

**Some Records and Field-notes from North-Eastern
Tanganyika Territory.**

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Text-figure 17.

HAVING spent two and four years respectively in the area of northern Tanganyika Territory lying west and south of Mt. Kilimanjaro, mainly within the Masai District, but including the Arusha, Moshi, and parts of the Paré and Mbulu Districts, we have been able to obtain a very fair idea of its avifauna, representing over four hundred, or rather less than two-thirds, of the species known by us to inhabit the area. It is hoped in due course to use this, and all other available data, to work out the distribution and ecology of birds in this not very well-known region, which is interesting as the meeting-place of several avifaunal sub-regions, and to include notes on such lesser-known habits, breeding and otherwise, as have been observed by us. In the meantime the moment seems opportune to make a selection of some of our more interesting records in this preliminary paper.

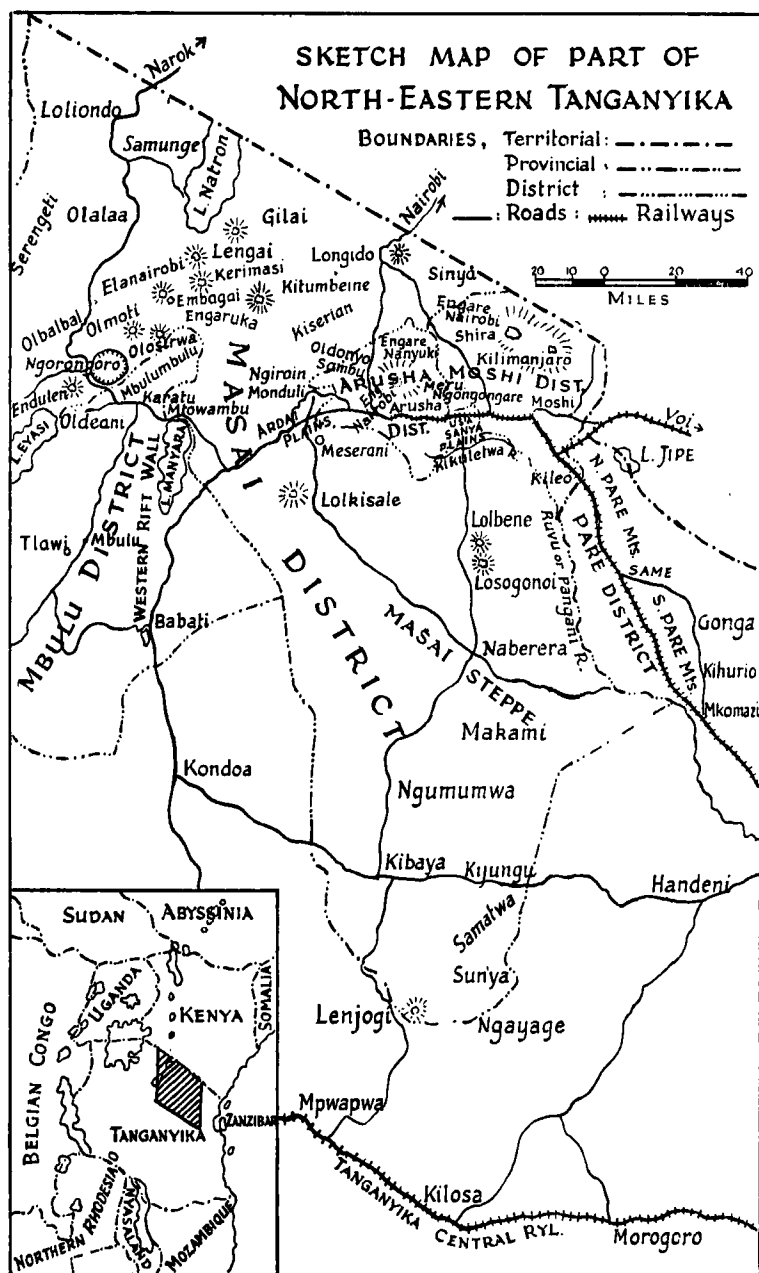
For the purposes of this paper we have sought the kind assistance of Mr. R. E. Moreau and Dr. V. G. L. van Someren in the identification of skins, and the former has also read through the paper in draft, and made many helpful suggestions. The position of localities mentioned in the text, and unlikely to be found in an ordinary atlas, is explained on first mention by reference to such well-known features as Mts. Kilimanjaro and Meru and Lakes Natron and Manyara, but for ease of reference a sketch-map is included in which all are shown. They fall within the region bounded on the north by the Kenya Colony-Tanganyika Territory border between Lake Natron, Mt. Kilimanjaro, and Lake Jipe, and in the south by the southern boundary of the Masai District, which lies about sixty miles north of the Tanganyika Central Railway. In dealing with a random selection of sixty-six species, however, a lengthy description of the area is out of place, but details of habitats are included under each species where of interest. For brevity, also, the gonad state of specimens referred to is indicated by the sign +, when rather enlarged, and ++, when in full breeding condition.

***Erismatura maccoa* Eyton.**

Male ++, 10 May.

A scarce bird in most parts of its range, this Duck is really numerous on the crater lakes of the mountain belt west of the Rift Valley from Lake Natron southwards, particularly Embagai (ten miles S.W. of Natron), and Tlawi (the same distance from Mbulu). From these and other perennial waters, where it may be found in the dry season in parties

Text-figure 17.



of six to ten birds, it spreads during the rains to almost all the rainponds and small dams within a radius of fifty miles of Meru at altitudes of 4000 feet upwards. Unlike most Ducks it exhibits no preference between saline and fresh waters. At Ngiroin, a small group of rainponds about ten acres in extent lying at 6000 feet on the western shoulder of Monduli Mt. (twenty miles west of Meru), two to three pairs arrive annually for breeding at the end of April. It was there that the breeding male was collected, of which it may be noted that the outstanding feature is the extreme brilliance of the enamel-like, cobalt-blue colour of the bill, a point entirely missed in the descriptions and pictures of the bird which we have seen, presumably due to being based on dried skins in which the colour soon fades to livid grey; and even in the non-breeding season the blue is fairly bright. The breeding call, uttered with the head and neck outstretched, just above the water, and the bill partly open, is a prolonged, low grating churr, "errrooo . . .". The nest, hidden in thick aquatic herbage in about five feet of water, was unfortunately never found, but a brood of four-week-old chicks was observed on 7 June.

***Anas penelope* Linnæus.**

A newly constructed dam, half a square mile in extent, named Meserani (the Masai for "baobab"), and twenty-five miles south-west of Meru, which almost immediately after first filling in March, 1942, attracted numerous species of Duck, including the Palæarctic migrants *Spatula clypeata* Linnæus, *Anas querquedula* Linnæus, and *Dafila acuta* Linnæus, was visited in 1943 between 2 February and 7 March by up to twenty-five Wigeon. Excellent views were obtained through a telescope, but the birds kept out of range, in the centre of the dam, as soon as approached. This is believed to be a first record for Tanganyika Territory, the species not previously having been noted south of Lakes Nakuru and Naivasha.

***Aythya fuligula* (Linnæus).**

Another southward extension of range from the Kenya Rift Valley lakes, and first record for Tanganyika Territory, is provided by the presence on 7 March of half a dozen Tufted Duck on a swamp in the Ngorongoro "crater", thirty miles west-north-west of Manyara, at 5000 feet. They included drakes in full plumage.

***Poliohierax semitorquata castanotus* (Heuglin).**

One unsexed, 18 February. Masai steppe*, one hundred and forty miles south of Mt. Kilimanjaro.

* The term Masai steppe is used in accordance with cartographical tradition for the shelf of dry country, 9000 sq. miles in extent and 4000 feet a.s.l., between the Pangani Valley and the Rift wall. From this plateau rise a number of isolated ridges and peaks to 5000–7000 feet, but the greater part consists of rolling bush, drier and denser on the east, more open and with larger trees on the west.

The Pygmy Falcon, a common species throughout Masailand at altitudes below 5500 feet a.s.l., was found breeding at Naberera, one hundred miles south of Mt. Kilimanjaro, on 18 December. An old nest of *Dinemellia d. dinemelli* had been utilized, a rough bundle of thorn twigs with some dry grass lining, built into the end of an *Acacia Benthami* bough some twenty feet from the ground. The tree was shading a cattle auction pen, but in spite of the noisy crowd a few feet below, the male continued to bring food, including a small snake, to the sitting hen.

***Alceda cuculoides verreauxi* Lafresnaye.**

Male, imm., 18 August, Engare Nairobi, lower western slopes of Mt. Kilimanjaro, 4500 feet.

This bird was collected in a coffee plantation in the dry, thinly-wooded country which runs out into Masailand. The crop contained the remains of a praying mantis and a grasshopper. The immature Cuckoo-Falcon closely resembles *Astur tachiro*, but the crest and much longer and broader tail help in field identification. Of the very few sight records we have in our area, mainly based on the latter character, the most reliable are of a pair in *Brachystegia* woodland near Ngayage, sixty miles north of Kilosa, 5000 feet, on 30 January, and a single bird on the lower forest edge at Longido, forty miles north-west of Mt. Kilimanjaro, 5000 feet, on 10 November.

***Aquila verreauxi* Lesson.**

Moreau (1) and North (2) have already shown that the range of this easily recognizable Eagle is by no means discontinuous between northern Kenya Colony and South Africa. We have four records from the area under review, where the "inselberg" of the Masai steppe and precipitous scarps of moderate elevation provide the habitat suited to the species. These are :—A pair with a nest and one half-grown chick on a cliff at Samunge, thirty miles west of Lake Natron, 6 October ; a pair on Mt. Lolkisale, forty miles south-west of Mt. Meru, 10 June ; a single bird on Mt. Losogonoi, sixty miles south of Mt. Kilimanjaro, 2 March ; and a pair on Lenjogi Mt., one hundred and fifty miles south of Lolkisale and fifty miles north-east of Mpwapwa, in November.

***Polemaestus bellicosus* (Daudin).**

The call of this species, which does not seem to have been previously recorded, was noted as a low gulping "quolp", in the case of one watched while being mobbed by a *Buteo rufofuscus augur* (Rüppell) over the south-east rim of the Ngorongoro crater.

***Gypaetus barbatus meidionalis* Keyserling & Blasius.**

Evidence accumulates that the Bearded Vulture is not uncommon in suitable areas of East Africa (*cf.* North (2)), including northern Masailand,

the desideratum appearing to be the proximity of a high, open, rocky ridge. The first observed by us, a pair, were circling at 7000 feet west of the Shira ridge of Mt. Kilimanjaro on 24 October. Next, on three successive days in July, single birds and pairs were seen in a wide belt of bleak country lying at 8000–11,000 feet, west and north of the Olosirwa ridge, which is the highest point of the highlands in the neighbourhood of the Ngorongoro crater. Finally, across the Rift Valley to the east, some thirty miles from Olosirwa, a pair was watched on the flank of Mt. Monduli on 30 August. Excellent views were obtained on all these occasions, the birds approaching closely enough for full details of plumage, including moustachial feathers, to be visible, and confusion with the Egyptian Vulture, *Neophron perenopterus* (Linnæus), a common bird in the same area, was carefully avoided.

Coturnix delegorguei Delegorgue and **Coturnix coturnix africana** Temminck & Schlegel.

Both these Quail nested in considerable numbers in the *Pennisetum-Themeda* grasslands and wheatfields of the Arдай plains, twenty-five miles south-west of Mt. Meru, in May and June, 1944. Birds were calling continuously on 7 May, and a Harlequin Quail, shot on that date, had very enlarged gonads. By 15 June it was common to see broods of chicks, but actual nests were not found until 26 June. Two contained shells of hatched eggs, the third, of *C. c. africana*, had six eggs, which hatched two days later. These nests were in small hollows, and were lined with a few pieces of dried leaves or dead wheat leaves. Eggs measured $30\text{--}31 \times 23\text{--}24$ mm. A nest of *C. delegorguei* with eight eggs was found at Engaruka, twenty-five miles north-west of the Arдай, on 10 May. These eggs, rather smaller than those of *C. c. africana*, $26\text{--}29 \times 23$ mm., were stone-brown in ground-colour, six of them minutely freckled, and two generously blotched, with dark brown.

Excalfactoria adansoni (Verreaux).

Moreau has remarked on the scarcity of records and probable migrations of the Blue Quail in the coastal area of Tanganyika Territory. It is a much commoner bird in the Lake Victoria region. Our single record, therefore, in the intervening belt of country, a male flushed in grassland at Mbulumbulu, 5600 feet, twenty miles north-west of Manyara, in October, is of interest.

Gallinula angulata Sundevall.

Male ++, 18 June; female imm., 28 May, Ngiroin rainponds, Monduli.

As this species has been recorded as scarce in many parts of its range, it may be noted that it is very common in the Masai area, especially on smaller rainponds, to reach many of which it must make considerable overland journeys. How it contrives to time its arrival at some of the

more isolated ponds within a few hours of their first filling in the rains, and to what permanent waters it retires when they dry, remain mysteries. The chuckling trill of its call does not seem to differ from that of *Gallinula chloropus* (Linnæus).

***Recurvirostra avosetta* Linnæus.**

As records of this species in Eastern Africa are curiously few, and Jackson describes it as evidently rare in Kenya Colony (3), although van Someren (4) seems to have met with it more frequently, it is noteworthy that the Avocet is common and sometimes exceedingly numerous in the Rift Valley lakes and the salt lakes of the adjoining plateaux in our area. On Manyara, the lake visited by us most regularly, Avocets were seen in February, April, May, August, September, and November, but were apparently absent in March; on Lake Natron they were numerous in July. Numbers on Manyara reached a peak of several thousands on 26 November and again on 1 April. These records suggest very considerable migrational movements, but whether from distant or local breeding haunts remains uncertain.

Apart from our many Lakes Natron and Manyara records, we have seen three on Tlawi in September, three on Embagai in October, and a pair on the salt pans below Engare Nairobi in December.

***Terekia cinerea* (Güldenstädt).**

Male, 2 February, Meserani dam.

This bird, from a locality at least two hundred and eighty miles from the coast, is believed to be the first inland Eastern African record, although the regularity of the species on the coast, where we have repeatedly observed it from Malindi south to Dar-es-Salaam, needs emphasis; it is often regarded as rare (*cf.* Moreau (10)).

***Limosa limosa limosa* (Linnæus).**

Recorded from Abyssinia and Natal, the Black-tailed Godwit does not seem to have been noticed in the intervening Eastern African territories, save for a single record of van Someren from the mouth of the Tana River. On 2 March a single bird of this species, very familiar to us in Holland, was closely watched on the north shore of Manyara, until it flew away north along the Rift Valley at a low height.

***Pterocles gutturalis saturatior* (Hartert).**

Male, female, 6 March, Olbalbal plain west of Ngorongoro.

These specimens showed no enlargement of the gonads although the main rains broke a day later, and it seems that the breeding season is late and unusual, and not coincident with the rains as is the case of most dry-country birds. This was confirmed on the Ardai plains, where on 7 July a female was flushed from a nest with two eggs, and three pairs with very small chicks were later observed on 9 September. The

nest was placed in a small hollow in a rather thin stand of *Themeda triandra* and *Pennisetum mezianum* grass, and contained a few fragments of dry grass leaves. The two eggs measured 47×37 and 44×37 mm.

Cuculus canorus canorus Linnaeus.

Male, 12 November, male, 30 January.

Records from Eastern Africa of the European Cuckoo on its southward migration are scanty. For Tanganyika Territory, Moreau gives two only, and Jackson suggests that a westerly course through the Congo is followed. The first of our two specimens, undoubtedly on its journey south, was shot in a small glade in evergreen forest at Mbulumbulu. The second, a bird in the red hepatic phase, was shot in the extreme south of the Masai District at Ngayage, fifty miles north of Kilosa. We also have sight records of birds seen closely enough to be identified by bill colour, as follows:—22 October at Sinya, fifteen miles north-west of Mt. Kilimanjaro; 31 March at Naberera, and, a large number of birds, 8 April to 16 April on the Ardai plains.

Polcephalus rufiventris rufiventris (Rüppell).

Male, 1 March, Losogonoi.

This is the common Parrot of the Masai District, ranging very considerably to the south and west of the limits given in Selater's Syst. Av. Æthiop., and one hundred and twenty miles west-south-west of the Mkomazi gap, where it has been noted by Moreau, and through which is the probable line of extension. It seems to have a rather late breeding season (cf. *Pterocles gutteralis*). A pair was watched at a nest-hole in a baboab twenty feet from the ground on 24 July near Gonja, S. Pare Mts., and another pair were feeding a recently fledged youngster near a nest-hole, thirty feet up in a dead acacia, near Longido on 30 October.

Upupa africana Bechstein.

Male + ♀, 12 November, Samatwa, forty miles south-east of Kibaya.

Breeding records in Eastern Africa of this widespread species seem to be scanty. On 4 December a pair was seen taking food to a nest in the decayed stump of a broken branch of a large *Albizzia* tree at Monduli. The nest was thirty feet from the ground and inaccessible, but young could be heard calling. The breeding Samatwa bird had been eating spiders and mantids, but also a considerable number of tsetse flies, *Glossina morsitans*. Presumably these had been caught when resting in the shade of a bough or leaf, as a Hoopoe could scarcely capture so lively an insect on the wing.

Rhinopomastes minor cabanisi (Defilippi).

Female, unsexed juv., 25 February, Naberera.

These were from a family party consisting of two parents and two recently fledged young, the latter still with black bills. Stomachs,

somewhat surprisingly, contained seeds of a species of *Commiphora*, common in Masailand, as well as insects. The species, which ranges throughout our area at altitudes up to 5000 feet a.s.l., has a wide variety of sharp alarm-notes and soft trills.

***Asio capensis capensis* (Smith).**

Male +, 25 May, east of Mt. Kitumbeine, forty miles north-west of Mt. Meru.

A common bird in open plains at altitudes of 3600–5600 feet, from Mt. Kilimanjaro to the western Rift wall, an arc of country with a radius of about seventy-five miles. Sight records are :—May, the Engaruka plains (south of Lake Natron) and Oldonyo Sambu downs, west flank of Meru ; June, the west flank of Mt. Monduli ; July, the tall *Themeda* grass land of Mbulumbulu and the Ar dai plains ; October, the country twenty miles south of Mbulumbulu ; November, the Ar dai again ; and December, a party of five, the grassland bordering the forest edge at Engare Nairobi. The stomach of the bird shot contained the remains of a *Quelea* and a number of large insects. A nest was found in the coarse grass on the Engaruka plains on 12 May, its three eggs, plain white and slightly glossy, measure 37–40 × 34–36 mm. The call is a harsh grating croak, similar to that of the White-necked Raven, but not so deep.

***Ciccaba woodfordii nigricantia* (Sharpe).**

Male +, 13 July, forest at 7000 feet on Ngorongoro crater rim.

This bird does not appear to be separable from another example, also a male, collected on the eastern boundary of our area, at Gonja, 4500 feet, in June, although the latter is much paler and rather larger, wing 254 as against 240 mm.

***Apus melba* Linnæus.**

Alpine Swifts have been repeatedly observed by us below Mts. Kilimanjaro and Meru in November, December, and January, at distances up to twenty miles from the mountains, and at altitudes as low as 2800 feet. At Moshi they can be seen in the company of *A. affinis* (Gray) and *A. caffer* Lichtenstein, but generally higher in the air and wheeling more slowly. Although the dates of these observations rather suggest that the birds belong to the typical race on migration, the examples of which collected by Chapin (6) in the Congo were all confined to December and January, yet since we also have one record of Alpine Swifts seen below the forest belt at Engare Nairobi on 5 July, it is possible that some or all of our records are referable to a resident race, the evidence for which is still scanty, and that adverse weather conditions or food requirements force the birds down to low levels with greater frequency at some periods of the year than others.

***Tricholæma diadematum massaicum* (Reichenow).**

Male, September, Naberera ; male, January, Monduli.

The commonest Barbet of the Masai steppe, sharing vast areas with *T. melanocephalum* Cretzschmar and *Trachyphonus darnaudii* (Prévost & Des Murs), this species has been found nesting on several occasions always early in the year. One nest near Monduli was being excavated in a dead branch of a *Balanites* twenty feet from the ground on 30 January, and two young flew on 2 May. A second, also at Monduli, contained young birds on 15 February ; it was about ten inches up near the fork of a *Commiphora*, a freshly excavated hole of oval shape, about two inches by one inch and some nine inches deep. The third nest at Naberera, very similar to the last, contained young on 26 February. The species is probably parasitized by *Indicator minor* Stephens, one of the latter being very persistently inquisitive in the neighbourhood of the first-mentioned nest, and being eventually chased away by the agitated Barbets only with great difficulty.

***Trachyphonus darnaudii boehmi* (Fischer & Reichenow).**

Male, February ; female, September, Kibaya.

A nest found at Longido on 20 May was a two-inch tunnel vertically excavated in a sandy bank, thirty-four inches deep, terminating in an oval chamber. The birds had not yet quite completed it. Another pair were busily digging out a nest a few yards away, both sexes assisting in turn and reappearing tail first from the hole with a half-inch globule of soil which was deposited under a bush a few yards away.

***Smithornis capensis* (Smith).**

Male +, 18 September, Mbulumbulu, 6300 feet ; male +, 2 October, Ngongongare, 5000 feet, south-east shoulder of Mt. Meru.

The distribution of this species is curiously uneven in the area under review. It was very numerous indeed at Ngongongare, its little "claxon" call being constantly heard. In the forest at 6300 feet at Mbulumbulu, it is fairly common. A single bird was noted in a close stand of *Podocarpus* and small trees at Engare Nairobi, c. 6000 feet. Two hundred miles to the south the species appears again in dense thicket and riverine bush from Kibaya to a point on the Mpwapwa border, a further thirty miles south-east. Elsewhere we have failed to find it in the many square miles of suitable forest on Mts. Meru, Monduli, and other Masai mountains. Our specimens appear to belong to the Kenya Colony race *S. c. medianus* Hartert & van Someren, but we have not yet had an opportunity of making sufficient comparisons.

***Mirafr cantillans schillingsi* (Reichenow).**

Male ++, March, Engaruka ; female ++, egg in oviduct, 22 April, ten miles south of Longido ; male +, 28 April, Sanya plains, twenty miles

south-west of Mt. Kilimanjaro ; male ++, with nest, 9 May, Engaruka ; female, 2 August, Kiserian ridge, twenty miles north-west of Mt. Meru ; male +, 21 December, Sanya plains.

These records show the species to be common within a radius of fifty miles of Mt. Meru, in open plains country up to 4000 feet a.s.l., especially in areas of patchy or very little grass, with a breeding season extending from December to May, its peak probably falling in April. The nest found was a domed grass structure at the foot of a grass clump in an open plain dotted with a few thorn trees. It contained four rather oval eggs, measuring 15-19×14 mm., of a distinctly glossy blue-grey ground-colour, blotched darker grey and brown with a tendency to form a ring. At Longido a male was watched displaying on the ground on 22 April, with drooped, fluttering wings, and a wheezing nasal note not unlike the ordinary call. The song is a sweet whistling phrase of three or four notes varied with a Bunting-like rattle, usually delivered from a perch.

Mirafrja albicauda Reichenow.

Male +, 7 May, Ardai ; male +, 22 October, ridge south of Engaruka.

Common in short grass plains at higher altitudes, 4500-5500 feet, than the previous species, the White-tailed Lark especially favours the *Pennisetum mezianum* grassland of the Ardai plains, where it appears to be the only Lark with the typical Lark-like habit of prolonged song in flight. In April and May it is in full song, a musical chattering, sometimes harsh in timbre, similar to that of the European Sky-Lark, uttered as it slowly circles or hovers about one hundred feet up, and lasting for a minute or more. After singing, the bird descends steeply to the ground, not to an ant-hill or other perch such as used by *M. africanu* Smith, both when singing and at rest. Occasionally the song is uttered on the ground. Stomach contents indicate a mixed diet of insects and seeds.

Mirafrja africanoides intercedens (Reichenow).

Female +, 24 February, Kibaya ; male ++, 20 March, Longido ; female, 17 July, Kibaya ; male, 24 July, Kiserian ; male, 18 September, Kibaya ; male ++, 30 October, Longido ; male, 27 November, below Engare Nairobi.

Favouring rather more timbered country than the previous two species, and hence perhaps the commonest Lark of the Masai steppe, this bird makes great use of tree perches from which the short sweet song is uttered. Gonads indicate breeding at the start of both the short and long rains, that is, in October and March. Courtship seems to consist mainly in a peculiar "stalling" display flight. Stomach contents indicate an almost wholly vegetable diet, though one out of the seven birds collected had

eaten a few small beetles. Birds from Kibaya are much more rufous in the tone of their plumage, though whether this is a geographical or merely habitat variation remains to be proved.

***Mirafræ pœcilostræna massaica* (Fischer & Reichenow).**

Female, 7 April, scarp south of the Kikuletwa, *i.e.*, upper Pangani River, thirty miles south-south-west of Mt. Kilimanjaro.

Behaves very like *Anthus trivialis* (Linnaeus), and resembles a Pipit also in its appearance in the field. The song consists of a few sweet whistling notes, uttered from a high perch.

***Mirafræ rufocinnamomea fischeri* (Reichenow).**

Male, 5 January, Mbulumbulu; female, 9 September, Kibaya; female, 14 October, Mbulumbulu.

These three are red-phase birds, and were all taken in grassland with very scattered *Acacia* at about 5400 feet. A dark phase male ++ was collected in February near Usa, south-east of Mt. Meru, in fairly dense *Combretum* woodland at 3500 feet. This indication of distinctive habitats for the two phases has been noticed elsewhere, *e.g.*, the dark phase is common in *Combretum-Acacia pallens* woodland at Morogoro, at 1600 feet a.s.l., and Moreau (9) has recorded the red phase from savannah at Karatu, 5000 feet, not far from Mbulumbulu.

***Eremopteryx leucotis madaraszi* (Reichenow).**

Male ++, 10 June, Meserani dam.

This bird was in the company of a barely fledged chick. The latter was dusky black in general colour, the feathers edged buffy with a tawny tinge on the wings, the nape pale whitish, and the bill dusky yellow with bright orange gape. An interesting point is that this nestling had been fed on insects, including a fair-sized grasshopper, while the stomach of the parent bird contained nothing but the normal diet of grass seeds.

***Eremopteryx leucopareia leucopareia* (Fischer & Reichenow).**

Female, 8 July, Natron; female, 17 September, Engaruka; male, 24 November, Engare Nairobi; female, 18 December, Makami, forty miles south of Naberera.

The call of this extremely numerous and widespread Masailand species is a resonant "tweeze", and a soft twitter is also uttered on the ground and in flight. A nest found on 8 May in the Engaruka plains was a cup of fine grass one and a half inches in diameter, wholly unconcealed, though surrounded by a few twigs, on bare ground, but grass was growing thickly a short distance away. The two eggs, of a stone-white ground-colour, speckled with sepia and pale purple, more thickly at the broad end, were rather pointed, measuring 18 × 12 and 20 × 12 mm.

***Pseudalæmon fremantill delameri* (Sharpe).**

Male, female +, 7 May, Ardai plains.

This is believed to be the first record for Tanganyika Territory, and an extension of range to the south and west from the Athi plains of Kenya Colony, one hundred miles to the north.

***Calendrella athenis* (Sharpe).**

Male, 10 December, Engare Nairobi, 5000 feet, from *Themeda* grassland with scattered *Gall Acacia*.

It is also not infrequent on the Ardai plains, but is difficult to approach, although a gregarious species, flying off with a distinctive squeaky twittering. Apparently not previously recorded from Tanganyika Territory—an extension to the south-west similar to that of the previous species.

***Motacilla cinerea cinerea* (Tunstall).**

Records from Tanganyika Territory are few. One was seen on 25 September at Olalaa, 4500 feet, some twenty miles west of the south end of Lake Natron, on a small stream bordered by grass and weeds, in thorn country. Another in November at Mbulumbulu, 6300 feet, was haunting a small river in evergreen forest in a considerable stretch where the banks are clear of trees but covered with tall shrubby *Vernonia* sp., nettles, etc.

***Aythya cervinus* (Pallas).**

Male, female, 2 February, Meserani dam.

The species was present in considerable numbers, frequenting the cattle-trampled "beach" on the water's edge. It has been found in a very similar situation along the shallow swamp at the eastern side of Ngorongoro crater as late as 7 March. Sjöstedt, according to Moreau, has already commented on its partiality for muddy ground in the Kilimanjaro area, and we have noted the same thing round southern Lake Victoria.

***Anthus caffer blayneyi* (van Someren).**

Male, 14 July, Samatwa.

Also shot, but too damaged to preserve, on the west flank of Mt. Monduli in August. It thus appears to frequent dry tree-covered ridges of moderate altitudes, c. 5000 feet, especially in areas of mixed *Combretum* and *Acacia*. Usually in pairs, sometimes associating with loosely-knit dry season parties of *Prinia*, *Parisoma*, etc. It perches readily in trees and has a bleating two-note call. It is insectivorous.

***Tmetothylacus tenellus* (Cabanis).**

Male, 29 January, Sunya, fifteen miles south-east of Samatwa.

This species seems to be as scarce as it is widespread, for although it has been seen in the Sanya plains as well as twenty miles south of Longido,

in each case only single birds have been present, very wild and difficult to approach. The three localities mentioned represent three distinct habitats, with little in common save that the bush is fairly dense, *Combretum* merging into *Brachystegia* woodland, dense riverine thicket, and dense Gall Acacia and aloe. The bird spends most of its time on high perches, and no song has been heard.

***Macronyx amellæ wintoni* (Sharpe).**

Male +, 30 November, Ardai plains; male ++, 23 November, Engare Nairobi.

Although the range of this species is given as from Nairobi, south through Tanganyika Territory, we have never found it except in the two areas from which our specimens come, where it is common. It does not appear to have been previously reported on Mt. Kilimanjaro (*vide* Moreau (7)), although at Engare Nairobi and farther round the mountain to the north-west it is common up to 6000 feet. On the Ardai its habitat seems to be identical with that of the much more numerous *M. aurantii-gula* Reichenow.

***Argya aylmeri mentalis* (Reichenow).**

Female +, 6 July, near Gilai Mt., south-east shore of Lake Natron; female, 5 September, Kibaya; male ++, 9 December, Lolbene, sixty miles south of Mt. Kilimanjaro.

The call of this species does not seem to have been recorded; it is curiously feeble, a "squeaking wood-screw" sound, varied by a thin high-pitched chatter and broken whistling.

***Phyllastrephus cerviniventris* Shelley.**

Male, 9 October, Sanya River in Sanya plains; female, 13 October, Mto-wa-Mbu riverine forest, north end of Lake Manyara.

As, until quite recently, doubt appears to have been cast on the occurrence of this species in East Africa (Jackson), it is worth stressing that it is a very common bird in low-lying evergreen riverine or gallery forest (*cf.* Moreau (7)), in the north Masai area. In appearance and behaviour it is remarkably like a Babbler (*Argya*), except that its small parties and pairs are rather silent—only a bleating note being heard.

***Turdus tephronotus* Cabanis.**

Male ++, 28 January, Kijungu, forty miles east of Kibaya; female, 8 June, Kibaya.

The stronghold of this species is the southern Masai area, where fairly thick bush is intersected by watercourses, but it has been found as far north as Naberera. It has a good fluty song, a loud liquid call, often

of a bubbling timbre, as well as a soft sibilant alarm-note, and is generally reminiscent of an English Blackbird in its habits. It was found to be entirely insectivorous, caterpillars being favoured.

***Œnanthe leucomela leucomela* (Pallas).**

Male, 4 February, Arдай plains; female, 13 February, Monduli; male, in moult, 13 November, Samatwa.

As Moreau, in his observations on migrants to Tanganyika Territory, quotes only one record "in Masailand" and the southward range in Sclater's Syst. Av. Æthiop. is given "as far as northern Tanganyika Territory", it is noted that this is a common migrant to the whole Masai area, i.e., to within sixty miles of the Central Railway, arriving mid-October, earliest date 12 October, and leaving mid-March, latest date 15 March. As compared with other Wheatears it shows a preference for bushy rolling ground rather than open plain.

***Pinarochroa sordida* (Rüppell).**

Male, 15 July, Olmoti crater, north of Ngorongoro, 8000 feet.

This appears to be a hitherto unrecorded area for the species. It was remarkably numerous over the whole one hundred square miles of bleak "rain-shadow" moorland, lying between the Ngorongoro crater, Olmoti, Elanairobi, and Olosirwa mountains at altitudes from 7500–10,000 feet, and ranging to over 11,000 feet on Olosirwa. Vegetationally the area bears a close resemblance to Mt. Kilimanjaro at altitudes of 12,000–15,000 feet. Family parties of four to five of these Chats were numerous, and a fairly loud metallic piping was heard as well as the usual sibilant alarm-note. The male collected measures, length 145 mm., wing 76 mm., which is normal, but it has not yet been possible to compare it with Mt. Kilimanjaro or Kenya Colony material to determine the race.

***Luscinia luscinia* (Linnæus).**

Male, 1 November, Lolkisale Mt., in the edge of the mountain thicket near a cattle watering-place; female, 18 November, Arдай plains, among charred stems of grass and *Abutilon* sp., near a small gully. Also noted in November in a garden at Monduli, and in December at Kibaya in dense thicket, but never on the spring passage.

***Cisticola aridula tanganyika* Lynes.**

Male ++, 28 March, Monduli; male +, 8 May, Arдай plains; male, imm., with skull unossified, 6 June, Engare Nairobi, 4500 feet, in open grassland; one unsexed, 30 August, Monduli; female, 10 October, Sanya plains; male, 17 October, Monduli Mt., 6000 feet.

This is quite the commonest *Cisticola* of the whole Masai area, wherever the ground is open, through a considerable altitude range, as *C. cheniana* Smith, is the commonest in more bushy areas. As Lynes (8) has noted,

this species can readily be distinguished from *C. juncidis* (Rafinesque) (also common for instance on the Ar dai plains) by its wing-snapping habit, indulged in both on ascent and descent from its display flight. Many nests were found in January, February, April, May, and June, often in tufts of *Pennisetum mezianum*, about six to twelve inches from the ground. Those on the Ar dai were sparsely lined with the feathery seeds of *Pennisetum stramineum*, being of the grass ball type, with a fairly large entrance. Clutches found were two c/2, three c/3 and one c/4, and the eggs varied from white to pale blue in ground-colour, with sparse red-brown spots.

***Cisticola brunnescens hindel* (Sharpe).**

Male ++, 21 May, Ar dai plains; male, 8 May, Oldonyo Sambu downs; female, 12 December, Engare Nairobi, 5600 feet, in *Themeda* grassland with scattered clumps of low scrub, a typical habitat. Apparently not previously recorded in Tanganyika Territory, and an extension of range some one hundred miles to the south-west from the Athi plains.

***Cisticola cinereola schillingsi* (Reichenow).**

Male ++, 10 March, Engaruka; male, female, 21 March, near Kiserian; male+, 10 May, near south-east corner of Natron; female+, 22 May, Engaruka; male, 28 June, Kileo, north foot of the Paré Mts.; male, 22 December, Engaruka; also sight records of this easily distinguishable *Cisticola* in the area south of Longido. It is, in fact, distributed all over the Kilimánjaro-Meru area in scrubby plains at low altitudes.

The call is a loud "preep-preep", and the particularly good Canary-like (cf. Jackson's "Whitethroat-like") song was heard once in March and again in June, delivered from a high perch. Its diet includes all types of insects, and quite large caterpillars are favoured.

***Hirundo griseopyga griseopyga* (Sundevall).**

The movements and range of this Swallow are still somewhat obscure. The records given by Jackson are from Thika westwards, and between January and September. The Ar dai plains have been found by us to be a regular haunt of the species, but our records extend from early May only, through every month up to the middle of October.

***Hirundo rufula emini* (Reichenow).**

The range of this species seems to be a somewhat inland one in Eastern Africa, and it only becomes common as far west as Lake Victoria. Moreau (9) does not mention it among the birds of Mbuli District, so that it is of interest that a pair was found building a retort-shaped nest under the verandah of a house at Mbulumbulu in October. The wing of one caught and released measured 125 mm.

***Delichon urbica* (Linnæus).**

The migrations, and particularly the main winter haunts, of this species are still not very clear. Although a few years ago we saw a large southward-bound flock on southern Lake Victoria as early as 8 August, we have no record from the Masai area earlier than December, during which month it has been observed in the Serengeti plains, west of Ngorongoro, and on 6 December at Monduli. From this month onwards it has been seen regularly, in January at Monduli, in February at Monduli and at Makami in very large numbers, in March at Monduli and Arusha, and finally on 4 April at Monduli.

***Lanius dorsalis* Cabanis.**

Female, 1 September, twenty miles north of Mt. Meru.

This is the common Shrike in the drier bush up to 4000 feet a.s.l., from the Kikuletwa River area south of the Sanya plains, north to the Kenya Colony border, on all sides of Mt. Meru. Its habits and behaviour are identical with those of *Lanius collaris* Linnæus, which replaces it at higher altitudes and in damper situations, but it is more silent, only occasionally uttering its harsh grating alarm-notes or the low chuckling, which amounts to its song. Its diet includes grasshoppers and caterpillars.

***Parus fringillinus* Fischer & Reichenow.**

Male, 3 March, Losogonoi; male +, 4 March, Longido; female, 2 December, Engare Nairobi.

From the Kenya Colony border to the extreme south of the Masai District on the Mwapwa boundary, this is by far the commonest of the Paridæ at all altitudes up to 5000 feet. The call is a very distinctive resonant "prttt-tchay-tchay-tchay", reminiscent of the English Willow-Tit. It nests in holes in thorn trees, and uses these holes as roosts.

***Parus albiventris albiventris* Shelley.**

Male ++, 10 November, near Kijungu.

Scarcer than the previous species, although common in the extreme south of Masailand, its range seems to be discontinuous, since we have not seen it to the north except in the Olalaa area. The call—not, it seems, recorded—is a spluttering trill or dry twitter, but a soft clicking is uttered as it feeds. The breeding male collected was also singing, a little three-syllable phrase, "pee-pee purr".

***Creatophora carunculata* (Gmelin).**

Male ++, 3 April, Lolbene; female, 27 April, Longido.

During the 1943-4 locust invasion of northern Tanganyika Territory, this species, previously noted as common in our area throughout the year,

but much more numerous between December and April, settled down to breed. Three large colonies were located: about two hundred nests ten miles west of Losogonoi on 3 April, over five hundred nests just west of Longido on 1 May, and three hundred nests or more over a very wide area of the Engaruka plains on 10 May. Nests were crowded on to medium-sized and large thorn-trees, a marked preference being shown for *Balanites*, but not bundled together as is often the case with *Bubalornis*, which builds similarly. The nests were large rough balls of thorn twigs, some lined with a little grass, 6–18 inches in diameter, with an entrance at the side, not cup-shaped as recorded in South Africa, and 10 inches or more, usually twenty to thirty feet, from the ground. Clutch sizes examined were $3 \times c/4$ and $2 \times c/3$, and seven eggs measured were 28×19 , 27×21 , 27×20 (2), 27×19 , and 25×18 (2), white, faintly tinged blue, in ground-colour, with a few minute dusky freckles or pale blue unmarked. By 12 May all nests examined contained young, the varying size of the three or four nestlings indicating immediate incubation when the first egg is laid. The week-old nestling is covered in grey down, with a large yellow bill. Its feeding-call is a high squeak, answered by the parents' harsh grate, and fledging seems to be very rapid, not exceeding ten or twelve days.

***Stilbopsar kenricki* (Shelley).**

Male +, 19 September, Engare Narok, Mt. Meru, 4700 feet.

This seems to be the first record of Kenrick's Starling on Mt. Meru. Small flocks of five or six birds frequented a small patch of vestigial *Albizzia* forest beside an European house, five miles from the nearest evergreen forest, chiefly during September and October. The birds were, no doubt, attracted by big fig-trees on the outskirts of the wood, on the small fruits of which they were feeding (*cf.* Moreau, quoted by Jackson). In April, however, a pair appeared to be nesting in a hole in a solitary *Albizzia* some forty feet from the ground, and on 2 October a pair seemed to be preparing an old Woodpecker's nest, fourteen inches up in a small tree in the wood, for breeding; both birds perched on a branch near the hole, and frequently flew to perch like Woodpeckers below the hole and peer in; both brought nesting material, and one snapped off a small twig from the branch on which it was perching. On 23 October, finally, the male brought nesting material, and the female entered the nest-hole, but it was, unfortunately, not possible to continue observations. A year later, on 19 September, four of these Starlings were "playing" together round the nest-hole previously noticed in April, one of the birds entering it several times. Further interest was shown by a pair some days later, but they had not settled down to breed by 15 October.

Spreo fischeri (Reichenow).

Female +, 22 April, Longido.

Little has been recorded of this shy species, which we have noted only in two very dry thorn-bush areas, Longido and Lolbene, in the latter case often loosely associating with *Cosmopsarus regius* Reichenow. It is usually found in pairs or small parties of about half a dozen, and spends much of the time on the ground, but flies up into a tree or bush immediately on being disturbed, and then glides away with outstretched wings. It has a very distinctive wheezy whirrigig call—"creewee creewoo"—rapidly repeated. To judge from stomach contents, it is wholly insectivorous.

Nectarinia melanogastra melanogastra (Fischer & Reichenow).

Male ++, 14 December, Naberera; male ++, 16 June, Kihurio, north side of the south Paré Mts., in very dry thorny woodland. The species extends throughout our area below 4500 feet. A nest found on 23 May near Engaruka, in thicket near a stream, was built untidily of fine grass and cobweb, an oval ball with side entrance, lashed to a drooping thorn twig, and so within four feet of the ground. The two rather pointed eggs, measuring 17×10 mm., were stone-white, streaked with sepia, more thickly at the broad end, so as to form a ring.

Histurgops ruficauda (Reichenow).

Female, 20 September, Endulen, fifteen miles north-west of Lake Eyasi; female in moult, 12 November, Arдай plains; male ++, 30 November, Monduli.

The Arдай-Monduli records, from scattered *Acacia-Balanites* woodland at 4500 feet, in which small flocks of eight to a dozen of these birds are frequent, extends the range to the east by some fifty miles, although Neumann obtained it near Lake Manyara, and we have records of it from the scarp immediately west of this lake; but the stronghold of the species is undoubtedly the rather wooded hills dropping into the Serengeti plains, west and south of Ngorongoro crater, in which, too, it is not uncommon. It was very numerous indeed at Endulen in September, associating with *Agapornis fischeri* Reichenow, and feeding on the ground. The trees were full of its rough long grass-nests, and the air with its bleating "pchweezee" call.

On 28 June several nests were found near Monduli, fairly close together, in small scattered clumps of Gall *Acacia* in open savannah. One to three nests had been built in each tree. The nest is a large grass ball, with a short side-entrance spout four inches long and the same in diameter. It is placed five to ten feet above the ground in the thorny branches. Several species of grasses were identified in the nest. *Pennisetum stramineum* formed the bulk of the structure, with *Pennisetum megianum*,

Themeda triandra, *Urochloa nubica*, and some *Sporobolus* sp. A few feathers were used as lining. Two unfledged chicks were found in one nest; the wing, tail, and back feathers were in quill, dark brown in colour, with reddish-brown edges; the down was whitish grey. Two other nests each had one fully fledged youngster.

The diet is a mixed one, grass and tree seeds, even grains of wheat, small insects, and locusts having been noted among stomach contents.

***Sorella emini*bey Hartlaub.**

Two males, one female, 28 February, Monduli; male, 25 July, Kiserian.

Sclater only includes "north-western" Tanganyika Territory in the range of this species, but we have found it common in the dry country on all sides of Mt. Meru, and extending as far south as Lolobene. Most records of the nesting of this species, *e.g.*, those made by Lynes and quoted by Jackson, suggest that it normally builds its own untidy grass nest; McInnis (11) found some birds utilizing nests of *Ploceus spekei* Heuglin, but the majority were building their own. It is therefore interesting that the majority of those found breeding on the Arday plains on 27 July were making use of vacated nests of *Ploceus rubiginosus* Rüppell, *P. spekei*, and *P. intermedius* Rüppell. In one solitary *Balanites* tree *P. rubiginosus* was still feeding young in a few nests, while a colony of *Sorella* had taken over other nests, and had already laid eggs. Considerable quantities of fine grasses had been added inside the nests. Clutches of three and four eggs were found. The eggs agreed closely with the description given by Jackson, but averaged rather larger, sixteen averaging 19×14 mm.

Nests probably built by *Sorella* itself were, however, also seen early in July, untidy balls of grass with side entrance and porch, placed singly but close to each other in the tops of low Gall Acacias.

***Ploceus rubiginosus rubiginosus* Rüppell.**

Two males, one female ++, 22 February, Ngumumwa rainponds, forty miles north of Kibaya; female, feeding nestlings, 4 June, also near Ngumumwa.

This species occurs sporadically up to 4500 feet throughout the Masa District, from the Kenya Colony border to the extreme south within sixty miles of Kilosa, often in very big colonies and flocks. Many breeding colonies have been found, usually in groups of fair-sized thorn trees, and often in association with other species, *e.g.*, *Ploceus intermedius*, *Pseudonigrita* spp., and *Creatophora*. Nests inspected were six inches or rather larger in diameter, and woven untidily from green grass, without a spout. Eggs differed from those described by Jackson both in shape and colour, being an unspotted rich turquoise-blue, and measuring 23×14 mm. The observation made in Kenya Colony by Jackson that

the males flock and leave the breeding colony, while hen birds remain to feed the nestlings, was confirmed in the case of a colony near Makami. During two hours of the late afternoon no male visited the nests, though females were constantly bringing food to the squeaking nestlings ; a flock of males was later found about a mile away. Moreau has suggested to us that this habit may well indicate some form of polygamy, but this remains to be confirmed.

Euplectes taha Smith.

Male ++, 4 June, female, in moult, 16 June, Ngumumwa ponds.

The distribution of this species seems to be curiously patchy in eastern Africa, and we do not know if our birds, which have been noted breeding annually on the remote Ngumumwa rainponds and also, a recent colonization, at the Meserani dam, belong to the northern race, *E. t. ladoensis*, for which the nearest recorded locality appears to be two hundred miles away near Nakuru, or to the typical race of South Africa. The association of this species with water is very marked, nests, which are untidy dry grass ovals, with a side entrance, being woven on to two or three stems of aquatic herbage well out in the water, and only eighteen to twenty-four inches above it. A nest on 3 June contained three young chicks. The call is a very distinctive ticking whirr, like a faulty alarm-clock.

Quelea cardinalis Hartlaub.

Male, 25 February, Kibaya ; male +, 22 April, Longido ; male ++, 8 May, Arдай plains.

In the three years 1940-43, this species was noted only near Lake Natron, Oldonyo Sambu, and Kibaya, and then in very small numbers. None had been seen in the Arдай plains until 1944, when this *Quelea* suddenly appeared and bred in very great numbers, as well as over the whole northern Rift Valley area. On the Arдай it nested in the locally dominant *Bidens*, sp., a branching marguerite-like plant two to four feet high, with small yellow flowers. The rush-like grasses of swampy hollows were elsewhere utilized. Nests were hung between two stems of a single plant, well hidden in the leafy clumps. Building started late in April, and by 8 May large numbers of nests were occupied with clutches of two, but more usually three eggs, measuring 17-18×13 mm. There was considerable variation in the markings of the eggs, the commonest having a very pale blue, almost white, ground-colour, evenly spotted and blotched with sepia and grey-mauve. Others had a greener ground-colour with bolder spotting and blotches, or a white ground with a heavy concentration of sepia blotches at the broad end. One egg had a pink ground-colour as though the sepia of the blotching had "run".

Chicks were beginning to be hatched in some areas as early as 12 May. When the breeding colonies linked up after nesting, enormous flocks,

joined by equally large numbers of *Quelea q. zethiopica* (Sundevall), did extensive damage to wheat in ear, while the grain was still green.

***Linurgus killimensis killimensis* (Reichenow & Neumann).**

Female, 2 October, 6000 feet, Mbulumbulu ; male ++, female, 4 July, 2 November, 6000 feet, Monduli Mt. forest.

The specimen in July gives some indication of the breeding season, although the bird was feeding in a party of six or eight, high in an *Albizzia*, consuming its seeds and, as was found on dissection, an occasional small caterpillar. Other records are from the forest above Engare Nairobi at 7500 feet, where several pairs were coming down at midday to drink at the forest stream on 24 October, and also in October, a male in full song in the forest on Ngorongoro crater rim, 7000 feet. The call is a subdued "sit-sit", the alarm-note a thin squeaking, and the song a musical whistling.

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