill.

MEASUREMENTS

	Wing	Bill (from feathers)	Tail
♂♀	125-143 (av. 133)	c. 20	135-165 mm (av. 153.5) (Baker)
♂♀	126-140		131-147 mm (CBT)

COLOURS OF BARE PARTS. As in 962.

DICRURUS LEUCOPHAEUS Vieillot: GREY or ASHY DRONGO

Key to the Subspecies

	Page
A Tail c. 130-170 mm; general colour paler.....	D. l. hopwoodi 121
B Tail c. 140-185 mm; general colour darker.....	D. l. longicaudatus 119
C General colour palest; a whitish cheek-patch.....	D. l. salangensis 121
D Similar to C but paler	D. l. leucogenis 271

965. *Dicrurus leucophaeus longicaudatus* Hay

(*Dicrurus*) *longicaudatus* Lord Arthur Hay, in Jerdon, 1845, Madras Jour. Lit. Sci. 13: 121 nom. nud.

Dicrurus longicaudatus A. Hay, in Horsfield & Moore, 1854, Cat. Bds. Mus. E.I. Co. 1: 152 (Segour Pass, Neilgherries): also A. Hay in Jerdon, 1862, Bds. India 1: 430

Dicrurus leucophaeus minimus Baker, 1918, Novit. Zool. 25: 296 (Ceylon)

Dicrurus leucophaeus beavani Vaurie, 1949, Bull. Amer. Mus. Nat. Hist. 93: 243

(Khudi Khel, eastern Afghanistan)

Baker, FBI No. 775, Vol. 2: 362

Plate 67, fig. 8

LOCAL NAMES. *Neel singa* (Bengal); *Erāttai vālān kūrūvi* (Tamil); *Kakkattāmpurān* (Malayalam); *Gunkots, Telakots* (Kashmiri).

SIZE. Same as of Black Drongo; bulbul +. Length c. 30 cm (12 in.).

FIELD CHARACTERS. A slim glossy slate-black drongo with long deeply forked tail and conspicuous crimson eyes. Underparts duller unglossed grey. Sexes alike.

Slimmer build, relatively longer, deeper-forked tail and better-wooded habitat will help differentiation from Black Drongo of open plains, and ruby-red eye will clinch the diagnosis.

When deep tail-fork absent during moult, could be casually confused in the distance with Black Bulbul (*Hypsipetes madagascariensis*, 1148/9) but which has red bill and legs.

STATUS, DISTRIBUTION AND HABITAT. Breeds in the Himalayas in West Pakistan and India (foothills, up to c. 3300 m) from the Afghan frontier (Safed Koh) east through Chitral, Gilgit, Kashmir, Himachal Pradesh, Garhwal, Kumaon, Nepal, Sikkim, northern W. Bengal (Darjeeling dist.), and Bhutan, where it intergrades with *hopwoodi* (966). In winter (September/October to March/April) descends to lower altitudes and spreads out throughout the better-wooded portions of the northern plains and the Peninsula (including non-arid portions of Rajasthan, Kutch and Saurashtra),

east to W. Bengal, south through Tamil Nadu and Kerala. Winter visitor also to Ceylon.

Affects pine, oak and rhododendron forest in the Himalayas; broken, well-wooded country (deciduous as well as evergreen) in its winter range. Mixed bamboo jungle, edge of forest clearings, and shady village groves are favourite haunts. In SW. India coffee and cardamom plantations in shola forest (with tall shade trees), and gardens or 'kampongs' by the backwater homesteads are especially favoured.

Extralimital. Eastern Afghanistan south of the Hindu Kush (Vaurie).

GENERAL HABITS. Very similar to those of Black Drongo (962), q.v. but essentially a forest bird, not found in open cultivated country. Keeps singly, in pairs or small noisy parties, perching high up in tree-tops, launching agile swooping sallies after flying insects close to the ground or in and out amongst the tree-trunks and foliage canopy; sometimes gatherings of 30 or more birds, e.g. at a hatch of winged termites emerging from a nest-mound in forest. Crepuscular; often hunting till almost quite dark.

FOOD. As in Black Drongo, mainly insects — locusts, grasshoppers, crickets, moths, termites, etc., occasionally butterflies, lizards and small birds (warbler, iora). Bees from a hive (Inglis). Very fond of flower-nectar, and invariably amongst the most regular visitors to *Salmania* and *Erythrina* blossoms and to those of the introduced *Grevillea robusta* and various *Eucalyptus* spp.

VOICE AND CALLS. A varied assortment of harsh screeches and pleasant musical whistling notes. One common call: a harsh challenging *cheechee-chichuck* (like the Black Drongo's) followed by a pleasant querulous whistling *kil-kil-kil-kil* (or *tililili*), very like the 'song' of the Striped Squirrel (*Funambulus pennanti*). Another common call rendered as *drāngh-gip, gip-gip-drāngh* (Magrath). Is a good mimic of other birds' calls as well.

BREEDING. Season, chiefly April to June. Nest, a neat shallow saucer of lichens and leaves bound together and secured in position with cobwebs; lined with fine grass. Fixed like a cradle in a horizontal or vertical fork at the end of a slender branch, often 15 to 20 m up, in a pine, oak, chenar, sal or similar tall tree. Eggs, 3 or 4, like those of Black Drongo (962/3) but more variable in ground colour (some rich salmon or deep terracotta) and somewhat more heavily marked. Average size of 200 eggs $23\cdot6 \times 18\cdot2$ mm (Baker). Both sexes take part in building the nest, incubation, and tending the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. See Key to the Subspecies.

Juvenile plumage differs from adult in two important particulars: (1) body plumage softer and a browner black, practically without any gloss, (2) wings and tail as in adult but considerably shorter. Postjuvenile moult excludes primaries and primary coverts, secondaries and greater coverts, tertaries, and rectrices. These are retained to the following autumn so that first-winter and first-summer birds differ from adults in their more worn and faded, also shorter, wings and tail. When measuring specimens it is therefore essential that adult and first-year birds be measured separately to ensure satisfactory comparison. First-year birds also appear to be paler and duller on the abdomen, slight white fringes being more noticeable, especially on under tail-coverts. Complete postnuptial moult evidently takes place between July and September. There is no definite spring moult, though odd body feathers are changed.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer
♂ ♂	136-148	25-28	18-20	89-98	140-187 mm
♀ ♀	131-144	25-28	18-20	89-96	148-168 mm

(SA)

Weight 40 ♂ ♀ (October, in winter quarters) 32-45 (av. 37.6) g (SA).

COLOURS OF BARE PARTS. Iris brownish red, orange-red, or, crimson. Bill, legs, feet and claws black. Mouth brownish pink, pale pink, or slaty pink.

966. *Dicrurus leucophaeus hopwoodi* Baker

Dicrurus leucophaeus hopwoodi Baker, 1918, Novit. Zool. 25: 294 (Dacca)

Dicrurus leucophaeus stevensi Baker, 1918, Novit. Zool. 25: 295 (Darjeeling)
Baker, FBI No. 773, Vol. 2: 361

LOCAL NAMES. *Neel singa* (Bengali); *Sahim, Sahim pho* (Lepcha); *Che-chum* (Bhutanese).

SIZE. Same as of Black Drongo: bulbul +. Length c. 30 cm (12 in.).

FIELD CHARACTERS. As of 965, q.v. See Key to the Subspecies.

STATUS, DISTRIBUTION and HABITAT. Breeds in the eastern Himalayas in Bhutan (where it intergrades with *longicaudatus*) and NEFA; also Assam hills north and south of Brahmaputra R., Nagaland and Manipur (?) from the edge of the plains to c. 2100 m. In winter spreads south into the plains of West Bengal, Assam and E. Pakistan. Affects well-wooded country, as 965.

EXTRALIMITAL. Northern and central Burma and Indochinese countries. (For details see Vaurie, 1959, 2: 122.)

GENERAL HABITS, FOOD, VOICE and CALLS. As in 965.

BREEDING. Season, April to June. Nest, eggs (c/3 or 4) and breeding biology as in 965.

MUSEUM DIAGNOSIS. See Key to the Subspecies. Paler above and below than *longicaudatus*; tail averages a little shorter and less deeply forked.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer
♂ ♂	138-148	25-29	19-20	96-104	148-169 mm
♀ ♀	129-147	27-28	19-20	92-101	129-159 mm

(SA, Stresemann).

Weight 5 ♂ ♂ 45-53; 2 ♀ ♀ 40, 53; 3 oo? 47-53 g (SA, BB).

COLOURS OF BARE PARTS. As in 965.

966a. *Dicrurus leucophaeus salangensis* Reichenow

Dicrurus leucogenys var. *salangensis* Reichenow, 1890, Nomencl. Mus. Hein. ornith. 69
('Insula Salanga' = Junk Sylon or Phuket)

Dicrurus leucogenys meridionalis Hachisuka, 1926, Bull. Brit. Orn. Cl. 47: 56
(Seven Finger Range, central Hainan)

Baker, FBI No. 779, Vol. 2: 367 (= *leucogenys*)

Plate 67, fig. 9

SIZE. Same as of Black Drongo: bulbul +. Length c. 30 cm (12 in.).

FIELD CHARACTERS. As of 965, q.v., but much paler grey. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Rare vagrant? A specimen collected in Nagaland, 20.i.1936 at Chizami (Khezabama) c. 40 km ESE. of Kohima the only definite record within Indian limits (P. K. Das, 1965, JBNHS 62: 557).

Extralimital. SE. China inland . . . and on the coast south from the Fukien-Kwangtung boundary. Migrates to Hainan, and through the Indo-chinese countries, E. and S. Thailand to the Malay Peninsula as far south as Malacca (Vaurie).

MUSEUM DIAGNOSIS. Adult (σ^{σ}), overall pale French grey; a frontal band and chin blackish; a whitish oval patch on each side of head extending from bill to over ear-coverts. Under wing-coverts whitish at edges and tips of the feathers.

Young (immature), slightly darker grey; whitish cheek-patches less distinct.

MEASUREMENTS

	Wing	Bill (from skull)	Tail central	Tail outer	Depth of fork	
σ^{σ}	139-145	23-28	101-108	130-142	29-38	mm
$\varphi \varphi$	137-145	24-28	101-109	129-131	27-30	mm

COLOURS OF BARE PARTS. As in 965.

966b. *Dicrurus leucophaeus leucogenis* (Walden)

See Appendix, page 271

DICRURUS CAERULESCENS (Linnaeus): WHITEBELLIED DRONGO

Key to the Subspecies

		Page
A	Abdomen, posterior flanks, vent and under tail-coverts white. Larger, wing c. 120-135 mm	<i>D. c. caerulescens</i> 122
B	Abdomen duskier, the white area smaller and starting lower down on the central abdomen rather than on the lower breast. Smaller, wing, c. 110-125 mm	<i>D. c. insularis</i> 123
C	Abdomen dark, only vent and under tail-coverts white. Size similar to B	<i>D. c. leucopygialis</i> 124

967. *Dicrurus caerulescens caerulescens* (Linnaeus)

Lanius caerulescens Linnaeus, 1758, Syst. Nat., ed. 10, 1: 95 (Benghalia)

Baker, FBI No. 777 (part), Vol. 2: 365

Plate 67, fig. 12

LOCAL NAMES. *Pāhdri būchāngā*, *Dhapri* (Hindi); *Dhouli* (Bengal); *Nella* or *Konda pūsāla poligādu* (Telugu).

SIZE. Bulbul +; length c. 24 cm (9½ in.).

FIELD CHARACTERS. A typical drongo with long, deeply forked tail. Glossy indigo colour above, brownish grey below with white belly and under tail-coverts. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to some seasonal local and altitudinal movement. All India south and east of a line roughly from Kutch (Bhuj, Mandvi) to Ambala and Simla, thence eastward through Uttar Pradesh, Nepal, Bihar and W. Bengal. From plains level to c. 2000 m, in dry- and moist-deciduous and bamboo forest. Partial to shady paths and edges of clearings in thin tree jungle, and wooded compounds in inhabited rural areas.

GENERAL HABITS. Typical of the family. Keeps in noisy twos and threes, often in association with roving hunting parties of other insectivorous birds and — wherever the two occur together — very commonly with the Bronzed Drongo. Hawks winged insects from tree-tops often like a flycatcher, making short looping sallies after them, turning and twisting in the air, snapping up the quarry in the bill or claws (if of large size), and returning with it to the same or a nearby perch. Is markedly crepuscular, often keeping up the hunt till well after dusk when almost quite dark.

FOOD. Crickets, grasshoppers, moths, winged termites and other insects. Occasionally small birds like warblers, chased and seized in the claws in mid-air. Food often pirated from other birds by dogged pursuit or surprise attack. Flower-nectar, e.g. of *Bombax* and *Erythrina* regularly eaten; doubtlessly promotes cross-pollination.

VOICE AND CALLS. Pattern similar to King Crow's, but calls much less harsh. Normally 3 or 4 pleasant whistling notes — one of the commonest bird-calls wherever the drongo present. Has many pleasing whistles, some of rich oriole or thrush quality. 'Often whistles very quietly as if trying the notes over under its breath' (Hewetson). Is an excellent and convincing mimic: imitates, among others, Tailor Bird, Wood Shrike and Iora to perfection, not only the sweet sibilant whistles of the last but also the occasional *chr-r-r* with which they are punctuated.

BREEDING. Season, overall March to June, mostly March and April. Nest, not markedly different from that of Black Drongo (962) except as regards the site which is normally in mixed teak and bamboo and similar open forest. Eggs, usually 2 or 3, sometimes 4, more like those of Grey Drongo than of Black. A common type is warm salmon pink in ground colour, blotched and spotted with black or reddish brown. Average size of 40 eggs $23\cdot6 \times 17\cdot8$ mm (Baker). Both sexes take part in building the nest, incubation and tending the young. Incubation period unrecorded.

MUSEUM DIAGNOSIS. See Key to the Subspecies.

Young (immature) very brown, with traces of white barring on breast, flanks, axillaries and under wing-coverts.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail central	outer
♂ ♂	122-137	22-25	18-20	85-91	112-130 mm
♀ ♀	118-129	22-25 (27)	18-21	85-95	113-130 mm (SA, HW)

Weight 2 oo? 39, 41 g (SA).

COLOURS OF BARE PARTS. Iris brownish red. Bill black; mouth pale pink, slaty pink or pale pinkish yellow. Legs, feet and claws black.

968. *Dicrurus caerulescens insularis* (Sharpe)

Buchanga insularis Sharpe, 1877, Cat. Bds. Brit. Mus. 3: 253

(Lunugalla, Madodouna, Ceylon)

Baker, FBI No. 777 (part), Vol. 2: 365

LOCAL NAMES. *Kāudā, Kāudā panikkiya* (Sinhala); *Erattai vālān kūrūvi* (Tamil).

SIZE. Bulbul +; length c. 24 cm (9½ in.).

FIELD CHARACTERS. As of 967, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Subspecies endemic to Ceylon. Resident. Common in the low-country Dry zone and Hill zone to at least c. 1500 m. Affects outskirts of forest and well-wooded areas.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 967.

BREEDING. Season, February to June, chiefly March and April. Nest, eggs (c/2 or 3) and breeding biology, as in 967. Average size of 75 eggs (together with those of 969) 22·0 × 17·1 mm (Baker).

MUSEUM DIAGNOSIS. Darker (purer black) above than peninsular birds but only slightly so than those from Kerala. White of abdomen reduced: not sharply defined or extending to flanks as in 967. Bill heavier.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer
8 ♂♂	119-127	25-26	19-20	80-91	104-117 mm
4 ♀♀	111-125	24-25	18-20	89-97	106-113 mm (HW)

COLOURS OF BARE PARTS. As in 967.

969. *Dicrurus caerulescens leucopygialis* Blyth

Dicrurus leucopygialis Blyth, 1846, Jour. Asiatic. Soc. Bengal 15: 298
(Colombo, W.P., Ceylon)
Baker, FBI No. 778, Vol. 2: 366

LOCAL NAMES. Same as for 968 in Sinhala and Tamil.

SIZE. Bulbul +; length c. 23 cm (9½ in.).

FIELD CHARACTERS. As of 967 and 968, qq.v., but dark bellied, the white restricted to vent, under tail-coverts and posterior flanks. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Subspecies endemic to Ceylon. Resident. Common in the low-country Wet zone and neighbouring lower hills to c. 500 m. Confined to forest and well-wooded areas.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 967 and 968.

BREEDING. Season, February to April, chiefly March. Nest, eggs (c/2 or 3) and breeding biology, as in 967.

MUSEUM DIAGNOSIS. See Key to the Subspecies and Field Characters. An ecological form, grading into *insularis* in the drier northern, eastern and southeastern parts of the Island.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer
8 ♂♂	122-128	25-27	c. 19	83-90	109-120 mm
12 ♀♀	115-128	24-27	17-18	80-92	105-118 mm (HW)

COLOURS OF BARE PARTS. As in 967.

970 **Crowbilled Drongo. *Dicrurus annectans* (Hodgson)**

(*Bhuchanga*) *Annectans* Hodgson, 1836, Ind. Rev. 1 (8): 326 (Nepal)
Baker, FBI No. 765, Vol. 2: 353

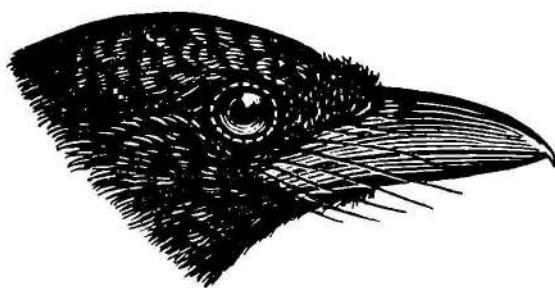
Plate 67, fig. 3

LOCAL NAME. *Kak raja sorai* (Assam).

SIZE. Myna +; length c. 27 cm (10½ in.) to tip of tail.

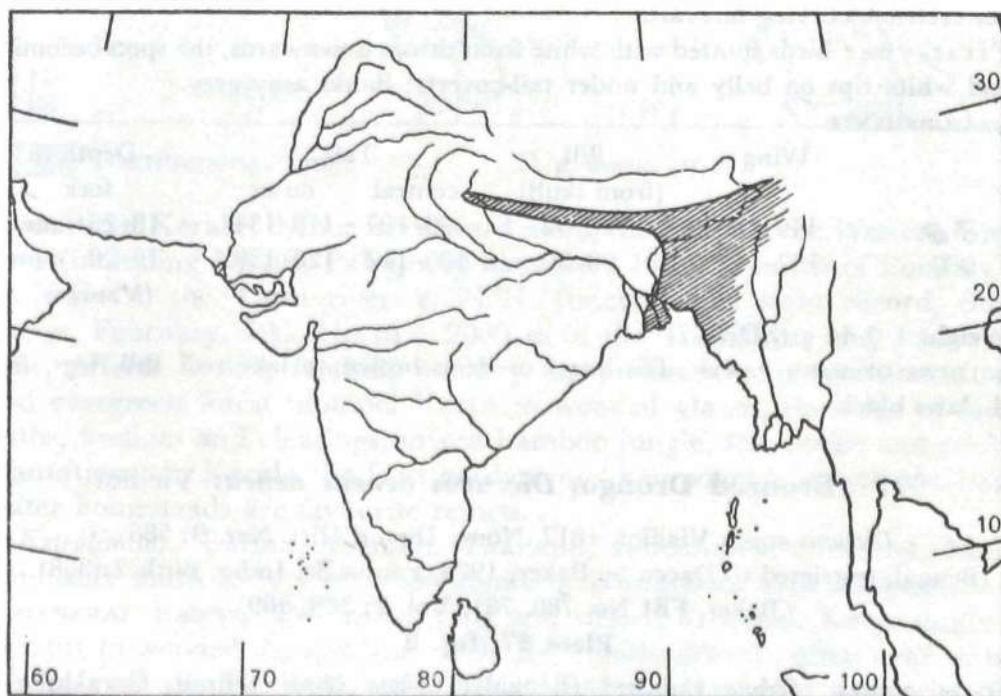
FIELD CHARACTERS. A glossy jet black drongo very like the familiar King Crow (963) but with larger, heavier bill and shorter, less deeply forked tail.

Distinguished also by stockier build and forest habitat (*v.* open cultivation). Sexes alike.



STATUS, DISTRIBUTION and HABITAT. Resident (or breeding summer visitor?); seasonal movements and migrations unclear. Uttar Pradesh from Kumaon (c. Almora), Nepal (terai and duns), Sikkim (lowlands), N.

Bengal (duars), Bhutan (foothills), NEFA = Arunachal Pradesh, Assam north and south of Brahmaputra R., Nagaland, Manipur, E. Pakistan (hill tracts); from plains level to c. 700 m. A doubtful record from Nicobar Is., possibly a

Dicrurus annectans

■ Distributional range

straggler (1874, Hume, SF 2: 209). Affects dense moist-deciduous and evergreen forest; also well-wooded compounds with large trees in this biotope.

Extralimital. N. and C. Burma, N. Thailand. Migrates through Tenasserim, Malay Peninsula and islands, to Sumatra, Java, Borneo.

GENERAL HABITS. A comparatively low-elevation forest drongo, not uncommon seasonally in the appropriate habitats of its range. Keeps to tall undergrowth and lower parts of the foliage canopy rather than to exposed tree-tops. Little specifically recorded. Close superficial similarity to and possible confusion with Black and Bronzed drongos vitiates the reliability of casual field observations.

FOOD. Crickets, grasshoppers, hemipterous bugs, flying termites, and other insects; doubtless also other small living creatures.

VOICE AND CALLS. Described as similar to those of Black Drongo but 'peculiarly clear and loud' (A. E. Osmaston), 'pleasanter and more musical' (BB).

BREEDING. *Season*, April to June. *Nest*, a small fragile-looking shallow cup of grasses, rootlets, fibres, etc. bound together with cobwebs, reminiscent of nest of cuckoo-shrike or minivet; cradled in a horizontal fork of a slender branch c. 5 to 12 metres up, in heavy forest; occasionally in scrub jungle. *Eggs*, 3 or 4, variable; usually pale cream to warm salmon or salmon-buff, longitudinally streaked (rather than spotted) with red-brown or purple-brown, with underlying streaks of pale grey or lavender, the markings more numerous at the broad end. Average size of 100 eggs 26.3 × 19.4 mm (Baker). Both sexes take part in building the nest, but *fide* Baker only the female incubates. Incubation period undetermined.

MUSEUM DIAGNOSIS. Whole plumage glossed with steel-blue. Under wing-coverts dull black with a round white spot at tip of each feather. Tail-fork shallow; outer rectrices curving outward.

First-year birds spotted with white from throat downwards, the spots becoming broad white tips on belly and under tail-coverts; flanks ashy grey.

MEASUREMENTS

	Wing	Bill (from skull)	Tail central	Tail outer	Depth of fork
♂ ♂	140-150	28-32	99-107	119-134	18-26 mm
♀ ♀	137-147	28-30	100-112	120-130	15-28 mm (Vaurie)

Weight 1 ♀ 44 g (SDR).

COLOURS OF BARE PARTS. Iris hazel or deep brown to lake red. Bill, legs, feet and claws black.

971 Bronzed Drongo. *Dicrurus aeneus aeneus* Vieillot

Dicrurus aeneus Vieillot, 1817, Nouv. Dict. d'Hist. Nat. 9: 586

(Bengal, restricted to Dacca by Baker, 1924, Fauna Br. India, Birds 2: 368)

Baker, FBI No. 780, 781, Vol. 2: 368, 369

Plate 67, fig. 6

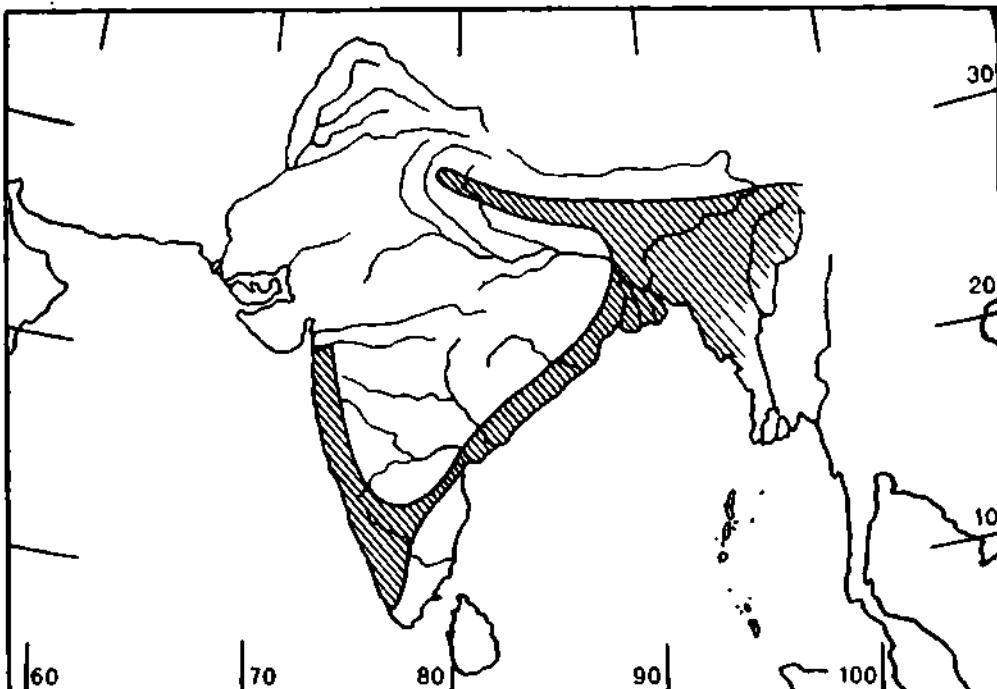
LOCAL NAMES. *Chhota bhūjāngā* (Bengal); *Chhota kēsrāj* (Hindi, Gorakhpur); *Chaptia* (Nepal); *Chinna kāri kūruvi* (Tamil); *Lālitakaka* (Malayalam).

SIZE. Bulbul +; length c. 24 cm (9½ in.) including longish forked tail.

FIELD CHARACTERS. A small black forest drongo, highly glossed all over with bronze-green and blue. Superficially like the familiar Black Drongo or King Crow but appreciably smaller, more iridescent, and with less deeply forked tail. Bill broad and flattened like flycatcher's. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident, moving about locally in winter. Uttar Pradesh (from c. Mussooree) eastward through Nepal, Sikkim, Bhutan, NEFA, Assam (north and south of Brahmaputra R.), Nagaland, Manipur, Mizo (?); East Pakistan; West Bengal and eastern Bihar southward along the Eastern Ghats complex in Orissa, eastern Madhya Pradesh (Bastar dist.), Andhra and Tamil Nadu; east across the Shevaroy Hills

Dicrurus aeneus



■ Distributional range

D. a. aeneus (971).

to southern Kerala; thence northward along the Sahyadri or Western Ghats strip (including Nilgiri, Palni, and associated hills) to north of Bombay — probably to the Tapti river, c. 21°N. (unconfirmed sight record, Surat Dangs, February, SA). Up to c. 2000 m in the Himalayas and peninsular hills. Affects broken foothills country for preference, in moist-deciduous and evergreen forest biotope. Keeps to wooded glades, the edge of forest paths, firelines and clearings, mixed bamboo jungle, tea, coffee and rubber plantations; in Kerala the fruit gardens or 'kampongs' around the back-water homesteads are favourite resorts.

Extralimital. Burma, Yunnan, Thailand, Indochinese countries, Malay Peninsula south to c. 4°N. whereabouts it intergrades with *maiayensis*.

GENERAL HABITS. Forest-haunting and strictly arboreal. Keeps singly or in pairs to wooded shady glades with dense undergrowth, often near water; hardly ever ventures out in the open. Very parochial and territorial, frequenting the same spot day after day, and winter after winter. Commonly associates with the mixed foraging parties of insectivorous birds in forest. Hawks very much in the manner of a flycatcher, making short sprightly aerial sallies, often swooping close to the ground to snatch a winged insect and looping back to the same perch. Also makes vertical sorties of a metre or two from tree-tops, diving back to the perch with wings closed after each

capture. Is characteristically bold and pugnacious and will attack and put to rout crows and even raptors intruding within the precincts of its nest-tree.

FOOD. Winged insects: midges, flies, ants, moths (Diptera, Hymenoptera, Lepidoptera), etc.; also flower-nectar.

VOICE AND CALLS. Noisy and demonstrative during breeding season, comparatively silent otherwise. Has a wide repertoire of loud clear musical whistles interwoven with excellent and faithful mimicry of other birds' calls.

BREEDING. Season, overall March to June. Nest, a shallow cup of fragments of inner bark of trees, strips of banana leaf, grasses, etc. felted and cemented together and fixed into the site with vegetable fibres and cobwebs; copiously plastered on the outside with the latter until nearly white in colour, but usually very inconspicuous. Size of nest approximately 10 cm (outside diameter); cup c. 7 cm across \times 4 cm deep inside; suspended like a hammock in a horizontal fork in terminal twigs of a leafless lateral branch of a teak sapling or similar small tree; sometimes near the tip of a curving bamboo stem. Eggs, 3 or 4, variable; most common type pale pinkish fawn to pale salmon-pink with an irregular zone of darker cloudy spots, in some cases reddish or purplish, round the broad end. Size of eggs c. 21 \times 16 mm. Both sexes take part in building the nest, incubation, and rearing the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. Differs from extralimital *malayensis* (with which South Indian birds were placed by Baker) in being larger, with the rump generally lighter coloured (often grey) and without gloss; abdomen, vent and under tail-coverts also more grey.

MEASUREMENTS

	Wing	Bill (from skull)	Tail		Depth of fork
♂ ♂	112-131	20-25	78-93	105-131	19-39 mm
♀ ♀	112-127	21-25	80-92	105-124	19-36 mm (Vaurie)

Tarsus 15-17 mm (SA).

Weight 5 ♂ ♂ 26-28; 2 ♀ ♀ 22, 30 g (SDR, GD, BB).

COLOURS OF BARE PARTS. Iris brown to reddish brown or crimson. Bill black; mouth greyish pink or slaty pink. Legs, feet and claws black.

972 Lesser Racket-tailed Drongo. *Dicrurus remifer, tectirostris* (Hodgson)

(*Bhringa*) *Tectirostris* Hodgson, 1836, Ind. Rev. 1 (8): 325 (Nepal)

Baker, FBI No. 786, Vol. 2: 375

Plate 67, fig. 2

LOCAL NAMES. *Chhōtā bhimrāj* (Bengal, Assam); *Nambong punnong* (Lepcha); *Poyadiyapo* (Bhutanese); *Dao raja kashiiba* (Cachari).

SIZE. Myna +; length c. 28 cm (11 in.), plus c. 9 cm to end of tail-rackets.

FIELD CHARACTERS. A glossy metallic black forest drongo with a velvety pad-like tuft of feathers above base of bill; two curiously elongated wire-

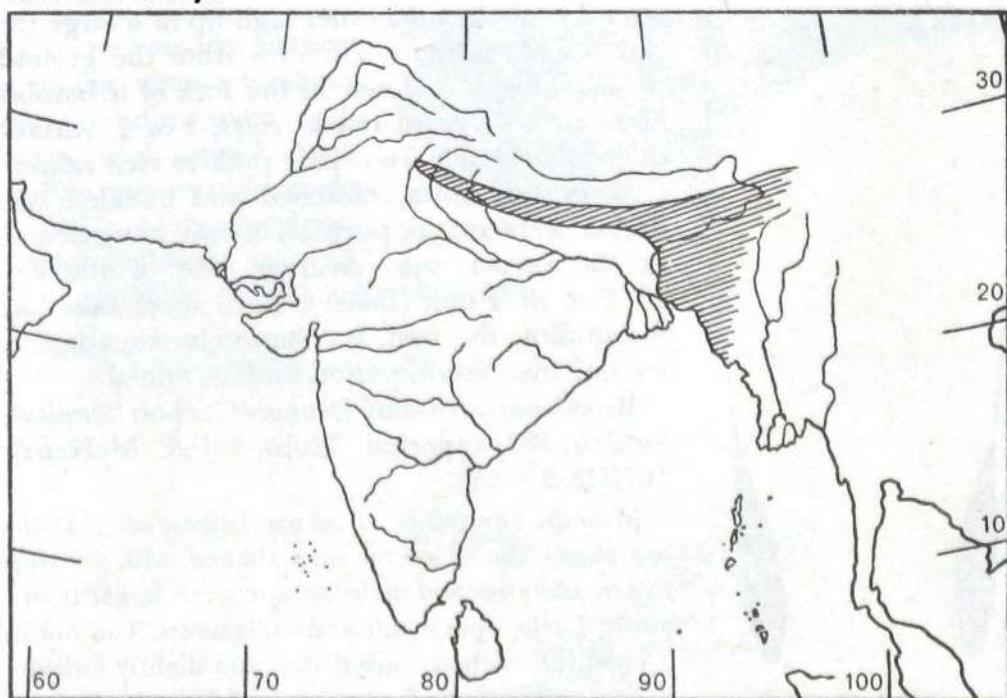
like outer tail-feathers ending in spatulae or 'rackets', fully webbed on both sides of shaft (*contra* 976, q.v.). Sexes alike.

In the flying bird these rackets, undulating behind, look singularly like a pair of angry bumble-bees in hot pursuit!

STATUS, DISTRIBUTION and HABITAT. Resident. The lower

Himalayas from Garhwal (Tons Valley, c. 78°E.) eastward through Kumaon, Nepal, Sikkim, N. Bengal (Darjeeling dist.), Bhutan and NEFA. Assam north and south of Brahmaputra R., Nagaland, Manipur, Mizo. East Pakistan

Dicrurus remifer



■ Distributional range

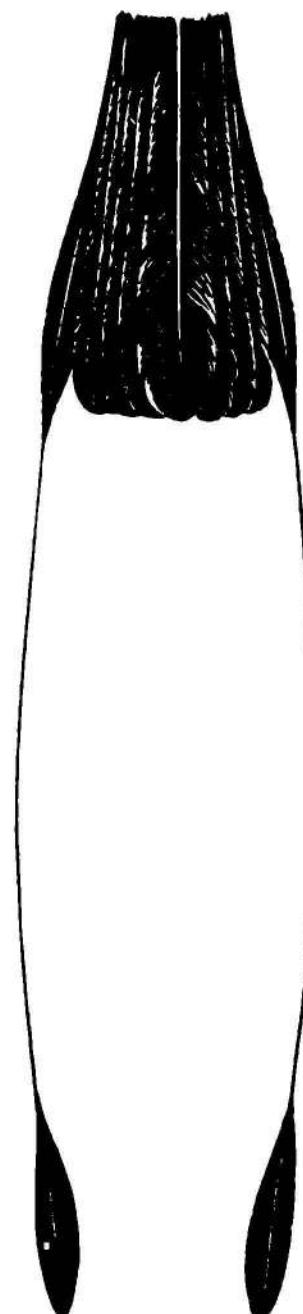
D. r. tectirostris (972).

(hill tracts); from the edge of the plains, through the foothills up to c. 2000 m. Affects heavy moist-deciduous and evergreen forest.

Extralimital. Burma south to c. 16°N. lat., Yunnan, N. Thailand and the Indochinese countries. Other races in Cambodia, Malay Peninsula, Sumatra, Java.

GENERAL HABITS. Entirely arboreal. Keeps singly or in twos and threes to tree-tops or high up within dense foliage canopy in heavy jungle. Frequents shady glades and edge of openings, firelines or forest streams. Hawks winged insects usually in the manner of a flycatcher, making

DICRURIDAE

Tail, $\times c. \frac{1}{4}$

MEASUREMENTS

	Wing	Bill (from skull)	Tail central	Tail outer	Bare shaft	
♂ ♂	137-149	25-30	117-129	402-532	182-306	mm
♀ ♀	133-146	24-28	116-126	354-466	137-241	mm (Vaurie)

Tarsus 21-22 mm (SA)

Weight 4 ♂♂ 48-51 g (BB); 1 o? 46 g (SA).

COLOURS OF BARE PARTS. Iris brown to brownish crimson. Bill, legs, feet and claws black.

short looping sallies, often swooping close to the ground, and returning to the same or a nearby perch. Is regularly met in association with the itinerant mixed hunting parties of flycatchers, laughing thrushes and assorted insectivorous forest birds, often side by side with its larger racket-tailed congener (976), which has very similar habits. Flight dipping and noisy.

FOOD. Chiefly insects; also flower-nectar.

VOICE and CALLS. A wide range of loud metallic musical whistles not readily distinguishable from those of Large Racket-tailed Drongo; like it, also an excellent mimic of other birds' calls.

BREEDING. Season, April to June. Nest, a shallow cup of roots, grass stems, wiry tendrils, etc. rather loosely bound together with cobwebs and secured with the same hammockwise in a horizontal fork of twigs near the extremity of a lateral branch; sometimes high up in a large tree but usually under c. 7 metres from the ground; occasionally low down in the fork of a bamboo almost within hand reach. Eggs, 3 or 4, variable in ground colour from pale pink to rich salmon-pink or terracotta, blotched and freckled with darker terracotta or purplish brown, more densely at the broad end. Average size of 100 eggs 25.5 x 18.4 mm (Baker). Both sexes take part in building the nest, incubation and rearing the young. Incubation period undetermined.

Brood-parasitism by Drongo-Cuckoo (*Surniculus lugubris*, 588) reported (Hopwood & McKenzie, JBNHS 25: 89).

MUSEUM DIAGNOSIS. Young (immature). Duller, less glossy above, greyer on abdomen, with the white tips to axillaries and under wing-coverts larger than in adult. Lacks frontal tuft and tail-rackets. Tail normal shaped (i.e. without bare shafts) and slightly forked.

For description of succession of 1st-year, 2nd-year and 3rd-year (adult) plumages see Vaurie, 1949: 271.

973 Haircrested or Spangled Drongo. *Dicrurus hottentottus hottentottus*
(Linnaeus)

Corvus hottentottus Linnaeus, 1766, Syst. Nat., ed. 12, 1: 155 (Cape of Good Hope, restricted to Sikkim by Baker, 1919, re-restricted to 'region between Ayuthia and head of the Gulf', Siam, by Kloss, 1921, Jour. Fed. Malay States Mus. 10: 223.

Re-restricted to Chandernagor by Stresemann, 1952, Ibis 94: 517, 521)

Edolius Chrishna Gould, 1836, Proc. Zool. Soc. London: 5 (Nepalia)

Chibia hottentotta londae Koelz, 1939, Proc. Biol. Soc. Washington 52: 70
(Londa, Bombay Presidency)

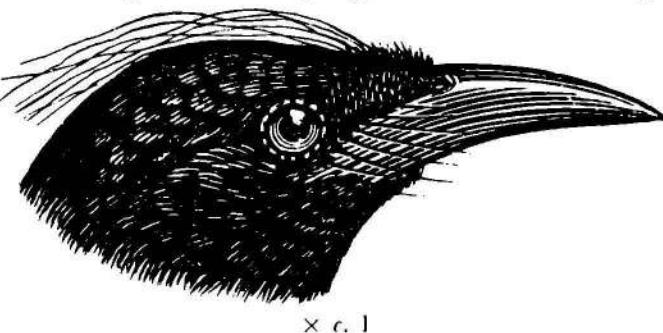
Baker, FBI No. 782, Vol. 2: 370

Plate 67, fig. 7

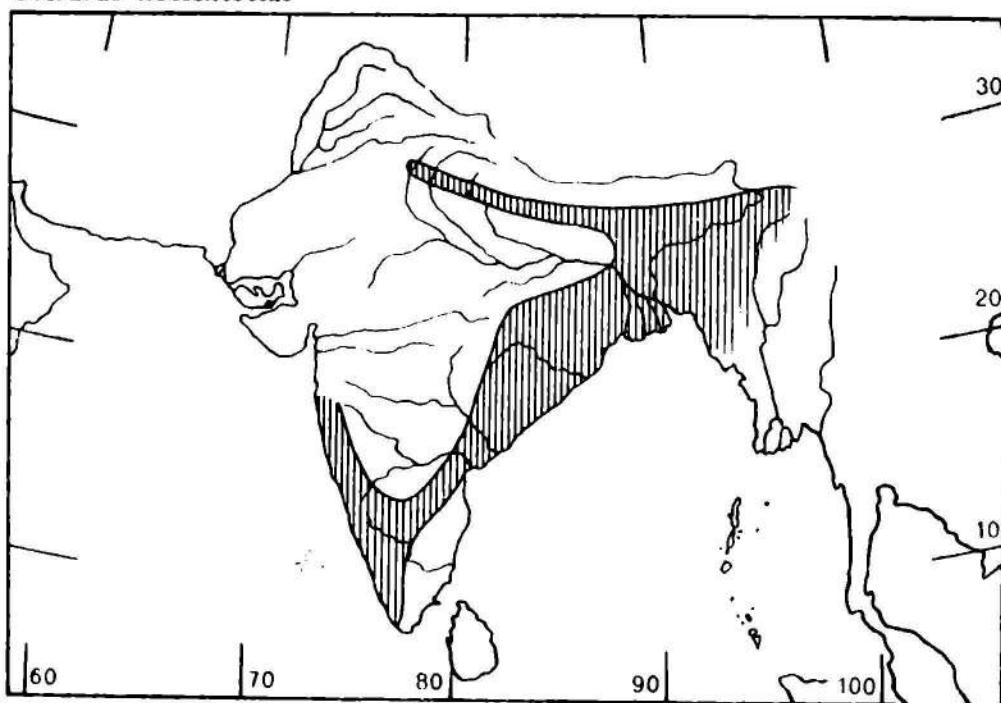
LOCAL NAMES. *Krishnarāj*, *Kishenrāj*, *Kēsrāj* (Hindi); *Keshrāj* (Bengali); *Kēsyā*, *Jōbrāj*, *Keshrāj*, *Chibey* (Nepali); *Povongpho* (Lepcha); *Tentika pāssāla poligādu* (Telugu); *Kinnārikakka* (Malayalam).

SIZE. Myna ± with longer tail; overall length c. 31 cm (12½ in.).

FIELD CHARACTERS. An iridescent glossed and spangled blue-black drongo with a distinctive longish, almost square-cut tail, curled up at the outer ends. A few fine hair-like feathers springing from forehead and extending over hind-crown and upper back (visible only at close range in profile, or through binoculars). Bill long, pointed, and noticeably downcurved. Sexes alike.



Dicrurus hottentottus



■ Distributional range

D. h. hottentottus (973).

STATUS, DISTRIBUTION and HABITAT. Resident, subject to seasonal movements and wanderings governed largely by availability of its staple diet of flower-nectar. The Himalayan foothills and submontane tract from Kalka hills (*c.* 77°E.) eastward through Uttar Pradesh, Nepal, Sikkim, N. Bengal, Bhutan and NEFA. Assam north and south of Brahmaputra R., Nagaland, Manipur, Mizo (?), East Pakistan (hill tracts), W. Bengal, eastern Bihar,

southward along the E. Ghats complex in Orissa, eastern Madhya Pradesh (Bastar and Balaghat dists.), Andhra and Tamil Nadu. Kerala, western Mysore (Malnaad), and northward along the Sahyadri or W. Ghats strip at least to Bombay straggling irregularly to Kutch (*c.* 22°50'N.) — Himmatshingji, JBNHS 60: 734. From plains level to *c.* 1400 m; occasionally to 2000 m. Affects moist-deciduous and evergreen forest biotope.

Distribution and ecology more or less overlap those of *Dicrurus aeneus* (97!), q.v.

Extralimital. Burma, Thailand, Indo-chinese countries. Numerous other races extend the species over China, Philippines, and across to New Guinea and Australia.

GENERAL HABITS. Forest-haunting and entirely arboreal. Predominantly a nectar-feeder, the long and pointed downcurved

bill, markedly different from other drongos', evidently an adaptation for this diet (structure of tongue needs proper study).¹ Keeps to dense jungle and wooded glades, singly or in small parties; occasionally gatherings of up to 20 or more, e.g. when mobbing a predator or to feed in a grove of flowering trees (once 'a flock of 40 to 50 bathing' — Hopwood). Is a regular member of the roving bands of assorted insectivorous birds in forest, and invariably in attendance on flowering Silk Cotton (simu!) trees in clearings. Adopts 'dog-in-the-manger' tactics when feeding from the blossoms, swooping without provocation upon other visitors in the same quest and bullying them off even from distant branches or adjacent trees. Has a noisy flight with thudding wing-beats. Numbers have been observed bathing by repeatedly dashing into water from an overhanging tree (Hopwood, JBNHS 21: 1201).

FOOD. Principally flower-nectar; also insects. *Salmalia malabarica*, *Bombax insigne*, *Erythrina indica*, *E. stricta*, *E. lithosperma*, *Acrocarpus* sp. some of the most commonly patronized species; also various introduced *Eucalyptus* species. From the thick coating of pollen always present on the bird's forehead and throat feathers, is evidently instrumental in promoting cross-pollination.

VOICE and CALLS. A subdued metallic clanging note constantly uttered; also creaking calls reminiscent of the sharp *too!*? notes of Blossomheaded

¹ According to Beecher shows marked nectar-feeding adaptations (Beecher, W. J., 1953. Phylogeny of the Oscines. *Auk* 70: 270-333).

Parakeet (*Psittacula cyanocephala*, 558). Very noisy in breeding season: loud clear whistles and mimicry of other birds' calls.

BREEDING. Season, April to June in N. India; March–April in the south. Nest, of the usual drongo pattern, a deep saucer of pieces of bark, grass, rootlets, and tendrils of creepers, etc., often rather loose and untidy, and lacking the cobweb plastering on the exterior: measuring 9–10 cm across (inside) and 4–5 cm deep; sides about 10 mm thick but bottom so flimsy that the contents usually visible from below. Built in a horizontal fork of twigs near the extremity of a lateral branch, usually between 5 and 10 metres up, but sometimes almost within hand reach from the ground; occasionally in the head of a *Borassus* or other palm at the base of the leaf stalks. Eggs, 3 or 4, variable in coloration and markings: commonly creamy to salmon pink, minutely freckled with light red or purplish red. Average size of 200 eggs 29·2 × 21·2 mm (Baker). Both sexes take part in building the nest, incubation, and tending the young. Incubation period unrecorded.

MUSEUM DIAGNOSIS. Neck and breast feathers hackle-shaped, brightly glossed and spangled. Tail with the four inner pairs of rectrices of equal length; outer pair a little longer, twisted round and curling upward near tip.

Young (immature) browner and with less metallic gloss; hackle feathers of neck and breast, and forehead filaments, shorter. Axillaries and under wing-coverts tipped with white.

Nestling. 'Brown with obsolete white bars to the abdomen, flanks and breast; bold white tips to the axillaries and under wing-coverts and pale edges to the wing-coverts' (Baker).

MEASUREMENTS

Peninsular birds

	Wing	Bill (from feathers)	Tail
		central	outer
♂♂	160–172	26–30	117–135
♀♀	154–166	25–29	120–133

(Vaurie)
132–155 mm
131–149 mm

Bill (from skull) ♂♀ 36–43 mm, Tarsus 26–29 mm (SA)

There is a cline of increasing size from south to north. Birds from the Punjab Himalayas to eastern Assam are larger than from south India. Vaurie and some other authors therefore prefer to retain these under the subspecies *chrishna* Gould. Vaurie measures northern birds as follows:

	Wing	Bill (from skull)	Tail
		central	outer
♂♂	168–180	28–31	126–134
♀♀	165–183	28–30	131–143

149–164 mm
144–163 mm

Weight 4 ♂♂ 86–102; 2 ♀♀ 76, 90 g (GD, SA, BB).

COLOURS OF BARE PARTS. Iris reddish brown or dark brown. Bill, legs, feet and claws black.

DICRURUS ANDAMANENSIS Tytler: ANDAMAN DRONGO

Key to the Subspecies

Larger	<i>D. a. dicruriformis</i>	134
Smaller	<i>D. a. andamanensis</i>	134

974. *Dicrurus andamanensis Dicruriformis* (Hume)

Dissemuroides dicruriformis Hume, 1873, Stray Feathers 1: 408
 (Great Cocos and Table Island)
 Baker, FBI No. 784, Vol. 2: 372

LOCAL NAMES. None recorded.

SIZE. Myna ±, with longer tail; overall length c. 35 cm (c. 14 in.).

FIELD CHARACTERS. As of 975, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Endemic in the North Andaman group of islands. Recorded from Great Coco and Table Island. Affects forested areas, ' principally the jungle immediately within the belt of coconut palms that surround the coast ' (Hume, SF 2: 211).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 975, q.v.

BREEDING. Not specifically recorded; doubtless as in 975.

MUSEUM DIAGNOSIS. Differs from *andamanensis* only in being larger.

'There is apparently a cline of increasing size from south to north, birds from the Middle Andamans probably intermediate between this form and *andamanensis* (975) as suggested by Abdulali (JBNHS 61: 550). More material needed.'

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail (outer)
♂ ♀	142-156	22-23	c. 24	150-182 mm (Baker)

COLOURS OF BARE PARTS. As in 975.

975. *Dicrurus andamanensis andamanensis* Tytler

Dicrurus andamanensis Tytler, in Beavan, 1867, Ibis: 323
 (Andaman Is., restricted to Port Blair by Baker, 1923, Hand-List: 48)
 Baker, FBI No. 783, Vol. 2: 371

Plate 67, fig. 10

LOCAL NAMES. None recorded.

SIZE. Myna ±, with longer tail; overall length c. 35 cm (c. 14 in.).

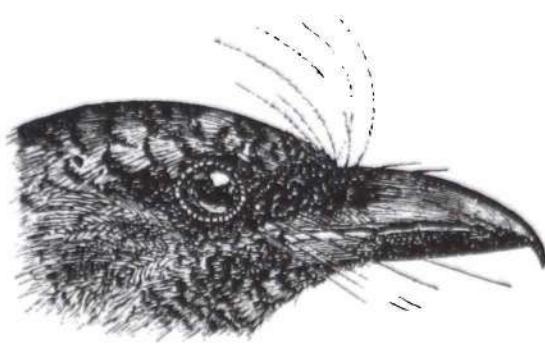
FIELD CHARACTERS. A deeply fork-tailed drongo, similar to the Black (962, 963), glossed with metallic blue-green above, dull velvety black below.

Distinguished chiefly by a peculiar tuft of hair-like filaments c. 2 cm long springing from forehead, erect or curved back. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Endemic in the Little and South Andaman groups of islands. Habitat as in 974.

GENERAL HABITS. Arboreal and forest-haunting. ' Highly gregarious, flocks of a dozen to 20

travelling through forest together, searching food by themselves or in



× c. 1

company with *Irena puella*, *Sturnus erythropygius*, *Coracina striata*, *Pericrocotus cinnamomeus*, etc.' (Butler, JBNHS 12: 291¹). Frequently observed clinging to tree-trunks like a woodpecker, pressing the tail against the bark and ascending in flitting hops.

FOOD. Mainly winged insects hawked in the air.

VOICE AND CALLS. A variety of sharp metallic notes, typical of the drongos. Slightly jerks up tail after each note. 'A long *tseep*' (HA).

BREEDING. Season, April and May. Nest, a shallow cup of fine dry twigs firmly woven together, bound and suspended with cobwebs cradle-wise in a fork of twigs generally at a considerable height in some dry or leafless tree: scantily lined with black hair-like rhizomorphs. Eggs, 2 or 3, variable; commonest type pale salmon-pink spotted all over with pale brownish markings, with some underlying spots of pale grey (Osmaston). Average size of 50 eggs 24.8 × 18.3 mm (Baker).

MUSEUM DIAGNOSIS. Feathers of crown, hindneck and whole back glossy only at tips and edges, producing a somewhat scaly appearance. Tail long, deeply forked, the outer feathers curving markedly upward. Four inner pairs of rectrices each increasingly longer than its neighbour, *contra hottentottus* where they are all of about equal length.

Differs from *dicruriformis* (974) only in being smaller.

MEASUREMENTS

	Wing	Bill (anterior point of nostril to tip)	Tarsus	Tail (outer)
♂ ♀	126-138	19-20	c. 20	118-161 mm (Baker)

South and Little Andamans birds give:

	Wing	Tail (outer)
9 ♂ ♂	135-144	153-167 mm
3 ♀ ♀	132-138	157-162 mm (Vaurie)

COLOURS OF BARE PARTS. Iris deep brown or blackish. Bill, legs and feet black.

DICRURUS PARADISEUS (Linnaeus): GREATER RACKET-TAILED DRONGO Key to the Subspecies

	Page
A Tail without terminal rackets; otherwise like (e).....	D. p. lophorhinus
B Tail with terminal rackets	
a Size medium; wing c. 140 to 170 mm; tail up to 480 mm; frontal crest, reaching only over anterior crown.....	D. p. paradiseus
b The largest form; wing c. 160 to 185 mm; tail up to 580 mm; frontal crest covering whole crown.....	D. p. grandis
c Size large; wing c. 150 to 170 mm; tail up to 475 mm; frontal crest absent or obsolete; bill c. 34 mm.....	D. p. otiosus
d Size medium; wing c. 145 to 155 mm; frontal crest short; bill c. 35 mm.....	D. p. nicobariensis
e Size small; wing c. 140 to 160 mm; tail up to 350 mm; frontal crest very small	D. p. ceylonicus

¹ Current scientific names have been substituted for those used by Butler.

976. *Dicrurus paradiseus grandis* (Gould)

Edolius grandis Gould, 1836, Proc. Zool. Soc. London: 5 (Nepalia)
Baker, FBI No. 789, Vol. 2: 378

LOCAL NAMES. *Bhimrāj*, *Bhringrāj* (Hindi, Bengali); *Kālja* (Nepal); *Parvak* or *Parvak pho* (Lepcha); *Dao raja gashim* (Cachari).

SIZE. Myna; with a tail c. 35 cm (14 in.) long.

FIELD CHARACTERS. A large metallic black drongo with a conspicuous backward-curving tuft or crest on forehead, and two long wire-like spatula-tipped streamers in tail. Sexes alike.



× c. 1

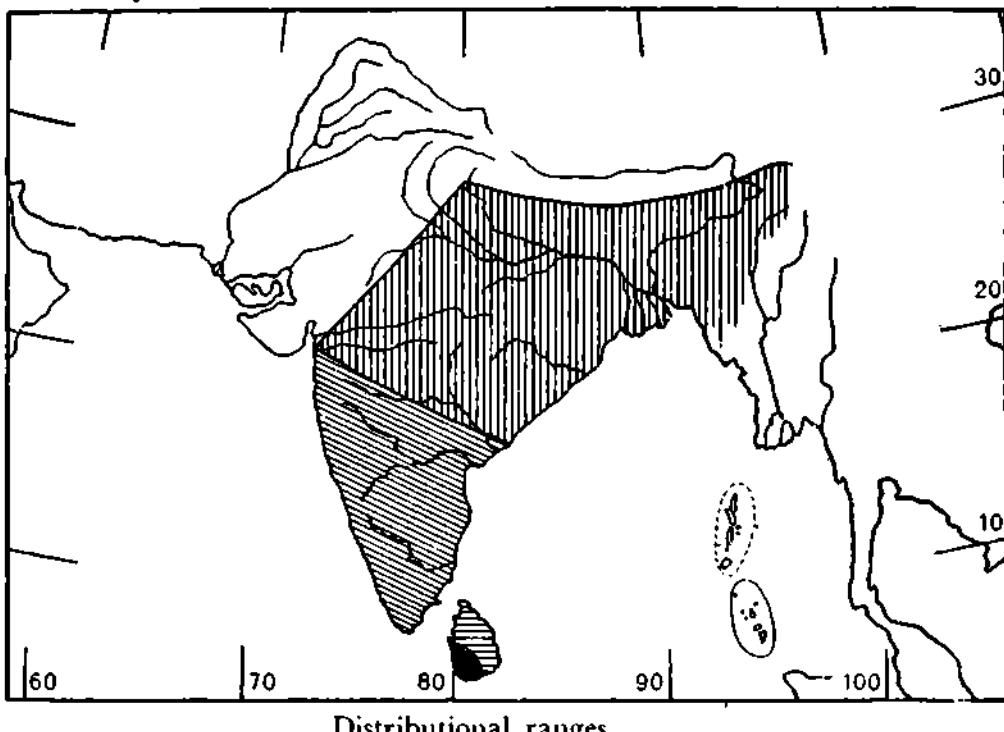
STATUS, DISTRIBUTION and HABITAT. Resident. The lower Himalayas and submontane country from Kumaon eastward through Nepal, Sikkim, Bhutan and NEFA; Assam, Nagaland, Manipur, Mizo; East Pakistan (hill tracts). Northern India roughly east of a line from Pilibhit in Kumaon (c. 80°E.) to Surat in Gujarat (c. 21°N.) thence southeast to Rajahmundry in Andhra (c. 17°N.). Intergrades with *paradiseus* (977) around its southern boundary. From plains level to c. 1500 m. Affects deciduous and evergreen forest biotope: especially well-wooded, broken foothills country. Cultivation edges, tea-gardens, sal, teak and bamboo jungle particularly favoured. Occasionally wanders to jungle patches isolated by several kilometres of cultivation and open treeless country.

EXTRALIMITAL. N. Burma south to Chin Hills and N. Shan States, Yunnan and northern and central Vietnam. Other subspecies in S. Burma, Malay Peninsula, etc.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 977, q.v.

BREEDING. Season, April to June. Nest, eggs (c/3 or 4) and breeding biology as in the peninsular bird (977).

MUSEUM DIAGNOSIS. Feathers at sides and hind part of neck long, pointed and hackle-shaped, forming a prominent cape. Crest very large and full, with the front feathers longer and more attenuated and erect than in South Indian and Ceylonese birds: main feathers of crest also broader, longer, and curving back over the entire crown.

Dicrurus paradiseus

■■■■ *grandis* (976). ■■■■ *paradiseus* (977). ■■■■ *ceylonicus* (978)
 ■■■■ *lophorhinus* (979). ■■■■ *otiosus* (980). ■■■■ *nicobariensis* (981).

Rackets at end of tail-wires formed by inner web not outer as superficially apparent.
The delusion is due to a twist in the slender rachis just above the spatula.

MEASUREMENTS

	Wing	Bill (from skull)	Tail	
			central	outer (to tip of racket)
♂♂	175–185	39–44	145–162	447–578 mm
♀♀	165–181	38–42	142–155	362–458 mm (Vaurie)

Weight 3 ♂♂ 100–124 g (BB, SA).

COLOURS OF BARE PARTS. Iris brown to reddish brown. Bill black; mouth pale greyish pink, sometimes mottled with brown, yellow and slate. Legs, feet and claws black.

977. *Dicrurus paradiseus paradiseus* (Linnaeus)

Cuculus paradiseus Linnaeus, 1766, Syst. Nat., ed. 12, 1: 172

(Siam, restricted to 'the region between Ayuthia and the head of the Gulf' by Kloss, 1919, Jour. nat. Hist. Soc. Siam 3: 453)

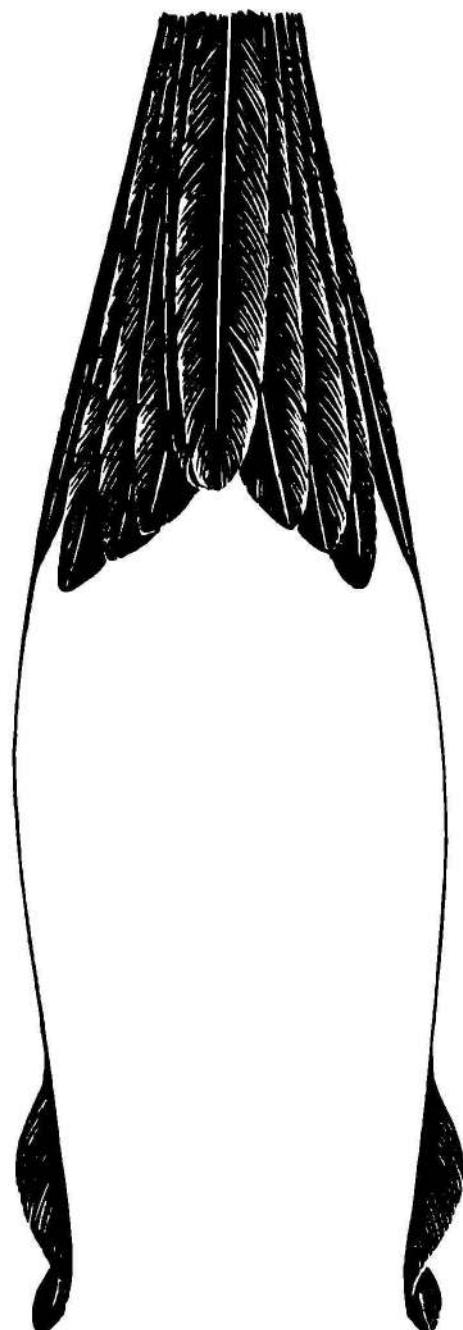
Lanius malabaricus Latham, 1790, Index Orn. 1: 66 (Malabar)
Baker, FBI No. 792, Vol. 2: 381

Plate 67, fig. 4

LOCAL NAMES. *Bhimrāj, Bhāngrāj* (Hindi); *Tinka pāssālā poligādu* (Telugu); *Hati* (Gond); *Pallāvūchhā kōtwāl* (Marathi); *Erāttai vālān, Kondāi kārichān* (Tamil).

SIZE. Myna; with a tail c. 35 cm (14 in.) long.

FIELD CHARACTERS. As of 976, q.v. See Key to the Subspecies and Museum Diagnosis.

Tail, $\times c. \frac{1}{4}$

off, the end rackets looking singularly like a pair of irate bumble-bees in hot pursuit. Distinctly crepuscular, commonly hunting till far into the dusk, springing up vertically from a tree-top to snatch an insect and diving back to the perch with wings closed.

FOOD. Termites, moths, beetles, dragonflies, locusts, mantises and other insects up to the largest size, hawked in the air; larvae picked off tree-trunks and branches in agile swoops and carried away in claws. Very probably also takes lizards and small birds as other drongos. Flower-nectar

STATUS, DISTRIBUTION and HABITAT. Resident. Peninsular India south of the range of *grandis* (976). Broken low and foothills country and up to c. 1500 m in deciduous and evergreen forest biotope. Mixed teak and bamboo forest, and secondary evergreen jungle on old abandoned clearings are some of its favourite haunts.

Extralimital. Tenasserim and the Mergui archipelago, southern Thailand, S. Vietnam, Cambodia, Laos.

GENERAL HABITS. Keeps singly or in pairs, sometimes small gatherings of 5 or 6 birds, e.g. at a hatch of winged termites emerging from the ground. Very commonly with the mixed bands of insectivorous birds in forest. Almost invariably met with in the same patch of forest as Barred Jungle Owl (*Glaucidium*), and in close association with tree pies (*Dendrocitta*) and wood-peckers (*Dinopium*, *Chrysocolaptes*, etc.); this association so frequent as to draw comment from observer after observer in far-flung parts of its range. Like Black and Grey drongos one of the earliest risers, often starting to call long before dawn while still quite dark — usually a desultory, monotonous *kit-kit-kit-kit* etc., kept up almost continuously till daybreak. Is bold, bullying and aggressive, especially when nesting, attacking recklessly even large raptors blundering within the precincts of its nest-tree; also diving repeatedly at human climber to nest. Flight rather noisy and dipping — rapid wing-flaps punctuated with short pauses. The long tail-feathers trailing behind produce a characteristic humming noise audible a long way

of *Salmalia malabarica*, *Bombax insigne*, *Erythrina (indica, stricta, lithosperma)* and other species) an important supplementary diet.

VOICE and CALLS. Very noisy, especially in the early mornings and at sunset, more so towards the breeding season. Has a large repertoire of loud metallic calls and rich melodious notes and whistling. Is, in addition, an exceptionally versatile and convincing mimic. In the wild state has been recorded mimicking both calls and complete songs (with all their nuances) of the following birds: shikra, serpent eagle, crested hawk-eagle, grey junglecock, barred owlet, Indian cuckoo, koel, black woodpecker (*Dryocopus*), goldenbacked woodpecker (*Dinopium*), rufous woodpecker (*Micropsternus*), grey hornbill, pitta, jungle babbler, scimitar babbler, oriole, magpie robin, shama. The imitations are sometimes echoed back promptly after the original call and repeated after each, the mimic seeming to mock the producer while obviously enjoying the joke and his own cleverness! Once observed reproducing agitated calls of jungle babbler (*Turdoides striatus*) with the body feathers fluffed out, wings drooping, tail depressed, and pivoting from side to side, 'in exact mimicry of the behaviour of the babbler while thus calling' (Daniel, JBNHS 63: 443). Many intriguing and unexpected bird-calls in forest — also of squirrels (*Ratufa, Funambulus*) — may often be traced down to a single sportive Racket-tail, a fact which stresses the importance of visual evidence in support of 'diagnostic' calls in drongo-ridden areas. In captivity has been recorded imitating song of canary to perfection; also mewing of cat, and 'two or three lines of whistled song with remarkable accuracy' (Finn, JBNHS 14: 568).

BREEDING. Season, chiefly February–May in Kerala; June–July in the northern parts of its range. Nest, a deepish loosely built cup of fine twigs, grasses, tendrils, strips of inner bark, etc. Size: external diameter c. 15 cm, inner cup c. 10 cm across and 5 cm deep. Unlined, and usually with little or no cementing or plastering cobwebs; thus contents of nest often visible through the flimsy bottom from below. Fixed in a horizontal fork of branches (leafy or bare) near the end of a lateral bough in open forest, between c. 5 and 15 m from ground. In some areas the channel-shaped bases of leaf-stalks of *Borassus* palms provide favourite nest-sites. Nests often found in identical patch of forest, even the same tree, year after year; occasionally built of thicker sticks and flatter, like a miniature crow's nest. Eggs, normally 3, rarely 4, somewhat variable. A common type is creamy white or pale pink, blotched and speckled with dark reddish brown, with secondary markings of pale- or pinkish grey. Average size of 40 eggs 27·8 × 20·2 mm (Baker). Both sexes take part in building the nest, incubation, and tending the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. Smaller than northern *grandis* (976) and with shorter crest, the longest feathers reaching to hindcrown.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail	
				central	outer (to tip of racket)
♂ ♂	151–170	33–37	26–28	133–142	295–484 mm
♀ ♀	148–154	33–36	26–27	128–136	310–358 mm (SA, HW)

Weight 3 oo? 74–85 g (SA).

COLOURS OF BARE PARTS. As in 976.

978. *Dicrurus paradiseus ceylonicus* Vaurie

Dicrurus paradiseus ceylonicus Vaurie, 1949, Bull. Amer. Mus. Nat. Hist. 93: 329, new name for *Dissemurus ceylonensis* Sharpe, 1877, Cat. Bds. Brit. Mus. 3: 264 (NE. Province, Ceylon), preoccupied by *Dicrurus ceylonensis* Stephens, 1826 Baker, FBI No. 793, Vol. 2: 381

LOCAL NAMES. *Māhā kādā*, *Kaputū bālāya* (Sinhala); *Erāttāi vāl kūrūvi* (Tamil).

SIZE. Myna; with a tail c. 31 cm (12 in.) long.

FIELD CHARACTERS. As of 976, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Subspecies endemic in Ceylon. Confined to, and moderately plentiful in the Dry zone in the northern, eastern and southeastern portions of the Island, to c. 600 m alt. Affects tall jungle especially around irrigation tanks and along river banks (Phillips, Henry). Intergrades with *D. p. lophorhinus* (979) along the edge of the Dry and Wet zones. Recorded occurring together with 979 in the Laksapana Forest, 'one of the wettest areas' (E. Kershaw, Ceylon Bd. Cl. Notes 1979, p. 47).

BREEDING. Season, March to May. Nest, eggs (c/2–4) and breeding biology as in 977.

MUSEUM DIAGNOSIS. Differs from nominate *paradiseus* of peninsular India in being smaller with a less developed crest, the feathers reaching only to top of crown; racket feathers of tail much shorter.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	central	Tail outer (to tip of racket)	
7 ♂♂	145–159	31–35	24	121	260–350	mm
2 ♀♀	150, 150	32, 35	25	130, 133	284, 288	mm (HW)

Weight 1 ♂ 71; 1 ♀ 73 g (SDR).

COLOURS OF BARE PARTS. As in 976 and other races.

979. *Dicrurus paradiseus lophorhinus* Vieillot

Dicrurus lophorhinus Vieillot, 1817, Nouv. Dict. d'Hist. Nat. 9: 587

(Africa, restricted to Ceylon)

Baker, FBI No. 785, Vol. 2: 373

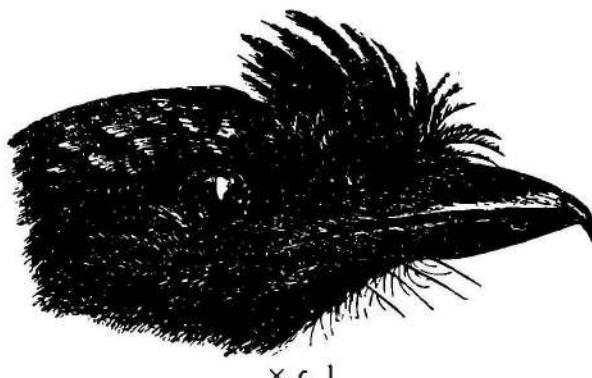
Plate 67, fig. 5

LOCAL NAMES. *Māhā kādā*, *Kaputū bālāya* (Sinhala); *Erāttāi vāl kūrūvi* (Tamil).

SIZE. Myna; with longer tail. Overall length c. 35 cm (14 in.).

¹ For a discussion of the two ecological forms in Ceylon see Ripley, S. D., 1946, *Spolia Zeylanica* 24: 218–20, and Vaurie, C., 1949, Bull. Amer. Mus. Nat. Hist. 93: 330–1.

FIELD CHARACTERS. As of 977 and 978, qq.v.; also glossy black with



$\times c. 1$



Tail, $\times c. \frac{1}{2}$

a tuft of feathers at forehead but lacking the racket-feathers in the tail which is merely long and deeply forked. Sexes alike. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Subspecies endemic in Ceylon. Confined to, and moderately plentiful in the Wet zone and lower hills, but ascending Adam's Peak to at least c. 1700 m (Henry). Affects tall humid forest in the southwest portion of the Island. Its range is becoming constricted owing to increasing encroachment upon its forest habitat for rubber plantation etc.

Intergrades with *D. p. ceylonicus* (978) along the edge of the Wet and Dry zones: For comments on a specimen (♀) collected in Goa, 22.xii.1968 (JBNHS 77: 511) see Ripley (*ibid.* 78: 168).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 977 and the Ceylon Racket-tailed Drongo of the Dry zone (978).

BREEDING. Season, April and May, but very little known. The only authentic nest so far is described as a flimsy cup rather small for the size of the bird, about 10 m up in a tall straight tree on the edge of jungle bordering a paddy field. It contained nestlings on 24th May (Henry). Eggs not authentically described; evidently more or less as in the other racket-tailed drongos, cf. 977.

MUSEUM DIAGNOSIS. Outer feathers of long, deeply forked tail much prolonged beyond the others: webbed on both vanes throughout their length, and strongly upcurved at the tips. Crest shorter, denser and stiffer, the longest feathers curving backward only over the forehead.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail		mm
				central	outer	
3 ♂♂	151–155	33–36	—	129–131	185–199	
1 ♀	145	34	24	124	170	mm
		(from feathers)				(HW)
4 ♂♂	139–146	27–31	—	126–129	moult ¹	mm
4 ♀ ♀	141–147	28–30	—	119–125	moult	mm
						(SDR)

¹ Only one feather in one of the specimens measuring 196 mm.

Weight 1 ♂ 70; 1 ♀ 70 g (SDR).

COLOURS OF BARE PARTS. Iris brown. Bill, legs, feet and claws black.

980. *Dicrurus paradiseus otiosus* (Richmond)

Dissemurus malabaricus otiosus Richmond, 1903, Proc. U.S. Nat. Mus. 25: 290

(Andamans)

Baker, FBI No. 790, Vol. 2: 380

LOCAL NAMES. None recorded.

SIZE. Myna; with a tail c. 35 cm (14 in.) long.

FIELD CHARACTERS. As of 977 q.v., also with rackets in tail but lacking the frontal crest. See Key to the Subspecies.

STATUS, DISTRIBUTION and HABITAT. Endemic in the Andaman Archipelago: recorded from the North, Middle, South, and Little Andaman groups. Fairly abundant in forested areas.

GENERAL HABITS, FOOD, VOICE and CALLS. As in the Indian forms 976, 977.

BREEDING. Season, May; 'building its nest generally high up on the more or less inaccessible branches of big trees. Eggs, similar to those found in India' (Osmaston, JBNHS 17: 157).

MUSEUM DIAGNOSIS. See Field Characters and Key to the Subspecies.

MEASUREMENTS

	Wing	Bill (from skull)	central	Tail (to tip of racket)	
♂♂	162–169	34–37	139–152	359–474 mm	
1 ♀	157	34	139	330 mm	(Vaurie)

COLOURS OF BARE PARTS. As in 977 and other subspecies.

981. *Dicrurus paradiseus nicobariensis* (Baker)

Dissemurus paradiseus nicobariensis Baker, 1918, Novit. Zool. 25: 302

(Kondel, Nicobars)

Baker, FBI No. 791, Vol. 2: 380

LOCAL NAMES. None recorded.

SIZE. Myna; with a tail c. 33 cm (13 in.) long.

FIELD CHARACTERS. As of 977, q.v. Very similar to the Andaman bird but somewhat smaller and with a short frontal crest.

STATUS, DISTRIBUTION and HABITAT. Endemic in the Nicobar Archipelago (south of Ten Degree Channel): specifically recorded from Car Nicobar (sight, HA), Katchall, Little Nicobar and Great Nicobar islands. Affects forested areas.

GENERAL HABITS, FOOD, VOICE and CALLS. As in the Indian forms 976, 977.

BREEDING. Almost unknown. A nest with sitting bird observed by Humayun Abdulali at end February c. 25 m up in a bare tree in forest.

MUSEUM DIAGNOSIS. 'Differs from *otiosus* of the Andamans by being smaller and by having a crest. Similar to *paradiseus* [of peninsular India] and may be separable from it only by the size of the racket which appears to be smaller' (Vaurie).

MEASUREMENTS (of Great Nicobar birds)

		Wing	Bill (from skull)	central	Tail (to tip of racket)
2	♂ ♂	155, 155	35, 36	127, 131	308, 310 mm (Vaurie)
4	♂ ♂	150-156	—	—	294-357 mm (3 msd.)
3	♀ ♀	147-155	—	—	308-322 mm (Abdulali)

Birds from Little Nicobar and Katchall (to the north) are larger than from Great Nicobar, tending to agree in size with *otiosus* of the Andamans.

COLOURS OF BARE PARTS. As in *otiosus* and other subspecies.

Family ARTAMIDAE: Swallow-Shrikes or Wood Swallows

For description see Van Tyne, J. & Berger, A. J., 1959: 532; Baker, E. C. Stuart, 1924, FBI 2: 348; Smythies, B. E., 1964. Article 'Wood-Swallow' in Thomson, A. L. (ed.), *New Dict. Birds*. London & New York.

Genus ARTAMUS Vieillot

Artamus Vieillot, 1816, Anal. nouv. Orn.: 41. Type, by monotypy,
Lanius leucorhynchus Linnaeus

Bill strong and gently curved, but not notched or hooked as in the true shrikes (*Lanius*). Wings long and pointed: first primary (as.) very short; 2nd and 3rd subequal and longest. Tarsi very short. Tail short and square.

Key to the Species

- Rump of same colour as back..... *A. fuscus*
Rump white, different from back..... *A. leucorhynchus*

982 Ashy Swallow-Shrike. *Artamus fuscus* Vieillot

Artamus fuscus Vieillot, 1817, Nouv. Dict. d'Hist. Nat. 17: 297
(Bengal)

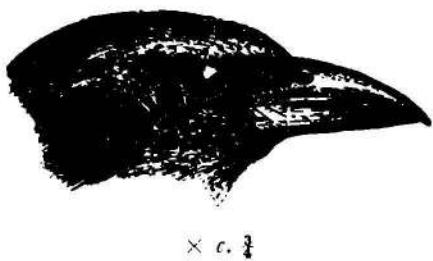
Baker, FBI No. 763, Vol. 2: 348

Plate 65, fig. 18

LOCAL NAMES. *Tādi ābābel* (Hindi); *Tāl charai*, *Chātāk-ānjanā* (Bengal); *Tād pittā* (Telugu); *Mūra sing* (E. Pakistan); *Siliangechi pho* (Lepcha); *Tāl gas kurullā* (Sinhala); *Mādām purā* (Tamil); *Endkkāttelvān* (Malayalam).

SIZE. Bulbul ±; dumpier with short tail. Length c. 19 cm (7½ in.).

FIELD CHARACTERS. A dark slaty grey short-tailed bird with paler rump and underparts. Tail slaty black tipped with white. Bill bluish, heavy, somewhat finch-like. Sexes alike.



At rest tips of closed wings reach end of tail.

STATUS, DISTRIBUTION and HABITAT. Resident and marked seasonal local migrant, especially in the hills and in heavy-rainfall areas. East and south of a

line from about Godhra in Gujarat (*c.* 23°N., 74°E.) to Simla in Himachal Pradesh (c. 31°N., 77°E.) thence eastward along the Himalayan terai and foothills through Nepal, Sikkim, Bhutan, and NEFA, locally up to *c.* 1700 m. Throughout peninsular India south to Kerala (common but patchy and local; rare in Madhya Pradesh), from plains level to 1700 m; once over 2100 m (Kodaikanal — Bates); Assam, Nagaland, Manipur and East Pakistan. Widely distributed also in Ceylon: lowlands, lower hills and up to *c.* 1200 m. Affects openly wooded dry- and moist-deciduous country, especially with a predominance of palms — palmyra, coconut, date, Fish-tail (*Caryota urens*) and other species. Its close association with palms needs study.

Extralimital. Burma, Thailand, the Indochinese countries, and W. China.

GENERAL HABITS. Gregarious and sociable. Keeps in parties or loose flocks, sometimes of 30 or more birds. Usually seen huddled closely together along a horizontal bare branch near a tree-top, leaf-stalks of palms, or telegraph and power wires in open foothills country, old forest clearings, etc. While perched, the stumpy tail is bobbed slowly and deliberately up and down or opened and screwed from side to side. Makes constant sallies after winged insects from such vantage points, one or two birds at a time or several together, sometimes swooping close to the ground to seize the quarry. Not recorded actually settling on ground, but may do so (cf. 983). Flight swift — several rapid wing-beats followed by a graceful effortless glide, reminiscent of a swallow or bee-eater — the bird sailing back to its perch in a wide circle after each capture. Brakes by sudden uptilt of body at last moment accompanied by a spreading of tail and vigorous flutter of wings assuming statue-like immobility immediately on alighting. Quarry frequently transferred to feet in mid-air, torn to pieces with bill, and swallowed in flight. When 'business is brisk', e.g. as at a swarming of butterflies or winged termites, the first victim is promptly transferred to the feet to free the bill for the second, the bird then sailing round to its perch to dispose of both at leisure. Is very bold and aggressive when nesting, attacking crows and raptors encroaching on the vicinity of the nest-tree, while tolerating harmless species like bulbuls.

FOOD. Insects: largely (and regularly) butterflies even of the genera *Danais* and *Euploea* repugnant to most other birds and to lizards; dragonflies, winged termites, etc. Occasionally nectar of flowers, e.g. *Erythrina indica*.

VOICE and CALLS. Distinctive, harsh cries *chek-chek-chek* (or *chake-chake-chake*) etc. uttered at rest and in flight, audible from a considerable height. Song ($\sigma?$) from bare tree-top in breeding season described by SA as

rather subdued, commencing and ending with the harsh *chakes*. 'A medley of pleasant twittering snatches of 10-15 seconds duration, repeated again and again for over 10 minutes with short pauses during which the bird switched its tail slowly up and down. Was reminiscent of Swallow's twittering song, soliloquy of Rufous-backed Shrike and chattering ditty of Rosy Pastor, as well as the soft warbling of Blyth's Reed Warbler (*Acrocephalus dumetorum*). Imitations of many bird-calls were interlarded in the song, those of Jungle Myna (softer) and Redwhiskered Bulbul being clearly recognizable.'

BREEDING. Season, in India principally March to June; in Ceylon January to June, chiefly March. Nest, a loosely put-together shallow cup of fine grass, roots and fibres with sometimes a few feathers but no definite lining. Placed in a crotch or elbow of some horizontal bough — very commonly in the angle at the base of leaf-stalks in a palmyra, coconut or other palm — often at considerable heights from the ground. Eggs, 2 or 3, greenish white spotted with light brown chiefly at the broad end, sometimes forming a cap. Average size of 50 eggs $23\cdot 4 \times 17\cdot 1$ mm (Baker). Both sexes take part in building the nest, incubation, and tending the young. Incubation period unrecorded.

MUSEUM DIAGNOSIS. Rump somewhat paler than back, slaty grey-brown with a vinous tinge; longer upper tail-coverts white.

Young (immature) resembles adult but upperparts, except the whitish tail-coverts, brown with tiny fulvous margins, mostly on mantle; tiny pale tips to median, greater and primary coverts. Throat browner; rest of underparts dirty fulvous white with narrow indistinct brownish bars. Postjuvenile moult includes body, and apparently all coverts except primary.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	129-138 (145)	21-24	16-19	54-60 mm
♀ ♀	130-139	21-23	16-19	48-58 mm (SA, HW)

Weight 2 ♂ ♂ 37, 42; 3 ♀ ♀ 38-42 g (Paynter).

COLOURS OF BARE PARTS. Iris dark brown. Bill sky blue or greyish blue, black at tip; mouth dark slate. Legs and feet bluish slate or slaty brown; claws black.

983 Whitebreasted Swallow-Shrike. *Artamus leucorhynchus humei* Stresemann

Artamus leucorhynchus humei Stresemann, 1913, Novit. Zool. 20: 291
(Andamans)

Baker, FBI No. 764, Vol. 2: 350

Plate 65, fig. 16

LOCAL NAMES. None recorded.

SIZE. Bulbul ±; dumpier with short tail. Length c. 18 cm (7 in.).

FIELD CHARACTERS. *Above*, head, and neck all round slaty grey; back purplish grey-brown; lower rump and upper tail-coverts white; tail and wings ashy black. *Below*, throat and upper breast slaty grey; lower breast and rest of underparts white. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Endemic to Great and Little Coco, and Andaman islands. Affects openly wooded country, forest clearings, rubber plantations, etc.

Extralimital. Other subspecies in Malaysia, Philippines, Borneo, Sumatra, Java and associated islands, east to Australia.

GENERAL HABITS, FOOD, VOICE and CALLS. As in Ashy Swallow-Shrike (982) q.v. Has been recorded as settling freely on the ground, moving with very short hops to pick up insects and nesting material, several frequently together on roads (Hume).

BREEDING. Season, mainly April and May. Nest, as in Ashy Swallow-Shrike (982) — usually quite exposed; almost invariably placed on the broken-off stump of some stout branch, between c. 3·5 and 7 m from the ground. Eggs, 3, white, spotted with light brown or fawn chiefly in a zone at the broad end, with numerous underlying grey markings (BBO). Average size of 40 eggs 23·8 × 17·2 mm (Baker). Breeding biology as in 982.

MUSEUM DIAGNOSIS. Underparts white from breast downwards; upper tail-coverts as well as lower rump white.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	127-134	16-17	15-16	55-60 mm (Baker)

COLOURS OF BARE PARTS. 'Iris pale blue, dark blue to deep brown. Bill pale blue tipped with black. Legs and feet dark slaty to practically black' (Baker).

Family STURNIDAE¹: Starlings, Mynas

Cf. Amadon, D., 1943, *Amer. Mus. Novit.*, No. 1247: 1-16

Marien, D., 1950, JBNHS 49: 471-87

Amadon, D., 1956, *Amer. Mus. Novit.*, No. 1803: 1-41

For description and morphology see Van Tyne, J. & Berger, A. J., 1959: 537; Baker, E. C. Stuart, 1926, FBI 3: 16, 27; Dean Amadon, 1964. Article 'Starling' in Thomson, A. L. (ed.), *New Dict. Birds*. London and New York.

Key to the Genera

		Page
I A yellow wing-patch.....	<i>Mino</i>	189
II A white wing-patch showing on the upperparts of the remiges		
A Patch near base of remiges		
1 Underparts and throat mostly dark grey.....	<i>Acridotheres</i>	176
2 Underparts rufous, throat chestnut.....	<i>Saroglossa</i>	147
B Patch at about middle of length of wing.....	<i>Gracula</i>	190
III No wing-patch, or patch suffused		
C Underparts mostly greyish white, rufous or pink, or nearly black with metallic purple and green reflections.....	<i>Sturnus</i>	151
D Underparts black with green reflection, no purple; underparts of female striped.....	<i>Aplonis</i>	148

¹ Includes Gracalidae (Eulabetidae) of FBI, 1926, 3: 16; 1930, 7: 207; 8: 648.

Genus SAROGLOSSA Hodgson

Saroglossa Hodgson, 1844, in Blyth, Jour. Asiat. Soc. Bengal 13: 367.

Type, by monotypy, *Lamprotornis spilopterus* Vigors

Bill slender and gently curved; tongue less fleshy than in *Gracula*. Nostrils small and slender; rictal bristles short though strong. Feathers of crown somewhat lanceolate but short. Wing long and pointed: first primary (as.) very small. Tail short and square-cut.

984 Spottedwinged Stare. *Saroglossa spiloptera* (Vigors)

Lamprotornis spilopterus Vigors, 1831, Proc. Zool. Soc. London: 35

(Himalayan Mountains, restricted to Simla-Almora)

Psaroglossa spiloptera assamensis Baker, 1924, Bull. Brit. Orn. Cl. 45: 14
(Khasia Hills)

Baker, FBI Nos. 970, 971, Vol. 3: 25, 26

Plate 68, fig. 2

LOCAL NAME. *Puli* (Mussoorie, U.P.).

SIZE. Bulbul ±; length c. 19 cm (7½ in.).

FIELD CHARACTERS. A spruce little gregarious myna reminiscent of the Greyheaded (*Sturnus malabaricus*, 987).

Male. *Above*, including crown, brownish grey scalloped with black. *Below*, chin and throat deep chestnut-rufous; rest of underparts rusty white. A prominent white patch in the blackish wings.

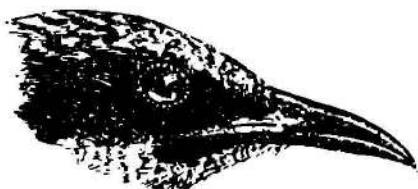
Female. *Above*, sooty brown; sides of head dark brown. *Below*, pale fulvous ashy brown scalloped with white, especially on chin and throat. White wing-patch as in male.

The typical starling-like flight, together with dark head, rufous-chestnut rump, and pointed blackish wings with a conspicuous white patch (as in Blueheaded Rock Thrush) diagnostic.

STATUS, DISTRIBUTION and HABITAT. Status equivocal and imperfectly known. From available data, is by and large an east-west migrant. Breeds in the western Himalayas from about Kangra in Himachal Pradesh (c. 32°N., 76°E.) to Garhwal and Kumaon (Dehra Dun, Simla, Almora). Flocks sight-recorded at c. 2000 m in Garhwal (Mandakini Valley, May-June — Lavkumar, JBNHS 53: 324). Passes westward along the lower hills, between c. 700 and 1200 m, in March-April through Nepal and Sikkim, and eastward again in June-July. Winters abundantly in Assam, from the foothills up to c. 1000 m, rather erratically in Nagaland (?), Manipur, and E. Pakistan (Dacca, Chittagong). May also breed occasionally (or regularly?) in between and in Assam, but this not proven. Affects open forest.

Extralimital. Burma south to N. Tenasserim (winter).

GENERAL HABITS. Arboreal and highly gregarious. Keeps in small or large flocks, sometimes of several scores or even hundreds as when feeding



× c. 1

on large leafless *Salmania* trees in flower, and in company with Greyheaded and Jungle Mynas (*Sturnus malabaricus* and *Acridotheres fuscus*). Very fond of nectar, the slender curving bill suggesting special adaptation for this diet. At the flowers often adopts blustering and bullying dog-in-the-manger tactics, like Rosy Pastor, assaulting and keeping other visitors off from the flowers although itself satiated. From time to time, for no apparent reason, a whole flock will suddenly dive into space from the leafless branches and wheel round and round the tree at top speed with lightning twists and turns and side-slips as if to dodge some invisible devil in pursuit! After a couple of rounds the birds re-settle and resume feeding complacently as before. Flight swift, very much like that of the starlings *Sturnus vulgaris* and *S. roseus*.

FOOD. Insects (red tree ants, winged termites, etc.); *Ficus* figs and various berries; in season, predominantly flower-nectar of *Salmania*, *Bombax* and *Erythrina* species; also of *Grevillea* shade-trees in tea gardens.

VOICE and CALLS. Noisy chattering notes when in a flock, very similar to those of Greyheaded and Jungle mynas. A resentful or bellicose *chek-chek-chek*, with wings partially dropped and tail slightly cocked and expanded, while hopping from flower to flower with other bird visitors feeding in the vicinity. A soft *chik-chik* like chirruping of Yellowthroated Sparrow (*Petronia xanthocollis*, 1949) when sitting idly.

BREEDING. Season, chiefly April to June. Nest, a pad of green leaves and rubbish, in a natural tree-hollow or barbet hole, 6 to 10 m from the ground. Eggs, 3 or 4, pale stone colour or pale bluish green with small reddish brown specks and blotches. Average size of 30 eggs 25.4 × 18.0 mm (Baker). Breeding biology unrecorded.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit.

Young (immature) female. *Above*, whole head and upperparts uniform grey-brown, a little paler than adult, with fulvous tips to lesser and median coverts and tertials; rump and upper tail-coverts fulvous brown; rest of wings and tail as in adult ♀ but rectrices narrower. *Below*, as in adult but more streaked than mottled, and washed with fulvous on flanks.

Young male said to differ from female, but not examined.

MEASUREMENTS

	Wing	Bill (from anterior edge of nostril)	Tail
♂ ♂	110–115	14–15	56–61 mm
♀ ♀	105–106	13–14	54–58 mm (Marien)

Tarsus 21–22 mm (Baker)

Weight 1 ♂ 47.5 g (BB).

COLOURS OF BARE PARTS. Iris dull white to lemon-yellow. Bill dusky black, reddish at base of lower mandible and pale yellow on margins of both mandibles. Legs, feet and claws black.

Genus *APLONIS* Gould

Aplonis Gould, 1836, Proc. Zool. Soc. London: 73. Type,

by original designation, *Aplonis marginata* Gould = *Lanius tabuensis* Gmelin

Lamprocorax Bonaparte, 1853, Comp. Rend. Acad. Sci. Paris 38: 830. Type,

by original designation, *Lamprotornis fulvipennis* Pucheran = *L. grandis* Salvadori

Plumage intensely glossy. Bill fairly stout and gently curved; nostrils small and round. Wing long and pointed; tail of moderate length, well graduated. Tarsus and feet strong. Only the single species *panayensis* (Scopoli) occurs within our limits with three subspecies.

APLONIS PANAYENSIS (Scopoli): GLOSSY STARE or STARLING

Key to the Subspecies

	Page
Plumage very dark and less glossy; iris brown	<i>A. p. tytleri</i> 150
Plumage as above; iris white	<i>A. p. albiris</i> 272
Plumage less dark and very glossy; iris crimson	<i>A. p. affinis</i> 149

985. *Aplonis panayensis affinis* (Blyth)

Calornis affinis 'A. Hay' = Blyth, 1846, Jour. Asiatic Soc. Bengal 15: 36
(Tipperah)

Baker, FBI No. 969, Vol. 3: 24

LOCAL NAMES. *, *(Cachari).**

SIZE. Myna ±; length c. 22 cm (8½ in.).

FIELD CHARACTERS. A smallish, comparatively slender black myna, brilliantly green-glossed all over and with conspicuous scarlet-crimson eyes (yellowish white in young, q.v.). Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Status equivocal. Thought to be summer (breeding) visitor to Assam in the Garo, Khasi and N. Cachar hills; arrives there c. February and departs

c. April with flying young. Occurs also in East Pakistan (Tipperah, Chittagong, Dacca). Locally common. A straggler (subspecies?) taken in Madras, 9 Oct. 1880 (W. F. Dique, SF 9: 298). Affects coconut groves, forest edges, and cultivation clearings with a scattering of large *Ficus* and suchlike trees.

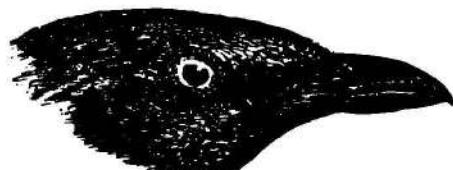
EXTRALIMITAL. Arakan. Other races in Burma, peninsular Thailand, Indo-chinese countries, Malay peninsula and archipelago, and Indonesian islands east to the Philippines.

GENERAL HABITS. Gregarious and sociable. Keeps in noisy flocks feeding in association with other mynas on *Ficus* and flowering trees. Congregates to roost in hundreds in coconut palms and other trees to the accompaniment of much squabbling and chattering. Chiefly arboreal but will sometimes descend to the ground to pick up fallen berries. Posture at rest, and flight, very starling-like.

FOOD. Insects, berries and small *Ficus* figs (e.g. *F. benjamina*), and flower-nectar (*Salmania*, *Erythrina*, etc.).

VOICE and CALLS. Very noisy when in flock; has a sharp metallic single note.

BREEDING. Very little known. In Cachar 'It breeds about April in the holes of dead trees; when the young are able to fly it departs. It again returns



x c. 1

about the middle of February' (J. Inglis in Hume, 1889, 1: 367). More information desirable.

MUSEUM DIAGNOSIS. Lores and feathers at base of upper mandible dull black; wings and tail black with faint blue gloss.

Young (immature). Upperparts dark brown with slight green gloss. Below, buffy white heavily streaked with brown and slightly glossed with green, the streaks fine on chin and throat, heavier elsewhere except on belly which is nearly immaculate. Coverts, secondaries and tertials browner, slightly glossed and edged paler. Post-juvenile moult complete (Ticehurst).

MEASUREMENTS

$\sigma^1 \varphi$ Wing 106–113 mm (Ticehurst).

COLOURS OF BARE PARTS. Adult. Iris crimson. Bill, legs, feet and claws black. Immature. Iris yellowish white turning to pale yellow with red-brown tinge, orange-vermilion, and finally crimson. Legs and feet brownish black (CBT).

986. *Aplonis panayensis tytleri* (Hume)

Calornis Tytleri Hume, 1873, Stray Feathers 1: 480 (Andamans)

Baker, FBI No. 968, Vol. 3: 23

Plate 68, fig. 1

LOCAL NAME. *Tukkuliv* (Car Nicobar).

SIZE. Myna ±; length c. 22 cm (8½ in.).

FIELD CHARACTERS. As of 985, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident and locally migratory: Andamans and Nicobars; found on nearly all the islands. Appears in Port Blair about February and remains till June: exceedingly numerous between these months. Absent for rest of the year; where the birds go unknown (Osmaston, JBNHS 17: 158). Affects coconut groves; also forest and open country with large trees.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 985.

BREEDING. Season, March to May, chiefly April. Nest, a natural hollow or woodpecker hole in a coconut trunk for preference, but also in padouk and other trees, generally at considerable heights. Eggs, 2(?) to 4, white to skim-milk blue with specks and small blotches of reddish brown. Average size of 30 eggs 26·6 × 19·7 mm (Baker). Breeding biology unrecorded.

MUSEUM DIAGNOSIS. Differs from *affinis* (985) in being darker, not so glossy bronze-green, the gloss more bluish green. Also has a longer wing, and larger and broader bill.

Young (immature) as in *affinis*.

MEASUREMENTS

$\sigma^1 \varphi$ Wing 112–120 mm (Baker)

COLOURS OF BARE PARTS. Iris very variable: pink, brown, red-brown or deep orange. Bill, tarsus and toes black (CBT).

986a. *Aplonis panayensis albiris* Abdulali

(See Appendix, page 272)

Genus *Sturnus* Linnaeus

Sturnus Linnaeus, 1758, Syst. Nat., ed. 10, 1: 167. Type, by subsequent designation, *Sturnus vulgaris* Linnaeus

Pastor Temminck, 1815, Man. d'Orn.: 82. Type, by monotypy, *Turdus roseus* Linnaeus

Gracupica Lesson, 1831, Traité d'Orn.: 401. Type, by monotypy, *Gracupica melanoleuca* Lesson = *Gracula nigrigollis* Paykull

Sturnia Lesson, 1837, Compl. de Buffon 9: 53. Type, by original designation, *Sturnus sericeus* Gmelin

Sturnopastor Hodgson in Blyth, 1843, Ann. Mag. Nat. Hist. 12: 97. Type, by monotypy, *Sturnus contra* Linnaeus

Temenuchus Cabanis, 1851, Mus. Hein. 1: 204. Type, by subsequent designation, *Turdus pagodarum* Gmelin

Sturnornis Legge, 1879, Bds. Ceylon: 679, pl. 28. Type, by monotypy, *Heterornis senex* Bonaparte

Key to the Species

	Page
I No crest, or crest very moderate	
A Plumage entirely dark, glossy and speckled.....	<i>S. vulgaris</i> 166
B Abdomen white or rufous, back grey	
1 Middle rectrices longer than outermost	
a Upper wing-coverts and scapulars buff contrasting with back	
.....	<i>S. sinensis</i> 176
b Upper wing-coverts and scapulars same colour as back	
i Tertiaries glossy black.....	<i>S. malabaricus</i> 151
ii Tertiaries grey.....	<i>S. erythropygius</i> 156
2 Middle rectrices shorter than outermost, back glossy black.....	<i>S. sturninus</i> 162
II Crest present	
C Crest longer than tarsus	
3 Throat and breast rich buff.....	<i>S. pagodarum</i> 160
4 Throat black, abdomen pink.....	<i>S. roseus</i> 163
D Crest shorter than tarsus	
5 Throat black.....	<i>S. senex</i> 159
6 Throat whitish grey.....	<i>S. contra</i> 172

STURNUS MALABARICUS (Gmelin): GREYHEADED MYNA

Key to the Subspecies

I Head grey or grey tinged with rufous		
a Abdomen fawn.....	<i>S. m. malabaricus</i> 152	
b Abdomen whitish washed with ochraceous buff on the sides.....	<i>S. m. nemoricola</i> 155	
2 Head white.....	<i>S. m. blythii</i> 154	

987. *Sturnus malabaricus malabaricus* (Gnelin)*Turdus malabaricus* Gmelin, 1789, Syst. Nat. 1: 816 (Malabar Coast)*Sturnia malabarica assamica* Koelz, 1954, Contrib. Inst. Regional Exploration, No. 1: 19
(Nichuguard, Naga Hills)

Baker, FBI No. 982, Vol. 3: 39

Plate 68, fig. 3

LOCAL NAMES. *Pāwei* (Hindi); *Dēsi pāwei* (Bengal); *Kat halik* (Assam); *Maina gophu* (Cachar); *Pāli palisa* (Telugu); *Chārakkili* (Malayalam).

SIZE. Myna —; length c. 21 cm (8 in.).

FIELD CHARACTERS. A small, trim, silvery grey-and-rufous sociable myna.

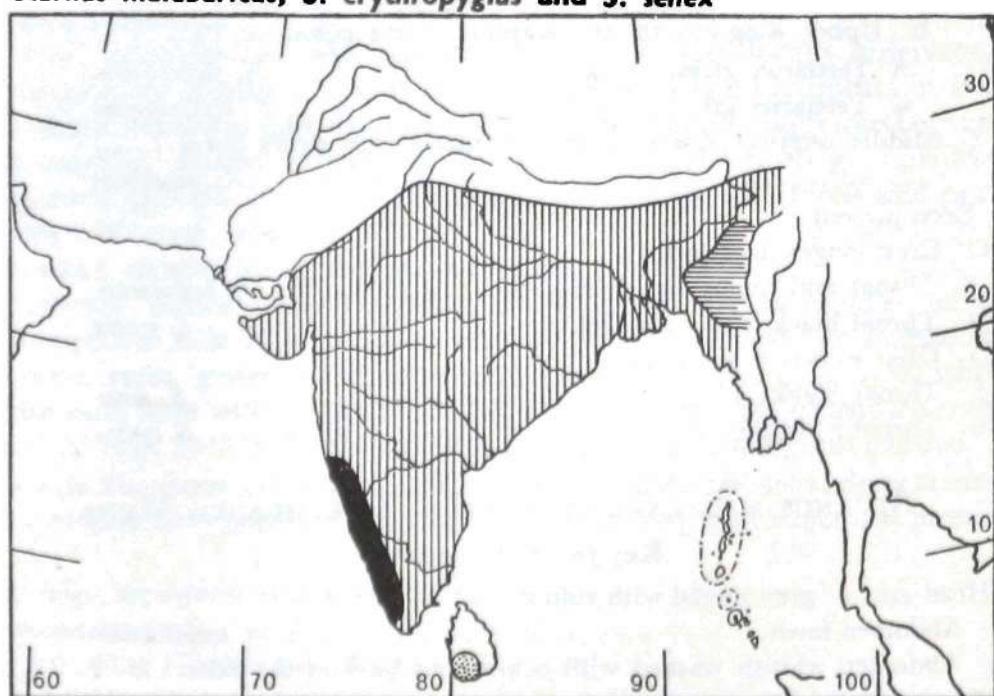


× c. 1

Above, head and upperparts silvery- or brownish grey; tail largely ferruginous. Wing-quills black and grey. *Below*, chin, throat and breast lilac-grey or pale rufous; rest of underparts bright rufous. Sexes more or less similar. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, with marked seasonal local migrations and erratic wandering movements, especially during the SW. monsoon and in winter. Practically throughout the Indian Union

Sturnus malabaricus, *S. erythropygius* and *S. senex*



Distributional ranges

- [Vertical hatching] *S. m. malabaricus* (987) [Solid black] *S. m. blythii* (988). [Horizontal hatching] *S. m. nemoricola* (989).
- [Dashed lines] *S. e. andamanensis* (990) [Dotted lines] *S. e. erythropygius* (991). [White box] *S. e. katchalensis* (992).
- [Dotted pattern] *S. senex* (993).

(south to Kanyakumari) and E. Pakistan, roughly east and south of a line from Mt Abu in Rajasthan to Dehra Dun in U.P. (straggling to Simla and Ambala); thence eastward along the lower Himalayas and submontane tracts through Nepal, Sikkim, Bhutan and NEFA; normally up to c. 1500 m in the Himalayas and peninsular hills, locally to c. 2000 m. Evidently breeds at least south to about 17°N.; replaced in southwestern India by 988. In winter both grey-headed and white-headed birds often in the same locality and even in a mixed flock. Represented in N. Cachar, Nagaland and Manipur by 989. Absent in Ceylon.

Affects thinly wooded country both near human habitations and in out-lying parts, and open secondary jungle. Partial to young forest plantations.

GENERAL HABITS. Gregarious and predominantly arboreal, but will frequently descend to feed in low bushes and occasionally on the ground. Keeps in small flocks of 5 to 20 or larger ones of several scores, by itself or in association with Rosy Pastors and other mynas as when feeding on flowering trees. The birds hop actively from one flower bunch to another keeping up a lively chatter and squabbling the while. Hunts insects among the foliage canopy walking purposefully along the branches, clinging to the bark in all manner of acrobatic positions, and peering into nooks and crannies. Flight swift and typically starling-like: a few rapid beats of the pointed wings followed by a short glide. Large congregations collect to feast on winged termites emerging from rain-sodden soil in company with drongos and other insectivorous species. The birds, in ones and twos or several together, spring up vertically from the ground or a bush-top closing the wings and halting in mid-air for a split second while they neatly snap up the quarry, before diving back to the perch. While feeding on a lofty leafless flowering Silk Cotton a flock will suddenly — as at a word of command — and for no apparent reason, dive helter-skelter into space as if to dodge the stoop of some imaginary raptor and will circle round the tree at high speed once or twice before re-settling and resuming activity as before, with no sign of nervousness (cf. 984).

FOOD. Fruits and berries; flower-nectar; insects. Among the first, most commonly recorded are: *Zizyphus* (esp. *oenoplia*), *Lantana aculeata*, *Inga dulcis*, and wild figs of many species (*Ficus bengalensis*, *F. religiosa* and others). Nectar of *Salmalia malabarica*, *Bombax insigne* and species, *Erythrina indica*, *E. suberosa* and *E. lithosperma*, *Butea monosperma* and occasionally *Loranthus* spp. the birds helping to promote cross-pollination in many of these. In an intensively cultivated area in Bihar the following insects identified among stomach contents: weevils [*Tanymecus* sp. (*hispida*?), *Astycus lateralis*]; beetles (*Mylocerus maculosus* and spp.), in addition to gryllids, hemipterous bugs and geometrid caterpillars. Nest-young observed to be fed on melolonthid, geometrid and noctuid larvae (Mason & Lefroy, 1912).

VOICE AND CALLS. A sharp disyllabic metallic note; uttered also when just taking off and during flight. A mild, rather tremulous single whistle (Nichols). Song: a pleasant warble (Hume, Jones).

BREEDING. Season, overall April to July, the principal periods varying with locality. Nest, a collection of twigs, rootlets and grass placed in a barbet- or woodpecker hole in a tree-stem, normally between 3 and 12 metres from the ground. Uncommonly also in residential houses (Mhd. Ali Reza

Khan, JBNHS 73: 216). Eggs, 3–5, pale blue-green, unmarked. Average size of 50 eggs 23.8×18.2 mm (Baker). Both sexes take part in building the nest, incubation, and tending the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. Male. *Above*, forehead feathers over eyes whitish; cheeks and ear-coverts pale rufous-grey; shafts of feathers of head and neck whitish. Rest of upperparts dark grey tinged with ferruginous on rump and upper tail-coverts. Central tail-feathers frosted grey; rest blackish at base, dark ferruginous at tips, this increasing towards outer pair. *Below*, chin, throat and breast rufous-grey, the feathers with white shafts; rest of underparts deep ferruginous, but under tail-coverts sometimes white. Feathers of crown, nape, throat and upper breast hackled.

Female. Normally indistinguishable from male. Some have the hackles shorter and less defined; head similar to back without the white; underparts paler or even whitish.

Young (immature). ‘Upperparts grey-brown, palest on head; indistinct pale supercilium; upper tail-coverts with a rusty tinge; sides of head and underparts dirty buffy white; wings and tail dark brown without grey frosting and with paler brown outer edges to wings and coverts; the deep ferruginous of tail replaced by paler rufous tips, less in extent; tail-feathers narrower. Postjuvenile moult complete’ (Ticehurst).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	98–106	21–24	23–25	59–65 mm
♀ ♀	94–104	20–22	22–24	55–65 mm (HW, BB, Marien)

Bill from anterior edge of nostril: ♂ ♂ 12–15; ♀ ♀ 12–14 mm (Marien).

Weight 16 ♂ ♀ 32–44 (av. 39·9) g — SA. 3 ♂ ♂ 34·5–42·5; 2 ♀ ♀ 36·5, 39·5 g (GD, BB).

COLOURS OF BARE PARTS. Iris greyish- or creamy white. Bill cobalt or leaden blue at base, yellow at tip, with a greenish intermediate area; palate dusky yellow, gullet pinkish grey or slaty. Legs, feet and claws yellowish brown, brownish flesh, or pale lemon-yellow.

988. *Sturnus malabaricus blythii* (Jerdon)

Pastor Blythii Jerdon, 1844, Madras Jour. Lit. Sci. 13: 133 (Malabar)

Baker, FBI No. 983, Vol. 3: 40

Plate 68, fig. 4

LOCAL NAMES. *Pāli palisa* (Telugu); *Chārakkili* (Malayalam).

SIZE. Myna —; length c. 21 cm (8 in.).

FIELD CHARACTERS. As of 987, q.v., but whole head, chin, throat and breast white in male. For details of plumage and distinction between male and female, and between female *blythii* and very similar female *malabaricus* see Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to seasonal local migration like *malabaricus*. Breeds in southwestern peninsular India, in Kerala (including Wynnaad) and western Mysore (Coorg dist.) up to c. 1200 m; perhaps north to Belgaum (c. 16°N.). Migrates and/or straggles sporadically northward in the rains and winter. Specimens from Bombay

(July) and Ahmedabad (August). Frequently found in mixed flocks together with Greyheaded Myna in non-breeding season. Due to this and consequent ambiguity in sight records, exact status and distribution as yet imperfectly known. Habitat as under 987.

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 987.

BREEDING. Season, February to May. Nest, eggs (c/3) and breeding biology as in Greyheaded Myna (987). Average size of 15 eggs $23\cdot8 \times 17\cdot9$ mm (Baker).

MUSEUM DIAGNOSIS. Male differs from male *malabaricus* in having the whole head, chin, throat and breast white; upper tail-coverts with less rufous or none; under tail-coverts constantly more rufous, never quite white as sometimes in *malabaricus*.

Adult female differs from adult male (*above*) as follows: 1. White of head confined to forehead and forecrown; rest of crown and nape concolorous with back but much streaked with pale grey, 2. Silvery grey on wings and tail less pronounced, 3. Sides of head and neck largely grey instead of white, 4. Pure white on underparts confined to chin and throat; breast sullied grey merging into the creamy rufous of abdomen and flanks (which are rich rufous in male); under tail-coverts paler and more fulvous.

Adult female *blythii* differs from adult female *malabaricus* as follows: 1. Upperparts purer more silvery grey *v.* more brownish grey, 2. Underparts much paler: chin and throat pure white; breast white, sullied with grey and rufous; rest of underparts and flanks creamy rufous; under tail-coverts pale rufous.

Young (immature) not distinguishable from juvenile *malabaricus*.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	96–107	23–24	23–26	62–67 mm
♀ ♀	97–104	22–25	23–26	59–65 mm (SA, Marien)

Bill from anterior edge of nostril: ♂ ♂ 14–16 mm (Marien).

COLOURS OF BARE PARTS. As in 987.

989. *Sturnus malabaricus nemoricola* (Jerdon)

Sturnia nemoricola Jerdon, 1862, Ibis: 22 (Thayetmyo, Upper Burma)
Baker, FBI No. 987, Vol. 3: 42

LOCAL NAMES. None recorded.

SIZE. Myna — ; length c. 21 cm (8 in.).

FIELD CHARACTERS. As of 987, q.v., but with forehead, crown, chin, throat and breast clear pearly grey (without white shafts), and underparts pale rosy buff to almost white. Sexes alike. See also Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident and common. North Cachar, Nagaland, Manipur: foothills and up to c. 1200 m. Affects secondary forest with scattered large *Salmania* trees, and semi-cultivation.

Extralimital. Burma, Thailand, Yunnan, Indochinese countries.

GENERAL HABITS. Very similar to Greyheaded Myna (987). Keeps in small parties or flocks, often of considerable size. Feeds up in flowering and

fruiting trees — sometimes on the ground — chiefly in the morning and late afternoon, sheltering in shady trees during the heat of the day. Roosts in bushes in company with Pied and other mynas.

FOOD, VOICE and CALLS. As in 987. 'A sharp metallic note continued during flight' (Davison). Diet largely nectar and wild figs (*Ficus* spp.).

BREEDING. Season, apparently April and May. Nest, eggs (c/3-6) and breeding biology as in 987. Average size of 14 eggs 25.6 x 19.0 mm (Baker).

MUSEUM DIAGNOSIS. Under tail-coverts, winglet and primary-coverts often white, sometimes black as in *malabaricus*, sometimes particoloured black and white; this apparently neither sexual nor due to age. Hackles as in *malabaricus*.

There is much variation. Usually the only ferruginous on the underparts is a small patch on flanks covering the thighs. But occasionally underparts distinctly suffused with ferruginous. Head colour varies individually and with wear, but is never so dark grey as in *malabaricus*. Even in fresh plumage head and throat may be very pale grey or almost pure white thus closely resembling *blythii* except for the belly which is not ferruginous.

Young (immature) indistinguishable from *malabaricus*.

MEASUREMENTS

Wing ♂♀ 94-103 mm (Baker)

COLOURS OF BARE PARTS. As in 987.

STURNUS ERYTHROPYGIUS (Blyth): WHITEHEADED MYNA

Key to the Subspecies

		Page
1 Rump rufous.....	<i>S. e. erythropygius</i>	157
2 Rump pale grey		
a Under tail-coverts pale rufous.....	<i>S. e. andamanensis</i>	156
b Under tail-coverts chestnut-rufous.....	<i>S. e. katchalensis</i>	158

990. *Sturnus erythropygius andamanensis* (Tytler)

Temenuchus andamanensis Tytler, in Beavan, 1867, Ibis: 329 (Andamans)
Baker, FBI No. 984, Vol. 3: 41

LOCAL NAMES. None recorded.

SIZE. Myna — ; length c. 21 cm (8 in.).

FIELD CHARACTERS. Similar to Whitewinged Myna (989), q.v., but with whole head, neck, and underparts creamy white; back and scapulars pale grey; rump and upper tail-coverts paler grey, faintly tinged with fulvous. Sexes alike. See keys to the Species and Subspecies, and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; very common. Andaman Islands. Affects forest and secondary jungle. Introduced on Camorta, Nicobars.

GENERAL HABITS. As of Greyheaded Myna (987). Keeps in small parties and large flocks in and around paddyfields, open grassland and forest edges, and on hillsides. Associates with drongos, cuckoo-shrikes, minivets, etc. in the itinerant foraging bands.

FOOD. Nectar, fruits and berries, and insects. Very partial to a small caterpillar which rolls itself up in narrow bamboo leaves¹, the birds adopting all sorts of tit-like attitudes to investigate the infested leaves (Butler, JBNHS 12: 397-8).

VOICE and CALLS. Not specifically recorded. Presumably as in 987 and 989.

BREEDING. Season, March to May. Nest, of small pliant twigs lined with small green leaves; placed in a tree-hole 2 to 10 metres from the ground. Eggs, 4, uniform blue similar to those of *Sturnus malabaricus* and also *Acriotheres tristis*. Average size of 40 eggs 25.8 x 18.9 mm (Baker). Both sexes take part in all domestic chores.

MUSEUM DIAGNOSIS. Only feathers of crown hackled. Wings and tail black glossed with green. Central rectrices with hardly any white tips; small tips to next pair and increasingly larger ones to outer pair which are half white. Under wing-coverts and axillaries white. Bill more massive and longer than in *S. m. nemoricola* (989).

Young (immature). 'Very similar to adult' (Butler).

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	103-113	20-21	27-28	75-76 mm (Baker)
2 ♂♂	107+, 117	20, 21		76, 78 mm
2 ♀♀	107, 108	20, 21		72, 74 mm (Abdulali)

COLOURS OF BARE PARTS. Iris opalescent white to very pale blue. Bill greenish yellow, slate blue at base. Legs and feet lemon- or fleshy yellow.

991. *Sturnus erythropygius erythropygius* (Blyth)

Sturnia erythropygia Blyth, 1846, Jour. Asiatic Soc. Bengal 15: 34
(Nicobar islands, restricted by Ripley, 1961, to Car Nicobar)

Baker, FBI No. 985, Vol. 3: 41

Plate 68, fig. 8

LOCAL NAMES. *Halut, Haroitch* (Car Nicobarese).

SIZE. Myna —; length c. 21 cm (8 in.).

FIELD CHARACTERS. As of 990, q.v. Sexes alike. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Nicobar islands; so far known only on Car Nicobar where quite common. Habitat as in 990; partial to casuarinas and coconut palms in the coastal belt.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 987 and 989. Large numbers congregate in the evening to roost in old casuarina and other trees.

BREEDING. Season, April; perhaps more correctly March to May as in the Andaman form. Nest, the only three known were as described under

¹ Probably larva of the common Pyralid, *Pyrausta coelestalis*.

990, and built in holes c. 3 or 4 metres up in Screw Pines (*Pandanus*) on the fringe of forest along the beach (B. B. Osmaston). Eggs, 4, unmarked uniform blue. Average size of 8 eggs 26.2 x 18.7 mm (Baker). Breeding biology not described; presumably as in *andamanensis* (990).

MUSEUM DIAGNOSIS. Only feathers of crown hackled. Rump, upper tail-coverts, vent, under tail-coverts, and tips of rectrices deep chestnut; sometimes a chestnut tinge on scapulars and under wing.

Young (immature). Like adult, but crown with narrow brownish grey shaft-streaks; belly tinged with creamy fawn; upper wing-coverts, secondaries and tertials narrowly edged with fulvous (A. L. Butler).

MEASUREMENTS

		Wing	Bill	Tail
3	♂♂	110-112	23-24	76-78 mm
2	♀ ♀	106, 108	22, 23	65, 71 mm (Abdulali)

Wing ♂ ♀ 112-120 mm (Baker)

COLOURS OF BARE PARTS. Adult as in 990. Juvenile. Iris pale grey. Bill yellow or greenish yellow above; base of lower mandible flesh-pink. Legs and feet dirty yellow (Butler).

992. *Sturnus erythropygius katchalensis* (Richmond)

Sturnia erythropygia katchalensis Richmond, 1902, Proc. U.S. Nat. Mus. 25: 293

(Katchal, Nicobars)

Baker, FBI No. 986, Vol. 3: 42

LOCAL NAMES. None recorded.

SIZE. Myna — ; length c. 21 cm (8 in.).

FIELD CHARACTERS. As of 990 and 991, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Katchal Island, Nicobars.

GENERAL HABITS, FOOD, VOICE AND CALLS. Nothing recorded; presumably as in 990 and 991.

BREEDING. Not recorded.

MUSEUM DIAGNOSIS. Stands midway between *andamanensis* and *erythropygius*, possibly a hybrid form. Has the pale grey rump and upper tail-coverts of *andamanensis* and the rufous belly, thighs and under tail-coverts of *erythropygius*.

MEASUREMENTS

		Wing	Bill	Tail
1	♂	107	—	64 mm
1	♀	106	22	64 mm (Abdulali)

* Wing 106, bill 21.5, tarsus 25.5, tail 71' (Richmond)

COLOURS OF BARE PARTS. Not recorded; doubtless as in 990.

993 Ceylon Whiteheaded Myna. *Sturnus senex*
(Bonaparte)

Heterornis (Pastor) senex Bonaparte, 1850, Conspectus Gen. Av. 1: 419
(‘*ex Beng.*’ *errore* = Ceylon)

Cf. Ticehurst, C. B., 1940, *Ibis*: 148–9
Baker, FBI No. 990, Vol. 3: 46

Plate 68, fig. 7

LOCAL NAMES. Not specifically recorded.

SIZE. Myna —; length c. 22 cm (8½ in.).

FIELD CHARACTERS. A trim smallish myna, reminiscent of the Greyheaded (987).

Above, forehead and sides of head white; crown and rest of upperparts blackish slate; feathers of nape and neck white-shafted. Below, chin and throat white, rest of underparts dusky lavender-grey (streaked with white on neck and breast) paling to whitish on belly and under tail-coverts. Wings and tail green-glossed black. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Species endemic to Ceylon. Not abundant. Confined to well-wooded hills in the southwestern Wet zone, including Adam’s Peak, up to c. 1300 m. Affects tall forest and the adjacent clearings.

Could be regarded as the Ceylon form of *Sturnus malabaricus*.

GENERAL HABITS. Not different from Indian Greyheaded and White-headed mynas. Like them, sociable and almost entirely arboreal.

FOOD. Fruits and berries, and insects; also flower-nectar (*Salmania*, *Grevillea*, etc.).

VOICE and CALLS. ‘A starling-like chirp’ (Legge). ‘A single note *cheow* with the tone of a grackle’s, and the bird bows and scrapes like a myna’ (W. W. A. Phillips’s correspondent from Rakwana *in epist.*).

BREEDING. Apparently known only from a single nest in a tree-hole (April). It contained 2 pale blue eggs measuring c. 25 × 20 mm.

MUSEUM DIAGNOSIS. Feathers of crown and nape hackled. White shafts of nape and neck feathers, coloration of underparts, and amount of white on head very variable. Under wing-coverts dusky. A small bare bluish patch behind eyes.

YOUNG (immature). Upperparts dull brown; supercilium whitish; ear-coverts sullied white. Underparts much as adult, but conspicuous white shaft-lines absent. Wings and tail brown. Postjuvenile moult complete (Ticehurst).

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	105–110	c. 20–21	c. 26	69–73 mm (Baker)
1 ♂	112	23 (from skull)		75 mm (SDR)

COLOURS OF BARE PARTS. Iris dull white with narrow brown inner circle; orbital skin and eyelids bluish. Bill bluish brown, base of lower mandible plumbeous blue. Legs and feet bluish plumbeous.

994 Blackheaded or Brahminy Myna. *Sturnus pagodarum*
(Gmelin)

Turdus pagodarum Gmelin, 1789, Syst. Nat. 1: 816 (Malabar)

Temenuchus pagodarum sylvestris Koelz, 1939, Proc. Biol. Soc. Washington 52: 73
 (Lucknow), *lapsus* for (*Maina*) *Sylvestris* Hodgson, 1837, *nec Sturnus sylvestris* Brehm,
 1831

Temenuchus pagodarum afghanorum Koelz, 1939, Proc. Biol. Soc. Washington 52: 73
 (Tagan, Afghanistan)

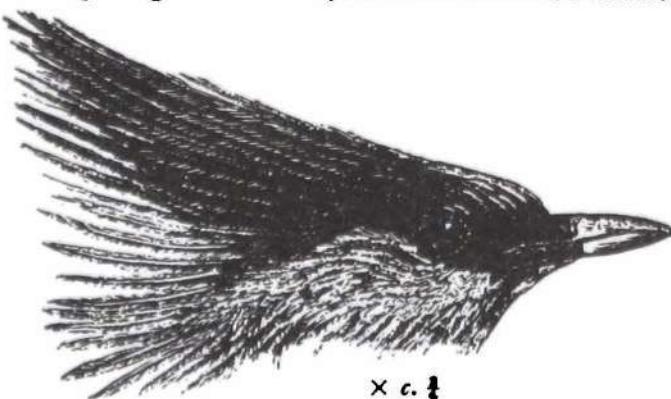
Baker, FBI No. 991, Vol. 3: 47

Plate 68, fig. 5

LOCAL NAMES. *Pooya myna*, *Brāhmini myna*, *Pūhaia*, *Käläsir myna* (Hindi); *Monghyr pāwi* (Calcutta dealers), *Bāmāni myna*, *Harbolā* (Bengal); *Pabiya pāwi* (U.P., Mathura); *Pāpāta gorinki* (Telugu); *Pāpāta pariki*, *Pāppātthi nāhanavāi*, *Rawanati* (Tamil); *Kārimtalai chikkili* (Malayalam); *Martintro* (Portuguese in Ceylon); *Nākanam pātchi* (Tamil in Ceylon).

SIZE. Myna —; length c. 22 cm (8½ in.).

FIELD CHARACTERS. A crested myna, grey above reddish fawn below, with glossy black forehead, crown and nape and long pointed crest. Wings black; tail brown with white edging and tip, particularly conspicuous when the bird spreads it before alighting. Sexes alike, but crest of female shorter.



Young (immature). General coloration dull: back browner grey, head sooty brown and crestless.

STATUS, DISTRIBUTION and HABITAT. Mainly resident, locally common but capricious, and subject to marked seasonal movements especially in the monsoons. Summer visitor (c. April) to the northern cold-winter parts. Absent in arid semi-desert and desert tracts as well as in humid evergreen biotope. West Pakistan roughly east of the Indus Valley; common summer visitor to Gilgit and Chitral, arriving there in April/May and breeding at between 1500 and 1600 m (Fulton, JBNHS 16: 49). All India from southern Kashmir, Himachal Pradesh and the Himalayan foothills (normally up to c. 1400 m, locally to 2400 m) southward to Kanyakumari; from eastern Rajasthan, northern Gujarat and Kutch eastward to about the longitude of Calcutta, c. 88°E. in W. Bengal. Rare or straggler in Assam and E. Pakistan. Not recorded in Nepal, Sikkim or Bhutan. Resident and widely distributed in Ceylon in the low-country Dry zone and coastal belt. Exceptional sight records: 4 birds, Northern peninsular Thailand, March 1977 (Boonsong Lekagul); a pair near Hanle monastery, 4750 m, July 1976 (SA) and several solos and pairs at Tikse, Ladakh, August/September 1977,

1980 (Southampton University Expedition). Affects open deciduous forest and scrub jungle, and the neighbourhood of cultivation and human habitations, freely entering wooded urban gardens and compounds.

GENERAL HABITS. Sociable; less arboreal than Greyheaded Myna. Keeps in family parties of 4 to 7 banding into larger flocks where food is plentiful, and at the communal roosts. Associates freely with Greyheaded myna and other frugivorous and nectar-eating birds to feed on flowering and fruiting trees, and with Pied, Jungle and Indian mynas to hunt grasshoppers etc. disturbed by grazing cattle on marshy grassland and moist tank margins. Stalks about amongst the animals' legs with the typical jaunty upright carriage of mynas, darting at and seizing the fleeing insects. Flight less swift and starling-like than Greyheaded myna. Roosts in large congregations in leafy trees and shrubs such as mango and palas (*Butea*), or in reed-beds, in the noisy company of parakeets, rosy pastorals and common mynas.

FOOD. Fruits and berries: lantana, *Zizyphus*, wild figs (*Ficus* spp.), *Salvadora persica* and *S. oleoides*, *Bridelia*, *Mimusops hexandra*, and others. Has been recorded eating the poisonous fruits of Yellow Oleander (*Thevetia nerifolia*), and the fleshy flowers of mhowa (*Madhuca indica*) commonly. Nectar of flowers: *Erythrina*, *Salmalia*, *Butea* and *Capparis* among the most usual, the birds doubtless promoting their cross-pollination. Insects: grasshoppers, moths, caterpillars, etc.

VOICE AND CALLS. Amusing merry creaking and chattering notes. In breeding season, a pleasing little rambling warbling song delivered by male from a shady perch in the nature of a soliloquy with his crest partially raised and whole plumage frowzled. It is interlarded with passable mimicry of bulbul, drongo and other birds' calls.

BREEDING. Season, overall February/March to August/September, the principal periods varying with locality; earlier in south India later in the north. Equivocal in Ceylon: believed to be July–August but no actual records traceable. Nest, a collection of grass, dead leaves, feathers and rubbish stuffed in a hole in a tree-trunk or bough—usually with a very small entrance—often usurped from a tit, barbet or woodpecker; or in a wall or roof even of inhabited houses. Is not averse to nesting colonially if suitable holes available close together. Eggs, 3 or 4, pale blue, unmarked. Average size of 100 eggs 24.6 × 19.0 mm (Baker). Both sexes take part in building the nest, incubation and tending the young. Incubation period c. 12 days (Tyagi & Lamba, JBNHS 74: 173). Two, sometimes three, broods raised in succession.

MUSEUM DIAGNOSIS. Wings blunter than in Grey- and Whiteheaded mynas (987–993), and tarsi stouter. Tail slightly graduated. For details of plumage see Baker, loc. cit.

Young (immature). Forehead to nape dark brown and crestless; grey upper-parts, edges of coverts and of secondaries suffused with rufous-brown. Underparts paler and pale streaks to long hackles absent, otherwise as adult. Rectrices narrower. Postjuvenile moult complete and first-winter bird cannot be distinguished from adult. No spring moult. Complete autumn moult in October/November.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂	99–112	20–24	26–30	60–75 mm
♀ ♀	99–109	20–21 (from skull)	28–29	58–68 mm (SA, HW)

Weight 9 ♂ ♀ 40–54 (av. 49) g — SA.

COLOURS OF BARE PARTS. Iris bluish white or yellowish cream colour. Bill, basal half including gape and nostrils greenish lead, terminal half lemon-yellow; mouth greenish plumbeous or bluish slate. Legs, feet and claws lemon-yellow.

995 Daurian Myna. *Sturnus sturninus* (Pallas)

Gracula sturnina Pallas, 1776, Reise Russ. Reich 3: 695 (Dauria)
Baker, FBI No. 988, Vol. 3: 43

Plate 68, fig. 6

LOCAL NAMES. None recorded.

SIZE. Myna —; length c. 19 cm (7½ in.).

FIELD CHARACTERS. A small greyish myna reminiscent of the Grey-headed, with very short blackish slightly forked tail, and two whitish wing-bars. *Above*, Crown and sides of head and neck hoary grey; lores and a ring round eye white; back, rump, wing-coverts and a patch on nape metallic blackish purple. A buff band across rump. *Below*, pale grey, the chin tinged with rufous. Tail metallic green, edged on the outside with buff. Sexes more or less alike; see Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Aberrant straggler. There are only two definite records from within our limits: a specimen collected in Chitral (head of Turikho Valley, c. 3300 m) from a flock of 17 birds on 16 July 1902 (Fulton, JBNHS 16: 49), and another which flew on board ship in a squall in the open sea between Car Nicobar and Little Andaman I. on 20 March (Hume, SF 2: 250, footnote). Said to be an occasional winter visitor to the Nicobars; possibly also to the Andaman islands.

Extralimital. Transbaikalia and N. Mongolia, Ussuriland, Manchuria, N. Korea, etc. Migrating through China to winter in S. China, Hainan, the Indochinese countries, Burma, Malay Peninsula and Indonesia. (For details see Vaurie, 1959, 2: 124.)

GENERAL HABITS, FOOD, VOICE and CALLS. As in Greyheaded Myna (987), q.v. Keeps in flocks to open cultivated country.

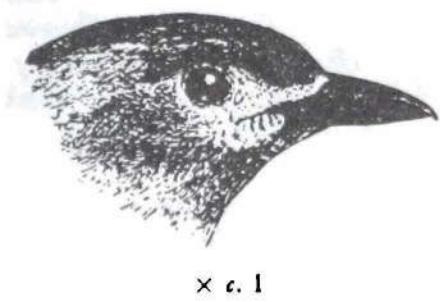
BREEDING. Extralimital. In tree-holes.

MUSEUM DIAGNOSIS. Female resembles ♂ but dull brown replaces glossy black on upperparts, wings and tail. Hoary grey of head and upper back less marked; nape-patch dark brown instead of purple-glossed black. Underparts creamy white.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	105–110	14–15	c. 25	52–54 mm (Hartert)

COLOURS OF BARE PARTS. Iris brown. Bill dusky; lower mandible whitish to greenish blue from base to arch of gonyx. Legs and feet greenish horn.



996 Rosy Pastor. *Sturnus roseus* (Linnaeus)

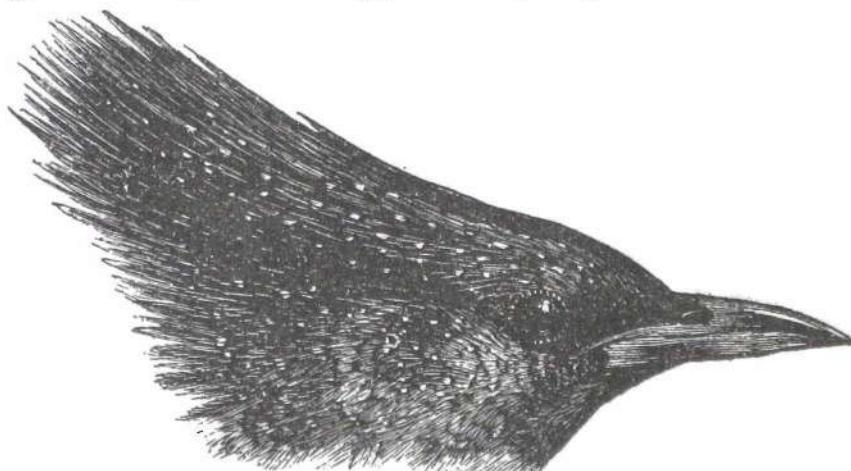
Turdus roseus Linnaeus, 1758, Syst. Nat., ed. 10, 1 : 171 (Lapland, Switzerland)
Baker, FBI No. 972, Vol. 3 : 29

Plate 68, fig. 10

LOCAL NAMES. *Gūlābi myna*, *Tilyer* (Hindi); *Lāl myna* (Bengal); *Ganggoya* (Bihar mirshikars); *Wyha*, *Wahee*, *Wyho* (Kutch, Sind); *Pariki pitta*, *Palisa* (Telugu); *Sūrai kūrūvi*, *Chōlām kūrūvi* (Tamil).

SIZE. Myna ±; length c. 23 cm (9 in.).

FIELD CHARACTERS. A distinctive rose-pink starling, or myna, with glistening black head, neck and upper breast, wings and tail. A long pointed



× c. 1

crest on crown and nape, recumbent at rest, partially raised under excitement and when singing. Pointed wings; swift and direct typically starling flight. Sexes alike.

Young (immature). Crestless, pale sandy brown with darker wings and tail; confusingly different from adult.

STATUS, DISTRIBUTION and HABITAT. Winter visitor to West Pakistan and India eastward to Bihar, straggling (rarely) into W. Bengal, Assam and E. Pakistan. Southward throughout the Peninsula: abundant in Gujarat and the Deccan, decreasingly through Mysore, Kerala and southern Tamil Nadu. Irregular and sparingly in Ceylon chiefly in the northern districts and coastal areas of the Dry zone. Vagrant or irregular visitor to the Andaman Islands.

In many areas of W. Pakistan (N. Baluchistan, NW. frontier districts, Gilgit, Chitral) and NW. India (Punjab) mainly an abundant two-way passage migrant, recorded as such at up to 3000 m alt.; practically absent during the winter months.

Affects open cultivation, grassland, and low thorn jungle in semi-desert. Avoids forest.

Extralimital. Breeds in SE. Europe (west to Hungary) and SW. Asia (Asia Minor, Middle East countries, Russian Turkestan, etc.). For details see Vaurie, 1959, 2: 125-6.

MIGRATION One of our earliest migrants; fair numbers of adults (♂?)

accompanied by a few young of the year entering the northwestern parts of the subcontinent already by middle, or even first week July; bulk passage of adults and young between August and October. Return transit in March and April continuing into mid May. Thus the birds totally absent from the subcontinent only for less than three months in the year. Enlargement of male gonads to breeding size in April-May, combined with presence of brood-patch in both sexes in unmoulted nuptial plumage of the earliest arrivals in July have led to postulation of the birds breeding within our limits or immediately adjoining areas (i.e. in Sind, Baluchistan, Afghanistan). However, this not yet proven except for a single circumstantial record in Afghanistan (see Marien, JBNHS 49: 480).

Is one of the exceptional species with a remarkable East-West migrational movement (*contra* North-South), comparable with that of the Blackheaded Bunting (*Emberiza melanocephala*, 2043). Adequate observational evidence in this regard is supported by ringing data: a nestling ringed in NE. Hungary (47°55'N., 20°30'E.) on 30.vi.1925, recovered near Lahore, W. Pakistan (c. 31°30'N., 74°30'E.) on 24.iv.1926—a map distance of some 4800 km; an adult ringed at Bharatpur (27°13'N., 77°32'E.) on 12.ii.1970, recovered near Artashat, Armenian SSR (39°57'N., 44°34'E.) on 25.vii.1973. For a good summary of the movements of the Rosy Pastor within the country see Abdulali, JBNHS 46: 704-8. Large-scale emigration in progress observed earlier in N. Afghanistan in April-May and again in late March across the Great Rann of Kutch, probably represents the normal pattern of Rosy Pastor's migratory flight. Small parties and large flocks of 50-300 birds followed one another in an intermittent stream, flying swiftly and purposefully in a NW. direction, chiefly between 0830 and 1100 hrs, some sweeping low over the bush-tops, others perhaps 100 to 150 metres up. Parties occasionally alighted on the bushes but with no apparent inclination to feed; the birds seemed restless and presently took off again to join the hurrying bands.

GENERAL HABITS. Keeps in small parties or large flocks, sometimes of swarm proportions, in the neighbourhood of cultivation, especially jowar and bajra. The birds descend on the fields in 'clouds' often causing enormous damage to the ripening grain. Feeds actively in the morning and forenoon and then again in the late afternoon. Retires to rest in shady trees fringing the fields during the heat of the day, spending the time between intermittent raids in noisy chatter and creaky warbling. Often attends grazing cattle, especially on waterlogged ground, in association with other myna species and cattle egrets to hunt insects disturbed in the grass. Is unfailingly present on flowering trees such as Silk Cotton (*Salmalia*), Coral (*Erythrina*) and Flame-of-the-Forest (*Butea*) to feed on the nectar, and largely instrumental in their cross-pollination and fertilization. Acts the blustering bully to keep other birds away from the flowers, attacking the visitors from a distant part of the tree even when itself satiated and not feeding. The aggressive Pastor droops, twitches and shivers its wings, spreads its tail flicking it sideways provocatively, utters a bellicose *chit chit chit* by way of war-cry as it charges down to supplant the newcomer. The bird promptly inserts its own bill into the chalice as if to celebrate the victory. Roosts communally in enormous thickly-clustered swarms, numbering maybe several thousand birds—often in company with

parakeets, mynas, crows, weaver birds and migratory sparrows — in thorn bushes, groves of babool trees, *Butea* jungle, coconut plantations and reed-beds. Also in leafy roadside avenues in urban areas, frequently right in the midst of a congested city bazaar, undeterred by the din and bustle of traffic or the glare of electric lights. The deafening clamour produced by a large concourse settling in for the night may, at a distance, be likened to a heavy monsoon downpour pattering off a roof on to a cement floor! Flight swift and direct, typical of the starlings. While hunting swarming grasshoppers the birds run along the ground jostling one another in their eagerness, springing into the air every now and again to snatch the escaping quarry. The grassfield ripples with the activity of chaser and chased as the seething mass of birds constantly leap-frog over one another or fly ahead to cut off the fleeing horde. Is highly beneficial as a wholesale destroyer of locusts in times of invasion, as well as an important agent of seed dispersal. The abundance of mulberry trees in the Chhang Manga Forest Reserve in W. Pakistan, and other plantations in the canal areas of the Punjab — the base of the flourishing sports goods industry — is largely due to the Rosy Pastor aided by bulbuls and other frugivorous birds.

Dense masses collect regularly to drink and bathe at puddles left behind in drying-up jheels and tanks.

FOOD. Chiefly fruits, berries, flower-nectar, cereal grains and insects. The following items specifically recorded:

Fruits and berries: *Ficus* (many species), *Lantana aculeata*, *Zizyphus oenoplia*, *Bridelia hamiltoniana*, *Streblus asper*, grapes, mulberries (*Morus*), dates (in W. Pakistan), *Salvadora persica*, *Capparis aphylla*, 'chillies' (Inglis).

Flower-nectar: *Salmalia malabarica*, *Bombax insigne*, *Erythrina indica* and *E. suberosa*, *Butea monosperma*, *Careya arborea*.

Insects: Largely locusts and grasshoppers (Orthoptera—Acrididae). From stomachs of specimens have also been taken beetles (Coleoptera) of the families Lucanidae, Elateridae, Tenebrionidae, Buprestidae, Scarabaeidae, Curculionidae.

Likewise centipedes (*Chilopoda* — Scolopendridae), molluscs (Gastropoda—Helicidae), and spiders (Araneae).

Cereal grains: chiefly jowar (*Sorghum vulgare*) and bajra (*Pennisetum typhoides*).

VOICE and CALLS. Song lively and much prolonged: a jumble of harsh chattering noises intermingled with melodious warbling notes. The hackle-like feathers of throat and long black crest stand out prominently while the bird is singing.

BREEDING. Extralimital. Season, May-June. Nesting colonial; in holes and crannies on stony hillsides and amongst ruins, the breeding grounds shifting year to year largely with those of migratory locust swarms. Eggs, 3 to 5, pale blue.

For an excellent account of the food, feeding habits and breeding biology, see Serebrennikov, M. K., 1931, 'Der Rosenstar [*Pastor roseus* (L.)], seine Lebensweise und ökonomische Bedeutung in Uzbekistan (Turkestan)', *Jour. f. Orn.* 79: 29-56.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	125-136	24-26	30-32	67-73 mm
♀♀	122-136	22-24	28-33	65-72 mm (SA, CBT)

Weight 5 ♂♂ 55-76; 3 ♀♀ 53-73 g (Paludan). 7 ♂♀ 70-80 g (SA).

COLOURS OF BARE PARTS. Iris brown. Bill horny brown, yellow at gape and on basal half of lower mandible; mouth bright lemon-yellow, gullet livid pink or greyish pink. Legs, feet and claws horny brown.

MISCELLANEOUS. Extensively netted and/or shot in West Pakistan and N. India as an epicurean delicacy, particularly on outward migration when the birds are very fat. In Afghanistan (where locally known as *Sāch*) not molested by the populace because of the wide appreciation of its beneficial service to agriculture as a destroyer of locusts. In Iran there is a popular legend that anyone afflicted with a locust plague has only to travel to a certain well in Qazvin and get from it a bottle of water. He must take this bottle to the place where the locusts are, and break it on the ground; the Pastors will soon come and eat up the locusts! (A. C. Trott, JBNHS 56: 692.)

STURNUS VULGARIS Linnaeus: STARLING

Key to the Subspecies

		Page
A	Wing c. 110-120 mm.....	<i>S. v. minor</i> 170
B	Wing 115-125 mm.....	<i>S. v. indicus</i> 170
C	Wing c. 122-137 mm	
1	Head bronze-green.....	<i>S. v. porphyronotus</i> 169
2	Head purple	
a	Upper plumage green.....	<i>S. v. poltaratskyi</i> 166
b	Upper plumage very deep green.....	<i>S. v. nobilior</i> 168

Cf. Ticehurst, C. B., 1919, On Asiatic Starlings. JBNHS 26: 380-4

Sushkin, P., 1933, Notes on some eastern forms of *Sturnus vulgaris*. Ibis: 55-8.

997. *Sturnus vulgaris poltaratskyi* Finsch

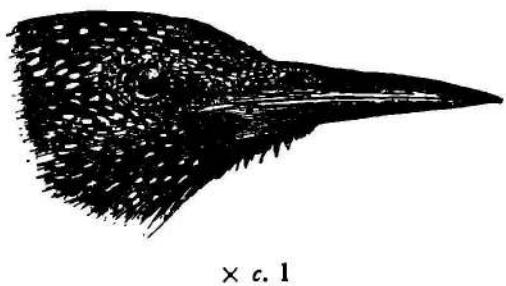
St. (urnus) poltaratskyi Finsch, 1878, Proc. Zool. Soc. London: 713
(Marka-kul, Eastern Kazakhstan)

Sturnus dzungaricus Buturlin, 1904, Orn. Jahrb.: 208 (Uruungu, northern Dzungaria)
Baker, FBI No. 976, Vol. 3: 34
Plate 68, fig. 9

LOCAL NAMES. *Tilyer myna*, *Kusnai*, *Tilora*, *Nakshi tilyer* (Hindi); *Tiley myna* (Bengali); *Tsinihangoor* (Kashmir); *Kāro whālio* (Sind).

SIZE. Between bulbul and myna; length c. 20 cm (8 in.).

FIELD CHARACTERS. As of Kashmir Starling (1001), q.v. See Key to the Subspecies and Museum Diagnosis.

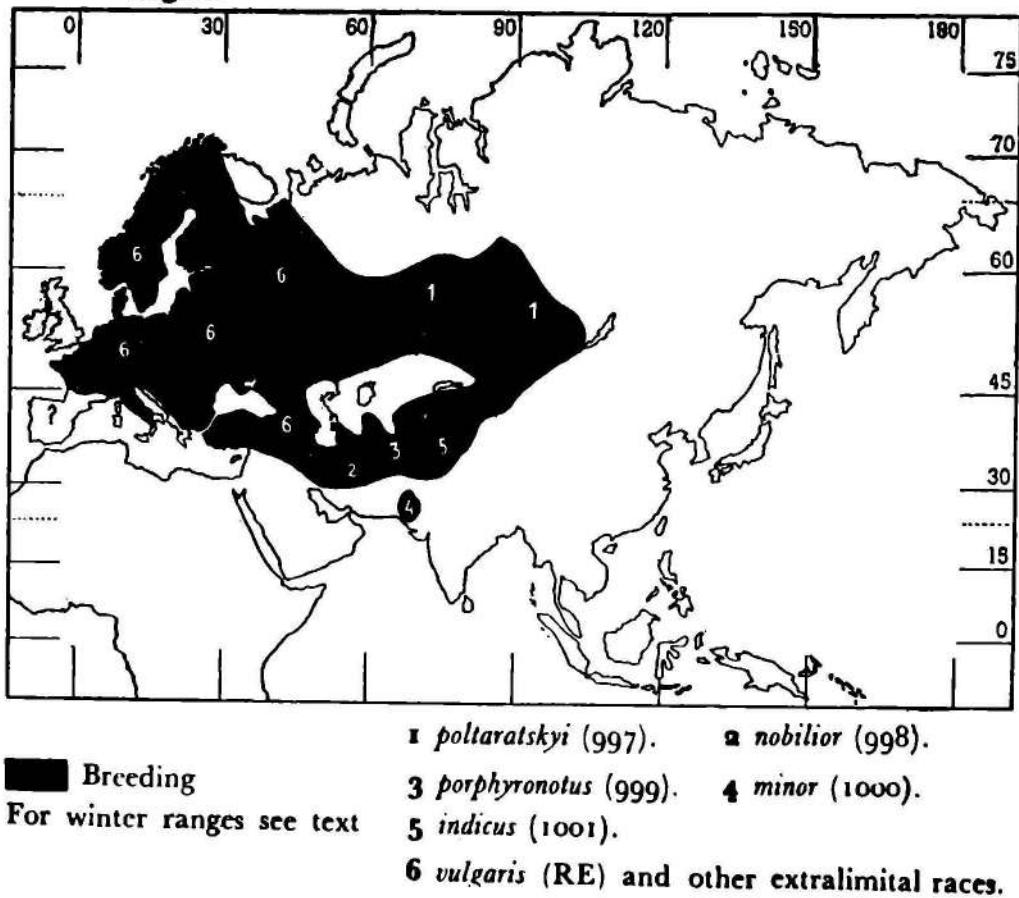


For distinguishing adult ♂ ♂ from *nobilior* (998), also green-backed, see under that subspecies.

STATUS, DISTRIBUTION and HABITAT. The commonest Starling on the Indian list. Passage migrant through Chitral and Gilgit in October–November and then again mid March to mid April, a few overwintering in the Valley (Scully, SF 10: 128).

Probably passes also through Kashmir and Himachal Pradesh, but winter ranges of the various races overlap, two or more forms sometimes even occurring in the same flock; therefore subspecific determination impossible unless specimens in the hand; sight records equivocal. Abundant winter visitor to rest of W. Pakistan (Baluchistan, Sind, Punjab), and northern India — Punjab, Delhi, Nepal terai, and the Gangetic Plain, east (rare) to Bihar, W. Bengal, Assam (?), and E. Pakistan. Southward to Rajasthan, N. Gujarat (including Kutch and Saurashtra), northern and western Madhya

Sturnus vulgaris



Pradesh. Vagrants and stragglers liable to be met in far-flung localities, thus two recorded from Madras (Whistler, JBNHS 36: 587) and three collected from a flock of c. 12 near Bombay, November (Abdulali, ibid. 62: 161).

Bangalore 24.x.1965, flock of 300–350 in harvested field [Ghorpade, JBNHS 70: 556]. Sight-recorded at sea (Subsp.?) c. 40 miles west of Minicoy island, in December and January (Phillips, JBNHS 60: 582).

Affects damp grassland around marshes and jheels, and outskirts of cultivation and habitations — irrigated lawns etc.

Extralimital. Breeds in Siberia north to c. 60°N. from the Ural Mts to Lake Baikal; south to Kazakhstan and W. Mongolia. Winters also in eastern Iran and Afghanistan (apparently breeding locally in the northern part). For details see Vaurie, 1959, 2: 129.

MIGRATION. The only ringing data so far available is of a juvenile ringed in the Kumerovo Region of western Siberia (Leninsk-Kuznetskyi, c. 54°N., 86°E.) on 25.v.59, recovered in West Pakistan (Lahore, c. 31°N., 74°E.) on 3.i.1960 — a straight-line map distance of c. 2900 km.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1001.

BREEDING. Extralimital. Breeding biology as in 1001, and other races.

MUSEUM DIAGNOSIS. ‘Head, throat and ear-coverts purple; mantle and rump green; upper tail-coverts and scapulars green, the longest feathers often violet-blue at the tips; wing-coverts green, mixed with violet-blue on the larger feathers; a green pectoral band separates the purple throat from the rest of the underparts which are “bluebottle” blue and more violet-blue on the flanks. Under wing-coverts brown with broad buff edges’ (Ticehurst).

For description of plumages and bionomics of the nominate subspecies (*vulgaris*) see Witherby *et al.*, 1938, 1: 40–44.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	125–135	28–32	29–32	62–69 mm
♀♀	124–131	28–32	29–32	59–65 mm (HW)

COLOURS OF BARE PARTS. As in 1001.

998. *Sturnus vulgaris nobilior* Hume

St. (urus) nobilior Hume, 1879, Stray Feathers 8: 175 (Kandahar)
Baker, FBI No. 977, Vol. 3: 34

LOCAL NAMES. As for 997.

SIZE. Between bulbul and myna; length c. 20 cm (8 in.).

FIELD CHARACTERS. As of Kashmir Starling (1001), q.v. See Key to the Subspecies and Museum Diagnosis.

Very similar to Indian Starling (997), also with green-glossed upperparts, but in good sunlight, with binoculars it is often possible to pick out adult males in mixed flocks with tolerable certainty by their blacker appearance due to the finer and less amount of spotting on the underparts in winter.

STATUS, DISTRIBUTION and HABITAT. Winter visitor to W. Pakistan (Baluchistan, Sind, NW. frontier districts, Punjab); doubtless also adjoining northwestern India. Affects open country — cultivation and grassland, and lush margins of jheels.

Extralimital. Breeds in Khorasan, Transcaspia and Afghanistan (Vaurie).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1001.

BREEDING. Extralimital.

MUSEUM DIAGNOSIS. 'Resembles *poltaratskyi* (997) but belly and flanks bright reddish purple, as also are the wing-coverts. Under tail-coverts glossed with purple. Scapulars, rump, and upper tail-coverts mostly green, sometimes mixed with purple-blue, especially on the longer feathers. Underwing darker with narrow whitish edges. In winter, spots smaller and whiter. Bill usually a little longer and slenderer, up to 30 mm' [from feathers] — Ticehurst.

MEASUREMENTS

	Wing	Bill (from skull)
♂♂	130-134	31-34 mm
♀ ♀	127-132	31-33 mm (CBT)

COLOURS OF BARE PARTS. As in 1001.

999. *Sturnus vulgaris porphyronotus* Sharpe

Sturnus porphyronotus Sharpe, 1888, Ibis: 438 (Yarkand)

Sturnus purpurascens dresseri Buturlin, 1904, Orn. Jahrb.: 208 (Askabad)
Baker, FBI No. 974, Vol. 3: 32

LOCAL NAMES. As for 997.

SIZE. Between bulbul and myna; length c. 20 cm (8 in.).

FIELD CHARACTERS. As of Kashmir Starling (1001), q.v. See Key to the Subspecies and Museum Diagnosis.

In good sunlight, with binoculars, bronze-green head (*v.* purple in 997 and 998) suggests identity.

STATUS, DISTRIBUTION and HABITAT. Winter visitor to W. Pakistan (Baluchistan, Sind, NW. frontier districts, Punjab) and adjoining north-western India [Kashmir, Himachal Pradesh (Kangra), etc.]. Has been obtained in Bihar (Inglis) and Nepal terai (Fleming).

Extralimital. Breeds in Chinese and Russian Turkestan south to Tadzhikistan and Pamirs. For details see Vaurie, 1959, 2: 129. Winters also in Afghanistan.

GENERAL HABITS, FOOD, VOICE and CALLS. As in Kashmir Starling (1001).

BREEDING. Extralimital.

MUSEUM DIAGNOSIS. Head greenish but ear-coverts always more or less purple; mantle red-purple, in some specimens tinged with purple-blue; wing-coverts purple on the median and lesser series, bronze-green on secondaries and their coverts. Purple of belly shades off to bronze-green on flanks. Underwing blackish brown with narrow whitish edges. Bill usually longer than in *poltaratskyi* (997).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	129-137	32-34	30-32	62-69 mm
♀ ♀	122-129	31-34	30-32	62-66 mm (HW, CBT)

COLOURS OF BARE PARTS. As in 1001.

1000. *Sturnus vulgaris minor* Hume

Sturnus minor Hume, 1873, Stray Feathers 1: 207 (Larkhana, Sind)
Baker, FBI No. 975, Vol. 3: 33

LOCAL NAME. *Chhoto kāro whāhio* (Sind).

SIZE. Bulbul ±; length c. 19 cm (7½ in.).

FIELD CHARACTERS. As of Kashmir Starling (1001), q.v.; somewhat smaller. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident and breeds in Sind (West Pakistan); not uncommon but extremely local. Seasonal movements, if any, not recorded. There is only a single unexplained occurrence reported outside Sind (January 1872 — Brooks), near Etawah in Uttar Pradesh, c. 1100 km east of its nearest known habitat. Affects damp cultivation in canal-irrigated desert colonization areas, and tamarisk jungle in the Indus riverain.

GENERAL HABITS, FOOD, VOICE and CALLS. Keeps in small parties of half a dozen birds or so, apparently never large flocks like the wintering migrant starlings; otherwise like 1001 and other races.

BREEDING. Season, March to May. Nest, a pad of grass and feathers in a hole in a tamarisk or *Prosopis* tree growing along a canal bank or in the middle of a *dhand* (jheel). Eggs, 5 or 6 (?), pale skim-milk blue as in 1001. Average size of 12 eggs 26·1 × 19·6 mm (Baker). Breeding biology unrecorded.

MUSEUM DIAGNOSIS. Most distinct of all Asiatic races of *S. vulgaris*, with the glossy reflections characteristic and constant. Not only smaller-looking than the other Starlings, but acquires the yellow bill of the breeding season long before the winter-visiting birds do. Entire head, throat and ear-coverts green; upperparts including wing-coverts red-purple; no distinct pectoral band as in *poltaratskyi* (997), the green of the throat joining the purple breast which shades off to green on belly and flanks; under tail-coverts purple.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus
♂ ♀	110-120	26-27	28-30 mm (CBT)

COLOURS OF BARE PARTS. As in 1001. 'Iris in ♂ brown, in ♀ bright gold' (Ticehurst).

1001. *Sturnus vulgaris indicus* Blyth

Sturnus indicus Blyth, 1844, Ann. Mag. Nat. Hist. 12: 97 ex Hodgson in Gray, 1843, Zool. Misc.: 84 nom. nud. (Nepal, restricted by Ripley, 1961; based on only specimens available to Blyth in 1843)

Sturnus humilis Brooks, 1876, Ibis: 500, new name for *Sturnus nitens* Hume, 1873
(Cashmere)

Baker, FBI No. 973, Vol. 3: 31

LOCAL NAMES. *Tilgiri, Tsinihangoor* (Kashmir).

SIZE. Myna —; length c. 19 cm (7½ in.).

FIELD CHARACTERS. A gregarious, slim glossy black myna with metallic green and purple reflections, and finely stippled with whitish. Feathers of head, neck and breast pointed and hackle-shaped. Sexes more or less alike; female duller. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Very common and abundant summer (breeding) visitor to Kashmir (Vale and side valleys up to c. 2100 m) arriving in small numbers at end February, progressing to peak density by 3rd week March or early April. Leaves Kashmir c. October to winter in the north Indian plains alongside the extralimital migratory starlings. May breed also in Himachal Pradesh but no definite evidence as yet. Affects grassy meadows and pastures, mulberry groves, orchards and cultivation in the vicinity of villages.

GENERAL HABITS. Highly gregarious. Keeps in small parties or large flocks of several hundred birds, sauntering or running about purposefully to grub in damp fields, lawns and pastureland. Often in attendance on grazing cattle and sheep, or following the plough in association with Indian Mynas, yellow wagtails and other birds. A feeding flock will, for no apparent reason, suddenly take to the air as if to a given signal and fly up into a nearby tree-top, there to preen and sit around for a while, before gliding down again in twos and threes to resume the foraging. Or the flock will circle around a couple of times in a massed rabble with quick beats of the pointed wings, wheeling and banking in regimented unison, and resettle to feed, seemingly quite unperturbed. Roosts communally in enormous congregations in favourite willow groves, sheesham plantations, reed-beds and the like, flock after flock flying in at sunset from all quarters, sitting clustered thickly on the bare topmost branches, blackening them with their dense multitudes. Roosting preliminaries much less noisy than common mynas'.

FOOD. Chiefly fruits and berries, and insects. Destructive to orchard fruit. In an agricultural area in Punjab (Lyallpur) the following identified among stomach contents: grain and fruit, lizards, spiders, and large quantities of insect pests — grasshoppers (*Chrotogonus* spp.) and locusts (all stages), gram caterpillars, cutworms, beetles, weevils, grubs, pupae of *Chrysopa* sp. (Husain & Bhalla, JBNHS 39: 836).

VOICE and CALLS. Song typical of Starling: prolonged and varied — a jumble of chattering, clicking and creaky noises mixed with pleasant musical whistles and often some mimicry of other birds' calls. Uttered with verve and persistence, with bill raised to the sky and wings shivering loosely at sides. When approaching a nest under observation, a concerned sharp click, click, reminiscent of a small woodpecker, e.g. *Picoides mahrattensis*, 847. .

BREEDING. Season, May and June. Nest, an untidy loosely-knit pad of grass and feathers in woodpecker holes in trees (willow, mulberry, chenar, etc.) as well as in holes in earth banks, walls and under rafters of village houses; sometimes amongst heaps of willow twigs stacked up in the branches of trees near villages. Frequently several nests placed fairly close to one another. Eggs, 5 or 6, pale skim-milk blue. Average size of 92 eggs 28.8 × 20.7 mm (BBO). Incubation apparently by both sexes: period unrecorded. Both parents tend the young.

MUSEUM DIAGNOSIS. 'Head deep purple-blue, redder purple on chin, throat and hindneck; ear-coverts deep metallic green; mantle coppery red to bronze; scapulars deep green; rump and upper tail-coverts, belly and flanks bronze-green to bluish green; pectoral band of copper-red continuous with throat and passing to the green underparts. Under wing-coverts blackish brown with narrow whitish edges. Wing shorter than in the other races except *minor* [1000]' — Ticehurst.

In first-winter plumage whitish spots on abdomen so large that abdomen appears almost white.

JUVENILE. Pale brown, the feathers of the underparts streaked with darker brown; throat and chin very pale.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	116-121	29-32	30-32	56-59 mm
♀ ♀	113-119	28-30	29-31	54-58 mm (HW)

Wing ♂ ♀ 119-125 mm (CBT)

Weight 15 ♂ ♀ 55-72 (av. 62.1) g — SA.

COLOURS OF BARE PARTS. Adult. ♂ Iris dark brown. Bill bright yellow, horny steel colour about nostrils and on base of lower mandible. Legs and feet salmon-brown, darker on tarsus; claws dusky horny, darker towards tips. ♀ Iris: outer ring pale yellow, inner dark brown. Bill horny yellow. Legs and feet as in ♂. Immature. ♂ roughly as in adult. ♀ Bill horny, mottled with brown and yellow; or bright yellow, horny at base of lower mandible.

STURNUS CONTRA Linnaeus: PIED MYNA

Key to the Subspecies

		Page
A	Forehead not streaked with white	
a	Underparts lighter, shoulders and nape streaked.....	S. c. <i>contra</i> 172
b	Underparts darker, streaklets on shoulders reduced, lacking on nape.....	S. c. <i>sordidus</i> 175
B	Forehead streaked with white.....	S. c. <i>superciliaris</i> 175

1002. *Sturnus contra contra* Linnaeus

Sturnus Contra Linnaeus, 1758, Syst. Nat., ed. 10, 1: 167

(India, restricted to Chandernagor [Hooghly dist., W. Bengal] by Stresemann, 1952, Ibis 94: 517)

Sturnopastor capensis dehrae Baker, 1925, Bull. Brit. Orn. Cl. 45: 103 (Dehra Dun)

Baker, FBI No. 1005, Vol. 3: 63

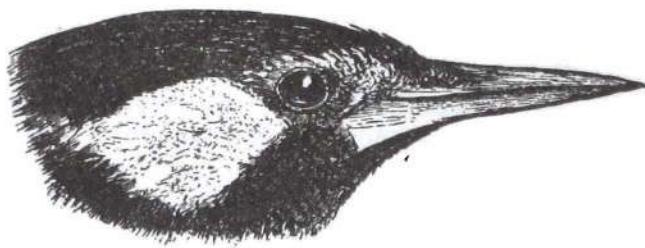
Plate 68, fig. 11

LOCAL NAMES. *Āblāk-* or *Āblāki myna* (Hindi); *Gūyē sālik* (Bengali); *Sirōli myna* (Bihar); *Kān kurikā* (Nowgong, Assam); *Venda gorinka* (Telugu).

SIZE. Myna ±; length c. 23 cm (9 in.).

FIELD CHARACTERS. A trim black and white myna with conspicuous deep orange-red orbital skin and bright orange-and-yellow bill. Sexes alike.

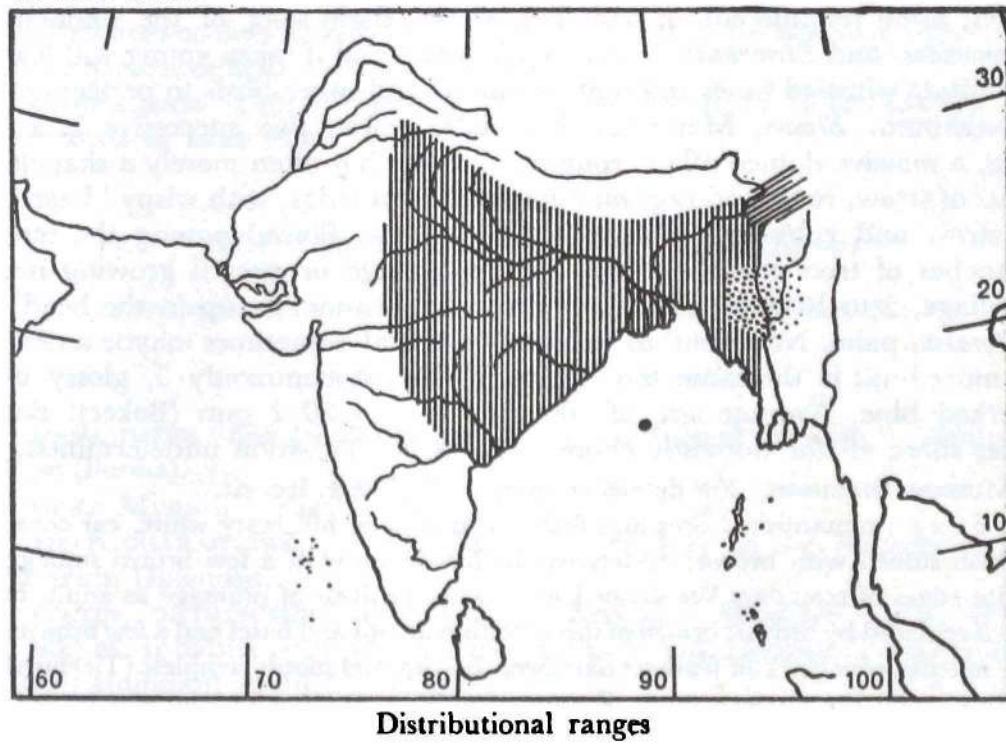
Young much paler and browner, the breast streaked or smeared with vinaceous brown. For details see Museum Diagnosis.



x c. 1

STATUS, DISTRIBUTION and HABITAT. Resident, evidently with some seasonal (?) local movements, as yet little investigated. Local and patchy in some parts. Northern and eastern continental India east of a line from c. 76°E. (Ludhiana and Hissar in Punjab) south through eastern Rajasthan roughly to Hoshangabad (Madhya Pradesh), Hyderabad (Andhra) and the Krishna river delta (c. 16°N. lat.).¹ In the north along the U.P. and Nepal

Sturnus contra



■■■ *contra* (1002).

■■■ *sordidus* (1003).

■■■ *superciliaris* (1004).

terai, duars, foothills and through the Gangetic Plain to Lakhimpur and N. Cachar districts, Assam [where some intergrading with *sordidus* (1003) occurs]; also East Pakistan. Plains and foothills up to c. 700 m. Affects open cultivated well-watered country in the vicinity of human habitations — damp grazing grounds, margins of tanks, sewage farms, municipal refuse dumps, etc.

¹ An odd pair or two (presumably escapees) observed in Greater Bombay in 1939, and as breeding more or less regularly since. Species well established in suburban Bombay by 1983.

Extralimital. Other races extend the species to Thailand, N. Laos, and to Sumatra and Java.

GENERAL HABITS. Sociable, predominantly insectivorous and ground-feeding. Keeps in small parties and noisy squabbling flocks of up to 30 or more birds when not paired off for breeding, commonly in association with other mynas. Rarely met away from villages and human habitations though never actually entering or utilizing houses like Indian Myna. Refuse dumps, cattle pens and marshy grazing land are some of its favourite feeding-grounds.

FOOD. Insects, fruit and cereal grain; apparently less fond of flower-nectar than many other mynas. Among stomach contents in an intensively cultivated area in Bihar, have been identified grasshoppers (*Chrotogonus* sp.) and crickets, beetles (of the families Tenebrionidae, Melolonthidae, Copridae and Carabidae), ants (*Camponotus compressus*), cutworms, caterpillars and grubs (Mason & Lefroy, 1912).

VOICE AND CALLS. An assortment of high-pitched but pleasant musical liquid notes, some reminiscent of snatches of the flight-song of the finchlarks *Ammomanes* and *Eremopterix*. Is a good mimic and if taken young will learn to imitate whistled tunes and song of Shama and other birds to perfection.

BREEDING. Season, March to September; often two successive broods. Nest, a massive domed affair, roughly globular but often merely a shapeless mass of straw, roots and rags on a foundation of twigs, with wispy 'beards' of straw and rubbish dangling untidily below. Placed among the outer branches of trees like sheesham, babool, mango or peepul growing near a village, 5 to 10 metres from the ground; occasionally up in the head of a *Borassus* palm. Nests tend to be loosely colonial, sometimes maybe a dozen or more built in the same tree. Eggs, 4-6, most commonly 5, glossy unmarked blue. Average size of 100 eggs 27.6 x 20.2 mm (Baker). Both sexes share all the domestic chores. Period of incubation undetermined.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit.

Young (immature). Lores and feathers to base of bill rusty white, ear-coverts whitish sullied with brown; underparts buffish white with a few brown smudges; white edges of scapulars less defined and less pure. Rest of plumage as adult, but black replaced by brown; brown of throat with pale tips and bases and a few brownish tips to lesser coverts. Tail feathers narrower. Postjuvenile moult complete (Ticehurst).

Birds from the western parts of the range (Punjab, Gwalior) have a tendency to be browner above whiter below; those from the eastern (duars, Bengal, Assam) are black above pearly grey below. But there is a continuous colour cline, and some examples are indistinguishable.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	116-126	30-35	32-35	63-75 mm
♀ ♀	114-120	31-33	32-34	64-72 mm
(SA, HW, Marien)				

Weight 7 ♂ ♀ 72-82 g (SA).

COLOURS OF BARE PARTS. Iris brownish orange or orange-buff; orbital skin deep orange. Bill, basal portion orange-red, terminal pale yellow or flesh colour; mouth leaden-black. Legs and feet yellowish brown.

1003. *Sturnus contra sordidus* Ripley

Sturnus contra sordidus Ripley, 1950, Postilla, Yale Peabody Mus., No. 1: 3
 (Sadiya, Northeastern Assam [= Luhit division, NEFA])
 Not in Baker

LOCAL NAME. *Kān kurikā* (Assam).

SIZE. Myna ±; length c. 23 cm (9 in.).

FIELD CHARACTERS. As of 1002, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Northeastern Assam from Dibrugarh and Margherita (95–96°E.) north to the Brahmaputra gorges and Mishmi foothills, east through the Luhit Valley (very common and abundant in the neighbourhood of Sadiya). Extends south to the Tirap district and Patkai and Naga hills (?), but exact limits undetermined.

GENERAL HABITS, FOOD, VOICE and CALLS. As in the Indian form (1002).

BREEDING. Not specifically recorded; doubtless as in 1002.

MUSEUM DIAGNOSIS. Differs from nominate *contra* (1002) in having the streaklets much reduced on the shoulders, and absent on the nape; the streaklets sepia rather than vinaceous or drab. Underparts darker.

MEASUREMENTS. 2 ♂♂ Wing 118, 124; bill (from skull) 33, 35 mm (SDR).

COLOURS OF BARE PARTS. As in 1002.

1004. *Sturnus contra superciliaris* (Blyth)

Sturnopastor superciliaris Blyth, 1863, Jour. Asiatic Soc. Bengal 32: 77
 (Burma)
 Baker, FBI No. 1006, Vol. 3: 64

LOCAL NAMES. *Kān kurikā* (Assam); *Chong nga* (mynas generally — Manipur); *Zayet* (Burma).

SIZE. Myna ±; length c. 23 cm (9 in.).

FIELD CHARACTERS. As of 1002, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Manipur Valley up to c. 800 m. Inhabits open well-watered country and cultivation near habitations; abundant about Logtak Lake.

Extralimital. Plains of Burma, south to Tenasserim.

GENERAL HABITS, FOOD, VOICE and CALLS. As in the Indian form (1002).

BREEDING. As in 1002. Average size of 40 Burmese eggs 26·8 × 19·8 mm (Baker).

MUSEUM DIAGNOSIS. Differs from nominate *contra* (1002) in having the forehead and anterior crown streaked with white, and a broad white supercilium to ear-coverts. Streaks on neck and shoulders absent or obsolete.

MEASUREMENTS

	Wing	Bill (from skull)	Tail
11 ♂♀	114–118	32–35	62–70 mm (CBT)

COLOURS OF BARE PARTS. As in 1002.

1005 Chinese or Greybacked Myna. *Sturnus sinensis* (Gmelin)*Oriolus sinensis* Gmelin, 1788, Syst. Nat. 1: 394 (China)*Oriolus buffonianus* Shaw, 1809, Gen. Zool. 7: 437, new name for *O. sinensis* Gmelin
Pastor turdiformis Wagler, 1827, Syst. Av. *Pastor* sp. 15, new name for *O. sinensis* Gmelin

Baker, FBI No. 981, Vol. 3: 37

Plate 68, fig. 13

LOCAL NAMES. None recorded.

SIZE. Greyheaded Myna (987); length c. 20 cm (8 in.).

FIELD CHARACTERS. A small greyish and black myna with a large and prominent white shoulder-patch (scapulars and upper wing-coverts), smaller and greyish buff in female. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Apparently an irregular vagrant as in Burma, Thailand and Malaya, or overlooked as a winter visitor. Only a single authentic sight record within our limits in Manipur, 30 April (Hume, 1888, SF 11: 267).

EXTRALIMITAL. China (SE. Yunnan, Foochow, Kwangtung) and the Indo-chinese countries (La Touche).

GENERAL HABITS, etc. Described as gregarious, cheerful and noisy, feeding in trees as well as on ground, nesting in holes of roofs and houses, 'making free with verandahs and quite domesticated during the breeding season' (La Touche).

BREEDING. EXTRALIMITAL.

MUSEUM DIAGNOSIS. Adult. Above, whole head and rump pale rosy ferruginous; nape and back deep grey. Wings black; scapulars and upper wing-coverts white, washed with rosy ferruginous. Tail black, slightly graduated, broadly tipped with white. Below, throat, sides of neck and breast pale grey; centre of abdomen white; flanks, thighs and under tail-coverts rosy ferruginous.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂♂	103-108			57-62 mm
♀ ♀	99-104	18-21	24-26	53-58 mm

(La Touche)

COLOURS OF BARE PARTS. Iris white to bluish white. Bill slaty grey or pale bluish plumbeous; mouth and base rich slaty blue. Legs and feet slaty blue to plumbeous grey (Baker).

Genus *ACRIDOTHERES* Vieillot*Acridotheres* Vieillot, 1816, Anal. nouv. Orn.: 42.Type, by subsequent designation, *Paradisea tristis* Linnaeus*Aethiopsar* Sharpe, 1889, in Oates, Fauna Brit. Ind., Birds. 1: 518, 539.Type, by original designation, *Pastor fuscus* Wagler

Nasal and frontal plumes lengthened and erect or slightly curving backwards. Feathers of crown elongated and pointed. Sides of head well feathered or with a patch of naked skin below and behind eye. Bill shorter than head with the culmen curved. Wing blunt; tail rounded. Sexes alike.

Key to the Species

		Page
A	Sides of head partly bare	
1	Under wing-coverts and axillaries white.....	<i>A. tristis</i> 177
2	Under wing-coverts and axillaries buff.....	<i>A. ginginianus</i> 181
B	No bare skin on sides of head	
3	No collar on sides of neck	
a	Base of mandible blackish.....	<i>A. fuscus</i> 183
b	Base of mandible yellow.....	<i>A. javanicus</i> 187
4	A white collar on sides of neck.....	<i>A. albocinctus</i> 188

ACRIDOTHERES TRISTIS (Linnaeus): COMMON MYNA

Key to the Subspecies

Not so dark above; primary-coverts entirely white....	<i>A. t. tristis</i> 177
Much darker above; primary-coverts half black and half white	<i>A. t. melanosternus</i> 180

1006. *Acridotheres tristis tristis* (Linnaeus)

Paradisea tristis Linnaeus, 1766, Syst. Nat., ed. 12, 1: 167

(Philippines, *errone* = Calcutta *vide* Baker 'Fauna' 3 : 53 = Pondichéry *vide* Stresemann, 1952, Ibis: 515)

Baker, FBI No. 996, Vol. 3: 53

Plate 68, fig. 12

LOCAL NAMES. *Dēsi myna* (Hindi); *Hōr* (Kashmiri); *Sālik, Bhat sālik* (Bengali); *Sālik sorāi, Sālika, Ghor sālikā* (Assamese); *Dao myna* (Cachari); *Bemni, Sāloo* (Chota Nagpur); *Gulgūl* (Madhya Pradesh); *Shālē, Sālonki* (Marathi); *Kābār* (Gujarati); *Gorwantera* (Kannada); *Nāhanavādi* (Tamil); *Goranka* (Telugu); *Kavalamkili, Mātātta* (Malayalam).

SIZE. Dove — ; length c. 23 cm (9 in.).

FIELD CHARACTERS. A familiar, perky, well-groomed dark brown bird with glossy black head, and bright yellow legs, bill and a naked patch below and behind eye. A large white patch on the wing conspicuous in flight. Sexes alike.

Young (immature). A pale edition of adult: duller, less dark brown, with the head ashy brown rather than black.

STATUS, DISTRIBUTION and HABITAT. Resident; ubiquitous. One of the commonest and most familiar birds in the entire subcontinent including both Pakistans, Nepal, Sikkim and Bhutan; also Ceylon [another subspecies (1007)]. Plains and hills. Breeds up to c. 3000 m in the Himalayas, descending lower from the highest altitudes in winter. Very abundant all-year resident in Kashmir Valley, quite at home in Srinagar even in snow. Introduced in the Andaman islands (c. 1867) as probably also in the Nicobars, Laccadives and Maldives where now well established and common. Addicted to the neighbourhood of human habitations and cultivation — villages, towns and cities as well as outlying homesteads in desert or forest.

Extralimital. Russian Turkestan, Afghanistan, SE. Persian Baluchistan, Burma, peninsular Thailand and the Indochinese countries. Introduced



and well established in many countries, to pest proportions in some, e.g. Australia, New Zealand, Hawaii, South Africa, and islands in the Indian Ocean (Seychelles, Mauritius); also in the Atlantic and Pacific.

GENERAL HABITS. Along with the crow and sparrow a confirmed commensal of man, quick to colonize virgin areas in his wake, even far out in the desert. Sociable disposition, aggressive and self-possessed demeanour and omnivorous habits combine to make the Myna the highly successful colonist it is. Except in the breeding season keeps in family parties, usually of 5 or 6 birds, which join up into flocks sometimes of many hundred strong. Feeds on trees as well as on ground sauntering along or hopping jauntily sideways to dig for grubs and worms on inundated lawns and maidans. Grazing cattle and fired grass fields or scrub jungle likewise afford it attractive feeding opportunities. Flocks follow the plough for the insects and grubs turned up with the soil, the birds leap-frogging or flying ahead in their eagerness to keep up with the advancing bullocks. Usually tame and confiding, fearlessly entering kitchens and verandas of inhabited houses to pick up crumbs from within hand reach of the inmates. Roosts communally in large leafy trees, coconut groves, reed-beds and sugarcane fields in company with other mynas, Rosy Pastors, parakeets, crows and sparrows, flock after flock converging on the site from considerable distances in all directions at sunset. Deafening clamour and pandemonium prevails before the vast congregation settles down to sleep, and even during night the silence is frequently broken by minor outbreaks of noisy chattering choruses from different sections of the roost. Railway stations and warehouse sheds

also provide popular roosts. Usually there is considerable competition for nesting sites, and during the breeding season violent battles ensue between prospecting pairs or to oust occupants of coveted holes. Each partner grapples with his opposite number in a vicious rough-and-tumble, the adversaries dropping to the ground locked in each other's claws, rolling over and over and jabbing mercilessly with their bills to the accompaniment of loud screaming complaints. Partisans of either side, drawn to the scene by the outcry, join in the mêlée which continues as a noisy free-for-all until one of the combatant pairs withdraws.

FOOD. Chiefly fruit, grain, insects and grubs but also everything else that can be eaten: kitchen scraps, titbits from refuse dumps, small animals such as baby mice, frogs, lizards and crabs, and flower-nectar. It is an important agent in the cross-pollination of flowers such as *Salmalia* and *Erythrina*, and in the dispersal of seeds of many plant species, some of great economic significance: *Ficus*, *Zizyphus*, lantana, mulberry (*Morus*), *Salvadora*, sandal (*Santalum*) and others. Often causes damage to orchard fruit and standing cereal crops, but on the other hand is highly beneficial as a destroyer of serious agricultural pests. In an intensively cultivated area in Bihar the following insects have been identified among stomach contents of specimens: grasshoppers (Acrididae: *Chrotogonus*, *Tryxalis*, *Oxya* sp.), crickets (Gryllidae: *Liogryllus bimaculatus*), beetles (Scarabaeidae: *Anomala varians*, *Trox indicus*, *Gymnopleurus miliaris*, Tenebrionidae: *Opatrium depressum*), weevils (Curculionidae: *Astycus lateralis*, *Myllocerus discolor*), bugs (Pentatomidae: *Bagrada picta*), wasps (Scoliidae: *Scolia quadri-pustulata*), flies (Bibionidae: *Bibio* sp.), ants (Formicidae: *Oecophylla smaragdina*, *Camponotus compressus*, *Phidole malinsi*, *Dorylus* sp.) (Mason & Lefroy, 1912); in addition termites, spiders, geometrid larvae and butterflies also recorded.

VOICE and CALLS. A varied assortment of high-pitched falsetto notes and chatter, some eloquently expressive of passing moods and emotions such as pleasure, contentment, alarm, anger and agitation. The harsh angry swearing cries *chake*, *chake*, etc. uttered with partially drooped shivering wings on sighting a cat or snake are readily understood even by birds other than its own species who soon gather on the spot to chivvy the unwelcome presence. One of the more familiar calls is a loud, scolding *rādio*, *rādio*, *rādio*. While a pair is resting in a shady spot during the midday heat, the male (not only in breeding season) will frequently go through an amazing gamut of *keek-keek-keek*; *kok-kok-kok*, *churr-churr*, etc. with plumage frowzled and a ludicrous bowing and bobbing of the head before his mate. A *sotto voce* solo (subsong) is sometimes given while resting on a shady branch during daytime, interlarded with mimicry of other birds' calls (Neelakantan, JBNHS 52: 619). In captivity will learn to repeat a few words of human speech, but is far inferior to the Hill Myna as a talker.

BREEDING. Season, overall March to September; principally April to July, but peak periods varying locally. In Kerala chiefly March–April, commencing as early as mid January. Two successive broods commonly raised; sometimes three. Nest, an untidy collection of twigs, roots, tow and rubbish (often including bits of tissue paper, tin foil and snake sloughs) stuffed in holes in trees, rock scarps, vertical earth banks, walls of houses or between the ceiling and roof, even in the midst of noisy bazaars.

Occasionally builds a cup-shaped or domed nest in a tree like Pied Myna's, or appropriates an old crow's nest. Same site often used year after year. Eggs, 4 or 5 (rarely 6), uniform turquoise blue. Average size of 100 eggs $30 \cdot 8 \times 21 \cdot 9$ mm (Baker). Both parents share all the domestic chores. Incubation period 17 to 18 days (Lamba); 13-14 days! (Bengal, Sen Gupta); fledging period 22-24 days.

MUSEUM DIAGNOSIS. Head, neck and upper breast glossy black; rest rich vinous-brown, paler and albescent on abdomen. A large white patch at base of dark brown primaries. Tail brownish black with broad white tips to the rectrices.

Birds from NW. India tend to paleness, from S. India to darkness. Kerala population shows intergrading with *melanosternus* of Ceylon.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	138-153	25-30	34-42	81-95 mm
♀ ♀	138-147	25-28	35-41	79-86 mm (SA, HW)

Weight 17 ♂ ♀ 82-130 (av. 109.8) g — SA. 3 ♂ ♂ 120-138 g — BB.

COLOURS OF BARE PARTS. Iris brown or reddish brown mottled with white; orbital skin bright yellow. Bill yellowish, base of lower mandible brownish green; mouth dark slate. Legs, feet and claws yellow like bill, paler than orbital skin.

1007. *Acridotheres tristis melanosternus* Legge

Acridotheres melanosternus Legge, 1879, Ann. Mag. Nat. Hist. 3: 168

(Pasduñ Korale, Ceylon)

Baker, FBI No. 997, Vol. 3: 55

LOCAL NAMES. *Myna*, *Gon kawadiyā* (Sinhala); *Nākanam patchi* (Tamil).

SIZE. Dove —; length c. 23 cm (9 in.).

FIELD CHARACTERS. As of 1006, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Subspecies endemic in Ceylon. Subject to slight local movements; abundant throughout the lowlands and lower hills to c. 1300 m, less commonly to c. 1600 m; occasionally higher. 'Is gradually increasing its range upwards' (Phillips).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1006.

BREEDING. *Season*, 'February to December, but chiefly during April and again during August' (Phillips). *Nest, eggs* and breeding biology as in the Indian Myna.

MUSEUM DIAGNOSIS. Differs from nominate *tristis* as follows: White primary-coverts variegated irregularly with black; black of the chin, throat and breast very much darker in tint and produced down the centre of the abdomen till it meets the central white patch; vinous-brown of flanks and thighs very considerably darker.

Young (immature). Easily separable from juvenile of peninsular birds as follows: Rufous-brown on hindneck, mantle and rump much duller and darker, making the contrast between these parts and black head less pronounced; vinous-brown of under-parts much darker, merging imperceptibly into the blackish chin, throat and upper breast; white patch on central abdomen virtually absent or small and sullied with vinous-brown; primary-coverts variegated with black.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
5 ♂♂	143-149	27-29	37-42	82-96 mm
3 ♀♀	134-138	26-29	36-37	76-82 mm (HW)

COLOURS OF BARE PARTS. As in 1006.

1008 Bank Myna. *Acridotheres ginginianus* (Latham)

Turdus ginginianus Latham, 1790, Index Orn. 1: 362 (Gingee)

Baker, FBI No. 998, Vol. 3: 55

Plate 68, fig. 14

LOCAL NAMES. *Gāṅgā mynā* (Hindi); *Gāṅg sālik* (Bengali); *Bārād myna* (Bihar mirshikars); *Bārdi myna* (Nepal); *Lāli* (Sind); *Daryta myna* (Uttar Pradesh).

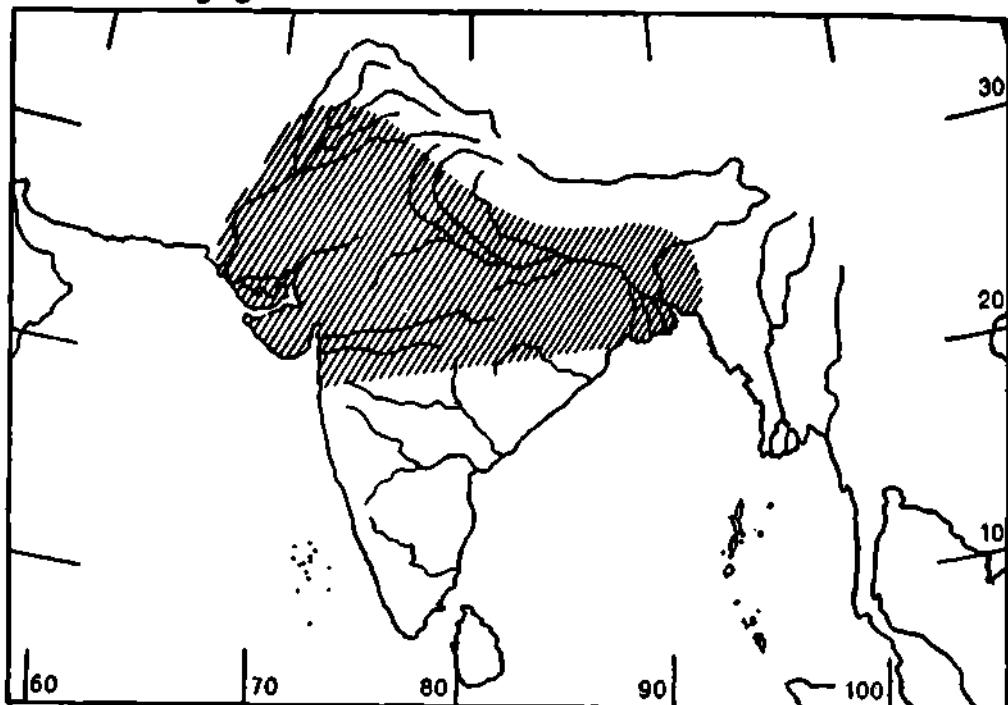
SIZE. Myna —; length c. 21 cm (8½ in.).

FIELD CHARACTERS. Like Indian Myna but slightly smaller and pale bluish grey overall instead of vinous-brown, also with black head. Naked skin below and behind eye brick-red instead of yellow. Wing-patch and tips of tail-feathers pinkish buff instead of white. A distinct tuft of feathers at forehead, as in Jungle Myna (1009) but smaller, sometimes very erect. Sexes alike.

Young (immature). *Above*, head and neck brown; rest of upperparts more brown-tinged than in adult; wings unglossed brown. *Below*, grey flank and breast-feathers edged with buff. Iris bluish grey. For details see Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; patchy, and subject to regular seasonal local as well as nomadic movements in some areas. Plains of northern and central India from the Himalayan foothills, terai and duars southward roughly to a line from Bombay (c. 19°N.) to Balasore in N. Orissa (c. 21°N.); from NW. frontier districts and Indus Valley in Sind (W. Pakistan) eastward to W. Bengal and East Pakistan. A single example taken near Madras from amongst common mynas (Sundara Raj, JBNHS 23: 155) — probably an escaped cage bird. Locally up to c. 800 m altitude. Affects the neighbourhood of human habitations. The species does not occur extralimitally; a straggler once taken at Kandahar, Afghanistan (HW, JBNHS 45: 112).

GENERAL HABITS. Gregarious; more or less like Indian Myna. Keeps in flocks even during breeding season. Usually very tame and confiding. Commonly haunts railway stations, sauntering about jauntily on the platforms picking up titbits from in among the hurrying feet of the passengers and piles of baggage, almost drowning the hubbub by its own incessant screeching and chatter. Surreptitiously hops on to the vendors' handcarts to filch eatables, dodging clear of the owner's angry protestations. Is also quite at home in noisy and congested city bazaars (e.g. Old Delhi), cheekily bouncing into the foodstalls and helping itself to whatever scraps it can find. In the open countryside keeps to irrigated fields, sewage farms, and grazing grounds usually in attendance on cattle, or to cattle pens on the outskirts

Acridotheres ginginianus

Distributional range

of villages and outlying herdsmen's settlements. Hunts insects disturbed by the grazing animals' feet; sometimes rides on their backs or clings to the ear of buffalo to pick out ticks, comically steadyng itself in the precarious position by a vigorous flapping of wings each time the animal tries to shake it off. Likewise, municipal refuse dumps, and the neighbourhood of rivers, canals and jheels are amongst its favourite resorts. Flocks follow the plough for the insects and grubs turned up with the soil. Roosts in vast congregations in company with Indian Mynas and other birds in groves of large trees or reed-beds; frequently also among the trusses of corrugated iron roofs of railway stations and goods sheds, regardless of trains thundering past or shrieking locomotives.

FOOD. As in Indian Myna: fruit, grain and insects. Very destructive locally to ripening crops of jowar (*Sorghum*). An important additional insect pest, recorded among stomach contents in Bihar, is larvae of the moth *Ophiusa melicerte* (Noctuidae), highly injurious to castor (*Ricinus*) (Mason & Lefroy, 1912).

VOICE AND CALLS. Similar to Indian Myna's (1006) but somewhat softer.

BREEDING. Season, overall March to August, principally April to June. Nesting colonial, often several score pairs together. *Nest*, a loose pad of straw, feathers and miscellaneous rubbish, commonly including bits of snake slough, placed in the widened chamber at the end of a horizontal earth tunnel. The tunnels c. 7 cm in diameter, from c. half to one metre deep, slightly upward-sloping, drilled honeycomb fashion in steep earth banks of rivers, sides of disused brick kilns, *kutcha* wells and the like. Commonly also stuffed within weep-holes in revetment of masonry bridges, and down

shafts of brick-lined wells often shared out with House Sparrows and pigeons. The wells sometimes so deep and narrow as to necessitate almost vertical rise to the top, a seemingly hazardous feat for an inexperienced fledgling on its initial flight. Eggs, 3-5, glossy pale blue, unmarked. Average size of 60 eggs 27.5×20.3 mm (Baker). Breeding biology as in *tristis* (1006), but incubation and fledging periods undetermined.

MUSEUM DIAGNOSIS. See Key to the Species and Museum Diagnosis.

Young (immature). *Above*, whole head and ear-coverts dark brown, glossless and unfeathered; rest of upperparts brown. Tail dark brown, the pinkish buff tips replaced by dirty buffish white; tail-feathers narrower. *Below*, dirty pale buff, suffused with grey on breast and sides of body; wings and coverts dark brown with some rusty margins to most of the feathers and a slight gloss; primary-coverts and patch on wing buffish white. Postjuvenile moult complete. In fresh plumage upperparts dark slaty brown which later fades to paler brown. Bare parts as adult (Ticehurst).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	118-129}	24-25	36-38	{ 65-74 mm
♀ ♀	114-123}			{ 60-71 mm

(SA, Marien)

Weight 6 ♂ ♀ 64-76 (av. 72) g — SA.

COLOURS OF BARE PARTS. Iris orange-red. Bill orange-yellow; naked orbital patch reddish orange. Legs, feet and claws yellow.

ACRIDOTHERES FUSCUS (Wagler): JUNGLE MYNA

Key to the Subspecies

		Page
I	Upperparts slaty; iris yellow	
A	Lighter, particularly on rump, and less smoky on abdomen....	
	A. f. fuscus 183
B	Darker above, more smoky on abdomen.....	A. f. fumidus 186
II	Upperparts brown; iris grey, bluish white or pale blue.....	
	A. f. mahrattensis 185
	Cf. Amadon, D., 1956, Amer. Mus. Novit., No. 1803: 32-4.	

1009. *Acridotheres fuscus fuscus* (Wagler)

Pastor fuscus Wagler, 1827, Syst. Av. *Pastor* sp. 6

[India = East Bengal, Baker, 1921 = Sikkim (Whistler, 1933, JBNHS 36: 590)]

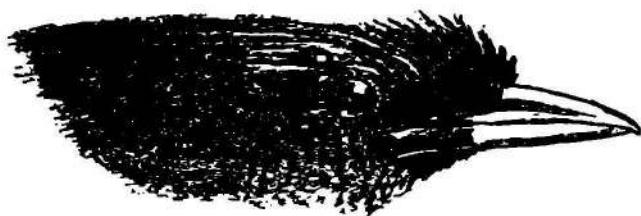
Baker, FBI No. 999 (part), Vol. 3: 57

Plate 68, fig. 15

LOCAL NAMES. *Pāhāri mynd, Jungli mynā* (Hindi); *Jhont sālik, Jungli salik* (Bengali); *Vdnā kābār* (Gujarati).

SIZE. Common Myna; length c. 23 cm (9 in.).

FIELD CHARACTERS. Very similar to Indian Myna (1006), also with the large white wing-patch but distinctly greyer brown overall. A prominent tuft of erect black feathers at base of bill on forehead, absence of bare

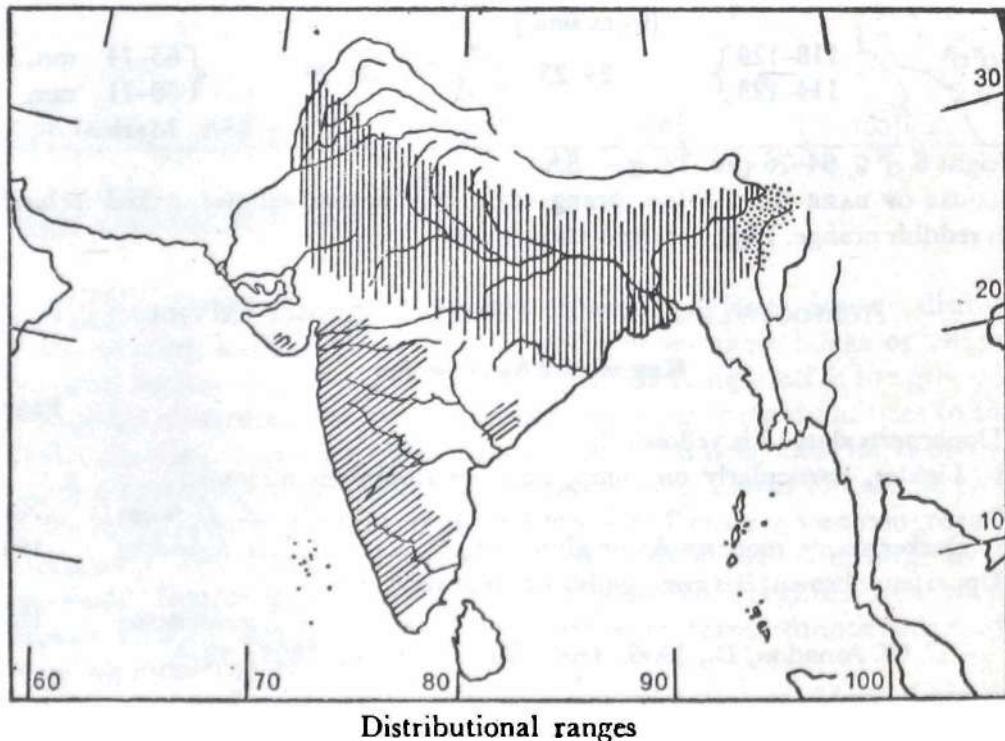


$\times c. 1$

yellow skin round eyes, broadly white-tipped tail and yellow iris are diagnostic clues. Sexes alike. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; patchily distributed and subject to seasonal local movements. Throughout the lower Himalayas (breeding from the foothills to c. 2100 m) from about Murree in W. Pakistan eastward through Jammu, Himachal Pradesh, Nepal, Sikkim, Bhutan, and

Acridotheres fuscus



Distributional ranges

■ *fuscus* (1009). ■ *mahrattensis* (1010). ■ *fumidus* (1011).

Assam Valley; southward roughly to a diagonal line from Mount Abu in Rajasthan to the mouth of Mahanadi river in Orissa (c. 20°20'N.), including Uttar Pradesh, northern Madhya Pradesh, northern Orissa, Bihar, West Bengal, western Assam and East Pakistan. In many of these areas very local, or perhaps only a seasonal visitor. Affects well-wooded country in the neighbourhood of cultivation, forest villages, and tea gardens, etc. chiefly in the foothills.

GENERAL HABITS. Not markedly different from Indian Myna but is less commensal with man. Often found in association with it and with other mynas. Keeps in family parties and flocks of 10 to 30 or so, commonly in

attendance on grazing cattle. Also has large communal roosts in sugarcane fields, reed-beds and the like, shared with noisy congregations of common mynas and other birds. Is very partial to flower-nectar and an important cross-pollinator for many species, the feather-tuft on the forehead functioning as an efficient pollen brush.

FOOD. Fruits and berries, grain, flower-nectar, and insects.

VOICE and CALLS. Not appreciably different from Indian Myna including the courtship 'song' with its accompaniment of comical bowing and bobbing of the head.

BREEDING. Season, principally April to June or July; often two successive broods raised. Nest, a collection of twigs, roots, feathers, tin foil, paper and miscellaneous rubbish, often including bits of snake slough, stuffed in a tree-hollow or disused or usurped woodpecker boring, usually at moderate heights, c. 2–6 metres. Large colonies occupy weep-holes in buttressing walls along hill roads and in masonry revetments of bridges; less commonly under roofing of houses. Often the same sites are occupied year after year. Eggs, 4 to 6 — sometimes only 3 — like Indian Myna's, unmarked turquoise blue, smooth and with a slight gloss. Average size of 100 eggs 28·9 × 20·9 mm (Baker). Both sexes take part in building the nest, incubation and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. Adult. Whole head, lores and ear-coverts black, the feathers of the head hackled. Rest of upperparts cinereous brown becoming greyer with wear. Below, chin, throat and breast dark ashy grey; belly and under tail-coverts buffish white.

Young (immature). Upperparts brown to grey-brown, darkest on head which is not hackled; ear-coverts with pale shafts. Underparts brown with pale mottling on throat; belly and under tail-coverts buffish white. Tail-feathers narrower, dark brown with white tips as in adult. Postjuvenile moult complete.

MEASUREMENTS

	Wing	Bill	Tail
♂♂	122–130	26–28	72–76 mm
♀ ♀	120–125	25–27	67–75 mm
(from skull) (Marien, BB)			

Weight 1 ♂ 78; 1 ♀ 94 g (GD).

COLOURS OF BARE PARTS. Iris lemon-yellow. Bill yellow-orange, bluish black towards base of lower mandible. Legs and feet yellow-ochre; claws brown.

1010. *Acridotheres fuscus mahrattensis* (Sykes)

Pastor mahrattensis Sykes, 1832, Proc. Zool. Soc. London: 95

[the Ghauts (near Poona)]

Baker, FBI No. 999 (part), Vol. 3: 57

LOCAL NAMES. *Kātilū nāhanavāī* (Tamil); *Kinnari mynā* (Malayalam); *Jungli mynā* (Hindi); *Vānā kābār* (Gujarati).

SIZE. Myna; length c. 23 cm (9 in.).

FIELD CHARACTERS. As of 1009, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; patchily distributed and subject to seasonal local movements. West and south of the range of 1009,

viz. of a diagonal line roughly from Mount Abu in Rajasthan to the mouth of Mahanadi R. in Orissa. Chiefly on the western side of the Peninsula from Saurashtra (Gir) and northern Gujarat (Ahmedabad) southward along the coastal and Sahyadri tract to Kerala, including Goa (?), W. Mysore (Coorg), W. Tamil Nadu (Nilgiri and Palni hills); from sea level to c. 2400 m. Also found in M.P., southern Orissa and Shevaroy and Chitteri hills, but poorly recorded elsewhere in SE. India. Affects well-wooded deciduous country in the neighbourhood of cultivation, coastal and forest villages, tea and coffee plantations and hillmen's settlements; occasionally urban compounds. Avoids evergreen forest.

GENERAL HABITS. As in the northern subspecies (1009).

VOICE AND CALLS. Appreciably different from *A. Tristis* (1006)—a squeaky high-pitched, quick-repeated, *chuckwi-chuckwi-chuckwi-chuck* or *chuki-chuki-chuki* or *chupki-chupki-chupki*. (Song? in breeding season).

FOOD. As in 1009. Also scraps scavenged at municipal refuse dumps and on village outskirts: Figs of the various *Fici* and *Lantana* berries are among the major food items. Does considerable local damage to orchard fruit in the south Indian hills. Also feeds regularly on nectar of *Salmalia malabarica*, *Erythrina indica* and *E. suberosa*, *Bombax insigne*, *Butea monosperma* and *Careya arborea* as well as of the introduced Tulip Tree (*Spathodea campanulata*).

BREEDING. Season, chiefly February to May. Nest, eggs (c/3 or 4) and breeding biology as in 1009.

MUSEUM DIAGNOSIS. Differs from the northern (nominate) subspecies in being more brown, less slaty grey on the upperparts, and in the colour of the iris: grey or bluish white *v.* lemon-yellow.

Young (immature). Like *fuscus* (1009) but browner above and below.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂	126–134	26–28	c. 36	73–79 mm
♀ ♀	121–131	25–27	c. 36	70–78 mm
(from skull)				(HW, Marien)

Weight 15 ♂ ♀ 72–98 (av. 82·8) g – SA.

COLOURS OF BARE PARTS. Iris bluish white or grey. Bill orange-yellow, dark brown at nostrils, gape and base of lower mandible; mouth dark slate. Legs and feet yellow; claws brown.

1011. *Acridotheres fuscus fumidus* Ripley

Acridotheres cristatellus fumidus Ripley, 1950, Postilla, Yale Peabody Mus., No. 1: 4
(Sadiya, northeastern Assam)
Not in Baker, FBI

LOCAL NAMES. None recorded.

SIZE. Myna; length c. 23 cm (9 in.).

FIELD CHARACTERS. As of 1009, q.v. See Key to the Species and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Presumably resident, with local movements as in the other forms. Nagaland, eastern Assam in the North Cachar and Lakhimpur dists., and the Sadiya-Mishmi tract of NEFA;

from plains level to c. 650 m. Affects the neighbourhood of cultivation and outlying habitations in semi-evergreen biotope.

Extralimital. Undetermined.

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 1009 and 1010.

BREEDING. Not specifically recorded; doubtless as in adjoining 1009.

MUSEUM DIAGNOSIS. Differs from nominate *fuscus* (1009) in being darker, more sooty on the upperparts particularly on the rump; darker, more smoky on the abdomen and belly.

MEASUREMENTS. Wing 4 ♂♂ 120–128 mm (SDR).

COLOURS OF BARE PARTS. Iris yellow; rest likewise as in 1009.

1012 Orangebilled Jungle Myna. *Acridotheres javanicus infuscatus* (Baker)

Aethiopsar fuscus infuscatus Baker, 1918, Bull. Brit. Orn. Cl. 38: 70

(Lower Chindwin, Burma)

Baker, FBI No. 1002, Vol. 3: 59

Plate 68, fig. 18

LOCAL NAME. *Hagrani dao myna* (Cachari).

SIZE. Myna; length c. 23 cm (9 in.).

FIELD CHARACTERS. Very like Northern Jungle Myna (1009), also with a prominent white wing-patch, but much blacker, with wholly yellow bill and reddish to orange-brown irides. Sexes alike. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Nagaland, Manipur, Tripura, Mizo Hills district, and East Pakistan in the Chittagong Hill Tracts; from the foothills up to c. 1300 m. Affects fairly open country with elephant-grass, semi-cultivation, and village environs.

Extralimital. Burma.

Some intergradation may occur in eastern Assam and northern Burma at low elevations between this form and the species *fuscus*, and perhaps, further east with *cristatellus*.

GENERAL HABITS, FOOD, VOICE AND CALLS. Similar to *A. f. fuscus* (1009). Commonly associates with Collared Myna (1013) insect-hunting on wet meadows among grazing cattle, or feeding from Silk Cotton (*Salmalia*) and other flowers. Likewise, roosts in vast mixed congregations with the above in sugarcane fields and elephant-grass.

BREEDING. Season, April–May. Nest, as in 1009, a collection of straw, feathers and rubbish almost invariably intermixed with bits of snake slough, placed in holes in trees or in earth banks of rivers. Frequently nests in association with Collared Myna but in segregated colonies. Eggs, 4 or 5, uniform blue, typical of the mynas. Average size of 30 eggs 29·2 × 20·7 mm (Baker). Breeding biology not specifically recorded.

MUSEUM DIAGNOSIS. Adult. Resembles *A. f. fuscus* (1009) but hackled feathers of head longer, and rest of upperparts near black; bronze on wings much darker. Underparts ashy black, ashy at vent; under tail-coverts with black bases. Bill wholly yellow with no blackish at base.

Young (immature). Like *A. f. fuscus* but darker above; entire underparts dark brown, with some pale margins only on belly; under tail-coverts dark brown with broad white tips. Moult as in *fuscus*, q.v.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	120-130	22-23	37-43	77-88 mm (Baker)

COLOURS OF BARE PARTS. Iris light reddish to orange-brown or hazel. Bill orange-yellow. Legs and feet wax-yellow.

1013 **Collared Myna. *Acridotheres albocinctus***
Godwin-Austen & Walden

Acridotheres albocinctus Godwin-Austen & Walden, 1875, Ibis: 251
(Manipur Valley)
Baker, FBI No. 1003, Vol. 3: 60
Plate 68, fig. 17

LOCAL NAMES. None recorded.

SIZE. Myna; length c. 23 cm (9 in.).

FIELD CHARACTERS. An unmistakable myna with slightly tufted forehead: glossy slate-black above, greyish black below, with a prominent buffy white collar from side to side of neck (rather indistinct on hindneck). In flight a conspicuous white wing-patch and broadly white-tipped tail are additional pointers. Sexes alike.



× c. 1

STATUS, DISTRIBUTION and HABITAT. Said to be locally migratory, at least in part. Manipur Valley between c. 800 and 1200 m elevation. Stuart

Baker obtained a single specimen, apparently a straggler, in N. Cachar. May straggle into adjoining Nagaland or Mizo. Frequents damp localities and open elephant-grass country, and the vicinity of cultivation and villages.

Extralimital. N. Burma and NW. Yunnan.

GENERAL HABITS. Very similar to Indian and Jungle mynas, qq.v. Keeps in pairs, family parties or flocks of up to 30 to 50 birds attending grazing cattle on marshland. Among stomach contents have been recorded tiny frogs and lizards in addition to the usual grasshoppers and other insects, fruit (largely *Ficus* spp.), flower-nectar and cereal grains — thus equally omnivorous with its relations and congeners.

BREEDING. In general similar to *A. f. fuscus* (1009), but unrecorded within our limits.

MUSEUM DIAGNOSIS. With wear the upperparts become browner, and the half collar becomes white.

Young (immature). Whole plumage dark brown, paler brown on throat and belly; under tail-coverts tipped whitish; white patch on primaries smaller, and that on primary-coverts tipped with black. Tail-feathers narrower and with narrower white tips. Postjuvenile moult complete (Ticehurst).

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	110-120	23-25	c. 35	72-76 mm (Baker)

COLOURS OF BARE PARTS. Iris pale blue or azure blue. Bill orange-yellow. Legs and feet chrome yellow or bright wax-yellow.

Genus *Mino* Lesson

Mino Lesson, 1827, Bull. Sci. Nat. (Ferussac) 10: 159.

Type, by monotypy, *Mino Dumontii* Lesson

Ampeliceps Blyth, 1842, Jour. Asiat. Soc. Bengal 11: 194.

Type, by monotypy, *A. coronatus* Blyth

Bill shorter than head, wide at base, culmen well curved. Frontal feathers curly, growing both upwards and inwards and inclining over base of bill. A large naked area round eye. Wings very long and pointed; tail short and square.

1014 Goldcrested Myna. *Mino coronatus* (Blyth)

Ampeliceps coronatus Blyth, 1842, Jour. Asiat. Soc. Bengal 11: 194
(Tenasserim)

Baker, FBI No. 989, Vol. 3: 44

Plate 68, fig. 16

LOCAL NAME. *Dao myna rājā* (Cachari).

SIZE. Myna —; length c. 21 cm (8½ in.).

FIELD CHARACTERS. A dainty glossy black myna with golden yellow crested forehead, crown, and throat, and a naked orange-yellow patch round eye. A broad white and yellow band on wing-quills prominent in flight and diagnostic. Sexes more or less alike; for details see Museum Diagnosis.



× c. 1

nipur; from plains level to c. 900 m, mostly below 500 m. Affects moist-deciduous and semi-evergreen biotope, open forest and cultivation clearings with a scattering of tall relic trees.

May occur also in adjoining Nagaland, Mizo, Tripura and East Pakistan hill tracts.

Extralimital. Burma south to Tenasserim, Thailand, Indochinese countries.

GENERAL HABITS. Little known or documented. Arboreal; less gregarious than, e.g. Greyheaded Myna (987). Keeps in pairs or small parties to tree-tops.

FOOD. Mainly fruit; also insects.

VOICE and CALLS. Described as varied and resembling the Hill Myna's (*Gracula*).

BREEDING. Very little recorded within our limits. *Season*, evidently c. April–May. *Nest*, of grass etc. placed in a hole c. 5 to 15 metres up in a tree-trunk standing in thin forest. *Eggs*, 3 (?), blue, like those of Greyheaded Myna, measuring c. 26 × 20 mm. Breeding biology undescribed.

MUSEUM DIAGNOSIS. *Adult.* *Male.* Forehead, crown, lores, supercilium, chin, centre of throat and short 'moustache' golden yellow. Rest of plumage, above and below, black highly glossed with blue. First six primaries (as.) with a broad white patch on inner webs; primaries 2–6 with a corresponding yellow patch on outer webs.

Female. Yellow of crown restricted to anterior half; lores, supercilium and moustache black. Rest as in male.

Young (immature). Whole head black, nearly always with a trace of yellow on throat. 'The black seems to be discarded by degrees, streaks and patches of black remaining until the second year' (Baker).

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	121–133	c. 14	c. 27	59–63 mm (Baker)

Weight ♂♂ 2·75–3·5 oz = c. 78–99 g (Hume).

COLOURS OF BARE PARTS. Iris dark brown; orbital skin orange-yellow. Bill pale orange turning to blue at gape. Legs and feet dull orange or wax-yellow; claws brown.

Genus GRACULA Linnaeus

Gracula Linnaeus, 1758, Syst. Nat., ed. 10, 1: 108.

Type, by subsequent designation, *Gracula religiosa* Linnaeus

Eulabes Cuvier, 1816, Règne Anim. 1: 401.

Type, by monotypy, *Gracula religiosa* Linnaeus

Distinguished by nearly entire plumage being glossy black and presence of fleshy wattles on nape. Bill shorter than head: thick, high and curved. Feathers of crown very short, velvety and curved inwards, with indications of a 'centre parting' on the crown. Wing rather blunt with a small first primary (as.). Tail short and nearly square. Feet exceptionally strong.

Key to the Species

		Page
Some bare skin on sides of head.....	<i>G. religiosa</i>	190
No bare skin on sides of head.....	<i>G. ptilogenys</i>	197

GRACULA RELIGIOSA Linnaeus: GRACKLE OR HILL MYNA

Key to the Subspecies

A	Nape-wattles not extending to crown	
a	Eye- and nape-wattles joined.....	191
b	Eye- and nape-wattles joined or narrowly separated.....	196
B	Nape-wattles extending up sides of crown	
	Eye-wattles distinctly separated.....	194

1015, 1017. *Gracula religiosa intermedia* A. Hay*Gracula intermedia* A. Hay 1844, Madras Jour. Lit. Sci. 13 : 157 (Cachar)*Gracula religiosa peninsularis* Whistler & Kinnear, 1933, JBNHS
36 : 586 (Sambalpur)

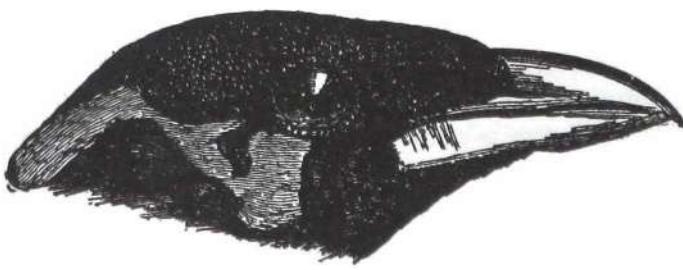
Baker, FBI No. 964, Vol. 3 : 19

Plate 68, fig. 19

LOCAL NAMES. *Pāhāri mynā* (Hindi, Bengali); *Dao mynā, Mynā gashim* (Cachari).

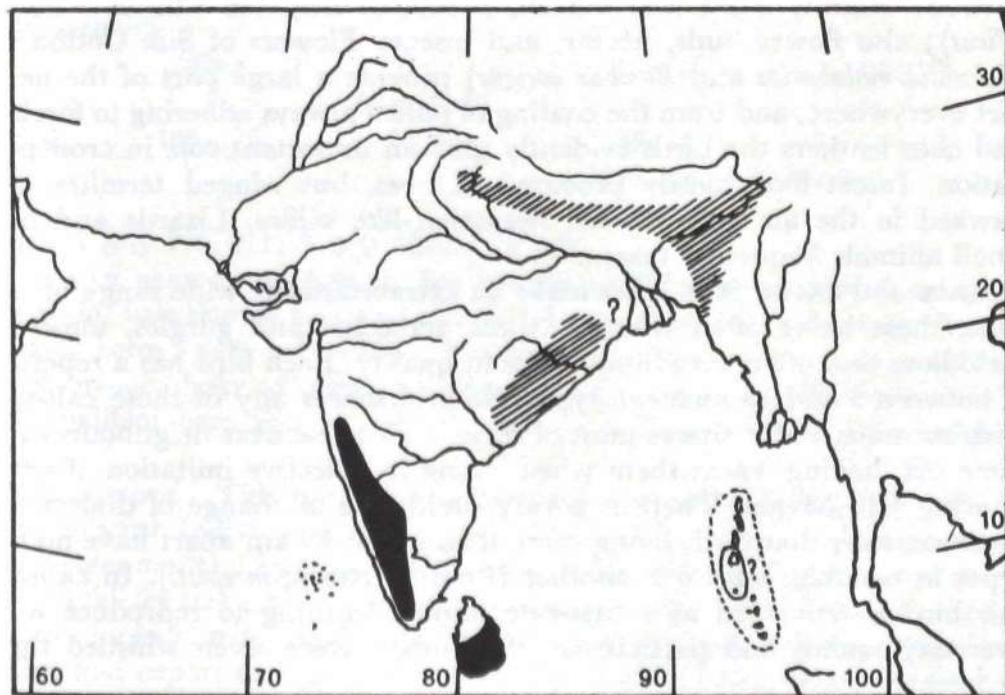
SIZE. Myna + ; length c. 29 cm (11½ in.).

FIELD CHARACTERS. A stocky jet-black myna with bright orange-yellow



x c. 1

patches of naked skin and fleshy wattles on sides of head and nape. A broad white band on primaries, particularly conspicuous in flight. Sexes alike.

Gracula religiosa

intermedia (1015, 1017).

andamanensis (1018)

indica (1016).

STATUS, DISTRIBUTION and HABITAT. Resident, with slight but marked seasonal local movements. The submontane tract of the Himalayas from Kumaon (Almora, c. 80°E.) eastward through Nepal, Sikkim, Bhutan and NEFA — terai, bhabar, duar and foothills, locally up to c. 2000 m. Also Manipur, Nagaland and the hills and hill tracts of Assam and East Pakistan; Orissa, eastern Madhya Pradesh and northern Andhra; up to c. 800 m; in tropical moist-deciduous and semi-evergreen forest.

Extralimital. Burma south to Tenasserim, Thailand and the Indochinese countries.

GENERAL HABITS. Sociable and noisy. In non-breeding season keeps in parties of 5 or 6 birds to tree-tops on the edge of closed forest or in cultivation clearings with a sparse sprinkling of standing trees. Almost entirely arboreal; will occasionally descend to feed in berry-laden bushes, but hardly ever to the ground. Moves about on boughs etc. by hopping sideways, unlike most other mynas which have a characteristic jaunty walk. Large congregations of up to a hundred birds or more will sometimes collect to feed in a grove of fruiting *Ficus* trees in company with hornbills, barbets, green pigeons and other frugivorous birds, flying from one branch or tree to another with a noisy whirring of wings as in green pigeons. While feeding or resting during the day the birds constantly call and answer one another in low conversational croaks. Very lively and noisy towards sunset, settling individually on bare tree-tops and calling and answering in loud creaky whistles for long periods before flying to roost. Roosts individually, or in pairs or family parties, on leafy branches or in tree-holes, not in large mixed communities like Indian and many other mynas.

FOOD. Mainly fruits and berries, predominantly the various wild figs (*Ficus*); also flower buds, nectar, and insects. Flowers of Silk Cotton tree (*Salmalia malabarica* and *Bombax insigne*) provide a large part of the nectar diet everywhere, and from the coating of pollen always adhering to forehead and chin feathers the birds evidently play an important role in cross-pollination. Insect food mostly procured in trees, but winged termites often hawked in the air by awkward flycatcher-like sallies. Lizards and other small animals frequently taken.

VOICE and CALLS. Both sexes make an extraordinarily wide range of loud calls, these being often whistles, wails, screeches and gurgles, sometimes melodious and often very human-like in quality. Each bird has a repertoire of between 3 and 13 such call-types. No bird shares any of these call-types with its mate, but it shares most of them with a few near neighbours of the same sex, having learnt them when young by selective imitation of neighbouring Hill Mynas. There is a very rapid rate of change of dialect with distance, such that birds living more than about 15 km apart have no call-types in common with one another (Brian Bertram, *in epist.*). In captivity this bird is renowned as a first-rate mimic, learning to reproduce many everyday sounds and particularly the human voice, even whistled tunes,

with astonishing accuracy and clarity. In the wild state, however, Hill Mynas do not normally imitate other species, unlike Racket-tailed Drongos and contrary to popular belief, although some of their very varied notes may to the casual listener bear a resemblance to other species' calls. *Intermedia* also make a number of soft grunts and whispering sounds, audible only at close range, and a very loud piercing *chip* alarm squeak.

BREEDING. Season, principally April to July. Nest, a loose collection of fine twigs, grass, feathers and rubbish in a hole in a tall tree-trunk 10 to 15 metres from the ground, standing at the edge of forest or a tea garden, or isolated in the middle of a cultivation clearing. Holes usually appropriated borings of woodpeckers etc. Sometimes several nests one below the other in the straight bole of a lofty *Salmania malabarica*, *Tetrameles nudiflora* or such-like tree, occupied apartment-house fashion by different pairs. Eggs, 2 or 3, bright blue, scantily speckled or blotched with reddish brown to deep chocolate. Average size of 30 eggs 36.2×25.6 mm (Baker). The birds pair for life and both sexes take part in all the domestic chores. Incubation period undetermined.

MUSEUM DIAGNOSIS. See keys to Species and Subspecies. Adult. Whole plumage black; central crown, hindneck, mantle and breast glossed with purple; lateral crown velvety black. Rest of plumage glossed with greenish. An irregular-shaped patch of feathers from posterior rim of eye just fails to divide the bare patch below eye from that over the ear-coverts; the latter patch joins the occipital wattle.

Young (immature). Upperparts, wings and tail like adult, but the black dull and with little gloss. Underparts unglossed brownish black. Bare patches on head like adult, but no occipital wattles. Tail-feathers narrower. Postjuvenile moult complete (Ticehurst).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♀	163-176	31-33	33-35	74-85 mm (HW, SA, BB, Marien)

Weight 2 ♂♂ 209, 211; 3 ♀♀ 178-229 g (BB).

COLOURS OF BARE PARTS. Adult. Iris dark brown. Bill orange or reddish orange, yellow at tip; bare skin on head and wattles bright yellow. Legs and feet yellow; claws dark horny; pads pale yellow. Young (immature). Iris grey-brown. Bill yellowish orange, dusky on culmen and anterior half of upper, and yellow on tip of lower mandible; bare skin on head lemon-yellow. Legs and feet as in adult (Biswas).

MISCELLANEOUS. This subspecies is popularly credited with being much superior to south Indian birds (*indica*) in learning ability and as a talking bird; it is in greater demand by fanciers and commands much higher prices. But this is partly a fallacy (see under *indica*). Enormous numbers of fledglings are taken from nests by local tribes and forest contractors for supplying bird markets in the cities and export to western countries where there is a growing demand. Good talking birds fetch high prices, in consequence of which over-exploitation threatens a serious depletion in Hill Myna populations in some areas. (See Brian Bertram, 1969, *Avicultural Magazine* 75: 253-5.) In the Garo Hills district of Assam, the locals induce the birds to breed in artificial nests made of a

split-bamboo framework covered with grass and put up in accessible positions in tall trees in a forest clearing or at the edge of a small village. The villagers are thus enabled to extract the young at the proper time for easy hand-rearing, making 'Hill Myna farming' a profitable minor cottage industry at present. (For details see Brian Bertram, 1967, JBNHS 64: 369.)

1016. *Gracula religiosa indica* (Cuvier)

Eulabes indicus Cuvier, 1829, Regne Anim., ed. 2, 1: 377

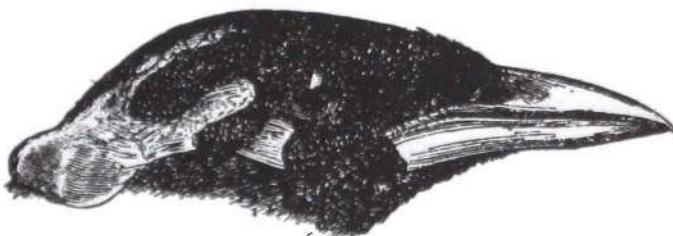
(India = South India *vide* Whistler & Kinnear, 1933, JBNHS 36: 585)

Baker, FBI No. 962, Vol. 3: 17

LOCAL NAMES. *Könkni mynā* (Hindi); *Kondā gorinkā* (Telugu); *Kāttu mynā* (Malayalam); *Sela lihiniyā* (Sinhala); *Malāi nākanam pātchi* (Tamil, Ceylon).

SIZE. Myna +; length c. 25 cm (10 in.).

FIELD CHARACTERS. As of 1015, q.v. See Museum Diagnosis.



× c. 1

STATUS, DISTRIBUTION and HABITAT. Resident, with slight seasonal local movements. Southwestern peninsular India in the Western Ghats (Sahyadri) complex from c. 17°N. southward through W. Mysore (including Coorg, Nilgiri and Palni hills) and Kerala. Stragglers — solos and pairs (once a party of five) observed in different years in wooded country in Greater Bombay. In evergreen forest biotope, from plains level up to c. 1700 m; commonest in the foothills and between c. 300 and 1300 m. Partial to edges of coffee plantations and to lofty natural shade-trees in cardamom sholas. Also Ceylon — locally distributed in the Wet zone and in the southern and eastern forest tracts of the Dry zone, up to c. 1100 m.

GENERAL HABITS and FOOD. As in *intermedia* (1015). Besides *Salmalia* and *Bombax* it is habitually in attendance for the nectar on flowers of *Erythrina saberosa* and *Grevillea robusta*, two important shade-trees grown in south Indian tea and coffee plantations. Large numbers descend to feed on nectar of the freely flowering forest shrub *Helicteres isora*, where most of the capturing is done with bird lime.

VOICE and CALLS. The calls of this form are higher pitched and considerably less varied than those of *intermedia*, consisting of less mellow wheezes, screeches and chuckles. The alarm-call is a loud squeaky wheeze (unlike the sharp *chip* of *intermedia*), while the close-range contact sound is a soft

lilting squeak (in contrast to the sharp *um* grunt of *intermedia*). They do not imitate other species in the wild state (Brian Bertram, *in epist.*). Some of its wheezy whistling notes are casually confusable with the Black Bulbul's (*Hypsipetes m. ganeesa*), though possessing a distinct myna quality.

BREEDING. Season, principally February to May in S. India; March to August (chiefly April and May) in Ceylon. Nest, site, eggs (c/2 or 3) and breeding biology as in 1015. Average size of 40 eggs 31·6 × 23 mm (Baker).

MUSEUM DIAGNOSIS. Smaller than *intermedia* (1015) with a weaker bill; white wing-patch rather less extensive; bare patch below eye separated by feathers from auricular patch. Side wattles extend up back of nape to crown in the shape of narrow tongues. These narrow tongues are appreciably diminished in birds from the northernmost part of the range (North Kanara) and are entirely absent in *intermedia* and *peninsularis*. That part of the wattle situated above the ear-coverts is also variable according to locality. In *indica* the band connecting the base of the two lobes is so narrow that it barely shows save as a parting of the feathers; in *intermedia* this band is broad and conspicuous. There are further differences of the pattern in the nominate (extralimital) subspecies.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	139-155	29-32	29-33	55-72 mm
♀ ♀	140-149	28-31	31-33	60-70 mm (SA, HW)

Weight 1 ♂ 126 g (SDR).

COLOURS OF BARE PARTS. Iris brown. Bill orange with yellow tip; palate yellow, gullet pink. Wattles and infra-orbital patch bright yellow. Legs and feet orange-yellow; claws blackish brown.

MISCELLANEOUS. It is an entrenched popular belief that south Indian birds are much inferior to northern in their ability to learn to talk in captivity. Thus they are in lesser demand as pets and fetch considerably lower prices. The main cause of this, apparently, is the fact that northern birds are usually taken from the nest before fledging and then hand-reared, whereas southern birds are mostly trapped as adults, which rarely become really tame and which have already acquired their natural vocabulary. The few *indica* taken from the nest when young do become quite proficient talkers, although apparently less able than *intermedia* to reproduce deeper richer sounds with great accuracy. (See Sálim Ali, 1963, JBNHS 60: 455-6.) *Indica* differs from *intermedia* also in its alarm and social calls. 'If kept together the two races do not call to one another as they do to members of the same race, nor do they preen or pair with one another. The two races largely keep apart and ignore birds of the other race. Thus they would almost certainly not interbreed and they should perhaps best be regarded as separate species.' (Brian Bertram *in epist.*)

1018. *Gracula religiosa andamanensis* (Beavan)

Eulabes andamanensis 'Tytler' = Beavan, 1867, Ibis: 331 (Andamans)

Gracula javensis halibrecta Oberholser, 1926, Jour. Washington Acad. Sci. 16: 516
(Little Nicobar Island)

Baker, FBI No. 965, Vol. 3: 20

LOCAL NAMES. None recorded.

SIZE. Same as 1015: length c. 29 cm (11½ in.).

FIELD CHARACTERS. As of 1015, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Andaman and Nicobar islands. Common in Middle and South Andamans, and Central, Little and Great Nicobars. Not yet reported from the intervening Little Andaman or Car Nicobar. Affects high forest.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1015 and other races.

BREEDING. Not recorded; presumably as in 1015.

MUSEUM DIAGNOSIS. Like sub-Himalayan *intermedia* (1015) but bill longer; the 'peninsula' of feathers projecting into the bare patch on side of head rather differently shaped. There is an increase in size from north to south, birds from the Nicobars being appreciably larger than from the Andamans. But the increase represents a continuous cline, and recognition of the Nicobar race *halibrecta* on this single character (as was originally done) seems unwarranted.¹

MEASUREMENTS

	Wing	Bill (from anterior rim of nostril)	Tail
♂ ♂	165-182 (12 msd.)	20-23 (6 msd.)	81-89 mm (9 msd.)
♀ ♀	160-181 (17 msd.)	19-23 (8 msd.)	71-95 mm (15 msd.) (Abdulali)

COLOURS OF BARE PARTS. Not recorded; presumably as in the other races.

¹ However, Abdulali has recently pointed out (1967, JBNHS 64: 180-1) that birds from Little and Great Nicobar possess 'two large naked lappets joined at the back of the neck at the top end, leaving no feathered portion in between' which apparently distinguishes them from all others in the Andamans and the rest of the Nicobars. If this character can be established on more material, it may be used as an additional diagnosis for the resuscitation of *halibrecta*.

1019 **Ceylon Hill Myna.** *Gracula ptilogenys* Blyth

Gr. (acula) ptilogenys Blyth, 1846, Jour. Asiat. Soc. Bengal 15: 285
(Ceylon)

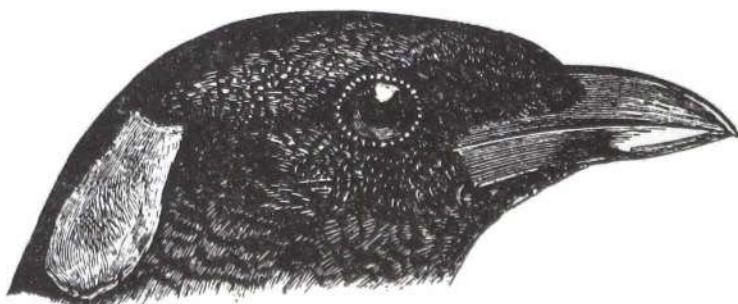
Baker, FBI No. 966, Vol. 3: 21

Plate 68, fig. 20

LOCAL NAMES. *Sela lihiniyā, Mal kawadiyā, Kampatiyā* (Sinhala); *Malai nākanam pātchi* (Tamil, Ceylon).

SIZE. Myna +; length c. 25 cm (10 in.).

FIELD CHARACTERS. Like Southern Hill Myna (1016) but more glossy and with no bare patch on side of head. Two well-separated occipital wattles



× c. 1

which are half as broad as long. White wing-patch smaller than in northern birds. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Endemic to Ceylon. Resident in the Hill zone and low-country Wet zone. Moderately plentiful, but local, in forests and well-wooded areas in the hills to over 2100 m. In some localities found together with Southern Hill Myna (1016) but there is no interbreeding with it. Frequents high trees in tall forest, as well as on estates and village gardens in their neighbourhood.

GENERAL HABITS. Similar to 1016, but less gregarious, usually living in pairs in scattered colonies.

FOOD. Chiefly *Ficus* figs and other jungle fruit.

VOICE and CALLS. Various piercing whistles [distinctly louder and deeper than *indica* (SDR)] one of which sounds like a whistled *h'you*; sundry croaking and guttural conversational notes (Henry). Is an accomplished mimic like Southern Hill Myna, and also a popular cage bird.

BREEDING. Season, February to May; sometimes again in August–September. Nest, of grass and rubbish placed in a cavity (sometimes unlined) in the bole or branch of a tall tree in deep forest or cultivated country. Eggs, 2, pale Prussian blue blotched with purplish brown. Average size of 34 eggs $33 \cdot 3 \times 22 \cdot 9$ mm (Baker). Breeding biology not specifically recorded.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters; for a discussion of the taxonomic status, Ripley, S. D., 1946, *Spolia Zeylanica* 24: 237.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
3 ♂♂	147–153	32–33	33–34	66–68 mm
1 ♀	158	31	35	69 mm (HW)

COLOURS OF BARE PARTS. Iris ♂ greyish white dotted with brown; ♀ yellowish white. Bill orange-red, black round base of nostrils and basal half of lower mandible; wattles yellow. Legs and feet deep yellow; claws black.

Family CORVIDAE: Crows, Magpies, Jays, etc.

Cf. Amadon, D., 1944, *Amer. Mus. Novit.*, No. 1251: 1–21.

For description see Van Tyne, J. & Berger, A. J., 1959: 507; Baker, E. C. Stuart, 1922, FBI 1: 18; Thomson, A. L., 1964, *New Dict. Birds*. London & New York (Article 'Crow').

Key to the Genera

		Page
I	Size very small; wing under 100 mm.....	<i>Podoces</i> 229
II	Size large; wing well over 150 mm	
A	Plumage predominantly black, or black with ashy nape	
1	Bill thick, black	<i>Corvus</i> 242
2	Bill slender, red or yellow.....	<i>Pyrrhocorax</i> 236
B	Plumage brown, spotted with white.....	<i>Nucifraga</i> 231
C	Plumage with brilliant or contrasting colours	
3	Inner web of all primaries white.....	<i>Pica</i> 212
4	Primaries not white (except for small patches)	
a	Rectrices not elongated.....	<i>Garrulus</i> 198
b	Two central rectrices elongated	
i	Plumage with shades of blue.....	<i>Cissa</i> 203
ii	Plumage without blue.....	<i>Dendrocitta</i> 215

Genus GARRULUS Brisson

Garrulus Brisson, 1760, Orn. 1: 30, 2: 47.

Type, by tautonymy, *Corvus glandarius* Linnaeus

Bill strong, about three-quarters the length of head; commissure straight. Feathers of crown elongated, forming an erectile crest; nasal bristles short and numerous, completely covering the roundish nostrils. 5th and 6th primaries (as.) longest; first about half as long. Tail of medium length, almost square, only slightly graduated.

Key to the Species

Tail tipped with white.....	<i>G. lanceolatus</i> 202
Tail not tipped with white.....	<i>G. glandarius</i> 199

GARRULUS GLANDARIUS (Linnaeus): JAY**Key to the Subspecies**

Upperparts rich vinaceous fawn	<i>G. g. bispecularis</i>	199
Upperparts darker, more reddish brown.....	<i>G. g. interstinctus</i>	201
Cf. Ripley, S. D., 1952, JBNHS 50: 513.		

1020. *Garrulus glandarius bispecularis* Vigors

Garrulus bispecularis Vigors, 1831, Proc. Zool. Soc. London: 7

(Himalayan Mountains = Murree. Baker)

Baker, FBI No. 42, Vol. 1: 63

Plate 69, fig. 2

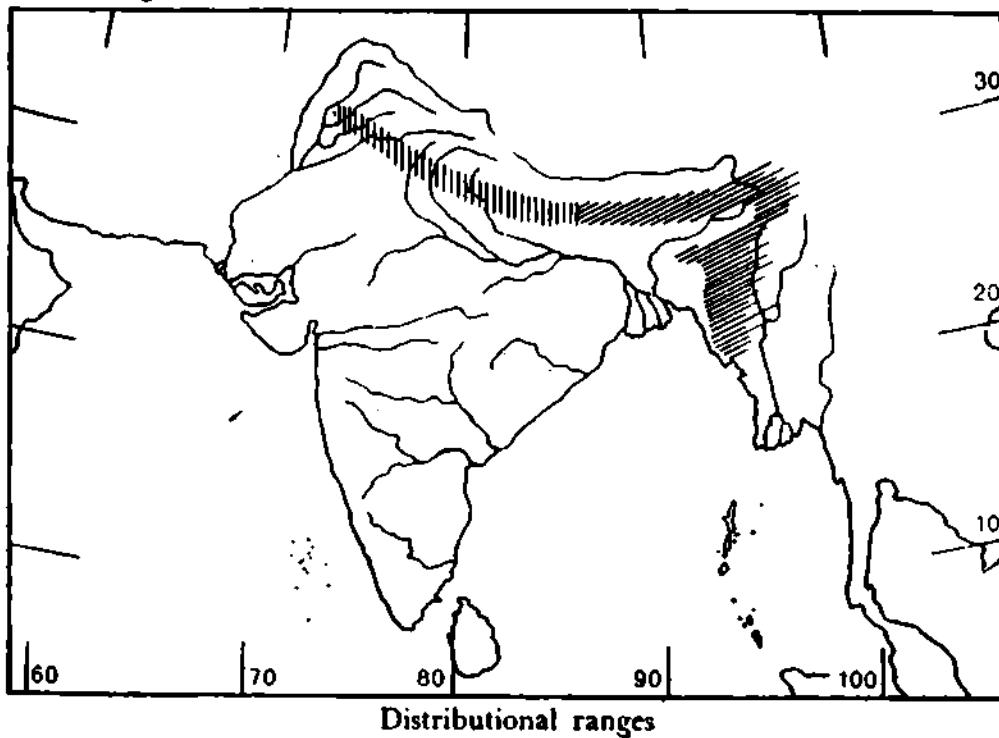
LOCAL NAMES. None recorded.

SIZE. Dove; length c. 33 cm (13 in.).

FIELD CHARACTERS. A vinaceous fawn coloured (or pinkish brown) bird with closely black-barred bright blue wings, a broad velvety black moustachial band, white rump and vent, and velvety black tail. Sexes alike.

In flight fawn coloured back, glistening white rump-patch contrasting sharply with black tail diagnostic.

STATUS, DISTRIBUTION AND HABITAT. Resident, with slight winter-summer altitudinal movements: from Hazara dist. (c. 73°E.) in West Pakistan eastward through Kashmir, Himachal Pradesh, Punjab, Garhwal and Kumaon to central Nepal where intergradation with east Himalayan *interstinctus*

Garrulus glandarius

■ *bispecularis* (1020).

■ *interstinctus* (1021).

occurs. From c. 1500 to 2500 m; occasionally down to c. 1000 m in winter. Affects wet temperate mixed forest of pine, oak, chestnut, rhododendron, etc.

GENERAL HABITS. Generally less common than *lanceolatus* (1022). In many respects unmistakably crow-like. Is inquisitive and clannish, and can be both bold and exceedingly wary as occasion dictates. Keeps in noisy pairs or parties of 4 or 5, joining up into larger flocks of 20 or more in autumn and winter. Associates with Blackthroated Jays, Himalayan Tree Pies, Blue Magpies and laughing thrushes in the itinerant hunting parties in forest. Flight seemingly laboured, with much flapping of wings. Has the characteristic crows' habit of rallying together and raising a loud hue and cry when one member of the party has come to grief. Feeds on the ground as well as in trees.

FOOD. Fruits and nuts, insects, lizards, small mammals, eggs and chicks of small birds, kitchen scraps around hill-station bungalows; almost anything that can be procured. Is destructive to fruit in hill orchards. Acorns plucked off oak trees or picked up off the ground; either carried to a branch or dealt with on the spot; held underfoot, the kernel hacked out by repeated hammer-blows of the short stout bill.

VOICE AND CALLS. Indistinguishable from *lanceolatus* (1022); most commonly a characteristic harsh, monosyllabic, and penetrating *shak*. Some very similar to the raucous croaks and chuckles of Himalayan Tree Pie, whistling squeals of Blue Magpie, and the rather similar cry of hawk-eagle (*Spizaetus*); others almost identical with the screeching and swearing 'Snake alert' of Indian Myna. Yet another call described as of three syllables *ko-kaw-lee* (Fleming). Rarely also a rather low, varied and almost pleasant 'song' uttered in the nature of a soliloquy, with good mimicry of other bird calls interlarded.

BREEDING. Season, March to June, chiefly April and May. Nest, a largish cup of twigs mixed with green moss, usually more compact than of 1022, but similarly lined with fibres and fine roots. Built up to c. 8 metres from the ground in a sapling or thick shrub, often standing on the edge of a steep declivity, and with little effort at concealment. Eggs, 3 to 5, olive-brown or olive-green, freckled and blotched with brown, more densely and forming a cap at the broad end. Average size of 80 eggs 28.4 × 22.1 mm (Baker). Both sexes take part in building the nest, incubation and tending the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. See keys to the Species and Subspecies; for details of plumage Baker, loc. cit.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	160–178	c. 26	c. 32	c. 180 mm (Baker)

Birds from central Nepal (intergrading zone) (from skull)

10 ♂♂	158–171	32–33	—	142–153 mm
8 ♀ ♀	158–164	30–32	—	135–145 mm (Biswas)

Weight 3 ♂♂ 127–130; 3 ♀ ♀ 120–128 g (GD).

COLOURS OF BARE PARTS. Iris pinkish red to dark brown; orbicular skin plum-brown. Bill and mouth black. Legs and feet fleshy brown; claws plumbeous horny.

1021. *Garrulus glandarius interstinctus* Hartert

Garrulus bispecularis interstinctus Hartert, 1918, Novit. Zool. 25: 430
 (Darjeeling)

Garrulus bispecularis persaturatus Hartert, 1918, Novit. Zool. 25: 430
 (Khasia Hills)

Garrulus bispecularis azureiinctus Koelz, 1951, Jour. Zool. Soc. India 3: 30
 [Karong (Sungtun), Manipur]
 Baker, FBI Nos. 43, 44, Vol. 1: 64, 65

LOCAL NAMES. *Lho khario pho* (Lepcha); *Dao flampu* (Cachari).

SIZE. Dove; length c. 33 cm (13 in.).

FIELD CHARACTERS. As of 1020, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, rather local and with slight winter-summer altitudinal movements: Eastern Nepal, Darjeeling dist. (W. Bengal), Sikkim, Bhutan, NEFA, Assam hills south of Brahmaputra R., Nagaland, Manipur. Mizo (?), East Pakistan (Chittagong Hill Tracts?). Between c. 2000 and 3000 m altitude (recorded up to c. 3600 m) descending to at least 1200 m in winter. Affects wet temperate oak, rhododendron and conifer forest in summer, extending into the lower semi-tropical zone in winter.

EXTRALIMITAL. Neighbouring parts of SE. Tibet and SW. Sikang. Other races in Burma. The species extends from Europe across Asia to E. Siberia and Japan.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1020.

BREEDING. Season, presumably as in 1020, but not definitely recorded; chiefly during May and June in the Khasi Hills *vide* Baker. Nest and eggs (c/3 or 4) indistinguishable from 1020. Average size of 12 eggs (Khasi Hills) 29.6 × 22.2 mm (Baker). Breeding biology presumably as in the West Himalayan form.

MUSEUM DIAGNOSIS. Differs from *G. g. bispecularis* (1020) only in having both upper and lower parts more rufous in tint.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	160–170	29–32	38–43	142–156 mm (SA)

Weight 7 ♂ ♀ 102–125 g (SA); 3 ♂ ♂ 129–136; 3 ♀ ♀ 109–128 g (Paynter, BB).

COLOURS OF BARE PARTS. As in 1020. Also recorded as: Iris hazel brown; fine beaded ring round eye magenta. Bill horny brown. Legs and feet pale brownish flesh-colour; claws horny brown (SA).

1022 Blackthroated Jay. *Garrulus lanceolatus* Vigors

Garrulus lanceolatus Vigors, 1831, Proc. Zool. Soc. London: 7

(Himalayan mountains = Simla-Almora district)

Baker, FBI No. 39, Vol. I: 60

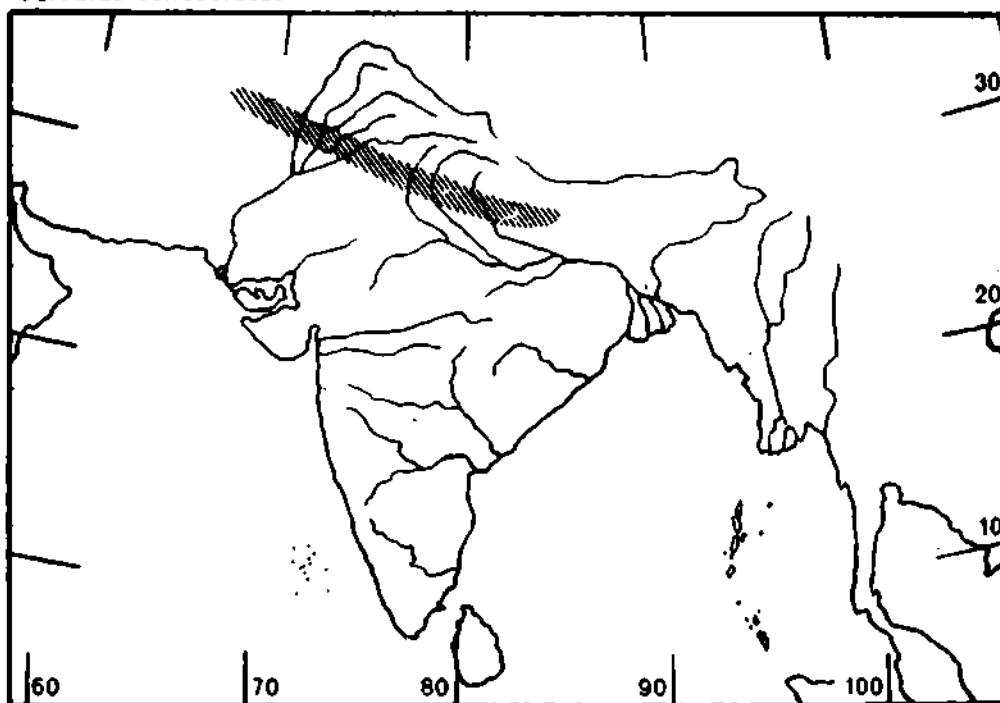
Plate 69, fig. 1

LOCAL NAME. *Bān sārrah* (or *Bān bākra*?). — Simla.

SIZE. Dove; length c. 33 cm (13 in.).

FIELD CHARACTERS. Overall vinous-grey with black (tufted) head, chin, throat and foreneck, the last three boldly streaked with white. Wings and tail black, closely barred with bright blue. A white 'mirror' on wing conspicuous in flight. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident, with slight summer-winter altitudinal movements: NW. frontier hills of West Pakistan from c. 70°E. (including Chitral), and outer ranges and valleys of the western Himalayas

Garrulus lanceolatus

■ Distributional range

through Kashmir, Himachal Pradesh, Garhwal and Kumaon east to c. 86°E. in central Nepal; between c. 1500 and 2500 m, even up to 3000 m. Affects open mixed oak and conifer forest, commonly keeping around hill-stations especially in winter.

Extralimital. Contiguous eastern Afghanistan in Nuristan province (Paludan, 1959).

GENERAL HABITS. Largely as in Redcrowned Jay (1020), q.v. As a rule less shy, commonly entering hill-station gardens and backyard of bungalows. Noisy and excitable, missing no opportunity to mob hawks and owls, raising

crest and flicking wings and tail while swearing angrily at the unwelcome presence as if to underline its disapproval.

FOOD, VOICE and CALLS. As in Redcrowned Jay (1020).

BREEDING. Season, April to June, chiefly May. Nest, a deep untidy cup of twigs lined with roots, fibres and grass stems — similar to 1020 but usually more loosely built. Placed in the top of an oak or suchlike sapling 5 or 6 metres up, in open forest on a hillside. Eggs, 3-5, brown stone colour or pale greenish white, minutely and variably freckled and mottled all over with pale sepia brown, sometimes forming a cap at the broad end. Average size of 89 eggs 28.8 × 22 mm (Baker). Both sexes take part in all the domestic chores. Incubation period undetermined.

MUSEUM DIAGNOSIS. See Key to the Species.

YOUNG (immature). Like adult but crown duller black and crest shorter; upper- and underparts with more brownish less vinous cast; white lanceolation on chin and throat less defined, the streaks smaller; white tips to secondaries absent, and instead a subterminal white patch on outer web; white tips to tertaries absent or a mere white mottling, and black subterminal band less defined.

MEASUREMENTS

	Wing	Bill (from skull)	Tail
♂ ♀	144-158	c. 28	141-169 mm (Paludan, BB)

Tarsus 32-34 mm (Baker)

Weight 14 ♂♂ 88-104 (av. 99.8); 11 ♀ ♀ 84-103 (av. 95) g—Paludan, Paynter.

COLOURS OF BARE PARTS. Variable: Iris light or dark brown or vinous red. Bill lavender or steel-grey or slate, darker towards tip of culmen. Legs steel grey or plumbeous (Whistler).

Genus CISSA Boie¹

Cissa Boie, 1826, Isis von Oken, col. 975.

Type, by monotypy, *Coracias chinensis* Boddaert

Urocissa Cabanis, 1851, Mus. Hein., pt. 1: 87.

Type, by original designation, *Corvus erythrorhynchos* Boddaert

Brightly plumaged long-tailed magpies blue or green in colour, with red or yellow bills. Nostrils situated near base of culmen and covered by rather soft plumes *contra* stiff bristles in true magpies (genus *Pica*).

Key to the Species

		Page
A	Belly white or primrose yellow ²	
1	Crown black.....	C. flavirostris 206
2	Crown partly white-spotted.....	C. erythrorhyncha 209
B	Belly not white	
3	Head rich chestnut.....	C. ornata 205
4	Head turquoise with black eye-band.....	C. chinensis 204

¹ Cf. Peters's Check-list of Birds of the World, Vol. 15: 242, footnote.

² Fading to lilac-white in older museum skins.

1023 Green Magpie. *Cissa chinensis chinensis* (Boddaert)*Coracias chinensis* Boddaert, 1783, Table Pl. enlum.: 38(China, corrected to southern Thailand by Robinson & Kloss, 1923 = *Mergui* *vide*

Stresemann, 1952, Ibis 94: 516)

Baker, FBI No. 24, Vol. 1: 45

Plate 69, fig. 4

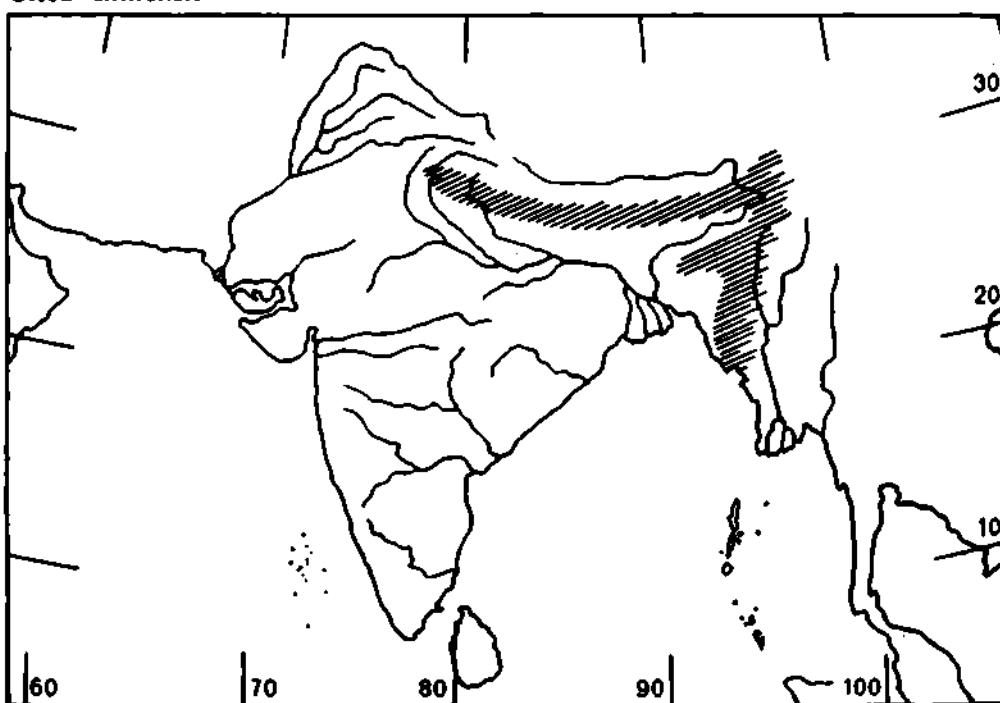
LOCAL NAMES. *Sirgoom* or *Sirgang* (Bengal); *Dhori koili* (Paharia in Sikkim); *Chap king pho* (Lepcha); *Rab ling chapa* (Bhutanese); *Telpili* (Dafla); *Lil sorai* (Assamese); *Dao gatang lili* (Cachari).

SIZE. Myna ± with a long tail; overall length c. 38 cm (15 in.).

FIELD CHARACTERS. A bright leaf-green long-tailed bird with arresting cinnamon-red wings and a broad black band running backward through eyes to meet on nape. Sexes alike.

Black-and-white-tipped graduated tail especially conspicuous in the treepie-like flight, and bright coral-red bill and legs, are further diagnostic clues.

STATUS, DISTRIBUTION and HABITAT. Resident. The lower Himalayas from c. 78°E. in Garhwal eastward through Kumaon, Nepal, Sikkim, N. Bengal (Darjeeling dist.), Bhutan and NEFA. Assam hills south of Brahmaputra R., Nagaland, Manipur, Mizo, Tripura (?) and East Pakistan (Chittagong

Cissa chinensis

Distributional range

C. c. chinensis (1023).

Hill Tracts). Terai, bhabar, duars and foothills, occasionally wandering into the adjoining plains. Normally up to c. 1200 m, rarely and locally to c. 1600 m. Affects tropical and subtropical wet evergreen secondary jungle in nullahs with dense tangles of vines etc.; also mixed moist-deciduous bamboo forest.

Extralimital. Burma, Thailand, N. Vietnam. The species extends to Cambodia, Malay Peninsula, Borneo, Sumatra, Java.

GENERAL HABITS. Keeps singly or in pairs, sometimes in small noisy parties, and almost unfailingly in association with hunting flocks of laughing thrushes and racket-tailed and other drongos up in shrubs as well as on ground — occasionally in tall trees. Many of its habits closely resemble those of laughing thrushes. Usually shy and wary and, aided by concealing coloration, is oftener heard than seen — this chiefly when flying from one covert to another.

FOOD. Mainly animal: large insects (grasshoppers, beetles, mantises, etc.), frogs, lizards, snakes, and small birds; even carrion recorded.

VOICE AND CALLS. A loud discordant quick-repeated *peep-peep* or *kik-wee*. Also a raucous mewing note, and some rich melodious squealing whistles. Mimics other birds' calls convincingly — e.g. hawk-eagle (*Spizaetus*).

BREEDING. Season, April/May to July. Nest, a well-made broad massive but rather shallow cup of twigs, tendrils and bamboo and other leaves often intermixed with moss, lined with finer roots; placed up in a small tree in dense jungle, occasionally in a bamboo clump. Eggs, 4 to 6, variable, greyish or pale greenish in ground colour blotched and freckled all over with reddish brown, more densely and forming a cap at the broad end — closely resembling those of laughing thrushes (*Garrulax*). Average size of 200 eggs $30\cdot2 \times 22\cdot9$ mm (Baker). Breeding biology and incubation period unrecorded.

MUSEUM DIAGNOSIS. Apart from bright green colour and shorter, stiffer tail, differs from the Blue Magpies in having a bright red ring of wattled skin encircling eyes — prominent in life.

Museum skins fade rapidly if exposed to light; the green turns to pale blue and the cinnamon wings to yellowish olive. This is usually the case also with birds in captivity; a tendency towards it is likewise noticeable in wild birds inhabiting comparatively dry areas.

Young (immature) like adult but crest shorter, underparts paler and under tail-coverts white. Rectrices more pointed.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	137-157	37-42	46-47	193-210 mm
♀ ♀	138-155	34-39	43-44	171-210 mm (SA, HW, BB)

Weight 4 ♂♂ 130-133; 3 ♀ ♀ 120-124 g (SA, Paynter, SDR).

COLOURS OF BARE PARTS. Iris brownish crimson to blood-red; a fine rim round eye bright orange-crimson. Legs, feet and claws bright orange-crimson or 'Chinese lacquer'.

1024 Ceylon Blue Magpie. *Cissa ornata* (Wagler)

Pica ornata Wagler, 1829, Isis: 749 (India Orientalis = Ceylon)

Baker, FBI No. 25, Vol. 1: 46

Plate 69, fig. 5

LOCAL NAME. *Kehibella* (Sinhala).

SIZE. Myna +, with a long graduated tail. Overall length c. 47 cm (17 in.).

FIELD CHARACTERS. A showy bright blue magpie with whole head, nape, upper back and breast rich chestnut. Long graduated tail blue, tipped with white and subtipped with black — this pattern prominent in flight. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Endemic to Ceylon. Resident. South-western aspects of the Hill zone up to c. 2100 m and adjacent forests of the Wet zone down to c. 150 m. Confined to dense evergreen forest; occasionally entering tea gardens.

GENERAL HABITS. By and large as of Green Magpie (1023), q.v. Keeps in parties of up to 6 or 7 — sometimes pairs or solos — usually associated with mixed flocks of other birds, hunting energetically for food on the ground or in trees and bushes, sometimes clinging upside down to pry into crevices of bark or sprigs of leaves.

FOOD. Mainly animal: items specifically recorded are hairy caterpillars (rubbed against mossy branches to remove the stinging hairs), beetles, tree frogs; also fruit (Henry). 'Very partial to large Sphinx moth caterpillars which infest cinchona trees' (A. L. Butler).

VOICE and CALLS. Squeaks and chirps when feeding; a variety of loud raucous or rasping notes; a loud jingling call uttered with beak wide open and audible at a considerable distance described as '*chink chink*, or *cheek cheek*' — in various repetitions and variations. Other notes are: a very rasping *crakrakrakrak*; a plain, loud *whee whee*, sometimes rendered as *tweewi-krāā*. Solitary birds indulge in a quaint sub-song of squeaks, chatterings and sucking noises, interspersed with imitations of the notes of other birds' (Henry).

BREEDING. Season, mid January to end March. Nest, has rarely been found. One described as resembling a crow's nest but smaller, lined with 'beard' lichen; well concealed in the top of a small jungle tree. Eggs, 3–5, said to be indistinguishable from those of Green Magpie (1023): greyish, or greenish white, profusely spotted and speckled with various shades of brown. Average size of 24 eggs 30·5 × 22·1 mm (Baker). Breeding biology and incubation period unrecorded.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	155–170	c. 37	c. 40	235–255 mm (Baker)
I ♀	159	36	—	246 mm (SDR)

Weight 1 ♀ 196 g (SDR).

COLOURS OF BARE PARTS. Iris brown; wattled eyelid deep red, orbital skin somewhat paler. Bill, legs and feet coral-red, claws more horny.

CISSA FLAVIROSTRIS (Blyth): YELLOWBILLED BLUE MAGPIE

Key to the Subspecies

Underparts primrose yellow ¹	<i>C. f. flavirostris</i>	208
Underparts almost pure white.....	<i>C. f. cucullata</i>	207

¹ Fading to lilac-white in older museum skins.

1025. *Cissa flavirostris cucullata* (Gould)

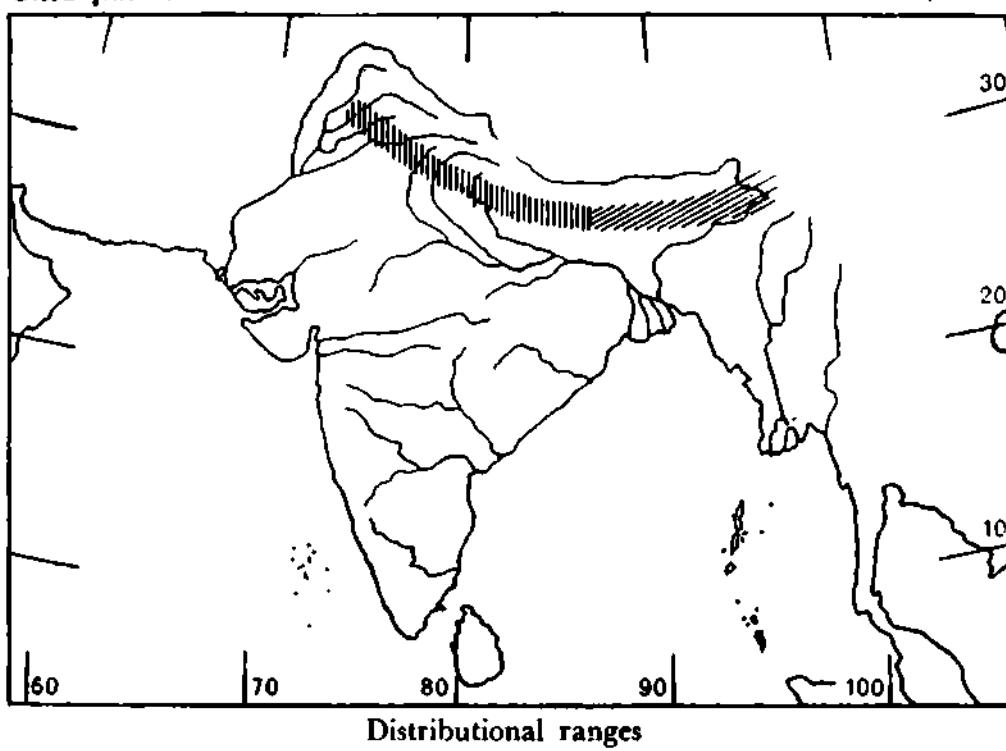
Urocissa cucullata Gould, 1861, Bds. Asia 5, pl. 51 (Kuloo Valley).
 Baker, FBI No. 23, Vol. 1: 44

LOCAL NAMES. *Chainchal* (Kangra); *Lot rāzā*, *Literāz* (Kashmir).

SIZE. Pigeon \pm , with tail c. 39–43 cm (15–17 in.) long. Overall length c. 66 cm (26 in.).

FIELD CHARACTERS. As of nominate *flavirostris* (1026), q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; with some winter-summer altitudinal movements. Range almost identical with that of *Garrulus g. bispecularis* (1020): the outer Himalayas from Hazara dist. (c. 73°E.) in West Pakistan eastward through Kashmir, Himachal Pradesh, Punjab,

Cissa flavirostris

■ *cucullata* (1025).

■ *flavirostris* (1026).

Garhwal and Kumaon to central Nepal where intergradation with *flavirostris* occurs. From c. 3300 m in summer (breeding chiefly between 1800 and 2700 m), occasionally down to c. 1000 m (Dehra Dun) in winter. Affects wet temperate mixed forest of pine, oak, chestnut, rhododendron, etc.

GENERAL HABITS, FOOD, VOICE and CALLS. As in the eastern form *flavirostris*. Associates locally with Redbilled Blue Magpie (1027) though normally occupying a higher altitudinal zone. Is unusual below c. 1600 m whereas 1027 is unusual above this elevation. Whether the breeding ranges of the two actually overlap at any point needs determining.

BREEDING. Season, principally May and June. Nest, eggs (c/3–6), site and breeding biology as in 1026.

MUSEUM DIAGNOSIS. Like nominate *flavirostris* (1026) but upperparts and wings bluer; underparts, below the black breast, quite white or with only a very faint tinge of yellow.

MEASUREMENTS AND COLOURS OF BARE PARTS as in 1026.

Weight 6 ♂♂ 130–165; 5 ♀♀ 123–163 g (Paynter, GD).

1026. *Cissa flavirostris flavirostris* (Blyth)

Ps. (ilorhinus) flavirostris Blyth, 1846, Jour. Asiat. Soc. Bengal 15: 28

(Darjeeling)

Baker, FBI No. 22, Vol. 1: 43.

Plate 69, fig. 6

LOCAL NAMES. *Lām pūchhāri* (Paharia in Sikkim); *Tying jongring* (Lepcha); *Pianging jabring*, *Té ú* (Bhutanese).

SIZE. Pigeon ±, with tail c. 39–43 cm (15–17 in.) long. Overall length c. 66 cm (26 in.).

FIELD CHARACTERS. A spectacular purplish blue bird with black head, neck and breast, whitish underparts and long graduated black-and-white-tipped tail ending in pliant arching streamers. A small white patch on nape. Bill yellow, legs bright orange. Sexes alike.

STATUS, DISTRIBUTION AND HABITAT. Resident; with some winter-summer seasonal altitudinal movements. The eastern Himalayas from about central Nepal (where intergradation with *cucullata* occurs) eastwards through Sikkim, N. Bengal (Darjeeling dist.), Bhutan and NEFA, between c. 1800 and 3300 m; in winter down to c. 1000 m.¹ Affects wet temperate mixed forest of pine, oak, chestnut, rhododendron, etc.

Extralimital. SE. Tibet, Burma, NW. Yunnan west to Mekong Valley.

GENERAL HABITS. Sociable, inquisitive and rather parochial. Keeps in noisy parties and flocks of 4 to 10 individuals in non-breeding season, commonly in association with jays and laughing thrushes, on forest-clad hillsides often wandering out to feed in the opener glades, or terraced cultivation, tea gardens, etc. adjoining forest. Usually frequents the same patch of forest or wooded ravine day after day. Mainly arboreal, procuring its food in low bushes, but will descend to the ground to feed on insects and windfallen fruit or to glean grain in harvested fields. Hops comically on the ground with the long pliant tail partially cocked like a robin's. The parties fly from tree to tree or across a glade in follow-my-leader style, the long graduated tail spread out and the streamers trailing behind. Flight typical of the pies — a few rapid wing-flaps followed by a glide, sometimes with a curious butterfly-like 'delayed action' of the wings which almost clap over the back.

¹ *Cissa flavirostris schasleri* Sick, 1939, Orn. Monatsb. 47: 78 (Mount Victoria) of the Chin Hills, Burma, is quite likely to occur in SE. Manipur, Mizo (Lushai) hills and Chittagong Hill Tracts of E. Pakistan. It differs from the nominate form in having shorter wings and tail (Wing 5 ♂♂ 166–177, 9 ♀♀ 162–174 mm).

FOOD. Varied and all-embracing, mainly animal: insects (grubs, beetles, white ants, etc.), tree frogs, lizards, small snakes, eggs and nestling birds, small mammals, carrion. Land leeches recorded. Also fruits and berries (sometimes becomes a nuisance in hill orchards) and kitchen scraps around camps and hill-station bungalows.

VOICE and CALLS. Has a remarkable and often intriguing vocabulary of loud, harsh and creaking calls and sharp squealing whistles interlarded with faithful imitations of other birds' calls and improvisations. Some mimicked species recorded are Giant Squirrel (*Ratufa*), the jays (*Garrulus*), Pied Crested Cuckoo (*Clamator*), Hawk-Eagle (*Spizaetus*) and Serpent Eagle (*Spilornis*).

BREEDING. Season, chiefly May-June. Nest, a rather shallow cup of twigs like a small crow's nest, lined with rootlets etc., 5 or 6 metres up in the top of a small leafy oak, rhododendron or suchlike tree standing away from the edge of open forest. Eggs, 3 or 4 (5 ?) pale cream coloured, blotched with bright reddish brown, with sparse secondary blotches of neutral tint. Average size of 9 eggs 34.8×23.4 mm (Baker). Both sexes build the nest, incubate, and tend the young. Incubation period unrecorded.

MUSEUM DIAGNOSIS. Less bright blue, more ashy above than west Himalayan birds. In live or freshly killed specimens the underparts, tips of all rectrices excepting central pair, wing margins, under wing-coverts and lower back are strongly suffused with primrose yellow. This fades to pale lilac in museum skins.

Young (immature). Like adult but the black parts browner; upperparts and all wing-coverts tinged with slate-brown; feathers of nuchal patch slightly fringed with black. First-year birds recognized by the browner primary-coverts (CBT, HW).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	175-195	37-42	48-51	345-423 mm (SA, Stresemann, BB)

Weight 5 ♂♂ 168-180; 3 ♀♀ 132-143 g (SA, BB, Paynter).

COLOURS OF BARE PARTS. Iris dark brown. Bill orange-yellow. Legs and feet yellowish orange; claws horny brown with a yellowish tinge.

CISSA ERYTHRORHYNCHA (Boddaert): REDBILLED BLUE MAGPIE
Key to the Subspecies

Paler above.....	<i>C. e. occipitalis</i>	209
Darker above; bill longer.....	<i>C. e. magnirostris</i>	212

1027. *Cissa erythrorhyncha occipitalis* (Blyth)

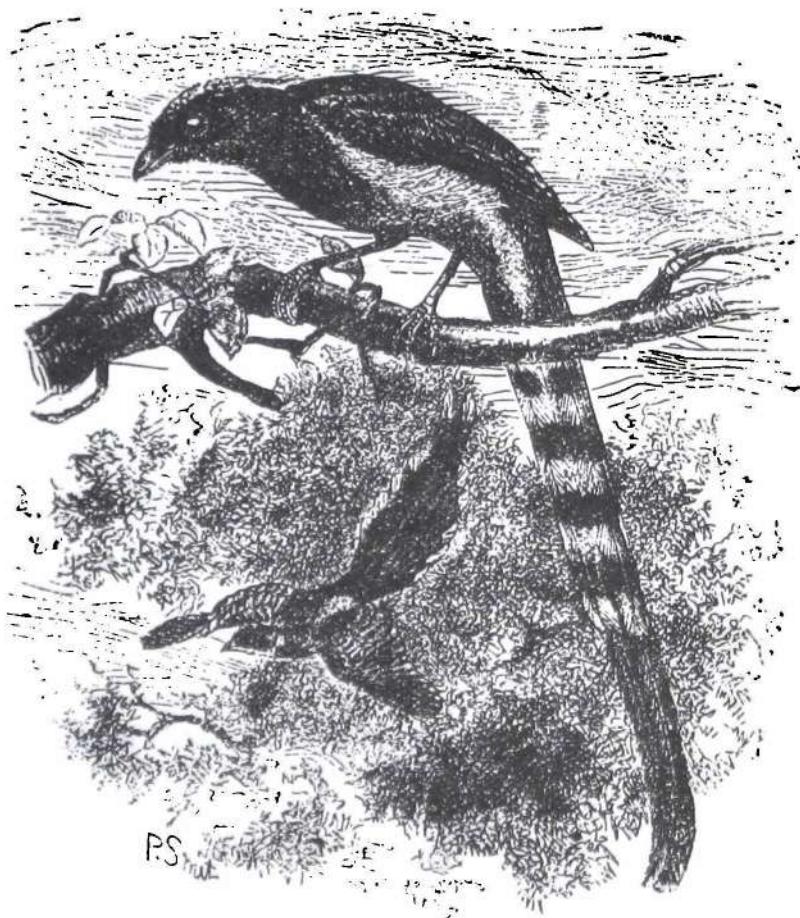
Ps. (ilorhinus) occipitalis Blyth, 1846, Jour. Asiatic Soc. Bengal 15: 27

(Nepal and to the N.W., as at Mussooree)

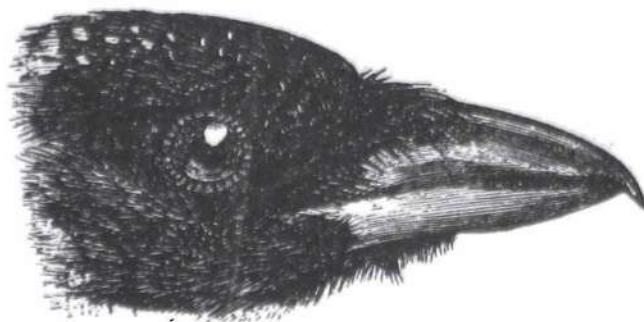
Baker, FBI No. 20, Vol. 1: 41

LOCAL NAMES. *Nilkanth* (Mussooree, U.P.); *Digdal* (Simla).

SIZE. Pigeon \pm , with a tail c. 39–43 cm (15–17 in.) long. Overall length c. 70 cm (27 in.).



FIELD CHARACTERS. A showy purplish blue magpie with long graduated tail, the central feathers elongated into gracefully arching streamers. Head, neck and breast velvety black, with a large white patch on nape. Underparts below breast greyish white. Sexes alike.

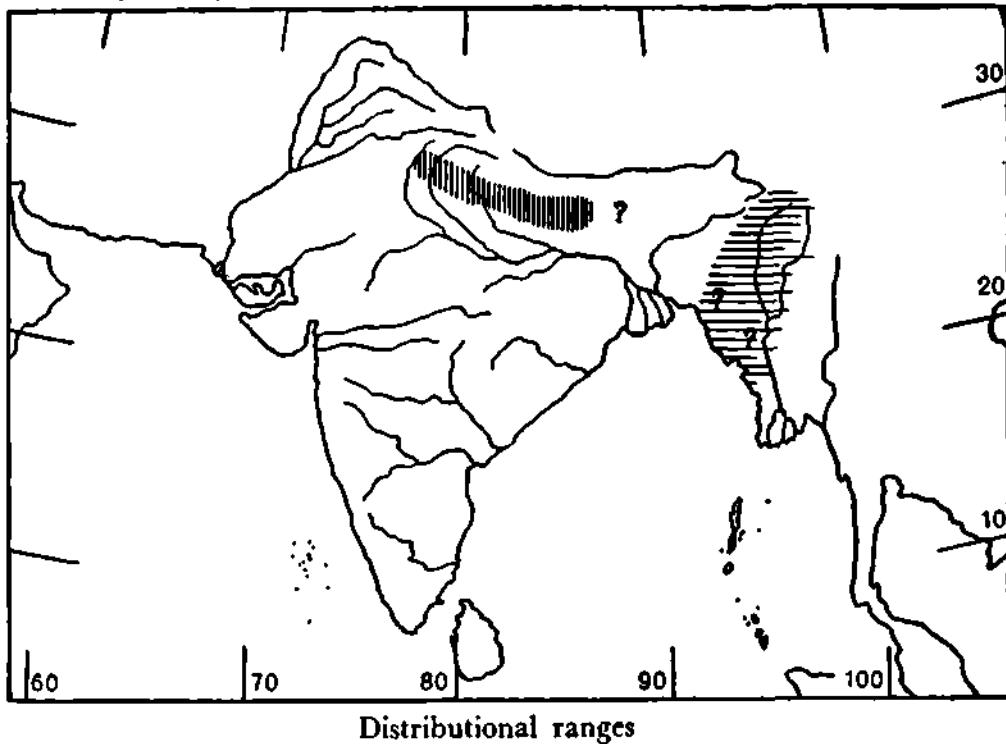


$\times c. 1$

Very similar to and confusable with 1025, but larger nuchal patch and bright red bill and legs (*v.* yellow) diagnostic.

STATUS, DISTRIBUTION and HABITAT. Resident, with some summer-winter altitudinal movements: the Himalayas from c. 77°E. in Himachal Pradesh (Kangra dist.) eastward through Garhwal and Kumaon to c. 87°E. in eastern Nepal (Okhaldhunga dist.); between c. 300 m (winter) and 1800 m, breeding mostly around 1500–1600 m. Reported occurrence in western Sikkim needs verification. Ecology and habitat as in Yellowbilled (1025) and both

Cissa erythrorhyncha



■ *occipitalis* (1027).

■ *magnirostris* (1028).

sometimes found together, especially in winter, but it normally occupies a lower altitudinal zone, being unusual above c. 1600 m whereas 1025 is unusual below this elevation. Whether the breeding ranges of the two actually overlap at any point needs determining.

GENERAL HABITS, FOOD, VOICE and CALLS. Not noticeably different from 1025, q.v. Is much less shy than Yellowbilled and often met with at Himalayan hill-stations. One call is rendered as 'a piercing *quirr-pig-pig*' (Fleming).

BREEDING. Season, between April and June chiefly during May. Nest, a rough and flimsy smallish cup of twigs, coarse roots and leaves; normally c. 6 to 8 metres up — sometimes higher — in trees on wooded slopes or growing at the edge of hill cultivation. Eggs, 5–6, clay- or stone-coloured, boldly blotched with dark brown or reddish brown, often densely to form a ring or cap at the broad end. Average size of 60 eggs 33.9×23.9 mm (Baker). Both sexes take part in building the nest, incubation and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. White nuchal patch larger, more vertical, covering almost entire nape and continuing on to upper back v. smaller, more transverse and restricted in Yellowbilled (1025).

Young (immature). Pattern much as in adult. Black of head replaced by dark brown; most of the crown white. Upperparts, lesser, median and greater coverts dark ashy grey-brown tinged bluish; upper tail-coverts with no black tips or grey band. Underparts whiter than in adult. First-year birds distinguished by browner primaries and primary-coverts (HW, CBT).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	199–207	39–43	c. 45	390–469 mm
♀ ♀	187–199			

(HW, BB, Fleming)

Weight 5 ♂ ♂ 205–232; 3 ♀ ♀ 196–230 g (GD, Paynter).

COLOURS OF BARE PARTS. Iris brown or red-brown. Bill, legs and feet coral red; claws yellowish.

1028. *Cissa erythrorhyncha magnirostris* (Blyth)

Ps. (ilorhinus) magnirostris Blyth, 1846, Jour. Asiatic Soc. Bengal 15: 27, 28

(Ya-ma-dong Mountains, separating Arracan from Pegu)

Baker, FBI No. 21, Vol. 1: 42

Plate 69, fig. 7

LOCAL NAMES. Not recorded.

SIZE. Pigeon ±. Overall length c. 70 cm (27 in.) including long tail (c. 40 cm).

FIELD CHARACTERS. As of 1027, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION AND HABITAT. Rather equivocal. Hills of N. Cachar dist. (Assam), Nagaland, Manipur, Mizo (?), and probably East Pakistan in the Chittagong Hill Tracts: between c. 1500 and 1600 m, seldom lower. In tropical and subtropical dry- and moist-deciduous forest.

Extralimital. All Burma south to northern Tenasserim. Other races extend the species to the Indochinese countries and SW. China.

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 1027 and 1025, qq.v.

BREEDING. Not recorded within our limits. Season in Burma, March–April. Nest, eggs (c/3–6), and breeding biology as in the Himalayan form (1027).

MUSEUM DIAGNOSIS. Differs from the Himalayan population in being darker and more suffused with purple-blue on upperparts; bill 4–5 mm longer.

MEASUREMENTS (excepting bill), and **COLOURS OF BARE PARTS** as in 1027.

Genus PICA Brisson

Pica Brisson, 1760, Orn. 1: 30, 2: 35.

Type, by tautonymy, *Corvus pica* Linnaeus

Like *Corvus*, q.v., but tail very long and graduated; first primary (as.) peculiarly shaped: attenuated and falcate. Plumage strongly contrasting black and white.

PICA PICA (Linnaeus): MAGPIE

Key to the Subspecies

Rump white.....	<i>P. p. bactriana</i>	213
Rump black.....	<i>P. p. bottanensis</i>	215

1029. *Pica pica bactriana* Bonaparte*P.(ica) bactriana* Bonaparte, 1850, Conspr. Gen. Av. 1: 383(Kandahar *ex* Hutton)

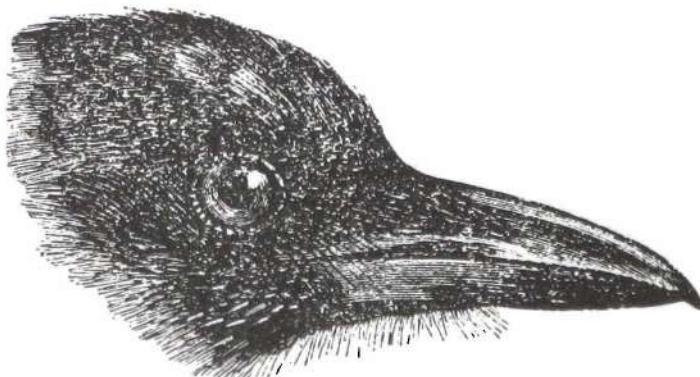
Baker, FBI No. 16, Vol. 1: 38

Plate 69, fig. 3

LOCAL NAMES. *Dūzd* (= thief), *Shākūk* (Brahui); *Khashim brah* (Kashmir, Suru).

SIZE. Myna ±, with a tail c. 30 cm (12 in.) long. Overall length c. 52 cm (21 in.).

FIELD CHARACTERS. Strongly contrasting black and white plumage and long graduated black tail adequately diagnostic.



x c. 1

Adult. *Above*, head (all round) and back black; scapulars and a broad band across rump white; wings and tail black, the former brilliantly glossed with bluish green, the latter with bronze-green and purple. *Below*, breast, thighs, vent and under tail-coverts black; rest of underparts white. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident, subject to winter-summer altitudinal movements. The mountainous northwestern regions of W. Pakistan and India: N. Baluchistan, NW. Frontier districts, Chitral, Gilgit, Baltistan, Ladakh and Himachal Pradesh (Chamba); between c. 1200 and 4200 m. Chiefly trans-Himalayan: common and familiar about villages in the upper Indus Valley and side valleys; only a rare vagrant in Kashmir proper south and west of the Zoji La pass. In Baluchistan its distribution coincides more or less with juniper forest, between c. 2000 and 2500 m. Affects cultivated upland valleys among the barren windswept hills (as in Ladakh), and the vicinity of villages with orchards and planted poplar and willow groves.

Extralimital. E. Russia and the Urals, south through the Aral-Caspian region to Iran, S. Iraq, Afghanistan and Russian Turkestan to Lake Balkhash. (For details see Vaurie, 1959, 2: 150-1.) The species in numerous races is widely distributed across Europe and Asia.

GENERAL HABITS. Omnivorous. Keeps in the vicinity of upland village cultivation and orchards mostly in pairs, sometimes in loose parties of 8 to 12 and even up to 30 birds or so. Stalks about on the ground in search of food with a rather upright carriage and strutting gait, tail held low, jerked and flicked at all angles to the body on every little excitement or

change of emotion. Sometimes progresses in long hops. When not feeding sits about in trees, on roof-tops, rocks or the piled stone boundary walls of cultivation patches. Characteristically of the crow family, is highly inquisitive; wary, suspicious and cunning where persecuted, but otherwise tame and fearless around the village houses. Flies at sunset in straggling flocks to roost communally in favourite trees. Flight rather laboured, flapping and undulating — the wing action, together with the long tail trailing behind, reminiscent of a Pheasant-tailed Jaçana.

FOOD. All-embracing: insects, lizards, small mammals (mice, voles, etc.), young birds and eggs (including those of domestic poultry), and carrion; cereal grains, fruits and berries (often destructive to ripening cherries etc.); kitchen scraps, and almost everything else that can be procured.

VOICE and CALLS. Normally a subdued rasping *querk* or *kick*. 'Sometimes a curious call in flight sounding like *ker-plonk*' (Trott). Alarm: a loud harsh *kekky kekky kekky* run together as a rattling note; this uttered with bill wide open, head and neck a little outstretched, and with an occasional expressive flick of the wings and upward jerk of the tail.

BREEDING. Season, in Ladakh March to May. Nest, a conspicuous, massive domed structure of sticks and thorny twigs reinforced within with a thick layer of mud and lined with fine roots etc., with a lateral entrance-hole. Occasionally nest undomed and crow-like. Frequently same nest repaired or built upon in successive years (once 'not less than five one on top of the other making a pyramid many feet high' — Wathen, JBNHS 29: 697). Built in willow, poplar or ilex trees in the vicinity of villages, 2 or 3 metres up. In treeless country thorn thickets flanking streams, e.g. *Hippophae rhamnoides* are used. Nests often serve as roosting shelters during winter. Eggs, 3 to 7, rarely 8 (mostly 5 or 6) pale blue-green profusely blotched, freckled and spotted with dull reddish brown, more densely at the broad end, showing considerable variation in size. Average size of 112 Ladakh eggs 36.5×24.9 mm (BBO). Breeding biology not specifically recorded; presumably as in the nominate form, namely, incubation by female alone; period 17–18 days; young fed by both parents (Witherby).

MUSEUM DIAGNOSIS. See Key to the Subspecies. First primary (as.) falcate; black on outer web, white on inner.

In first-year birds first primary not falcate and tip of its inner web black.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	182–227 (mostly over 200)	30–32	40–45	200–270 mm (usually c. 240) (Baker)

Weight 1 ♂ 249; 5 ♀ ♀ 190–212 g (Paynter).

COLOURS OF BARE PARTS. Iris dark brown. Bill, legs, feet and claws black.



First primary, $\times c. 1$

1030. *Pica pica bottanensis* Delessert

Pica Bottanensis Delessert, 1840, Rev. Zool.: 100 (Butan)
Baker, FBI No. 18, Vol. 1: 39

LOCAL NAMES. None recorded.

SIZE. Myna ±, with a tail c. 30 cm (12 in.) long. Overall length c. 52 cm (21 in.).

FIELD CHARACTERS. As in 1029, q.v. See Key to the Subspecies and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Bhutan: very common and conspicuous in Bunthang Valley (c. 27°30'N, 91°E), between c. 3400 and 4600 m; possibly occurs also in NEFA = Arunachal Pradesh in similar Tibetan facies. Frequents buildings, cliffs, cultivated fields, and clumps of trees around upland villages. Occurs chiefly north of the main Himalayan range, apparently not south of the Tang La pass into Sikkim.

EXTRALIMITAL. 'Northern Tsinghai south to central Sikang (Batang), then west through southwestern Sikang . . . to southeastern Tibet' (Vaurie).

GENERAL HABITS and FOOD. As in 1029.

VOICE and CALLS. Normally a rapid, harsh and grating *chuchuchu* or *chuchuchuchu* (3 or 4 syllables). Also a throaty *chek* 'deceptively similar to the *scape* or *pench* of a rising snipe' (Ludlow).

BREEDING. Not recorded within our limits. Season in neighbouring SE. Tibet, April to June. Nest and eggs (c/4 or 5, sometimes 6) as in 1029, the latter likewise greatly variable in size; average of 22 eggs 38 × 26 mm (Ludlow).

MUSEUM DIAGNOSIS. Rump black. The largest subspecies of *P. pica* with the biggest bill and proportionately the shortest tail. Tail length only 101 per cent of wing v. 115–130 per cent in other races (Vaurie).

MEASUREMENTS

See Appendix, page 272.

COLOURS OF BARE PARTS. As in 1029.

Genus DENDROCITTA Gould

Dendrocitta Gould, 1833, Proc. Zool. Soc. London: 57.

Type, by monotypy, *Dendrocitta leucogastra* Gould

Bill black, stout and comparatively short, with the commissures strongly curved. nostrils entirely concealed by numerous short stiff bristles. Tail long and graduated, the central rectrices broadening gradually towards the tip throughout their length.

Key to the Species

		Page
A Belly white.....	<i>D. leucogastra</i>	223
B Belly not white		
1 All rectrices entirely black		
a Nape ashy.....	<i>D. frontalis</i>	222
b Nape blackish.....	<i>D. bayleyi</i>	228
2 Central rectrices partly ashy		
c Belly ochraceous.....	<i>D. vagabunda</i>	216
d Belly ashy.....	<i>D. formosae</i>	225

DENDROCITTA VAGABUNDA (Latham): INDIAN TREE PIE
Key to the Subspecies

		Page
A	Back and scapulars ochraceous tawny	
1	Belly fulvous-buff.....	<i>D. v. pallida</i> 217
2	Belly pale cream-fulvous.....	<i>D. v. vernayi</i> 221
B	Back and scapulars tawny brownish rufous	
3	Largest; darkest above ; tail over 260 mm	<i>D. v. bristoli</i> 216
4	Medium; tail over 240 mm.....	<i>D. v. vagabunda</i> 218
5	Smallest; tail under 240 mm.....	<i>D. v. parvula</i> 220

1030a. *Dendrocitta vagabunda bristoli* Paynter

Dendrocitta vagabunda bristoli Paynter, 1961, Jour. Bombay nat. Hist. Soc. 58: 381
(Jabri, c. 11 miles west of Murree alt. 900 m, Hazara District, West Pakistan)
Baker, FBI No. 26 (part), Vol. 1: 48

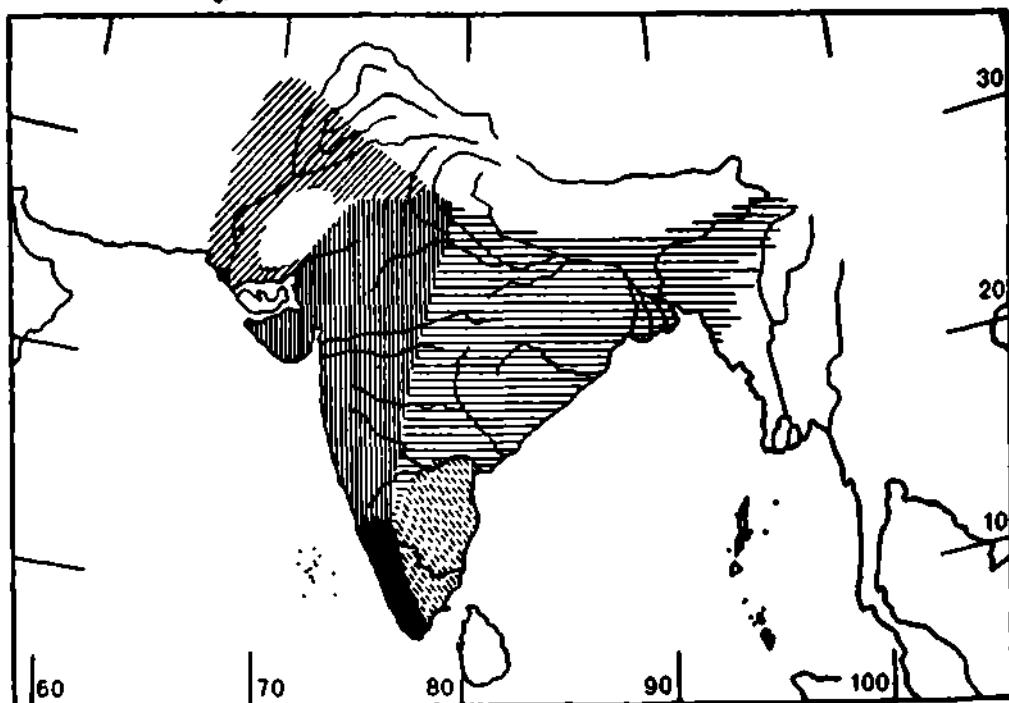
LOCAL NAMES. *Māhālāt*, *Mootri* (Hindi); *Khata khan* (Baluchistan); *Māhtāb*, *Mātā*, *Malang*, *Chānd* (Sind).

SIZE. Myna+, with tail c. 30 cm (12 in.) long. Overall length c. 50 cm (20 in.).

FIELD CHARACTERS. As of 1032, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Mainly resident; partial seasonal local migrant in some areas. Lower ranges of the westernmost Himalayas

Dendrocitta vagabunda



Distributional ranges

bristoli (1030a).

vagabunda (1032).

pallida (1031).

vernayi (1034).

parvula (1033).

from Hazara district (West Pakistan) southeast to the vicinity of Dehra Dun (India); from plains level to c. 2100 m. Intergrades into *pallida* in Baluchistan and Sind and into nominate *vagabunda* in eastern Kumaon and extreme western Nepal. Affects forest plantations, secondary jungle, cultivation and habitations, gardens, etc., in dry- and moist-temperate biotope.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1032.

BREEDING. Season, April to June. Nest, eggs (c/4 or 5), and breeding biology, as in 1032 and other races.

MUSEUM DIAGNOSIS. The largest of the races of *D. vagabunda*, with a considerably longer tail than *pallida* and a somewhat longer wing; as richly coloured as the nominate form (1032). These characters are most pronounced at the northwestern-most limit of its range, which probably is also the limit of the distribution of the species *D. vagabunda*. To the east, south, and southeast there are marked clines toward the contiguous races *pallida* and *vagabunda* (Paynter).

MEASUREMENTS

		Wing	Tail
12	♂♂	157-179	265-363 mm (11 msd.)
7	♀♀	158-174	269-349 mm (5 msd.) (RAP)

Weight 3 ♂♂ 141-146; 3 ♀♀ 120-143 g (from type locality) — RAP.

COLOURS OF BARE PARTS. As in 1032.

1031. *Dendrocitta vagabunda pallida* (Blyth)

Cr.(ypsirina) pallida Blyth, 1846, Jour. Asiat. Soc. Bengal 15: 30

[Western Himalaya. Restricted to Galkund, Surat Dangs (Gujarat) by Paynter, 1961, Jour. Bombay nat. Hist. Soc. 58: 381]

Baker, FBI No. 26 (part), Vol. 1: 48

LOCAL NAMES. *Mdhälät*, *Mootri* (Hindi); *Takkāchör* (Marathi); *Khākhedo* (Gujarati); *Chhotā māhūkā* (Saugor, M.P.).

SIZE. Myna +, with tail c. 30 cm (12 in.) long. Overall length c. 50 cm (20 in.).

FIELD CHARACTERS. As of 1032, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Rajasthan southward through Gujarat, Saurashtra (apparently absent in Kutch), western Madhya Pradesh and Maharashtra. Locally abundant in the plains and hills up to c. 1700 m. Affects well-wooded country about villages and cultivation, mango topes, open deciduous forest and scrub jungle. Intergrades into *bristoli* in the north and west (Sind, Baluchistan), into *vagabunda* on the east, and into *parvula* in the south. The populations are contiguous and their differences entirely clinal, therefore no more than an approximation of their ranges is possible or warranted.

GENERAL HABITS, FOOD, VOICE and CALLS. As in the nominate race 1032, q.v.

BREEDING. Season, overall March to July, the peak periods varying according to locality, but mostly between April and June. Nest, eggs, and breeding biology as in 1032.

MUSEUM DIAGNOSIS. Slightly smaller and paler than *bristoli*, with a markedly shorter tail. Back and scapulars isabelline with a tinge of dusky but no rufous; rump paler. Belly and under tail-coverts pure isabelline or buff cream colour.

MEASUREMENTS

		Wing	Tail
38	♂♂	149-173	218-297 mm (36 msd.)
28	♀ ♀	144-165	219-279 mm (27 msd.) (RAP)
		Bill (from skull)	Tarsus
	♂♂	32-37	33-37 mm
	♀ ♀	30-35	32-37 mm (SA, HW)

Weight 13 ♂ ♀ 90-118 (av. 100) g — SA. 1 ♂ 130 g (BB).

COLOURS OF BARE PARTS. As in 1032.

1032. *Dendrocitta vagabunda vagabunda* (Latham)

Coracias vagabunda Latham, 1790, Index Orn. 1: 171
(India, restricted to Calcutta by Ticehurst, 1922, Ibis: 537)

Baker, FBI No. 26, Vol. 1: 48

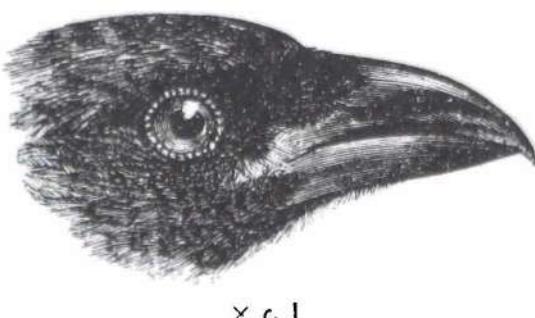
Plate 69, fig. 10

LOCAL NAMES. *Māhālāt* (Hindi); *Kotri*, *Tākā chōr* [= stealer of rupee coins], *Handi chāchā* (Bengali); *Kola khoa* (= plantain-eater. Dibrugarh, Assam); *Gokurayi*, *Kōndā kāti gīdu* (Telugu); *Vāl kākāi* (Tamil, Madurai dist.).

SIZE. Myna +, with tail c. 30 cm (12 in.) long. Overall length c. 50 cm (20 in.).

FIELD CHARACTERS. A long-tailed bright rufous arboreal bird with dark sooty grey head, neck and breast. Broad black tips to graduated greyish tail, and greyish, white and black pattern on wings conspicuous and diagnostic, particularly in flight. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident. The Himalayan submontane tract (terai, bhabar, duars, etc.) from extreme western Nepal eastward to NEFA, southward through Assam, Manipur,



East Pakistan, West Bengal, Bihar, Uttar Pradesh, Madhya Pradesh, eastern Maharashtra, Orissa and northern Andhra; south to c. 17-18°N. and west to c. 78th meridian; plains and hills up to c. 2000 m. Affects lightly wooded country in dry- and moist-deciduous biotope. Forest plantations, thin tree-and-scrub jungle, mango topes, village groves, sprawling jungly gardens and compounds in urban areas, and roadside avenues of ancient banyan and suchlike trees are amongst its favourite haunts.

GENERAL HABITS. Social, arboreal and omnivorous. Keeps in noisy pairs or family parties of 4 or 5 — sometimes larger temporary gatherings of up to 20 or so, e.g. at a heavy swarming of winged termites. Is a regular member of the itinerant commensal parties of assorted insectivorous birds, its very regular and close association with racket-tailed drongos and wood-peckers, in particular, often commented on by observers. Seizes moths and other large insects flushed by its associates from tree-trunks or amongst litter of fallen leaves; also attends grass and forest fires to feast on the fleeing refugees. Joins the company of barbets, green pigeons and other frugivorous birds to feed on fruit-laden banyan and peepul trees, sometimes descending to the ground and hopping about with tail partly cocked to pick up food. Characteristically of the crow family is highly inquisitive at all times, and can likewise be excessively cunning and wary when occasion dictates. Where unmolested will boldly enter verandas of bungalows to hunt wasps and geckos, and small bats roosting in crannies of the ceiling. Is usually the first to discover kills of the larger cats in forest, from which it greedily tears out and devours titbits of flesh. Flight noisy and dipping — a few rapid wing-flaps alternated with sailing on stiffly outspread wings and partially expanded tail.

Extralimital. The species in other races extends through Burma and Thailand to the Indochinese countries.

FOOD. Practically all-embracing. A large variety of fruits including neem (*Melia*) and even the poisonous *Trichosanthes palmata*, but preponderantly wild figs (*Ficus* spp.) — banyan, peepul, *gulēr* and others. Highly destructive to orchard fruit, e.g. cultivated figs, mulberries, papaya, etc. Cereal crops; flower-nectar (*Salmalia*, *Erythrina*, etc.). Frogs, lizards (*Hemidactylus* and *Calotes*), small snakes, small bats, young rodents; eggs, nestlings and young or sickly birds (sunbird, tailor bird, white-eye and Indian Robin recorded). Has been observed systematically tearing holes in weaver birds' nests above the egg-chamber and extracting and devouring the eggs and young; carrion from fresh tiger kills or newly shot game animals; a wide assortment of insects including crickets, grasshoppers, beetles, wasps, moths, ants and termites, caterpillars and grubs. Also spiders, centipedes, snails, and almost any other small animal. In an intensively cultivated area in Bihar the following insects specifically identified among stomach contents of specimens and by direct field observation: weevils *Myllocerus discolor* and *M. maculosus*, ants *Cremastogaster subnuda*, *Camponotus* sp., *Myrmecocystus* sp., wasps *Sphex lobatus*, *Polistes hebraeus*, *Vespa orientalis*, *Rhynchium* sp. in addition to Noctuid and Geometrid moths and smooth-bodied caterpillars (Mason & Lefroy, 1912).

VOICE AND CALLS. Has a large repertoire of harsh and raucous as well as musical melodious calls. A loud harsh *kitter kitter kitter* or *ke* (or *ka*)-*ke-ke-ke-ke* strung out as a rattling call (*kā-kā-kā-kā-kāk*) and reminiscent of a Magpie; this often interspersed with a metallic flute-like *ko-ki-la* or *ku-lo-hee* (or *bob-o-link*) recalling Blackheaded Oriole, uttered with back arched and tail depressed and turned in under the perch. A very metallic *ta-chuck chuck chack chack*; a long-drawn *mee-ooo* in breeding season. Particularly noisy in courtship. The pair will sit side by side a few centimetres apart, half turning and bobbing ludicrously at each other like mechanical toys, craning

their necks till the bills almost touch and uttering strange musical croaks and chuckles.

BREEDING. Season, overall March to July, varying locally; chiefly May and June. Nest, crow-like: a scanty and flimsy deepish cup of thin, often thorny twigs lined with finer twigs, rootlets, etc. — rather small for the size of the bird. Placed c. 6 to 8 metres up in trees such as sheesham (*Dalbergia*), mango, salai (*Boswellia*) or *Acacia* standing alone at edge of cultivation or in open deciduous forest, or in a village grove or roadside avenue. Though often built in a leafless tree, nest not unduly conspicuous thanks to its small size. Eggs, 4 or 5, rather variable in shape, size and colour. Commonest type pale reddish- or salmon-white, boldly splashed and streaked with bright reddish brown and inky grey, more densely at the broad end. Average size of 100 eggs 29×21.5 mm (Baker). Both sexes take part in building the nest, incubation and feeding the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. A richly coloured form: back and scapulars dark brownish rufous; rump, belly and under tail-coverts fulvous buff.

Young (immature). Head, neck, throat and mantle concolorous brown; rump, upper tail-coverts and entire underparts buffy cream; the white wing-coverts tinged rusty cream towards tips, the smallest lesser coverts at edge of wing greyish brown. Rest of wings and tail as in adult but browner instead of black, and tips of all rectrices pale rufous, least marked on the centrals.

First-year birds recognized by pale tips to the rectrices and browner remiges, these feathers not being covered by the postjuvenile moult (Whistler).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	146–168	30–35	31–35	204–263 mm
♀ ♀	136–161	30–33	31–34	198–240 mm
(SA, HW, RAP)				

Weight 3 ♂ ♂ 112–128; 3 ♀ ♀ 98–118 g (RAP).

COLOURS OF BARE PARTS. Iris orange-brown to brownish red. Bill dusky plumbeous, paler towards base of lower mandible; mouth slaty (in juvenile flesh-coloured till after postjuvenile moult). Legs and feet dusky plumbeous.

1033. *Dendrocitta vagabunda parvula* Whistler & Kinnear

Corvus rufus Latham, 1790, Index Orn. 1: 161, based on 'La Pie rousse de la Chine' ex Sonnerat. (Malabar, fixed by Baker, preoccupied)

Dendrocitta vagabunda parvula Whistler & Kinnear, 1932, Jour. Bombay nat. Hist. Soc. 35: 515, new name for *Corvus rufus* Latham (Malabar)
Baker, FBI No. 26 (part), Vol. 1: 48

LOCAL NAMES. *Välkäkdi* (Tamil, Madurai dist.); *Ole nāli, Kāndakkān* (Malayalam).

SIZE. Myna +, with tail c. 25 cm (10 in.) long. Overall length c. 46 cm (18 in.).

FIELD CHARACTERS. As of the nominate race 1032, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. The SW. coastal and Sahyadri strip (from c. 13° – 14° N.) in Mysore southward through Kerala

to Kanyakumari (Cape Comorin), east to c. the 77th or 78th meridian. Affects moist-deciduous and semi-evergreen biotope, from sea level to c. 1600 m, especially favoured haunts being the kampongs or gardens of coconut, mango, jack-fruit, cashew, plantains and pepper surrounding the homesteads by the backwaters, and light open forest. Replaced in moister evergreen by Whitebellied Tree Pie (1036).

Curiously enough this widespread Indian species (*D. vagabunda*) does not extend to Ceylon.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1032.

BREEDING. Season, principally March–April. Nest and eggs (c/4 or 5) and breeding biology as in the nominate subspecies. Bhendi (*Thespesia populnea*) in coastal areas, and neem (*Melia azadirachta*) are popular with the birds as nest trees. Eggs somewhat smaller, measuring about 27 × 21 mm.

MUSEUM DIAGNOSIS. The smallest race of *D. vagabunda*; as richly coloured as the nominate form; back and scapulars dark brownish rufous; rump, belly and under tail-coverts fulvous buff; chin, throat and breast blackish.

MEASUREMENTS

	Wing	Bill (from skull)	Tail
♂ ♂	133–152	31–35	189–239 mm
♀ ♀	131–144	29–32	196–204 mm (HW, SA)

COLOURS OF BARE PARTS. As in 1032.

1034. *Dendrocitta vagabunda vernayi* Whistler & Kinnear

Dendrocitta rufa vernayi Whistler & Kinnear, 1930, Bull. Brit. Orn. Cl. 51: 17
(Nallamalai Range, 2000 ft, S. Kurnool)
Baker, FBI No. 26 (part), Vol. 1: 48

LOCAL NAMES. *Väl kākāi* (Tamil, Madurai dist.); *Gokurayi, Kōndā kāti gādu* (Telugu); *Ole nāli* (Malayalam).

SIZE. Myna +, with tail c. 30 cm (12 in.) long. Overall length c. 50 cm (20 in.).

FIELD CHARACTERS. As in 1032, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Andhra Pradesh south of Godavari R., Tamil Nadu (including the Nilgiris and associated hills) and southeastern Mysore; plains level and up to c. 2000 m. Affects dry- and moist-deciduous wooded country — open forest and the neighbourhood of cultivation and habitations; also urban gardens and compounds.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1032.

BREEDING. Season, principally March to May. Nest and eggs (c/4 or 5), and breeding biology, as in nominate *vagabunda* and other races.

MUSEUM DIAGNOSIS. Smaller and even paler than *pallida* (1031); about same size as *vagabunda*. Chin, throat and breast sooty grey; belly and under tail-coverts pale creamy fulvous. Intergrades into *vagabunda* at the Godavari Delta and into *pallida* and *parvula* along its western boundary.

Juveniles of the races indistinguishable, all having pale creamy fulvous underparts, a character which normally persists in adult *vernayi* and distinguishes it.

First-year bird, as in other races, distinguished from adult by the pale tips to the unmoulted rectrices of the juvenal plumage.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♂	145-158	29-35	31-34	197-236 mm
♀ ♀	137-152	29-33 (from skull)	31-33	188-225 mm (HW)

Weight 3 or? 90-95 g (SA).

COLOURS OF BARE PARTS. As in 1032 and other races.

1035 Blackbrowed Tree Pie. *Dendrocitta frontalis frontalis* Horsfield

Dendrocitta frontalis Horsfield, 1840, Proc. Zool. Soc. London: 163 (Assam)

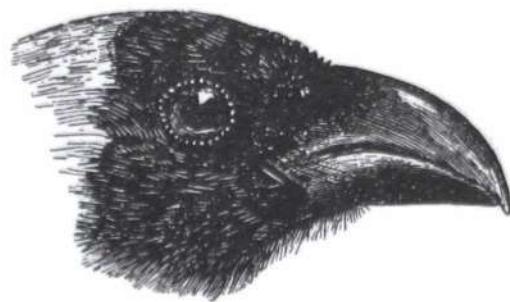
Baker, FBI No. 34, Vol. 1: 54

Plate 69, fig. 11

LOCAL NAMES. *Hamshi bon* (Lepcha); *Kolio ko* (Bhutanese); *Dao ka link gashim* (Cachari).

SIZE. Myna ±, with a tail up to c. 25 cm (10 in.) long. Overall length c. 38 cm (15 in.).

FIELD CHARACTERS. A pale grey and chestnut tree pie with very white nape, black face, throat and foreneck, and heavy bowed black bill. Readily distinguished from the rather similar Himalayan Tree Pie (1038) by entirely black tail (*v.* ashy and black), and absence of the large white wing-patch. Sexes alike.



× c. 1

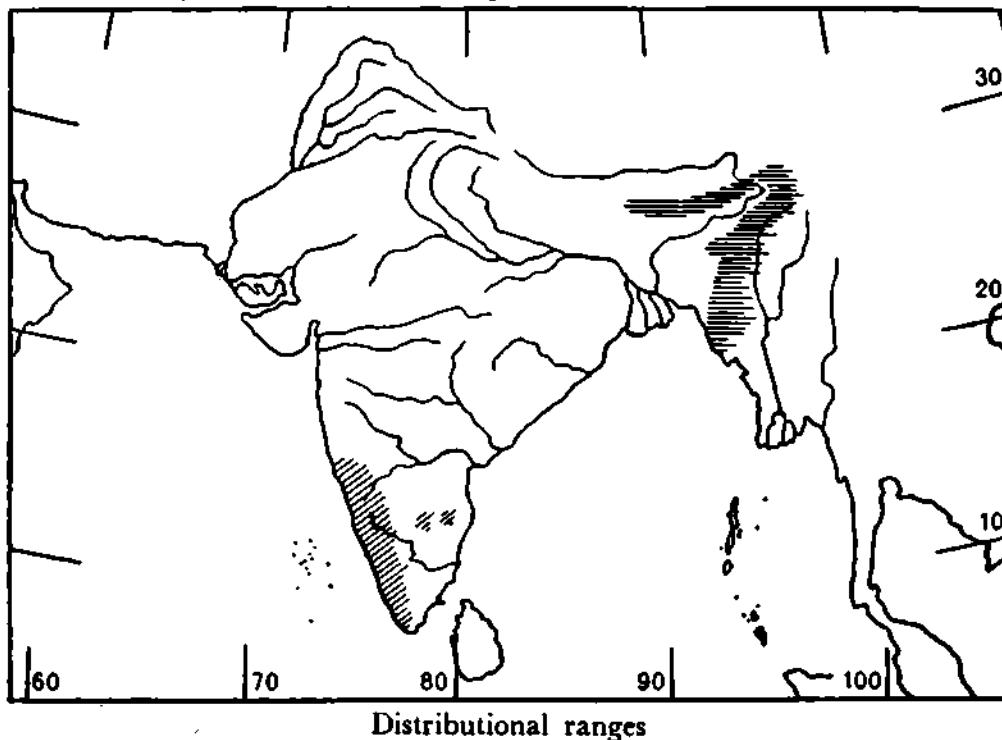
frontier divisions and Dibrugarh, N. Cachar and Khasi Hills districts). Also Nagaland, Manipur, and possibly East Pakistan (hill tracts); foothills and up to c. 2100 m altitude. Affects dense mixed evergreen forest and bamboo jungle.

Extralimital. Adjoining northern Burma (fairly common). Another race in N. Vietnam.

GENERAL HABITS. Similar to those of Himalayan Tree Pie (1038), q.v. Keeps in small parties; said to be less noisy and less shy.

FOOD. Fruits, seeds, insects, lizards, eggs and nestlings of birds, etc. Has been observed hawking winged termites from tops of bamboos in the manner of drongos — springing vertically a few metres up in the air and diving back to the perch after each capture.

VOICE AND CALLS. Varied: hollow musical tootles interspersed with harsh *craw craw* or *kree kree* repeated over and over; a variety of screams like a wounded bird; imitations of drongos such as Lesser Racket-tailed and Bronze, and other magpie species' calls (SDR).

Dendrocitta frontalis and *D. leucogastra*

D. f. frontalis (1035).

D. leucogastra (1036).

BREEDING. Season, April to July. *Nest*, like that of Himalayan Tree Pie (1038), somewhat more compact: of twigs etc. lined with fern roots and softer material. Built up in bamboo clumps or tall thorny bushes near the edge of forest. *Eggs*, 3 or 4, like those of 1038, rather more profusely marked. Average size of 100 eggs 27×19.9 mm (Baker). Breeding biology presumably as in 1038.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	120–126	c. 25	c. 30	245–255 mm (Baker)

COLOURS OF BARE PARTS. Iris reddish brown. Bill, legs, feet and claws black.

1036 Whitebellied Tree Pie. *Dendrocitta leucogastra* Gould

Dendrocitta leucogastra Gould, 1833, Proc. Zool. Soc. London: 57

(Eastern Asia = Malabar Coast)

Baker, FBI No. 31, Vol. 1: 51

Plate 69, fig. 9

LOCAL NAMES. *Neela vāl kākkā* (Telugu); *Kātu nāli* (Malayalam).

SIZE. Myna +, with tail c. 30 cm (12 in.) long. Overall length c. 50 cm (20 in.).

FIELD CHARACTERS. An unmistakable tree pie, distinguished from the Indian (1032) by chestnut-bay back and pure white rump and underparts.

Forecrown, face, throat and breast black; hindcrown and hindneck white. A large white patch on the black wings, and the long grey-and-black graduated tail conspicuous in flight. Sexes alike.

STATUS, DISTRIBUTION AND HABITAT. Resident. The Sahyadri or Western Ghats complex from c. 16°N. (Goa, Belgaum), southward through western Mysore (Malnaad), Nilgiri Hills (W. Tamil Nadu) and Kerala; from c. 60 to 1500 m, in wet evergreen biotope: dense forest, cardamom sholas and ravines, secondary jungle, abandoned and neglected overgrown rubber plantations, etc. Has been recorded from Bangalore and east to Palmaner (c. 13°15'N., 78°45'E.) in southern Andhra Pradesh.

McMaster (*Jour. Asiatic Soc. Bengal*, 1871, pt. 2: 214) claims to have procured a specimen in May in the Gawilgarh Hills at Chikalda (c. 21°30'N., 71°20'E.) far beyond the known range of the species. Lack of confirmation since that time, and total absence of compatible habitat in that area renders the record open to suspicion.

GENERAL HABITS. Similar to the more widely distributed *vagabunda* species (see under 1032). Chiefly arboreal, but will sometimes descend to feed in low bushes or to the ground. Keeps in pairs or noisy parties of 3 to 5 often in company with the roving hunting parties of flycatchers, tits, nuthatches and other insectivorous forest birds, but is seen almost unfailingly in association with racket-tailed drongos in particular. Flight, as typical of the tree pies, noisy and dipping — a few rapid wing-flaps followed by a short glide on stiffly outstretched wings and expanded tail, rocketing down at a steep angle with wings closed for alighting in a tree. As a rule keeps segregated from *vagabunda*, completely replacing it in moist-evergreen biotope. But the two species may occur side by side locally in the intermediate zone with a mingling of the deciduous and evergreen forest types.

FOOD. Fruits, seeds, flower-nectar, insects and small animals: lizards, young rodents, etc.; also eggs and nestlings of small birds. Very fond of the seeds of *Sterculia villosa* Roxb., which are avidly plucked from the ripe orange-scarlet pods on the tree.

VOICE AND CALLS. Similar to Indian Tree Pie's but louder, harsher and more metallic, some notes closely resembling those of its constant associate the racket-tailed drongo. When hunting among the foliage, a subdued quick-repeated castanet-like rattle *kt-kt-kt-kt-kt-kt* etc. ending in a short frog-like croak. A throaty *chuff-chuff-chuff* frequently given with tail cocked and body horizontal, accompanied by a ludicrous mechanical jumping or bobbing up and down on the perch like some cheap clockwork toy! 'Two birds on the ground faced each other and emitted grotesque rhythmical creaking as of a heavily laden bullock cart with ungreased wheels and wooden brakes applied, coming along the road. Courtship?' (Alice M. Barnes). During breeding season 'one call curiously like that of a duck' (J. Stewart). The significance of the various vocalizations and behaviour needs study.

BREEDING. Season, February to April, and reportedly again in August. Nest crow-like, a deepish cup of thorny twigs lined with finer twigs and rootlets. Placed in tall shrubs or moderate-sized saplings in heavy rain-forest, away from human habitations. Often built in the same or a nearby tree in successive years. Eggs, 3 or 4, variable in colour: creamy white, pale stone, reddish white or pale greenish white, blotched and streaked

(more richly than in 1032) with various shades of brown, from greyish brown to reddish- or dark brown with underlying markings of lilac, these often confined to the broad end as a ring or cap. The eggs resemble those of Himalayan Tree Pie (*D. formosae*) more closely than of the *vagabunda* group (cf. also Museum Diagnosis). Average size of 50 eggs 28.3×20.5 mm (Baker). Breeding biology not recorded; presumably as in Indian Tree Pie (1032).

MUSEUM DIAGNOSIS. Colour pattern of wings and tail, and also of body plumage, very similar to Himalayan Tree Pie (1038) suggesting close relationship between the two.

Juvenal plumage almost exactly like adult save for narrower, less spatulate tail-feathers and a slight brown fringing to tips of lesser wing-coverts and rump.

First-winter birds distinguished from adults by shape of the rectrices retained from juvenal plumage (as is characteristic of the moult in the family Corvidae). As in *formosae* these feathers lack the pale rufous tips of *vagabunda*, emphasizing closer affinity with the former group.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♀	141-157	34-38	32-34	278-324 mm (SA)

Weight 1 ad. ♀ 3.5 oz. (99.25 g) — Davison.

COLOURS OF BARE PARTS. Iris dark crimson. Bill horny black; mouth dark slate. Legs, feet and claws blackish brown.

DENDROCTTA FORMOSAE Swinhoe: HIMALAYAN TREE PIE

Key to the Subspecies

Larger; tail over 240 mm.....	<i>D. f. occidentalis</i>	225
Smaller; tail under 240 mm.....	<i>D. f. himalayana</i>	226

1037. *Dendrocitta formosae occidentalis* Ticehurst

Dendrocitta formosae occidentalis Ticehurst, 1925, Bull. Brit. Orn. Cl. 46: 22
(Simla)

Baker, FBI No. 32 (part), Vol. I: 52

LOCAL NAME. *Kokiā kāk* (U.P., Mussooree).

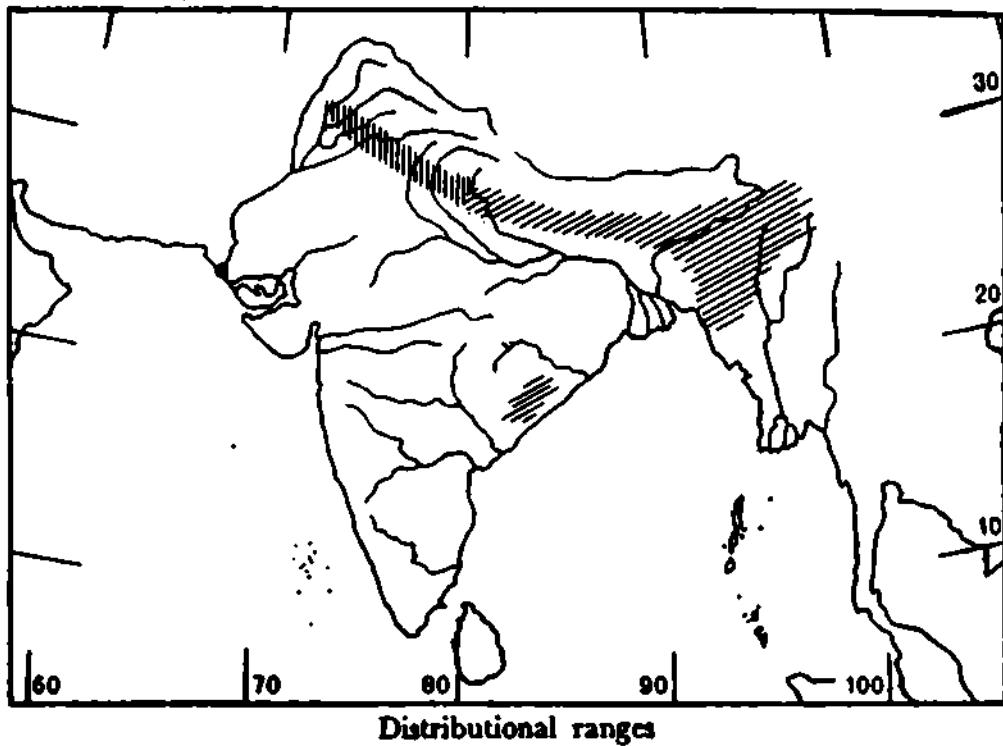
SIZE. Myna ±, with tail up to c. 25 cm (10 in.) long. Overall length c. 43 cm (17 in.).

FIELD CHARACTERS. As of 1038, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, with marked summer-winter altitudinal movements. Foothills and outer ranges of the western Himalayas from about Murree (c. 73°E.) and the Jhelum Valley eastward through Jammu, Himachal Pradesh, Punjab and Garhwal to about Almora and W. Nepal (c. 81°E.); from c. 600 to 1500 m, occasionally to 2100 m; patchily distributed and less common in the western part than between Mussooree and Almora. Affects well-wooded country and edges of terraced cultivation on forested hillsides.

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1038.

BREEDING. Season, April to July, chiefly May and June; between c. 700 and 1600 m altitude, sometimes up to 2000 m. Nest, eggs (c/3 or 4) and breeding biology as in 1038.

Dendrocitta formosae

occidentalis (1037)

himalayana (1038)

MUSEUM DIAGNOSIS. Differs from *D. f. himalayana* (1038) only in being larger.
Young (immature) as in 1038.

MEASUREMENTS

	Wing	Bill (from skull)	Tail
♂♂	145–160	35–40	243–260 mm
♀ ♀	149–157	35–40	241–261 mm (BB, CBT)

Weight 1 ♀ 104.5 g (Paynter).

COLOURS OF BARE PARTS. As in 1038.

1038, 1039. *Dendrocitta formosae himalayana* Blyth

Dendrocitta himalayensis Blyth, 1865, Ibis: 45

(Sikkim, restricted by Ticehurst, 1925, Bull. Brit. Orn. Cl. 46: 22)

*Dendrocitta formosae sarkari*¹ Kinnear & Whistler, 1930, Bull. Brit. Orn. Cl. 51: 17 (Anantgiri, Vizagapatam)
Baker, FBI No. 32, Vol. 1: 52

Plate 69, fig. 8

LOCAL NAMES. Kokila (Paharia); Karro pho (Lepcha); Karraiah ban (Bhutanese); Kok long ak (Assamese, Dibrugarh); Dao ka link (Cachari); Inrui ko kink (Naga).

¹ No. 1039 of Synopsis. Examination of more material shows that the measurements (including 'smaller' bill on which character *sarkari* was described) fall well within the range of those of *himalayana*. The subspecies is thus considered untenable (Biswas, B., 1964, JBNHS 60: 650–1).

SIZE. Myna ±, with tail up to c. 23 cm (9 in.) long. Overall length c. 41 cm (16 in.).

FIELD CHARACTERS. A typical, long-tailed, slender, grey and sooty brown tree pie with the elongated central rectrices (blunt and rather spatulate) ashy grey and broadly black-tipped.

Above, forehead black; sides of head sooty brown; crown, nape, and upper mantle ashy grey; lower mantle and scapulars buffy brown; rump and upper tail-coverts paler. Wings black with a pure white patch. *Below*, chin and throat dark sooty brown; rest chiefly rusty brown and whitish; under tail-coverts chestnut. Sexes alike.

White wing-patch and chestnut under tail-coverts particularly conspicuous in flight.

STATUS, DISTRIBUTION and HABITAT. Resident, with marked summer-winter altitudinal movements. The Himalayas from western Nepal eastward through Sikkim, W. Bengal (Darjeeling and Jalpaiguri districts), Bhutan and NEFA (including Dafla, Abor, Miri and Mishmi hills, and Luhit and Tirap frontier divisions); Assam ranges south of Brahmaputra R., Nagaland, Manipur, Mizo and East Pakistan (hill tracts). Duns, duars, foothills and outer ranges between c. 600 and 1500 m, occasionally up to 2300 m; in broad-leaved forest (oak, rhododendron, etc.) at the higher elevations, tropical evergreen in the duars. The Eastern Ghats complex in Orissa and northern Andhra, between c. 18° and 20°N.; up to c. 1000 m, in tropical semi-evergreen.

Extralimital. Northern Burma, Yunnan, Vietnam, N. Laos. The species extends to S. China, Hainan and Taiwan.

GENERAL HABITS. Keeps in small parties of 4 or 5 birds or loose flocks of up to 20 or so in tall forest and around abandoned cultivation and tea gardens, etc., often in commensal association with various laughing thrushes (*Garrulax* spp.). Chiefly arboreal, but will occasionally descend to feed in low bushes or to the ground, e.g. in harvested terraced fields, several birds together hopping about to pick up scattered grain with tails comically cocked. Feeding parties in fruit-laden trees flutter restlessly among the canopy foliage, now flying off from the tree now back again, with a noisy whirring of wings. Flight undulating, typical of the pies — a few rapid wing-flaps followed by a short glide. When flitting from one tree-top to its neighbour, the actions curiously jerky, with deep 'saw-edge' undulations and closed-wing nose dives.

FOOD. Fruits, seeds, flower-nectar (*Salmalia*, *Erythrina*, *Rhododendron*, etc.), insects (beetles, moths, larvae; destructive to semi-wild 'mooga' silkworms in Assam), centipedes, lizards, eggs and young of small birds, and doubtless other small animals.

VOICE and CALLS. Very varied: harsh and raucous as well as flutey and musical: of same general pattern as *D. vagabunda*'s but distinctive and unmistakable. One common call rendered as a rather nasal *kokil-ko-ko-ko*; another frequently heard as 'wokuwak-awk with strong emphasis on the penultimate note' (Lister). 'Song' common in pre-nuptial season, a mixture of harsh and musical *tütüli-käkä* (or -*käkäkäkä*). A peculiar, rather comical, creaky long-drawn *kree-ee-chok* uttered two or three times in succession at c. 5 second intervals by itself and not as part of the *tütüli-käkäkäkä* song. Significance of this obscure.

BREEDING. Season, April to July, chiefly May and June. Nest, of the crow type: a rather flimsy shallow platform of twigs, tendrils, coarse roots and leaves with the central depression lined with finer material. Placed 3 to 7 metres up in a bush or sapling on the edge or in the neighbourhood of a scrub-covered ravine, in oak and similar forest, with little effort at concealment. Eggs, 3 or 4, rarely 5, pale bluish or yellowish stone colour, boldly blotched with dark brown or reddish brown with some inky secondary markings. Average size of 200 eggs 28.8×20.1 mm (Baker). Both sexes take part in building, incubation and feeding the young, and are very quiet and secretive in their comings and goings throughout the nesting. Incubation period undetermined.

MUSEUM DIAGNOSIS. Differs from the West Himalayan population only in being smaller, with a shorter tail.

JUVENILE. Uppertars like adult, but black forehead not so broad, and grey of hindneck less clear; faint rufous tips to all the feathers including inner tertials, lesser and median coverts; chin blackish; throat dusky, hardly different from rest of underparts; belly whitish; under tail-coverts paler chestnut; outer rectrices narrower. Postjuvenile moult of body, lesser and median coverts.

First-year birds recognized by the rather duller primary-coverts and unmoulted wings and tail of juvenal plumage.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	135-151	32-40	28-35	191-236 mm
♀ ♀	133-148	30-39	28-35	192-230 mm (BB, SA)

Weight 16 ♂♂ 90-112; 9 ♀ ♀ 93-115 g (SDR, GD, SA, BB). 22 ♂♂ 90-121; 12 ♀ ♀ 89-106 g (Paynter).

COLOURS OF BARE PARTS. Iris brownish crimson. Bill horny black. Legs, feet and claws blackish brown.

1040 Andaman Tree Pie. *Dendrocitta bayleyi* Tytler

Dendrocitta bayleyi Tytler, 1863, Jour. Asiatic Soc. Bengal 32: 88
(Andamans)

Baker, FBI No. 35, Vol. 1: 55

Plate 69, fig. 12

LOCAL NAMES. None recorded.

SIZE. Myna ±, with tail c. 22 cm ($8\frac{1}{2}$ in.) long. Overall length c. 36 cm (14 in.).

FIELD CHARACTERS. A smallish slender-bodied tree pie with the typical long graduated tail and elongated central rectrices.

Above, feathers round base of bill black; head, neck, and mantle dark bluish ashy; lower back and rump pale rufous-olive; upper tail-coverts bluish ashy. *Below*, upper breast dark bluish ashy, diffusing to rufescent ashy on lower breast; rest of underparts chestnut. Tail and wings black, the latter with a large white patch on primaries and secondaries, very conspicuous in flight. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Endemic to Andaman Islands. Not uncommon in South and Middle Andamans. Evidently absent in the Great and Little Cocos and the Nicobars. Affects tall trees in dense evergreen forest.

GENERAL HABITS, FOOD, VOICE and CALLS. Typical of tree pies cf. 1032. Keeps in pairs or family parties; sometimes loose flocks of a dozen to twenty or so. Has 'a sharp metallic note something like that produced by drawing a coarse file across the teeth of a saw' (Davison).

BREEDING. Poorly known. Apparently the only authentic records are a nest with c/3 taken by B. B. Osmaston on 27 May (1907) and another by Wickham, in the same month, 3 years later. *Nest*, described by Osmaston as 'a flimsy cup-shaped structure of bents and fine sticks, lined with rootlets, 15 ft from the ground in a small thickly foliaged sapling growing in forest'. *Eggs*, pale creamy yellow with numerous small blotches of light brown and inky grey, rather denser at the broad end. Size c. 25 × 20 mm.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
3 ♂♂	119-124	26-28	27-28	193-206 mm
4 ♀♀	117-123 (3 msd.)	26-28	27-28	180-183 mm (3 msd.) (HA)

Weight ♂♀ 3·25-4 oz. (c. 92-113 g) — Hume.

COLOURS OF BARE PARTS. Iris variable: olive-green, bright yellow, or rich golden yellow. 'Bill, legs, feet and claws black; soles plumbeous grey' (Hume).

Genus *PODOCES* Fischer

Podoces Fischer, 1821, Lettre addressée . . . Pander: 6.

Type, by monotypy, *Podoces panderi* Fischer

Pseudopodoces Zarudny & Loudon, 1902, Orn. Monatsb.

10: 185. Type, by original designation and monotypy, *P. humilis* Hume

Bill slender and very long; nostrils completely concealed by stiff plumes. Wings short and rounded; tarsi long and strong. Only a single species within our limits.

1041 Hume's Ground Chough. *Podoces humilis* Hume¹

Podoces humilis Hume, 1871, Ibis: 408 (Kitchik-Yilak = Sanju Pass, Hill Yarkand)

Pseudopodoces humilis saxicola Stresemann, 1928, Orn. Monatsb. 36: 82

(Mantuse Lamasery, Sining-fu region, northern Kansu)

Baker, FBI No. 50, Vol. 1: 71

Plate 69, fig. 15

LOCAL NAME. *Day-day* (Tibetan).

SIZE. Myna —; length c. 20 cm (8 in.).

¹ *Podoces pleskei* Zarudny, 1896 (Alkor, Eastern Persia) probably enters West Pakistan near the Iran-Baluchistan boundary at Nokkundi (Ludlow, 1945, JBNHS 45: 233). It is a cinnamon-coloured bird, about hoopoe size, with black throat and tail and black-and-white wings. Largely terrestrial and fast-running.

FIELD CHARACTERS. A greyish sandy brown bird with darker brown wings, a whitish collar round neck (broad and conspicuous on nape), a dark streak through eyes, and long, slender, blackish curved bill. Tail square-ended, largely sandy white, with the central rectrices brown. Sexes alike.

General effect of a chat or wheatear; colour pattern at rest and in flight reminiscent of Large Grey Babbler (1258).

STATUS, DISTRIBUTION and HABITAT. Resident? Extreme northern Sikkim (Gyagong, Thangu) c. 4200 to 5200 m and northern Nepal, Dolpo and Mustang districts (Flemming *et al.*, 1976); in semi-arid Tibetan steppe facies above tree-line, with scattered dwarf rhododendron and furze (*Caragana*) bushes. Affects sandy stone-littered hillsides and hummocky country cut up by dry watercourses etc.

Extralimital. Southern Kansu, NW. Szechuan westward through Tsinghai and Sikang to Tibet and southern Sinkiang (Vaurie).

GENERAL HABITS. Mainly terrestrial; very active and sprightly; usually tame and fearless. Keeps singly, or in pairs or loose parties of 6 to 8. Rummages amongst the shingle for food, 'pick-axing' the soil energetically with its bill like a Jungle Babbler, peering under stones and probing into crevices of boulders etc. Very obliteratingly coloured in its native environment, its presence often detected only by the momentary flicker of the whitish tail-feathers even at close range. Progresses on the ground in a stiffly erect posture by long bouncing hops like a rubber ball. Mounts a stone every now and again to bob or curtsy violently a couple of times like a chat, flicking open the tail and wings while so doing. Flight weak and laboured, reminiscent of a shrike, and seldom sustained for over fifty or a hundred metres. When approaching nest-hole, which often entered directly from the air, wing action rapid and vibratory. In Tibet often found in proximity of habitations, entering villages freely, perching on piled stone boundary walls and roof-tops of the houses.

FOOD. Ground beetles and other insects.

VOICE and CALLS. A feeble *cheep* like a munia's but more prolonged. A plaintive whistling *chip* (slight pause) . . . *cheep-cheep-cheep-cheep* (quick repeated) reminiscent of Yelloweyed Babbler (*Chrysomma sinense*, 1231); also of Chestnutbellied Nuthatch (*Sitta castanea*, 1830).

BREEDING. Not recorded within our limits. Season in adjacent Tibet May to July. Nest, a large untidy pad of sheep's wool, yak hair, etc. (in one case weighing over 700 g), sometimes on a foundation of moss, grass and fibres, stuffed in the widened chamber at the end of a horizontal tunnel, some 75 mm in diameter and 1½ to 2 metres long, excavated by the birds in the side of a steep earth bank. Eggs, 4 to 6, white, unmarked, with a pinkish translucence when fresh. Average size of 6 Tibet eggs 23.6 × 16.75 mm (SA). Both sexes feed the young and attend to nest sanitation. Share in building nest and incubation, and incubation period, undetermined.

MUSEUM DIAGNOSIS. See Key to the Species and Field Characters.

MEASUREMENTS

	Wing	Bill	Tarsus	Tail
♂ ♀	85-94	22-24 (from skull)	26-34	52-64 mm (SA)

Weight 4 ♂♂ 1·5–1·65 oz. (= c. 42·5–48·5 g) — Scully.

COLOURS OF BARE PARTS. Iris brown. Bill, legs, feet and claws brownish black.

Genus NUCIFRAGA Brisson

Nucifraga Brisson, 1760, Orn. 1: 30, 2: 59.

Type, by tautonymy, *Corvus caryocatactes* Linnaeus

Plumage soft and full, blackish brown, more or less spotted with white. Bill about as long as head, somewhat rounded laterally, straight and pointed. Nostrils circular, entirely concealed by bristles. 4th to 6th primaries (as.) almost equal and longest, 3rd very little shorter, 1st not much more than half 2nd. Tail about three-quarters length of wing, slightly rounded at end, almost square. Only one species within our limits.

NUCIFRAGA CARYOCATACTES (Linnaeus): NUTCRACKER

Key to the Subspecies

	Page
A Rump marked with white.....	<i>N. c. multipunctata</i>
B Rump not marked with white	
1 White spots above and below larger and more numerous.....	
.....	<i>N. c. hemispila</i>
2 White spots smaller and less numerous.....	<i>N. c. macella</i>
Cf. Biswas, B., 1950, <i>Jour. Zool. Soc. India</i> 2: 26; Paynter, R. A., 1961, JBNHS 58: 383.	233
	235

1042. *Nucifraga caryocatactes multipunctata* Gould

Nucifraga multipunctata Gould, 1849, Proc. Zool. Soc. London: 23

(NW. Himalayas, restricted to Kashmir north of the Pir Panjal Range by Vaurie, 1954, Amer. Mus. Novit., No. 1668: 13)

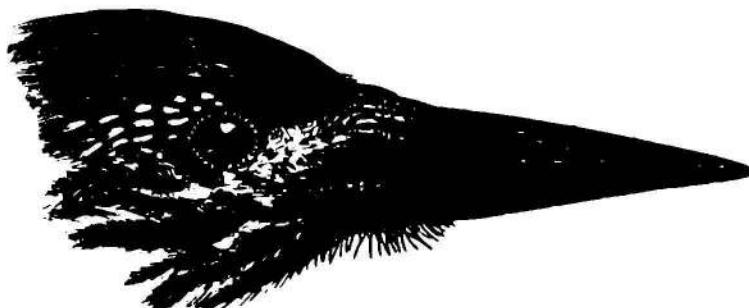
Baker, FBI No. 47, Vol. 1: 67

Plate 69, fig. 13

LOCAL NAMES. *Khäkärra* (Pushtu); *Linmpia* (Lahuli); *Tong she sha ga* (Tibetan).

SIZE. Pigeon ±; length c. 32 cm (12½ in.).

FIELD CHARACTERS. A chocolate and umber-brown crow, streaked and spotted with white all over. Bill black, stout, wedge-shaped and pointed.



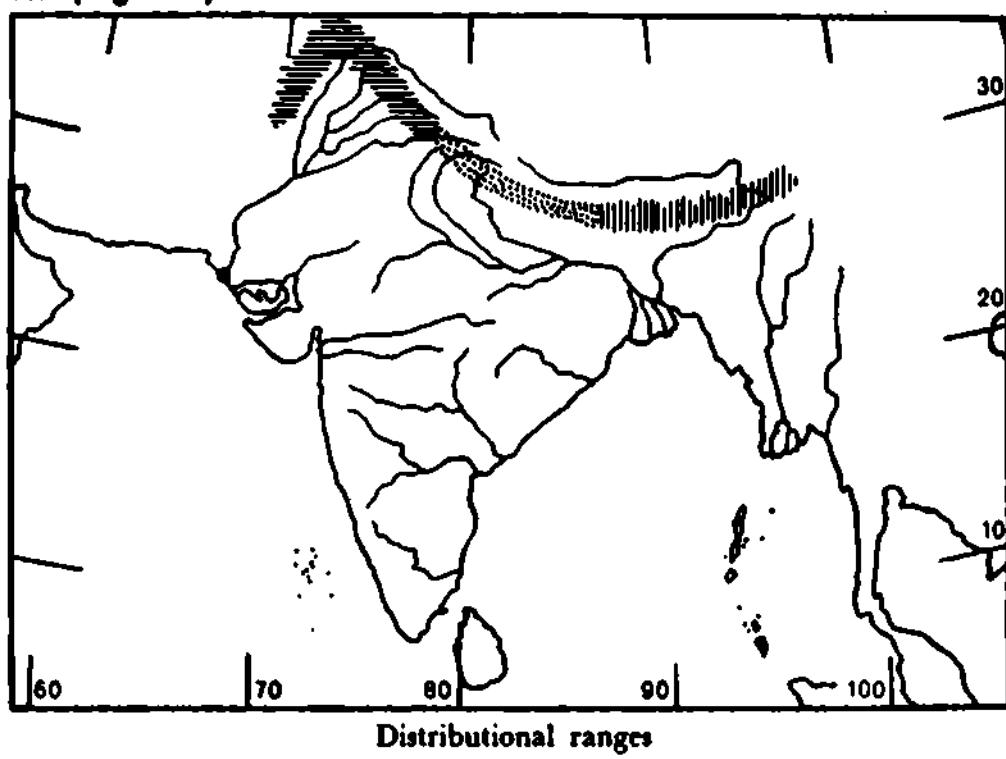
x c. 1

Central rectrices black, faintly tipped with white; rest of tail largely, under tail-coverts wholly, white. Sexes alike.

In flight partly spread white tail and white under tail-coverts contrasting strongly with dark body, diagnostic. White-spotted rump and upper tail-coverts distinguish it from Himalayan Nutcracker (1043) which has these parts immaculate chocolate-brown.

STATUS, DISTRIBUTION and HABITAT. Resident; rather patchily distributed. West Pakistan and NW. India from Fort Sandeman (*c.* 31°21'N., 69°31'E.) in N. Baluchistan northward along the Suleiman Range; Chitral, Gilgit, Baltistan (north of Pir Panjal Range), Kashmir (Sind Valley, Kishtwar,

Nucifraga caryocatactes



- *multipunctata* (1042).
- *hemispila* (1043).
- *macella* (1044).

Badrawar, etc.), Himachal Pradesh (Chandra-Bhaga Valley, Lahul). Stragglers recorded from Peshawar, Bilaspur, and Sutlej Valley. From *c.* 2000 to 3000 m, wandering as low as 1000 m and occasionally up to 4000 m. In moist- and dry-temperate oak and conifer forest, especially Blue Pine (*Pinus excelsa*) and spruce (*Picea morinda*).

Intergrades with *hemispila* (1043) in Kangra between *c.* 77° and 79°E. *Extralimital.* Eastern Afghanistan (Safed Koh and southern side of the Hindu Kush mountains).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1043.

BREEDING. No authentic record; presumably as in 1043, but season earlier. Young hardly able to fly have been recorded in Astor, Kashmir (*c.* 35°20'N., 74°50'E.) at end April (Buchanan), and evidence of gonads and moult indicates that breeding is normally finished by May.

MUSEUM DIAGNOSIS. Differs from *hemispila* (1043) in having the white spots much larger especially below, making the underparts look very whitish. See also Key to the Subspecies.

Juvenile. Like adult but upperparts and ear-coverts pale sandy grey-brown, the white centres not much more than shaft lines except on mantle and scapulars where they are as large as in adult. Upper tail-coverts darker brown. Remiges browner (*v.* glossy black in adult) and with the coverts less glossy, all the white markings not so pure or so sharply defined. Outer rectrices more pointed. *Below*, chin and throat dull white; vent and under tail-coverts white; rest of underparts with dull white centres and sandy brown fringes. Postjuvenile moult of body and lesser and median wing-coverts.

First-year bird distinguished by browner remiges and by less glossy primary- and greater-coverts, the latter with white tips. If not worn, the more pointed outer rectrices are distinctive.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	190-210	c. 50	c. 40	160-170 mm (Baker)

Weight 1 ♂ 191; 3 ♀ ♀ 148-165 g (Paynter).

COLOURS OF BARE PARTS. As in 1043.

1043. *Nucifraga caryocatactes hemispila* Vigors

Nucifraga hemispila Vigors, 1831, Proc. Zool. Soc. London: 8

(Himalayan mountains, restricted to Simla-Almora dist. by Ticehurst & Whistler, 1924, *tom. cit.*)

Baker, FBI No. 46 (part), Vol. 1: 66

Plate 69, fig. 14

LOCAL NAME. *Lho kariyo pho* (Lepcha).

SIZE. Pigeon ±; length c. 32 cm (12½ in.).

FIELD CHARACTERS. As of 1042, q.v., but white spots smaller generally and entirely lacking on rump and upper tail-coverts which are immaculate chocolate-brown. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident; rather patchily distributed. The Himalayas from about Kangra dist. in Himachal Pradesh (c. 77-79°E.) eastward, apparently intergrading into the Yunnan subspecies *macella* (1044) from about east-central Nepal; from c. 2000 to 3300 m, occasionally straggling lower or higher. Affects tall rhododendron, fir, spruce and deodar forest where interspersed with open glades and alpine meadows.

GENERAL HABITS. Keeps to the tops of tall conifers on hillsides in widely separated pairs or family parties of 4 or 5 birds, these sometimes uniting in small flocks of 10 to 15 or so. Attracts notice from afar by its characteristic loud, grating and far-carrying calls. Usually shy, curious and inquisitive. Sometimes descends to the ground in a forest glade moving about in long hops to pick up nuts and other titbits, or to hack out seeds from fallen pine cones by vigorous hammer blows of the bill. Seldom undertakes long flights except to cross a valley; then flies straight and direct with deliberate wing-flaps like a crow but with a curious 'delayed action' effect between the

flaps. More commonly seen flapping lazily from one pine-top to another in a manner recalling the jays (*Garrulus*) and Blue Magpies (*Cissa*), with the same jerky hesitant wing-beats. In flight tail partially spread, the central rectrices showing as a dark wedge contrasting strongly with the rest. When alighting on a branch, and from time to time while perched, flicks tail open and shut flashing the white tail-feathers, producing a curious effect while the bird itself remains camouflaged amongst the dark pine foliage. On alarm or suspicion, as when its nest is being handled, becomes very noisy and demonstrative, flying around fussily from tree to tree peering down at the intruder with harsh swearing cries, which soon attract other nutcrackers in the vicinity to join in the outcry.

FOOD. Largely pine and spruce seeds, especially those of Blue Pine (*Pinus excelsa*) and *Picea morinda*. The seeds are often extracted, before the mature cones open naturally, by prising apart the 'scales' with the tips of the mandibles from below, or while swinging from a twig upside down, causing the seed to fall into the open gullet (Osmaston). Also wild walnuts and hazelnuts and others; grubs and beetles (*Caccobius himalayanus* and dung beetles like *Onthophagus* identified), and allegedly eggs and young of other birds.

VOICE and CALLS. Harsh, grating, far-carrying and distinctly corvine. A single *gurrrr* or *kurrrr* or *kaak*, or sometimes several run rapidly together as a discordant rattling note. Flying young following parents utter a nasal bleat as of a goat kid, sometimes ending in a guttural *kaak*.

BREEDING. An early nester. Many young already on the wing by end March when parts of the habitat still under snow. Season, March to May/June. *Nest*, a platform of twigs, rather like a crow's but more neatly and compactly built, sometimes with a little lichen intermixed on the outside; lined with grass and pine needles. Placed 6 to 18 m up in a lateral branch near the trunk of a large deodar or suchlike tree preferably in mixed forest on a steep hillside. *Eggs*, 3 or 4, pale bluish white with a few blotches and numerous specks of dull brown and inky brown scattered all over the surface, rather more densely at the broad end; size c. 35 × 26 mm. Both sexes take part in building the nest (?), incubation and tending the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. Differs from *multipunctata* (1042) in the white spots being generally smaller giving the impression of a much darker bird. Rump and upper tail-coverts without any white markings.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	208-227	45-52	41-43	137-147 mm (Stresmann, SA)

Weight 1 ♂ (Nepal) 212 g (GD); 2 ♂♂ (Darjeeling dist.) 206, 214; 2 ♀♀ 183, 184 g (Paynter).

COLOURS OF BARE PARTS. Iris rich brown. Bill (and mouth), legs, feet and claws black.

1044. *Nucifraga caryocatactes macella* Tyayer & Bangs

Nucifraga hemispila macella Thayer & Bangs, 1909, Bull. Mus. Comp. Zool. 52: 140
 (Hsien-shan-hsien, Hupeh, China, 7000 ft)

Nucifraga yunnanensis Ingram, 1910, Bull. Brit. Orn. Cl. 25: 86
 (Mountains of Yunnan)
 Baker, FBI No. 46 (part), Vol. 1: 66

LOCAL NAMES. *Lek bhal* (Paharia); *Lho kariyo pho* (Lepcha).

SIZE. Pigeon ±; length c. 32 cm (12½ in.).

FIELD CHARACTERS. As of 1043, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident; rather patchily distributed. The eastern Himalayas from about east-central Nepal (where the zone of intergradation with *hemispila* apparently begins) through Sikkim, Bhutan and NEFA (including Dafla, Abor and Mishmi hills); from c. 2000 to 3600 m, in moist-temperate and alpine conifer forest.

Extralimital. Western Hupeh, Shensi (Tsinling Range), northern and western Szechuan, eastern, southern and southeastern Sikang to northern Yunnan, SE. Tibet and northern Burma (Vaurie).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1043.

BREEDING. Not authentically known within Indian limits. Doubtless as in 1043.

MUSEUM DIAGNOSIS. Like *hemispila* (1043), also with unspotted rump but slightly darker, with the spots on breast and back averaging smaller, and less numerous. However, coloration and spotting very variable, and subject moreover to pronounced seasonal changes in the living bird and to foxing in museum skins: on the whole a relatively weak and equivocal race.

MEASUREMENTS and COLOURS of BARE PARTS as in the Himalayan form (1043).

Weight (Bhutan birds) 6 ♂♂ 200–235 (av. 217·3); 5 ♀♀ 189–200 (av. 194) g
 — BB, SA.

Genus PYRRHOCORAX Tunstall

Pyrrhocorax Tunstall, 1771, Orn. Brit.: 2. Type, by monotypy, *Upupa pyrrhocorax* Linnaeus

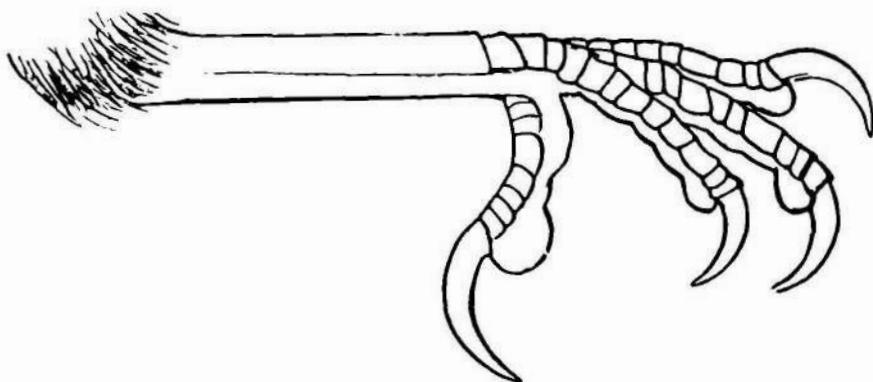
Cf. Hemming, F., 1952, Bull. Zool. Nomencl. 9: 54–61

Vaurie, C., 1954, Amer. Mus. Novit., No. 1658: 1–7

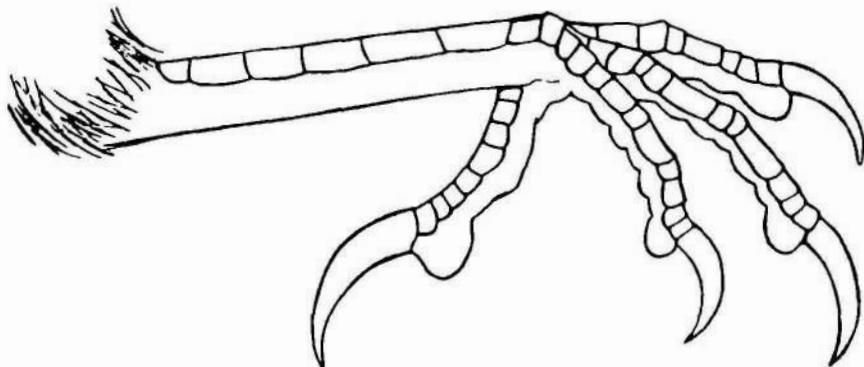
Plumage entirely black. Bill comparatively slender, red or yellow. Narial plumes very short and dense. Tarsus quite smooth in front and behind ('booted'), differing from true crows (*Corvus*) in the respect.

Key to the Species

	Page
Bill red.....	<i>P. pyrrhocorax</i>
Bill yellow.....	<i>P. graculus</i>



Foot of *P. p. himalayanus* (1047), $\times c. 1$



Foot of *C. macrorhynchos* (1054), $\times c. 1$

1045 **Yellowbilled or Alpine Chough.** *Pyrrhocorax graculus digitatus* Hemprich & Ehrenberg

Pyrrhocorax alpinus var. *digitatus* Hemprich & Ehrenberg, 1833, Symb. Phys., fol. 2
(Syria)

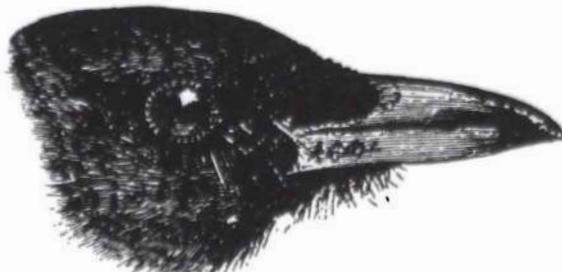
P. (pyrrhocorax) Forsythi Stoliczka, 1874, Stray Feathers 2: 462
(Lamaguru to the Indus)
Baker, FBI No. 49, Vol. 1: 70

Plate 70, fig. 2

LOCAL NAMES. None recorded.

SIZE. House Crow — ; length c. 38 cm (15 in.). Slightly smaller than Redbilled Chough.

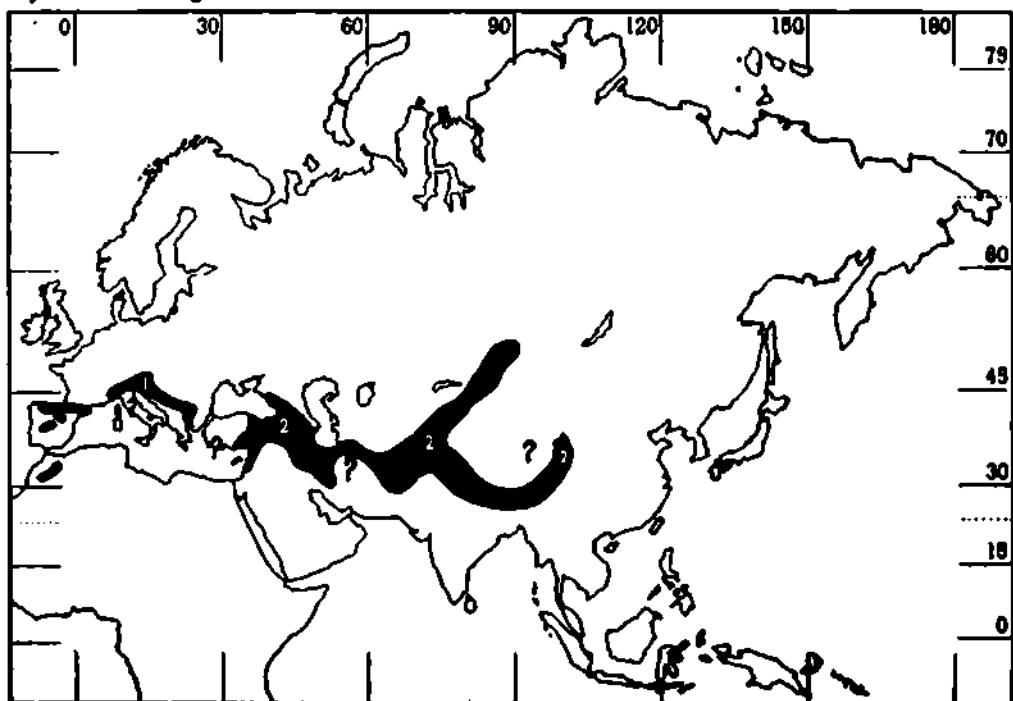
FIELD CHARACTERS. A glossy jet black crow with yellow bill and bright red legs. Sexes alike.



$\times c. 1$

STATUS, DISTRIBUTION and HABITAT. Resident at high altitudes, largely in the main Himalayan range in West Pakistan and India, normally between 700 and 5000 m, descending in winter to c. 2400 and even 1800 m. Northern Baluchistan (only in the higher hills above c. 3300 m), and from Sased Koh

Pyrrhocorax graculus



Distributional ranges

1. *graculus* (RE).

2. *digitatus* (1045).

through Chitral, Gilgit, Baltistan, Astor, Ladakh, Kashmir, Himachal Pradesh (Lahul, Spiti), Garhwal, Kumaon, Nepal, Sikkim, Bhutan and NEFA. Affects moist- and dry-temperate high mountain biotope with larches, alpine meadows and pastures, and upland cultivation.

Extrazonal. Lebanon, Iran, Transcaspia, Afghanistan, Russian Turkestan, i.e. Tibet, Sikang to Kangting (for details see Vaurie, 1959, 2: 163).

GENERAL HABITS. Very gregarious and sociable keeping in family parties and flocks, sometimes quite large, throughout the year. Occupies a higher altitudinal zone than Red-billed Chough, but where both occur together the flocks intermingle freely. Is apparently more tolerant of cold than Red-billed, keeping to higher elevations even in severe winters. Frequents the neighbourhood of upland villages and cultivation, and alpine meadows and pastures, sauntering about like a starling digging vigorously in the soil for grubs and insects. Everest climbers have reported Alpine Choughs scavenging regularly for kitchen scraps etc. round their camps up to 8000 metres, and it has been observed flying even at c. 8600 m (Charles Evans, pers. comm.). Usually tamer and more confiding than Red-billed, entering villages and traders' and herdsmen's bivouacs and encampments to pick up food among and around the houses and animal pens. Nevertheless not known to roost or nest in buildings or monasteries as the shyer Red-billed commonly does. Flight and general behaviour characteristically crow-like.

Flocks love to disport themselves, especially during the middle of the day, quite obviously just for fun. The birds mill around in a rabble up in the sky sometimes at immense heights, making full use of every wind-current and eddy, sailing buoyantly round contours and precipices on motionless wings, tail fully spread and canted from side to side to act as rudder. Now and again the circling flock is lifted almost vertically upward on a thermal and the birds engage in fantastic aerobatics with lightning twists and turns and sideslips, and swishing nose-dives with wings pulled in, of maybe several hundred metres down into the valleys, ending in an effortless upward zoom to alight gracefully on a high cliff or resume the extravagant evolutions.

FOOD. Beetles and grubs, crickets, larvae of (noctuid) moths, carrion from pack animal carcasses, kitchen scraps, etc. Other recorded items: berries (*Hippophae rhamnoides*, *Berberis lycium*, *Juniperus*), mulberries, red hips of wild rose (*Rosa*), barley grains.

VOICE AND CALLS. Less noisy than Redbilled Chough; calls of same general pattern, pleasant and high-pitched, more reminiscent of Starling than of Jackdaw. Usual note, uttered also during the aerial frolics, a high-pitched musical *quee-ah* or *cree-ah*. Full-grown young have a curious persistent mewing note exactly like the *cheep* of a half-grown domestic chicken.

BREEDING. Season, chiefly May-June. Nest, in holes in vertical cliff faces and precipices, usually inaccessible, thus not authentically described in the Indian range. Presumably as of Redbilled Chough, a platform of sticks lined with sheep's wool. Eggs (c/3 or 4?), indistinguishable from 1046-7, qq.v., but averaging slightly smaller, c. 39 × 29 mm. Breeding biology little recorded.

MUSEUM DIAGNOSIS. Entire plumage black faintly glossed with green, more particularly on wings and tail.

JUVENILE. Like adult, but body plumage softer and more sooty brown.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	274-298	34-38	42-48	174-193 mm
♀ ♀	262-273	32-36	41-46	165-178 mm (HW)

Weight 3 ♂♂ 223-244; 4 ♀ ♀ 203-213 g (Paynter, GD). 1 ♀ (September) 234 g — SDR.

COLOURS OF BARE PARTS Adult. Iris dark brown. Bill yellow; mouth livid greenish yellow, bluish posteriorly. Legs and feet dull coral-red; claws black. Juvenile. Iris dark brown. Bill horny livid. Legs and feet olive-brown mottled with dark brown; claws black (HW). 2 specimens (♀) recorded with legs and feet 'almost as black as the feathers' (Fulton, JBNHS 16: 46).

PYRRHOCORAX PYRRHOCORAX (Linnaeus): REDBILLED COUGH

Key to the Subspecies

Wing more pointed, primaries and rectrices narrower..... *P. p. centralis* 239

Wing more rounded, primaries and rectrices broader..... *P. p. himalayanus* 241

Cf. Rand, A. L. & Fleming, R. L., 1957, *Fieldiana: Zoology* 41 (1): 111-13.

1046. *Pyrrhocorax pyrrhocirax centralis* Stresemann

Pyrrhocorax pyrrhocorax centralis Stresemann, 1928, Jour. f. Orn. 76: 344
 (Semirjetschensk. Gebirge bei Dscharkent [Tschischkan])
 Baker, FBI No. 48 (part), Vol. 1: 68

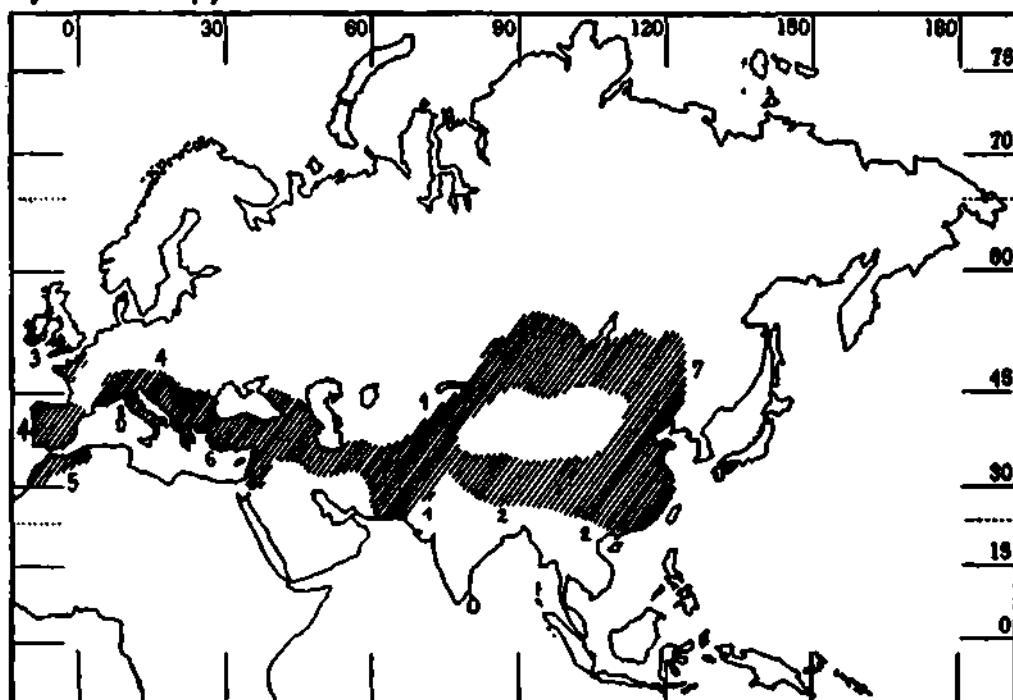
Plate 70, fig. 4

LOCAL NAMES. *Zāgh* (Persian Baluchistan); *Wān kāvīn*, *Wozij tōnti kāvīn* (Kashmir); *Kāngni* (Garhwali).

SIZE. House Crow ±; length c. 45 cm (17½ in.).

FIELD CHARACTERS. A glossy jet-black crow with bright red legs, and slender slightly curved red bill. Sexes alike.

STATUS, DISTRIBUTION and HABITAT. Resident at high altitudes, with appreciable winter-summer altitudinal movements. West Pakistan and India, in N. Baluchistan (Nushki, Quetta, Ziarat, Kach — breeding in the highest hills), Chitral, Gilgit, Ladakh, Baltistan, Kashmir, Himachal Pradesh (Lahul, Spiti); eastern limits not yet determined. Between c. 8000] and 4500 m in summer, down to c. 1200 in winter; largely coincident with Alpine

Pyrrhocorax pyrrhocorax■ *centralis* (1046).■ *himalayanus* (1047).

3-7 extralimital races (see Vaurie, 1959, 2: 160-2).

Chough (1045) except at altitudes above c. 3500 m. Affects moist- and dry-temperate high mountain biotope with precipitous cliffs, alpine meadows, steep pastures, and upland cultivation; also barren mountains beyond penetration of monsoon.

Extralimital. Russian Turkestan (Djarkent, western Tien Shan, Ferghana, Bukhara, Alai and Pamirs — Vaurie). The species in several races extends over Europe, N. Africa, central and eastern Asia.

GENERAL HABITS. Very similar to 1045, q.v. Often collects in huge flocks of several hundred during winter to grub in fallow barley fields around upland villages and on yak pastures even partly under snow, in company with Yellowbilled Choughs, Turkestan- and Snow pigeons, and sometimes ravens. Quite tame and fearless near habitations perching freely on rooftops, prayer-flag posts, etc. but less inclined than 1045 to feed on scraps and refuse among the houses and nomadic encampments. The birds roost gregariously in caves and fissures in high precipitous cliffs, as well as on ledges and under eaves etc. of Buddhist monasteries and dzongs.

FOOD. Insects (wireworms, crickets, beetles, grubs); apparently no carrion *contra* 1045. Berries (*Hippophae*, *Ephedra*, *Berberis*); barley grains. In winter occasionally destructive to ripened barley crop, taking a head and thrashing out the grain from the ears by blows of the bill.

VOICE and CALLS. A shrill, rather musical, plaintive-sounding *chido*, *chido* described as between caw of jackdaw and scream of Large Parakeet, at times sounding in the distance like the *piu, piu, piu* of Pied Crested Cuckoo (*Clamator jacobinus*, 570). Other call-notes, high-pitched and rather squeaky, *khew* and *jack* and *chee-o-kah* and *kor-quick*. Far-carrying and often with a curious ventriloquial effect; audible from immense heights when the bird itself is a mere speck in the sky. Sometimes a loud clear *quoik* (alarm?).

BREEDING. Season, March-May. Nest, a large cup or platform of stick and twigs lined with wool; sometimes minus the sticks, merely a thick pad of wool and hair. Placed in holes and fissures of inaccessible rock cliffs or in walls of derelict or inhabited houses, monasteries and dzongs in mountain villages. Occasionally several nests close to one another in a colony. In soft sandstone cliffs, holes up to a metre or so deep may be excavated by the birds themselves. The same sites are commonly used year after year. Eggs, 3 or 4, indistinguishable from 1045, variable, white, sometimes with a faint blue or green tinge, or pinky white or pale salmon-pink, blotched, spotted and speckled with reddish brown or dark brown and secondary markings of lavender and grey; scattered all over the surface but tending to coalesce into a cap at the broad end. Average size of 36 Kashmir and Ladakh eggs 39.2×27.6 mm (BBO). Both sexes take part in building the nest, incubation and tending the young. Incubation period undetermined.

MUSEUM DIAGNOSIS. Adult. Entire plumage glossy black; gloss greenish on wings and tail, bluish elsewhere.

Juvenile. Like adult but body plumage softer and brownish black.

First-year birds slightly duller and more brownish on the worn wings and tail retained from juvenal dress.

P. p. centralis differs from east Himalayan *himalayanus* (1047) in having a shorter tarsus, more pointed wing and narrower primaries and tail-feathers. Distance between tips of 5th and 6th primaries (as.) 25–30 mm (v. 15–20 mm in 1047). (For other details see Vaurie, 1954, *Amer. Mus. Novit.*, No. 1658: 1–7.)

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus
♂ ♀	290–336 (mostly above 310)	50–56	50–58 mm (NBK, Law)

Wing/tail index 53 (Vaurie)

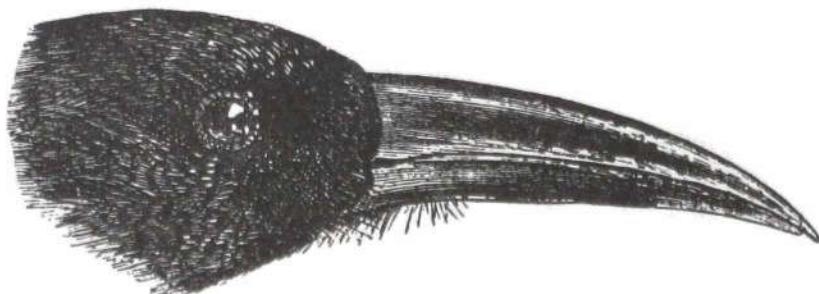
Weight (Ladakh) 5 ♂♂ 318–341; 1 ♀ 274 g (RM).

COLOURS OF BARE PARTS. Iris dark brown. Bill coral-red; mouth orange-salmon. Legs and feet coral-red, darker than bill; claws black. Juvenile. Iris dark brown. Bill black, gape and tip salmon; mouth fleshy salmon. Legs and feet black; soles and interstices of scales salmon (HW).

1047. *Pyrrhocorax pyrrhocorax himalayanus* (Gould)*Fregilus himalayanus* Gould, 1862, Proc. Zool. Soc. London: 125(Himalaya Mountains = Kumaon, restricted by Meinertzhagen, 1927, Ibis: 372)
Baker, FBI No. 48 (part), Vol. 1: 68LOCAL NAME. *Chumboo* (Lepcha).

SIZE. House Crow ±; length c. 45 cm (17½ in.).

FIELD CHARACTERS. As in 1046, q.v. See Museum Diagnosis.



× c. 1

STATUS, DISTRIBUTION and HABITAT. Resident at high altitudes with appreciable winter-summer altitudinal movements. From about Garhwal and Kumaon eastward through Nepal, Darjeeling dist., Sikkim, Bhutan and NEFA, between c. 3000 and 4500 m; occasionally down to c. 1800 m in winter and up to 6000 m in summer. Affects moist- and dry-temperate high mountain biotope near and above tree-line, with precipitous cliffs, alpine meadows, steep pastures, etc.

EXTRALIMITAL. W. Sinkiang, W. Kun Lun, Karakoram, SE. Tibet, N. Burma (?), N. Yunnan eastward to W. Szechuan (Vaurie).

GENERAL HABITS, FOOD, VOICE and CALLS. As in 1046.

BREEDING. Season, nest and eggs (c/3 or 4) as in 1046. Eggs somewhat larger; average size of 17 eggs 42·75 × 28 mm (Ludlow).

MUSEUM DIAGNOSIS. Differs from *centralis* (1046) in having the wings and tail glossed with bluish rather than greenish; tarsus longer; primaries and rectrices

broader. Wing more rounded: distance between tips of 5th and 6th primaries (as.) 15–20 mm (*v.* 25–30 mm in 1046).

Juvenile and First-year birds as in 1046.

MEASUREMENTS	Wing	Bill	Tarsus
♂ ♀	291–332	50–103	55–65 mm
(widely variable)			
(RM, S. C. Law, SA)			

Wing/tail index 50 (Vaurie)

Weight 7 ♂♂ 318–422 (once 450); 4 ♀♀ 274–385 g (RM, GD, SA, BB).

COLOURS OF BARE PARTS. As in 1046.

Genus CORVUS Linnaeus

Corvus Linnaeus, 1758, Syst. Nat., ed. 10, 1: 105.

Type, by tautonymy, *Corvus corax* Linnaeus

Cf. Meinertzhagen, R., 1926, *Novit. Zool.* 33: 57–121.

Coloration in Indian forms glossy black or black and grey. Bill stout; nostrils placed far forward, about one-third length of bill from forehead, entirely concealed by stiff straight bristles that reach almost to middle of bill. Tail shorter than wing, slightly graduated or rounded at end. 1st primary (as.) at least half as long as 2nd; 3rd and 4th primaries longest. Primaries exceed longest secondaries by more than length of tarsus; four outermost primaries with inner webs sinuated.

Key to the Species

		Page
A	Plumage entirely black	
1	Size large; wing over 380 mm.....	<i>C. corax</i> 261
2	Size smaller; wing under 380 mm	
a	Whole plumage glossed with purple; base of bill bare in adults	<i>C. frugilegus</i> 248
b	Plumage duller black ¹	
i	Upper mandible more curved, ridge of culmen nearly flat, not covered with bristles at base.....	<i>C. macrorhynchos</i> 251
ii	Upper mandible less curved, ridge of culmen not flattened, and covered with bristles to over 10 mm at base.....	<i>C. corone</i> 258
B	Plumage black and ashy	
3	Ashy restricted to nape.....	<i>C. monedula</i> 250
4	Ashy extending down to breast.....	<i>C. splendens</i> 242
C	Plumage brown on neck, upper back and scapulars wing c. 360–415 mm	<i>C. ruficollis</i> 265

CORVUS SPLENDENS Vieillot: HOUSE CROW

Key to the Subspecies

A	Contrast between grey and black parts of plumage well defined....	<i>C. s. splendens</i> 244
B	Pale parts of plumage very pale, contrasting sharply with black..	<i>C. s. zugmayeri</i> 243
C	Darkest; contrast between pale and dark parts of plumage slight..	<i>C. s. protegatus</i> 246
D	Nearest C; averaging larger.....	<i>C. s. maledivicus</i> 247

¹ But see Key to the Subspecies of *Corvus corone*, p. 258.

1048. *Corvus splendens zugmayeri* Laubmann

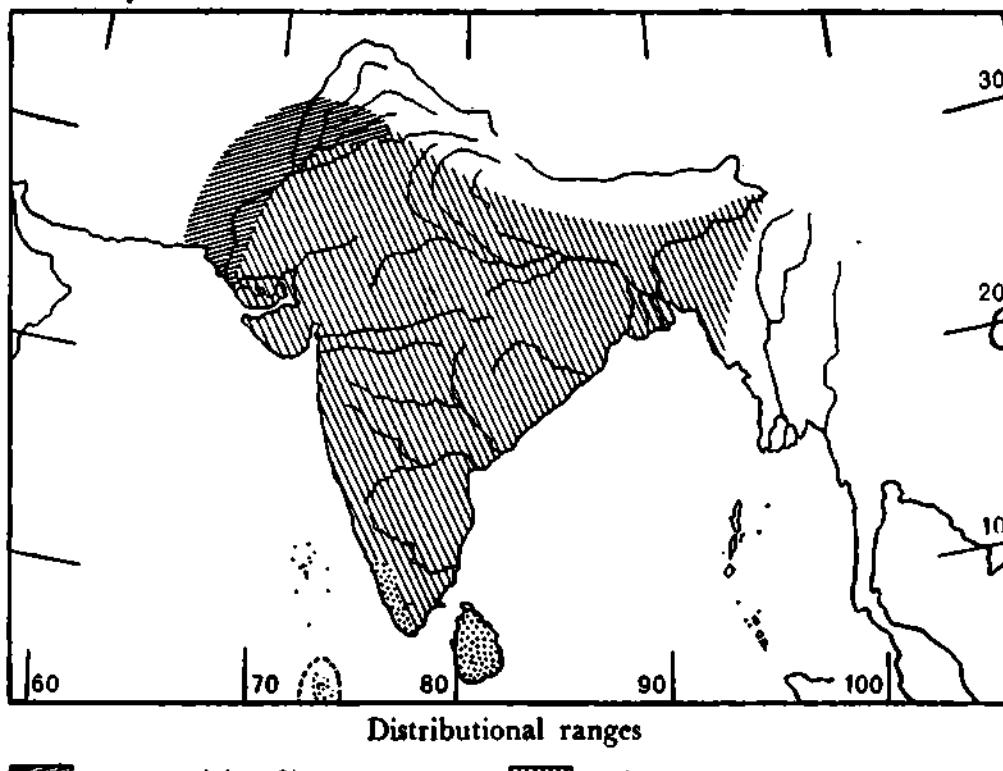
Corvus zugmayeri Laubmann, 1919, Orn. Monatsb. 21: 93 (Las Bela, Baluchistan)
Baker, FBI No. 12, Vol. 1: 34

LOCAL NAMES. *Kān* (Sind); *Kāv* (Kashmir).

SIZE. Pigeon +; length c. 43 cm (17 in.).

FIELD CHARACTERS. As of 1049, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Baluchistan (Sibi Plain, coastal Makran), Sind, Punjab and NW. frontier districts; southern Kashmir

Corvus splendens

zugmayeri (1048).

protegatus (1050).

splendens (1049).

maledivicus (1051).

and Jammu. From plains level to c. 1600 m. Affects all types of country in and around human habitations, especially towns and cities.

EXTRALIMITAL. Coastal and southern Iran.

GENERAL HABITS, FOOD, VOICE and CALLS. As in the nominate form 1049.

BREEDING. Season, May to July. In Kashmir Valley principally May, in Rawalpindi dist., second half June; occasionally some in November. Nest and eggs (c/5) as in 1049. Average size of 17 Kashmir eggs 39 × 26.6 mm (BBO). Willow and poplar trees and groves near villages favoured for nesting in Kashmir.

MUSEUM DIAGNOSIS. Differs from nominate *splendens* (1049) in having a much paler collar and underparts: pale smoke-grey in fresh plumage, ashy sandy white in worn dress. No difference in size.

MEASUREMENTS: ♂ ♀ Wing 255–290 mm (CBT).

COLOURS OF BARE PARTS. As in 1049.

1049. *Corvus splendens splendens* Vieillot

Corvus splendens Vieillot, 1817, Nouv. Dict. d'Hist. Nat. 8: 44 (Bengal)
Baker, FBI No. 11, Vol. 1: 33

Plate 70, fig. 6

LOCAL NAMES. *Kowwā*, *Dēsi kowwā* (Hindi); *Kāolā* (Marathi); *Kāgdo* (Gujarati); *Kāg*, *kāk* (Bengali); *Pāt kāori* (Assamese, Nowgong); *Manchi kāki* (Telugu); *Nällā kākā*, *Maniyān kākāi* (Tamil).

SIZE. Pigeon +; length c. 43 cm (17 in.).

FIELD CHARACTERS. A medium-sized crow: glossy black with dusky grey or mouse-grey nape, neck (all round), upper breast and upper back. Forehead, crown and throat contrasting glossy black. Sexes alike. Colour pattern similar to Jackdaw (1053), which is smaller and has whitish eyes.

STATUS, DISTRIBUTION and HABITAT. Resident; subject to altitudinal and/or seasonal movement in northern cold-winter areas; common to excessively common locally. All India except Kerala (cf. 1050) east and south of a line roughly from Himachal Pradesh to Kutch (including lowlands of Nepal, Sikkim, Bhutan and Assam); Laccadive Is. (introduced ?); East Pakistan; from sea coast and plains level up to c. 2100 m. Inseparable from human habitations; abundant to pest proportions in many urban and metropolitan areas. Absent or rare at small hill-stations, but quickly spreading to them with population growth and increased garbage potential. Introduced in the Andamans c. the 1860s but has not become established.

Extralimital. Arakan (Burma). Introduced and now well established in Zanzibar, Aden and Mauritius.

GENERAL HABITS. A confirmed commensal of man, almost an element of his social system. Very useful as a municipal scavenger and an indispensable ally to neglectful or incompetent sanitary administrations! Intelligent, inquisitive and impudently familiar, yet excessively wary and alert at all times, possessing an uncanny capacity for scenting and avoiding danger and distinguishing a harmless human from one not to be trusted. Gregarious, sociable, clannish, cunning, and omnivorous — other essential qualifications for successful co-existence with man. Moves on the ground with a perky walking gait and sidling hops, accompanied by a constant uneasy flicking of the wings. Normal flight with unhurried shallow wing-flaps, straight, and with tail closed. Much given to the same sort of aerial gambolling as choughs. In urban localities numbers collect at sunset on top of a tower or high building especially when a stiff wind is blowing, and engage in a variety of amusing and spectacular games, supplanting one another from some coveted vantage-point, or vieing in fantastic aerobatics — shooting down through space with wings closed or with lightning twists, turns and sideslips and somersaulting and looping-the-loop, thoroughly enjoying themselves. While commuting long distances to and from the communal roost, especially across wide rivers, flies very high up in the sky. When over its destination shoots steeply down at tremendous velocity in a series of the same remarkable aerobic evolutions. Has 'traditional' community roosts in ancient banyan trees, mangrove jungle, coconut and forest plantations and the like, where vast numbers, sometimes maybe thousands, converge at sunset flying in a steady stream of straggling rabbles.

over considerable distances from all points of the compass. Roosts commonly shared with parakeets and mynas who contribute to the deafening clamour that precedes sleep. The birds disperse before sunrise, radiating in disorderly groups each headed towards its respective scavenging ground. Besides intelligence and a limited capacity for seeming ratiocination, possesses a distinct sense of humour. Revels in puckish antics such as playfully tweaking tails of other birds, or ears of sleeping cow or dog, or toes of flying foxes hanging on their diurnal roosting-trees, with no apparent object other than to enjoy their annoyance and discomfiture! Monogamous and evidently pairing for life; even in non-breeding season pairs will often sit on a shady branch during daytime snuggled lovingly together, first one bird scratching the other's lowered head then presenting its own to be similarly scratched by its mate, turn by turn, for ten minutes or more at a time.

FOOD. All-embracing: practically everything that can be eaten. Recorded items include grain, groundnuts, fruits, flower-nectar (*Salmalia*, *Erythrina*, *Butea*, *Sesbania*, *Spathodea* and others), eggs and young or sickly birds (very destructive in heronries; systematically marauds Baya nests in colonies), lizards, small rodents (mice, squirrels, gerbils in semi-desert areas), fish (stranded by receding floods, filched from protesting fishwives' baskets or curing yards, or captured from near the surface while flying above water (Acharya, JBNHS 50: 169), insects (winged termites hawked by ungainly aerial sallies from roof-tops with awkward zigzags and contortions), land crabs (*Paratelphusa*) inland, fiddler crabs (*Uca*) on seashore, kitchen scraps, garbage, offal and carrion. In an intensely cultivated area in Bihar stomach contents of 42 birds, in addition to other matter, contained 226 insects: 1 beneficial, 153 injurious, 72 neutral. Among them were crickets and grasshoppers (Orthoptera: *Schizodactylus monstrosus*, *Gryllotalpa africana*, *Chrotogonus* sp., *Brachytrypes achatinus*), beetles (Coleoptera, largely Tenebrionidae and Scarabaeidae: *Opatrum* sp., *Gymnopleurus miliaris*, *Mesomorpha villiger*, *Catharsius sabaeus*, *Onthophagus spinifer*, *Onitis distinctus* and *Oniticellus pallipes*), also ants (Hymenoptera, Formicidae) and noctuid larvae (Heterocera). Economic status in agricultural areas evaluated as on the whole neutral.

VOICE AND CALLS. Ordinary call-note a rather shrill *quah quah* (or nasal *kaan, kaan*) softer than that of Jungle Crow. When resting contentedly and relaxed on a shady branch, soliloquizes in a rather musical *kurrrrrr* lasting half to one second, suggestive of the running down of a watch spring. When bringing up food from throat-pouch into bill for courtship feeding to female, a short distinctive caw; female accepts in crouching pre-copulatory posture, emitting a subdued *kree-kree-kree* and flirting her wings. In addition has a very large expressive and eloquent vocabulary to suit every mood and emotion — suspicion, alarm, anger, invitation to copulate (given by female), announcement of food finding, contentment, 'distress' at losing mate, and so on. During night some roosting individuals occasionally emit a single drawn-out caw unlike anything heard during daytime, but somewhat resembling the courtship-feeding caw (talking in sleep? or nightmare?!).

BREEDING. Season, overall March-April to July-August, chiefly April, May and June, but peak periods varying locally. Some birds (probably of previous year, c. 15 or 16 months old) breed October-December.

Nest, an untidy platform of sticks and twigs sometimes largely mixed with or entirely of iron wire or hoop iron — with a cuplike depression in the centre lined with tow, coir, and other fibres. Normally placed in the fork of a branch at any height from 3 or 4 metres up, not colonially but sometimes 3 or 4 nests in the same tree. Mango trees frequently selected, but apparently has no special preferences. Ornamental roadside trees along city thoroughfares freely patronized. Nests sometimes built on ledges on exterior of buildings. *Eggs*, 4 or 5, pale blue-green, speckled and streaked with brown. Average size of 200 eggs 37.2×27 mm (Baker). Both sexes share in building the nest, incubation, and tending the young. Incubation period 16–17 days (Lamba). Contrary to the deep-rooted popular belief, copulation takes place in the normal manner of birds ('treading') either on the ground or a branch, or very commonly while the female is sitting on the nest. Copulating pairs are frequently mobbed by other crows, and there is good circumstantial evidence for more than occasional promiscuity in the mating. Nests regularly and extensively brood-parasitized by Koel (*Eudynamys scolopacea*, 590). For a good account of the breeding biology of the House Crow see Lamba, B. S., 1963, JBNHS 60: 122–33.

MUSEUM DIAGNOSIS. In worn dress the mouse-grey parts of the plumage become slightly paler, but never the pale cream tint found in *zugmayeri*.

Juvenile. Crown, chin and throat blackish with little gloss, rest of plumage almost uniform deep mouse-grey, slightly glossed on mantle; practically no contrast between nape, ear-coverts and upper breast and rest of body plumage. Wings and tail as adult, but less black and less glossy. Outer rectrices less square-cut at end, and narrower. Postjuvenile moult of body, lesser and most or all median coverts.

First-year birds recognized by rather browner, less glossed wings and tail, with narrower and more pointed (less square-ended) outer tail-feathers. In worn plumage wings and tail practically glossless, the feathers becoming much browner and usually more ragged at tips than in adult at same time of year.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	266–284	51–56	45–51	162–175 mm
♀ ♀	252–282	45–50	44–48	154–175 mm (HW, SA)

Wing ♂ ♀ 256–294 mm (CBT)

Weight 2 oo? 266, 280 g (SA). 2 ♂♂ 310, 362; 5 ♀ ♀ 252–304 g (Paynter).

COLOURS OF BARE PARTS. Iris brown. Bill black; mouth brownish slaty. Legs, feet and claws black. Gape in juvenile pink.

1050. *Corvus splendens protegatus* Madarász

Corvus splendens protegatus Madarász, 1904, Orn. Monatsb. 12: 195

(Mt Lavinia, W.P., Ceylon)

Baker, FBI No. 14, Vol. 1: 35

LOCAL NAMES. *Kaputā*, *Kolamba kākā* (Sinhala); *Oor kākām* (Tamil); *Kākka* (Malayalam).

SIZE. Pigeon +; length c. 43 cm (17 in.).

FIELD CHARACTERS. As of 1049, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident: common and abundant, from sea coast and off-shore islets to c. 1600 m locally in the hills. Ceylon and Kerala. Intergrades into nominate *splendens* in southwestern Tamil Nadu, in the southern Nilgiris and Palghat Gap area. Affects lowland urban areas everywhere, but in Kerala especially the vicinity of the homesteads and copra drying yards along the coastal backwaters.

GENERAL HABITS, FOOD, VOICE and CALLS. As in the nominate form (1049).

BREEDING. Season, in Ceylon May to August-September, chiefly June; in Kerala January to June, chiefly March to May, before the onset of the SW. monsoon squalls. Nest, eggs (c/3-5) and breeding biology as in *splendens*. Average size of 100 eggs 34.8×25.6 mm (Baker). As elsewhere, nests regularly brood-parasitized by Koel (*Eudynamys scolopacea*).

MUSEUM DIAGNOSIS. Differs from the nominate race (1049) of the rest of India in having the paler (greyish) parts much darker, presenting less contrast with rest of plumage.

JUVENILE and FIRST-YEAR, as in 1049.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	225-284	49-55	45-48	147-169 mm
♀♀	219-264	42-50	45-48	128-155 mm

(HW, SDR, Phillips)

COLOURS OF BARE PARTS. As in 1049 and other races.

1051. *Corvus splendens maledivicus* Reichenow

Corvus splendens maledivicus Reichenow, 1904, Wiss. Ergebn. Deutsch.

Tiefsee Exped.: 356 (Maldives)

Not in Baker

LOCAL NAME. *Kärlu* (Maldivian).

SIZE. Pigeon +; length c. 43 cm (17 in.).

FIELD CHARACTERS. As of 1049, q.v. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. Abundant on Malé and throughout the Maldives Archipelago excepting Addu Atoll. 'Their numbers seem to be kept in check largely by the Koels' cuckolding and by the Maldivian custom of shooting them on Friday afternoons' (Phillips).

GENERAL HABITS, FOOD, VOICE and CALLS. Not specifically recorded; doubtless as in the Indian bird.

BREEDING. Season, between May and September, i.e. during the SW. monsoon (Gardiner, 1903); also December and January and probably throughout most of the year (Phillips). Nest, eggs, etc. as in *splendens*.

MUSEUM DIAGNOSIS. Practically identical in colour with *protegatus* of Ceylon. 'Grey of nape and neck almost imperceptibly clearer in tone' (Phillips). Eye of faith! Slightly larger in size, but subspecies equivocal.

MEASUREMENTS

	Wing	Bill (‘culmen’)	Tail
3 ♂♂	262-274	50-54	158-172 mm
3 ♀♀	256-269	47-49	158-168 mm

(Phillips)

COLOURS OF BARE PARTS. As in 1049 and other races.

1052 **Rook.** *Corvus frugilegus frugilegus* Linnaeus*Corvus frugilegus* Linnaeus, 1758, Syst. Nat., ed. 10, 1: 105 (Sweden)*Corvus frugilegus tschusii* Hartert, 1903, Vög. pal. Fauna 1: 14 (Gilgit)

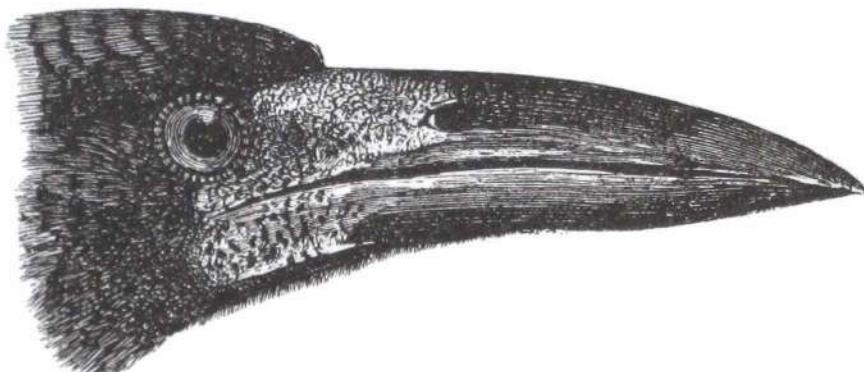
Baker, FBI No. 9, Vol. 1: 30

Plate 70, fig. 5

LOCAL NAMES. None recorded.

SIZE. House Crow +; length c. 48 cm (19 in.).

FIELD CHARACTERS. A glossy jet-black crow. Adult distinguished from Jungle Crow by bare unfeathered face and chin, straighter and slenderer



× c. 1

pointed bill, and shaggy-feathered ('trousered') thighs, particularly noticeable when bird walking on ground. Sexes alike.

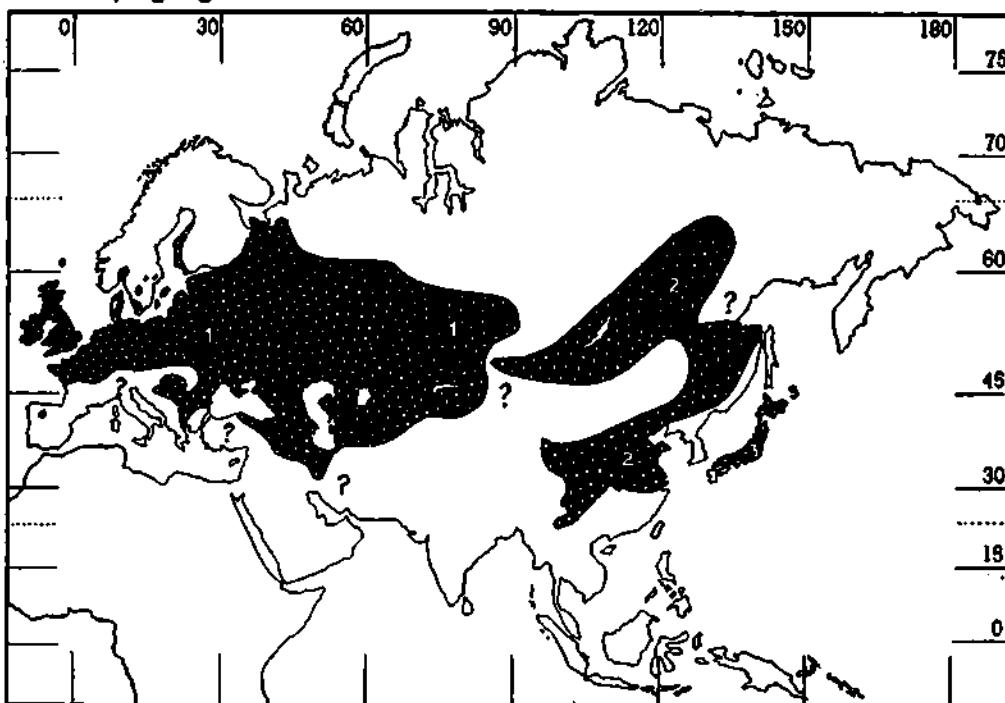
Young (immature), duller black with face normally feathered. Confusable with Jungle Crow, but see Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Winter visitor and/or passage migrant varying in abundance year to year. West Pakistan and India, in NE. Baluchistan, NW. frontier dists. (Mardan to Kohat), Hazara, Chitral, Gilgit, Kashmir and south to the Rawalpindi plateau and Sialkot. Regular visitor to the Punjab plains north of the Salt Range: occurs about Gujranwala, Lahore and Lyallpur, occasionally east to Hoshiarpur and Ludhiana, c. 76°E. Affects cultivation round human habitations — irrigated fields etc.

Extralimital. Breeds in Europe (except the northernmost parts and the Mediterranean region) and a large part of western and central Asia. Winters also in N. Africa, Egypt, Arabia, Iraq, Afghanistan, etc. (For details see Vaurie, 1959, 2: 167.)

GENERAL HABITS. Arrives in October–November; mostly gone by end March, a few immature birds (with feathered faces) remaining till as late as mid April. In winter keeps in large flocks usually associated with jackdaws and starlings, grubbing in ploughed and irrigated fields or scavenging on outskirts of towns and cantonments. Roosts communally at night in vast congregations in large trees and groves, like the House Crow, converging on them at sunset in a succession of loose flocks from all directions. The roosts are often shared by Jackdaws and House Crows.

FOOD. Practically all-embracing, but is less of a municipal scavenger. Ascertained food items in an agricultural area in West Pakistan (Lyallpur) included wheat and other grains, tender shoots of gram, and other vegetable

Corvus frugilegus

■ Breeding

For winter range of 1 see text

1 *frugilegus* (1052).2 *centralis* (RE).3 *pastinator* (RE)

matter; insects: ants, gram caterpillars, cutworms, beetles, etc. (Husain & Bhalla, JBNHS 39: 832).

VOICE and CALLS. Normal calls *kaa, kaa* similar in type to the House Crow's but mellower and distinctive. Also possesses a large vocabulary to express various emotions and situations.

BREEDING. Extralimital. *Nest, eggs* and breeding biology as in the House Crow (1049), but nests gregariously in large colonies or rookeries.

MUSEUM DIAGNOSIS. Adult. Chin and upper throat more or less covered with greyish brown down-like feathers. Rest of plumage glossy black; gloss on head purple-blue, on rest of upper- and underparts purple-violet, on primaries and lateral rectrices greenish. Wing-formula: 2nd primary (as.) = 5th or 6th (cf. Carrion Crow, 1058).

JUVENILE. Upperparts brownish black with slight gloss on head, mantle and scapulars which are more bluish less purple; underparts brownish black practically glossless; nasal bristles well developed; face feathered; otherwise as adult. Post-juvenile moult of body, lesser, median, and innermost greater coverts.

First-year birds with face feathered; face moulted January to May, nasal bristles being the last to go (HW).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	301–314	61–65	52–61	165–177 mm
♀ ♀	291–309	57–64	50–56	157–180 mm (HW)

Weight 1 ♀ 13½ oz. (= c. 383 g) — HW.

COLOURS OF BARE PARTS. Iris dark brown. Bill, legs, feet and claws black.

1053 Jackdaw. *Corvus monedula monedula* Linnaeus*Corvus monedula* Linnaeus, 1758, Syst. Nat., ed. 10, 1: 106 (Sweden)*Corvus soemmeringii* Fischer, 1811, Mém. Soc. Imp. Nat. Moscow 1: 3 (Moscow)

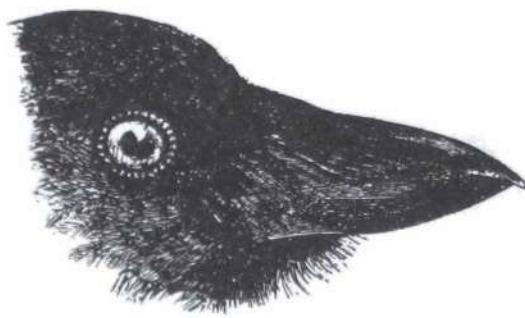
Baker, FBI No. 15, Vol. 1: 36

Plate 70, fig. 3

LOCAL NAME. *Kāvin* (Kashmiri).

SIZE. Dove; length c. 33 cm (13 in.).

FIELD CHARACTERS. A small slaty black crow — a passable miniature of House Crow in general effect — distinguished by a broad silvery grey hind-collar, rather short thick neck and greyish white eyes which give it a distinctly 'wall-eyed' look. Sexes alike.



x c. 1

In flight the short thick neck with a slight hump, shorter bill, quicker wing-beats and fanned-out tail (rather pigeon-like in silhouette) distinguish it from House Crow.

STATUS, DISTRIBUTION and HABITAT. Resident and/or winter visitor and passage migrant. Breeds abundantly in Kashmir (in main Srinagar valley, Lolab and side valleys) normally between c. 1700 and 2100 m. Disperses after breeding, c. August, adults and young then straggling up to the higher mags or upland pastures above tree-line, to c. 3500 or higher. Chiefly winter visitor and/or passage migrant in N. Baluchistan (Quetta Valley), along the W. Pakistan-Afghanistan border, Chitral, Gilgit, Ladakh, Punjab; most abundant, though in variable numbers year to year, in the Rawalpindi and Jhelum districts arriving c. mid October, departing towards end February or early March; occasionally reaches the plains near Amritsar and Ambala. Frequents damp meadows and pastures, camping grounds, neighbourhood of cultivation and habitations (e.g. in the Vale of Kashmir) with ancient chenar groves and the like, and willow beds bordering the waterways.

Extralimital. N. Afghanistan, Russian Turkestan, Tien Shan. The species in several rather ill-defined races ranges widely from the Yenisey westward through Siberia, W. Asia and Europe.

GENERAL HABITS. Gregarious, sociable and inquisitive; can be both tame and impudent or excessively shy and alert as conditions dictate. Usually keeps in flocks, sometimes of huge proportions, consorting with rooks and other crows and starlings to grub on damp pastureland and flooded meadows. Struts about with a characteristic upright carriage on its longish legs with the short tail held well off the ground. Digs into the turf for food with energy and purpose, often while still partially blanketed by snow. Commonly in attendance on grazing sheep and cows or following the plough in company with starlings and mynas for the insects and grubs turned up with the soil. Roosts communally in hollow tree-trunks, holes in old houses and walls — also in willow-beds and groves of ancient trees, often sharing these with House Crows. In winter enormous close-packed hordes, looking in the

distance like clouds, commute very long distances daily to and from their outlying feeding grounds shortly before sunrise and at sunset, these spectacular mass flights being one of the sights of Srinagar town during the winter months. Flight less leisurely-looking than House Crow's, and with quicker wing-flaps.

FOOD. Insects, larvae, slugs, worms, small frogs, small fruits, cereal grains, and occasionally eggs and nestlings of small birds. Feeds mostly on ground; flying insects (winged ants, termites) sometimes captured in the air, fly-catcher style, by awkward vertical leaps and volplaning back to perch, like a bulbul or starling; also takes crumbs and untidy picnickers' leavings. Is more or less omnivorous, but less of a town scavenger and normally also avoids carrion.

VOICE and CALLS. A single note *chack* or *jack* or *kwai*, softer and more musical than other crows'; sometimes varied by quick repetition or in different keys.

BREEDING. Season, in Kashmir April to June, principally May. Nest an untidy collection of sticks and twigs lined with wool, rags, hair, grass and other rubbish. Built in roofs of houses or in holes in walls, ruined buildings, earth cliffs, etc., or in hollows in trunks and boughs of ancient chenar (*Platanus*) and suchlike trees; sometimes several nests in the same tree. In smaller holes the sticks are dispensed with, only the softer materials used. Eggs, 4 to 6 (rarely 7), pale bluish sea-green, sparsely speckled and spotted with dark brown and purple. Average size of 55 Kashmir eggs 35.1×24.8 mm (BBO). Both sexes take part in building the nest and feeding the young. Incubation by both sexes but apparently mostly by female. Incubation period recorded as 17–18 days. The birds evidently pair for life; even when in flocks during non-breeding season pairs often keep and forage together.

MUSEUM DIAGNOSIS. For details of plumage see Baker, loc. cit.

JUVENILE. Like adult, but body plumage dull dark brown; little gloss on lesser and median coverts, and less gloss on rest of wings and tail; flight-feathers browner.

First-year birds distinguished by less gloss on wings and tail and browner flight-feathers, especially when worn; hind-collar usually not prominent (HW).

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	230–250	32–34	c. 44	c. 135 mm (Baker)

Weight 1 ♂ 265; 1 ♀ 235 g (Paynter).

COLOURS OF BARE PARTS. Iris pale greyish white. Bill, legs, feet and claws black.

CORVUS MACRORHYNCHOS Wagler: JUNGLE CROW

The races of the Jungle Crow within our limits show rather unsatisfactory and clinal distinctions. There is a gradual intergradation from a small-billed bird in Ceylon to large birds with comparatively small bills in the Himalayas and a medium-sized bird with stout deeply bowed bill in Bengal. Examples can seldom be confidently assigned to a particular race without knowledge of their provenance. Individual variation is great, and responsible for the lengthy discussions and divergent conclusions reached by earlier authors. Eastward, in the Australasian Region, confusion is still more confounded! However, *C. m. intermedius* and *C. m. tibetosinensis* of the higher Himalayas

are our largest birds, while *C. m. culminatus*, especially from the southernmost part of the Peninsula and Ceylon, is the smallest. *C. m. levaillantii* of Bengal, Assam and the Andamans is intermediate in size and has, moreover, a heavy deeply bowed raven-like bill. (For a discussion of the Indian races see Whistler & Kinnear, 1932, JBNHS 35: 510-13; of the Burmese-Javanese forms Mayr, E., 1940, *Ibis*: 694-5.)

Cf. also Vaurie, C., 1959, 2: 168-70.

Key to the Subspecies

	Page
A Wing ♂♀ 320-380 mm; bill very large and raven-like.....	
..... <i>C. m. tibetosinensis</i>	256
B Wing ♂♀ 280-335 mm; bill stout and more arched; plumage more glossy black.....	
..... <i>C. m. levaillantii</i>	254
C Wing ♂♀ 292-378 mm; bill comparatively weak; plumage dull greyish black.....	
..... <i>C. m. intermedius</i>	252
D Wing 260-319 mm; bill strong, plumage black and glossy.....	
..... <i>C. m. culminatus</i>	256

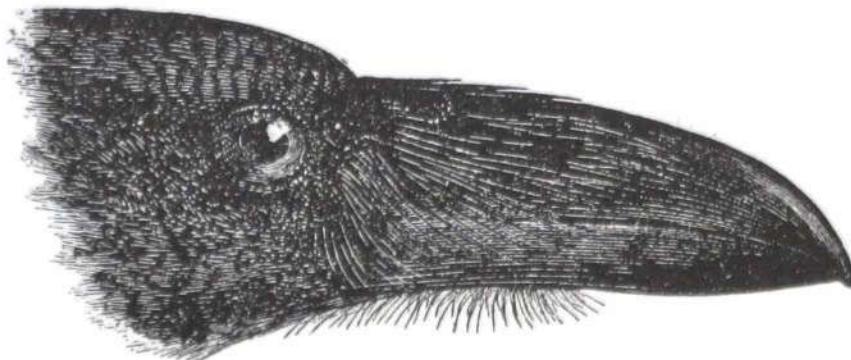
1054. *Corvus macrorhynchos intermedius* Adams

Corvus intermedius Adams, 1859, Proc. Zool. Soc. London: 171
 (Kashmir, Dagshai and Simla, restricted to Kashmir by Stresemann, 1916,
 Verh. Orn. Ges. Bayern 12: 282)
 Baker, FBI No. 7, Vol. 1: 28

LOCAL NAMES. *Kāv*, *Diva kāv*, *Pantsōl kāv* (Kashmiri); *Kāk* (Paharia).

SIZE. House Crow +; length c. 50 cm (20 in.).

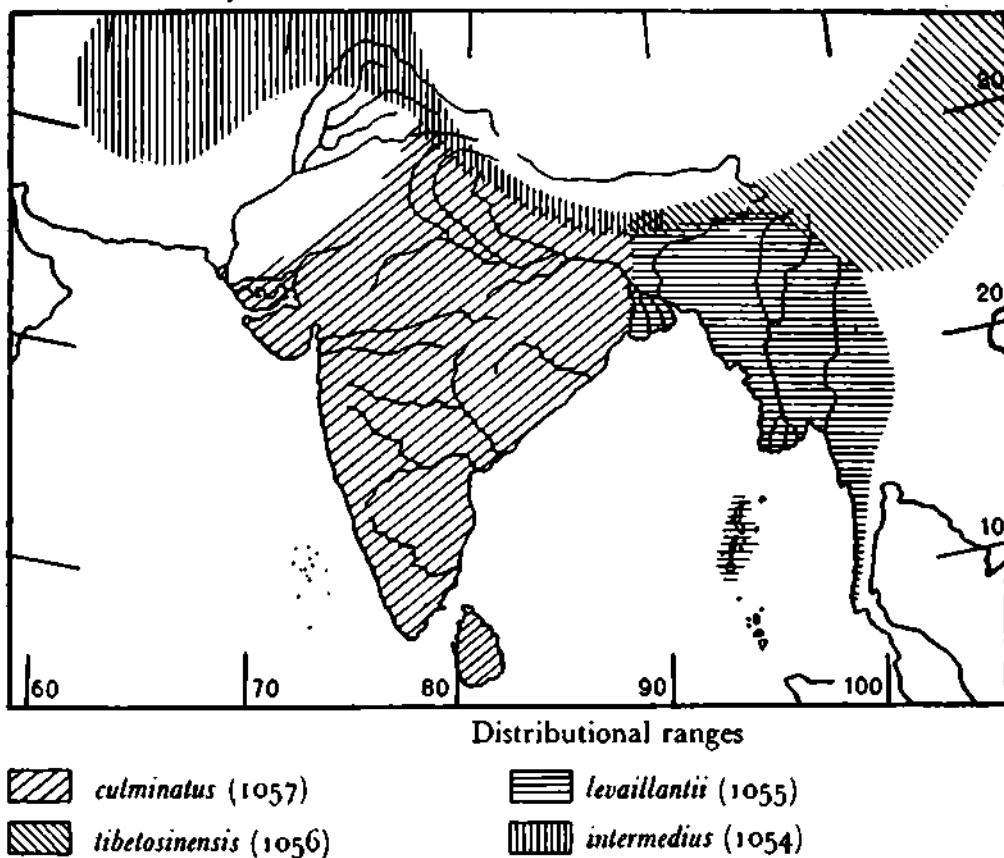
FIELD CHARACTERS. A large uniformly black crow with metallic purplish sheen and heavy black bill. Sexes alike.



x c. 1

Caw deeper and hoarser than House Crow's or of Jungle Crow of the plains (*culminatus*) — more raven-like. In overhead flight tail distinctly wedge-shaped in this race. Indistinguishable from Carrion Crow unless in the hand. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, with slight summer-winter altitudinal movements. West Pakistan and India from Baluchistan north through NW. frontier area and eastward along the Himalayas from Gilgit, Chitral and Kashmir through Himachal Pradesh, Garhwal, Kumaon,

Corvus macrorhynchos

Nepal, Darjeeling dist. (W. Bengal), Sikkim and Bhutan¹, between c. 1800 and 4500 m. Affects oak-rhododendron-conifer forest biotope keeping around upland hamlets up to tree-line, and shepherds' encampments and alpine pastures beyond. Recorded following Everest climbers up to their camp at 6400 m (Hingston, JBNHS 32: 320).

Extralimital. Adjacent Afghanistan (Safed Koh and Kafiristan) to southern Tadzhikistan and southern Transcaspia; reportedly also to eastern Iran in the Paropamisus and Seistan (Vaurie).

GENERAL HABITS. Largely as in 1057, q.v., but is pre-eminently a mountain bird hence with consequential peculiarities. In summer follows herds of goats and sheep driven to upland pastures, and accompanies traders' caravans to the highest Himalayan passes. Small parties, sometimes larger flocks of up to 50 birds or so, associate with choughs at the higher altitudes. Like them is extremely fond of gambolling high up in the air over deep valleys, switchbacking and gliding on outspread motionless wings (tips upturned), tumbling, side-slipping, nose-diving and zooming effortlessly upward again, taking full advantage of every wind-current and eddy. Pairs or trios will often perform a variety of other spectacular aerobatics — 'formation-flying', one bird slightly behind another or wing-tip to wing-tip, wheeling and banking in unison with sudden twists and turns; this even in the coldest weather and all purely for fun. Is quite at

¹ Birds from NE. Nepal (Khumbu), and presumably the Sikkim-Darjeeling area, are intermediate between *intermedius* and *tibetosinensis*; those from NW. Bhutan tend more towards *tibetosinensis*.

home in deep snow even in mid winter, e.g. at Gulmarg (Kashmir) c. 3000 m, scrounging round restaurants and ski-ing huts etc. and then very tame, feeding almost from the hand.

FOOD. As in 1057, all-embracing: both animal and vegetable matter.

VOICE and CALLS. Markedly deeper and hoarser than of *culminatus* of the plains; guttural and rather raven-like. Rendered by Whistler as *help, help, help!* When sitting completely relaxed, utters a peculiar *krreak* in the nature of a soliloquy, as of a hollow bamboo drawn across the wooden spokes of a wheel (or like a wooden rattle) with many amusing variations but all of same tone quality (SA).

BREEDING. Season, March to May, chiefly April and May. Nest, as in 1057, of sticks thickly lined with wool and hair placed 7 to 18 m up in a poplar, deodar or similar tree at edge of forest; usually up to c. 3000 m altitude, rarely even to 4000 m. Eggs (c/4 or 5) as in 1057. Average size of 14 Kashmir eggs 42.5 × 29.7 mm (BBO). Breeding biology as in 1057.

MUSEUM DIAGNOSIS. A large bird with comparatively weak bill. Plumage comparatively dull greyish black with little gloss on hindneck and underparts. Base of nape-feathers usually whiter than in the other forms. Nasal plumes well developed but at base of culmen, in centre, rather short and all lying parallel (cf. Carrion Crow, 1058). Throat hackles moderate and not reaching pectoral region (cf. Carrion Crow). Nape and pectoral region silky and glossless.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	311-378	54-73	53-62 (65)	194-242 mm
♀ ♀	292-343	54-65	51-59	174-224 mm (HW, Stresemann, SA)

Weight 7 ♂♂ 460-582; 10 ♀ ♀ 392-495 g (RAP).

COLOURS OF BARE PARTS. As in 1057.

1055. *Corvus macrorhynchos levaillantii* Lesson

Corvus levaillantii Lesson, 1831, Traité d'Orn.: 328 (Bengal)

Corvus andamanensis Tytler = Beavan, 1866, Ibis: 420 (Port Blair, Andamans)

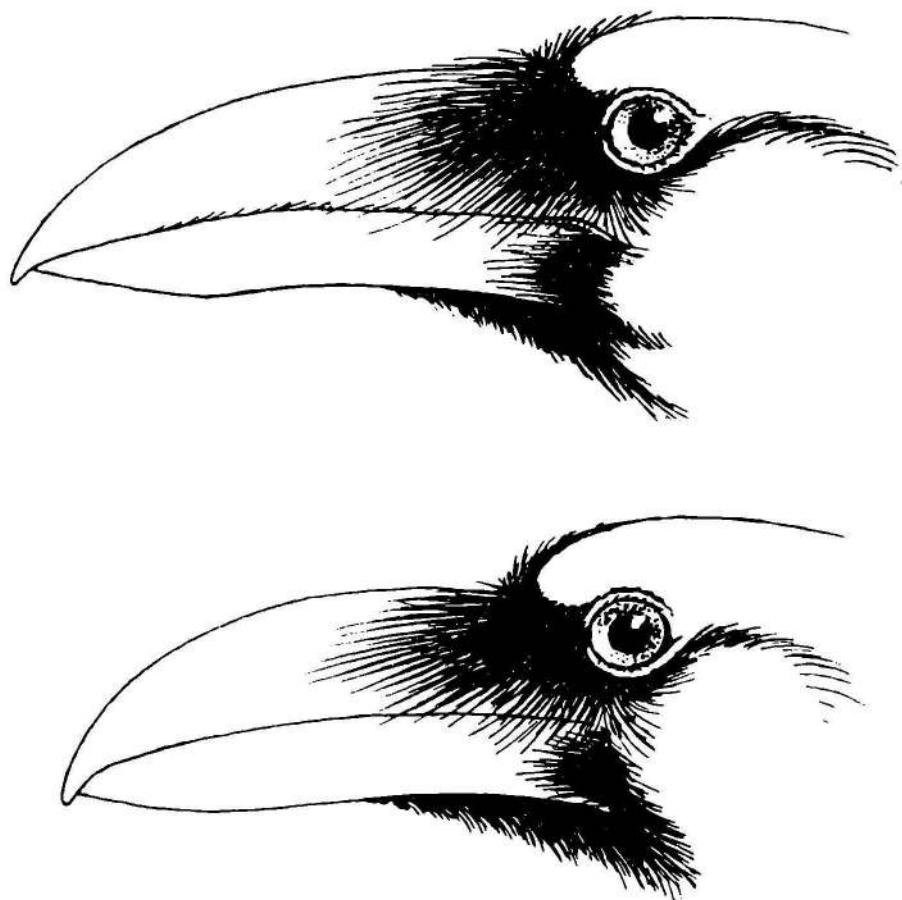
Baker, FBI Nos. 5 & 8, Vol. 1: 27, 29

LOCAL NAMES. *Kāgh* (Bihar); *Dānd kāk*, *Jāngli kowwā* (Bengali); *Kāk sorāi*, *Jāngla kāk sorāi* (Assamese); *Dhora kaori* (Assam, Nowgong); *Hagrani dao-kāk* (Gachari); *Inrui kāk* (Kacha Naga); *Vo kāk* (Kuki); *Kwāk* (Manipur).

SIZE. House Crow +; length c. 48 cm (19 in.).

FIELD CHARACTERS. As of 1054 and 1057. A large glistening jet-black crow with heavy black bill. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident, with slight local altitudinal movements. Eastern India in W. Bengal, lowlands of SW. Bhutan, Assam, Nagaland, Manipur; also E. Pakistan and Andaman Islands. Plains, duars and foothills, normally up to c. 1000 m (Gangtok, c. 1850 m). A specimen from eastern Nepal terai (Fleming, JBNHS 65: 330). Affects a forest biotope — outskirts of forest villages and outlying hamlets, as well as of towns and cities.



Above, *C. m. culminatus* (1057)
 Below, *C. m. levaiantii* (1055)
 $\times c. 1$

Extralimital. Burma, northern Thailand.

GENERAL HABITS, FOOD, VOICE and CALLS. Largely as in 1057, q.v. A deep, heavy caw, less hoarse or 'wooden' than of Himalayan birds but of a markedly different 'dialect' from Indian *culminatus* (1057). Call of Manipur birds noted as 'a short, quick-repeated distinctly nasal *quānk*, *quānk*, etc. reminiscent of Walt Disney's Donald Duck!' (SA).

BREEDING. Season, overall November to April in W. Bengal, Assam and E. Pakistan, chiefly January to March. Nest, eggs and breeding biology as in the peninsular form *culminatus* (1057).

MUSEUM DIAGNOSIS. A large bird with a markedly heavy, deeply-bowed bill. Plumage deeper and more glossy black than in other forms. Base of nape-feathers dusky grey (darker than in *intermedius*).

MEASUREMENTS (Bengal)

	Wing	Bill (from skull)	Tarsus	Tail
♂♂	308–335	61–69	58–59	181–197 mm
♀♀	280–329	55–65	53–57	165–192 mm (HW, RAP)

Weight 3 ♂♂ 554–626; 9 ♀♀ 419–566 g (Paynter).

COLOURS OF BARE PARTS. As in 1057.

1056. *Corvus macrorhynchos tibetosinensis* Kleinschmidt & Weigold*Corvus macrorhynchos tibetosinensis* Kleinschmidt & Weigold, 1922, Abh. Ber.

Zool. Mus. Dresden 15 (3): 2 (Southeast Tibet in the Sifan region)

Cf. Ali, Sálim & Ripley, S. D., 1948, JBNHS 48: 36-7

Not in Baker FBI

LOCAL NAMES. *Ulāk, Old* (Bhutanese); *Ulakpho* (Lepcha).

SIZE. House Crow +; length c. 50 cm (20 in.).

FIELD CHARACTERS. As of 1054: a large uniformly jet-black crow with heavy black bill, deep hoarse raven-like caw and rather wedge-shaped tail in overhead flight, similar to *intermedius* (1054), q.v. Sexes alike. See Museum Diagnosis.STATUS, DISTRIBUTION and HABITAT. Resident, with some altitudinal movements: N. Sikkim, N. Bhutan¹ and NEFA in the Mishmi Hills. A high-elevation form met with up to c. 4500 m. Affects forested uplands chiefly around clearings, yak pastures and habitation.

EXTRALIMITAL. SE. Tibet adjoining NEFA, Ningsia (Ala Shan), Kansu and Tsinghai, south through Sikang and mountains of W. Szechuan to N. Yunnan, NE. Burma (Vaurie).

GENERAL HABITS, FOOD, VOICE and CALLS. Like the western mountain form *intermedius* (1054) in its aerobatics etc.; like it also has a much hoarser, deeper and more 'wooden' call than *culminatus* of the plains.

BREEDING. Not recorded within our limits. Doubtless as in 1054.

MUSEUM DIAGNOSIS. Plumage very black and glossy; bases of nape-feathers from grey to dusky. Bill large and raven-like, totally different from *intermedius*.

MEASUREMENTS

		Wing	Bill (from skull)	Tarsus	Tail
6	♂♂	325-380	69-73	62 (1 msd)	201-260 mm
12	♀ ♀	320-341	60-67	57-59 (4 msd)	186-240 mm (RM, SDR, BB, SA)

Height of bill 21-26 mm (Vaurie)

Weight 4 ♂♂ 560-650; 7 ♀ ♀ 450-565 g (SA, BB).

COLOURS OF BARE PARTS. As in 1057 and the other races.

1057. *Corvus macrorhynchos culminatus* Sykes*Corvus culminatus* Sykes, 1832, Proc. Zool. Soc. London: 96(Dukhun = Poona *vide* Whistler & Kinnear, 1932, JBNHS 35: 512)

Baker, FBI No. 6, Vol. 1: 28

Plate 70, fig. 7

LOCAL NAMES. *Kälā kowwā, Pāhdri kowwā, Jāngli kowwā* (Hindi); *Kāgh* (Bihar); *Dōm kaulā* (Marathi); *Girnāri kāgdo* (Gujarati); *Mālā kāki* (Telugu); *Andan kākdi*, *Karun kākdi* (Tamil); *Tonndn kākkā*, *Veli kākkā* (Malayalam); *Kākā, Kaputā* (Sinhala); *Kākā, Kākdm* (Tamil, Ceylon).¹ See footnote p. 259.

SIZE. House Crow +; length c. 48 cm (19 in.).

FIELD CHARACTERS. A uniformly glossy jet-black crow with a heavy black bill and deep guttural voice. Sexes alike. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident. The Gangetic Plain, all peninsular India south to Kanyakumari, and Ceylon; from the sea coast up to c. 2000 m in Ceylon and c. 2300 m in S. India (Nilgiris — breeding). Virtually absent from desert and semi-desert areas west of Delhi. Affects well-wooded country, outskirts of forest villages and hamlets, as well as of towns and cities.

GENERAL HABITS. Less gregarious and sociable than House Crow, usually keeping singly or in pairs and small scattered parties; occasionally larger gatherings where food abundant. Chiefly a rural bird but everywhere being increasingly lured into urban surroundings and commensalism with man by prospects of profitable scavenging. Less sophisticated, cunning or alert than House Crow, but curious and inquisitive as rest of family, and as audacious on occasion. Is a regular marauder of birds' nests, and often becomes a serious menace to poultry keepers as chicken-lifter, especially so when rearing its own nest-young. Serves as a useful indicator to sportsmen and vultures of the presence of tiger- or panther kills hidden within forest. Has the usual evening and morning flights to and from communal roosts which are often shared with House Crows, mynas and other birds. In keeping with family tradition collects in disorderly rabbles to 'weep' noisily over brethren who have come to grief. Frequently indulges in puckish pranks, apparently with no object other than fun, such as surreptitiously tweaking its fellows' wing-tips or toes, or a sleeping dog's tail, and enjoys chivvying and annoying birds of prey and any other creatures that can be subjected to such indignity. Normal flight like House Crow's, with deliberate rather shallow wing-beats. Aerobatics, chiefly in the hilly districts, less frequent and less spectacular than in its Himalayan congeners, qq.v. Peculiar short flights commonly observed with neck outstretched, wings held vertically back to back above body level, only their tips flapping through a small arc, the bird cawing the while in a high-pitched key. The significance of this behaviour not properly understood.

FOOD. Practically all-embracing: animal as well as vegetable matter. Items recorded include carrion (from animal carcasses and audaciously filched from vulture nest-young regardless of protesting parents); garbage and offal; birds' eggs, young and sickly birds, chicks of poultry; rats, mice, squirrels; lizards (*Calotes*) and frogs; land and sand crabs (*Paratelphusa* and *Ocypode*); centipedes; insects [dung and other beetles, locusts, grasshoppers, moths, ants (*Camponotus*), winged termites clumsily hawked in air, swarming caterpillars, etc.]. Wild and orchard fruits; cereal grains (*Sorghum*, *Oryza*, *Pennisetum*, *Triticum*, *Zea*, etc.), entire cobs often wrenched off; groundnuts (*Arachis*) dug up from fields; flower-nectar and petals (*Salmania*, *Bombax*, *Erythrina*, *Butea*, *Grevillea*, *Spathodea*, etc.).

VOICE and CALLS. More raucous and guttural than House Crow's, and distinct in 'dialect' from that of the mountain-inhabiting forms *intermedius* and *tibetosinensis*: less hoarse and 'wooden'. Like House Crow has a wide vocabulary expressive of various moods and situations (over 10 distinct calls noted). When completely relaxed and resting on a shady

branch emits, in the nature of a soliloquy, some curious soft and amusing gurgling chuckles and short musical croaks *kaa-kāk . . . kaa-kāk* etc., or just a single *kaa*, from time to time, head lowered neck stretched horizontally, bill open, and throat puffed with the feathers standing away. In similar relaxed rest situations some individuals (male?) utter a wooden mechanical-sounding *kreeOK* (about every 4 seconds), the final OK explosive. These 'musings' are interlarded with several comic guttural notes of unconventional pattern, some quite musical. Given in long intermittent runs of 5 minutes or so all through mid-day. The wing-tips stick out in a point behind rump, and the tail bobs deeply at each call. These vocalizations are responded to by mate nearby with short undertone croaks with throat puffed and a peculiar retching motion. This chiefly with approaching breeding season.

BREEDING. Season, overall February to June varying locally: chiefly March–April in northern India, earlier in the south; in Ceylon April to September, chiefly May to July. Nest, a platform of sticks and twigs with a neat central cup, c. 15–18 cm in diameter and 10–14 cm deep, lined with coir, tow, hair or wool. Placed 7 to 10 metres up in a forking branch or crotch in a mango, casuarina, *Millingtonia*, sheesham or suchlike large tree (sometimes in the head of a coconut or palmyra palm) growing on the outskirts of habitation. Eggs, 3 to 5, similar to those of House Crow but larger: pale blue-green speckled and streaked with brown. Average size of 60 eggs 38 × 28·1 mm (Baker). Both sexes partake in building the nest, incubation and tending the young though major share in incubation believed to be female's; period 17–19 days, normally 18; young fledge and leave nest in 3 or 4 weeks. (For more details of breeding biology see Lamba, B. S., 1965, JBNHS 62: 425–33.) Nests commonly brood-parasitized by Koel (*Eudynamys scolopacea*, 590) though less frequently than House Crow's. Nine koels' eggs recorded in a single nest along with 4 of the owner's (Jones, JBNHS 24: 370).

MUSEUM DIAGNOSIS. A small bird with a comparatively strong bill. Plumage black and glossy. Base of nape-feathers dusky.

First-year birds retain shorter (browner) wings and tail unmoulted from juvenal plumage. No difference in size of bill and tarsus, but age for age female smaller in all measurements.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	273–319	55–67	49–59	156–189 mm
♀ ♀	260–301	52–63	49–55	147–183 mm (HW, SA)

Weight 3 oo? 320–352 g (SA).

COLOURS OF BARE PARTS. Adult. Iris brown. Bill black; mouth slaty black. Fledgling. Iris bluish grey (like jackdaw's). Gape, baldish chin, and mouth pink; tongue blotched with black.

CORVUS CORONE Linnaeus: CARRION CROW

Key to the Subspecies

- | | | |
|--|-------------------------|-----|
| Plumage all black..... | <i>C. c. orientalis</i> | 259 |
| Plumage contrasting drab-grey and black..... | <i>C. c. sharpii</i> | 260 |

1058. *Corvus corone orientalis* Eversmann*Corvus orientalis* Eversmann, 1841, Add. Pallas Zoogr. 2 : 7 (Naryn R., Turkestan)

Baker, FBI No. 4, Vol. 1: 24

Plate 70, fig. 8

LOCAL NAMES. *Kolāgh* (Persian); others same as for Jungle Crow (1054) where applicable.

SIZE. House Crow +; length c. 47 cm (18½ in.).

FIELD CHARACTERS. A glossy jet-black crow, indistinguishable from Jungle Crow unless in the hand. Sexes alike. See Distribution and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident and/or winter visitor in small numbers; from c. 2400 to 3600 m. N. Baluchistan (Quetta, winter; Shinghar and Takht-i-Suleiman, breeding), NW. frontier districts (upper Kurram Valley, breeding; Bannu, winter), Gilgit (breeding), Ladakh (breeding in Indus Valley from c. Kargil to Himis, and side valleys — Shingo, Suru), Baltistan (Braldu Valley and Shigar, winter; possibly breeding), Kashmir north of main Himalayan Range (winter; breeding?). Affects rather open barren country with patches of irrigated cultivation and *chilgoza* pine and alpine forest; often keeping near nomadic encampments and upland habitations.

Extralimital. Siberia from the Yenisey to Anadyr and from Kashgaria, Afghanistan and E. Turkestan through N. Mongolia to China and N. Vietnam. (For details see Vaurie, 1959, 2: 171-2.) It is the breeding crow of most parts of Afghanistan, hybridizing with Hooded Crow (1058a) in a zone along the northwestern border of the country (Paludan, 1959). The species, in other races, has a wide range in Europe east of c. 10°E., exclusive of Scandinavia.

GENERAL HABITS. Usually shy and unobtrusive, keeping in pairs and feeding around upland settlements and cultivation, and traders' and nomadic shepherds' encampments.

FOOD. More or less omnivorous as other crows. Ascertained items include barley, maize, insects, caterpillars and other larvae.

VOICE and CALLS. Very different to that of Jungle Crow: harsher and more raven-like in comparison. When bird resting and relaxed, said to utter another, softer, note 'in meditative fashion'.

BREEDING. Season (in N. Baluchistan c. 2500 and Ladakh c. 3300 m) April-May. Nest, of typical crow pattern, a platform of sticks and twigs mixed with a little earth, lined with hair, wool and sometimes a few feathers; built c. 8-10 metres up in *chilgoza* pine (*Pinus gerardiana*), chenar (*Platanus*), willow or poplar trees usually growing near habitations. Eggs, 4 or 5, indistinguishable from Jungle Crow's (1057). Average size of 21 Ladakh eggs 42·5 × 28·1 mm (BBO). For bionomics and breeding biology etc., of the slightly smaller nominate race, see Witherby, 1938, 1: 14-17.

MUSEUM DIAGNOSIS. Gloss much as in Jungle Crow (1054) but variable on body; on the whole less glossy. Throat more violet-blue than greenish blue. Bill smaller and weaker than Jungle Crow's and lacking the rounded arch to the culmen which gives it that heavy appearance. Nasal plumes well developed, those at base of culmen inclined to cross over from each side of the centre (cf. Jungle Crow). Base of nape-feathers pale grey but variable. Hackles of throat moderate and extending to pectoral

region (*contra* Jungle Crow). Second primary (as.) = 6/7 (cf. Rook, 1052). Outer rectrices rather graduated.

JUVENILE. Glossy black of adult replaced by dull blackish brown. Body plumage, lesser and median coverts, wings and tail slightly less glossy than in adult, but the distinction increased by wear when wings and tail also distinctly browner; outer rectrices narrower and more pointed.

MEASUREMENTS

		Wing	Bill (from skull)	Tail
Siberia				
10	♂ ♀	345-366	59-69	200-218 mm (Vaurie)
Afghanistan				
1	♂	345	55	206 mm
4	♀ ♀	320-335	48-52	195-203 mm (Paludan)

COLOURS OF BARE PARTS. Iris dark brown. Bill, legs, feet and claws black.

1058a. *Corvus corone sharpii* Oates

Corvus sharpii Oates, 1889, Fauna Brit. India, Bds. 1: 20

('Siberia, Turkestan, Afghanistan and a portion of India').

Type from Mardan, Punjab, *vide* Ticehurst, 1926, JBNHS 31: 93)

Baker, FBI No. 10, Vol. 1: 32

Plate 70, fig. 9

LOCAL NAMES. None recorded.

SIZE. House Crow +; length c. 47 cm (18½ in.).

FIELD CHARACTERS. Unmistakable with any other crow by its pale drab-grey mantle and underparts. Head, wings, tail and rest of plumage glossy black, the crown contrasting sharply with grey hindneck. Sexes alike. See Distribution and Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Rather uncommon but regular winter visitor, arriving about November, departing by end March. NW. frontier districts of W. Pakistan (Peshawar, Mardan, Hazara, Bannu, Kohat). Also Gilgit, Ladakh, Baltistan, Kashmir (rare); between c. 2500 to 3500 m. Affects open barren country with patches of irrigated cultivation and upland habitations.

Extralimital. Breeds in western Siberia from the Urals to Yenisey R. and Lake Baikal and to W. and N. Iran, N. Afghanistan, W. Turkestan. Winters also in S. Afghanistan, N. Baluchistan (?), S. and E. Iran, etc. (For details see Vaurie, 1959, 2: 172-3.) Hybridizes with Carrion Crow (1058) in a zone along the northwestern border of Afghanistan (Paludan 1959).

GENERAL HABITS. Very like Carrion Crow's. Keeps in pairs or small parties, often in association with it and with rooks, but prefers the wilder more open parts.

FOOD. Varied, comprising both animal and vegetable matter — insects, maize, barley, etc.

VOICE and CALLS. Doubtfully distinguishable from Carrion Crow's.

BREEDING. Extralimital. Largely as 1058.

MUSEUM DIAGNOSIS. Nasal plumes (black) well developed and, as in Carrion Crow (q.v.), inclined to cross over culmen from either side of its base. Whole head, neck, central part of upper breast, throat, wings, under wing-coverts and thighs black, more or less glossy; upper tail-coverts black mixed with grey. Rest of plumage drab-grey; shafts of feathers of upperparts black, of underparts brown. Gloss on crown and throat purple-blue as also on lesser, median, and greater coverts and secondaries; gloss on primary-coverts and primaries greenish, on tail purplish blue, the laterals more greenish. Structure and wing-formula (2 = 6/7) as in Carrion Crow.

Juvenile. Like adult but head, throat and upper breast dark brown; the drab-grey of adult slightly paler and less pure; thighs sooty. Postjuvenile moult of body, and lesser and median coverts.

First-year bird hardly distinguishable from adult; but when worn, wings less glossy and browner.

MEASUREMENTS

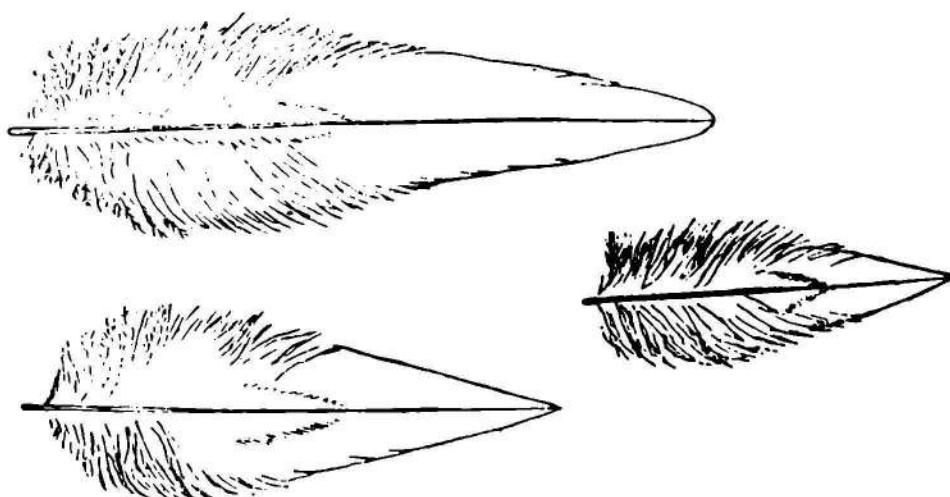
	Wing	Bill (from feathers)	Tarsus	Tail
♂ ♀	320-340	47-54	c. 55	c. 200 mm (Baker)

COLOURS OF BARE PARTS. Iris brown. Bill, legs, feet and claws black.

CORVUS CORAX Linnaeus: RAVEN

Key to the Subspecies

		Page
A	Plumage wholly black	
1	Wing ♂ ♀ c. 400-450; bill c. 70 mm; throat hackles short and pointed	262
2	Wing ♂ ♀ c. 450-480 mm; bill c. 80 mm; throat hackles long and blunt	264
B	Plumage brown on neck, upper back and scapulars; wing ♂ ♀ c. 360-415 mm	265



(Above) Throat-hackles of *C. c. tibetanus* (1060) and (below) *C. c. subcorax* (1059).
(Right) Throat-hackle of *C. ruficollis* (1061), × c.1

1059. *Corvus corax subcorax* Severtzov

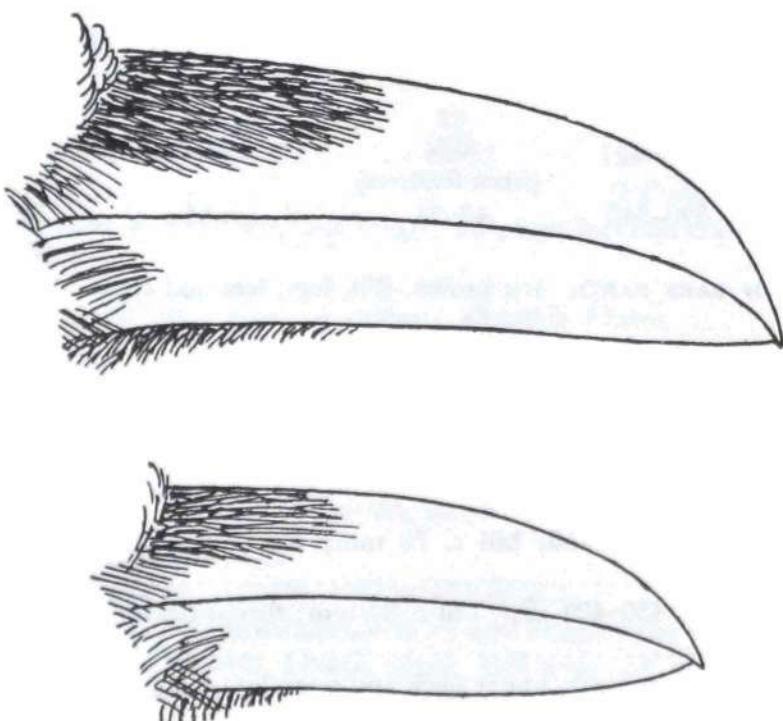
Corvus subcorax Severtzov, 1872, Vertik. Turkest. Zhivotn.: 115
(NW. and SE. Turkestan)

Corvus Laurencei Hume, 1873, Lahore to Yarkand: 235 (Punjab)
Baker, FBI No. 1, Vol. 1: 21
Plate 70, fig. 11

LOCAL NAMES. *Dōmkāk* (Hindi); *Dodā kaang* (Punjab); *Takru kaang* (U. Sind).

SIZE. Kite +; length c. 69 cm (27 in.).

FIELD CHARACTERS. An enlarged heavy replica of Jungle Crow: glistening jet-black with massive bill and hoarse wooden bell-like caw. Sexes alike.



Above, *C. corax subcorax* (1059)
Below, *C. corone orientalis* (1058)

× c. 1

In flight large size, peculiar creaking noise of wing-quills and wedge-shaped outline of tail very striking.

STATUS, DISTRIBUTION and HABITAT. Locally resident (breeding) and/or winter visitor in variable numbers. N. Baluchistan (Quetta Valley), Sind (Jacobabad — abundant, Khairpur, Nawabshah, Sukkur, Thar Parkar districts, Kirthar Range¹), Punjab (Bahawalpur, Hissar, Ludhiana, Batala dists., Salt Range and foot of outer Himalayas up to c. 600 m, only occasionally higher²), NW. frontier districts (Kohat, Rawalpindi, Peshawar), W. Rajasthan (Jaisalmer, Jodhpur, Bikaner dists., Sambhar Lake, Ajmer), Delhi (occasional, rare), Kutch (borders of Great and Little Ranns).

¹ See Eates, K. R., 1939, 'The Distribution and Nidification of the Indian (Punjab) Raven (*Corvus corax laurencei* Hume) in Sind.' JBNHS 40: 747-50.

² There is apparently a wide gap in the distribution of this subspecies and *tibetanus* (1060) between the outer and main Himalayan ranges, which includes all Kashmir proper.

Stragglers recorded from Vidarbha in Maharashtra (D'Abreu, JBNHS 38: 95) and Mhow in Madhya Pradesh (Briggs, ibid. 35: 382). Affects the vicinity of towns and villages as well as outlying hamlets and nomadic herders' settlements in desert and semi-desert canal areas.

Extralimital. Afghanistan and Iran to Syria, Israel and Jordan; Kashgaria and W. Turkestan plains to Transcaspia and Dzungaria. (For details see Vaurie, 1959, 2: 176-7.)

GENERAL HABITS. Less social and gregarious than Rook or House Crow. Usually seen in pairs, but fair numbers will collect where an abundance of food attracts. Commonly joins kites, neophrons and other vultures to feast on animal carcasses. Feeds chiefly on the ground, stalking about with a rather waddling gait or moving in clumsy loping hops. Is curious and inquisitive as other crows and wary and suspicious, but can be bold and audacious on opportunity. Quite tame in out-of-the-way desert habitations and along caravan routes, scrounging for scraps around the nomadic encampments in close proximity of the occupants. Has communal roosts in selected trees often shared with kites and house crows (on old buildings or even the ground in desert tracts) at which considerable numbers will congregate at sunset, flighting in twos and threes from various directions. Flight strong and direct, the stiff wing-quills producing a peculiar creaking noise well likened to the rustle of a silk dress. Occasionally pairs or small parties rise aloft on thermals to circle on motionless wings and disport themselves in remarkable aerobatics. Monogamous, pairing for life, and exceptionally long-lived (one in captivity authenticated to be over 70 years old).

FOOD. All embracing: animal as well as vegetable matter — carrion, eggs and young or sickly birds, small mammals, lizards, fish (left high and dry by receding floods), frogs, insects (locusts, grasshoppers, ants, gram caterpillars, cutworms, beetles and larvae recorded); ripening fruits and cereal grains; kitchen scraps and refuse.

VOICE and CALLS. A deep, hoarse, frequently uttered *prük, prük* reminiscent of a wooden cow-bell. Like other crows has a large vocabulary of variants to express different situations, some calls quite pleasing and musical.

BREEDING. *Season,* December to March, chiefly February. *Nest*, a platform of sticks as in 1060, placed near the top of a solitary tree (*Dalbergia, Acacia, Prosopis, Tamarix* or other) standing in a field; also in gardens and along roadsides. Not colonial. In semi-desert often in stunted trees hardly more than 3 or 4 metres high. Nests also built near tops of rock- or earth cliffs; in many cases the same site used year after year. Unconventional sites such as the platform of a railway signal tower and iron girders of a railway bridge have been recorded. *Eggs*, c/4-6, as in 1060. Average size of 100 eggs 50.7 × 33.6 mm (Baker). Both sexes take part in all the domestic chores. Incubation period said to be 17-18 days but requires confirmation.

MUSEUM DIAGNOSIS. Whole plumage steely blue-black, becoming somewhat brownish on nape, mantle and throat with wear; then separable from *C. ruficollis* (1061) by larger size. Bases of nape-feathers grey. Throat hackles shorter and sharply pointed v. long and blunt in the larger subspecies *tibetanus* (1060). Nasal bristles well developed. 2nd primary (as.) = 5/6.

First-year birds, especially when worn, have browner wings and tail, and less gloss.

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♂	419-448	66-74 (depth at angle, 25-27)	—	—
♀ ♀	399-430	—	—	—
2 ♂ ♂	420, 448	74, 78	65 (1)	229, 242 mm
2 ♀ ♀	410, 413	69, 74	62 (1)	220, 223 mm (SA)

Weight ♂ ♂ 2 lb. to 2 lb. 2 oz. (c. 907-964 g); ♀ ♀ 1 lb. 12 oz. to 1 lb. 14 oz. (c. 794-850 g); heaviest bird out of c. fifty 2 lb. 5 oz. (1049 g) — Hume.

COLOURS OF BARE PARTS. Iris brown. Bill, legs, feet and claws black.

1060. *Corvus corax tibetanus* Hodgson

Corvus Tibetanus Hodgson, 1849, Ann. Mag. Nat. Hist. 3: 203 (Tibet)
Baker, FBI No. 2, Vol. 1: 23

LOCAL NAMES. *Neka wāk*, *Phoro* or *Oro* (Tibetan); *Botin kāv* (Kashmiri); *Forog* (Lahuli).

SIZE. Kite +; length c. 71 cm (28 in.).

FIELD CHARACTERS. As of 1059: a large, heavy jet-black high-altitude crow with a massive bill. Sexes alike. In overhead flight the wing-quills look slate coloured, contrasting strongly with the jet-black under wing-coverts.

STATUS, DISTRIBUTION and HABITAT. A high-altitude, essentially trans-Himalayan form normally resident between c. 4000 and 5000 m in typical Tibetan plateau facies or the transition zone. May descend south of the main axis to c. 2500 m in exceptionally severe winters. Ladakh (specially numerous round Leh), Baltistan, Spiti, Lahul, Garhwal, Sikkim, Bhutan, NEFA. Recorded by the First Mt Everest Expedition round their Camp 3 at c. 6400 m (Hingston, JBNHS 32: 320). Affects dry rocky desert country above tree-line.

EXTRALIMITAL. Pamirs, Altai, Tien Shan, E. Bokhara, Tibet to Kansu, mountains of C. Asia.

GENERAL HABITS. More or less as in 1059 with some differences consequential to high mountain living. Usually met in pairs, but sometimes a dozen or more together feeding in cornfields round upland habitations or Buddhist monasteries. Naturally wild, wary and suspicious but becomes bold and almost familiar when scavenging round villages or searching for scraps and carrion in the vicinity of nomadic traders' encampments. Consorts with griffon vultures and lammergeiers to feast on carcasses of pack animals along the well-worn caravan routes. With a high wind blowing, pairs or trios revel in spectacular aerobatic gambolling like choughs, gliding in formation at speed, wing-tip to wing-tip or one bird close behind the other, suddenly turning, twisting, sideslipping, looping-the-loop or nose-diving deep into the valley below and then zooming effortlessly up again, quite obviously enjoying the exercise.

FOOD. As in 1059, practically all vegetable and animal matter that can be procured, dead or alive. Has been observed to stoop on and carry off a full-grown Tibetan Partridge (Ludlow) and to maraud a chough's nest and snatch a half-fledged young regardless of repeated onslaughts by the frantic parents (Osmaston). As with other Corvidae pellets of undigested hair and bones etc. are cast up.

VOICE and CALLS. As in 1059. The hoarse, wooden bell-like quick-repeated *prük, prük* sometimes sounds in the distance curiously like bits of the call of Barred Jungle Owlet (*Glaucidium radiatum*, 636) minus its resonance. Another common call is a high-pitched guttural, almost musical, *kreeük* or *keeah* reminiscent of Brownheaded Gull (*Larus brunnicephalus*, 454).

BREEDING. An early breeder, often while the country still under snow at 3300 to 4500 m and, *vide* Meinertzhagen, sometimes up to at least 5800 m. *Season*, February to early April. *Nest*, a rough platform of sticks with the central cup thickly lined with wool, yak and other mammals' hair. Usually placed near the top of an inaccessible cliff in a cleft or niche in the vertical face. *Eggs*, 3 to 6, variable in shape from broad to long ovals, practically glossless: pale bluish green with smudges and clouds of pale grey and pale sepia, and spots and streaks of deep blackish brown. Average size of 60 Punjab eggs 47.5×33.1 (HW), of 14 from SE. Tibet 51.75×35.5 mm (Ludlow). Breeding biology as in 1059.

MUSEUM DIAGNOSIS. Larger than and like *subcorax* (1059) but with the throat hackles strongly lanceolate—long and blunt v. short and sharply pointed; bases of nape-feathers dark to medium grey. Also distinguished by its even more massive bill.

MEASUREMENTS

		Wing	Bill (from skull)	Tarsus	Tail
2 ♂♂		461, 477	78, 87 (depth at angle 26, 28)	69, 70	266, 288 mm
3 ♀♀		448–465	73–78 (depth at angle 26–27)	64–69	257–260 mm

(HW)

COLOURS OF BARE PARTS. Iris brown. Bill, legs, feet and claws black. Mouth in adult black: in juvenile whitish fleshy with a black mark on tongue.

1061 Brown-necked Raven. *Corvus ruficollis* Lesson

Corvus ruficollis Lesson, 1830, *Traité d'Orn.*: 329

(Cape Verde Islands *vide* Hartert, 1921)

Baker, FBI No. 3, Vol. 1: 23

Plate 70, fig. 10

LOCAL NAMES. None specifically recorded.

SIZE. Kite ±; length c. 58 cm (23 in.).

FIELD CHARACTERS. As of 1059, but smaller and with the black plumage tinged with brown and a slenderer bill. Sexes alike. See Museum Diagnosis.

STATUS, DISTRIBUTION and HABITAT. Resident subject to local movements.

Sind (Larkana and Jacobabad dists.). Baluchistan (coastal and central Makran, Chagai, Quetta (scarce, winter). Straggler to Peshawar Valley (BBO), Bahawalpur (?)—SA. Replaces *C. subcorax* (1059) in pure desert facies.

Extralimital. Afghanistan, desert parts of Transcaspia to Kyzyl Kum, E. Iran, E. and S. Arabia, Sinai, etc.; also Africa (Sahara south to N. Nigeria etc.). For details see Vaurie, 1959, 2: 173–4.

GENERAL HABITS, FOOD, VOICE AND CALLS. As in 1059 and 1060, but is essentially a bird of pure desert facies scavenging round nomadic encampments etc. where quite tame. Replaces *C. corax* ecologically, therefore often found within the same general area or even district.

BREEDING. Very little authentic data. Nests reported from the Sind-Baluchistan frontier hills and the Kalat area of Baluchistan, January and March, but confirmation desirable; also clarification of its status within our limits. Elsewhere nests mostly on ledges of clay cliffs etc.; sometimes on trees. **Eggs** (c/3–6) as of 1059. Average size of 44 eggs 45 × 30·9 mm (Baker).

MUSEUM DIAGNOSIS. Like *C.c. subcorax* (1059) but smaller in size and with a brownish (coppery) tinge over whole head and body (accentuated in worn dress). Nasal plumes often shorter and bill usually slenderer.

JUVENILE. 'Like adult but with only a trace of the coppery tinge' (Meinertz-hagen).

MEASUREMENTS, very variable.

10 ♂ ♀ (India and Iran) Wing 370–413. Bill (from skull) 62–70; depth at angle 21–25·5 mm (RM)

5 ♀ ♀ (Makran) Wing 360–372. Bill (from skull) 61–69 mm (CBT)

COLOURS OF BARE PARTS. Iris brown. Bill, legs, feet and claws black.

Family BOMBYCILLINAE

Subfamily BOMBYCILLINAE: Waxwings

For description see Van Tyne, J. & Berger, A. J., 1959: 529; Greenway, J. C., Jr., 1964, Article 'Waxwing' in Thomson, A. L. (ed.), *New Dict. Birds*. London & New York.

Genus BOMBYCILLA Vieillot

Bombycilla Vieillot, 1808, Hist. Nat. Ois. Amér. Sept. 1: 88.

Type, by monotypy, *Bombycilla cedrorum* Vieillot

Characters as of the Subfamily. Remarkable for its full long crest and the wax-like prolongation of the shafts of the secondaries whence the name Waxwing. Wing long and pointed, of 10 primaries: 1st primary (as.) minute. Tail, of 12 feathers, short and square. Bill short and stout, slightly curved and notched. Tarsi very short.

1062 Waxwing. *Bombycilla garrulus garrulus* (Linnaeus)

Lanius Garrulus Linnaeus, 1758, Syst. Nat., ed. 10, 1: 95

(in Europa et America boreali = Sweden)

Baker, FBI No. 1140, Vol. 3: 223

Plate 66, fig. 16

LOCAL NAMES. None recorded.

SIZE. Bulbul —; length c. 18 cm (7 in.)

FIELD CHARACTERS. A dumpy chestnut and pinkish brown myna-like bird with long full crest and short yellow-tipped tail. Wings dark, boldly marked with white and yellow, with brilliant scarlet drop-shaped waxy tips to the secondaries. Throat black; rump grey; under tail-coverts chestnut.

Bushy crest, black throat, brilliant wing-pattern and yellow-tipped tail make its identity unmistakable.

Female paler with the yellow on wings whiter, and tipping of tail narrower.

STATUS, DISTRIBUTION and HABITAT. An irregular and erratic vagrant during winter. Odd individual specimens have been collected between January and March (between 2000 and 2500 m) on the NW. frontier (Bannu — Magrath, Samana Range — Whitehead), Baluchistan (Quetta —

Bombycilla garrulus



Breeding

For intralimital winter occurrences see text

Meinertzhagen), Kashmir (Dachigam Nala nr. Srinagar — Ward) and the most recent in Nepal (Kosi-Gandak watershed at c. 3650 m, December, Fleming, Jr., 1968, JBNHS 65: 488). Apart from these only one sight record of a flock 'upwards of 20' at Quetta in March 1947 (T. J. Phillips, JBNHS 47: 160).

Extralimital. Widely distributed in the Holarctic Region, migrating erratically in winter *inter alia* to Asia Minor, N. and SW. Iran. For details see Vaurie, 1959, 2: 178.

GENERAL HABITS. Mainly arboreal, feeding in tree-tops as well as low bushes: occasionally on ground. Keeps in parties and flocks in non-breeding season. The Nepal birds were in association with *Mycerobas carnipes* (1985) and *Turdus r. ruficollis* (1764) in a mixed forest of *Rhododendron*, *Magnolia*, *Juniperus* and *Abies* at c. 3650 m altitude. Usually quiet, and tame and sluggish. Flight strong and direct, rather starling-like.

FOOD. Insects and berries (of juniper etc.). Flying insects sometimes taken in the air.

VOICE and CALLS. 'A high zeeee zeeee given when about to fly' (Fleming).

BREEDING. Extralimital. *Nest*, a cup of twigs etc. usually in coniferous forest. A ♂ procured at Bannu (33°N., 70°40'E.) on 20 March (1907) reported as excessively fat and with much enlarged gonads.

MUSEUM DIAGNOSIS. For description of plumages and structure (also bionomics) see Witherby, 1938, 1: 296-9.

MEASUREMENTS

	Wing	Bill (from feathers)	Tarsus	Tail
♂♂	112-120}	10-11.5	20-22	59-67 mm
♀ ♀	112-119}			(Witherby)

2 ♀ ♀ (Nepal) Wing 114, 116 mm (Fleming)

COLOURS OF BARE PARTS. Iris brown or reddish brown. Bill blackish, flesh-coloured at base of both mandibles. Legs and feet black.

Subfamily HYPOCOLIINAE: Hypocolius

For description see Greenway, J. C., Jr., 1964. Article 'Hypocolius' in Thomson, A. L. (ed.). *New Dict. Birds*. London & New York.

Genus HYPOCOLIUS Bonaparte

Hypocolius Bonaparte, 1850, Conspl. Gen. Av. 1: 336.

Type, by monotypy, *H. ampelinus* Bonaparte

Bill stout and broad at base, about half the length of head. Nostrils small, oval, exposed. Rictal bristles weak but always clearly visible. Wing short, pointed: 1st primary (as.) minute, 2nd reaching to tip of wing. Tail long and slightly graduated. Tarsus very short and stout, shorter than middle toe and claw; coarsely scutellated.

1063 Grey Hypocolius. *Hypocolius ampelinus* Bonaparte

H. (ypocolius) ampelinus Bonaparte, 1850, Conspl. Gen. Av. 1: 336

('ex California' = NE. Africa (Botta coll.), restricted by Baker *et al.*)

Hypocolius ampelinus orientalis Koelz, 1939, Proc. Biol. Soc.

Washington 52: 64 (Kandahar, Afghanistan)

Baker, FBI No. 378, Vol. 1: 357

Plate 66, fig. 19

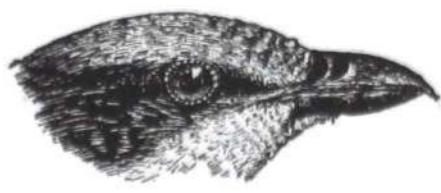
LOCAL NAMES. None recorded.

SIZE. Bulbul +; length c. 25 cm (10 in.).

FIELD CHARACTERS. A glaucous blue-grey bird strongly reminiscent of a shrike (or bulbul), with a distinctive black band from lores running

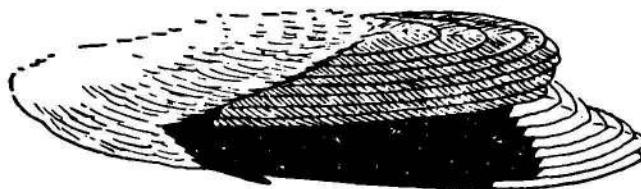
backward through eyes over ear-coverts and looping round nape. Wing-quills black broadly tipped with white. Tail longish blue-grey with a broad black terminal band. When nape and crown feathers erected on excitement, eye-band becomes enlarged and very prominent.

Female more isabelline-grey above,



x c. 1

dirty cream coloured below, lacking the black eye- and nape-band. Primaries grey-brown with black terminal ends and white tips.



Wing ♂, × c. ½ (after Hartert)

STATUS, DISTRIBUTION and HABITAT. Rare vagrant. Individual examples seen and collected within our limits only at long intervals, all between November and April: Sind-Baluchistan boundary (Mazarani Nai in the Kirthar Range), S. Kalat (Nal), Sind (Karachi), Gujarat (Kuar Bet in Great Rann of Kutch), and Maharashtra (Kihim, Kolaba dist.). In semi-desert and open deciduous scrub jungle.

Extralimital. S. Iran, Afghanistan, Iraq, Arabia, N. Africa. For details of range see Vaurie, 1959, 2: 180.

GENERAL HABITS. Superficially very suggestive of Grey Shrike (*Lanius e. lahtora*, 933), but in non-breeding season, in its native land, keeps in flocks of 5 to 20 individuals. Chiefly arboreal, active and restless, feeding in trees and bushes, occasionally dropping to the ground like a shrike to pick up an insect and back again. Movements and actions in shrubbery more babbler-like. Perches low on a branch with feathers of underside fluffed; erects head-feathers when excited like Whitecheeked Bulbul (*Pycnonotus l. leucotis*, 1123). Flight strong and direct, without undulations.

FOOD. Stomachs of specimens examined in India showed berries exclusively: *Lantana aculeata*, *Salvadora persica* and *Zizyphus (jujuba) ?*. In Iraq said to live largely on fruits (dates, figs) with a small quantity of insects (beetles etc.).

VOICE and CALLS. Not recorded in India. Elsewhere described as an 'unmistakable squeaking note' (Ticehurst); 'very pleasing and liquid, nothing like harsh cry of shrike' (Cumming). During flight utters a call-note rather reminiscent of Bee-eater (*Merops apiaster*, 746) — Paludan. Is usually silent except when in flocks, then very noisy and can be heard a long way off.

BREEDING. Extralimital. Season (in Iraq and S. Iran) chiefly June-July. Nest, large, cup-shaped, like bulbul's, 1 to 3 metres or so up in a bush or on leaf of small date palm. Eggs, 4 or 5, white, with or without brownish blotches at broad end, resembling those of *Lanius e. lahtora*. Size c. 26 × 19 mm. (For more details see Cumming, W. D., JBNHS 12: 760-5; Ticehurst, C. B., ibid. 28: 381-2.)

MUSEUM DIAGNOSIS. Juvenile. 'Pale sandy brown all over without black or white in the primaries, but with black terminal band on tail' (RM).

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
♂ ♀	96-106	14-15	23-25	96-109 mm (SA, Koelz, Paludan)

Weight 2 ♂♂ 2 oz. (= 57 g); 1 ♀ 2 oz. (= 57 g) — Cumming. 1 ♂ 48; 3 ♀♀ 49–55 g (Paludan).

COLOURS OF BARE PARTS. Breeding. Iris brown or reddish brown. Bill black, horn colour at base. Legs and feet yellowish flesh (HW). Non-breeding. Iris brown. Bill: upper mandible horny brown, lower flesh coloured with dark tip. Legs and feet brownish flesh (SA).

APPENDIX

p. 26

888b. *Calandrella rufescens leucophaea* Severtzov

Calandrella leucophaea Severtzov, 1872, Vertikal. Turkest.

Zhivot. (1873), p. 142 (Turkestan, restricted to Lower Emba by Meinertzhagen, 1951)

A specimen obtained in Baluchistan at Quetta on November 7 by Col. R. Meinertzhagen, and another (breeding on May 17 at Khushdil Khan; reidentified as *seebohmi* (JBNHS 31: 875), but see Hellmayr, 1929, Field. Mus. Nat. Hist., Zool. 17: 67, and Vaurie, 1959.

p.100

950a. *Lanius cristatus superciliosus* Latham

Lanius superciliosus Latham, 1801, Ind. Orn., Suppl.:
248 (Java)

SIZE. Bulbul ± ; length c. 19 cm (7½ in.).

FIELD CHARACTERS. 'Distinctly more rufous and darker above than nominate *cristatus*, crown and rump much redder, with a very narrow black band at the base of the bill and with the white frontal band wider, bill longer and more attenuated.' (Vaurie, 1959).

STATUS, DISTRIBUTION and HABITAT. Straggler. One female collected by Inglis on 17 November 1907 at Baghownie (Bihar). Vaurie gives the distribution as 'Sakhalin and Hokkaido south to south central Hondo. Migrates through Japan and eastern China to winter from southern Yunnan, southern Kwangsi and southern Kwangtung (probably), to Hainan, Indochina, southern Malay Peninsula, Anambas, and Greater and Lesser Sundas eastward to Flores and Sumba'.

p. 122

966b. *Dicrurus leucophaeus leucogenys* (Walden)

Buchanga leucogenys Walden, 1870, Ann. Mag. Nat. Hist.

ser. 4, 5, p. 219—Nagasaki, Japan, error; type locality corrected to China by Baker (1921, Journ. Bombay Nat. Hist.

Soc., 27: 474; restricted to Ichang, Hupeh, by Deignan 1945, Bull. U.S. Nat. Mus., 186: 289)

Buchanga leucogenys cerussata Bangs and Phillips, 1914, Bull. Mus. Comp. Zool. 58: 302 (Ichang, Hupeh)

SIZE. Same as of Black Drongo: bulbul +

FIELD CHARACTERS. As of 966a but still paler.

STATUS, DISTRIBUTION and HABITAT. Straggler? Specimen from Narcondam

APPENDIX

Island, Bay of Bengal (H. Abdulali, JBNHS 73: 505). Possibly occurs in, or visits, the Andaman Is. whence Hume obtained a young bird (1876 SF 4: 289).

MEASUREMENTS

1 ♂	Wing 143	Tail 135 mm (Abdulali)
-----	----------	---------------------------

p. 150.

986a. *Aplonis panayensis albiris* Abdulali

Aplonis panayensis albiris Abdulali, Bull. Brit. Orn. Cl.
87: 3 (Great Nicobar)

SIZE and FIELD CHARACTERS. As of 986.

STATUS, DISTRIBUTION and HABITAT. Resident subject to local movements. Nicobar Islands: Camorta, Trinkat, Nancowry, Great Nicobar; possibly Little Nicobar and other islands of the central group.

p. 215

1030. *Pica pica bottanensis* Delessert

MEASUREMENTS

	Wing	Bill (from skull)	Tarsus	Tail
3 ♂ ♂	237-247	41-45	62-64	230-250 mm
3 ♀ ♀	231-241	43-47	55-64	225-236 mm
1 ♂ ?	234	43	57	240 mm (SA)

Weight. 3 ♂ ♂ 300-330; 3 ♀ ♀ 290-350 g (SA)

REFERENCES CITED

- Ali, Sálim (1935-7): 'The Ornithology of Travancore and Cochin' (with notes by Hugh Whistler). *Jour. Bombay nat. Hist. Society*, Vols. 37-39 (8 parts).
- Ali, Sálim (1945): *The Birds of Kutch*. Oxford University Press, Bombay.
- Ali, Sálim (1949): *Indian Hill Birds*. Oxford University Press, Bombay.
- Ali, Sálim (1962): *The Birds of Sikkim*. Oxford University Press, Madras.
- Ali, Sálim (1968): *Birds of Kerala*. Oxford University Press, Madras.
- Baker, E. C. Stuart (1922-31): *Fauna of British India: Birds*. 8 vols., Taylor & Francis, London.
- Baker, E. C. Stuart (1932-5): *The Nidification of Birds of the Indian Empire*. 4 vols., Taylor & Francis, London.
- Bertram, Brian (1970): 'The vocal behaviour of the Indian Hill Mynah, *Gracula religiosa*'. *Animal Behaviour Monographs* 3 (2): 81-192, London.
- Blanford, W. T. (1876): 'Zoology and Geology of Eastern Persia.' Vol. 2 of *Eastern Persia: An account of the Journey of the Persian Boundary Commission, 1870-71-72*. Macmillan & Co., London.
- Diesselhorst, Gerd (1968): 'Beiträge zur Ökologie der Vögel Zentral und Ost-Nepals.' *Khumbu Himal* 2, edited by Prof. Dr Walter Hellmich. Universitätsverlag Wagner Ges. M.B.H., Innsbruck-München.
- Gardiner, Stanley J. (1903): *The Fauna and Geography of the Maldivian and Laccadive Archipelago*. 2 vols., Cambridge University Press.
- Hartert, Ernst (1910-22): *Die Vögel der paläarktischen Fauna*. 3 vols. R. Friedländer u. Sohn, Berlin.
- Henry, G. M. (1955): *A Guide to the Birds of Ceylon*. Oxford University Press, Bombay.
- Hume, A. O. & Oates, E. W. (1889-90): *Nests and Eggs of Indian Birds*. 3 vols., 2nd ed. R. H. Porter, London.
- Jerdon, T. C. (1862, 1864): *The Birds of India*. 2 vols. (3 parts), published by the author, Calcutta.
- La Touche, J. D. D. (1931, 1934): *A Handbook of the Birds of Eastern China*. 2 vols. Taylor & Francis, London.
- Ludlow, Frank (1944): 'The Birds of Southeastern Tibet.' *The Ibis* 86: 43-86, 176-208.
- Mason, C. W. & Maxwell-Lefroy, H. (1912): 'The Food of Birds in India.' *Mem. Agr. Dept. India*, Entomological Series Vol. 3.
- Meinertzhagen, R. (1954): *Birds of Arabia*. Oliver & Boyd, Edinburgh.
- Moreau, R. E. (1966): *The Bird Faunas of Africa and its Islands*. Academic Press, London and New York.
- Paludan, Knud (1959): 'On the Birds of Afghanistan.' *Vidensk. Medd. Dansk naturh. For.*, Vol. 122.
- Peters, J. L. (1931-): *Check-list of the Birds of the World*. Vol. 1-10, 12-15 published to 1979. Harvard University Press, Cambridge, Mass.
- Phillips, W. W. A. (1953): *A (1952) Revised Checklist of the Birds of Ceylon*. The National Museums of Ceylon. Natural History Series (Zoology).
- Phillips, W. W. A. (1958): '1956 Supplement to the 1952 Revised Checklist of the Birds of Ceylon.' *Spolia Zeylanica* 28 (2): 183-92.
- Rashid, Haroun er (1967): *Systematic List of the Birds of East Pakistan*. The Asiatic Society of East Pakistan, Dacca.

REFERENCES

- Ripley, S. Dillon (1946): 'Comments on Ceylon Birds.' *Spolia Zeylanica* 24 (3): 197-241.
- Ripley, S. Dillon (1982): *A Synopsis of the Birds of India and Pakistan* (Second Edition). Bombay Natural History Society, Bombay.
- Ripley, S. Dillon (1961): *A Synopsis of the Birds of India and Pakistan*. Bombay Natural History Society, Bombay.
- Schäfer, Ernst (1938): 'Ornithologische Ergebnisse zweier Forschungsreisen nach Tibet.' *Journal für Ornithologie*, Sonderheft: 1-349.
- Smythies, B. E. (1953): *The Birds of Burma*. Oliver & Boyd, Edinburgh.
- Stresemann, Erwin (1927-34): *Handbuch der Zoologie, Aves* (Kükenthal, Vol. 7). Walter de Gruyter & Co., Berlin.
- Thomson, A. Landsborough (1964): *A New Dictionary of Birds*. Thomas Nelson & Sons, London.
- Ticehurst, C. B. (1922-4): 'The Birds of Sind.' 8 parts. *The Ibis*.
- Van Tyne, Josselyn & Berger, Andrew J. (1959): *Fundamentals of Ornithology*. John Wiley & Sons, New York.
- Vaurie, Charles (1949): 'A revision of the bird family Dicruridae.' *Bull. American Museum of Nat. History* 93: 205-342.
- Vaurie, Charles (1959): *The Birds of the Palaearctic Fauna*. Vol. 2 (Passeriformes), H. F. & G. Witherby, London.
- Whistler, Hugh (1930-7): 'The Vernay Scientific Survey of the Eastern Ghats. Ornithological Section.' *Jour. Bombay nat. Hist. Society*, Vols. 34-39 (16 parts).
- Whistler, Hugh (1944): 'The Avifaunal Survey of Ceylon.' *Spolia Zeylanica* 23 (3 & 4): 119-321.
- Whistler, Hugh, MSS. notes in British Museum (Nat. Hist.), London.
- Witherby, H. F., Jourdain, F. C. R., Ticehurst, N. F., and Tucker, B. W. (1938-41): *The Handbook of British Birds*. 5 vols, H. F. & G. Witherby, London.

(Other references in the text)

INDEX

- Acridotheres**, 176
acutirostris (*Calandrella*), 23
adamsi (*Alauda*, *Calandrella*), 26
adsimilis (*Dicrurus*), 114
aeneus (*Dicrurus*), 126
Aethiopsar, 176
affinis (*Aplonis*, *Calornis*), 149
affinis (*Eremopterix*, *Pyrrhulauda*), 10
affinis (*Mirafras*), 5
afghanica (*Hirundo*), 57
afghanorum (*Temenuchus*), 160
Alaemon, 16
Alauda, 41
Alaudidae, 1
alaudipes (*Alaerman*), 16
Alaudula, 19
albigula (*Eremophila*, *Otocoris*), 33
albirictus [(*Bhuchanga*), *Dicrurus*], 114
albiris (*Aplonis*), 150
albocinctus (*Acridotheres*), 188
alpestris (*Alauda*), 32
alpestris (*Eremophila*), 32
ambigua (*Hirundo*), 59
Ammomanes, 12
Ampeliceps, 189
ampelinus (*Hypocolius*), 268
andamanensis (*Corvus*), 254
andamanensis (*Dicrurus*), 134
andamanensis (*Eulabes*, *Gracula*), 196
andamanensis (*Oriolus*), 107
andamanensis (*Sturnus*, *Temenuchus*), 156
andamanensis *see* *reubeni* (*Oriolus*)
annectans [(*Bhuchanga*), *Dicrurus*], 125
Aplonis, 148
arenicolor (*Alauda*), 12
armenicus (*Alauda*), 43
Artamidae, 143
Artamus, 143
arvensis (*Alauda*), 41
assamensis (*Psaroglossa*), 147
assamica (*Mirafras*), 4
assamica (*Sturnia*), 152
aucherii (*Lanius*), 82
australis (*Alauda*), 47
azureitinctus (*Garrulus*), 201

bactriana (*Pica*), 213
Balicassius (*Corvus*), 113
baltistanicus (*Oriolus*), 103
bangsi (*Mirafras*), 2, 40
barbatus (*Edolius*), 113
bartletti (*Delichon*), 76
bayleyi (*Dendrocitta*), 228

beavani (*Dicrurus*), 119
Bhringa, 113
bilkewitchi (*Clivicola*), 51
bimaculata (*Melanocorypha*), 29
bispecularis (*Garrulus*), 199
blythii (*Pastor*, *Sturnus*), 154
bobrinskoi (*Hirundo*), 63
Bombycilla, 266
Bombycillidae, 266
bottanensis (*Pica*), 215
brachydactyla (*Alauda*), 19
brevicaudata (*Hirundo*), 51
bristoli (*Dendrocitta*), 216
buffonianus (*Oriolus*), 176

caerulescens (*Dicrurus*, *Lanius*), 122
Calandrella, 19
caniceps (*Lanius*), 96
cantarella (*Alauda*), 43
cantillans (*Mirafras*), 2
capensis (*Hirundo*), 52
caryocatactes (*Corvus*), 231
caryocatactes (*Nucifraga*), 231
cashmeriensis (*Chelidon*, *Delichon*), 75
cathoecus *see* *albirictus* [(*Bhuchanga*), *Dicrurus*]
Cecropis, 52
cedrorum (*Bombycilla*), 266
centralis (*Pyrrhocorax*), 239
ceylonensis (*Dicrurus*), 140
ceylonensis (*Dissemurus*), 140
ceylonensis (*Eremopterix*), 9
ceylonensis (*Mirafras*), 5
ceylonensis (*Oriolus*), 111
ceylonicus (*Dicrurus*), 140
Chaptia, 113
chendoola (*Alauda*, *Galerida*), 37
Chibia, 113
chinensis (*Cissa*, *Coracias*), 204
chinensis (*Hirundo*, *Riparia*), 51
chinensis (*Oriolus*), 104
Chrishna (*Edolius*), 131
cincturus *see* *zarudnyi* (*Ammomanes*)
cinerascens (*Alauda*), 42
cinerea (*Calandrella*), 19
Cissa, 203
collurio (*Lanius*), 87
colluriooides (*Lanius*), 83
concolor (*Hirundo*), 55
contra (*Sturnus*), 172
corax (*Corvus*), 261
coronatus (*Ampeliceps*, *Mino*), 189
corone (*Corvus*), 258
Corvidae, 198
Corvus, 242

INDEX

cristata (*Alauda*), 36
cristata (*Galerida*), 36
cristatus (*Lanius*), 98
cucullata (*Cissa, Urocissa*), 207
cucullata (*Hirundo*), 52
culminatus (*Corvus*), 256

daurica (*Hirundo*), 66
dehrae (*Sturnopastor*), 172
Delichon, 73
Dendrocitta, 215
deosai (*Eremophila*), 34
deserti (*Ammomanes*), 12
desertorum (*Alauda*), 16
deva (*Alauda, Galerida*), 40
Dicruridae, 113
dicruriformis (*Dicrurus, Dissemuroides*), 134
Dicrurus, 113
diffusus (*Oriolus*), 105
digitatus (*Pyrrhocorax*), 236
diluta (*Cotile, Riparia*), 49
diluta (*Otocorys*), 33
Dissemuroides, 113
Dissemurulus, 113
Dissemurus, 113
domicola (*Hirundo*), 61
doriae (*Alaemon, Certhilauda*), 16
dresseri (*Sturnus*), 169
dukhunensis (*Alauda, Calandrella*), 21
dulcivox (*Alauda*), 42
Dumontii (*Mino*), 189

elwesi (*Eremophila, Otocoris*), 35
Eremophila, 32
Eremopterix, 8
ernstmayri (*Hirundo*), 76
erythronotus (*Collurio, Lanius*), 93
erythroptera (*Mirafrä*), 7
erythropygia (*Hirundo*), 70
erythropygia (*Sturnia*), 157
erythropygius (*Sturnus*), 157
erythroryncha (*Cissa*), 209
erythrorynchus (*Corvus*), 203
Eulabes, 190
Eulabetidae *see* *Sturnidae*
excubitor (*Lanius*), 79

filifera (*Hirundo*), 63
flavirostris [*Cissa, Ps.(Ilorhinus)*], 208
fluvicola (*Hirundo*), 64
formosae (*Dendrocitta*), 225
Forsythi [*P.(Yrrhocorax)*], 236
frontalis (*Dendrocitta*), 222
frugilegus (*Corvus*), 248
fulvipennis (*Lamprotornis*), 148
fumidus (*Acridotheres*), 186
furva (*Mirafrä*), 7
fuscus (*Acridotheres, Pastor*), 183
fucus (*Artamus*), 143

Galerida, 36
Garrulus, 198
garrulus (*Bombycilla, Lanius*), 266
ginginianus (*Acridotheres, Turdus*), 181
glandarius (*Corvus*), 198
glandarius (*Garrulus*), 199
Gracula, 190
Graculidae *see* *Sturnidae*
graculus (*Pyrrhocorax*), 236
Gracupica, 151
grandis *see* *fulvipennis* (*Lamprotornis*)
grandis (*Dicrurus, Edolius*), 136
grisea (*Alauda, Eremopterix*), 9
gulgula (*Alauda*), 46
guttata (*Alauda*), 44
gutturalis (*Hirundo*), 59

halibrecta (*Gracula*), 196
hemispila (*Nucifraga*), 233
himalayanus (*Fregilus, Pyrrhocorax*), 241
himalayana (*Dendrocitta*), 226
Hirundinidae, 48
Hirundo, 52
holdereri (*Melanocorypha*), 30
homeyeri (*Lanius*), 82
hopwoodi (*Dicrurus*), 121
hottentottus (*Corvus, Dicrurus*), 131
humei (*Artamus*), 145
humii (*Sturnus*), 170
humilis (*Podoces*), 229
hyperiethra (*Hirundo*), 72
Hypocolius, 268

ijimae (*Clivicola, Riparia*), 51
inconspicua (*Alauda*), 44
indica (*Gracula*), 194
indica (*Riparia*), 49
indicus (*Eulabes*), 194
indicus (*Oriolus*), 105
indicus (*Sturnus*), 170
infuscatus (*Acridotheres, Aethiopsar*), 187
inopinata (*Alauda*), 45
insularis (*Buchanga, Dicrurus*), 123
intermedia *see* *cantarella* (*Alauda*)
intermedia (*Gracula*), 191
intermedius (*Corvus*), 252
interstinctus (*Garrulus*), 201
isabellinus (*Lanius*), 89

japonica (*Hirundo*), 70
javanica (*Hirundo*), 62
javanica (*Mirafrä*), 2

kashmirica (*Melanocorypha*), 30
katchalensis (*Sturnia, Sturnus*), 158
kathiawarensis (*Lanius*), 96
khäsica (*Hirundo*), 73
Krimnochelidon, 52
krishnakumarsinhji (*Calandrella*), 27
kundoo (*Oriolus*), 103

lahtora (*Collurio, Lanius*), 79
 lahulensis (*Lanius*), 91
 Lamprocorax, 148
 lanceolatus (*Garrulus*), 202
 Laniidae, 78
 Lanius, 78
 Laurencei (*Corvus*), 262
 leucogastra (*Dendrocitta*), 223
 leucogenis (*Dicrurus*), 122, 271
 leucogenys *see* salangensis (*Dicrurus*)
 leucophaea (*Calandrella*), 26, 271
 leucophaeus (*Dicrurus*), 119
 leucoptera (*Lanius*), 82
 leucopterus *see* homeyeri (*Lanius*)
 leucopygialis (*Dicrurus*), 124
 leucorhynchus (*Artamus*), 145
 leucorhynchus (*Lanius*), 143
 levaillantii (*Corvus*), 254
 lhamarum (*Alauda*), 44
 londae (*Chibia*), 131
 longicaudatus (*Dicrurus*), 119
 longipennis (*Alauda, Calandrella*), 19
 longirostris (*Eremophila, Otocoris*), 34
 lophorhinus (*Dicrurus*), 140
 lucionensis (*Lanius*), 100
 lynnesi (*Galerida*), 39

 macella (*Nucifraga*), 235
 macrocercus (*Dicrurus*), 117
 macrorhynchos (*Corvus*), 251
 macrourus (*Oriolus*), 108
 maderaspatus *see* xanthornus (*Oriolus*)
 magna (*Galerida*), 37
 magnirostris [*Cissa, Ps.(ilorhinus)*], 212
 mahrattensis (*Acridotheres, Pastor*), 185
 malabarica (*Alauda, Galerida*), 39
 malabaricus (*Lanius*), 137
 malabaricus (*Sturnus, Turdus*), 152
 maledivicus (*Corvus*), 247
 marginata (*Aplonis*), 148
 maxima (*Melanocorypha*), 31
 mayri (*Hirundo*), 73
 Megalotis, 8
 melanocephala (*Alauda*), 8
 Melanocorypha, 29
 melanoleuca (*Gracupica*), 151
 melanosternus (*Acridotheres*), 180
 meridionalis (*Dicrurus*), 121
 minimus (*Dicrurus*), 119
 Mino, 189
 minor (*Dicrurus*), 118
 minor (*Lanius*), 83
 minor (*Sturnus*), 170
 Mirafra, 2
 monedula (*Corvus*), 250
 multipunctata (*Nucifraga*), 231
 muscipetoides (*Chaptia*), 113

 nargianus (*Lanius*), 84
 nemoricola (*Sturnia, Sturnus*), 155

nicobariensis (*Dicrurus, Dissemurus*), 142
 nigriceps (*Eremopterix*), 10
 nigriceps *see* tricolor [*(Collurio), Lanius*]
 nigricollis (*Gracula*), 151
 niloticus (*Enneoctonus, Lanius*), 101
 nipalensis (*Delichon*), 76
 nipalensis (*Hirundo*), 68
 nipalensis (*Lanius*), 92
 nitens (*Sturnus*), 170
 nobilior (*Sturnus*), 168
 Nucifraga, 231

 obsoleta (*Hirundo*), 56
 occidentalis (*Dendrocitta*), 225
 occipitalis [*Cissa, Ps.(ilorhinus)*], 209
 orientalis (*Corvus*), 259
 orientalis (*Hypocolius*), 268
 Oriolidae, 101
 Oriolus, 101
 oriolus (*Coracias, Oriolus*), 102
 ornata (*Cissa, Pica*), 205
 otiosus (*Dicrurus, Dissemurus*), 142
 Otocoris, 32
 otoleuca (*Fringilla*), 8

 pagodarum (*Sturnus, Turdus*), 160
 pallida [*Cr.(ypsirina), Dendrocitta*], 217
 pallida (*Hirundo, Ptionoprogne*), 56
 pallidifrons [*L.(anius)*], 87
 pallidirostris (*Lanius*), 81
 paludicola (*Riparia*), 51
 panayensis (*Aplonis*), 149
 panderi (*Podoces*), 229
 paradiseus (*Cuculus, Dicrurus*), 137
 parvula (*Dendrocitta*), 220
 Pastor, 151
 peninsularis (*Dicrurus*), 117
 peninsularis *see* intermedia (*Gracula*)
 persaturatus (*Garrulus*), 201
 persica (*Alaudula, Calandrella*), 25
 phoenicura (*Mirafrä*), 14
 phoenicuroides [*Ammomanes, M.(ira-fra)*], 12
 phoenicuroides (*Lanius, Otomela*), 88
 phoenicurus (*Ammomanes*), 14
 Pica, 212
 pica (*Corvus*), 212
 pica (*Pica*), 212
 pispoletta *see* persica (*Alaudula, Calandrella*)
 pleskei *see* humilis (*Podoces*)
 plumipes (*Riparia*), 49
 Podoces, 229
 poltaratskyi (*Sturnus*), 166
 porphyronotus (*Sturnus*), 169
 propinqua (*Galerida*), 39

- protegatus (*Corvus*), 246
Przewalskii (*Lanius*), 82
Pseudopodoces, 229
ptilogenys (*Gracula*), 197
Ptyonoprogne, 52
punjaubi (*Alauda*), 44
Pyrrhocorax, 235
pyrrhocorax (*Pyrrhocorax*), 238
pyrrhocorax (*Upupa*), 235
Pyrrhulauda, 8

raytal (*Alauda, Calandrella*), 27
religiosa (*Gracula*), 190
reubeni (*Oriolus*), 111
Riparia, 49
riparia (*Hirundo*), 49
riparia (*Riparia*), 49
roseus (*Sturnus, Turdus*), 163
rufescens (*Calandrella*), 25
ruficollis (*Corvus*), 265
rufula (*Hirundo*), 67
rufus (*Corvus*), 220
rupestris (*Hirundo*), 53
rustica (*Hirundo*), 57

salangensis (*Dicrurus*), 121
sarkari (*Dendrocitta*), 226
Saroglossa, 147
saxicola (*Pseudopodoces*), 229
schach (*Lanius*), 93
schaferi see *flavirostris* [*Cissa*,
Ps. (ilorhinus)]
scullii (*Hirundo*), 67
seebohmi see *leucophaea* (*Calandrella*),
 26, 271
senator (*Lanius*), 101
senex [*Heterornis* (*Pastor*), *Sturnus*], 159
sericeus (*Sturnus*), 151
sharpii (*Corvus*), 260
siccata (*Pyrrhulauda*), 9
sindiana (*Mirafra*), 7
sindianus (*Mirafra*), 7
sinensis (*Oriolus, Sturnus*), 176
sinensis (*Riparia*), 49
soemmeringii (*Corvus*), 250
sordidus (*Sturnus*), 175
spiloptera (*Saroglossa*), 147
spilopterus (*Lamprotornis*), 147
splendens (*Corvus*), 244
stevensi (*Dicrurus*), 121
striolata (*Hirundo*), 73
Sturnia, 151
sturnia (*Gracula*), 162
Sturnidae, 146

sturninus (*Sturnus*), 162
Sturnopastor, 151
Sturnornis, 151
Sturnus, 151
subcorax (*Corvus*), 262
subgrisea (*Melanocorypha*), 30
subsoccata (*Cotyle*), 49
substriolata (*Lillia*), 66
subtilis (*Alauda*), 43
superciliaris (*Sturnopastor, Sturnus*), 175
supercilius (*Lanius*), 100, 271
Sylvestris [*Maina*], 160
sylvestris (*Sturnus*), 160
sylvestris (*Temenuchus*), 160

tabuensis (*Lanius*), 148
taczanowskii (*Riparia*), 49
tahitica (*Hirundo*), 61
tectirostris [*Bhringa, Dicrurus*], 128
Temenuchus, 151
temminckii (*Lillia*), 67
tenuirostris (*Oriolus*), 106
tephronotus (*Collurio, Lanius*), 92
testaceus (*Ammomanes*), 16
tibetana (*Calandrella*), 24
tibetana (*Riparia*), 49
tibetanus (*Corvus*), 264
tibetosinensis (*Corvus*), 256
torquata (*Melanocorypha*), 29
trailii (*Oriolus, Pastor*), 112
tricolor [*Collurio, Lanius*], 96
tristis (*Acridotheres, Paradisea*), 177
tschusii (*Corvus*), 248
tsipi (*Dicrurus*), 114
turdiformis (*Pastor*), 176
tytleri (*Aplonis, Calornis*), 150
tytleri (*Hirundo*), 60

urbica (*Delichon, Hirundo*), 74
Urocissa, 203

vagabunda (*Coracias, Dendrocitta*), 218
vaurici (*Calandrella*), 27
vernayi (*Alauda*), 48
vernayi (*Dendrocitta*), 221
vittatus (*Lanius*), 85
vittatus see *nargianus* (*Lanius*)
vulgaris (*Sturnus*), 166

xanthornus [*(Coracias, Oriolus)*], 108

yeltoniensis (*Alauda*), 29
yunnanensis (*Nucifraga*), 235

zarudnyi (*Ammomanes*), 13
zugmayeri (*Corvus*), 243

PLATES.

Synopsis numbers in brackets (SE) = Species Extralimital

Plate 64

- 1 *Mirafra javanica* Singing Bush Lark (872)
- 2 *Mirafra assamica* Bush Lark (873)
- 3 ssp *affinis* of 873. (874)
- 4 *Mirafra erythroptera* Redwinged Bush Lark (877)
- 5 *Eremopterix grisea* Ashcrowned Finch-Lark (878)
- 6 *Eremopterix nigriceps* Blackcrowned Finch-Lark (879)
- 7 *Ammomanes deserti* Desert Finch-Lark (880)
- 8 *Alaemon alaudipes* Bifasciated or Large Desert Lark (884)
- 9 *Ammomanes phoenicurus* Rufoustailed Finch-Lark (882)
- 10 *Ammomanes cincturus* Bartailed Desert Lark (881)
- 11 *Melanocorypha bimaculata* Eastern Calandra Lark (892)
- 12 *Melanocorypha calandra* Calandra Lark (SE)
- 13 *Calandrella rufescens* Lesser Short-toed Lark (888a)
- 14 *Calandrella cinerea* Short-toed Lark (886)
- 15 *Calandrella raytal* Sand Lark (891)
- 16 *Melanocorypha maxima* Longbilled Calandra Lark (894)
- 17 *Eremophila alpestris* Horned Lark (897)
- 18 ssp *albigula* of 897. (895)
- 19 *Galerida deva* Sykes's Crested Lark (902)
- 20 *Galerida cristata* Crested Lark (899)
- 21 *Galerida malabarica* Malabar Crested Lark (901)
- 22 *Alauda gulgula* Eastern Skylark (907)
- 23 *Alauda arvensis* Skylark (903)

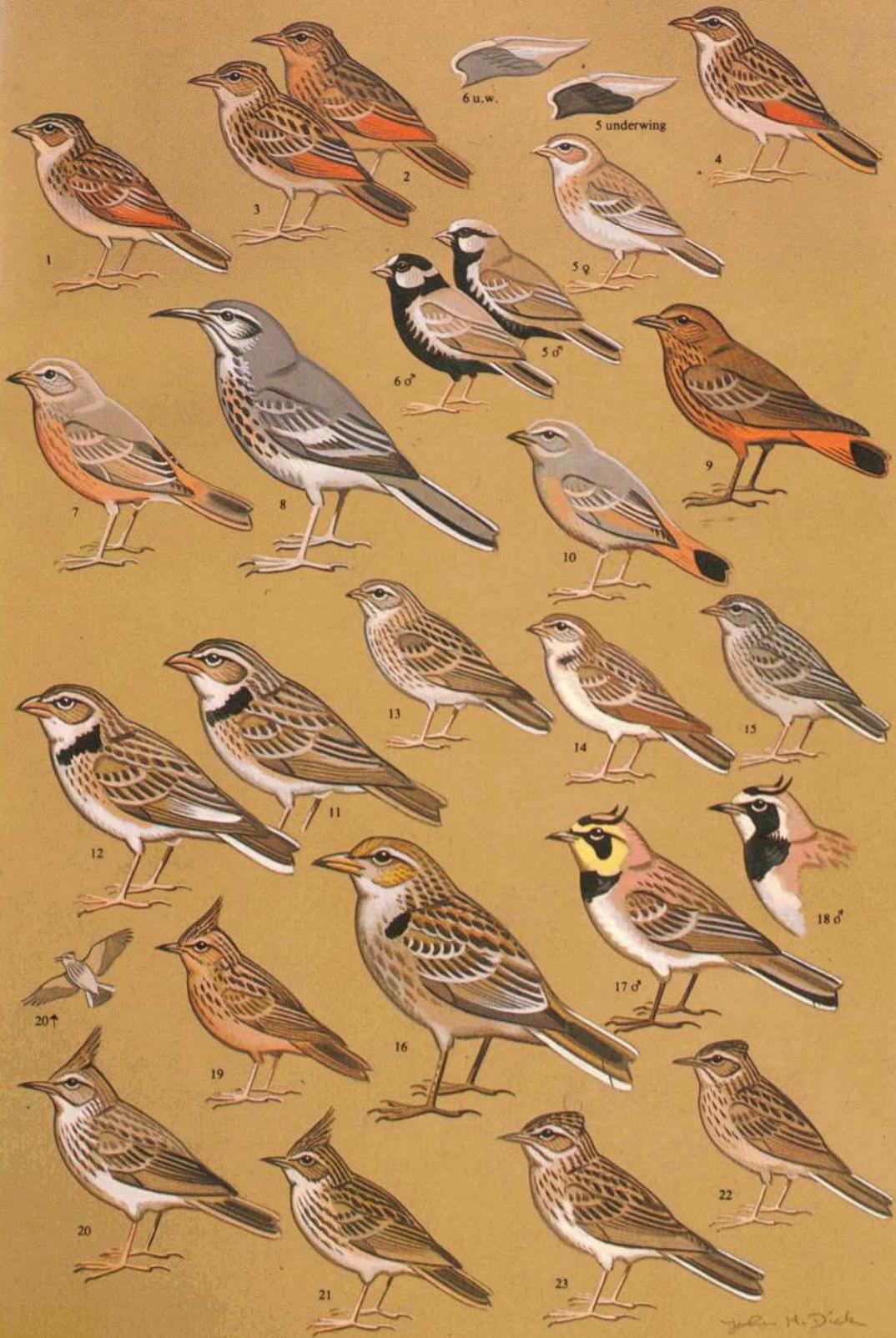


Plate 65

1 *Hemiprocne longipennis* Crested Tree Swift (709)

See Volume 4

2 *Riparia riparia* Collared Sand Martin (910)

3 *Riparia paludicola* Plain Sand Martin (912)

4 *Hirundo obsoleta* Pale Crag Martin (915)

5 *Hirundo rupestris* Crag Martin (913)

6 *Hirundo concolor* Dusky Crag Martin (914)

7 *Delichon nipalensis* Nepal House Martin (932)

8 *Delichon dasypus* Asian House Martin (SE)

9 *Hirundo smithii* Wiretailed Swallow (921)

10 *Delichon urbica* House Martin (930)

11 *Hirundo rustica* Swallow (916)

12 ssp *tytleri* of 916. (918)

13 *Hirundo tahitica* House Swallow (919)

14 *Hirundo daurica* Striated or Redrumped Swallow (923)

15 ssp *hyperythra* of 923. (928)

16 *Artamus leucorhynchus* Whitebreasted Swallow-Shrike (983)

17 *Hirundo fluvicola* Indian Cliff Swallow (922)

18 *Artamus fuscus* Ashy Swallow-Shrike (982)



John H. Dick

Plate 66

- 1 *Hypothymis azurea* Blacknaped Flycatcher (1465)
See Volume 7
- 2 *Terpsiphone paradisi* Paradise Flycatcher (1461)
See Volume 7
- 3 ssp *albogularis* of 1455. (1458)
See Volume 7
- 4 *Rhipidura aureola* Whitebrowed Fantail Flycatcher (1451)
See Volume 7
- 5 *Rhipidura albicollis* Whitethroated Fantail Flycatcher (1455)
See Volume 7
- 6 *Lanius vittatus* Baybacked Shrike (940)
- 7 ssp *isabellinus* of 941. (943)
- 8 ssp *phoenicuroides* of 941. (942)
- 9 *Lanius cristatus* Brown Shrike (949)
- 10 *Lanius colluriooides* Chestnutrumped Shrike (938)
- 11 *Lanius minor* Lesser Grey Shrike (937)
- 12 *Lanius excubitor* Grey Shrike (933)
- 13 *Lanius collurio* Redbacked Shrike (941)
- 14 *Lanius senator* Woodchat Shrike (951)
- 15 *Lanius tephronotus* Greybacked or Tibetan Shrike (945)
- 16 *Bombycilla garrulus* Waxwing (1062)
- 17 *Lanius schach* Rufousbacked Shrike (946)
- 18 ssp *tricolor* of 946. (948)
- 19 *Hypocolius ampelinus* Grey Hypocolius or Shrike-Bulbul (1063)



Plate 67

- 1 *Dicrurus adsimilis* Black Drongo or King-Crow (963)
- 2 *Dicrurus remifer* Lesser Racket-tailed Drongo (972)
- 3 *Dicrurus aeneus* Crowbilled Drongo (970)
- 4 *Dicrurus paradiseus* Greater Racket-tailed Drongo (977)
5 ssp *lophorhinus* of 977 – outer tail feather. (979)
- 6 *Dicrurus aeneus* Bronzed Drongo (971)
- 7 *Dicrurus hottentottus* Haircrested or Spangled Drongo (973)
- 8 *Dicrurus leucophaeus* Grey or Ashy Drongo (965)
9 ssp *salangensis* of 965. (966a)
- 10 *Dicrurus andamanensis* Andaman Drongo (975)
- 11 *Surniculus lugubris* Drongo-Cuckoo (588)
See Volume 3
- 12 *Dicrurus caerulescens* Whitebellied Drongo (967)
- 13 *Cinclus cinclus* Whitebreasted Dipper (1773)
See Volume 9
- 14 *Cinclus pallasii* Brown Dipper (1775)
See Volume 9

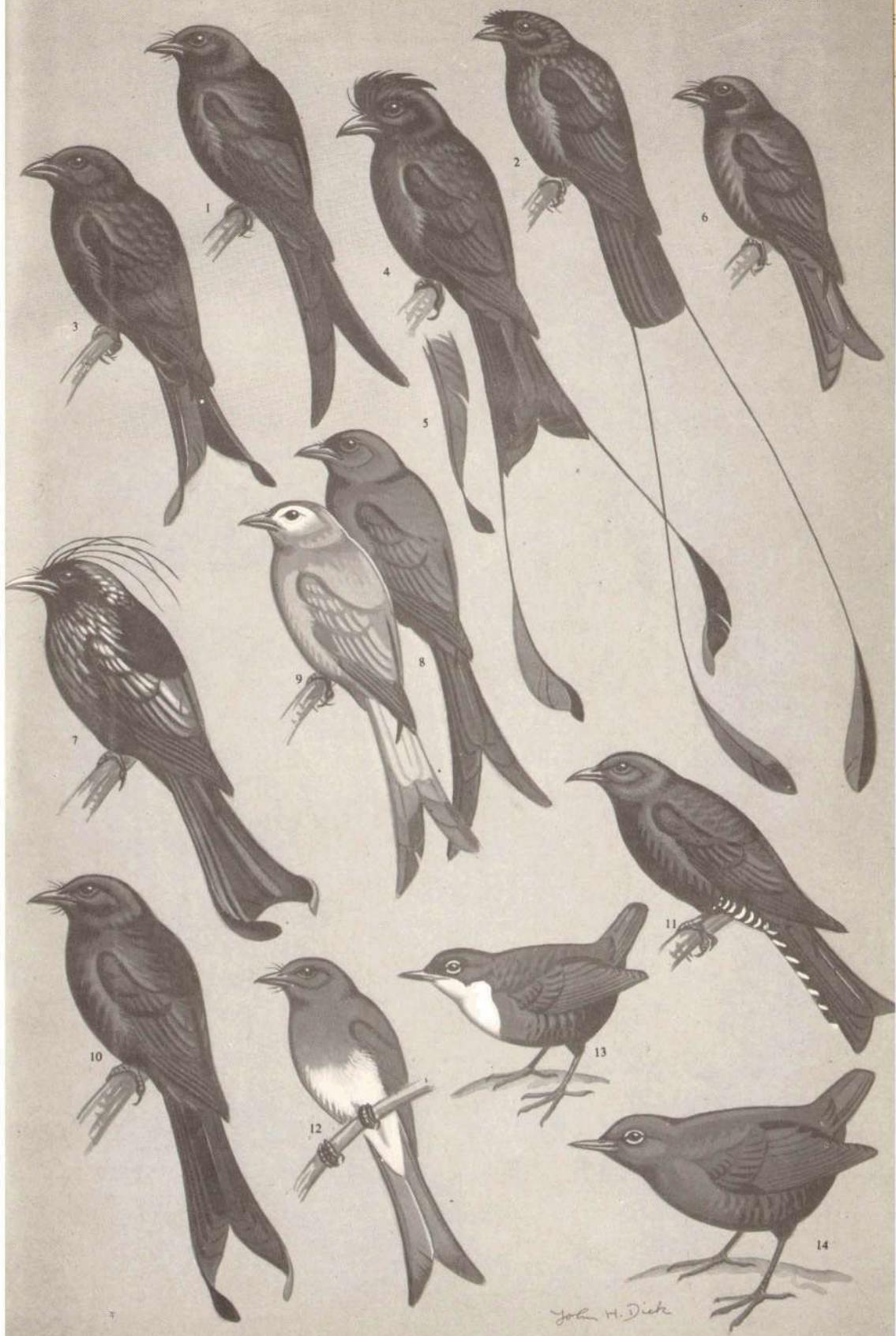


Plate 68

- 1 *Aplonis panayensis* Glossy Starling or Starling (986)
- 2 *Saroglossa spiloptera* Spottedwinged Starling (984)
- 3 *Sturnus malabaricus* Greyheaded Myna (987)
- 4 ssp *blythii* of 987. (988)
- 5 *Sturnus pagodarum* Blackheaded or Brahminy Myna (994)
- 6 *Sturnus sturninus* Daurian Myna (995)
- 7 *Sturnus senex* Ceylon Whiteheaded Myna (993)
- 8 *Sturnus erythropygius* Whiteheaded Myna (991)
- 9 *Sturnus vulgaris* Starling (997)
- 10 *Sturnus roseus* Rosy Pastor (996)
- 11 *Sturnus contra* Pied Myna (1002)
- 12 *Acridotheres tristis* Common Myna (1006)
- 13 *Sturnus sinensis* Chinese or Greybacked Myna (1005)
- 14 *Acridotheres ginginianus* Bank Myna (1008)
- 15 *Acridotheres fuscus* Jungle Myna (1009)
- 16 *Mino coronatus* Goldcrested Myna (1014)
- 17 *Acridotheres albocinctus* Collared Myna (1013)
- 18 *Acridotheres javanicus* Orangebilled Jungle Myna (1012)
- 19 *Gracula religiosa* Grackle or Hill Myna (1015)
- 20 *Gracula ptilogenys* Ceylon Hill Myna (1019)

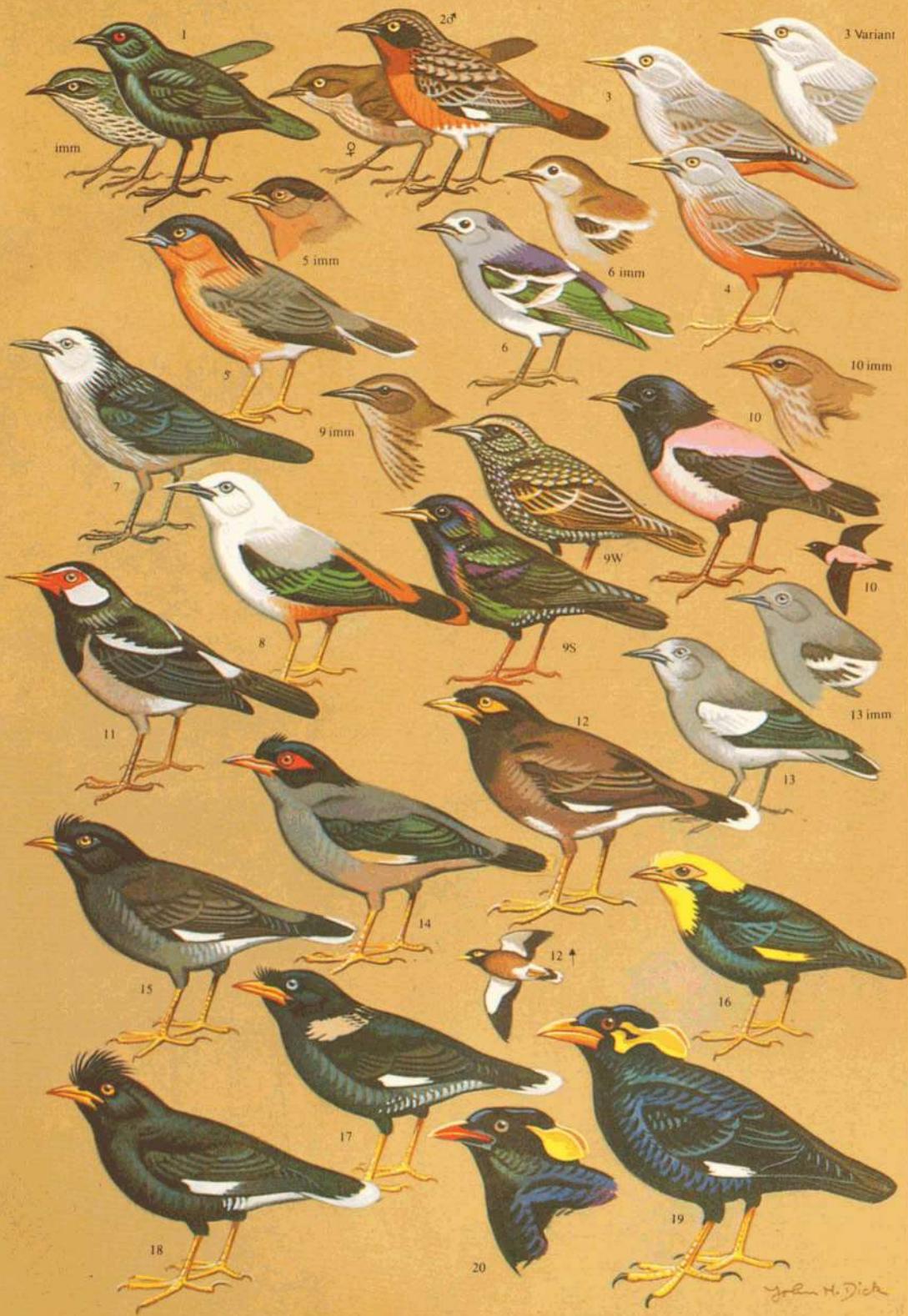


Plate 69

- 1 *Garrulus lanceolatus* Blackthroated Jay (1022)
- 2 *Garrulus glandarius* Jay (1020)
- 3 *Pica pica* Magpie (1029)
- 4 *Cissa chinensis* Green Magpie (1023)
- 5 *Cissa ornata* Ceylon Blue Magpie (1024)
- 6 *Cissa thalassina* Yellowbilled Blue Magpie (1026)
- 7 *Cissa erythroryncha* Redbilled Blue Magpie (1027)
- 8 *Dendrocitta formosae* Himalayan Tree Pie (1038)
- 9 *Dendrocitta leucogastra* Whitebellied Tree Pie (1036)
- 10 *Dendrocitta vagabunda* Indian Tree Pie (1032)
- 11 *Dendrocitta frontalis* Blackbrowed Tree Pie (1035)
- 12 *Dendrocitta bayleyi* Andaman Tree Pie (1040)
- 13 *Nucifraga caryocatactes* Nutcracker (1042)
- 14 ssp *hemispila* of 1042. (1043)
- 15 *Podoces humilis* Hume's Ground Chough (1041)



Plate 70

1 *Eudynamys scolopacea* Koel (590)

See Volume 3

2 *Pyrrhocorax graculus* Yellowbilled or Alpine Chough (1045)

3 *Corvus monedula* Jackdaw (1053)

4 *Pyrrhocorax pyrrhocorax* Redbilled Chough (1046)

5 *Corvus frugilegus* Rook (1052)

6 *Corvus splendens* House Crow (1049)

7 *Corvus macrorhynchos* Jungle Crow (1057)

8 *Corvus corone* Carrion Crow (1058)

9 ssp *sharpii* of 1058. (1058a)

10 *Corvus ruficollis* Brown-necked Raven (1061)

11 *Corvus corax* Raven (1059)



INDEX TO THE VOLUMES BY FAMILY

English names (for Latin names see front endpaper)

Accentors, 9
Avadavat, 10
Avocet, 2

Babblers, 6-7
Barbets, 4
Barn Owls, 3
Bee-eaters, 4
Bitterns, 1
Boobies, 1
Broadbills, 4
Bulbuls, 6
Buntings, 10
Bustards, 2
Button and Bustard-Quails, 2

Chaffinch, 10
Chats, 8-9
Coots, 2
Cormorants, 1
Coursers, 3
Crab Plover, 2
Cranes, 2
Creepers, 9
Crested Swift, 4
Crows, 5
Cuckoo-Shrikes, 6
Cuckoos, 3
Curlews, 2

Darter, 1
Dippers, 9
Divers, 1
Doves, 3
Drongos, 5
Ducks, 1

Egrets, 1

Fairy Bluebird, 6
Falcons, 1
Finches, 10
Finfoot, 2
Flamingos, 1
Flowerpeckers, 10
Flycatchers, 7
Frigate Birds, 1
Frogmouths, 4

Geese, 1
Goatsuckers, 4
Goldfinches, 10

Grebes, 1
Grey Creeper, 9
Gulls, 3

Hawks, 1
Hedge Sparrows, 9
Herns, 1
Honeyguides, 4
Hoopoes, 4
Hornbills, 4
House Sparrows, 10
Hypocolius, 5

Ibisbill, 2
Ibises, 1
Ioras, 6

Jaçanas, 2
Jaegers, 3
Jays, 5

Kingfishers, 4

Larks, 5
Laughing Thrushes, 7
Leaf Birds, 6
Leaf Warblers, 8
Longtailed Titmice, 9
Loons, 1

Magpies, 5
Megapodes, 2
Minivets, 6
Monarch Flycatchers, 7
Munias, 10
Mynas, 5

Nightjars, 4
Nuthatches, 9

Orioles, 5
Owls, 3
Oystercatchers, 2

Painted Snipe, 2
Parrots, 3
Partridges, 2
Pelicans, 1
Penduline Titmice, 9
Petrels, 1
Phalaropes, 2
Pheasants, 2

Pigeons, 3
Pipits, 9
Pittas, 4
Plovers, 2
Pratincoles, 3

Quails, 2

Rails, 2
Robins, 8
Rollers, 4

Sandgrouse, 3
Sandpipers, 2
Scimitar Babblers, 6
Shearwaters, 1
Shrikebilled Flycatcher, 7
Shrikes, 5
Skuas, 3
Snipe, 2
Sparrows, 10
Spiderhunters, 10
Spoonbill, 1
Spotted Creepers, 9
Starlings, 5
Stilts, 2
Stone Curlews, 3
Storks, 1
Storm Petrels, 1

Sunbirds, 10
Swallow-Shrikes, 5
Swallows, 5
Swans, 1
Swifts, 4

Terns, 3
Thick-knees, 3
Thickhead, 7
Thrushes, 8-9
Titmice, 9
Tree Creepers, 9
Trogons, 4
Tropic-birds, 1

Vultures, 1

Wagtails, 9
Wall Creeper, 9
Warblers, 8
Waxbills, 10
Waxwing, 5
Weaver Birds, 10
White-eyes, 10
Wood Swallows, 5
Woodcock, 2
Woodpeckers, 4
Wrens, 9