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VIII.

A LIST OF THE IRISH HEMIPTERA (HETEROPTERA AND CICADINA).

By J. N. HALBERT, M.R.I.A.

(BEING THE TWENTIETH REPORT FROM THE FAUNA AND FLORA COMMITTEE.)

[Read 12 NOVEMBER, 1934. Published 4 JANUARY, 1935.]

INTRODUCTION.

THE following paper is an attempt to bring together for the first time information on two groups of the Irish Hemiptera, with the main object of supplying as accurate a list as possible of the species found in this country. It also serves to fill many gaps in the known range of these insects.

The Hemiptera are an order of suctorial insects which have been grouped by entomologists in two sections. They are (1) the Heteroptera in which the bases of the fore-wings are of a firmer texture than the terminal membranous parts, comprising mainly the plant and water-bugs; (2) the Homoptera having the fore-wings of a uniform texture; these include the Cicadina or Froghoppers, the Aphids, and the Scale Insects. The present report is concerned with the Heteroptera, the Cicadina, and allied forms.

Our knowledge of the Heteroptera is the more complete, and in the case of these insects it has been decided to give as full details as possible. This seems justified, as apart from the work involved in collecting and identifying specimens, most of the localities and at least fifty of the species are unrecorded from Ireland; among the latter are many rare or local insects, such as *Thyreocoris scarabaeoides* Linn., *Corizus hyalinus* Fabr., *Ischnocoris sabuleti* Fall., *Salda morio* Zett., *Poeciloscytus palustris* Reut., and *Notonecta marmorea viridis* Delc. It was at first intended to omit the Homoptera, as the available information on these insects is scanty. In order, however, to make the report more useful for reference a list of the Irish species has been added (see page 307), with notes on the rarer forms.

A brief survey of what has been published may be of interest. The earliest note that I have been able to trace is by Curtis in reference to the finding of *Microvelia* by Haliday at Holywood in 1838. With the exception of a few scattered records there is then a gap until 1878 when Dr. J. A. Power, F.E.S., recorded a list of species found in the Waterford and Dublin districts. This list by one of the leading entomologists of his time may be regarded as accurate. Two of the species have not since been found in Ireland, they are *Capsus capillaris* Fabr. and *Brysoptera rufifrons* Fall.

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In 1892 "The Hemiptera H. of the British Islands," by E. Saunders, F.L.S., appeared, the first modern work on the subject. He mentions about forty Irish species the majority of which were found by A. H. Haliday many years ago. This list was supplied by Dr. G. H. Carpenter, M.R.I.A., who was then in charge of the insect collections in the Irish National Museum.

On the publication of the "Irish Naturalist" (1892) there was a marked increase in natural history work, and many records on the group find a place in its pages. The Rev. W. F. Johnson, M.A., was a contributor to whom most of our information on the Hemiptera of the northern counties is due; and also the late C. W. Buckle, who collected in the Belfast and Lough Foyle districts.

During the valuable work done on the Clare Island Survey, organized by Dr. R. Lloyd Praeger, M.R.I.A., the Hemiptera received a good deal of attention, one hundred and seventy-two species are recorded from western Mayo in the Proceedings of this Academy.¹ Reference should also be made to the work of the Irish Field Clubs, especially on their visits to the Kenmare, Galway, and Sligo districts.

The late E. A. Butler's "Biology of the British Heteroptera" was published in 1923 in which there are many references to Irish species, though, as in the case of Saunders, no definite localities are mentioned. The information given on the subject of distribution was of great use in the preparation of this report.

A. H. Haliday formed a collection of Hemiptera, the remains of which, as well as his MS. list of Irish insects, are now in the National Museum. It is clear, however, that the Hemiptera had not the same attraction for this distinguished entomologist as had other insects, notably the Hymenoptera and the Diptera, and he published little on the group. Unfortunately, as in many old-time collections the Haliday specimens are as a rule unlocalized, and where Irish species were concerned he was content with indicating that they had been found in this country. Originally there were many species which had not been noticed since his time; these have now been rediscovered with the exception of five, i.e., *Corizus parumpunctatus* Schill., *Heterogaster urticae* Fabr., *Peritrechus geniculatus* Hahn., *Orthostira nigrina* Fall., and *Lophus flavomarginatus* Don.

Mr. E. Bullock has collected a good many of these insects in the Killarney district, a notable discovery being the winged form of *Pachycoleus rufescens* J. Sahlb.; he has also paid special attention to the genus *Corixa*, and I am indebted to him for a useful list of his captures, among which *C. dentipes* Thoms., and *C. cavifrons* Thoms., are of interest.

It is now many years since the writer began to work at the Irish

¹ Proc. Roy. Irish Acad., xxxi.

Hemiptera. For long they were collected in a more or less casual way when in search of other orders, a method which does not lead to the best results, as the Hemiptera are of fragile structure and need care in their preservation. During more recent years visits were made to promising districts, especially in the late summer and autumn months, when these insects received special attention, and a good deal of information was gained chiefly in the southern counties. In this work he has much pleasure in acknowledging the help given by the Fauna and Flora Committee of this Academy, without which the report would have been much more incomplete than it is.

The present state of our knowledge of the Irish Heteroptera is such that I believe we have now a fair idea of the nature of our fauna as far as the species which occur here are concerned. On the other hand, their local range within the country is in many cases but little known, and much work remains to be done in this respect, especially in northern and midland districts.

On comparing our fauna with that of Great Britain we find a difference in the relative numbers of species similar to what has been observed in other groups of insects. There are now 485 species of Heteroptera recorded from the British Isles, and only 253 are known to occur in Ireland. While it is certain that additional species will be found, I do not believe that this numerical difference between the faunas is likely to be much altered by future work.

The following table of families giving the comparative numbers of species occurring in Great Britain,² Scotland, and Ireland will help to show where the differences are most marked:—

Heteroptera.	Gt. Britain.	Scotland.	Ireland.
I. Pentatomidae	39	9	15
II. Coreidae	23	1 (?)	5
III. Berytidae	8	2	4
IV. Lygaeidae	66	22	27
V. Pyrrhocoridae	1	0	0
VI. Tingidae	25	9	9
VII. Aradidae	6	1	1
VIII. Hebridae	2	1	1
IX. Gerridae	15	10	11
X. Reduviidae	18	8	10
XI. Saldidae	20	14	13
XII. Cimicidae	38	17	22
XIII. Capsidae	185	109	105
XIV. Nepidae	2	1	1
XV. Naucoridae	2	1	1
XVI. Notonectidae	4	3	3
XVII. Corixidae	31	25	25
	485	233	253

² There are five British species of northern range found only in Scotland, so that no less than 480 species are recorded from England and Wales.

The poverty of the Scotch and Irish faunas in the families Pentatomidae, and especially in the Coreidae, also in the Lygaeidae, Tingidae, and Cimicidae, will be noticed. The fact is, these families are rich in species that have a more or less southern range in the British Isles, and the great majority do not reach Scotland. The somewhat richer Irish fauna in these families also accounts for the difference in the Scotch and Irish lists. The Corixidae are aquatic insects, and the relatively higher number of species may be expected in forms which are known to be very widely and uniformly distributed where suitable ecological conditions exist.

It is of interest to compare these figures with what occurs in other orders of insects. In the coleoptera, for instance, approximately 3,590 species are found in Great Britain and 1,900 in Ireland, relatively the same proportion that we find in the Hemiptera. Among sun-loving insects there are the butterflies, according to South, "The entire number of species that can by any means be regarded as British does not exceed sixty-eight." We have records of about 42 native species, a higher percentage which may in part be due to the attention given to these popular insects. With regard to the Hymenoptera, Mr. A. W. Stelfox records 158 species of ants, bees, and wasps (omitting the families Chrysididae and Bethylidae) as against 425 British species, a low average for which reasons are given in his excellent report on these insects.³ Apparently the most that can be expected in Ireland is from about one-half to two-thirds of the British fauna in some groups.

While it is possible that new species or varieties may yet be found in unexplored districts, it would seem that isolation has had small effect on the Irish Hemipterous fauna. As far as we are aware there are no endemic species, and of the few which are claimed to be endemic in Great Britain only one—*Myrmecobius inconspicua* D. & S.—has been found in Ireland. Two insular British varieties occur: these are *Calocoris vi-guttatus* var. *insularis* Reut., which is the only form found here, and the pale ochreous variety *maculicollis* M. & R., of *Camptozygum pinastri* Fall. There is a tendency to melanism, as in the genus *Poecilosecytus*, where the pale coloured *P. unifasciatus* Fabr. is represented in Ireland by *P. palustris* Reut.; a melanic tendency is also noticeable in *Corixa*, especially in specimens from highland districts.

It is now believed that the paucity of species in the Irish fauna as compared with that of Great Britain is due more to past geological changes resulting in the isolation of the areas concerned than to ecological factors such as of climate and soil. Problems of geographical distribution are thus involved. The writer does not wish to enter on this difficult subject, which has been so admirably dealt with in recent years,

³ Proc. Roy. Irish Acad., xxxvii, p. 201.

except in so far as some notes on the distribution of the Irish Hemiptera may be of interest to those engaged in this special study. As in all groups of insects, the bulk of our hemipterous fauna is made up of species which are common and generally distributed in the British Isles and over wide areas of the Palæarctic Region.

Apart from these widespread forms of uncertain origins a southern and a northern group can be recognized without difficulty. The former is the more interesting: it comprises species which we have reason to believe are confined to our southern counties, their northern limit being approximately the Dublin and Galway line. Among these are some of wide range in the south, such are *Eurygaster testudinaria* Geoff., *Palomena prasina* Linn., and *Syromastes marginatus* Linn. There are also in this group a number of species found only in our south-eastern districts; some of these are of very local occurrence, and they mainly inhabit the coast. In the aggregate their range extends from the Cork district to north Wicklow; as example attention may be drawn to *Tyreocoris scarabaeoides* Linn., *Stenocephalus agilis* Scop., *Therapha hyoscyami* Linn., *Ischnodemus sabuleti* Fall., *Nabis lineatus* Dahlb., *Myrmecodia inconspicua* D. & S.,⁴ *Adelphocoris seticornis* Fabr., and *Notonecta marmorea viridis* Dele. It is in this group that we find a few species which are of south-west European origin, notably the Tyreocoris, the Myrmecodia, and the Notonecta, all of which occur on the dunes at Ballyteige on the Wexford coast. The interesting *Aepophilus bonnairei* Sign., which lives between high and low water on the sea shore, is also of south-western origin with a wider Irish range than the species just referred to, as it is found also on the west coast of Ireland. It would thus appear that in the Hemiptera there is a group of species of south-west European origin confined in their Irish range to the south-east rather than to the south-west, where we might expect them to occur.

In the case of xerophilous insects, such as the Tyreocoris and the Myrmecodia, it is probable that the drier conditions of south-eastern Ireland may have been the deciding factor in their local distribution.

Judging by their continental range, a considerable number of species must have entered the Irish area while it still formed part of north-western Europe; among these are some interesting northern and alpine forms of which the following may be mentioned:—*Drymus piceus* Flor., *Pachycoleus rufescens* Sahl. (Alpine), *Salda morio* Zett., *Acalypta nigrina* Fall., *Teratocoris viridis* D. & S., and *Corixa cavifrons* Thoms. They occur mainly in western districts as far south as Kerry, where they are well represented. In most cases it will be found that the general distribution of the insects referred to in these notes is very wide; in fact, there are few, even amongst our rarest British Hemiptera, that have a really restricted continental range.

⁴ Found only in southern Britain, and consequently of south-west European range.

In the identification of species I have received kind help from the late E. Saunders, F.L.S., and J. Edwards, F.E.S., and Mr. W. E. China, of the British Museum, has also given me very useful assistance in clearing up difficult points. I have also to thank colleagues who have helped in collecting specimens. Mr. A. W. Stelfox M.R.I.A., has added many interesting records.

NOTES ON LIST.

The nomenclature of Butler's "Biology" (1923) has been followed.⁵

Recorders' names are in italics with reference to the bibliography.

Example: *Mason '02.*

The term "larva" is used for all immature stages of growth.

Twelve species have been recorded in error or are otherwise in need of verification. In order to show that they have not been overlooked they are noted in their systematic positions in the list.

All of my records are entered under the initial (H.).

The county and vice-county divisions adopted are those used by Dr. R. Lloyd Praeger in his "Irish Topographical Botany." The symbols for these are:—

SK.	South Kerry.	DU.	Dublin.
NK.	North Kerry.	ME.	Meath.
WC.	West Cork.	WH.	Westmeath.
MC.	Mid Cork.	LF.	Longford.
EC.	East Cork.	RO.	Roscommon.
WA.	Waterford.	EM.	East Mayo.
ST.	South Tipperary.	WM.	West Mayo.
LK.	Limerick.	SL.	Sligo.
CL.	Clare.	LE.	Leitrim.
NT.	North Tipperary.	CV.	Cavan.
KK.	Kilkenny.	LH.	Louth.
WX.	Wexford.	MO.	Monaghan.
CW.	Carlow.	FE.	Fermanagh.
QC.	Queen's County.	ED.	East Donegal.
SG.	South Galway.	WD.	West Donegal.
WG.	West Galway.	TY.	Tyrone.
NG.	North Galway.	AR.	Armagh.
KC.	King's County.	DO.	Down.
KD.	Kildare.	AN.	Antrim.
WI.	Wicklow.	LD.	Londonderry.

⁵ Except where otherwise noted the quoted remarks on the distribution of certain species are from this work.

SECTION 1.—GYMNOCECERATA.

Family I.—PENTATOMIDAE.

Eurygaster testudinaria Geoff.

SK. Kenmare : larva among grass in early July, H.'98. Caragh Lake : 9/'26 (Bullock). Derrynane : larva, 13/7/'34! (Stelfox). **WC.** Glengarriff : in meadow, 29/7/'24. Glandore : 11/6/'00 (H.). Rossscarbery : larva and adult, 8/'95, *Cuthbert* '95. **EC.** Youghal : larva and adult in south marsh, 12/3/'33 (H.). **WA.** Waterford : on flowers in a dry quarry, 6/9/'29 (H.).

ST. Clonmel : larva in marsh by River Suir, 25/7/'28 (H.). **WX.** Killurin : marsh by River Slaney, on Phragmites, 9/7/'00 (H.). **WI.** Vale of Clara : larva, 7/'19 (H.).

As recorded by Mr. W. E. China⁵ there are two species of *Eurygaster* in Britain and the Irish specimens that I have seen are *E. testudinaria* Geoff., so it may be that *E. maura* Linn. is not an Irish species. Four of the above-mentioned records are based on the occurrence of the larva, these are referred provisionally to the present species. In all probability the following records of *E. maura* Linn., of which the specimens are not available should also refer *E. testudinaria*, Caragh Lake (Yerbury) *Distant* '02. Lough Hyne : in salt marsh, *Renouf* '34. Inistioge : "in some numbers in a disused limestone quarry at Kilmacshane" 8/'02, *Turner* '03.

E. testudinaria is of local occurrence in the south of Ireland; it does not seem to range farther north than the County Wicklow, frequenting marshy places, also meadows and dry quarries, from July to September. On one occasion it was on Phragmites in an estuarine marsh with *Zicrona caerulea* Linn., and one of our rarer beetles *Donacia braccata* Scop. The Irish specimens do not show much variation, they are larger than types of *E. maura* that I have seen, and Mr. China has observed the same in English specimens. "On the continent *E. testudinaria* is usually smaller than *E. maura*. This may mean that our British specimens represent a distinct subspecies." Both of these insects are found in the south of England, and the present species is the more widely distributed, ranging as far west as Cornwall.

Tyreocoris scarabaeoides Linn.

WX. Ballyteige Burrows on the Wexford coast near Kilmore Quay : 14/5/'32 (Stelfox). In same place : 19/5/'34 (H., and Stelfox).

The only locality known to me for this species is on the dunes at Ballyteige Burrows where the first Irish specimens were discovered by Mr. A. W. Stelfox a few years ago. During May, 1934, we visited this

⁵ Ent. Mo. Mag., lxiii, 251 (1927).

locality and again found it chiefly in one sun-baked hollow where there was a close growth of ground moss among which the insects tried to hide on disturbance. Here it was in company with the ant *Tetramorium caespitum* of which large numbers were nesting in the moss. Tyreocoris is confined to warm dry localities in the south of England; the Continental range is wide, northern Africa to Scandinavia.

Sehirus luctuosus M. & R.

KK. Quarries south of Kilkenny : 21/4/'25 ! (Phillips). **KD.** Sallins : 9/5/'26 ! (Stelfox).

Not previously recorded from Ireland and evidently very local. Mr. A. W. Stelfox found the insect running actively in the sun in a gravel-pit on esker ground close to Sallins. The range in Great Britain is southern "mainly from south of the Thames" and extending to South Wales and Lancashire. Widely distributed in Europe.

Dorycoris baccarum Linn.

SK. south Kerry : June, '02, *Saunders* '02. Glencar : 9/'98, *Scharff and Carpenter* '99. Kenmare : abundant, 7/'98, *H.*'98. **NK.** Dingle and Ventry : 5/'94. Caragh Lake and Waterville : 7/'01 (Yerbury), *Distant* '02. Killarney : in Ballast Pit, 7/'27 (H.). **WC.** Dursey Island : 6/'93, *Johnson* '94. Glengarriff : (Yerbury) *Distant* '02, and 7/'24 (H.). Rosscarbery : 8/'95, *Cuthbert* '95. Glandore : 6/'00 (H.). Lough Hyne : in salt marsh, *Renouf* '34. **MC.** Monkstown ! (Westropp). Mallow : 6/'00. **EC.** Youghal : 8/'33 (H.). **WA.** Waterford district : *Power* '78. Ardmore : 9/'96, *Cuthbert* '97. Clonmel district : larvae and adults, 7/'28. Curraghmore Demesne : 9/'29 (H.). **KK.** New Ross : Pink Point, 20/5/'34. Thomastown : larvae, 7/'01. Glenmore : 9/'29 (H.). "Swept in numbers from heath on Mount Brandon, but only three examples were mature" : 8/'02, *Turner* '03. **WX.** Courtown : (Cuthbert) *Johnson* '94. Ferns : H. '97 b. Killoughrum Forest : 5/'99. Killurin : 7/'00. Wexford district : 7/'25 (H.). **WG.** Great Aran : *Johnson* '94. Roundstone 4/4/'96. Clifden : 8/'34 (H.). **WI.** Rathdrum : 9/'26 (Stelfox). Ovoca : 23/9/'34. Arklow : larva and adult on sandhills 7/'26. Murragh of Wicklow : larva and adult on furze, 8/'27. Kilcoole : on sea shore. Ferns (H.). **DU.** Howth : *Saunders* '93. Sutton : 8/'28. Liffey Valley at Knockmaroon : 9/'29. Glenageary : larva, 7/'33. **WM.** Inishbofin : *Johnson* '94.

Widespread and locally common in the south of Ireland, occurring in gravel-pits, on embankments, and especially in sandy places on the coast, from April to September. It ranges even to the western islands of Aranmore and Inishbofin; there are no records from the northern counties of Ireland, it is likely, however, to be found there. The species is very widely distributed in Great Britain and in the Palearctic Region.

Palomena prasina Linn.

SK. South Kerry: *Saunders* '03. Kenmare: common, 7/'98, *H.*'98. Derrynane marsh and Waterville: 7/'34 (Stelfox). **NK.** Killarney: larva and adults, 8/'24 (H.). Rossbeigh. **WC.** Glengarriff: 6/'01, *Distant* '02. Also on 7/'24. Glandore: 6/'00 (H.). **MC.** Kinsale: 7/'07 (Standen). Monkstown! (Westropp). **EC.** Youghal and Castlemartyr: 8/'33 (H.). Fermoy: 8/'97. **WA.** Waterford district: *Power* '78. Lismore: *H.*'94 a and '95 b. Roanmore: *Janson and Wyse* '23. Near Waterford: 9/'29. Curraghmore Demesne: 9/'29. Clonmel district: 7/'28 (H.). **LK.** and **CL.** Limerick district and South Clare: 7/'95 (H.). **ST.** Clonmel district: larva and adults, 7/'28 (H.). **KK.** Thomastown: 7/'01. Glanmore: 9/'29. New Ross: Pink Point, 5/'34 (H.). **WX.** Ferns: 8/'97. *H.*'97. Near Wexford: 7/'00. Killoughrum: 5/'99. Macmine: larva, 8/'31 (H.). **CW.** Tinnahinch: 5/'25! (Phillips). Kilcarry: 21/5/'34 (H.). **WG.** Clonbur! (Scharff). Ballynahinch: 8/'34, larva (H.). **NG.** Galway district: 7/'95. Ross: 9/'05 (H.). **WI.** Rathdrum: 9/'97. Ovoca: 23/9/'34, *H.*'97. Arklow: larva, 7/'26. Shelton Abbey: 9/'28. Devil's Glen: 9/'33. Kilcoole: larva, 8/'27. Greystones: larva, 8/'33, adult, 9/'33, Ferns. Kiltruddery: 5/'06. Enniskerry: woods by Cookstown River, 9/'31 (H.). Ballyhenry: 11/4/'26 (Stelfox). [**DU.** Santry: larvae, *H.*'94 c. Not this species.]

In the south of Ireland this species is widespread and common; as far as I am aware it has not been found north of the counties Galway and Wicklow. It lives more on low-growing plants than on forest trees, frequenting glades in woodland districts, meadows, river banks, and way-side hedges; hawthorn and bramble when in fruit are favoured food-plants. During the early summer months the adults and numbers of the larvae may be found, the former being survivals from the autumn brood of the previous year. The newly emerged adults appear in the beginning of September. Common in the south of England and the Continental range is very wide.

[*Chlorochroa juniperina* Linn.]

Lough Hyne: Salt marsh, *Renouf* '34. The identification of the single specimen recorded from this locality has not been verified. It is likely that the insect may be *Palomena prasina* Linn., which has been found in coastal marshes as at Derrynane (Stelfox). *C. juniperina* is one of our rarest British hemiptera occurring on juniper bushes in a few localities chiefly in the south of England.]

Piezodorus lituratus Fabr.

SK. Kenmare, "abundant in October," *Mason* '03. **WC.** Glandore: 6/'00 (H.). **EC.** Youghal: 7/'07 (Standen). Larva, 8/'33 (H.). **WA.** Waterford district: *Power* '78. Monatray: larva, 8/'33. Clonmel district: 7/'28 (H.). **ST.** Kilsheelan: gravel pits, 7/'28 (H.). **KK.** Glenmore: banks of River Barrow, 9/'29 (H.). **WX.** Forth Hills: 7/'00. Killoughrum: 5/'99. Macmine: larva, 31/8/'31 (H.). **QC.** Dunamace: 6/5/'28! (Stelfox). **WG.** Clifden: 8/'34 (H.). **NG.** Clonbrock: larva, 6/'96 (H.). **WI.** Arklow: 9/'28. Murragh: larva and adults, 8/'27. Kilcoole: 9/'28. Woodenbridge. Bray: 30/8/'33 (H.). **DU.** Phœnix Park: 9/'27. Sutton and Howth: 2/5/'09. Portmarnock: 9/'27. Swords: 9/'28. Tallaght. Dundrum (H.). **KD.** Maynooth: 9/'33 (H.). **TY.** Ardtrea Rectory: "on brambles in a bog," September, *Brenan* '98. **AR.** Poyntzpass: Spring brood in numbers on furze, 16/5/'00, and autumn brood, 18/10/'00, *Johnson* '00 b, and '13. Portadown: (*Johnson*) H. '02. Jerrettspass: numerous on gorse in April, *Johnson* '12. **AN.** Shores of Lough Neagh between Glenavy and Ballinderry: 26/9/'01 (Buckle Diary). Cushendun: H. '02.

Generally distributed from Kerry to Antrim, occurring in abundance in sheltered sunny places on its usual food plant, the common furze (*Ulex*). Mr. Brenan notes finding it on bramble in a bog in County Tyrone. An interesting account of its appearance during favourable weather in winter and spring is recorded by Rev. W. F. Johnson.

Pentatoma rufipes Linn.

SK. Kenmare: 7/'28, H.'98. Parknasilla: 7/'01, *Distant* '02. **NK.** Muckross and Kenmare Demesnes and Toomie's Wood: 7/'27 (H.). Caragh Lake: 8/'01, *Distant* '02. Glencar: 6/'28. **WC.** Glengarriff: 7/'24 (H.). Berehaven: *Johnson* '94. **MC.** Monkstown! (Westropp). **EC.** Lismore: larva, 7/'94. Youghal: larva and emerging adults, 7/'07 (Standen). 8/'33 (H.). **WA.** Waterford district: 9/'29. **ST.** Clonmel district: 7/'28 (H.). **NT.** Nenagh. **CL.** Ennistymon: 8/'26 (Phillips). **KK.** Inistioge: *Turner* '03. Graiguenamanagh: 9/'25 (Stelfox). **WG.** Galway district and Clifden, 8/'34 (H.). **KD.** Carton: 9/'33 (H.). **WI.** Arklow: 9/'28. Lough Dan, 8/'09. Bray district: 8/'07. Glen of Downs (H.). Ovoca: 8/'25. Devil's Glen, 9/'27. Clara: 7/'27 (Stelfox). **DU.** Lucan: 10/'27. Portmarnock: 9/'27. Stillorgan. Tallaght. Dundrum. Tibbradden. Phœnix Park. Santry. Glasnevin. Donabate. Malahide (H.). St. Ann's, Clontarf: 9/'24 (O'Mahony). St. Stephen's Green: 9/'30 (Gordon Kelly). **WM.** Westport district: H. '12. **SL.** Sligo district: common, 7/'04, H. '04. **LE.** Dromahair: 7/'32 (H.). **AR.** Loughgall: *Johnson* '93. Poyntzpass: Johnson.

Common and widely distributed, occurring on oak, ash, birch, and

other trees. Has been recorded as injurious to young apple trees in County Kilkenny, Carpenter '15.

Picromerus bidens Linn.

SK. Kenmare: summer of '99, Mason '02. Larva in same place: 7/'98 (H.). **NK.** Killarney: Muckross Demesne, 9/'25 (H.). **WC.** Ross-carbery: 8/'95, Cuthbert '95. **EC.** Youghal: south marsh, 8/'33 (H.). **WA.** Marshes near Waterford: 9/'29. Curraghmore Demesne: banks of River Clodeagh, 9/'29. **ST.** Clonmel district: 7/'27 (H.). **KK.** Mount Brandon: mostly immature, 8/'03, Turner '03. **WX.** Marsh at Killurin: larva and adult, 7/'25. Rosslare: larva, 7/'00 (H.). Kilgorman: 2/8/'29 (Stelfox). **WG.** Clifden: very local, 30/8/'34 (H.). **KD.** Canal bank near Athy: 9/'28! (O'Mahony). **WI.** Arklow: larva in marsh, 7/'26 (H.). Devil's Glen: 7/'25, and 4/10/'24. Aw Valley: 8/'29. Kilmacanogue: 7/'26 (Stelfox); and 9/'33 (H.). **DU.** "Near Dublin": Power '78. *M'Nab* '78. *H.* '08. [Probably found by Power in north Wicklow.] **WH.** North shore of Lough Ennell: 9/'30 (H.).

The range of this species is distinctly southern, occurring in damp meadows and marshy places, where it may sometimes be found in numbers on low-growing plants. There is always a local tendency even in favoured localities, as I have noticed in the extensive marshes at Youghal and Waterford; this may have something to do with an abundance of suitable prey, as the insect is known to be carnivorous. "The insects of the year attain maturity during the late summer months, and may be found in the open till October, when they retire for the winter, finding shelter under low bushes or amongst grass or dead leaves. They appear in the open again in March and April, and from then on to October the imago may be found." In Great Britain *Picromerus* ranges from Cornwall into Scotland, and it is widely distributed in the Palæarctic Region.

Rhacognathus punctatus Linn.

WA. Waterford district: Power '78. **KK.** Inistioge: a single immature specimen, 8/'02, Turner '03.

These are the only Irish records of this species, so apparently it is rare. The Inistioge specimen was in the larval stage, and it is desirable that this record should be verified by the capture of the adult insect. The late Dr. Power's collections are now in the British Museum, and there is no trace of a Waterford specimen in the series of *Rhacognathus*, it is scarcely likely, however, that there can have been an error in this record. Widely distributed in Britain, "though never common," ranging from Cornwall to Lough Rannock in Scotland. It has been found among heather, in moss, and on low-growing plants rather than on trees.

Troilus luridus Fabr.

SK. South Kerry (Donisthorpe), *Saunders* '03. [Kenmare: larva *H.* '98. This should refer to *Picromerus bidens* L.] **NK.** Killarney: marshy ground near Ross Castle, 26/8/'25. Muckross Demesne (H.). **WA.** Waterford district: *Power* '78. **ST.** Clonmel: adult in gravel pit near Kilsheelin, 17/7/'28 (H.). **LK.** Limerick district! (Neale). **CL.** South Clare: 7/'95 (H.). Near Ennis: 14/9/'29! (Phillips). **SG.** Woodford: larva, 8/'01 (H.). **WG.** Ballynahinch: 24/8/'34 (H.). **NG.** Clonbrock: in late autumn! (Dillon). *H.*'98. **WI.** Devil's Glen: 9/'27 (Stelfox). Again on blackthorn, 11/9/'34 (H.). Ballyhenry: in old quarry, 9/'30! (Stelfox). Ovoca: 23/9/'34. Greystones: larva on hawthorn, 22/8/'33. Adult in same place, 6/9/'33 (H.). **DU.** Glenasmole: 14/10/'31 and 3/6/'34 (Stelfox). **WH.** Ballinafid Lough: larva, 5/9/'30. Clonmacnoise, 28/6/'99 (H.). **LH.** King Williams Glen: 23/11/'32! (Stelfox). **DO.** Tollymore Park: larva found on trees (Patterson), *Johnson* '00 b.

A local insect in Ireland, occurring chiefly in the south, but extending as far north as the counties Sligo and Down, which would seem to be the most northerly stations in the British Isles. It contrasts with the preceding species in being rarer in the adult stage; as a rule only one or two specimens are found at a time. The only Ulster record is of the larvae at Tollymore Park, and as they were identified by Saunders there can be no question of the species. Apparently the insect matures rather early in the summer months as compared with other Pentatomidae; it has been found as late as November in this country. The Continental distribution is very wide; in Great Britain it is found in the south.

Zicrona caerulea Linn.

MC. Monkstown: April! (Westropp). **SG.** Woodford: larva, 8/'01 (H.). **NT.** Mount Butler, Roscrea: 29/6/'30! (Phillips). **KK.** Thomas-town: 1/7/'01 (H.). **WX.** Slaney estuary at Killurin: 9/7/'00 (H.). **CW.** Kilcarry: 6/8/'29! (Stelfox). **KC.** Clonmaenoise: larva in marsh by Shannon: 29/6/'99 (H.). **WI.** Powerscourt Deerpark: 1,000 feet, 28/8/'27 (Stelfox). Same locality: in a wet place by Dargle River, 15/6/'34 (H.). Rocky Valley: running in sun, among rocks and heather, 8/6/'24. Clara: 29/4/'28! (Stelfox). **WH.** Mullingar district: marsh at Ballinafid Lough, 5/9/'30. Shore of Lough Ennell: 4/9/'30. Grassy banks of the Royal Canal near Mullingar: 3/9/'30 (H.). **ED.** Coolmore: "a single specimen washed up on the beach," *Johnson* '95 a.

The few records there are of this brightly coloured insect indicate a wide range. It seems to prefer dry localities among heather and on grassy banks; I have also taken it by sweeping in marshes and on the swampy margins of lakes. The earliest month in which it has been noticed is April, the latest September; the former, and also those of June, are of

insects that have survived the winter months. Widespread in Great Britain and throughout Europe and Asia.

Acanthosoma haemorrhoidale Linn.

SK. Kenmare: on birch, 7/’98, H.’98. Again on hawthorn, 6/’03, **Mason** ’03. Parknasilla! (Scharff). Derrynane: 7/’34 (Stelfox). **NK.** Muckross Demesne: 6/’05. Toomie’s Wood: ♂ and ♀ on bramble flowers, 7/’27 (H.). Glenear: 6/’34! (Stelfox). **WC.** Glengarriff: (Yerbury), *Distant* ’02. Glandore: 6/’00 (H.). **WA.** Cappoquin: 6/’00. Waterford district: 9/’29. Fiddown: 9/’29 (H.). **CL.** Ballyvaughan: 7/’95 (H.). Ennistymon: 11/11/’30! (Phillips). Lahinch. **KK.** Thomas-town: 7/’01 (H.). **WX.** Near Wexford: 7/’00 (H.). **WG.** Ballynahinch: 8/’34 (H.). **NG.** Galway: Clonbrock, 6/’96 (H.). Tuam. **KD.** Carton Demesne: 9/’33. Sallins: 9/’28 (H.). **WI.** Drumgoff: H.’96 a. Arklow: larva, 7/’26. Glendalough: under moss on stones in winter. Devil’s Glen: 9/’33. Ovoca: 9/’34. Blessington: 9/’99. Powerscourt Deerpark: 6/’34. Bray and Greystones: 8/’33. Kilruddery: larva on birch, 8/’27 (H.). Ballylush, 9/’30! (Stelfox). **DU.** Lambay, H.’07. St. Ann’s: in crevices of beech tree, 29/1/’27! (O’Mahony). Milltown: on apple, 6/’34 (Beirne). Whitechurch: hawthorn, 9/’32. Chapelizod: hawthorn, 9/’28. Lucan Demesne: 9/’93. Liffey Valley: 9/’28. Kilma-shogue: 30/10/’27. Glenageary, 9/’33. Blackrock. Phœnix Park: under hawthorn bark, 26/3/’93. Again on 10/’27. Blanchardstown: 9/’27. Finglas: 9/’27. Santry: hawthorn, 9/’29. Portmarnock: 9/’28. Swords: larva, 9/’28. Donabate: last stage larva and newly emerged adults, 10/’27 (H.). **ME.** Boyne Valley: 9/’31 (H.). **WH.** Mullingar district: larvae, 9/’30 (H.). **RO.** Mote Park: 6/’97 (H.). **WM.** Achill Island: 6/’09, H.’12. **SL.** Sligo! (O'Reilly). **LH.** Drogheda and Castle-bellingham. **FE.** Enniskillen. **AR.** "Armagh, one specimen," *Johnson* '93. Poyntzpass: two specimens of the green form on *Cupressus*, *Johnson* '00 a. Richhill. **DO.** Dromantim. **AN.** Knocknacarry: on a window blind in a sitting room, *Brenan* '00. Ballinderry: on *Laurestinus*, H.’02. Randalstown: 8/’03 (H.). **ID.** Kilderry: 28/4/’99 (Buckle).

A common species in woodland districts occurring on oak, birch, mountain ash, and apple; but the most favoured tree is hawthorn, especially when growing in sunny places and bearing an abundance of berries. Hibernating specimens have been found under bark of trees in winter and early spring. There is some variation, a richly coloured form with a reddish-brown band across the base of the pronotum is not uncommon. Though the species is not recorded from Scotland, it has a wide range in Great Britain, and in the northern Palæarctic Region.

Acanthosoma interstinctum Linn. (*A dentatum* de G.).

SK. Kenmare : summer of '99, *Mason* '03. **NK.** Muckross Demesne : larva and adult on birch, 9/'25. Adult in same place, 6/'17. Toomie's Wood : on birch, 7/'27 (H.). **WC.** Glengarriff : 6/'01 (Yerbury), *Distant* '02. **EC.** Castlemartyr : larva, 8/'33 (H.). **WA.** Curraghmore Demesne : 9/'29 (H.). **SG.** Woodford : 8/'01 (H.). **WX.** Macmine : 8/'31 (H.). **WI.** Wicklow : *H.*'08. Glendalough : on birch, 9/'05, and under moss in April. Powerscourt : 6/'19. Lough Dan : 9/'09. Bray district : mountain ash (H.). Altidore : 2/'26. Glenealy : under bark, 2/4/'32. Clara : on ivy, 23/11/'30 ! (Stelfox). **DU.** Santry Demesne : 5/'93 (H.). Glenasmole : 9/'30 ! (Stelfox). **WH.** Mullingar : 8/'01 (H.). **WM.** Sraheens Lough, Achill Island : in June (Johnson), *H.*'12. **AR.** Armagh : *Johnson* '93. **WD.** Cratlagh woods : 9/'06, *H.*'10. **AN.** Shane's Castle : 9/'02 ! (Buckle), 6/'02 (H.).

A locally common woodland species ranging from Kerry to Antrim. It is usually found on birch trees, and larvae in the last instar occur on mountain ash in September. The dates of capture of the adult range from February to November, in which month Mr. Stelfox found it amongst ivy where it was doubtless hibernating. I have found it among moss on boulders in a wood at Glendalough in early April. Widely distributed in Great Britain, and on the Northern Palaearctic Region.

Elasmostethus griseus Linn.

NK. Muckross Demesne : 6/'05, and 9/'25 (H.). **WC.** Glengarriff : 6/'01 (Yerbury), *Distant* '02. **EC.** Castlemartyr : adult on birch, 8/'33 (H.). **WX.** Macmine : larva on birch, 8/'31 (H.). **KD.** Carton Demesne : 9/'33 (H.). **WI.** Lough Dan : 9/'09. Shelton Abbey, Arklow : on birch, 9/'28. Powerscourt : 5/'25. Kilmacanogue : 5/'34 (H.). Clara : 5/'28 ! (Stelfox). **DU.** Santry Demesne : 5/'93, and 9/'94. Glenasmole (H.). **RO.** Mote Park : 6/'97 (H.). **AR.** Armagh : "pretty common" at Churchill Bog in September, *Johnson* '93. **ED.** Kilderry : 28/4/'99, and 5/'99 (*Buckle Diary*). **DO.** Tollymore Park : (Haliday), *H.*'02. **AN.** Shane's Castle, Lough Neagh : 9/'02 ! (Buckle).

Probably generally distributed on birch trees from May to September, the May and June specimens having hibernated through the winter months.

Cyphostethus tristriatus Fabr.

DO. Tollymore Park : *Haliday MS.*, *H.*'02.

As already mentioned, Haliday published little on the Hemiptera, and the only note on this rare species is in his ms. list of Irish insects where the locality "Tollymore" is mentioned. As far as I am aware there have been no subsequent captures of the insect in this country. There is much confusion in the names used for this and the two preceding species, and

one might suspect an error. The Haliday specimens are undoubtedly *C. tristriatus* Fabr. Butler mentions a number of plants, including *Pinus* and *Abies*, on which this species has been found: "Many of these, no doubt, are mere casual occurrences, and there is little doubt that juniper, or at most some of the Pinaceae, constitutes the true food-plant on which the young are reared and the life-cycle is enacted. Curtis speaks of finding it on larch trees at the end of August." Recorded from several English counties, mostly south of the Thames, and as far north as Northumberland. Widely distributed in Europe.

Family II.—COREIDAE.

Syromastes marginatus Linn.

SK. Kenmare: on heaths, 7/’98, *H.*’98. Waterville: 7/’01 (Yerbury), *Distant* ’02. Derrynane, 8/6/’28. **NK.** Killarney: occurs in an old orchard (Bullock). Caragh Lake: 8/’01 (Yerbury), *Distant* ’02. **WC.** Castletown Bere: 3/6/’93, *Johnson* ’94. Rossscarbery: larva and adult, 8/’95, *Cuthbert* ’95. Glandore: 7/6/’00 (H.). Glengarriff: 8/’01 (Yerbury), *Distant* ’02. Again in this locality, in meadows, 8/’24 (H.). **EC.** Roches Point: 28/5/’28! (Phillips). Youghal: larva in early August (H.). **WA.** Ardmore: abundant on ling at Corbally, 9/’96, *Cuthbert* ’97. Dungarvan: 28/7/’34! (Stelfox). Cappoquin: 14/7/’00. Clonmel district: larva, 16/7/’28. Monatray: 8/’33. Curraghmore Demesne: on *Spiraea*, 7/9/’29 (H.). Lismore: larva, 15/8/’28. **KK.** Thomastown: 1/7/’01. New Ross: Pink Point, 20/5/’34 (H.). Graiguenamanagh: 7/7/’27! (Phillips). **WX.** Enniscorthy: 22/5/’99. Killoughrum Forest: 22/5/’99. Macmine: larva on *Spiraea*, 31/8/’31 (H.). New Ross: larva, 14/7/’27; and adult, 20/9/’25. Kilgorman: 20/7/’29! (Stelfox). **WI.** Arklow district: larva, 20/7/’29. Meeting of the Waters: 20/7/’30. Rathdrum: 8/7/’27. Devil’s Glen: 10/9/’24! (Stelfox).

A characteristic south of Ireland species extending as far north as the County Wicklow, and probably the western range is more extensive than these records indicate. It may be found in numbers in favoured places such as meadows, river margins, and embankments, where there is an abundance of flowering plants, especially meadow sweet (*Spiraea*), for which it seems to have a great liking. The larva may be found well into the month of August; the adults of the year mature at the end of that month, and in September. The British range of this species is distinctly southern, Cornwall to Oxon, Berks, Surrey, and Suffolk; and in the west as far as north Wales. Mr. Butler believes that the insect is less common than formerly. On the Continent the distribution is very wide, ranging across Northern and Central Europe to Japan.

[Coreus denticulatus Scop.

The only Irish record of this species is—Kenmare: larva, H.'98. The Kenmare specimen is a young larva of *Syromastes marginatus* L., so that the species must be deleted from the Irish list. Mr. Butler's reference to its occurrence “in Ireland” was doubtless based on the same record (*Butler* '23). The British range of this insect is mainly southern, resembling that of *Syromastes*, except that it is not found in Wales.]

Stenocephalus agilis Scop.

WC. Rosscarbery: 8/'95, *Cuthbert* '95. **WA.** Tramore: sandhills, 5/9/'29. Ballyteige sandhills: larva and adults under *Ononis*, 24/8/'31, and 19/5/'34 (H.). **WX.** Courtown: 5/'99. Kilgorman: sandhills, 16/8/'25. Cahore: 10/7/'27! (Stelfox). **WI.** Magherabeg sandhills: adults and early stage larvae, 11/7/'26 (H. and Stelfox). Arklow sandhills: adults and larvae in last instar on *Euphorbia*, 14–18/9/'29 (H.).

Occurs on the south and south-east coasts of Ireland; there are no records from the west nor from any inland locality. The known limits of its range are Rosscarbery in west Cork and the Magherabeg sandhills in County Wicklow. The insect frequents sand-banks and old-established dunes, and may sometimes be found in numbers especially where the spurge (*Euphorbia*) and the restharrow (*Ononis*) are plentiful. It runs with great rapidity when disturbed from the shelter of the plants. Adults have been found from May to September, some appearing towards the end of the latter month. I have noticed larvae in the last instar on the 18th September on the Arklow sandhills. *S. agilis* is of southern range in England, including south Wales, and there is a doubtful record of its occurrence in Scotland. Abroad it is widely distributed in Central and Southern Europe, extending into Siberia, Asia Minor, and Northern Africa.

Therapha hyoscyami Linn.

WX. Cahore sandhills: 10/7/'27. Kilgorman sandhills: 21/7/'27 (Stelfox). Ballyteige sandhills near Kilmore Quay: larva and adult, under *Ononis*, 8/'31 (H.). **WI.** “near Killoughter and also close to the Coast-guard Station south of Newcastle,” 29/5/'22, and 20/4/'24, *Stelfox* '22, and '24. Brittas Bay: 21/6/'25. Magherabeg sandhills: 1/8/'27 (Stelfox). Arklow sandhills: larva and adult on *Ononis*, 20/7/'26. In same place, 14/9/'28. Kilcoole: larva, 8/'27. Greystones: on rail embankment, larva in last instar and adult on *Ononis*, 27/9/'28 (H.).

The first Irish specimens were found by Mr. A. W. Stelfox at Newcastle on the Wicklow coast in the summer of 1922. It has since occurred in other places in the counties Wicklow and Wexford from April to September, so that the insect is of south-eastern range in Ireland. It is a denizen of

sandy sea coasts and seems to favour the restharrow (*Ononis arvensis*) on which it is not as conspicuous as the red and black colouring would lead one to expect, especially in dull weather. At the Ballyteige dunes and Greystones, which mark the limits of its range, a close search was necessary for the capture of a few specimens on Ononis. The adults are known to hibernate among moss and in evergreen trees such as pines and junipers. "It was formerly taken on the coast sands near Yarmouth, being found, though rarely, on Ononis. Almost all the other records, however, are from the south and west." Widely distributed in the Palæarctic Region, where, in contrast with the British habitats, it is found in many inland places.

Corizus parumpunctatus Schill.

Ireland (Haliday), Johnson '94.

There is a much injured specimen of this species in the Haliday collection marked as found in Ireland; as far as I am aware there are no subsequent captures. It seems to be the most widely distributed species of the genus in Great Britain.

Corizus hyalinus Fabr.

NK. Killarney : a single specimen found in the Kenmare Demesne, 29/5/'23! (Bullock). **DU.** Portmarnock : 27/6/'03 (H.).

Apparently a rare and unrecorded species of which only two specimens have been found in Ireland. At Portmarnock it occurred by sweeping a grassy bank close to the sea shore. On a visit to Mr. E. Bullock he showed me a Corizus which is certainly this species, it was taken by sweeping plants in a wood where the Denagh River flows from Lough Leane. It is of interest that Mr. Butler also records only two British specimens, one at a marshy place near Gosfield in Surrey and the other at Norwich; both of these were found in the same year (1903) as my Portmarnock specimen, which suggests that the insects may have reached these islands by flight. Mr. Butler refers to this possibility in his notes on the distribution of the species: "On the Continent it is mainly a southern species, belonging chiefly to the countries round the Mediterranean; but it occurs also in most of the great zoological provinces, being recorded from S. Africa, and North and Central America." He suggests that the enlarged wing membrane of this species may have something to do with its wide range.

Family III.—**BERYTIDAE.**

Neides tipularis Linn.

DU. Portrane : adults and larvae, 16/9/'27 (H.).

The only locality known to me for this unrecorded species is the sea bank at Portrane where a few adults and nearly fully-grown larvae were

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found at the roots of marram grass and Ononis. On account of their shape, which resembles miniature "stick" insects, and colouring, they were hard to see in the sandy habitat. Widely distributed in the coast counties of England and Wales, but it has not been found in Scotland.

Berytus minor H.S.

WC. Glengarriff : 29/7/'25 (H.). **SG.** Woodford : 8/'01 (H.). **ED.** or **LD.** Foyle district! (Buckle). **AN.** Black Head! (Buckle), H.'02. White Head : 12/8/'00 *Buckle Diary*.

Only two of the five British species of *Berytus* have been found in Ireland, and although the records are few, a wide distribution is indicated in each case.

Berytus signoreti Feb.

NK. Guitane Bog : 7/'33! (Bullock). **MC.** Cork district : macropterous form, 5/'02, H. **WA.** Lismore : 6/'00 (H.). **NG.** Clonbur! (Scharff). **ED.** or **LD.** Foyle district! (Buckle).

Metacanthus elegans Curt.

WX. Ballyteige sandhills : 8/'31. **WI.** Arklow sandhills : adults and larva in last instar, 7/'26 (H.). Brittas Bay : 5/9/'96, H.'96c. **DU.** Portmarnock sandhills : 23/9/'27. Portrane : 16/9/'27. Malahide Island (H.).

We have few records of this species. It lives on the restharrow (*Ononis arvensis*) on sandhills and is usually abundant where it occurs.

Family IV.—**LYGAEIDAE.**

Nysius thymi Wolff.

WA. Waterford district : Power '78. Tramore sandhills : 4/7/'01. Dungarvan : 10/8/'33 (H.). **CL.** South Clare : 7/'95 (H.). **QC.** Emo Park : 16/7/'33! (Stelfox). **WI.** Arklow sandhills : 14/7/'26. Murragh : 7/'27. Kileool and Greystones : 12/8/'27 (H.). **DU.** North Bull : 18/7/'98. Portrane : 8/'94. Malahide and Portmarnock : 8/'17. Sutton and Howth : 8/'28 (H.). **LH.** Greenore : 15/7/'95, Johnson '96. **ED.** Coolmore sandhills : 8/'93, Johnson '94. Bundoran : Johnson '94. Buncrana! (Buckle). **AN.** Shane's Castle, L. Neagh : 31/8/'02! (Buckle).

Common in sandy places on the sea coast and occasionally inland. There is considerable variation in size and markings; at Lough Neagh a dark coloured form occurs; out of four specimens from this locality two show malformation of the antennae, in one of them there are only three segments in the right antenna which is not unusual, and the other has five

segments on the left side, the only example of the kind that I have seen. A specimen from Emo Park, an inland locality, is large and pale-coloured, with the legs and antennae much longer than in the ordinary form; it will be of interest to see if this occurs as an established variety.

[*Nysius lineatus* Cost. The record "Newcastle: Johnson '11" is an error. The specimens are in the Belfast Museum, and they are referable to the preceding species, *N. thymi* Wolff.]

Cymus glandicolor Hahn.

SK. Ventry: 5/'94. Kenmare: 7/'98, *H.*'98. **NK.** Killarney: Guitane Bog, 7/'33 (Bullock). **EC.** Youghal and Castlemartyr: 8/'33 (*H.*). **WA.** Tramore: 7/'01. Cappoquin: 6/'00 (*H.*). **LK.** Limerick district, Lough Gur: 7/'95 (*H.*). **CL.** South Clare: 7/'95 (*H.*). **ST.** Clonmel: larva and adult, 7/'28 (*H.*). **KK.** Marshes north of R. Suir: 9/'29 (*H.*). **WX.** Enniscorthy: 5/'99. Kilmore: 8/'31. Macmine: 8/'31. Wexford district: 7/'25 (*H.*). Carnew: 18/4/'27! (Stelfox). **CW.** Kilcarry: 5/'34 (*H.*). **SG.** Woodford: 8/'01. Galway: 9/'05 (*H.*). **WG.** Roundstone and Clifden: 8/'34 (*H.*). **NG.** Clonbrock: on Iris, 6/'96 (*H.*). **KD.** Carton: 9/'33 (*H.*). **WI.** Roundwood: 9/'09. Murragh and Kilcoole: 8/'27. Kilmacanogue: 5/'34 (*H.*). **DU.** Dublin district: common in marshy places, *H.*'94. Glenasmole: 6/'24. Santry: *H.*'08. Portmarnock: 9/'28 (*H.*). **WH.** Athlone: lake shores, 6/'99. Mullingar: 5/'01. Ballinafad: 9/'30 (*H.*). **WM.** Belclare, Castlebar, and Westport; *H.*'12. **LH.** Braganstown: 8/'95, *H.*'95 *g.* **DO.** Lagan Canal near Moira: 5/'02! (Buckle). **AN.** Toome: 6/'02 (*H.*).

Common on Carex, Iris, and other plants in damp meadows, on lake shores, and marshy places. The species varies in size and colouring. Widespread in Great Britain; it has not been found in Scotland.

Cymus claviculus Fall.

"Ireland (Haliday)," *Saunders* '92. **SK.** South Kerry: 6/'02 (Donisthorpe), *Saunders* '03. **WX.** Rosslare: 10/7/'00 (*H.*). **WI.** "Wicklow": *Haliday MS.*

Apparently rare; the few known localities are in the south. An entry in Haliday's ms. list shows that he found the species in Wicklow, and there is an Irish specimen in his collection; he records it as "*Kleidocerys claviculus* Fall."

Ischnorhynchus resedae Pz.

NK. Killarney: shores of Lough Leane, 5/'05 (*H.*). Ross Road: on alder. Killarney: lake side (Bullock). **WA.** Cappoquin: 13/6/'00 (*H.*). **KD.** Celbridge: 4/10/'29 (*H.*). **WI.** Enniskerry: 17/9/'93, *H.*'08. Arklow: marshy ground at Shelton Abbey, 17/7/'26. Powerscourt Deerpark:

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16/6/'26, and 15/9/'28. Kilcoole: 27/9/'28. Kilmacanogue marsh: 12/9/'33 (H.). **DU.** Marsh near Donabate: on bramble, 10/'27. Loughlinstown: on alder, 18/9/'31 (H.).

Found in marshy places on birch (*Betulus*) and alder (*Alnus*) from May to October. The species has a very wide range in Great Britain, the Palearctic Region, and in North America. The allied *I. geminatus* Fieb. may be expected to occur on *Erica* or *Calluna*.

Ischnodemus sabuleti Fall.

WI. Arklow sandhills: 10/4/'25 (Stelfox). Again in this locality, 20/7/'26, and 18/9/'28 (H.). Magherabeg near Wicklow: larva and adult, 11/7/'26 (Stelfox).

An unrecorded Irish species found by Mr. A. W. Stelfox on the Arklow dunes in April, 1925. Since that time it has occurred commonly in the same district and also on the neighbouring Magherabeg dunes. The occurrence of this species on sandhills is of interest; in England and elsewhere it is found in damp places at the roots of rushes, and it may live under these conditions on a marsh adjacent to the Arklow dunes. On a sunny day in July I have found the larvae and adults in numbers crawling among the marram grass on the hot sand. Most of the specimens were brachypterous, but there were also a few of the fully-winged form. Apparently this is rare. Mr. Butler refers to specimens in the Power and Douglas collections found many years ago. This species is very local; "it belongs to the south-eastern corner of England, and has occurred in five counties: Herts, Essex, Kent, Surrey, and Berks." Widespread in Central and Southern Europe.

Chilacis typhae Perr.

DU. Portmarnock: 1/6/'25 (H.). Kilbarrack Pits: 2/10/'26! (O'Mahony).

Found in heads of the reed-mace (*Typha latifolia*) in weed-grown ponds in these localities; the insects were in old heads that had matured during the previous year. The species is unrecorded from Ireland, and seems local, as I have looked for it in other places without success. Rare in Great Britain, ranging as far north as Durham. Central Europe.

Pameria fracticollis Schill.

NK. Muckross Demesne: shore of Lough Leone: 6/'05 (H.). Ardagh, Killarney (Bullock). **WC.** Glengarriff: 6/'01 (Yerbury), *Distant* '02.

EC. Youghal: on rail embankment in south marsh, 5 and 12/8/'33 (H.).

WI. Vale of Clara: in a damp meadow, 7/'19 (H.).

Local and rare, not more than one or two specimens were found in these localities. The British records are comparatively few, ranging from

Hants to Cumberland, and on the Continent it is found chiefly in Central Europe.

Rhyparochromus dilatatus H. S.

NK. Rossbeigh : 6/'02 (Donisthorpe), *Saunders* '03.

This is the only Irish record, and the species may possibly be confined to the south-west. In Great Britain it is found "mainly on the east coast and the country south of the Thames." Central and Southern Europe.

Rhyparochromus chiragra Fabr.

Ireland (Haliday Collection). **DU.** Malahide sandhills: adults and larvae in final instar, 30/7/'17 (H.).

Found among ground-moss on the Malahide dunes, apparently the only capture of the species in Ireland since Haliday's time. It was at first thought that these specimens were the sandhill variety *sabulicola* Thoms. They are really a variety in which all the tibiae are ochreous with dark apices, and the third antennal segment is black. Mr. China tells me there are specimens from the London district in the British Museum collection agreeing perfectly with those from Malahide, so it is not an Irish form of the species. The variety *sabulicola* is narrower in shape, and the second and third tibiae are entirely fulvous.

An early stage of the larva has been described by Butler; those found at Malahide are evidently in the final instar stage, of which the following is a short description:—

Length about 5 mm.; the head, pronotum, and wing-pads are black and pilose, and the abdomen is a dark ferruginous colour. Pronotum trapezoidal, somewhat transverse, and margined. Antennae shorter and relatively stouter than in the adult, with the first two segments ochreous. The legs are entirely ochreous; anterior femora with a sharp tooth on the underside.

R. chiragra is apparently the commonest species of the genus in Britain.

Ischnocoris angustulus Boh.

WC. Glengarriff : 13/7/'24 (H.).

The habitat in which this species occurs at Glengarriff is unusual, under a sparse growth of moss in small hollows of partly exposed boulders; it was in company with another hemipteron *Notochilus contractus* H.S., a species of rare occurrence in Ireland. In this habitat there was also an interesting association of ants, spiders, centipedes, and other small animals. I suspect the *Ischnocoris* had wandered from the heather which also partly covered the boulders where there was sufficient foothold. In the Dublin district I have found *Macroderma micropterum* Curt. and *Myrmecobius tenella* Zett. in a similar habitat. Although unrecorded from Ireland the

present species is widespread on heaths in Great Britain ranging into Scotland, and it is of general distribution on the Continent.

Macrodema micropterum Curt.

WC. Rosscarbery : 8/'95, *Cuthbert* '95. **WG.** Clifden : 21/8/'34 (H.). **WI.** Bray Head : on rocks amongst heather, 26/3/'94. Larva and adult in same place, 3/8/'27 (H.). Powerscourt : on cliffs, 18/8/'29! (Stelfox). **DU.** Carrickmines : 5/4/'08 (H.).

An active species occurring locally amongst heather and easily overlooked; see note under the preceding species. The few available specimens are of the short-winged form.

Plinthisus brevipennis Latr.

WI. Arklow sandhills : larva and adult, 21/7/'26 (H.).

A few specimens were found amongst moss on the Arklow sandhills in July. It is unrecorded from Ireland. Mr. Butler, who was much interested in the larval forms of British hemiptera, had no knowledge of the early stages of this species. A short description of a larva, which appears to be in the third instar, is given here.

Larva.—Length about 2·50 mm. The head, pronotum, and wing-pads, are of a dark brown colour, very shiny, even more so than in the adult. The pronotum is somewhat broader than long, the front margin is at least three-quarters as long as the proximal margin, and there is no trace of the strong basal punctures found in the adult. Wing-pads longer than the pronotum, with straight lateral margins, widened towards the ends. The abdomen is bright red with very small dorsal plates, and the antennae and legs are of a uniform yellowish-brown colour.

The species has a wide Continental range, and in England it has been found as far north as Norfolk and Cheshire, inhabiting sandy places both on the coast and inland.

Acompus rufipes Wolff.

WA. Cappoquin : 15/8/'28! (Stelfox).

Mr. A. W. Stelfox found a single specimen in a quarry on the bank of the River Blackwater near Cappoquin. Widely distributed in Europe, and occurs in many English localities as far north as Durham.

Stygnocoris rusticus Fall.

NK. Killarney : 7/'26 and 8/'25 (H.). **WC.** Glengarriff : 7/'24 (H.).

EC. Youghal : 8/'33 (H.). **WA.** Waterford district : Power '78. Dry quarries near Waterford : 9/'29. Curraghmore Demesne : 9/'29 (H.).

KK. Inistioge : Turner '03. **WX.** Kilmore Quay : common on sandhills,

8/'31 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Moycullen : 6/'03. Roundstone and Clifden : 8/'34 (H.). **NG.** Clonbrock : 6/'96 (H.). **WI.** Enniskerry, *H.*'94 c. Rathnew : 8/'24. Powerscourt : 8/'27. Kilcoole and Greystones : 9/'28 (H.). **DU.** Lucan : 8/'94, *H.*'94 b. Phoenix Park : on furze, 10/'27. Liffey Valley : 7/'29. Clondalkin : 9/'34. Portrane sandhills : 8/'94. Sutton and Howth : 8/'28. Finglas : 9/'27 (H.). **AR.** "Armagh, not common," Johnson '93. Poyntzpass : Johnson '97. **AN.** Portmore Lough : 8/'03 (H.).

Though widespread, this is the least common of the three species of *Stygnocoris*; occurring in sandy places on the coast, and also inland, from March to October. It is common at Kilcoole and Greystones on the Wicklow coast, where many pairs were mating at the end of September. The adults are usually brachypterous, specimens in which the wing membrane is more developed are not infrequent. Of the two following species *S. pedestris* is the more prevalent in Ireland.

Stygnocoris pedestris Fall.

SK. Kenmare : 7/'98, *H.*'98. Glenear : 9/'98, Scharff and Carpenter '99. **WC.** Rosscarbery : 8/'95, Cuthbert '95. **EC.** Youghal : 8/'33 (H.). **WA.** Waterford : 9/'29. Curraghmore : 9/'29 (H.). **WX.** Kilmore Quay : 8/'31 (H.). **NG.** Clonbrock : 6/'96 (H.). **WG.** Moycullen : 6/'93 (H.). **KD.** Sallins : 8/'26! (Stelfox). **WI.** Arklow : 7/'26. Enniskerry : 9/'31. Powerscourt : 8/'27 (H.). **DU.** Tallaght : 18/2/'95. Lucan : 10/'27. Donabate : 10/'27. Liffey Valley : 9/'29. Portmarnock : 9/'28. North Bull : 8/'93. Stepaside : 9/'31. Finglas. Glasnevin. Glenageary (H.). **ME.** Meath coast : 10/'26! (Stelfox). **WH.** Mullingar : 9/'30 (H.). **WM.** Westport, *H.*'12. **CV.** Ballyhaise : Johnson '94. **ED.** Coolmore : Johnson '94. Foyle district : 8/'99, Buckle Diary. Dunfanaghy : *H.*'10. **AR.** Armagh : common, Johnson '93. **AN.** Lough Neagh : 8/'02! (Buckle). Portmore : 8/'03 (H.). Cave Hill (Haliday).

Stygnocoris fuligineus Geoff.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Dingle : 5/'94. Gap of Dunloe : 7/'27. Killarney : 7/'27 (H.). **WC.** Rosscarbery : 8/'95, Cuthbert '95. Berehaven : Johnson '94. **EC.** Mitchelstown : 7/'94. Youghal : 8/'33 (H.). **WA.** Waterford district : Power '78. Ardmore : 8/'33. Dungarvan : 8/'33. Curraghmore : 9/'29 (H.). **CL.** Lahinch. **CW.** Carlow. **WI.** Wicklow. Arklow : 9/'28. Kilcoole and Greystones : 9/'33 (H.). **DU.** Lambay : *H.*'07. North Bull : 7/'98. Sutton : 5/'94. Howth : 9/'09. Donabate : 8/'94. Finglas : 9/'24. Glenageary : 7/'33. **WM.** Clare Island : *H.*'11. **SL.** Sligo. **AR.** Armagh : Johnson '93. Poyntzpass : Johnson '07. **ED.** or **LD.** Foyle district! (Buckle).

Peritrechus geniculatus Hahn.

Ireland (Haliday collection).

An Irish specimen in the Haliday collection is the only evidence we have of the occurrence of this species. In England it is found as far north as Lancashire, and it is widespread in Central and Southern Europe.

Peritrechus sylvestris Fabr.

WI. Ballyhenry : 16/6/'26! (Stelfox).

Unrecorded as an Irish species. It is common and widely distributed in Great Britain and on the Continent.

Trapezonotus arenarius Linn.

Ireland (Haliday), *Saunders* '92. **WA.** Cappoquin : 14/6/'00 (H.).

There are two Irish specimens of this common British species in the Haliday collection.

Drymus sylvaticus Fabr.

SK. Kenmare : 7/'98, *H.*'98. South Kerry : *Saunders* '03. **NK.** Killarney. **WC.** Glengarriff : 7/'24. **EC.** Youghal : 8/'33 (H.). **LK.** Limerick : 7/'95 (H.). Kilkeely : 8/'34 (O'Mahony). **WX.** Wexford : 7/'25. Kilmore Quay : 8/'31. Macmine : 8/'31 (H.). Enniscorthy : 4/'28. **WG.** Aranmore : 9/'91. **KD.** Carton : 9/'33 (H.). **WI.** Arklow : 9/'28. Powerscourt : 8/'27. Woodenbridge (H.). Ballyhenry : 4/26. Killoughter : 8/'24! (Stelfox). **DU.** Terenure : 2/'94. Lucan : 10/'27. Phoenix Park : 10/'27. Glenageary : 3/'34. Santry : 9/'94. Finglas : 9/'27. Glasnevin : 10/'24. Holmpatrick : larva and adult, 9/'27. Clontarf : 8/'28. Portmarnock : 9/'27. Donabate and Portrane : 9/'27 (H.). Harold's Cross : 2/'29. Kilbarrack : 4/'27 (O'Mahony). Raheny. Howth. **WM.** Clare Island : 6/'09, *H.*'12. **AR.** Armagh : Newtown Hamilton, common, *Johnson* '93. **ED.** Foyle district! (Buckle). Dunfanaghy : *H.*'10. **DO.** Holywood : *Johnson* '93. **AN.** Lisburn : 9/'02! (Buckle).

A common species from February to October; the adult probably occurs in all months of the year. The variety *Ryei D. & S.*, seems rare, it has been found in the following localities:—**SK.** Kenmare : 7/'98 (H.). **NK.** Muckross Demesne : 6/'05 (H.). **WC.** Glengarriff : 6/'93! (Scharff). **WI.** Powerscourt Demesne : 29/6/'26 (H.). **WM.** Clare Island : 6/'09 (H.).

Compared with the typical form the Irish specimens of this variety are much larger, and the pronotum is longer and less narrowed in front. The hemelytra are more strongly punctured, more ferruginous in colour, and the segments of the antennae are stouter. The variety *Ryei D. & S.* has been found from Devon to Cumberland in Great Britain.

Drymus brunneus Sahlb.

NK. Killarney : 4/9/'25. Kenmare Demesne : 12/7/'27 (H.), and 10/'25! (Bullock). **WG.** Ballynahinch : 24/8/'34 (H.). **WI.** Woodenbridge : amongst dead leaves, *H.*'08. Rathdrum : 10/7/'26. Powerscourt Deerpark and Demesne : 11/'92, 16/6/'26, 17/8/'92 (H.). Enniskerry : 17/5/'20. Glen of the Downs : 11/11/'23! (Stelfox).

Local, occurring among mosses and dead leaves in woodland districts. The larvae in their final instar and adults were found commonly amongst moss at the roots of heather in the Kenmare Demesne on 12th July, so that this is evidently the month in which the insects of the year mature. These larvae were of a yellowish-brown colour during life, the disc of the pronotum and the dorsal plates being darker. The insect has a wide range in Great Britain and in Northern and Central Europe.

Drymus piceus Flor.

NK. Killarney : in the Muckross Demesne, 4/9/'25 (H.).

In view of its northern range and the abundance of suitable localities, Mr. Butler comments on the absence of this insect from Ireland. It is satisfactory therefore to record its occurrence at Killarney, where it was not infrequent amongst dead leaves and rushes in marshy places in the Kenmare Demesne during September. Mr. E. Bullock has also found it in the same district. The species is widely distributed, but very local in Great Britain extending into Scotland, and as regards its Continental range, "it appears to be entirely a northern species, being recorded from France, Scandinavia, N. Russia, and Siberia."

Notochilus contractus H.S.

WC. Glengarriff : under moss on boulders, 13/7/'24 (H.). **DU.** Howth : under stones at Knocks Bay, 5 and 7/'09 (H.). Cliffs near Baily, 21/10/'29! (Stelfox).

In Great Britain *N. contractus* is a common species, but it is local in Ireland, and these are the first records of its occurrence. At Howth it is not uncommon under stones just above high-water mark at the base of the cliffs. The species is widespread in Southern and Central Europe.

Scolopostethus affinis Schill.

NK. Killarney : in February and November! (Bullock). **MC.** Cork district : 5/'02 (H.). **WA.** Waterford : 9/'29. Dungarvan : 8/'33 (H.). **KK.** Glenmore : 9/'29 (H.). **WX.** Rosslare : 7/'00 (H.). **CW.** Borris : 29/3/'95 (H.). **DU.** Lambay : *H.*'07. Finglas : 9/'27. Santry : 9/'29. Tibradden. North Bull. Raheny. Portmarnock. Bog of the Ring (H.). **AR.** Armagh : Johnson '93. **AN.** Lough Neagh! (Buckle).

The species of *Scolopostethus* here recorded are the commonest and most widely distributed of the six species found in Britain.

***Scolopostethus thompsoni* Reut.**

SK. Kenmare : *H.* '98. **NK.** Killarney : 2 and 3/'26! (Bullock). Muckross and Kenmare Demesnes : 7/'27. **CL.** Ballyvaughan : 7/'95, *H.*'95 f. South Clare : 6/'95 (H.). **NG.** Clonbrock : 6/'96 (H.). **KD.** Carton : 9/'33. **WI.** Arklow : 7/'26. Powerscourt : 6/'26. Greystones : 9/'33 (H.). **DU.** Dublin district : *H.*'94. Lambay : *H.*'07. Howth : 6/'25. Tibbradden. Portmarnock (H.). **SL.** Strandhill, 7/'04, *H.*'04. **LH.** Carlingford : 7/'93, *Johnson* '93. **AR.** Armagh : *Johnson* '93. **AN.** Shane's Castle! (Buckle).

***Scolopostethus decoratus* Hahn.**

SK. Kenmare : 7/'98, *H.*'98. South Kerry : 6/'02, *Saunders* '03. **NK.** Glencar : 9/'98, *Scharff* '99. **WA.** Cappoquin : 6/'00. Curraghmore : 9/'29 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Roundstone : 4/'96 (H.). **NG.** Clonbrock : 6/'96 (H.). **KD.** Maynooth : 9/'33 (H.). **WI.** Bray Head : abundant on Erica, 4/'93. Sugarloaf : 9/'33. Lough Dan (H.). **DU.** Howth : 6/'25 (H.), 9/1/'27! O'Mahony. Killiney Hill : 8/'33 (H.). **WH.** Mullingar : 9/'30 (H.). **WM.** Westport : *H.*'12. **SL.** Glencar : 7/'04 (H.). **CV.** Cavan district : 10/'93 (H.). **LH.** Carlingford : 5/7/'93, *Johnson* '93. **AR.** Newtown Hamilton : *Johnson* '93. Slieve Gla : *Johnson* '94. **ED.** Ardara (*Johnson*). **ED.** or **LD.** Foyle district! (Buckle).

***Gastrodes ferrugineus* Linn.**

SK. Kenmare : summer of '99, *Mason* '03. **NK.** Rossbeigh (Donisthorpe) *Saunders* '03. Killarney : 9/'25! (Bullock). **MC.** Monkstown! (Westropp). **EC.** Castlemartyr : on Scots pine, 8/'33 (H.). **WA.** Gurteen Wood : larva on Scots pine, 7/'28 (H.). **WX.** Macmine : on larch, 8/'31 (H.). **WI.** Bray Head : on Scots pine, 8/'33 (H.). Powerscourt Deer-park : 5/'33! (Stelfox). **KD.** Celbridge : on larch, 10/'29 (H.). **DU.** Santry Demesne : sweeping under conifers, May and September, *H.*'08. Again on larch and Scots pine, 9/'29. Whitechurch : on larch, 9/'32. Loughlins-town. Glenasmole : on larch, 6/'34 (H.). **WM.** Glen Lough : under bark, 5/3/'33! (O'Mahony). **LE.** Dromahair : on Scots pine, 7/'32 (H.). **LD.** Londonderry district! (Milne).

Found on Scots pine and, less frequently, on larch : consequently the insect is rather local. I have occasionally taken it in numbers by beating old-established Scots pines where there were dense growths of small terminal twigs and accumulations of dead pine needles on the lowest branches of the trees. The dates of capture range from March to October,

when the insects are said to go into hibernation for the winter months. The allied British species *Gastrodes abietis*, which occurs on spruce fir, has not been found in Ireland.

Family V.—TINGIDÆ.

Piesma quadrata Fieb.

Ireland (Haliday), *Saunders* '92. **NK.** Ballycisdandra : 8/'33! (Bullock). **SK.** Kenmare : at roots of Chenopodium (Bullock). **CL.** Ballyvaughan : under stones on the sea shore, 7/'95, *H.*'95 f. **WX.** Kilmore Quay : 25/8/'31 (H.). **DU.** Lambay Island : *H.*'07. Howth : south cliffs, 9/'09. Sutton : common on shore, 8/'28 (H.). **WM.** Westport : 6/'09, *H.*'12.

Common amongst salt-marsh plants and under stones on the Dublin coast; adults just emerged from the larval stage were swept from Chenopodium in early August. Many of these were of the pale-green spotted form; on the west coast I have found specimens tinged with rose colour.

Piesma maculata Lap.

Ireland (Haliday collection). **WI.** "Wicklow" (*Haliday MS.*).

Not definitely recorded from Ireland. There is, however, an Irish specimen in the Haliday collection, probably found in County Wicklow. The species is less littoral in its habits than the preceding, and in Great Britain it has not been found north of Yorkshire.

Acalypta brunnea Germ.

NK. Killarney : in moss (Bullock). **WG.** Leenane : in moss, 4/'97, *H.*'12. **DU.** Lambay : *H.*'07, **WM.** Westport district : in moss, *H.*'12. **TY.** "near Cookstown, Co. Tyrone" *Saunders* '92. **AR.** Armagh : in moss, *Johnson* '93. **WD.** Ardara (*Johnson*).

Four of the six recorded British species of *Acalypta* occur in Ireland, and, with the exception of *A. nigrina* Fall., they are probably generally distributed. All of the species are small, moss-frequenting insects and are liable to be overlooked.

Acalypta cervina Germ.

NK. Kenmare Demesne : 9/'25! (Bullock). **WA.** Waterford district : *Power* '78. **WG.** Leenane : in moss on mountains, 4/'97 (H.). **DU.** Killakee : 5/'20! (Stelfox). **WM.** Clare Island : 6/'09, *H.*'12. **AR.** "Armagh, one specimen" *Johnson* '93. **AN.** Portmore Lough : 6/'02 (Buckle) *H.*'12.

Acalypta nigrina Fall.

Ireland (Haliday collection).

Unrecorded as an Irish species and finds a place here on the strength of a specimen collected in Ireland many years ago by A. H. Haliday. This specimen is in a fair state of preservation considering that it dates from the early part of the last century. As has happened with so many of Haliday's captures, there is little doubt its rediscovery is only a matter of time. This is a northern species. "Ocours in Northern and Central Europe and in Italy and the Crimea. It has been observed as far north at lat. 70° in Finland. In Britain, apart from the . . . Somerset record and one from Oxon (Collins), it has occurred in Scotland only, in Morayshire and at Aviemore."

Acalypta parvula Fall.

NK. Killarney : Ballast Pit, 7/'27 (H.). Lough Guitane : 10/'33 ! (Bullock). **WA.** Waterford district : Power '78. **WG.** Leenane : 4/'97 (H.). **WI.** Bray district : 3/'90. Under moss on rocks, 8/'33 (H.). **DU.** Malahide : 9/'26. Portrane : 9/'27. Terenure : 2/'94. Lambay Island. (H.). **WM.** Louisburgh and Clare Island : H.'12. **ED.** Foyle district ! (Buckle). **WD.** Ardara (Johnson). **AR.** Armagh, Newtown Hamilton, in moss, Johnson '93. **AN.** Portrush (Johnson).

The commonest species of the genus *Acalypta* and probably generally distributed in moss.

Dictyonota tricornis Schrk.

WA. Tramore : 7/'01. Dungarvan saltmarsh : 8/'33 (H.). **CL.** Ballyvaughan : under stones on seashore, 7/'95, H.'95 f. **WG.** Aranmore : 7/'95, H.'95 f. **WI.** Vale of Clara : 7/'19. Arklow : 7/'26 (H.). Murrough of Wicklow : 8/'29 ! (Stelfox). **DU.** Dalkey Hill : 5/'56, and Portmarnock : 7/'49 (*Haliday MS.*). Malahide : 8/'94. Templeogue (H.). **AR.** Armagh (Johnson). **ED.** Coolmore : Johnson '94.

Most of these localities are on or near the sea coast and they are sufficient to show a wide range for the species. The allied *D. strichnocera* Fieb. occurs on furze and broom, and may yet be found in Ireland.

Derephysia foliacea Fall.

NK. Ardagh, Killarney (Bullock). **WG.** Aranmore : 15/7/'95. H'95 f. **DU.** Near Dublin : 10/'94. Lucan and Drumcondra : (H.). **WM.** Westport : 7/'11, H.'12.

The few specimens of this insect that I have taken were on trees or amongst ivy growing on walls. It is usually found amongst ivy, also in moss, and dead leaves.

Tingis cardui Linn.

SK. Kenmare : 7/'98, H.'98. Dingle : 5/'94 (H.). **NK.** Kenmare Demesne : 24/8/'25 (H.). **LK.** Limerick district : 7/'95 (H.). **WI.** Bray : 8/'27. Enniskerry : 9/'31. Glen of Downs : 9/'32. Kilecole : 8/'27 (H.). **DU.** Lucan and Leixlip : 8/'94. Sutton and Howth : 8/'28. Santry. Portmarnock. Glenageary (H.). **AR.** Armagh : Johnson '93. Loughgilly : Johnson '94. **ED.** Coolmore : Johnson '94.

Common on thistles and probably of general occurrence.

Monanthia humuli Fabr.

WA. Gurteen Demesne near Clonmel : larva in last instar, and adult, 17/7/'28 (H.). **LK.** Lough Gur : 3/6/'95 (H.). **CL.** Broadford : 7/'95 (H.). **NG.** Clonbrock : 6/'96 (H.). **WX.** Kilmore Quay : frequent, 8/'31 (H.). **WI.** Ballyknockan : 8/'04 (H.). **DU.** Bog of Ring (H.). **WH.** Lough Ennell : 5/'01, and 4/9/'30 (H.).

Though unrecorded from Ireland this species occurs locally in marshy places and lake shores. It is fond of weed-grown drains where *Myosotis* is common; and the only places I have ever found it in any number was under these conditions in a drain on the Ballyteige sandhills. The species has a wide range in Great Britain and in Northern and Central Europe.

Family VI.—**ARADIDAE.****Aradus depressus** Fabr.

NK. Killarney : in the Kenmare Demesne, 7/'23! (Bullock). **SG.** Woodford : larva under bark, 8/'01 (H.).

Not recorded as an Irish species and evidently rare. Mr. E. Bullock found a single specimen by sweeping in a wood where the Denagh River flows from Lough Leane, a locality which has yielded some interesting insects, notably *Corizus hyalinus*. There are three other British species of this genus which are scarcely likely to be found in Ireland, with the exception perhaps of *Aradus betulae* Linn., a northern form. Widespread in Britain ranging as far north as Cumberland.

Family VII.—**HEBRIDAE.****Hebrus ruficeps** Thoms.

NK. Gap of Dunloe : abundant in wet sphagnum in stream flowing from lakes, 27/8/'25, and 7/'27 (H.). Bunroe, Killarney : winged form, 10/2/32 (Bullock). **CL.** Lough Atorick : in sphagnum, 20/6/'21 (H.). **QC.** Mountmellick : 16/11/'30! (Stelfox). **WI.** Kilmacanogue marsh : in

moss, 12/9/'33 (H.). **DU.** Kilmashogue: in a marsh at 700 feet, 5/1/'24! Oldbawn: among moss from pools by River Dodder, 7/5/'22! (Stelfox). Glenasmole: in sphagnum, 13/6/'34 (H.). **MO.** Monaghan: banks of the Ulster Canal, 12/10/'00! (Welch).

The first Irish specimens were discovered many years ago by Mr. R. Welch in the Ulster Canal near Monaghan. It has since been found in other places and I believe it is widespread in suitable habitats. Though usually abundant where it occurs the species is one that may be easily overlooked as it frequents moss, especially sphagnum, in very wet places. The dates of capture range from January to November. Mr. Bullock has found the macropterous form in flood refuse in February.

Family VIII.—**GERRIDAE.**

Aepophilus bonnairei Sign.

WA. Shore at Dungarvan: Carpenter '97. **WC.** In crevices on the rocky ridges of Tramadroum, Baltimore, and on the Coosh below Lough Ine, Renouf '32. **SG.** Ballinakill: Green Rocks at the entrance to Fahy Bay, March (Tattersall), H.'12. Tawin close to Ardfry: 2/'07 (Tattersall), H.'12. **DU.** Malahide: rock fissures in the *Fucus serratus* zone, 29/7/'17 (H. and Southern). **WM.** Elly Bay, Blacksod: between tide marks! (Kemp), H.'12.

This interesting species lives between high and low water marks on the south, west, and east coasts of Ireland. The first recorded Irish specimen was found by the late A. R. Nichols at Dungarvan in the year 1897. Some years later Messrs. Tattersall and Kemp met with it during their work on the marine fauna of the west coast of Ireland. In the Ballinakill and Tawin localities the insects were between tide-marks in the cavities of stones that had been bored by the mollusc Saxicava (Tattersall). One of the most characteristic habitats is at Malahide near Dublin where it lives in rock fissures in the *Fucus serratus* zone. On forcing open one of these fissures "It will be noticed that, although covered twice a day by the tides, the freshly exposed surfaces are not saturated with water, but are just moist, or in the higher zones fairly dry, and in the favoured places are peopled by a variety of insects, mites, and other animals. There may be found large colonies of the common shore spring-tail *Anurida maritima*, with myriads of their cast skins in a dry condition, and attendant predaceous mites, beetles (*Aepus*, *Diglotta*, *Micralymma*), and false scorpions (*Obisium maritimum*)."⁶ Renouf records it from a similar rock-fissure habitat at Lough Hyne on the Cork coast where it is covered by from eight to twelve feet of water at high spring-tides.

* Halbert. Proc. Roy. Irish Acad., xxxv, 109 (1920).

Though probably of wider Continental range than is at present known (coasts of France and Spain) *Aepophilus* is evidently of south-western origin. "The distribution of this species, although largely limited by ecological factors connected with respiration, supplies some evidence of the former existence of a continuous shore line between Brittany and the west coast of Ireland" (*China* '30). In England it has been found only on the south coast in the counties of Hants, Dorset, Devon, and Cornwall.

Hydrometra stagnorum Linn.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Dingle : 5/'94 (H.). Caragh Lake : 5/'94 (Yerbury), *Distant* '02. Killarney : larvae and adults common at Ardagh Lough, 7/'27. Kenmare Demesne : shore of Lough Leane, 8/'25 (H.). **WC.** Berehaven and Dursey Island : *Johnson* '94. **WA.** Tramore : 7/'01 (H.). **LK.** Limerick district : 7/'95 (H.). **WX.** Wexford district : 7/'00 (H.). **SG.** Shannon at Portumna : 7/'21 (H.). **WI.** Avoca : 6/'93. Arklow marsh : 9/'28. Kilcoole : 9/'28 (H.). **DU.** Glasnevin (*Haliday Diary*). Quarry at Finglas : under stones, 11/11/'93. Glenageary : quarries, 8/'33. Donabate : ponds, 10/'27. Royal Canal (H.). **WM.** Louisburgh : *H.*'12. Achill Island and Castlebar : 6/'09 (H.). **AR.** Armagh : *Johnson* '93. **WD.** Bunbeg : July, *H.*'10.

A common species on the margins of ponds, river banks, and in marshy places. The larvae in various stages of growth occur during the summer months, and the adults appear in August. Hibernating specimens were found under loose bark and stones in October and November.

Microvelia reticulata Burm.

SK. Marsh near Ventry : 5/'94, *H.*'95 b. **NK.** Killarney : common in flood refuse; winged form at Mahoney's Point, 3/'32 (Bullock). **MC.** Blarney : *Haliday MS.* **WX.** Enniscorthy : 5/'99 (H.). **SG.** Woodford : 8/'01 (H.). Lough Corrib! (Scharff). **KD.** Athy : *Haliday MS.* Maynooth : 5/'94 (H.). **DU.** Royal Canal near Dublin : *H.*'08. Lucan : 5/'94. Raheny Ponds : common, 5/'94, and 3/'34 (H.). **WH.** Shannon at Athlone : 6/'99 (H.). **WM.** Lakes near Louisburgh : 7/'10, *H.*'12. **SL.** Lough Gill : in ponds on shore, 7/'04, *H.*'04. **FE.** Lakes in County Fermanagh. **DO.** Marsh near Holywood : *Haliday MS.* *Curtis* '38. *Douglas and Scott* '65. Castle Hill Moss : *Haliday MS.* **AR.** Armagh : "one specimen in moss," *Johnson* '93. Lowry's Lough : and developed forms, 5/6/'95, *Johnson* '96. **LD.** Culkeeragh : 4/'99 (Buckle). **AN.** Belfast (Dale), *Saunders* '92.

Widespread and locally common in ponds, canals, and slow flowing rivers. Curtis remarks, "My friend Mr. Haliday has been the first to detect *Hydroessa pygmaea* in our lands; he says, 'They were taken in a marsh near Belfast in June and September; they move on the water more

slowly than *Velia* mostly among aquatic plants: the females seem more numerous than the males, and the winged specimens are very rare' '' ('38). The only macropterous specimens that I have seen are two in the Haliday collection, these are probably the specimens recorded in his ms. list as having been found at "Castle Hill Moss."

***Velia currens* Fabr.**

SK. Kenmare: 7/'98, *H.*'98. Derrynane. **NK.** Killarney: Common on lake shores. Sullivan's Cascade: 7/'27 (H. and Bullock). Winged form at Bunroe and Muckross (Bullock). **WC.** Glengarriff: 7/'24 (H.). Berehaven and Dursey: *Johnson* '94. **EC.** Youghal: 8/'33 (H.). **WA.** Waterford: 7/'01 (H.). **ST.** Clonmel: 7/'28 (H.). **LK.** and **CL.** Limerick and South Clare: 7/'95 (H.). **WG.** Clifden: 8/'34 (H.). **WX.** Wexford district: 7/'00. Macmine: 7/'25. Kilmore Quay: 8/'31 (H.). **WG.** Aranmore and Connemara: 9/'91 (Scharff), *Saunders* '92. **NG.** Galway district: common, 7/'95, *H.*'95 f. **WI.** Drumgoff: 5/'96, *H.*'96 a. Glendalough: 4/'08. Avoca: 4/'93. Arklow: 9/'28. Powerscourt: larva, 8/'27. Bray district: 8/'27 (H.). Clara 5/'28 (O'Mahony). **DU.** Lambay Island: 10/'06, *H.*'07. Templeogue: winged form, 4/'40 (*Haliday MS.*). Tallaght: winged form in April and September. Dublin Mountains: pools in streams, 3/'28. Royal Canal: 4/'93. Raheny Ponds: 4/'95 (H.). **WH.** Westmeath lakes: 5/'01 (H.). **WM.** Clare Island, Achill, Westport: *H.*'12. **SL.** Lough Gill: 7/'04 (H.). **LE.** Dromahair: 7/'32 (H.). **CV.** Lough Oughter: 10/'93 (H.). **LH.** Dundalk: 8/'93, *Johnson* '94. **ED.** Ardara: *Johnson* '93. Bundoran: (Scharff). **WD.** Coolmore: (*Johnson*). Tory Island and Glenveagh: *H.*'10. **AN.** Lough Neagh at Shane's Castle: *H.*'02. The winged forms in September and October at L. Neagh! (Buckle).

A very common species and possibly often passed over for this reason. It frequents both still and running water, generally the latter, and I have noticed it in spring-fed wells. The prevalent form is of course the brachypterous one, the fully-winged insect being much rarer. It has occurred in pools by the River Dodder at Templeogue and Tallaght in April and September, also at Lough Neagh and in the Killarney district.

***Gerris rufoscutellata* Latr.**

"Haliday Collection without locality," *Saunders* '92, and *H.*'02. **NK.** Killarney: one specimen in a bog-pool close to Lough Guitane, 23/4/'29 (Bullock).

The rarest of the British species of *Gerris* and an interesting example of the gradual rediscovery of insects found by A. H. Haliday many years ago. It is included amongst the "certainly Irish" species in his ms. list, and there are two specimens in his collection marked as having been found

in Ireland. The species is a large and conspicuous one, not easily overlooked, yet it was not until April, 1929, that my friend Mr. E. Bullock had the good fortune to find it in a bog-cutting close to Lough Guitane in the Killarney district. It is possible that this may be the very place where Haliday found his specimens, as it is known he made an entomological tour in the south of Ireland in the year 1855.

According to Butler this species is rare in Britain, frequenting ponds during March and April in at least five counties ranging from Sussex to Cumberland, it has also been found in Scotland (Pitlochry). The Continental range is very wide, including Europe, Siberia, and the Nearctic Region.

[*Gerris paludum* Fabr. "Ardara": *Johnson* '93.

This record, and consequently the species, must be deleted from the Irish list. Mr. Butler's reference "North of Ireland" is probably from the same source. It is hardly likely that this species occurs in Ireland. With the exception of a few outlying localities in Britain, "Its chief home appears to be the compact area of the five counties south of the Thames from Berks and Hants to Kent." Northern and Central Europe.]

***Gerris naja* De G.**

SK. Cloonee Lakes: 8/7/'98, and pools in the Sheen River near Kenmare: 13/7/'98, *H.*'98. Finnahy River: summer of 1899, *Mason* '03. **NK.** Caragh Lake: (Yerbury), *Distant* '02. Lough Guitane (Bullock). **CL.** Stream in Cratloe Wood: 6/7/'95 (H.). **WX.** Enniscorthy: 5/'99 (H.). **SG.** Woodford: 8/'01 (H.). **WI.** Glendalough: in stream flowing from lakes: 23/4/'08 (H.). **AR.** Tanderagee: (*Johnson*). River Cusher. **DO.** Lisburn: common in stream supplying a mill beside Lagan, 20/9/'02 (*Buckle Diary*).

Locally common on running water, and these records indicate a wide range in Ireland. All of the specimens that I have seen are short-winged, and the dates are from April to September. Generally distributed in England, but it has not been found in Scotland.

***Gerris lateralis* v. *costae* H.S.**

WG. Summit of Lisoughter, Recess. **WI.** Pools in mountain districts: *H.*'08. Kelly's Lough on Lugnaquilla: 30/5/'96, *H.*'96 a, and '12. Pools on Kippure and Lough Bray: *H.*'12. Powerscourt Deerpark: 14/9/'09, and 8/'27 (H.). **DU.** River Dodder and Tallaght: 4/'95, *H.*'12. **WM.** Lakes on Clare and Achill Islands. Croaghpatrick: 16/6/'09. Polranny: *H.*'12. **SL.** Lough Gill: 7/'01, *Johnson* '02. **ED.** Scalp Mountain in Foyle district! (*Buckle*). **WD.** Ardara: boggy ground, common, *Johnson* '93. **AR.** Newtown Hamilton: *Johnson* '93. Slieve Gullion: in small pool near summit, 7/'93, *H.*'93.

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[Z]

A subalpine species occurring chiefly in mountain lakes and pools in moorland districts from April to September. There are no records from the south of Ireland, but I should say it will eventually be found there, probably in the south-western parts. Although of central and southern range on the Continent, the species is distinctly northern in Britain, and it is common in Scotland.

Gerris thoracicus Schum.

SK. Kenmare: 7/'98, *H.'98*. **NK.** Dingle: 5/'94 (H.). Ballast Pit near Killarney: 4/'28! (Bullock). **WA.** Marsh at Tramore sands: 7/'01 (H.). **WX.** Forth Hills: 7/'00. Ballyteige: pool on sandhills: 8/'31 (H.). **NG.** Clonbrock: 6/'96 (H.). **WI.** Magherabeg dunes: 7/'27! (Stelfox). Kilmacanogue: 5/'34 (H.). **DU.** Tallaght: pools by River Dodder, 6/'92. Kill of the Grange: 6/'33 (H.). Clontarf: 9/'26! (O'Mahony). **WM.** Clare Island: in bog pools, 6/'11, *H.'12*. **ED.** Scalp mountain: 5/'99 (Buckle). Coolmore: *Johnson '95 a.* **WD.** Tawny Lough: 9/'06 (H.). **AN.** Cave Hill: 6/'01 (Buckle). **WD.** Culmore moss: 4/'99, and 5/'99 (Buckle).

A common species, especially in brackish ponds and ditches on the coast.

Gerris lacustris Linn.

SK. Kenmare: 7/'98, *H.'98*. **NK.** Killarney district: 8/'25 (H.). **WC.** Berehaven and Dursey: 6/'93, *Johnson '94*. Glengarriff: 7/'25 (H.). **LK.** Limerick district: 7/'95 (H.). Kilkeely! (O'Mahony). **KD.** Carton: 9/'33 (H.). **WI.** Lugnaquilla: 5/'96. Kilmacanogue: 5/'34 (H.). **DU.** Dublin: common, *Johnson '94*. Royal Canal: 4/93. Kill of the Grange: 6/'33 (H.). **WM.** Clare Island, Achill, and Westport districts, *H.'12*. **SL.** Sligo: common, 7/'04, *H.'04*. **AR.** Armagh district. Manorhamilton: *Johnson '93*. **ED.** Templenew: *Johnson '95 a.* Bundoran! (Scharff). **WD.** Bunbeg: *H.'10*. **DO.** Lagan Canal near Moira: 6/'00 (Buckle). **AN.** Cave Hill: 6/'01 (Buckle). **LD.** Culmore moss: 5/'99! (Buckle).

Common and widely distributed.

Gerris argentatus Schum.

SK. Kenmare: *Mason '03*. **LK.** Limerick district: 7/'95 (H.). **WG.** Roundstone: 4/'96 (H.). **DU.** Royal Canal: 4/'93, *H.'94 c.* **AR.** Lough-gilly: in numbers, *Johnson '95 b.* Armagh: one in flood refuse in December, *Johnson '93*. **DN.** Lagan Canal at Moira: 11/6/'00 (Buckle), *H.'02*. Newcastle: *H.'02*.

There are few records of this species; apparently it is less common than *G. odontogaster* Zett., in Ireland.

Gerris odontogaster Zett.

SK. Waterville: (Yerbury), *Distant* '02. **NK.** Killarney district: 3/'26! (Bullock). **SG.** Woodford: 8/'01 (H.). **WI.** Arklow marsh: 9/'28 (H.). **DU.** Raheny ponds, 4/'93. Lucan ponds: 4/'98. Kill of the Grange: 6/'33. Royal Canal: 9/4/'93 (H.). **WM.** Clare Island: in bog pools, 6/'09, *H.*'12. **SL.** Lakes at Rosses Point: 7/'04, *Johnson* '02. **AR.** Armagh: *Johnson* '93. **DO.** Lagan Canal at Moira: 6/'00, H.'02. **AN.** Ballycastle: lakes at Fair Head, 9/'06 (H.). **LD.** Culkeeragh: 15/4/'99! (Buckle).

Probably a generally distributed species in lakes, ponds, and canals.

Family IX.—**REDUVIIDAE.****Ploiariola vagabunda** Linn.

WC. Lough Hyne: in salt marsh, *Renouf* '34. **WA.** Waterford district: *Power* '78.

As the few specimens of this interesting genus found recently in Ireland are, with one exception, referable to the following species, it seemed possible there was an error in the Waterford record. Dr. Power's collections are now in the British Museum, and Mr. W. E. China tells me there is a specimen of *P. vagabunda* labelled "Waterford" amongst the Hemiptera. Widespread in Britain, occurring on tree trunks, palings, on cut pine branches, and it is frequently found on houses.

Ploiariola culiciformis De G.

DU. In house "Mayfield" near Terenure: 18/6/'32. Again in same place, 7/3/'32! (Stelfox). **AR.** Poyntzpass: 27/5/'19, *Johnson* '19.

Only three specimens of this species have been found in Ireland. At Acton Glebe, Poyntzpass, one flew in at a window and alighted on a book Mr. Johnson was reading. One of Mr. Stelfox's specimens was found in a bath in March; he suggests it was probably hibernating in the roof and got blown down by a storm. "In Britain its distribution appears to be much more restricted than that of *P. vagabunda*."

NABIS.

The species of the genus *Nabis* are conspicuous and widely distributed insects, and they are well represented in Ireland. Thus, of the eleven recorded British species eight are found in this country; one of these, *N. lineatus* Dahlb., occurs only in the south-eastern districts. The three remaining British species, *N. apterus* Fabr., *N. boops* Schiödte, and *N. brevis* Scholtz, are mainly of southern range and are scarcely likely to occur in Ireland.

[Z 2]

Nabis lativentris Boh.

SK. Kenmare : 7/'98, *H.*'98. Derrynane : 7/'34! (Stelfox). **NK.** Killarney : 7/'27 (H.). **WC.** Rosscarbery : 8/'95, *Cuthbert* '95. Glan-dore : 6/'00. Glengarriff: larva on early instar, 7/'26 (H.). Lough Hyne : salt marsh, *Renouf* '34. **EC.** Youghal : 8/'33 (H.). **WA.** Waterford district : *Power* '78. Ardmore : 9/'96, *Cuthbert* '97. Clonmel : quarry south of R. Suir, 7/'28. Monatray : 8/'33. Kilmacow : 9/'29 (H.). **ST.** Clonmel : gravel pits, larva, 7/'28 (H.). **KK.** Glenmore : 9/'29 (H.). **WX.** Near Wexford : 7/'26. Ballyteige: sandhills, larva, 8/'31 (H.). Rosslare : larva, 7/'27! (Phillips). **WG.** Aranmore : 9/'91. **WI.** Brittas Bay : 9/'96, *H.*'96 c. Arklow : larva in late instar, 7/'26. Adult, 9/'28. Magherabeg sands : 7/'26. Murragh : early stage larva, 8/'27. Enniskerry, banks of Cookstown River, 9/'31 (H.). Clara : 8/'25. Meeting of the Waters : 7/'30 (Stelfox). **DU.** Howth : larva and adult common under Matricaria on south cliffs, 7/'09, *H.*'09. In same place, 19/1/'29 (Stelfox). Sutton : 8/'28. Killiney : 8/'29 (H.). **AR.** Armagh : *Johnson* '93. **ID.** Coleraine.

A widely spread species, especially in the south of Ireland, on sandy coasts, sea banks, and also in dry places inland, such as embankments and gravel pits. The larvae are to be found from early July to September, the adults at the end of August and also in September. This species in its early larval stages is found associated with ants. I noticed this especially on the south cliff at Howth, where it was in company with the black ant, *Formica fusca*. The insects were under clumps of Matricaria and running actively together on the sea banks, when the superficial resemblance to the ants was very noticeable. The winged form of the adult is rare; I have found it on the Arklow sandhills in September. *L. lativentris* is widely distributed in Great Britain, but it does not seem to occur in Scotland.

Nabis major Cost.

EC. Youghal : 8/'33 (H.). **KK.** Inistioge : 8/'02, *Turner* '03. Glenmore : 9/'29 (H.). **WX.** Wexford : meadow by Slaney, 8/'25. Ballyteige under Ononis on sandhills, 8/'31 (H.). **WI.** Arklow : sandhills, 9/'28. Murragh : 8/'27. Kilcoole and Greystones : 9/'28 (H.). **DU.** Tallaght and Santry demesne : 4/'95. Howth : 3/10/'12. Chapelizod : 21/9/'28. Killiney Hill : 8/'33. Seapoint : 9/'33 (Beirne). Swords : at head of Malahide estuary, 9/'28 (H.).

All of these localities are on the south-east of Ireland, but the species has probably a much wider range. During the summer occasional specimens are found, and on the maturing of the adults in the autumn months it is sometimes locally common, as at Ballyteige and Arklow sands and at other

places on the coasts. Widely distributed in Central and Southern Europe and in Great Britain.

Nabis flavomarginatus Scholtz.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Killarney : winged form, 8/'25 (H.).
WC. Lough Hyne : salt marsh, *Renouf* '34. Glengarriff. **MC.** Cork district (H.). **EC.** Youghal : 8/'33 (H.). **WA.** Tramore : 8/'01, Waterford : 9/'29, winged form, 9/'29 (H.). **ST.** Clonmel : 7/'28. **LK.** Limerick : 7/'95. **CL.** South Clare : winged form, *H.*'12. **KK.** Thomastown : 7/'01 (H.). **WX.** Near Wexford : winged form, 7/'26. Kilmore Quay : 8/'31. **WI.** Arklow : winged form, 7/26 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Ross : 9/'05. Recess : 8/'95. **NG.** Galway district : *H.*'95 f. Clonbrock : 6/'96, *H.*'96 b. **KD.** Sallins : 8/'26! (Stelfox). **WI.** Arklow : 7/'26. Vale of Clara : 7/'19. Murragh : 8/'27. Kilcoole : 8/'27. Greystones : 8/'33. Bray : 8/'27. Kilmacanogue : 9/'33 (H.). **DU.** Lucan : *H.*'94 c. Lambay : *H.*'07. Dublin district : *H.*'08. Sutton and Howth : 8/'28. Donabate : 9/'27. Swords : 9/'28. Phoenix Park : 10/'27. Chapelizod : 9/'21. North Bull. Finglas : winged form, 10/'27. Kill of Grange : winged form, 7/'33 (H.). **WH.** Mullingar : 9/'30. Athlone : 6/'99 (H.). **WM.** Louisburgh and Westport : *H.*'12. **SL.** Lough Gill : *Johnson* '02. Lissadill, Ballysadare : *H.*'04. **LE.** Dromahair : 7/'32 (H.). **LH.** Braganstown : 8/'95, *H.*'95 g. Carlingford : 7/'93. Dundalk : *Johnson* '94. **ED.** Coxtown : winged form, 7/'94, *Johnson* '95 a. **AR.** Armagh : *Johnson* '93. **AN.** Portmore and Lough Neagh : winged form, 8/'03 (H.).

Common and widely distributed, occurring both in dry and marshy places. The species is usually brachypterous, and the winged form is comparatively rare, but less so than in the case of other species where there is a marked disparity in numbers between the two forms.

Nabis limbatus Dahlb.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Kenmare and Muckross Demesnes : 9/'25. Torc : 8/'25 (H.). **WC.** Glengarriff : 7/'24 (H.). Lough Hyne : salt marsh, *Renouf* '34. **EC.** Youghal : 8/'33 (H.). **WA.** Waterford : 9/'29. Gurteen Wood : 7/'28 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **CL.** Limerick and South Clare, adult, 6/'95 (H.). Kilkeely ! (O'Mahony). **KK.** Inistioge : 8/'02, *Turner* '02. **WX.** Wexford district : common, 7/'26. Maemine : 8/'31! (H.). New Ross : 9/'25! (Stelfox). **QC.** Dun Brim : 9/'28! (O'Mahony). **WG.** Ross : 9/'05. Clifden : 8/'34 (H.). **NG.** Galway district and Clonbrock : 6/'96 (H.). **KD.** Sallins : 9/'28 (H.). Athy : 9/'28! (O'Mahony). **WI.** Arklow : 9/'28. Lough Dan : 9/'09. Powerscourt and Bray : 8/'27! Enniskerry : 9/'31 (H.). **DU.** Killiney : 8/'33. Glenageary : 10/'33. Chapelizod : 9/'28.

Lucan : 8/'94. Howth : 9/'09. Portmarnock : 9/'28. Glasnevin and Finglas : 9/'27 (H.). **ME.** Boyne Valley : 9/'30 (H.). **WH.** Mullingar : 9/'30 (H.). **WM.** Westport : H.'12. **SL.** and **LE.** Lough Gill and Dromahair : 7/'32 (H.). **LH.** Dundalk : 7/'93, *Johnson* '94. Bragans-town : 8/'95 (H.). **FE.** Fermanagh. **AR.** Loughgall : *Johnson* '93. **LD.** Culmore : 7/'99! (Buckle).

Generally distributed and common.

Nabis lineatus Dahlb.

WC. Lough Hyne : *Renouf* '34. **EC.** Youghal : common in south marsh, adults, 8/'33 (H.). **WA.** South bank of River Suir near Waterford : on Juncus, 8/9/'29. Marsh south of Waterford : 6/9/'29 (H.). **WI.** Arklow salt marsh : larvae on Juncus, 17/7/'26. Adults in same place on *Scirpus maritimus*, 17/9/'28. Murragh of Wicklow : 30/8/'27. Kilcoole : larva in last instar and a few adults, 12/8/'27. Adult in same place, 27/9/'28 (H.).

Inhabits marshes on or near the coast in our south-eastern counties. The known limits of its range are from Lough Hyne to the Greystones district in north Wicklow. Although thus restricted the insect is always more or less common where it occurs. I have usually found it by sweeping rushes (Juncus) from July to September. The adult stage is reached in the early part of August. The winged form has not been found in this country, and it seems to be of great rarity in Britain, Mr. Butler knew of only one specimen taken in a salt marsh in Suffolk in 1904. *N. lineatus* is found from Devon as far north as Lincolnshire. Widely distributed in Northern and Central Europe and in Siberia.

Nabis ferus Linn.

SK. South Kerry : 6/'02, *Saunders* '03. **NK.** Gap of Dunloe and Ardagh (Bullock). **WC.** Glengarriff : 7/'24 (H.). **MC.** Cork district : 5/'02 (H.). **EC.** Youghal : 8/'33 (H.). **WA.** Waterford : south bank of River Suir, 9/'29. Dungarvan : 8/'33 (H.). **WX.** Meadows near Wexford : 7/'25 (H.). **WI.** Arklow : 9/'28. Woods at Lough Dan : 9/'09 (H.). **DU.** Tallaght : 4/'95. Lucan : 9/'92. North Bull : 9/'98. Santry Demesne : 10/'29. Portmarnock : (H.). **WH.** Mullingar : 9/'30 (H.). **WM.** Clare Island : H.'12. **AR.** Armagh : common, *Johnson* '93. Jerretspass : April, *Johnson* '12. **ED.** or **LD.** Foyle district! (Buckle).

The records of this species are few in number, but it is probably generally distributed. The insect is always macropterous, and the dates of capture range from April to October.

Nabis rugosus Linn.

SK. Kenmare : 7/'98, *H.*'98. Parknasilla : 7/'01 (Yerbury), *Distant* '02. **NK.** Muckross Demesne : 9/'25 (H.). L. Ranee : 7/'33 (Bullock). **WC.** Rosscarbery : *Cuthbert* '95. Glandore : 6/'00 (H.). Glen-garriff! (Scharff). **EC.** Castlemartyr : 8/'33 (H.). **WA.** Cappoquin : 6/'00. Curraghmore. **LK.** and **CL.** Limerick and south Clare : 6/'95 (H.). **KK.** Glenmore : 9/'29 (H.). **NG.** Galway district : 7/'95 (H.). **WX.** Maemine : 8/'31. Killoughrum : 5/'99 (H.). **WI.** Arklow : 9/'28. Murragh : 8/'27. Devil's Glen : 9/'33. Kilcoole : 9/'28. Grey-stones : 8/'33. Glen of Downs : 9/'32. Enniskerry : 9/'31. Powerscourt : 6/'26. Kilmaconogue marsh : 9/'33 (H.). **DU.** Lucan : 10/'27. Knockmaroon : 9/'29. Carton Demesne : 9/'33. Loughlinstown : 9/'31. Glenageary : 8/'33. Santry : 9/'29. Portmarnock : 9/'28. Swords : 9/'28. Donabate : 10/'27 (H.). **LH.** Drogheda : 8/9/'31. **AR.** Lough Gilly : in moss, January (Johnson).

A common species during the summer and autumn months. The prevalent Irish form is rather dark in colour, due to the wing nervures being more or less margined with grey; a slightly larger and paler form also occurs. Although the species is short winged, I have found a few specimens in which the elytra and the membrane are distinctly longer than in the average and the whole insect is narrower. This form is probably the same as one recorded from England by Butler with the wing membrane more developed.

Nabis ericetorum Scholtz.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Caragh Lake : 8/'26! (Bullock). **WC.** Glengarriff : 19/7/'24 (H.). Lough Hyne : in salt marsh, *Renouf* '34. **WA.** Waterford district : *Power* '78. **ST.** Slievenamon : 20/7/'28 (H.). **CW.** Kilcarry : 21/5/'34 (H.). **NG.** Clonbrock : 19/6/'96, *H.*'96 b. **KC.** bog near Tullamore : 25/5/95, *H.*'95 c. **WI.** shore of Lough Dan : 28/9/'09. Magherabeg : 11/7/'26. Powerscourt Deerpark : 20/6/'26. Kilmaconogue : 31/5/'34 (H.).

Found on Calluna and Erica on high ground and in moorland districts, probably widely distributed. In damp places on our south-eastern coast there occurs a variety of this species showing no trace of the reddish colouring found in typical *ericetorum* Scholtz., and closely resembling the darker form of *N. rugosus* mentioned above. Mr. W. E. China, to whom I referred this variety, remarks: "Your specimens are the pale form of *N. ericetorum* Scholtz., which we have in our collection from Cornwall only. Their occurrence in Ireland and Cornwall suggests that they might be a subspecies belonging to the Lusitanian faunal element, but I can find no real difference from typical *ericetorum*." The localities in which I have found this form are **WA.** Marsh south of Waterford : 6/9/'29. **KK.** Banks

of River Barrow at Glenmore : 9/9/'29. **WI.** Sea banks at Arklow : 18/9/'28. **DU.** Howth : in a damp place on the south cliffs near Baily, 10/'12. This variety bears a resemblance to *N. brevis* Scholtz., but there are differences in the size, the antennae, and the genital styles.

Family X.—**SALDIDAE.**

Salda pilosa Fall.

DU. Portmarnock salt marsh : 9/'94 and 8/'98. North Bull : 7/8/'98. Malahide : 5/8/'94. Baldoyle (H.).

There are Irish specimens of this species in the Haliday collection (*Saunders* '92), probably taken on the north Dublin coast, where it is local in salt marshes during August and September. No doubt it occurs at other places on our eastern coast. The English localities range from Devon to Cumberland; widespread in the Palaeartic Region.

Salda littoralis L.

SK. South Kerry : 6/'02, *Saunders* '03. Kenmare : 7/'98, *H.*'98. **NK.** Kenmare and Muckross Demesnes. Dingle : 6/'94 (H.). **WC.** Lough Hyne : salt marsh, *Renouf* '34. **WA.** Tramore : 7/'01 (H.). **LK.** and **CL.** Lough Gur, 7/'95, and South Clare, 7/'95 (H.). **SG.** Coast at Ardfry : 6/'16 (H.). Gort : larva and adult, 6/'28! (Stelfox). **WG.** West Galway : lake shores, *H.*'95 f. **WX.** Near Wexford : 7/'25 (H.). **WI.** Lough Dan : 9/'09 (H.). **DU.** North Bull : 7/'98 (H.). Kilbarrack : 7/'27! (O'Mahony). **WH.** Athlone district : 6/'99. Lough Derravaragh : 5/'01 (H.). **WM.** Achill, Castlebar, Louisburgh, and Westport : *H.*'12. **SL.** Lough Gill : 7/'04, *H.*'04. **LE.** Dromahair : 7/'32 (H.). **AR.** Armagh, Lowry's Lough, shores of Lough Neagh : *Johnson* '93. **ED.** Coolmore : *Johnson* '95 a. Lough Inn : 7/'99 (Buckle). **DO.** Strangford Lough : 7/'12! (Buckle). **AN.** Shane's Castle, Lough Neagh : 8/'02 (Buckle).

Common on river banks, in salt marshes, and under stones on lake shores from May to September.

Salda oculata Mull.

SK. Cromaglaun mountain : two specimens taken by Mr. Cuthbert, 7/'98, *H.*'98. **NG.** Heath at Clonbrock : 6/'96 (H.). **DU.** Heath on the Dublin mountains at Tibradden : 4/6/'93, *H.*'08.

Apparently a rare species in Ireland, though from the nature of its moorland habitat, easily overlooked. The Dublin and Kerry specimens were recorded as *S. Muelleri* Gmel., a synonym for the present species. Widespread in Europe and Siberia; there are few British records, most of these are from "Scotland where it has occurred at a high altitude."

Salda morio Zett.

SL. Ballymote: 14/7/'92! (Jameson).

The only known Irish specimen was found by the late H. Lyster Jameson near Ballymote many years ago, probably in a moorland locality. The Dublin record of *S. morio* Zett. (H.'94 c) should refer to *S. oculata* Mull., which was not then known as a British species. As the insect is rare, Mr. Butler's remarks on its distribution are of interest. "It is recorded from Ireland, Northern and Central Europe, and Siberia, besides Great Britain. Its distribution in our own country is difficult to state accurately, because of the confusion that for some time existed between this and the preceding. The present species has certainly been taken in Northumberland, Cumberland, Durham, Derbyshire, and Ireland." Glamorgan. The Ballymote specimen is now in the Irish National Museum.

Salda scotica Curt.

SK. Kenmare: abundant on rocks in bed of the Sheen River, 7/'98, H.'98. **NK.** Killarney: 8/'25 (H.). **WC.** Glengarriff: 7/'24 (H.).

WA. Waterford district: Power '78. **LK.** and **CL.** Limerick district and South Clare: 7/'95 (H.). **NK.** Clonbrock: river banks, 6/'96, H.'96 b.

WI. Bray River: 7/'94, H.'08. Lough Dan: 9/'09. Glendalough (H.). Powerscourt: 6/'25! (Stelfox). **DU.** River Dodder at Tallaght (H.).

WM. Belclare: 7/'10, H.'12. **SL.** Lough Gill, Glencar, Raghly, common on lake shores: H.'04. **ED.** or **LD.** Foyle district! (Buckle). **DO.** Belfast: (Dale), Saunders '92. Newcastle: (Champion), H.'02. Lough Neagh: south-east shore of lake, 11/10/'92! (Buckle).

A common species on the rocky banks of mountain streams and also on lake shores. The distribution is mainly northern, as Mr. Butler points out, it is necessarily limited by the nature of the habitat.

Salda orthochila Fieb.

WG. Inisbofin! (Dillon), H.'12. **KD.** Newbridge: 18/10/'27! (O'Mahony). **WI.** Powerscourt Deerpark: 16/6/'26 (H.). Wicklow Gap: 1,300 ft., 10/10/'26! (Stelfox). **DU.** Santry: 5/8/'93. Holmpatrick Demesne: 5/9/'24. North Bull: 7/8/'98. Clontarf: on shore, 8/9/'28 (H.). **WH.** Lough Ennell: 4/9/'30 (H.). **ME.** Laytown sandhills: 16/6/'94 (H.). **WM.** Clare Island and Belclare: 7/'10, H.'12. Achill Sound: 6/'10 (Johnson). **AR.** Armagh: Johnson '93. Slieve Gullion: in moss near summit, H.'93. **ED.** or **LD.** Donegal! (Buckle).

Though widely distributed this species is not common in Ireland; we have no records from the south, where it may have been overlooked. It has been found in moss on sandhills and at a considerable altitude on hills. Common in Britain, extending to the Shetlands.

Salda saltatoria Linn.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Muckross and Kenmare Demesnes : 7/'27. Ballast Pit, Killarney : 7/'27 (H.). **WC.** Lough Hyne : salt marsh, *Renouf* '34. **EC.** Youghal : variety, 8/'33 (H.). **WA.** Lismore : 7/'94 (H.). **WX.** Kilmore Quay : variety, 25/8/'31. Rosslare : 7/'00. Near Wexford : 7/'25 (H.). **CW.** Kilcarry : 5/'34 (H.), **WG.** Roundstone : 6/'96. Clifden : 8/'34 (H.). **WI.** Magherabeg : 4/'26! (Stelfox). Arklow : 9/'28. Rathnew : 8/'24. Murragh : 8/'26. Lough Dan : 9/'09. Powerscourt : 6/'26 (H.). **DU.** Lambay Island : *H.*'07. Portmarnock : variety, 10/'94. Glenageary : 7/'33. Kill of the Grange : 6/'34. Clontarf : variety, 9/'28. Tibbradden. North Bull (H.). **WH.** Shore of Lough Ennel : 9/'30 (H.). **WM.** Clare Island, Louisburgh, Croaghpatrick, and Westport : *H.*'12. **SL.** Enniscrone : 8/'01, *Johnson* '02. **LE.** Marsh near Dromahair : 7/'32 (H.). **ED.** Bunerana : 5/'99. Lough Inn : 7/'99. Scalp Mountain : 5/'99! (Buckle). **WD.** Tory Island : 7/'10, *H.*'10. Foyle district : variety (Buckle). **AR.** Armagh : *Johnson* '93. **DO.** Strangford Lough : 6/'00! (Buckle). **AN.** Shane's Castle : Lough Neagh, 8/'02! (Buckle). Portmore Lough : 6/'02 (H.).

Common and widely distributed in damp places from April to October.

The identification of the closely allied species *S. pallipes* and *S. saltatoria* is sometimes a matter of difficulty; the character of the three bars as opposed to a continuous stripe on the front tibiae is often indistinctly marked and may lead to error. Mr. W. E. China has lately been working on this group and finds that the structure of the genitalia is very uniform and of little help in the segregation of these species. A number of specimens of "*S. pallipes*" from Irish localities were sent to him for examination. In his opinion three distinct species are represented : (1) *S. saltatoria* Linn., including some specimens in which the three tibial bars are indistinctly separated. There are also some examples of a salt-marsh form which closely resembles *S. opacula* Zett., but is much larger. In these the front tibiae are marked with three bars instead of the continuous line. Mr. China has decided to refer these tentatively to *S. saltatoria*, and they are recorded as a variety of that species in the present list. (2) *S. pallipes* Fabr., including the pale coloured variety *dimidiata* Curt., scarcely distinguishable from *S. pilosella* Thoms., save by much shorter pubescence. (3) A dark form of *S. pallipes* for which he proposes to revive the name *S. palustris* Dougl. This species was mentioned by Saunders as a variety of *S. pallipes*, but is omitted by Butler from his Biology (1923). Reuter regarded it as a distinct species and described two varieties, neither of which agrees with our specimens, but there is a small dark form of this species in which the markings are frequently absent or obsolete which appears to occur in numbers in certain British and Irish salt marsh localities. The extreme of this form is the new species from Cork referred to by Renouf (1934).

Salda pallipes Fabr.

SK. Kenmare: 7/'98 (H.). **NK.** Killarney: lake shores (Bullock). **WC.** Lough Hyne: salt marsh, Renouf '34. **EC.** Youghal marsh: 8/'33 var. *dimidiata*. **WA.** Tramore: 7/'01 (H.) var. *dimidiata*. **LK.** Shannon estuary: 2/'26 (Bullock). **KK.** Glenmore: 9/'29 (H.). **WX.** Kilmore Quay: 8/'31 (H.). **DU.** Portmarnock: 9/'94 and var. *dimidiata*. North Bull: 7/'98 and var. *dimidiata*. Bald Doyle and Kilbarrack (H.). **ME.** Laytown: 6/'94 (H.). **WM.** Achill Sound: 6/'10, H.'12. **SL.** Enniscrone: var. *dimidiata* (Johnson). **LH.** Dundalk district: 7/'98 (H.). **AR.** Armagh: Johnson '93. **DO.** Salt marshes near Belfast: H.'02. Strangford Lough: 9/'02 (Buckle) var. *dimidiata* Dougl.

Salda palustris Douglas.

WX. Marsh south of Wexford: 25/7/'25 (H.). **WI.** Murragh of Wicklow: 30/8/'27 (H.). **DU.** Portmarnock: 9/'94 (H.). **DO.** Strangford Lough: 9/'02 (Buckle).

[*Salda C-album* Fieb.]

Mr. Butler's remark that it "occurs in both Scotland and Ireland, as well as in the Isle of Man" seems to be the only Irish record of this species. I cannot trace the origin of this record; possibly there is an error, so it is best not to include it in the list for the present. Widely distributed in Great Britain.]

Salda pilosella Thoms.

WA. Marsh at Tramore: 6/7/'01 (H.).

A few specimens were found in company with *S. pallipes* Fabr. on marshy ground adjacent to the Tramore sandhills.

Salda lateralis Fall.

WA. Salt marsh at Tramore: 6/7/'01 (H.). **WX.** Kilmore Quay: 25/8/'31 (H.). **WI.** Kilecoole marsh: 12/8/'27 (H.). **DU.** Portmarnock marsh: 13/8/'96 (H.).

Found on salt marshes in the south-east of Ireland during July and August. In the Irish specimens that I have seen the wing membrane is short; the males are often of a melanic type, in which the elytra are black except for a marginal stripe and two apical spots.

Salda cincta H.S.

SK. Kenmare. **EC.** Youghal: 3/8/'33 (H.). **WX.** Courtown: 5/'99. Wexford: marsh by Slaney: 8/'25. Kilmore Quay: 8/'31 (H.). **CW.**

Borris : 3/'95 (H.). **WG.** Roundstone : 4/'96 (H.). **KD.** Skerries Bog near Athy : 9/'28! (O'Mahony). **WI.** Roundwood : 9/'09. Greystones : 9/'28 (H.). **DU.** Dublin district : H.'94. Phoenix Park : 10/'27. Portmarnock marsh : 9/'28. Raheny : 4/'27. Finglas : 9/'24 (H.). **ME.** Laytown : 6/'94 (H.). **RO.** Mote Park : 6/'97 (H.). **WM.** Westport : H.'12. **LE.** Dromahair : 7/'32 (H.). **LH.** Omeath (Johnson). **ED.** Lough Enagh : 4/'99! (Buckle). **AR.** Armagh : common, Johnson '93. Lough Neagh : 10/'02! (Buckle). **AN.** Portmore Lough : 6/'02.

Common on marshy places from March to October.

Salda elegantula Fall.

NK. Derryeunihy and Castlemaine : February to May (Bullock). **WX.** Marsh by the River Slaney near Macmine : 29/7/'25 (H.).

Found under flood-refuse in a marsh by the River Slaney. The specimens are brachypterous, and in two of them the terminal segment of the antenna is of a clear yellow colour with a black tip, a form which is said to be the variety *flori* Dohrn., in a third specimen the terminal segment is black. An entry in Haliday's ms. list "*Salda elegantula* Fall. Glasnevin, '49/7/'12" is no doubt intended to refer to *Salda cincta* H.S., for which the name has been used, all the more likely as this common species is not otherwise mentioned.

Family XI.—**CIMICIDAE.**

Ceratocombus coleoptratus Zett.

NK. Killarney : shore of Lough Leane near Ross Castle, 28/8/'25. Kenmare Demesne : 4/9/'25 (H.). Muckross Demesne : 1/10/'26! (Bullock).

Unrecorded as an Irish species, and known only from the Killarney district where specimens were found under flood refuse on the shore of Lough Leane, also among moss and leaf refuse in a marshy place in the Kenmare Demesne. The insect is small and inconspicuous so that it may have been overlooked in other places. The Killarney specimens are all brachypterous; apparently the macropterous form is very rare. The British localities range from Cornwall to Forres, and it is widely distributed on the Continent.

Pachycoleus rufescens J. Sahlb.

NK. Muckross : in moist sphagnum, 31/3/'29, 13/3/'32, and 7/'32. Dinis Island : in sphagnum, 10/4/'31. Ardagh : brachypterous and winged form in flood refuse, 1/3/'30. Guitane Bog : in summer (Bullock).

Unknown as an Irish species until Mr. E. Bullock found it in the Killarney district a few years ago. The discovery of the winged form is

of interest, as it does not seem to have been noticed in Britain. "So far as at present known it is always brachypterous" (*Butler* '23). In view of this rarity some notes on the winged form are given here. Compared with the brachypterous insect, in which the hind wings are rudimentary, the following differences are noticeable:—

Macropterous Form. Male, size smaller. Pronotum widened towards the hinder margin; scutellum larger and broader at the base, and the metanotum is also much increased in size with a pointed apex; these characters are connected with the greater wing development. Abdomen more slender with narrower reflexed margins; style dagger shaped. Front wings much longer and widely rounded at their extremities; the outer posterior area is large and free of nervures. The hind wings are fully developed, with three strong nervures, one lies close to the front margin, the second is near the middle of the wing and runs to the outer margin, and the third curves towards a point where there is a narrow and deep fissure in the posterior margin of the wing.

Pachycoleus is smaller than the preceding species, it is of similar obscure habits and may be easily overlooked. In England this species has been found in Devon, Hants, Berkshire, and Oxfordshire, frequenting moss by streamlets in woodland places. The Continental range is mainly northern and alpine, i.e., Finland, Scandinavia, Germany, and Italy.

Cryptostemma alienum H.S.

NK. Gap of Dunloe : banks of a rivulet, near the Black lakes, *Haliday* '55 a. River Flesk, Killarney : (Bullock). **MC.** River Lee and Bandon River: *Haliday* MS. **WI.** Powerscourt Deerpark: bed of the Dargle River, 29/8/'27 (H.). **DU.** Firhouse: among moist gravel, 12/5/'54. And banks of River Dodder at Templeogue, *Haliday Diary*. Tallaght: larva and adult among wet sand and gravel in the bed of the River Dodder, 28/4/'94, H.'08, '95 d. **AN.** "Banks of Mayne (Maine) River," *Haliday* MS.

Found amongst wet sand and gravel on the margins of mountain streams, and probably only needs searching for in most highland districts. A. H. Haliday was the first to detect this insect in Britain, and his remarks are of interest: "Inhabits the banks of rivers throughout the summer, gliding amongst the wet gravel, its silky down protecting it from the wet. It takes flight readily, even off the surface of the water. The yellowish larvae and pupae are found in the same situation, leaping like the perfect insect" (*Haliday* '55 a). During April I have found in the River Dodder both the adult and the larvae, evidently in the last instar. The latter are yellowish, of a lighter tone than in the adult, with a red central blotch on the abdominal segments. The British range is widespread though confined to hilly districts; it is recorded from Central Europe, Italy, and

the Crimea. Haliday described a new genus—*Dipsocoris*—for this species and this name is used in Oshanin's "Katalog" (1912).

Cimex lectularius Linn.

Beyond the fact that it is recorded from Dublin, Belfast, and Armagh, and I have notes of its occurrence in Waterford, Limerick, and Athlone, nothing is known of the distribution of the "bed bug" in Ireland.

Cimex pipistrelli Jen.

AN. Toome, Lough Neagh : 4/6/'00 (Orr), *H.*'02.

A few specimens found on bats captured near Toome by Mr. H. L. Orr seems to be the only record of this bat parasite in Ireland.

Oeciacus hirundinis Jen.

AR. On a dead swallow, Armagh (Johnson), *Saunders* '92, and *Johnson* '93.

This species has been found in nests of the swallow, house-martin, and sand-martin. Mr. Butler records it from at least seven counties in the south of England and remarks: "As the bird host is so common and generally distributed, it may be suspected that the above indicated tract of country represents rather the distribution of observant Hemipterists than the actual area inhabited by the *Cimex*, unless, indeed, it should be the case that only weaklings amongst the birds are attacked by the parasite. Certainly, as far as present experience goes, this insect must be considered a rare species with us, though where found it is usually abundant."

Lyctocoris campestris Fabr.

NK. Killarney : 9/'26! (Bullock). **WA.** Waterford district : *Power* '78. **WX.** Wexford district : 8/'25. Gorey (H.). **KD.** Kildare : larva found in dairy, 5/'08. **WI.** Arklow : common in haystack refuse, 7/'26. Powerscourt Deerpark : 15/6/'34 (H.). **DU.** Dublin : in houses (*Haliday MS.*). Tolka Valley, Finglas : under bark of cut pine logs lying near haystacks, 9/'27. Glasnevin : 10/'25. Glenageary : meadows, 9/'31. Howth (H.). **WM.** Clare Island : 6/'09, and Louisburgh : 7/'10, *H.*'12. **ED.** Quigley's Point : 2/'99! (Buckle). **AN.** Shane's Castle, Lough Neagh! (Buckle).

Common in hotbeds and haystack refuse; it is sometimes found in houses. Very widely distributed occurring in all regions of the world.

Piezostethus galactinus Fieb.

Ireland (Haliday collection). **NK.** Killarney : garden refuse (Bullock).
DU. Glasnevin : 25/5/'25. Finglas : 9/'27. Raheny (H.).
 Probably of general occurrence in hotbeds and vegetable refuse.

[*Piezostethus cursitans* Fall.]

The record Dublin H.'94 is based on a damaged specimen not referable to the present species. In England it is widespread, occurring under bark of dead and decaying trees; it may eventually be found in Ireland.]

Temnostethus pusillus H.S.

SK. Kenmare : 7/'98, H.'98. **NK.** Killarney : 26/8/'25 (H.). Ross : 9/'31! Cahernare : 7/'31! (Bullock). **EC.** Castlemartyr : 8/'33. **WA.** Waterford district : Power '78. **WX.** Rosslare and Macmine : 8/'31 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Oughterard : 7/'95. *Halbert* '95 f. **NG.** Clonbrock : 6/'96 (H.). **KD.** Celbridge : 10/'29 (H.). **WI.** Arklow : 9/'28. Vale of Clara : 7/'19. Glen of Downs : 9/'32. Bray Head : under lichens on rocks, 8/'27 (H.). **DU.** Bride's Glen : 9/'31. Tibbradden : 24/10/'27. Glenageary : 7/'33. Portmarnock : 9/'94. Donabate : on lichen-covered alders, 10/'27. Howth : 9/'09 (H.). **ME.** Drogheda : Boyne Valley, 9/'31 (H.). **SL.** Sligo district : 7/'32 (H.). **LE.** Dromahair : 7/'32 (H.). **ED.** or **LD.** Foyle district! (Buckle). **AN.** Portmore Lough : 8/'03 (H.).

A common species from June to October under bark and on lichen-covered trees, also by sweeping grass on the vicinity of pines.

Anthocoris confusus Reut.

NK. Kenmare and Muckross Demesnes : 8/'25 (H.). Killarney : 4/'31! (Bullock). **WC.** Glengarriff : 7/'24. Glandore : 6/'00 (H.). **EC.** Youghal and Castlemartyr : 8/'33 (H.). **WA.** Waterford : 9/'29. Cappoquin : 6/'00 (H.). **ST.** Clonmel district : 7/'28 (H.). **KK.** Glenmore : 9/'29 (H.). **WX.** Wexford district : 7/'03 (H.). **NG.** Clonbrock : 6/'96 (H.). **KD.** Carton : 9/'33 (H.). **WI.** Powerscourt : 6/'26. Bray : 8/'27 (H.). **DU.** Lambay Island : H.'07. Lucan : 4/'93. Stepaside : 9/'31. Glenageary 8/'33. Raheny : 6/'26. Sutton and Howth : 8/'28. Portmarnock. Santry : 9/'29. Bog of Ring (H.). **ME.** Drogheda : 9/'31 (H.). **WM.** Clare Island and Westport : H.'12. **SL.** Sligo district : 7/'32 (H.). **ED.** or **LD.** Foyle district! (Buckle).

Common on trees from April to October. A large, dark-coloured form of this insect occurs, usually in the late spring and early summer months.

Anthocoris nemoralis Fabr.

SK. Kenmare : 7/'98, *H.'98*. **NK.** Killarney : 8/'25 (H.). **WC.** Glengarriff : 8/'24 (H.). **EC.** Youghal : 8/'33 (H.). **WA.** and **ST.** Clonmel district : 7/'28 (H.). **WX.** Wexford : 7/'25 (H.). **NG.** Clonbrock : 6/'96 (H.). **KD.** Carton : 7/'25 (H.). **WI.** Arklow : 7/26. Bray : 3/'93 (H.). **DU.** Dublin district : *Johnson* '94. Roebuck : larva and adult on raspberries, 8/'17. Bride's Glen : dark form on willows, 18/9/'21. Glenageary : 9/'30. Donabate : 10/'27. Sutton and Howth : 8/'28 (H.). **ME.** Drogheda : 9/'31 (H.). **WM.** Westport : 7/'11, *H.'12*. **SL.** Sligo : common, *H.'04*. Glencar : 7/'32. **LH.** Dundalk : 7/'93, *Johnson* '94. **AR.** "Armagh, Churchill, common," *Johnson* '93. **ED.** Mervagh : 7/'94, *Johnson* '95 a. **WD.** Ardara : *Johnson* '93. **LD.** Kilderry : 4/'99! (Buckle).

A common species from March to October.

Anthocoris gallarum-ulmi De G.

DU. Howth : south cliffs, 3/6/'25. Glenageary : 26/7/'33 and 19/8/'33. Santry Demesne (H.).

An unrecorded Irish species which has possibly been overlooked on account of its similarity to *A. nemoralis* Fabr. The Glenageary specimens were found on elm. Widely distributed in Great Britain.

Anthocoris sarothonni D. & S.

WI. Greystones : on broom (*Sarrothamnus scoroparius*), 22/8/'33 (H.).

Found on some old-established broom bushes south of Greystones in August and September. The British localities are few in number, though widespread, and it is recorded from Central and south-western Europe.

Anthocoris nemorum Linn.

SK. Kenmare : 7/'98, *H.'98*. **NK.** Dingle : 5/'94. Killarney district : 8/'25 (H.). **WC.** Glengarriff : 7/'24 (H.). **EC.** Youghal : 8/'33 (H.). **WA.** Waterford : 9/'29. Ardmore and Monatray : 8/'33 (H.). **ST.** Clonmel : 8/'28 (H.). **NT.** Birdhill : 10/'28 (Stelfox). **WX.** Wexford : 7/'25 (H.). **WG.** Galway : *H.'95 f.* Moycullen : 9/'05. Clifden : 8/'34 (H.). **WI.** Arklow : 7/'26. Laragh : 6/'28. Powerscourt : 8/'27. Glen of Downs : 9/'32. Greystones : 9/'33. Bray : 8/'27 (H.). Devil's Glen : 10/'27! (Stelfox). **DU.** Lambay Island : 9/'06, *H.'07*. Lucan : 7/10/'27. Tibradden : 24/10/'27. Bohernabreena. Bride's Glen : 9/'31. Glenageary : 8/'33. Finglas and Glasnevin : 10/'28. Sutton and Howth : 8/'28. Santry : 9/'29 (H.). **ME.** Boyne Valley : 9/'31 (H.). **WM.** Clare Island and Westport : 7/'11, *H.'12*. **SL.** Sligo district : 7/'04, *H.'04*. **LE.**

Dromahair : 7/’32 (H.). **LH.** Dundalk: on apple blossoms, 6/’14 (Carpenter). Drogheda : 9/’31 (H.). **ED.** Coolmore : 7/’94, Johnson ’95 a. **WD.** Ardara : Johnson ’94. **AR.** “Armagh, Churchill, Kildress,” Johnson ’93. **DO.** Rostrevor. **ED.** or **LD.** Foyle district ! (Buckle).

The commonest species of *Anthocoris* in Ireland. I have found larvae in the final instar at the end of October, and adults in November. A melanic form occurs in which the terminal half of the elytra, including the discoidal spot, is suffused with black, as are also the femora, and the third antennal segment is occasionally entirely dark.

Anthocoris limbatus Fieb.

NK. Killarney : Kenmare Demesne near Ross Castle, 26/8/’25 (H.). In moss on tree trunks in the same district, 2/’28 ! (Bullock). **KD.** Rye Water : 27/4/’34 ! (Stelfox). **ME.** Boyne Valley near Drogheda : 8/9/’31 (H.).

Apparently a rare and unrecorded species in Ireland. It occurred on willows on the shore of Lough Leane close to Ross Castle in August; and Mr. Bullock found a hibernating specimen in moss on tree trunks in the same locality in February. The species resembles *A. nemorum*, but may be known in the field by the smaller size, and the pale-coloured base of the pronotum. Rare in Great Britain, where it has been found in Surrey; it is widespread in Europe and Siberia.

Tetraphleps vittata Fieb.

NK. Toomie’s Wood, Killarney ! (Bullock). **WA.** Waterford district : Power ’78. **KD.** Leixlip : 23/9/’29. Celbridge : 4/10/’29. Maynooth : 4/9/’33 (H.). **WI.** Greystones : 22/8/’33. Blessington (H.). Ballyhenry : on spruce fir, 18/2/’34 ! (Stelfox). **DU.** Mount Pelier : 2/10/’92. Tibradden. Liffey Valley : on larch, 17/9/’29. Santry Demesne : 20/9/’29 (H.). Lucan ! (Bullock). **WH.** Near Mullingar : 3/9/’30 (H.).

Both this and the following species are found on coniferous trees where they feed on Aphides and probably other insects. *Tetraphleps* is the less common in Ireland, and I have usually found it on larch trees in late summer and autumn.

Acomporis pygmaeus Fall.

NK. Killarney : 7/’27 ! Derrycunihy : 7/’33 (Bullock). **LK.** Adare : 2/7/’95 (H.). **WX.** Wexford district : 28/7/’25. Macmine : 31/8/’31 (H.). **NG.** Clonbrock : 6/’96, H.’96 b. **KD.** Maynooth : 5/7/’25 (H.). **WI.** Murragh : 30/8/’27. Kilruddery : on Scots pine, 26/8/’27. Enniskerry : 15/9/’31 (H.). **DU.** Tibradden. Howth. Loughlinstown : 18/9/’31 (H.). **WH.** Mullingar : 3/9/’30 (H.). **LE.** Dromahair : 17/7/’32

(H.). **DO.** Near Belfast (Buckle), *H.*'02. **ED.** or **ID.** Foyle district! (Buckle).

Locally common on Scots pine (*Pinus sylvestris*).

Triphleps nigra Wolff.

NK. Killarney : 10/9/'25 (H.). Ballast Pit, Killarney! (Bullock). **WA.** Waterford : 8/9/'29 (H.). **WX.** Wexford : 7/'00 (H.). **SG.** Woodford : 8/'01 (H.). **KK.** Glenmore : 9/9/'29 (H.). **WI.** Arklow : in a wooded glen at Ferrybank, 18/7/'26. Marsh at Kilcoole : 16/8/'27. Dargle : 17/9/'93. Greystones : 6/9/'33 (H.). Askintinny : 2/8/'30! (Stelfox). **DU.** Lambay Island : 10/'06. Howth : 9/8/'28. Glenageary : 22/7/'33, and on ivy, 19/8/'33 (H.). **AN.** Portmore Lough : 8/'03 (H.).

The species of Triphleps are small closely allied insects liable to be overlooked by collectors, so that these localities only partially represent their range. I have not found the third British species *T. majuscula* Reut., in Ireland, it is likely to occur and may be sought for on the flowers of Angelica. A large pale variety in which the tibiae lack the usual dark colouring occurs in the counties Dublin and Wicklow.

Triphleps minuta Linn.

WI. Devil's Glen : 11/9/'33 (H.). **DU.** Glenageary : common on bramble, 24/8/'33 (H.). **AN.** Portmore Lough : 8/'03 (H.).

[The record Lambay Island : *H.*'07 should refer to *T. nigra* Wolff.]

Microphysa elegantula Baer.

SK. Kenmare : common, 7/'98, *H.*'98. **NK.** Killarney : 10/9/'25 (H.). **WA.** Waterford district : Power '78. **NG.** Clonbrock : 6/'96, *H.*'96 b and '97 a. **WI.** Vale of Clara : 6/'19 (H.). **DU.** Lambay Island : *H.*'07. Howth : 9/'09 (H.). **AN.** Carr's Glen : *H.*'02.

The female of this species is locally common on trees especially old lichen-covered sloes, whitethorn, and conifers. The males are much rarer.

Myrmecobia tenella Zett.

NK. Gap of Dunloe : in wet moss by stream flowing from lakes, 22/7/'27 (H.). Ballast Pit near Killarney : 7/'27! (Bullock). **KK.** Thomastown : 7/'01 (H.). **NG.** Clonbrock : 6/'96, *H.*'96 b. **WI.** Arklow : marshy meadows at Shelton Abbey : 17/7/'26. Bray Head : under lichens on rocks, 3/8/'27 (H.). **DU.** Lucan : Canal bank, 8/'94, *H.*'94 b. **ME.** Laytown : 16/6/'95, *H.*'12. **WM.** Castlebar : in a marshy place on the shore of Lough Launaogh, 17/6/'09, *H.*'12.

Marshy places, in wet moss, and under lichens growing on rocks

amongst heather. Widely distributed in Great Britain, and in Northern and Central Europe.

Myrmecobia inconspicua D. & S.

WX. Sandhills at Kilmore Quay : 5/7/'32! (Stelfox).

Mr. A. W. Stelfox found a male of this little hemipteron crawling up a grass stem on the Ballyteige dunes about three miles west of Kilmore Quay. The insect is interesting, as it is the only one of the few endemic British Hemiptera found in Ireland. Mr. W. E. China in recording the distribution of the Myrmecobias remarks on this species: "The coastal distribution of *M. inconspicua* is very similar to *Aeophilus bonnairei* and *Notonecta halophila* Edw., mentioned in the section on the Lusitanian element, and this species is probably a representative of the ancient xerothermic Lusitanian fauna which has survived only in England and has spread along the south coast of England to the east coast" (*China* '30). The known distribution is Suffolk, Sussex, Hampshire, Dorset, and Devon; there are no Continental records. Mr. China has verified the identification of the Ballyteige specimen.

Family XII.—**CAPSIDAE.**

Stenodema calcaratum Fall.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Dingle : 5/'94. Muckross and Kenmare Demesnes : 8/'25. Gap of Dunloe : 7/'27. **WC.** Dursey Island : 6/'93, *Johnson* '94. Hungry Hill : 6/'93 (Carpenter). Glengarriff : *Distant* '02. Lough Hyne : salt marsh, *Renouf* '34. **EC.** Youghal : marshes, 8/'33 (H.). **WA.** Waterford, Tramore, and Curraghmore, 9/'29. Ardmore : 8/'33. Cappoquin : 6/'00 (H.). **ST.** Portumna : 7/'28. Clonmel : 7/'28 (H.). **LK.** Limerick district : 7/'95 (H.). Kilkeely : 8/'34 (O'Mahony). **KK.** Glenmore : 9/'29 (H.). **WX.** Kilmore Quay and Rosslare : 8/'31. Wexford, Killurin, and Macmine, 7/'25. Killoughrum : 5/'99 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Roundstone and Clifden : 8/'34 (H.). **KD.** Sallins : 9/'28 (H.). **WI.** Arklow and Rathdrum : 7/'26. Murragh of Wicklow and Kilcoole : 8/'27. Greystones : 9/'21. Kilmaconogue : 9/'33 (H.). Clara : 6/'29. Raheen : on *Salix*, 4/'33! (Stelfox). **DU.** Dublin : *Johnson* '94. Portmarnock and Swords : 9/'28. Sutton and Howth : 8/'28. Glenageary : 6/'33 (H.). Glenasmole : 6/'24! (Stelfox). **WH.** Mullingar : 9/'30 (H.). **WM.** Achill, Belclare, Louisburgh, and Westport : *H.*'12. **SL.** Sligo : 7/'32. **LH.** Dundalk : 7/'93. Braganstown : 8/'95 (H.). Omeath (*Johnson*). **ED.** or **LD.** Foyle district! (Buckle). **AR.** Armagh : *Johnson* '93. Poyntzpass : *Johnson* '97. Loughgall : 8/'11, *Johnson* '11.

[2 A 2]

Common and widely distributed. There is much variation both in size and colouring, and the three forms named by Reuter *virescens*, *pallescens*, and *grisescens* all occur. The first of these is the ordinary green form which, as in all species of Stenodema, has hibernated through the winter months. The dark variety *grisescens* is common in marshy places, and specimens found in salt marshes, as at Youghal and the Murragh of Wicklow, are very distinctly marked.

Stenodema laevigatum Linn.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Kenmare and Muckross Demesnes : 7/'27 (H.). **WC.** Glengarriff : *Distant* '02, and green form, 7/'24 (H.). Lough Hyne : in salt marsh (*Renouf* '34). **MC.** Near Cork : 5/'02 (H.). **WA.** Waterford district : 9/'29. Lismore (H.). **ST.** Clonmel district : 7/'28 (H.). **NT.** Portumna : 6/'21 (H.). **WX.** Killoughrum : 5/'99. Rosslare and Macmine : 8/'31 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Ross : 9/'05 (H.). **NG.** Clonbur! (Scharff). **KD.** Sallins : 9/'28 (H.). **WI.** Arklow : 9/'28. Powerscourt : 6/'26. Kilruddery : 8/'27. Bray : 8/'33 (H.). Monagloch : 5/'26. Ballyhenry : 8/'26! (Stelfox). **DU.** Sutton and Howth : 8/'28. Finglas and Holmpatrick Demesne : 9/'27. Swords and Portmarnock : 9/'28. Liffey Valley, Chapelizod, and Santry : 9/'29. Glenageary and Stepaside : 9/'31. Tallaght : 8/'98. Donabate : 8/'94. Lucan : 8/'24. Phoenix Park : 10/'27. Kill of the Grange : 6/'33 (H.). **ME.** Drogheda : 9/'31 (H.). **WH.** Mullingar : 9/'30 (H.). **WM.** Castlebar and Westport : *H.*'12. **SL.** Sligo district : 7/'32. **LE.** Dromahair : 7/'32 (H.). **LH.** Braganstown : 8/'95. **FE.** Fermanagh. **ED.** or **ID.** Foyle district : 5/'99 (Buckle). **AR.** Armagh, Loughgall, common, *Johnson* '93.

A very common species from May to October. A form of the variety *grisescens* Fall. occurs in the early summer months, in this the basal half of the pronotum, the clavus and the inner part of the corium are of a greyish-black colour and the wing nervures are also dark. It has been found in the following localities :—**WI.** Monagloch : 5/'26! (Stelfox). **DU.** Howth : 6/'25 (H.), and **ED.** Foyle district : 5/'99! (Buckle).

Stenodema holsatum Fabr.

NK. Cromaglaun : 6/'05. Slope of Tore mountain : roseate form, 8/'25 (H.). **WA.** Waterford district : *Power* '78 and 4/9/'29 (H.). **ST.** Clonmel : 7/'28 (H.). **WX.** Wexford district : 7/'25. Macmine : 8/'31. Killoughrum : 5/'99 (H.). **KK.** Glenmore : 9/'29 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Ballynahinch : 8/'34 (H.). **KD.** Carton Demesne : 9/'33 (H.). **WI.** Drumgooff : 5/'96, *H.*'96 a. Powerscourt : green form, 6/'26. Brown form in same place, 8/'27. Lough Dan : on hazel, 9/'09. Devil's Glen : 9/'33. Bray Head : 8/'33. Enniskerry : 9/'31 (H.). **DU.** Dublin :

common, *Johnson* '94. Tibbradden : rosy brown form common on *Juncus*, 24/10/'27. Stepaside : 9/'31. Howth (H.). **WH.** Mullingar : 9/'30 (H.). **WM.** Castlebar and Westport : H.'12. **SL.** Sligo district : 7/'32. Glencar : 7/'32 (H.). **LE.** Dromahair : 7/'32 (H.). **FE.** Fermanagh. **ED.** Coolmore : *Johnson* '94. Salt Lake Mountain : 9/'06 (H.). **AR.** Armagh, Loughgall, *Johnson* '93 and '94, and in moss, 12/1/'91. **AN.** Ballycastle : 9/'06 (H.).

Though common where it occurs from May to October, this seems less general than the two preceding species. In the late summer and autumn months a light coloured, almost roseate, form is found usually in dry upland districts where the brake fern (*Pteris aquilina*) is abundant, as at Killarney (8/'25), Connemara (8/'34), and on the Dublin and Wicklow hills (8/'33). Common in Great Britain from Cornwall to the Orkneys, yet Mr. Butler points out an apparent absence of the insect from a large tract of country between the Humber and the south coast of Kent, possibly this may be accounted for by the absence of upland conditions.

Notostira erratica Linn.

EC. Youghal : ♀ ♀ green form, north marsh, 4/8/'33, and south marsh, 12/8/'33 (H.). **WX.** Marsh by River Slaney at Killurin : 9/7/'00. Meadows north of Wexford : 26/7/'26 (H.). **WI.** Rail embankment and fields south of Greystones : dark coloured males and variety *tricostata* Costa, 27/9/'28 (H.).

The few known localities for this variable species are in the south-eastern districts. On the Wicklow coast between Greystones and Kilcoole I have taken it commonly on the sow-thistle *Sonchus oleraceus*; the males from this locality are of a melanic type apparently agreeing with the dark form described (number 4) in Mr. Butler's paper⁷ on this species. The females are the ochreous variety *tricostata* Costa, which are now known to be the overwintered females of *N. erratica* Linn.⁸

Trigonotylus ruficornis Geoffr.

SK. Kenmare : 7/'98, H.'98. **NK.** Muckross and Kenmare Demesnes : 8/'25. Ballast Pit near Killarney : 7/'27. **WC.** Lough Hyne : salt marsh, *Renouf* '34. **EC.** Fermoy : 7/'94. Youghal : 8/'33 (H.). **WA.** Near Waterford : 9/'29 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **CL.** Limerick and South Clare : 7/'95 (H.). **WX.** Wexford : 7/'25. Kilmore Quay : 8/'31 (H.). **WG.** Clifden : 8/'34 (H.). **NG.** Galway : common, H.'95 f. Clonbrock : 6/'96 (H.). **WI.** Arklow : 7/'26. Clara Bridge : 7/'26.

⁷ "The Problem of Notostira (Hemiptera)." A. E. Butler, *Entom. Mo. Mag.*, lx, 49 (1924).

⁸ Mr. W. E. China has been successful in rearing the typical summer form of *N. erratica* ♀ from eggs obtained from the variety *tricostata*. *Ent. Mo. Mag.*, lxi, 28.

Kilcoole and Kilruddery : 8/'27. **DU.** Phoenix Park : 16/7/'03. North Bull : common, 7/'98. Sutton and Howth : 8/'28 (H.). **WH.** Mullingar : 9/'30 (H.). **WM.** Louisburgh and Westport : H.'12. **SL.** and **LE.** Dromahair district : 7/'32 (H.). **LH.** Braganstown Bog : 8/'95 (H.). **AN.** Portmore Lough : 8/'03 (H.). **LD.** Culmore : 7/'99 ! (Buckle).

Common and widely distributed from June to September.

Teratocoris viridis D. & S.

Ireland (Haliday), *Saunders* '92. **SG.** Marshy banks of Shannon at Portumna : 6/'21 (H.). **SL.** Glencar : lake shore, 23/7/'32 (H.). **LE.** Killaleen Lough : 16/7/'32. Marsh north of Dromahair : 19/7/'32 (H.). **ED.** Marsh at Tullyarden : 21/6/'99 ! (Buckle).

Evidently very local, occurring in northern and western Ireland on rushes (*Carex*) in marshy places. In some males the black colouring is well-marked, and I have noticed that in Irish specimens not only is the first antennal segment shorter, but the entire antennae and also the legs are shorter than in *T. saundersi* D. & S., with which this species is liable to be confused. *T. viridis* is of northern range, occurring freely in Scotland but apparently not in England; Butler refers to a single doubtful record from Lincolnshire. The Continental distribution is given as Scandinavia, Russia, and Siberia.

Teratocoris saundersi D. & S.

SK. Kenmare : salt marsh, 7/'98, H.'98. **NK.** Killarney : marshy places on lake shores, 8/'25 (H.). **EC.** Youghal : marshes, 8/'33 (H.). **WA.** Tramore : 7/'01. Waterford district : 9/'29. Dungarvan : 8/'33 (H.). **ST.** Clonmel : ♂ and ♀ *in copula*, 9/'28 (H.). **NT.** Portumna : 6/'21 (H.). **KK.** Marsh near Waterford : 9/'29 (H.). **WX.** Wexford : 7/'25. Kilmore Quay : 8/'31 (H.). **SG.** Shannon near Portumna : 6/'21 (H.). **NC.** Clonbrock : 6/'96, H.'96 b. **WG.** Clifden and Ballynahinch : 8/'34 (H.). **WI.** Arklow : 7/'26. Roundwood and Lough Dan : 10/'09. Murragh and Kilcoole : 8/'27. Kilmacanogue marsh : 7/'34 (H.). **DU.** Dublin district : H.'08. Portmarnock and Swords : 9/'28. North Bull : 7/'98. Donabate : 8/'95. Glenageary : 7/'33 (H.). **ME.** Drogheda : 9/'31 (H.). **WM.** Castlebar, Louisburgh, and Westport : H.'12. **SL.** Ballysadare : 7/'04 (H.). **LE.** Dromahair district : 7/'32 (H.). **LH.** Bragans-town Bog : 8/'95, H.'95 g. **AN.** Portmore Lough : 8/'03 (H.).

Common from June to September in marshy places, on lake shores, and especially in salt marshes. The males are always macropterous and less common than the females, and the latter are usually brachypterous, though the fully-winged form occurs (Clonmel : 25/7/'28, and Dromahair : 16/7/'32). There is little variation; in the male the black central line of the fore-body is often lightly marked and end at the middle of the

pronotum, but it sometimes extends on to the scutellum. Mr. Butler found that the smallest specimens occur in the south-east of England and "as we travel north and west from Kent the size of the insect increases." The Irish specimens are very uniform in size. The insect is widely distributed in Britain and in Northern and Central Europe.

Leptopterna ferrugata Fall.

SK. Kenmare: 7/'98, *H.*'98. **NK.** Killarney: larva and adult, 7/'27 (H. and Bullock). **EC.** Fermoy: 7/'94. Youghal: 8/'33 (H.). **WA.** Lismore: 7/'94. Ardmore: 8/'33 (H.). **ST.** Clonmel: 7/'28 (H.). **SG.** Woodford: 8/'01 (H.). **NG.** Galway district: 7/'95, *H.*'95 f. Clonbrock: 6/'96 (H.). **WI.** Arklow: 7/'26. Kilruddery and Bray: 8/'27. Powerscourt: 6/'26 (H.). **DU.** Lambay Island: *H.*'07. Portmarnock: 6/'98. North Bull: 8/'98. Tibbradden: 6/'93. Sutton and Howth: 8/'28. Glenageary: 9/'33 (H.). **WH.** Athlone: 6/'99 (H.). **WM.** Castlebar, Louisburgh, and Westport district: *H.*'12. **SL.** Sligo: 7/'04, *H.*'04. Rosses Point: 7/'32 (H.). **FE.** Belleek: *Johnson* '93. **ED.** Bundoran: 7/'90 (*Johnson*). Rathmullan: 8/'31! (Stelfox). **WD.** Ardara: *Johnson* '93. **AR.** Armagh: 7/'89. Fathom: *Johnson* '94. **DO.** Comber: 7/'02! (Buckle). **AN.** Portmore Lough: 8/'03 (H.). **DL.** Culmore: 7/'99.

Common in meadows and grassy places from June to September; the fully grown larva occurs as late as the end of August. The macropterous form of the female has not been observed in Ireland.

Leptopterna dolabrata Linn.

WA. Gurteen Wood near Clonmel: 17/7/'28. Waterford: north bank of River Suir, 4/9/'29 (H.). **SL.** Sligo district: Cleeveragh and Hazlewood Demesnes, 7/'32 (H.). **LE.** Dromahair: in marshy fields, and at Lough Killaleen, 16/7/'32 (H.).

For many years I have expected to find this common British species in Ireland, but it was not till July, 1928, that the first Irish specimens were collected near Clonmel. It was therefore a surprise to find it common in Juncus-grown fields in the Sligo and Dromahair districts (July, '32). It seems to me that this may be a case of recent spreading of the species in Ireland, as it was not noticed during a visit to the Sligo district in the summer of 1904, and the insect is a conspicuous one not easily overlooked. I have always found it on Juncus and never in company with the common *L. ferrugata* Fall. The Irish specimens are richly coloured, including some dark forms of the male. Mr. Butler points out that the specific name of this species is frequently wrongly spelt as *dolobrata*. It is "derived from the Latin *dolabra*, a military axe, though what the connexion is may not be easy to see." In the short-winged females the sides of

the elytra are strongly convex, a very noticeable character during life, this may have suggested the use of the name. The Continental range is very wide, extending from W. Europe to Siberia; the species has been introduced into America where it is now widespread.

Lophus flavomarginatus Don.

Ireland (*Haliday*), *Saunders* '92.

The only evidence we have of the occurrence of this species is a much injured specimen in the Haliday collection marked as having been found in Ireland. *L. flavomarginatus* is a southern insect in England ranging from Suffolk to Cornwall, with one or two outlying localities. Possibly it may belong to the group of species found in the south-eastern counties of Ireland, of which *Ischnodemus sabuleti* and *Adelphocoris seticornis* are examples. Butler remarks, "I have usually found it by sweeping in rather damp grassy places in forest land, especially where wild roses are growing." The Continental range is apparently restricted to the south: France, Spain, Portugal, Italy, and Corsica.

Pantilius tunicatus Fabr.

Ireland (*Haliday*), *Saunders* '92. **NK.** Killarney: a specimen found floating in middle lake, 1/10/'25. Kenmare Demesne: on young alders in swampy ground (Bullock). **WA.** Waterford: larvae on alders, 4/9/'29. Curraghmore Demesne: larva, 7/9/'29 (H.). **KK.** Kilmacow: 13/9/'29 (H.). **WI.** Arklow: 15/9/'28. Devil's Glen: 11/9/'33. Kilcoole and Greystones: 9/'28. Kilmacanogue marsh: 12/9/'33. Bray: 30/8/'33 (H.). Ballyhenry: 28/9/'30 (Stelfox). **DU.** Glenasmole: 21/9/'32 (Stelfox). Killiney: 19/9/'32. Donabate: 3/10/'27. Santry Demesne: 26/9/'29. Portmarnock: last stage larvae and adults, 9/9/'28 (H.). **ME.** Drogheda: larva on alder, 8/9/'31 (H.). **SL.** Sligo district (Dale). **DO.** Warrenpoint: 12/10/'15, *Johnson* '15.

Until recent years this species has been overlooked, possibly on account of its local occurrence and the late maturing of the adult in the autumn months. Larvae in their final instar have been observed towards the end of September, though the adult may often be found in the early part of that month. Alder is the favoured plant, especially where there are old-established groves of this tree growing in marshy places. The species has a wide British and Continental range.

Phytocoris populi Linn.

NK. Kenmare Demesne: 24/8/'25 (H.). **WI.** Powerscourt Demesne: 17/8/'27 (H.). Newcastle: dark form, 15/10/'28! (Stelfox). **DU.** Dublin district: H.'94. Phoenix Park, on tree trunks. Portmarnock: dark form, 9/9/'28. Clontarf: 25/8/'28. Drumcondra: 8/'94 (H.). **KD.** Leixlip: 11/9/'24 (H.). **ED.** Foyle district: dark form (Buckle). **AN.** Shane's Castle: 24/8/'02! (Buckle). Portmore Lough: 8/'03 (H.).

In the genus *Phytocoris* there are comparatively few records, notably of *P. populi* Linn. and *P. dimidiatus* Kb., both of which are probably generally distributed. Speaking of the present species Mr. Butler remarks, "It is found in both Scotland and Ireland, in the latter the type form only." The dark coloured specimens recorded above are referable to the variety *distinctus* D. & S., which is merely a melanic form.

Phytocoris tiliae Fabr.

NK. Killarney : 8/'26. Kenmare Demesne : 9/'25 (H.). Ballast Pit! (Bullock). **WC.** Glengarriff : 7/'24 (H.). **EC.** Youghal and Castle-martyr : 8/'33 (H.). **NG.** Clonbrock : on oaks, 6/'96 (H.). **KD.** Sallins : 9/'28 (H.). **WI.** Powerscourt Demesne : 8/'27. Kilecole (H.). **DU.** Phoenix Park : 7/'93. Glenageary : on hawthorn, 8/'33, and on lime, 7/'33. Lucan : 10/'27. Santry Demesne : 9/'29. Donabate : 9/10/'27. Clontarf : 8/'28. Glasnevin and Finglas : 9/'27. Portmarnock. Drumcondra (H.). **ME.** Drogheda : on wild apple, 8/9/'31 (H.). **LH.** Gormanstown : on lime, "its variegated pattern harmonizing well with the lichen covered trees," H.'95 h. **AR.** Armagh : Johnson '93. Loughgilly and Poyntzpass (Johnson).

Common from June to October on oak, lime, hawthorn, wild apple, and other trees. There is considerable variation in colouring, both pale and very dark forms occur, the latter resembling the preceding species.

Phytocoris longipennis Flor.

NK. Kenmare Demesne : 8/'25 and 9/'25 (H.). **EC.** Youghal and Castle-martyr : 8/'33 (H.). **WA.** Waterford : 9/'29. Dungarvan : 8/'33. **ST.** Clonmel : 7/'28 (H.). **SG.** Woodford : 8/'01 (H.). **NG.** Clonbrock : 6/'96! (Dillon). **KD.** Leixlip : 9/'24 (H.). **WI.** Arklow : 7/'28. Lough Dan : 9/'09. Powerscourt Demesne : 8/'27. Enniskerry : 9/'31 (H.). **DU.** Seapoint : on apple! (Beirne). Santry Demesne : 9/'29. Donabate : 9/10/'27. Glenageary : on hawthorn, 8/'33. Finglas : 9/'27. Phoenix Park. Howth. Clontarf : 8/'28 (H.). **ME.** Drogheda : 9/'31 (H.). **AR.** Armagh : 9/'91, Johnson '93.

Equally common as the preceding species from July to October, and occurs on the same food-plants. The Irish specimens do not show much variation, some being of a rather dark type. Northern and Central Europe; it is said not to occur south of the Pyrenees, Alps, and Balkans, and it is widely distributed in Great Britain.

Phytocoris dimidiatus Kb.

SK. Kenmare : summer of '99, Mason '03. **NK.** Kenmare Demesne : 24/8/'25. Toomie's Wood : on oaks, 17/7/'27 (H.).

The absence of records of this insect probably does not signify rarity; I believe it will be found in many other places. The species may be easily confused with *P. populi* Linn. Widely distributed in Northern and Central Europe and in Britain.

Phytocoris varipes Boh.

SK. Kenmare : 7/'98, *H.*'98. Parknasilla. **NK.** Killarney (Bullock).
WC. Rossscarbery : 8/'95, *Cuthbert* '95. Glengarriff : 4/8/'24 (H.).
Lough Hyne : salt marsh, *Renouf* '34. **EC.** Youghal : 8/8/'33 (H.).
WA. Waterford : 9/'29. Monatray : sea banks, 8/'33 (H.). **KK.**
Inistioge : 8/'02, *Turner* '03. Glenmore : 9/'29 (H.). **WX.** Ferns : 8/'97,
H.'97 b. **WI.** Arklow : 7/'26. Murragh of Wicklow : 8/'27 (H.). **DU.**
Killiney : 8/'29. Howth : sea cliffs, 9/'09. Portmarnock : 8/'93 (H.).

Both this and the following species are locally common and widespread in Ireland. They are usually found in hedgerows, and the present species inhabits sea banks and cliffs, where it occurs on low-growing plants from July to September.

Phytocoris ulmi Linn.

NK. Killarney : 7/'27 (Bullock). **WA.** Waterford district : *Power* '78.
CL. South Clare : 7/'95 (H.). **ST.** Clonmel : 7/'28. **DU.** Portmarnock : sandhills, 8/'93. Howth : 9/'09. Clontarf : on elm, 9/'28. Glenageary : 7/'33. Clonskeagh : 9/'24! (Westropp). **AR.** "Armagh, rare," 8/'88, *Johnson* '93.

Adelphocoris lineolatus Goeze.

SK. Waterville : 25/7/'34! (Stelfox). **NK.** Glencar : 9/'98, *Scharff and Carpenter* '99. Caragh Lake : 8/'26! (Bullock). **KK.** Inistioge district : 8/'02, *Turner* '03. **WG.** Ross and Moycullen : common, 9/'05. Clifden, Roundstone, and Ballynahinch : 8/'34 (H.). **WI.** Arklow : on Ononis, 23/7/'26 and 17/9/'28 (H.). **DU.** Donabate : 8/'94 (H.). Portrane : 30/8/'31! (Stelfox).

Occurs on Ononis from July to September. In Connemara it is common and of more general occurrence than in the east of Ireland.

Adelphocoris seticornis Fabr.

EC. Youghal : a few larvae and adults on rail embankment, 3/8/'33 and 9/8/'33. Marshy places on Cork shore of estuary : 8/8/'33 (H.). **WA.** Near Dungarvan and Cappoquin : 16/8/'28! (Stelfox). **WX.** Reed grown marshy ground by the River Slaney near Macmine : 29/7/'25 and 31/8/'31 (H.).

Very local and, as far as I am aware, confined to the south-eastern counties of Ireland, where the first Irish specimens were found in 1925.

It is remarkable that this handsome species should have been overlooked for so many years. In August, 1933, it was common in the extensive marshes at Youghal the most westerly locality in which it has been found; my specimens were captured by sweeping plants in marshy places in the months of July and August. On one occasion it was common in a marshy hollow near Youghal where the only plants were a dense growth of the rush *Juncus glaucus* mixed with fleabane (*Pulicaria dysenterica*). The insect is an active one, especially in warm bright weather, and it is probably a wanderer on various plants.

Mr. Butler's remarks on the distribution of *A. seticornis* are of interest: "Though rare with us, this species is found over the whole of Europe up to Lat. 63°, and also in Turkestan and Siberia up to China. In Britain it has occurred in five counties only, York, Kent, Hants. (I.W.), Dorset, and Devon. Its infrequency with us is not easily explicable, since it is a common species on the Continent."

Calocoris norvegicus Gmel.

SK. Kenmare: 7/'98, *H.*'98. **NK.** Glenkar: 7/'04. Kenmare and Muckross Demesnes, 9/'25. Ardagh Lough: 7/'27 (H.). Ballast Pit, 8/'27! (Bullock). **WC.** Glengarriff: 8/'24 (H.). **EC.** Youghal: 8/'33. Lismore: 8/'94 (H.). **WA.** Waterford: 9/'29. Portlaw: 9/'29. Dungarvan: 8/'33 (H.). **ST.** Clonmel: 7/'28 (H.). **KK.** Inistioge: *Turner* '03. **WX.** Wexford district: 7/'25. Kilmore Quay: 8/'31 (H.). **WG.** Inisturk. **NG.** Galway district: *H.*'95 f. **KD.** Sallins: 9/'08 (H.). **WI.** Kilcoole and Bray: 8/'27. Powerscourt: 8/'27. **DU.** Dublin district: *Johnson* '94. Lucan: 8/'94. Sutton and Howth: 8/'28. North Bull: 8/'98. Glasnevin and Finglas: 9/'27. Glenageary: 9/'33 (H.). **ME.** Drogheda: 9/'31 (H.). **WH.** Mullingar: 9/'30. **WM.** Clare Island, Achill, Louisburgh, Westport, *H.*'12. **SL.** Lough Gill: 7/'01, *Johnson* '02. **LE.** Dromahair: 7/'32 (H.). **LH.** Dundalk: 7/'94, *Johnson* '94. **FE.** Belleek: *Johnson* '93. **ED.** Bundoran: *Johnson* '93. Coolmore: *Johnson* '94. **WD.** Ardara: *Johnson* '93. Rosapenna: *H.*'10. **AR.** Armagh: *Johnson* '94. **DO.** Belfast. **AN.** Portmore Lough: 8/'03. Ballycastle: 9/'06 (H.). **LD.** Foyle district (Buckle).

Widely distributed and probably our most abundant species of Calocoris. It has been recorded as causing damage to potato plants in Ireland.

Calocoris roseomaculatus De Geer.

SK. Kenmare: 7/'98, *H.*'98. Waterville and Parknasilla (Yerbury), *Distant* '02. **NK.** Killarney district and Gap of Dunloe: 7/'27 (H.). **WC.** Glengarriff: 7/'24 (H.). **MC.** Cork district: 5/'02 (H.). **EC.** Youghal: larva, 8/'33 (H.). **WA.** Tramore: 7/'01. Dungarvan: salt marsh, 8/'33 (H.). **ST.** Clonmel: 7/'28 (H.). **LK.** Limerick: 7/'95

(H.). **WX.** Wexford district: 7/'25 (H.). **QC.** Dunamace: 8/'27! (Stelfox). **SG.** Woodford: 8/'01 (H.). Athenry: 7/'26! (Phillips). **WG.** Oughterard and Recess: 7/'95. Clifden, 8/'34 (H.). **NG.** Galway district: 7/'95, H.'95 f. **WI.** Arklow: 7/'26 (H.). **DU.** Lucan: 8/'94, H.'94 b. **WH.** Mullingar: 9/'30 (H.). **WM.** Louisburgh, 7/'10, and Westport: 6/'09, H.'12. **SL.** Rosses Point and Knocknarea: 7/'04, H.'04. **LH.** Carlingford: 7/'93, H.'93. Braganstown: 8/'95, H.'95 g. **AR.** Armagh: 7/'91, *Johnson* '93. **AN.** Antrim.

Fairly common in meadows and dry grassy places from May to September.

[*Calocoris fulvomaculatus* de Geer.]

The records "Co. Antrim, Rev. W. F. Johnson," *Saunders* '92, and "Broughshane," *Johnson* '93, are due to an error and must be deleted. The reference in *Butler* '23 to its occurrence in Ireland is probably based on the same records.]

Calocoris sexguttatus Fabr.

SK. Kenmare: 7/'98, H.'98. **NK.** Killarney district. **WA.** Lismore: H.'94 a. Cappoquin: 6/'00 (H.). Near Clonmel: 6/'25! (Stelfox). **ST.** Clonmel: 7/'28 (H.). **LK.** and **CL.** Lough Gur and South Clare: 7/'95 (H.). **KK.** Inistioge: 8/'02, *Turner* '03. Thomastown: 7/'01 (H.). **WX.** Wexford: 7/'25 (H.). **NG.** Galway district: 7/'95 (H.). **WI.** Arklow: 7/'26. Vale of Clara: 7/'19. Bray, Kilcoole, and Powerscourt: 8/'27 (H.). **DU.** Dublin district: *Power* '78. Tibbradden: 6/'93. Glenageary: 6/'33. Lucan. Santry: 6/'93. Sutton and Howth (H.). Rush: 6/'23 (Stelfox). **WH.** Derevaragh: 5/'01. **WM.** Westport: 6/'09, H.'12. **SL.** Lough Gill: *Johnson* '02. Sligo district: 7/'04, H.'04. **LE.** Dromahair: 7/'32 (H.). **AR.** Armagh: *Johnson* '93. **DO.** Near Belfast: H.'02. **AN.** Portmore Lough: 8/'03 (H.).

Common on nettles and other plants from June to October. There is variation in the black colouring of the elytra, and the Irish specimens are the variety *insularis* Reuter, which is widely distributed in Britain and seems more plentiful in northern localities. The Continental form is larger and more richly coloured; it is of wide range in Northern and Central Europe and Italy; with the exception of the latter country it appears to be absent from the Mediterranean Region.

Calocoris ochromelas Gmel.

SK. Kenmare: larva on oaks, 7/'98, H.'98. **NK.** Killarney (Bullock). **WC.** Rosscarbery: *Cuthbert* '95. **WA.** Lismore: 7/'94 (H.). **NG.** Clonbrock: 6/'96, H.'96 b. **WI.** Drumgooff: 5/'96, H.'96 a. Laragh: 6/'28. Powerscourt: 6/'26 (H.). Devil's Glen: 6/'28. Liffey Head: 1,700 ft., 6/'30 (Stelfox). **DU.** Glenasmole: H.'95 c. Santry Demesne: 5/'93

(H.). **WM.** Westport: 6/'09, *H.*'12. **ED.** Coolmore: *Johnson* '93. Foyle district (Buckle). **AR.** Loughgall: *Johnson* '93. **DO.** Belfast district (Buckle). **AN.** Broughshane: *Johnson* '93.

Found on oak trees from May to July; it probably occurs in most of our woodland districts. A handsome dark coloured form with the base of the pronotum much suffused with black is found in the Deer Park at Powerscourt. Mr. China says it is identical with specimens from Epping Forest (Essex) and Leith Hill (Surrey).

Pycnopterna striata Linn.

Ireland (Haliday), *Saunders* '92. **NK.** Killarney: 8/'24! Deer Park near Killarney: larva, 9/6/'31! (Bullock). **SG.** Ardfry Point: on hawthorn, 6/'16 (H.). **WX.** Glen of Ima: at 900 feet, 25/6/'33! (Stelfox). **WI.** Woodenbridge: "in different parts of Colonel Proby's woods," 6/'19 (Langham), *H.*'22 b. Powerscourt Deer Park: on oaks, 9/6/'19, *H.*'22 a. And 20/6/'26 (H.). Enniskerry: banks of Cookstown River, 6/'22! (Stelfox). [The record *Tempo*, *H.*'22 a, is due to an error and must be deleted.]

Found by Haliday, and his specimens were for many years the only evidence of the occurrence of this handsome species in Ireland. It is evidently of fairly wide range in woodland districts, and oak and hawthorn seem favoured trees. Widely distributed in Great Britain and throughout Europe.

Stenotus binotatus Fabr.

SK. Kenmare: 7/'98, *H.*'98. Derrynane: 7/'34! (Stelfox). **NK.** Killarney: Muckross and Kenmare Demesnes: 7/'27. Banks of Laune near Gap of Dunloe: adults just matured, 18/7/'27 (H.). **WC.** Glengarriff: 7/'24 (H.). **MC.** Monkstown: 5/'02 (H.). **EC.** Fermoy district: 7/'94. Youghal: 8/'33 (H.). **WA.** Waterford district: *Power* '78. Lismore: 7/'94 (H.). Marshy fields south of River Suir: 9/'29 (H.). **ST.** Clonmel district: 7/'28 (H.). **LK.** and **CL.** Limerick district and south Clare: 7/'95 (H.). **KK.** Thomastown: 6/'01 (H.). Inistioge: *Turner* '03. **WX.** Wexford: 8/'25 (H.). **NG.** Clonbrock: 6/'96 (H.). **WI.** Arklow: 7/'26 (H.). **DU.** Lucan: 8/'24 (H.). **WH.** Athlone: 6/'99 (H.). **WM.** Westport: 7/'11, *H.*'12. **SL.** and **LE.** Dromahair district: 7/'32. **AR.** Armagh: 7/'89, *Johnson* '93.

Frequent in meadows and grassy places from June to September, and apparently commoner in the southern and western counties than in the north. A well-marked form of the male in which the pronotum, except for a median line, and most of the hemelytra are very dark occurs at Glengarriff, Killarney, Dromahair, and other places. A widely distributed European species; the English range is southern, extending from the south coast to "Cheshire, Notts, and Carnarvon" in the north.

Dichrooscytus rufipennis Fall.

NK. Lake side, Killarney (Bullock). **DU.** Dublin district : on conifers, H.'94 c. Santry Demesne : 14/6/'93. Tibradden (H.).

Apparently a rare or local species. At Santry it may well have been introduced through nursery stock, which has almost certainly happened in the case of *Pachytomella parallela* Mey., recently found on larch trees in the same locality. The Tibradden specimens were on conifers on the Dublin hills and are more likely to be native. On the Continent it has been found in Scandinavia, Central Europe, and Northern Italy; widespread in Great Britain.

Plesiocoris rugicollis Fall.

SK. Kenmare : on willows : 7/'98, H.'98. **WC.** Glengarriff : 7/'24 (H.). **ST.** Shannon near Portumna : 6/'21 (H.). **WX.** Arklow : 7/'26 (H.). **NG.** Clonbrock : 6/'96 (H.). **WI.** Powerscourt : 6/'26 (H.). **DU.** Dublin district : (H.). **WM.** Clare Island : 6/'09, H.'12. **SL.** Lough Gill : H.'04. Enniscrone : 8/'01 (Johnson). **LE.** Dromahair : 7/'32 (H.). **WD.** Ardara : 7/'92, Johnson '93.

Common on willows (*Salix*) from June to August, and also in apple orchards. With regard to its occurrence in orchards Mr. Butler's remarks are of interest : "A curious modification is taking place in some parts of Britain in the habits of this insect. The apple orchards in some parts of the country are being seriously injured by immense numbers of it, which pierce the young leaves and flower-buds, and so cause malformation or complete withering of the parts attacked; much fruit is thus irretrievably damaged or prevented altogether from developing; the specimens found in orchards on apple mature much earlier than those in the open on sallow."

Lygus pabulinus Linn.

SK. Kenmare : 7/'98, H.'98, and Mason '03. Valencia : Mason '03. **NK.** Muckross and Kenmare Demesnes. Ballast Pit : 7/'27 (H.). **WC.** Glengarriff : 7/'24 (H.). **EC.** Youghal and Castlemártyr : 8/'33 (H.). **WA.** Fermoy and Lismore : 7/'94 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **SC.** Limerick and South Clare : 7/'95 (H.). **WX.** Wexford district : 7/'25. Rosslare : 8/'31 (H.). **NG.** Galway district : common, 7/'95, H.'95 f. **KD.** Sallins : 9/'28 (H.). **WI.** Arklow : 7/'26. Kilecoole, Bray, and Powerscourt : 8/'27 (H.). **DU.** Santry and Finglas : 6/'93. Glenageary : 10/'33. Howth. Portmarnock (H.). **WH.** Mullingar : 9/'30. **WM.** Clare Island : 6/'09. Croaghpatrick, Louisburgh, and Westport : 7/'10 : H.'12. **SL.** Enniscrone : 8/'01, Johnson '02. Lissadill : 7/'04 (H.). **LE.** Dromahair : 7/'32 (H.). **LH.** Dundalk : Johnson '94. Braganstown (H.). **MO.** Monaghan district : on rose trees, Carpenter '11.

AR. Armagh : 7/'89, *Johnson* '94. Orchards: *Carpenter* '16. **DO.** Newcastle. **ED.** Foyle district! (Buckle). **WD.** Ardara: *Johnson* '93. Lough Salt Mountain (H.). **AN.** Portmore Lough: 8/'03 (H.).

Common and widely distributed from June to October. This species has been recorded as injurious to roses in Monaghan. "They have done more damage to my roses this year than aphids and grubs combined, for once they attack a shoot, it seems to stop growing, and seldom or never forms a flower bud" (Dr. J. C. Hall), *Carpenter* '11. Also injurious to young plants of beans, peas, and potato in Dublin gardens, *Carpenter* '16.

Lygus contaminatus Fall.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Killarney district: 8/'25. Gap of Dunloe : 7/'27 (H.). Muckross : 6/'29 ! (Bullock). **WA.** and **ST.** Clonmel district : 7/'28 (H.). **LK.** and **CL.** Limerick and South Clare : 7/'95 (H.). **KK.** Marshy fields north of Suir : 9/'29 (H.). **WX.** Macmine : 8/'31 (H.). **WG.** Moycullen : 9/'05 (H.). **NG.** Clonbrock : 6/'96 (H.). **KD.** Celbridge : 9/'29 (H.). **WI.** Vale of Clara : 7/'19. Arklow : 7/'26. Murragh and Powerscourt : 8/'27 (H.). Kilmacanogue : on alder, 7/'34 (H.). **DU.** Lucan : 8/'94. Liffey Valley : 9/'27. Phoenix Park : 10/'27. Santry Demesne : 9/'29 (H.). **WH.** Athlone : 6/'99. Mullingar : 9/'30 (H.). **SL.** Lough Gill : 7/'12, *Johnson* '02. Lissadill : 7/'04, *H.*'04. Cleeveragh Demesne : 7/'32 (H.). **LE.** Dromahair : 7/'32. **AR.** Armagh : *Johnson* '93. **AN.** Shane's Castle, Lough Neagh : 8/'02 ! (Buckle).

Fairly common on alder, birch, and by sweeping plants in woodland localities from June to October.

Lygus viridis Fall.

SK. Kenmare : *Mason* '03. **NK.** Kenmare Demesne near Ross Castle : 7/'27 (H.). **WI.** Rathdrum : 7/'26. Kilruddery Demesne : 8/'27. Greystones : common on a fuchsia hedge, 7/'34 (H.). **DU.** Terenure : *H.*'92. Santry Demesne : *H.*'94. **WM.** Westport district : 6/'09, *H.*'12. **AR.** Armagh : 7/'89, *Johnson* '94. Fathom : 7/'93 (H.).

Much less frequent than the preceding species. The dates of capture range from June to August and it probably occurs later in the year.

Lygus lucorum Mey.

SK. Kenmare : *Mason* '03. **NK.** Kenmare Demesne : 8/'25 (H.). **EC.** Youghal : 8/'33 (H.). **WA.** Ardmore : 8/'33. Gurteen Demesne : 7/'28 (H.). **ST.** Clonmel : 7/'28 (H.). **KK.** Marshy fields north of River Suir : 9/'29 (H.). **WI.** Arklow : 7/'26. Kilcoole and Powerscourt : 8/'27. Greystones : 8/'33 (H.). **DU.** Santry : 8/'93. Royal Canal bank near Dublin. Sutton : 8/'28. Glenageary : 7/'33 (H.). **LE.** Dromahair : 7/'32 (H.). **LH.** Dundalk and Fathom : 7/'93, *H.*'93.

***Lygus spinolae* Mey.**

NK. Kenmare Demesne : 6/9/'25 (H.). **EC.** Castleartyr : 11/8/'33 (H.). **WX.** Marsh at Macmine near Wexford : 29/7/'25 (H.). **ST.** Banks of Anna River near Clonmel : 27/7/'28 (H.). **WI.** Devil's Glen : 11/9/'33. Greystones : 22/8/'33 (H.). **DU.** Knockmaroon : 17/9/'29. Glenageary : hedgerows, 22/7/'33 (H.). **LE.** Dromahair : banks of River Bonet, 17/7/'32 (H.).

This insect seems to have been overlooked until recent years, and it has not been recorded. These localities show that it is at least widespread from July to September. Apart from the black spot at the apex of the hemelytra the species may be known in the field by its yellow-green colour, and the Irish specimens are somewhat larger than in *L. lucorum* Mey. Widely distributed in Britain and on the Continent.

***Lygus pratensis* Linn.**

SK. Kenmare : 7/'98, *H.*'98. **NK.** Muckross and Kenmare Demesnes, Toomie's Wood, Ardagh Lough, Ballast Pit (H.). **WC.** Glengariff : 7/24 (H.). **EC.** Youghal : 8/'33 (H.). Fermoy : 7/'94. **WA.** Curraghmore : 9/'29. Monatray and Dungarvan : 8/'33 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **CL.** Limerick and South Clare : 7/'95 (H.). **KK.** Inistioge : *Turner* '03. **WX.** Wexford : 7/'25. Kilmore Quay and Macmine : 8/'31 (H.). **CW.** Kilcarry : 5/'34 (H.). **QC.** Rathdowney : 8/'25! (Stelfox). **WG.** Roundstone and Ballynahinch : 8/'34 (H.). **NG.** Galway district : 7/'95 (H.). **KD.** Celbridge : 9/'29 (H.). **WI.** Enniskerry : 9/'27. Powerscourt : 10/'29! (Stelfox). Kilcoole, Greystones, and Bray : 8/'32. Kilmacanogue : 9/'32 (H.). **DU.** Dublin : *Johnson* '94. Tibbradden : 24/10/'27. Lucan : 10/'27. Killiney Hill and Glenageary : 8/'33. Sutton and Howth : 8/'28. Glasnevin and Finglas : 9/'27. Santry : 9/'29. Phoenix Park. Donabate. Blanchardstown (H.). Glenasmole : 10/'31! Glencullen : 9/'27! (Stelfox). **WH.** Mullingar : 9/'30. **RO.** Roscommon. **WM.** Clare Island and Westport : 6/'09, *H.*'12. **SL.** Sligo district : 7/'04, *H.*'04. **LH.** Carlingford and Dundalk : 7/'93, *Johnson* '94. **ED.** Coolmore : *Johnson* '95 a. St. Ernan's : 6/'09, *Johnson* '09. **WD.** Ardara : *Johnson* '94. **AR.** Armagh, Newtownhamilton : 5/'91 *Johnson* '93. **LD.** Kilderry : 4/'99! (*Buckle Diary*).

An abundant and widespread species from March to October. There is considerable variation and some of the Irish forms are probably referable to varieties described by Reuter; a closer study of numbers of specimens and of the habitats is necessary. The forms *pratensis* Fabr. and *campestris* Fabr., as defined by Saunders '92, are almost equally prevalent. The var. *pratensis* may be either of the bright coloured reddish type, or of pale colouring, the latter occurring freely on sandhills at Kilmore Quay, Sutton, and elsewhere. Of the duller, more closely punctured *campestris* a

form occurs in which the elytra are mottled with darker colour, I have usually found this in marshy places.

Lygus rubricatus Fall.

WA. Gurteen Demesne near Clonmel: on Scots pine, 17/7/'28 (H.).
NG. Clonbrock! (Dillon). **WI.** Arklow: Scots pine, 18/9/'28. Blessington (H.). Ballyhenry: 29/8/'26! (Stelfox). **DU.** Lucan: on conifers, 10/9/'93 and 23/9/'29. Liffey Valley at Knockmaroon: 17/9/'29. Santry: on larch, 8/'93 (H.).

Found on Scots pine (*Pinus sylvestris*) and larch (*Larix europaea*) from July to September.

Lygus atomarius Mey.

WI. Powerscourt Deerpark: 10/9/'26! Ballyhenry: on spruce fir, 18/2/'34! (Stelfox). **DU.** "Taken in company with *L. rubricatus* on conifers near Lucan," H.'94 c. Lucan Demesne: one specimen on young silver fir (*Abies pectinata*) with *L. rubricatus* Fall., 23/9/'29 (H.).

Apparently a very local species which has been found only in three localities in the counties of Dublin and Wicklow. I first met with it in a small plantation of silver fir and larch in the Lucan Demesne, and I was then under the impression that the species had occurred on the larch trees. As there was doubt about this I again searched the locality in September, 1929, and was successful in finding it definitely on silver fir, on which tree it has occurred in the counties of Norfolk and Suffolk. As in the case of *Lygus rubricatus* the present species may have been introduced through nursery stock into the Lucan Demesne; it is more likely to be native in the Powerscourt locality at the foot of the Wicklow hills. The recorded English localities are as mentioned above, and the Continental range is Central and Southern Europe and Asia Minor.

Lygus cervinus H.S.

SK. Kenmare: 7/'98, H.'98. **NK.** Muckross and Kenmare Demesnes: 7/'27. Toomie's Wood (H.). **WC.** Glengarriff: 7/'24 (H.). **EC.** Youghal: 8/'33. Castlemyrtyr: 8/'33 (H.). **WA.** Waterford district: Power '78. Dungarvan: (H.). **WX.** Wexford: 7/'25 (H.). **SG.** Woodford: 8/'01 (H.). **NG.** Clonbrock: 6/'96 (H.). **WI.** Lough Dan: 9/'09. Devil's Glen: 9/'33. Powerscourt and Enniskerry: 10/'31 (H.). **DU.** Lucan: 10/'27. Glenageary: on lime, 9/'31. Killiney: 8/'29. Royal Canal bank near Dublin: on ash, 9/'02. Santry: 5/'93. Tolka Valley. Portmarnock. Donabate: 10/'27. Glasnevin and Finglas: 9/'30 (H.). **ME.** Laytown. Drogheda: 9/'31 (H.). **WH.** Mullingar: 9/'30 (H.). **WM.** Belclare and Westport: H.'12. **SL.** Glenear: 7/'04 (H.). **LH.** Dundalk: 7/'93, Johnson '94. Drogheda: 9/'31 (H.). King William's Glen: 23/11/'32 (Stelfox). **ED.** St. Ernan's: 6/'09, Johnson '09. Foyle

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district! (Buckle). **AR.** Loughgall: *Johnson* '93. **AN.** or **DO.** Belfast district: 6/'00! (Buckle).

Common and widely distributed from May to October, and even in November. There are few records of the trees on which it occurs; in the Dublin district ash and lime seem favoured.

Lygus pastinacae Fall.

SK. South Kerry: 6/'02, *Saunders* '03. Kenmare: 7/'98, *H.*'98. **NK.** Dingle: 6/'94. Killarney: Muckross and Kenmare Demesnes: 9/'25 (H.). **EC.** Youghal and Castlemartyr: 8/'33 (H.). Corkbeg: 7/'26 (Phillips). **WA.** Waterford: *Power* '78. Cappoquin: 6/'00. **ST.** Clonmel: 7/'28 (H.). Curraghmore: 9/'29 (H.). **KK.** Kilkenny: 6/'27! (Phillips). **WX.** Macmine: 8/'31 (H.). **WG.** Roundstone and Clifden: 8/'34 (H.). **NG.** Clonbrock: 6/'96 (H.). **KD.** Maynooth: 9/'33 (H.). **WI.** Powerscourt: 8/'27. Kilmacanogue marsh: larva and adult, 9/'33 (H.). **DU.** Lucan: flying amongst grass: 7/10/'27. Santry. Portmarnock (H.). Glencullen: 9/'27! (Stelfox). **WH.** Mullingar: 9/'30 (H.). **WM.** Louisburgh: 7/'10, *H.*'12. **SL.** Glencar: 7/'04, *H.*'04. **LH.** Drogheda: 23/11/'32! (Stelfox). **AR.** Armagh: *Johnson* '93. **AN.** Shore of Lough Neagh! (Buckle).

Common from June to October. A pale coloured flavescence form in which the elytral spots are faintly marked, or absent, occurs in marshy places. Larvae in the last instar may be found as late as September.

Lygus kalmii Linn.

NK. Muckross and Kenmare Demesnes: 24/8/'25 (H.). Lake shores: 7/9/'27! (Bullock). **WA.** Waterford district: *Power* '78. Curraghmore Demesne: 7/9/'29 (H.). **ST.** Clonmel: 7/'28 (H.). **SG.** Woodford: 8/'01 (H.). **DU.** Lucan Demesne: 7/8/'91. Swords: at head of estuary: 2/9/'28 (H.). **LH.** Braganstown Bog: 10/8/'95 (H.). **AR.** Armagh: 8/'11, *Johnson* '11.

Rather local though widespread from June to September. Several varieties of this species have been described; there seems to be little variation in the Irish specimens.

Camptozygum pinastri Fall.

NK. Ardagh, Killarney: 7/'32 (Bullock). **WA.** Gurteen Demesne near Clonmel: on Scots pine (*Pinus sylvestris*), 17/7/'28 (H.).

The variety *maculicollis* M. & R., occurred in numbers on a fine old Scots pine growing on high ground near Clonmel in July, 1928. It is scarcely likely, however, that the insect can be so very local, as it is widespread on pines in Great Britain. Mr. Butler states that the species has been recorded "from both Scotland and Ireland" (*Butler* '23). I

have failed to trace any published Irish record. The species is widely distributed in Europe, where it has been found on larch as well as on Scots pine. In Great Britain the type form is replaced by the variety *maculicollis* M. & R.

[*Poeciloscytus unifasciatus* Fabr.]

This species does not seem to occur in Ireland, and the records in H.'02 and H.'12 must be deleted. See under following species.]

Poeciloscytus palustris Reut.

NK. Kenmare Demesne at Ross Castle: 8/'25. Gap of Dunloe: bank of the River Laune, 7/'27 (H.). **WA.** and **ST.** Waterford district: 4/9/'09. Clonmel district: 7/'28 (H.). **EC.** Youghal marshes: 8/'33 (H.). **LK.** Lough Gur: 7/'95 (H.). **CL.** Lake shores in south Clare: 7/'95 (H.). **NT.** Marsh by Shannon at Portumna: 6/'21 (H.). **WX.** Marsh by River Slaney at Macmine: 7/'25 and 8/'31 (H.). **WI.** Arklow marsh: 7/'26. Murragh of Wicklow: 8/'27. Kilcoole: 8/'27. Kilmacanogue marsh: 7/'34 (H.). **DU.** Kilbarrack marsh: 8/'28 (H.). **WM.** Castlebar Lough and Westport Demesne: 6/'09 (H.). **LE.** Killaleen Lough near Dromahair: 7/'32. **DO.** Banks of Lagan Canal near Moira: 8/'02! (Buckle).

There has been doubt concerning the identification of a dark coloured *Poeciloscytus* recorded from Ireland as *P. unifasciatus* Fabr.; specimens were sent recently to Mr. W. E. China who identifies them as *P. palustris* Reuter, a species of very local occurrence in the south-west of England. I have examined a long series of supposed *P. unifasciatus* from various Irish localities and they are all *P. palustris*, so it would seem that the former species does not occur in Ireland. The Irish specimens are of dark colouring with the yellow thoracic margin reduced to a thin line (not absent as stated by Butler of English specimens). There are structural differences in the antennae, the second segment being shorter and thicker in *P. unifasciatus*.

P. palustris is always found in marshy places by sweeping among rushes and other plants, and not on Galium on which plant it is commonly found abroad. Widely distributed on the Continent, ranging from South Finland to Germany, Hungary, and Japan.

Charagochilus gyllenhalii Fall.

NK. Kenmare Demesne: 7/'27 (H.). **WA.** Waterford district: Power '78. **ST.** Gravel pits near Clonmel: on Galium, 7/'28 (H.). **SG.** Woodford: shore of Lough Derg, 8/'01 (H.). **WI.** Kilcoole marsh, and on Bray Head: 8/'27 (H.). **DU.** Killimey: in dry fields on Galium, 8/'29. Portmarnock sandhills: 6/'93. Donabate: hedge-banks on Galium, 9/'27.

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Tallaght (H.). **WH.** Athlone district: banks of Shannon, 6/'99. Mullingar. Lough Ennell: 9/'30 (H.).

Occurs on dry banks, in gravel pits, and hedgerows where the yellow bedstraw (*Galium verum*) is plentiful. All of the above localities are in the southern half of Ireland, it has probably been overlooked in other places.

Liochoris tripustulatus Fabr.

SK. Kenmare: 7/'98, *H.*'98. **NK.** Killarney district: 8/'25 (H.). **EC.** Youghal: 8/'33 (H.). **WA.** Waterford and Curraghmore Demesne: 9/'29. Dungarvan: 8/'33 (H.). **LK.** and **CL.** Limerick district and South Clare: 7/'95 (H.). Ennistymon: 9/'27. Kilkeely: 8/'34 (O'Mahony). **KK.** Inistioge: 8/'02, *Turner* '03. **WX.** Wexford district: 7/'25 (H.). **CW.** Kilcarry: 5/'34 (H.). **NG.** Galway: 7/'95, *H.*'95. **KD.** Maynooth: 5/'94. Leixlip: 9/'29 (H.). **WI.** Lough Dan: 9/'09. Laragh: 6/'28 (H.). Powerscourt: 21/10/'31! (Stelfox). **DU.** Dublin: Royal Canal bank, 4/'93. Raheny: 5/'93. Swords: 9/'08. Liffey Valley, Glasnevin, Finglas, Clontarf: 9/'29. Phoenix Park and Donabate: 10/'27. Portrane: 5/'26. Sutton and Howth: 8/'28. Terenure, Portmarnock (H.). **ME.** Drogheda: 9/'31 (H.). **WH.** Mullingar: 9/'30 (H.). **AR.** Armagh: very common, *Johnson* '93. **DO.** Belfast district! (Buckle). **AN.** Shane's Castle: 8/'02 (Buckle). Portmore Lough: 8/'03 (H.). Selshan: 6/'28! (Stelfox).

Very common and widely distributed on nettles and other plants, from April to October.

Capsus ruber Linn.

DU. "Near Dublin," *Power* '78, *McNab* '78.

Evidently very rare; it is included under the name of *Capsus capillaris* in Dr. Power's list, there are no other Irish records. The species is locally common in Great Britain ranging into the midlands, and it is widespread on the Continent.

Rhopalotomus ater Linn.

SK. Kenmare: 7/'98, *H.*'98. **NK.** Killarney district: 8/'25 (H.). **WC.** Glengarriff: 7/'24 (H.). **EC.** Fermoy: 7/'94. Youghal: 8/'33 (H.). **WA.** Waterford: *Power* '78. Ardmore: 9/'96, *Cuthbert* '97. Cappoquin: 7/'94 (H.). **ST.** Clonmel: 7/'28 (H.). **LK.** Limerick district: 7/'95 (H.). Kilkeely: 8/34 (O'Mahony). **CL.** Doonbeg: 7/'24! (Stelfox). **KK.** Inistioge: *Turner* '03. **WX.** Wexford district: 7/'25. **SG.** Woodford: 8/'01 (H.). **NG.** Athenry: 7/'26! (Phillips). **WI.** Arklow: 7/'26. Kilecoole and Bray: 8/'27 (H.). Devil's Glen: 6/'29. Rathdrum: 7/'29. Glenmaenass: 6/'30! (Stelfox). **DU.** Dublin:

Johnson '94. Lambay Island : 6/'05, *H.*'07. Santry : 5/'93. Sutton and Howth : 8/'28. Glenageary : 6/'33. Portmarnock. Phoenix Park (H.). Raheny marsh : 6/'28. St. Ann's, Clontarf! (O'Mahony). **WM.** Belclare, Louisburgh, and Westport : *H.*'12. **SL.** Sligo district : *H.*'04. **LE.** Dromahair : 7/'33 (H.). **LH.** Dundalk : *Johnson* '94. **ED.** Belleek and Coolmore : *Johnson* '94. Bruckless : 7/'94 (Johnson). **AR.** Armagh : 6/'92. Lough Gall and Lowry's Lough : *Johnson* '93. **DO.** Comber : 7/'02. Moira : 8/'01! (Buckle). **AN.** Portmore Lough : 6/'02! (Buckle). **LD.** Culmore : 7/'99! (Buckle).

Common and generally distributed from May to September. The variety in which the head and pronotum are red seems less common than the entirely black form.

Pithanus maerkeli H.S.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Muckross and Kenmare Demesnes. Ballast Pit. Gap of Dunloe : 7/'27 (H.). **WC.** Glengarriff : 7/'24. Glandore : 7/'94 (H.). **EC.** Fermoy : 7/'94, *H.*'94 a. Youghal : 8/'33 (H.). **WA.** Lismore : 7/'94 (H.). **ST.** Clonmel : 7/'29 (H.). **LK.** and **CL.** Limerick and South Clare : 7/'95 (H.). **NT.** Nenagh (H.). **KK.** Thomastown : 7/'01 (H.). Inistioge : 8/'02, *Turner* '03. **WX.** Kilmore Quay : 8/'31 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Recess : 7/'95 (H.). **NG.** Clonbrock : 6/'96 (H.). **KD.** Sallins : 9/'28 (H.). **WI.** Arklow and Rathdrum : 7/'26. Kilcoole, Greystones, Powerscourt, and Bray : 8/'27 (H.). **DU.** Lambay Island : *H.*'07. Lucan and Tallaght : *H.*'94 b. Tallaght, Glasnevin, Finglas, Portmarnock, Kilbarrack : 9/'27. Donabate : 10/'27. Glenageary : and macropterous form, 20/7/'33 (H.). **WH.** Athlone : 6/'99. Mullingar : 5/'01 (H.). **WM.** Clare Island, Belclare, Louisburgh, and Westport : *H.*'12. **SL.** Sligo : 7/'04, *H.*'04. Cleeveragh and Hazelwood : 7/'32 (H.). **LE.** Dromahair : 7/'32 (H.). **LH.** Dundalk : *Johnson* '94. **ED.** Foyle district : 7/'99! (Buckle). **AR.** Armagh : (Johnson). **DO.** or **AN.** Belfast district : 9/'02! (Buckle).

Very common and widespread occurring both in dry and marshy places from May to October. The Irish specimens are so uniformly brachypterous that it was surprising to find the macropterous female in a meadow at Glenageary in July, 1933. Mr. Butler reports it as of very rare occurrence in Britain : "A specimen is recorded by Douglas and Scott as taken by Dr. Power at Shirley, Surrey, in August, 1862; I have one taken by E. Saunders at Cobham, Surrey, in July, 1880, and one, without locality, *ex coll. Capron.*" The exceptionally dry summer of 1933 may have had something to do with the development of the winged form.

Monalocoris filicis Linn.

SK. South Kerry : 6/'02, *Saunders* '03. Dingle. Kenmare : 7/'98, H.'98. **NK.** Killarney district : 8/'25 (H.). **EC.** Youghal : 8/'33 (H.). **WA.** and **ST.** Clonmel district : 7/'28 (H.). Cappoquin : 8/'28! (Stelfox). **LK.** and **CL.** Limerick district and south Clare : 7/'95 (H.). **KK.** Thomas-town : 7/'01 (H.). **WX.** Wexford district : 8/'25 (H.). **SG.** Woodford : 8/'01 (H.). **WI.** Meeting of Waters : 7/'30. Dargle : 7/'25! (Stelfox). Enniskerry : 9/'31. Greystones : 8/'33 (H.). **DU.** Dublin district : H.'93. Stepaside : 9/'31. **WM.** Clare Island, Belclare, Louisburgh, and West-port : H.'12. **SL.** Knocknarea : 7/'04, H.'04. **LE.** Dromahair : 7/'32 (H.). **LH.** Carlingford : 7/'93 (H.). **CV.** Cavan : 10/'93 (H.). **ED.** Bundoran : *Johnson* '93. Foyle district! (Buckle). **WD.** Bruckless : 7/'94, *Johnson* '95 a. **DO.** Narrow Water and Cultragh Lough : *Johnson* '94. Rostrevor (*Johnson*).

Common on bracken (*Pteris aquilina*) and other ferns from June to October.

Bryocoris pteridis Fall.

NK. Kenmare and Muckross Demesnes on *Athyrium* : 7/'27 (H.) and 7 and 9/'25! (Bullock). **WA.** Portlaw : in the Curraghmore Demesne, 9/'29 (H.). **WI.** Rathnew : 8/'24 (H.). Powerscourt Demesne : 9/'33! (Stelfox). **DU.** Dublin mountains : 9/'95 (H.). **SL.** Glencar : common on ferns, 7/'04, H.'04.

Much more local than the preceding species, occurring on the fern *Athyrium felix-femina* usually in moist places in woods. It is probably widely distributed in Ireland. The macropterous form seems rare, the only specimen that I have seen is a female found in the Kenmare Demesne by Mr. E. Bullock in July, 1925.

Allodapus rufescens Burm.

NG. Clonbrock : 19/6/'96, H.'96 b.

Found in this locality by evening sweeping in June, 1896, the only Irish record of the species. From the nature of the habitat, amongst Calluna on heaths, it may be easily overlooked. Widespread in Great Britain and in the Palæarctic Region.

Macrolophus nubilus H.S.

WC. Glengarriff : in the Bantry Demesne, 16/7/'24 (H.).

Apparently a scarce species, and this is the first record of its occurrence in Ireland. The specimens were found by sweeping, so I cannot say on what plant the insects were living. According to Butler it is most

frequently found on bramble and *Stachys sylvatica*. Widely distributed in Great Britain and on the Continent.

Dicyphus epilobii Reut.

EC. Youghal : 8/'33 (H.). **WA.** Waterford district : 9/'29 (H.).
ST. Clonmel : 7/'28 (H.). **WX.** Wexford district : 7/'25 (H.). **KD.**
Leixlip : 9/'29 (H.). **WI.** Arklow : 9/'28. Magherabeg : 7/'26. Kilcoole
and Kilmacanogue marsh : 9/'33 (H.). **DU.** Tibradden, Tallaght, Santry : 9/'95.
Donabate : 9/'34, H.'12. Glenageary : 20/7/'33. Blanchardstown : 9/'24. Portmarnock : 6/'25. Sutton
and Howth : 8/'28. Swords : 2/9/'28. **WM.** Westport : 6/'09, H.'12.
LH. Drogheda : Boyne Valley, 9/'31 (H.).

Common from June to October and probably occurs wherever its food plant, the willow herb (*Epilobium hirsutum*) grows. The species is widespread in Britain, the European range is said to be restricted to Central and Southern Europe.

Dicyphus errans Wolff.

WC. Glengarriff Castle Demesne : 22/7/'24 (H.). **DU.** Lambay Island :
10/'06, H.'07.

Apparently a scarce species in Ireland, these being the only records; doubtless it has escaped observation in many places. It is widespread in Britain and on the Continent.

Dicyphus stachydis Reut.

WA. Cappoquin : 6/'00 (H.). **CL.** South Clare : 7/'95 (H.). **NG.**
Clonbrock : 6/'96, H.'96 b. **KD.** Leixlip : 23/9/'29 (H.). **WI.** Rathnew.
Powerscourt Demesne : 6/'26. Deerpark : 6/'34. Devil's Glen : 9/'33.
Bray : 8/'27 (H.). **DU.** Woodlands : 8/'93. Lucan : common in grave-
yards, 7/10/'27. Glasnevin and Finglas : 9/'27 (H.). **WH.** Lough
Ennell : 5/'01 (H.). **RO.** Mote Park : 6/'97 (H.).

Common where it occurs, on *Stachys sylvatica* from May to October.

Dicyphus pallidicornis Fieb.

SK. South Kerry : 6/'02, Saunders '03. **NK.** Killarney district : 8/'25
(H.). **WC.** Glengarriff : 22/7/'24 (H.). **WI.** Arklow : 9/'28 (H.). **DU.**
Tibradden : in marshy places, 24/10/'27 (H.). Seapoint : 8/'33 (Beirne).
WM. Clare Island and Louisburgh : (Morley), H.'12.

Locally common on foxglove (*Digitalis purpurea*) from June to October, and probably widely distributed in Ireland. A macropterous male found at Glengarriff (22/7/'24) is of a melanic type. In this the pronotum, except for a pale central line, and the abdomen are black; the scutellum

is also dark showing only faint traces of the usual pale lateral spots, and the elytra are fuliginous. This form seems to resemble Reuter's variety C of which a description is given by *Butler* '23. A common species in Great Britain, and it is recorded from Central and Southern Europe.

Campyloneura virgula H.S.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Kenmare Demesne : on oak, 8/'25. **WC.** Glengarriff : 7/'24 (H.). **EC.** Castlemartyr : 8/'33 (H.). **WA.** and **ST.** Clonmel district : 7/'28 (H.). **WX.** Wexford : 7/'25 (H.). **SG.** Woodford : 8/'01 (H.). **WG.** Oughterard : 7/'95, *H.*'95 f. **WI.** Bray, Powerscourt, and Kilruddery : 8/'27. Enniskerry : on alder, 9/'31. Greystones : 8/'33 (H.). **DU.** Santry : 9/'94. Sutton and Howth : 8/'28. Glasnevin : on ash, 8/'29. Glenageary : on lime, 7/'33 (H.). **WM.** Westport : 7/'11, *H.*'12. **LH.** Braganstown : 8/'95, *H.*'95 g. **AR.** Churchill : *Johnson* '93. Poyntzpass : *Johnson* '11. **DO.** Narrow Water : 7/'94, *Johnson* '94. Rostrevor : *H.*'02.

Common and widespread from July to September, on oak, ash, alder, lime, and other trees.

Orthocephalus saltator Hahn.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Caragh Lake : 8/'06. Killarney : Ballast Pit, 7/'32! (Bullock). **EC.** Youghal : 8/'33 (H.). **WA.** Waterford district : *Power* '78. Tramore : 7/'01. Ardmore : 8/'33 (H.). **ST.** Clonmel : 7/'28 (H.). **CL.** Banks of Shannon at Killaloe : 6/'95 (H.). **KK.** Inistioge : 8/'02, *Turner* '03. **WX.** Wexford district : 7/'25. Kilmore Quay and Macmine : 8/'31 (H.). **SG.** Woodford : 8/'01 (H.). **KD.** Sallins : 15/8/'26! (Stelfox). **WI.** Arklow : 7/'26 and 9/'28. Rathdrum : 7/'26. Kilcoole : 8/'27 (H.). **DU.** Portrane : 8/'31! (Stelfox). Glenageary : 7/'33 (H.). **WM.** Westport : 7/'11, *H.*'12. **LH.** Braganstown : 8/'95, *H.*'95 g.

A fairly common species, at least in the south of Ireland, from June to September. It may be found both in dry and marshy places inland as well as in estuaries and on sandy coasts. The winged forms of the female and the males are comparatively rare.

Orthocephalus mutabilis Fall.

WA. Lismore : banks of River Blackwater, 7/'95, *H.*'95 a. Gurteen Demesne near Clonmel : 17/7/'28 (H.). **WM.** South shore of Lough Ennell : 4/9/'30 (H.).

Pachytomella parallela Mey.

DU. Santry Demesne near Dublin : 20/9/'29 (H.), *Blair* '32.
In the Santry Demesne a few years ago I found on larch a black capsid

which was unknown to me. On further search a second specimen was swept from plants near the same group of trees. Mr. W. E. China has identified these specimens as the present species—a recent addition to the British List. Mr. Butler records⁹ it from two localities—Theydon Bois on the borders of Epping Forest, Essex, and Wimborne, Dorset. In both of these places, as well as at Santry, only the male was found. Mr. K. G. Blair has since taken the brachypterous female in Perthshire and not on pines, his specimens were on grass: “on a sandy meadow beside the River Lockay with no spruce only scattered alders, in the vicinity” (Blair, 1932). It is probable that the Santry specimens may have been introduced through their food-plants. *P. parallela* occurs in middle and southern Europe, and Reuter gives its habitat as in mountainous or alpine regions, but does not mention conifers.

Cyllocoris histrionicus Linn.

SK. Kenmare : 7/'98, *H.*'98. **NK.** Killarney : 8/'25. Toomie's Wood : on oak, 7/'27 (H.). **WC.** Glengarriff : *Distant* '02, and 7/'24 (H.). **WA.** Cappoquin : 6/'00 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** Limerick district : 7/'95 (H.). **CL.** South Clare : 7/'95 (H.). Lahinch : 7/'24! (Stelfox). **WX.** Wexford district : 7/'25 (H.). **SG.** and **NG.** Woodford : 8/'01. Clonbrock : 6/'95 (H.). **WI.** Glenmalure : 5/'96, *H.*'96 a, Powerscourt : 6/'26 (H.). Devil's Glen : 7/'25. Meeting of Waters : 7/'29! (Stelfox). **DU.** Killiney. Santry Demesne : (H.). Glencullen : 6/'33! (Stelfox). **WM.** Belclare and Westport : *H.*'12. **DO.** Tullymore Park and Newcastle (Buckle). **AN.** Belfast district : 6/'00! (Buckle).

Common on oak trees from June to August.

[*Cyllocoris flavonotatus* Boh.]

“Ireland (Haliday),” *Saunders* '92. *Butler* '23.

The Haliday specimens cannot be traced, and it is possible that there may have been confusion with *Globiceps flavomarginatus* Fabr. There seems every likelihood of the discovery of the species in Ireland, as it is widely distributed in Great Britain and ranges into Scotland.]

Aetorhinus angulatus Fall.

SK. Kenmare : *Mason* '03. **NK.** Killarney : 8/'25 (H.). **WC.** Glengarriff : 7/'24 (H.). **EC.** Youghal and Castlemartyr : 8/'33 (H.). **WA.** Waterford : 9/'29 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **CL.** Limerick and south Clare : 7/'95 (H.). **WX.** Wexford : 7/'25. Rosslare : 8/'31 (H.). **KD.** Sallins : 9/'28. Celbridge : 10/'29 (H.). **WI.** Arklow : 9/'28. Lough Dan : 9/'09. Powerscourt : 8/'27 (H.). **DU.** Tallaght : 7/'95.

⁹ *Entom. Month. Mag.*, lix, 8 (1923), p. 8.

Lucan : 10/'27. **C**hapelizod : on lime and elm, 9/'28. **P**ortmarnock : 9/'94. **S**utton and Howth : 8/'28. **F**inglas, Glasnevin, and Donabate : 9/'27. **S**antry and Clontarf : 9/'29. **G**lenageary : 7/'33 (H.). **W.H.** **M**ullingar : 9/'30 (H.). **W.M.** **W**estport : *H.*'12. **E.D.** Foyle district ! (Buckle). **A.R.** Loughgall : 8/'11, *Johnson* '11. **D.O.** Belfast district ! (Buckle). **A.N.** Portmore Lough : 8/'03 (H.). Shane's Castle : 8/'02 (Buckle).

Very common and widely distributed, occurring on various trees, including oak, birch, lime, willows, and especially on alders, from June to October.

[*Globiceps cruciatus* Reut.]

The evidence of the occurrence of this species is a note "found in both Scotland and Ireland" (*Butler* '23). I cannot trace the origin of this record, and it seems best to place the species on the doubtful list for the present, as there may have been confusion in synonymy; the name *flavomaculatus* has been used both for this and the following species.]

Globiceps flavomaculatus Fabr.

N.K. Killarney : Woodlawn and Ballast Pit (Bullock). **W.C.** Glengarriff : 7/'24 (H.). **E.C.** Youghal : 4/8/'33 (H.). **W.A.** Waterford district : *Power* '78. Dungarvan : 1/8/'28 ! (Stelfox). Lismore (H.). **S.T.** Clonmel district : 7/'28 (H.). **W.G.** Inismore : 23/7/'34 (Allen). **K.K.** Inistioge : 8/'02, *Turner* '03. **S.G.** Woodford : 8/'01 (H.). **A.R.** Armagh : *Johnson* '93. [The "*Globiceps selectus* Fieb." of this reference.] **A.N.** Portmore Lough : 8/'03 (H.).

Common during July and August in most of these localities. The absence of records from whole tracts of country is surprising as the insect is a fairly conspicuous one not readily overlooked. In all probability future work will result in an extension of its known range. In Great Britain it is found as far north as Durham, while the Continental range is very wide, extending to Siberia, though "apparently not reaching the Mediterranean coast" (*Butler* '23).

Globiceps dispar Boh.

E.C. Youghal : 8/'33 (H.). **W.X.** Shore at Kilmore Quay : ♂ and ♀, and at the roots of bent-grass on the Ballyteige sandhills : 8/'31 (H.). **W.I.** Arklow : 7/'29 ! (Stelfox) and 9/'28 (H.). Ballynockan : 8/'04 (H.). **D.U.** Donabate : 8/'94. Portmarnock sandhills : 23/9/'27. Sutton and Kilbarrack marsh : 8/'28. Glenageary : 7/'33 (H.). **W.M.** Westport : in meadows, *H.*'12. **S.L.** Ballysadare and Strandhill : 7/'04, *H.*'04.

A local species though sometimes found in numbers in meadows and grassy banks from July to September. I have found the ♂ and ♀ freely

at the roots of bent-grass on the sandhills of the Dublin and Wicklow coasts. Widely distributed in Great Britain and in Northern and Central Europe.

Mecomma ambulans Fall.

SK. Kenmare : 7/'98, *H.*'98. Glencar : 7/'06 (H.). **NK.** Killarney : common, 8/'25, macropterous ♀, 6/9/'25 (H.). **MC.** and **EC.** Cork district and Youghal : (H.). Fermoy. **WA.** Lismore and Cappoquin : (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **CL.** Limerick and South Clare : 7/'95 (H.). **KK.** Glenmore : 9/'29 (H.). **WX.** Wexford district : 7/'26 (H.). **SG.** and **NG.** Woodford : 8/'01. Clonbrock : 6/'96. Ardfry (H.). **KD.** Sallins : 9/'19 (H.). **WI.** Arklow : 7/'25. Kilruddery, Bray, Kilcoole, and Greystones : 8/'27 (H.). **DU.** Lucan : 10/'27. Santry : 9/'94. Sutton and Howth : 8/'28. Finglas, Glasnevin, and Donabate : 9/'27. Liffey Valley : 9/'29. Glenageary : 8/'33 (H.). **WH.** Athlone : 6/'99. Mullingar : 9/'30 (H.). **WM.** Westport : 7/'11, *H.*'12. **SL.** Sligo district : 7/'04 (*H.*'04). Cleeveragh Demesne : 7/'32. Glencar : 7/'32 (H.). **LE.** Dromahair : 7/'32 (H.). **LH.** Dundalk : 7/'93 (H.). **ED.** Foyle district : 7/'99! (Buckle). **AR.** Fathom : 7/'93, *Johnson* '94. **AN.** Belfast! (Buckle).

Common and generally distributed from June to October. I have found the winged form of the female on one occasion in a marshy place near Ross Castle, Killarney, September, 1925. It seems equally rare abroad. Mr. Butler records five occurrences from June to August in various parts of Great Britain.

Cyrtorrhinus caricis Fall.

NK. Killarney : 8/'25 (H.). Killarney : Ardagh (Bullock). **EC.** Youghal : 8/'33 (H.). **WA.** Waterford district : 9 /'29 (H.). **ST.** Clonmel : 7/'28 (H.). **WX.** Wexford : 7/'26 (H.). **WI.** Arklow marsh : 9/'28. Roundwood : 9/'09. Kilcoole : 8/'27. Kilmacanogue marsh : 9/'33. Enniskerry : 8/'95 (H.). **DU.** Portmarnock and Swords : 9/'28. Kilbarrack : 8/'28. Glenageary : 9/'31. Donabate. Bog of Ring (H.). **ME.** Drogheda : 9/'31. **WM.** Castlebar and Westport : 7/'11, *H.*'12. **SL.** Glencar : 7/'32 (H.). **LH.** Braganstown Bog : 8/'95, *H.*'95 g. **ED.** Foyle district! (Buckle). **WD.** Owenwee, Teelin : 8/'33! (Stelfox). **DO.** Belfast district : 9/'02! (Buckle). **AR.** Armagh : 9/'89, *Johnson* '93. **AN.** Lough Neagh at Shane's Castle : 8/'02! Marsh at Lisburn : 9/'02! (Buckle).

Common on Carex in marshy places from July to September.

***Cyrtorrhinus pygmaeus* Zett.**

WX. Near Wexford : 4/8/'25 (H.). **DU.** Head of Malahide estuary : 2/9/'28 (H.).

The Wexford specimen was taken in a marshy place by the River Slaney; both localities are estuarine. Widespread in England, from Devon to Northumberland, and in Northern and Central Europe.

***Cyrtorrhinus flaveolus* Reut.**

DU. Portmarnock : salt marsh, 23/9/'27. Head of Malahide estuary : 2/9/'28 (H.).

An unrecorded Irish species which I have found only in these estuarine localities on the north Dublin coast. The macropterous female occurred at Malahide; it is much rarer than the brachypterous form. This distinct little species is of south-eastern range in Great Britain (Norfolk to Dorset). On the Continent it has also a restricted distribution, as it seems to have been found only in Finland and Sweden.

The genus *Orthotylus* which follows is a comparatively large one, of which we possess fourteen of the eighteen recorded British species. Many of these are very closely allied and some are apparently of very local occurrence on their food-plants. With the exception of a few common species such as *O. marginalis*, *O. ochrotrichus*, and *O. ericetorum* the Irish forms are little known, no less than six are represented by single records; in all probability most of them will eventually prove of wide distribution in this country.

***Orthotylus bilineatus* Fall.**

SK. Derrynane : on aspens, 22/7/'34! (Stelfox). **DO.** Slieve Donard Demesne : on aspens, 8/'02 (H.).

Abundant on aspens in the first-mentioned locality and also at Glenear in County Kerry. A search in suitable places where the food-plant is native will probably reveal its presence elsewhere, as the insect is widespread in Great Britain and on the Continent.

***Orthotylus flavinervis* Kb.**

WC. Glengarriff : 13/7/'24 (H.). **WA.** Fermoy : 7/'94, H.'95 a.

Very local though probably overlooked; in both of these localities it was found on alders (*Alnus glutinosa*), the usual food-plant. While the Continental range is Northern and Central Europe, in England it has been recorded mainly from the southern counties, though Mr. Butler states that it has occurred in Scotland.

Orthotylus marginalis Reut.

SK. Kenmare: 7/’98, *H.*’98. **NK.** Killarney: 8/’25 (H.). **WC.** and **EC.** Glengarriff: 7/’24. Youghal: 4/8/’33 (H.). Fermoy. **WA.** Lismore: 7/’94 (H.). **ST.** Clonmel: 7/’28 (H.). **LK.** and **CL.** Limerick and South Clare: 7/’28 (H.). **KK.** Inistioge: *Turner* ’03. **WX.** Wexford district: 7/’25 (H.). **SG.** Woodford: 8/’01 (H.). **NG.** Galway: common, *H.*’95 f. Recess and Moycullen (H.). **KD.** Sallins: 9/’28 (H.). **WI.** Clara. Arklow: 7/’26 (H.). **DU.** Phœnix Park: 7/’95. Royal Canal bank: 8/’92. Glenageary: 7/’33. Sutton and Howth: 8/’28 (H.). **WH.** Athlone: 6/’99. Mullingar: 9/’30 (H.). **WM.** Clare Island and Louisburgh: *H.*’12. **SL.** Lough Gill: 7/’04, *H.*’04. Cleeveragh Demesne and Glenear: 7/’32 (H.). **LE.** Dromahair: 7/’32 (H.). **LH.** Braganstown Bog: 8/’95 (H.). **ED.** Foyle district: 7/’99! (Buckle). **WD.** Ardara: *Johnson* ’93. **AN.** Portmore Lough! (Buckle).

Common and widely distributed on willows (*Salix*), usually on lake shores and river banks from July to September.

Orthotylus tenellus Fall.

SK. Kenmare: summer of ’99, *Mason* ’03. **LK.** Limerick district: 7/’95 (H.). **NG.** Clonbrock: 6/’96 (H.). **DU.** Phœnix Park: 28/7/’95 (H.).

Orthotylus nassatus Fabr.

SK. Kenmare district: 7/’99, *Mason* ’03.

The only record of this species from Ireland. It has been found on oak, ash, and willows in Great Britain, where it is widely distributed.

Orthotylus viridinervis Kb.

NK. Killarney: 11/7/’27 (H.). **WA.** Waterford district: *Power* ’78. Lismore: 7/7/’94, *H.*’95 a. **NG.** Clonbrock: 6/’96 (H.).

This species and the three following are very closely allied and are best recognized by the structure of the male genitalia. *O. ochratrichus* Fieb. is common in meadows and hedgerows from July to September.

Orthotylus prasinus Fall.

SK. Kenmare district: on elm, 23/6/’99, *Mason* ’03.

Orthotylus scotti Reut.

SK. Kenmare district: on elm, 23/6/’99, *Mason* ’03.

***Orthotylus ochrotrichus* Fieb.**

SK. Kenmare district: summer of '99, *Mason* '03. **NK.** Killarney district: 8/'29 (H.). **EC.** Youghal: 8/'33 (H.). **WA.** and **ST.** Clonmel district, 7/'28 (H.). **WX.** Wexford: 7/'28 (H.). **WI.** Arklow: 9/'28. Bray: 8/'27 (H.). **DU.** Glenageary and Killiney: 8/'33. Sutton: 2/8/'28. Portmarnock: 8/'25. Finglas: 9/'27. Santry (H.).

***Orthotylus flavosparsus* Sahlb.**

NK. Muckross Demesne: 8/'25 (H.). **WA.** and **ST.** Clonmel district: 7/'28. Dungarvan: 8/'33 (H.). **WX.** Shore at Kilmore Quay: 8/'31 (H.). **WI.** Kilcoole and Greystones: 8/'27 (H.). **DU.** Chapelizod: 9/'28. Sutton: 8/'28 (H.).

Common on Chenopodium in salt marshes and also at inland places from July to September. As Mr. Butler points out, the patches of silvery pubescence which are so noticeable in living specimens seem to disappear and the insect fades to a dull yellowish-green colour.

***Orthotylus chloropterus* Kb.**

SK. Kenmare: 7/'98, *H.*'98. **EC.** Youghal: 8/'33 (H.). **WA.** Curraghmore Demesne: 9/'29 (H.). **WX.** Wexford: 7/'25 (H.). **WI.** Lough Dan: 9/'09. Kilcoole and Greystones: 8/'33 (H.). **LD.** Culmore: 7/'99! (Buckle).

Found on broom (*Cytisus scoparius*) from July to September and probably widespread in Ireland.

***Orthotylus concolor* Kb.**

WA. Waterford district: *Power* '78.

Dr. Power's record of this species remains the only one for Ireland. It is widely distributed on broom in Great Britain.

***Orthotylus adenocarpi* Perr.**

LE. Dromahair: 16/7/'32 (H.).

A single specimen of this species, which is unrecorded from Ireland, occurred on the common broom (*Cytisus scoparius*) at Lough Killaleen near Dromahair, and I am indebted to Mr. W. E. China for identifying the species. It has been recorded from the south of England (Norfolk to Somerset) and Central and Southern Europe.

***Orthotylus ericetorum* Fall.**

NK. Muckross Demesne: 9/'25 (H.). Glencar: 9/'98, *Scharff and Carpenter* '99. **WA.** Curraghmore Demesne: 9/'29 (H.). **WG.**

Oughterard : 7/'95 (H.). **WI.** Lough Dan : 9/'09. Bray Head : 8/'27 (H.). **WH.** Bog at Lough Ennell : 9/'30 (H.).

Occurs on heather *Calluna vulgaris*, and probably generally distributed in Ireland.

Heterotoma meriopterum Scop.

SK. Kenmare : larva, 7/'98, *H.*'98. **WC.** Glengarriff : common in meadows, 7/'24 (H.). **EC.** Youghal marshes : 8/'33. Castleartyr : 8/'33 (H.). "St. Ann's, abundant on Privet hedges, August," *Haliday MS.* **WA.** Waterford district : *Power* '78. Ardmore : 8/'33 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **CL.** Limerick and south Clare : 7/'95 (H.). **KK.** Inistioge : 8/'02, *Turner* '03. **WX.** Wexford : larvae and adults, common on hedges, 7/'26 (H.). Scarawalsh Bridge : 7/'28! (Stelfox). **CW.** Kilcarry : 8/'29! (Stelfox). **DU.** Glenageary : 29/7/'33 (H.).

Common in meadows and hedgerows in the south of Ireland occurring as far north as the county Dublin. It is rare, however, in this county where I found larvae in the last instar and adults on brambles (*Rubus*) in an old orchard near Glenageary at the end of July. Mr. Butler found the adult "maturing about the last week of June" so that the full development of the insect may occur later in Ireland. The species is found as far north as Yorkshire in Great Britain, and the Continental range extends over the whole of Europe.

Heterocordylus tibialis Hahn.

SK. Kenmare : 7/'98 (H.). **NK.** Dingle : 5/'94. Muckross Demesne : 8/'25 (H.). **WA.** Waterford district : *Power* '78. Tramore : 7/'01 (H.). **KK.** Thomastown : 7/'01 (H.). **WX.** Forth Hills : 7/'00 (H.). **SG.** Woodford : 8/'01 (H.). **WI.** Drumgoff : 5/'96, *H.*'96 a. Vale of Clara : 7/'19. Rathdrum : 7/'26. Laragh : larva, 10/6/'28.

Locally common on broom (*Cytisus scoparius*) in the south of Ireland from May to August.

Malacocoris chlorizans Fall.

NK. Killarney : Ardagh (Bullock). **EC.** Castleartyr : 8/'33 (H.). **WA.** Curraghmore Demesne : 9/'29. Kilmacow : 9/'29 (H.). **WG.** Ballynahinch : 20/8/'34 (H.). **NG.** Clonbrock! (Dillon). **WI.** Arklow : 9/'28. Devil's Glen : 9/'33. Lough Dan : 9/'09. Enniskerry : wood by Cookstown River, on hazel, 9/'31 (H.). **DU.** Lucan Demesne : 9/'29. Glenageary : on elm, 7/'32. Finglas : on elm, 9/'27 (H.). **WD.** or **LD.** Foyle district! (Buckle).

There are few records of this pretty species, it seems to be locally common on hazel (*Corylus*), and also on elm (*Ulmus*), from July to September at least.

Megalocoleus molliculus Fall.

NK. Ballast Pit near Killarney : on Achillea, 23/7/'27 (H.), also in same place, 8/'26! (Bullock). **WA.** and **ST.** Clonmel district : sand pits on Achillea, 27/7/'28 (H.). **WI.** Kilcoole : on rail embankment, 16/8/'27. Greystones : 27/9/'28 (H.). **DU.** Chapelizod : 10/9/'28 (H.).

Found on *Achillea millefolium* usually in dry places such as gravel pits and embankments, from July to September. It seems to be the commonest of the three British species of *Megalocoleus*, and is widely distributed.

Macrotylus paykulli Fall.

WA. Tramore : 9/'29 (H.). **WX.** Wexford district : 7/'25 (H.). **WI.** Arklow : 20/7/'26. Kilcoole and Greystones : 8/'27. Brittas Bay : 15/7/'26! (Stelfox). **DU.** Portmarnock : 6/'93, H.'08. Portrane : 10/'27. North Bull : 7/'98 (H.).

A common sandhill species found on rest-harrow (*Ononis*) from July to October. All of these localities are on the south and east coasts and it has probably been overlooked in other places.

Harpocera thoracica Fall.

NK. Caragh Lake : *Distant* '02. Killarney : in the Muckross Demesne, 7/'27 (H.). **WC.** and **MC.** Glandore : 6/'00. Cork district : 5/'02 (H.). **WA.** Cappoquin and Lismore : 6/'00 (H.). **WI.** Drumgoff : 5/'96, H.'96 a. Laragh : 6/'28. Powerscourt Demesne and Deerpark : 8/'26. Kilmacanogue : 5/'34 (H.). Glencree : 5/'28 (Stelfox). **DU.** Dublin district : H.'94. Lucan : 4/'93. Tallaght : 5/'93. Santry : 5/'93 (H.). **WM.** Mullingar : 5/'01 (H.). **ED.** Culmore : 6/'99! (Buckle). **DO.** Dromantine (Johnson).

Widely distributed from Kerry to Donegal, on oak and hawthorn in woodland districts.

Byrsoptera rufifrons Fall.

DU. Dublin district : *Power* '78, *McNab* '78.

As far as I am aware this species has not been noticed in Ireland since Dr. Power's Dublin record, so it is apparently rare, or very local in this country. In Great Britain it is found on nettles and by sweeping herbage, extending as far north as Yorkshire.

Phylus paliceps Fieb.

SK. Kenmare : *Mason* '03.

Found by Mr. Mason on oak trees in the summer of 1899, the only Irish record of the species. Widespread in Great Britain and in Northern and Central Europe.

Phylus melanocephalus Linn.

SK. Kenmare : 7/'98, *H.*'98. **WC.** Glengarriff : 7/'24 (H.). **LK.** Limerick district : 7/'95 (H.). **NG.** Clonbrock : 6/'96 (H.). **WI.** Drumgoff : 31/5/'96, *H.*'96 a. Ovoca : 23/7/'30. Ow Valley : 25/7/'29! (Stelfox). **WM.** Westport : 7/'10, *H.*'12. **SL.** Lough Gill : on oaks, 7/'04, *H.*'04. **LE.** Dromahair : 17/7/'32 (H.). **ED.** Coxtown : on oaks, 7/'94, *Johnson* '95 a.

Occurs on oak trees from May to August.

Phylus coryli Linn.

NK. Killarney : 8/'26! (Bullock). **WC.** Glengarriff : 8/'24 (H.). **WI.** Rathdrum : on hazel, 7/'26 (H.). Meeting of the Waters : 7/'28! (Stelfox). **WG.** Oughterard : 7/'95, *H.*'95 f. **DU.** Santry Demesne : 14/6/'93 (H.). **SL.** Glenear : on hazel, 7/'04, *H.*'04. The variety *avellanae* Mey. has been found in the following localities :—**WC.** Glengarriff : in the Bantry Demesne, 22/7/'24 (H.). **SL.** Glencar : 7/'04, *H.*'04. **WI.** Enniskerry : woods by the Cookstown River, 15/9/'31 (H.).

There are now Irish records for eleven of the fifteen British species of the genus *Psallus*, and we know little of their distribution in Ireland, or of the plants on which they are found. In some cases the species are closely allied, and the characters used in distinguishing them are often of an unsatisfactory kind and need supplementing, notably in the “*fallenii*” group. Referring to this Mr. W. E. China, who has verified some identifications of *P. alni* and *P. fallenii*, remarks: “It is time someone revised this genus on genital characters, although there is such a mass of synonymy that it will be almost impossible to apply the correct names.”

Psallus ambiguus Fall.

SK. Kenmare : 7/'98, *H.*'98. In same locality on crab apple, *Mason* '03. Glencar : 7/'06 (H.). **NK.** Kenmare and Muckross Demesnes : 8/'25 (H.). Toomie's Wood : 6/'27. **WC.** Glengarriff : 7/'24 (H.). **EC.** and **WA.** Lismore and Fermoy : 7/'94 (H.). **LK.** and **CL.** Limerick and south Clare : 7/'95 (H.). **WX.** Wexford district : 7/'25 (H.). **NG.** Clonbrock : 6/'96 (H.). **WI.** Rathdrum : 7/'26 (H.). **DU.** Glenageary : on apple, 6/'33 (H.). Seapoint : on apple, 6/'33! (Beirne). **WM.** Athlone : 6/'99 (H.). **SL.** Lough Gill : 7/'04, *H.*'04. **LE.** Dromahair : 7/'32 (H.). **WD.** Ardara : 7/'92, *Johnson* '93. **AN.** Lough Neagh : 8/'92! (Buckle). Portmore Lough : 8/'03 (H.).

Widely distributed and of frequent occurrence in apple orchards, June to September.

Psallus betuleti Fall.

SK. Kenmare : *Mason* '03. **NK.** Killarney : 7/'31! (Bullock). **DU.** Santry Demesne : 24/5/'93. Glenageary : 8/'33 (H.). **WM.** Belclare and Westport : 7/'10, H.'12. **AR.** Armagh : 8/'89. Loughgall : *Johnson* '93. Churchill : 31/5/'93. **AN.** Lough Neagh ! (Buckle).

There are few records of this species, it is probably of general occurrence on birch in woodland districts.

Psallus variabilis Fall.

SK. Kenmare : on oak, *Mason* '03. **NK.** Killarney : 6/'30! (Bullock). **WC.** Glandore : 6/'00 (H.). **WA.** Cappoquin : 6/'00 (H.). **ST.** Clonmel : 7/'28 (H.). **WX.** Wexford district : 7/'25 (H.). **WI.** Powerscourt Deer-park : 6/'26 (H.). **KD.** Glendiny Wood : 6/'33! (Stelfox). **DU.** Dublin district : 8/'28. Glenasmole : hawthorn, 6/'34 (H.). **SL.** Lough Gill : 7/'04, H.'04. **AR.** Loughgall : *Johnson* '93. **ED.** Foyle district : 6/'99! (Buckle).

Occurs on oak trees from June to August. As far as I am aware the varieties *whitei* and *simillimus* D. & S. have not been found in Ireland.

Psallus quercus Kb.

KK. Woodstock : 2/7/'01 (H.).

This species seems to have been overlooked in Ireland. Mr. Butler reports it as having a comparatively restricted range in various English counties and it is found in Scotland.

Psallus lepidus Fieb.

SK. Kenmare : 7/'98, H.'98. **NK.** Killarney : 7/'27. **EC.** and **WA.** Waterford district : *Power* '78. Lismore and Fermoy : 7/'94 (H.). **NG.** Clonbrock : 6/'96 (H.). **DU.** Portmarnock : on ash, 7/'93. Phoenix Park : 10/1/'27. Glenageary : 9/'31. Donabate (H.). **WM.** Belclare and Westport : 7/'10, H.'12. **WD.** Coxtown : on ash, *Johnson* '95 a.

Psallus alnicola D. & S.

SK. Kenmare : 23/6/'99, *Mason* '03. **DU.** Loughlinstown : 18/9/'31. Clontarf : 25/8/'28. Donabate : 3/10/'27. Portmarnock : 9/9/'28 (H.).

Occurs on alders (*Alnus*) in the Dublin district during August and September. This species is closely allied to *P. fallenii* Reut., a useful character for distinguishing it in the field is the rather coarse pubescence which tends to occur in patches on the hemelytra. The British range is

wide (Devon to Scotland), and it has been recorded from few Continental countries. Mr. Butler mentions only Finland, Sweden, and Austria.

Psallus fallenii Reut.

NK. Killarney : 8/'25 (H.), 7/'27! (Bullock). **WA.** Waterford district : 9/'29. Portlaw : 9/'29 (H.). **ST.** Clonmel : 7/'28. **NG.** Clonbrock : 6/'96 (H.). **WX.** Macmine : 8/'31 (H.). **WI.** Greystones : 8/'33 (H.). **DU.** Phoenix Park : 7/'93. Chapelizod : 21/9/'28. Santry and Portmarnock : 9/'28 (H.). **WH.** Mullingar : 9/'30 (H.). **WM.** Castlebar and Westport : 7/'11, H.'12. **AR.** Churchill : *Johnson* '93.

Psallus varians H.S.

SK. Kenmare : 7/'98, H.'98. **NK.** Toomie's Wood : 6/'27. Killarney ; 9/'27! (Bullock). **WC.** Glengarriff : 7/'24. **EC.** and **WA.** Lismore and Fermoy : 7/'94 (H.). **ST.** Clonmel : 17/7/'28 (H.). **LK.** and **CL.** Limerick and south Clare : 7/'95 (H.). **WX.** Killurin : 7/'25 (H.). **WG.** Oughterard : 7/'95, H.'95 f. **WI.** Glenmalure : 5/'96, H.'96 a. Powerscourt : 6/'26 (H.). **DU.** Glenageary : 7/'32. Santry : 14/6/'93. Sutton and Howth : 8/'28. Phoenix Park (H.). **WH.** Athlone : 6/'99 (H.). **WM.** Westport : H.'12. **SL.** Lough Gill : 7/'04, H.'04. Sligo district : 7/'32 (H.). **LE.** Dromahair : 7/'32 (H.). **ED.** Coxtown : 7/'94, *Johnson* '95 a. Foyle district! (Buckle). **AR.** Coney Island : *Johnson* '93.

Psallus diminutus Kb.

NG. Clonbrock : woods, 6/'96, H.'96 b.

This species may be easily overlooked as it resembles a small form of *P. varians* H.S. It is widely distributed in Great Britain and on the Continent.

Psallus roseus Fabr.

SK. Kenmare : 8/'25 (H.). **NK.** Killarney : 8 and 9/'25! (Bullock). **WG.** Clifden : 8/'34 (H.). **WX.** Macmine : 8/'31 (H.). **NG.** and **SG.** Clonbrock : 6/'95, and Woodford : 8/'01 (H.). **WI.** Arklow : 9/'28. Roundwood : 9/'09 (H.). **DU.** Portmarnock sandhills : 8/'94. Loughlinstown : 9/'31. Chapelizod : 21/9/'28 (H.). **WH.** Mullingar, Lough Ennell, and Ballinafid : 9/'30 (H.). **WM.** Clare Island and Westport : H.'12. **LH.** Braganstown : 8/'95, H.'95 g. Drogheda district : 9/'31 (H.). **ED.** Tullyarden : 21/6/'99, and Foyle district! (Buckle). **AR.** Armagh :

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8/'90, *Johnson* '93. **AN.** Shane's Castle and Portmore Lough : 8/'03 (H.).
LD. Culmore : 8/'99! (Buckle).

Common and widespread on sallows (*Salix*) from June to September. It is common on the dwarf-growing *Salix* on the Portmarnock sandhills.

Psallus salicellus Mey.

EC. Youghal marshes : 8/8/'33 (H.). **WA.** Waterford district : *Power* '78. **SG.** Woodford : 8/'01 (H.). **WG.** Ballynahinch : 20/8/'34 (H.). **WI.** Greystones : 6/9/'33 (H.). **DU.** Glenageary : 24/8/'33 (H.).

This species seems very local in Ireland, occurring in the months of August and September. The Youghal specimens were swept from plants in a salt-marsh, where they had no doubt wandered from neighbouring sallow bushes. According to Butler it is found mainly on *Corylus* and *Salix*, and the British range does not extend farther north than Yorkshire, Central and Southern Europe.

Atractotomus magnicornis Fall.

NK. Lake shore, Killarney (Bullock). **WA.** Gurteen Le Poer wood near Clonmel : on Scots pine, 17/7/'28 (H.). **WX.** Macmine : 31/8/'31 (H.). **DU.** Lucan Demesne : sweeping under conifers, 26/8/'24 (H.).

A pine-feeding species which has probably been overlooked in many places. The remaining British species *A. mali* Mey., which is chiefly an orchard insect, has not been found in Ireland.

Plagiognathus chrysanthemi Wolff.

SK. and **NK.** Kenmare : 7/'98, *H.*'98. Killarney : 7/'27 (H.). **WC.** and **EC.** Glengarriff : 8/'24. Youghal and Castlemartyr : 8/'33 (H.). **WA.** Waterford district : 9/'29. Dungarvan and Monatray : '33 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **CL.** Limerick and south Clare : 7/'95 (H.). **KK.** Inistioge : 8/'02, *Turner* '03. **WX.** Wexford : 7/'25 (H.). **SG.** and **NG.** Woodford : 8/'01. Galway district : *H.*'95 f. Clonbrock : 6/'96 (H.). **KD.** Sallins : 9/'28 (H.). **WI.** Vale of Clara. Powerscourt : 8/'29. Kilcoole and Greystones : 8 and 9/'28 (H.). **DU.** Lambay : *H.*'07. Sutton and Howth : 8/'28. North Bull. Donabate : 8/'94. Finglas and Glasnevin : 9/'27. Glenageary : 7/'33. Portmarnock : 9/'34 (H.). **WH.** Mullingar : 9/'30 (H.). **SL.** and **LE.** Sligo : common, *H.*'04. Dromahair : 7/'32 (H.). **LH.** Carlingford : *Johnson* '94. **ED.** Coolmore : *Johnson* '94. **AR.** Armagh : *Johnson* '93. **DO.** Belfast! (Buckle). **AN.** Lough Neagh : 8/'02! (Buckle). **LD.** Culmore : 7/'99! (Buckle).

Common and widely distributed from June to October.

Plagiognathus arbustorum Fabr.

SK. and **NK.** Kenmare : 7/'98, *H.*'98. Killarney district : 7/'27. **WC.** Glengarriff : 8/'04. **EC.** Youghal and Castlemartyr : 8/'33. Fermoy : 7/'94 (H.). **WA.** Waterford : 9/'29. Lismore : 7/'94 (H.). **ST.** Clonmel : 7/'28 (H.). **LK.** and **CL.** Limerick and south Clare : 7/'95 (H.). **KK.** Inistioge : 8/'02, *Turner* '03. Glenmore : 9/'29 (H.). **WX.** Wexford : 7/'25 (H.). **NG.** Galway district : *H.*'95 f. Clonbrock : 6/'96 (H.). **KD.** Sallins : 9/'28 (H.). **WI.** Bray and Kilcoole : 8/'27 (H.). **DU.** Tallaght : 9/'91. North Bull : 6/'93. Malahide : 7/'16. Sutton and Howth : 8/'28. Glenageary : 7–10/'33 (H.). **WH.** Mullingar : 9/'30 (H.). **WM.** Westport : 7/'11, *H.*'12. **SL.** Sligo : common, *H.*'04. Lough Gill : *Johnson* '02. **LE.** Dromahair : 7/'32 (H.). **LH.** Dundalk and Carlingford : *Johnson* '94. **ED.** Coolmore and Bundoran : *Johnson* '94. **WD.** Ardara : *Johnson* '93. **AR.** Churchill, Maghery : *Johnson* '93. **DO.** Belfast! (Buckle). **AN.** Shane's Castle : 8/'02! (Buckle). **LD.** Foyle district! (Buckle).

A widely distributed species from June to October.

Chlamydatus pullus Reut.

AN. or **DO.** Lough Neagh (Haliday collection), *H.*'02.

There is a specimen of this species in the Haliday collection, found at Lough Neagh many years ago, and there have been no subsequent records. According to Butler "this insect lives on the ground in dry sandy places at the roots of plants." It is widely distributed in Great Britain and in the Palæarctic Region.

Asciodesma obsoletum Fieb.

SK. Kenmare and Valentia : *Mason* '03. **NK.** Killarney : 7/'27 (H.). **EC.** Youghal : 8/'33 (H.). Fermoy : 7/'94. **WA.** and **ST.** Lismore : 7/'94. Clonmel : 7/'28 (H.). **LK.** Limerick : 7/'95 (H.). **WX.** Wexford : 7/'25. **NG.** and **WG.** Galway district : *H.*'95 f. Recess : 7/'95 (H.). **WI.** Kilcoole and Bray district : 8/'27. Greystones : 9/'33 (H.). **DU.** Dublin district (H.). **SL.** Lough Gill : 7/'32 (H.).

Common on furze (*Ulex*) from July to September.

Asciodesma fieberi D. & S.

SK. Kenmare : 6/7/'99, *Mason* '03.

This is one of the few species which was for long supposed to occur only in the British Isles. It has been found on wych elm and on palings from Devon to Cumberland, and in Austria.

SECTION II.—CRYPTOCERATA.

Family XIII.—NEPIDAE.

Nepa cinerea Linn.

SK. Kenmare : 7/'98, *H.*'98. Loo Bridge : 6/'05 (H.). Valentia (Delap). **NK.** Killarney district : common (Bullock). **WC.** Glengarriff : 5/'93. **MC.** Cork district : 5/'02 (H.). Ballinspitte : 7/'07 (Standen). **LK.** Limerick : 7/'95 (H.). Kilkeely : 8/'34! (O'Mahony). **CL.** Lahinch. **KK.** Thomastown : 7/'01 (H.). **NG.** and **WG.** Galway district (Beirne). Roundstone : 4/'96 (H.). **WI.** Arklow : larva, 7/'26 and 9/'28 (H.). Glencree : 5/'93 (H.). **DU.** Dublin district : *Johnson* '94. Howth : Black Valley, 4/'23. Royal Canal : 4/'93. Ponds at Glenageary : 9/'34, and Kill of the Grange : 6/'34 (H.). **WM.** Clare and Achill Islands : 6/'09. Louisburgh and Westport : *H.*'12. Belclare : larva, 7/'10 (H.). Inisturk (Praeger). Ballymote. **SL.** and **LE.** Sligo and Dromahair districts : larva, 7/'32 (H.). **CV.** Lough Oughter : 10/'93, *Johnson* '94. **ED.** Coolmore : *Johnson* '94. Foyle district : (Buckle). **WD.** Rosapenna : *H.*'10. **AR.** Armagh : *Johnson* '93.

This insect, known as the "Water Scorpion," is common and generally distributed in Ireland.

Family XIV.—NAUCORIDAE.

Aphelochirus aestivalis Fabr. forma *montandoni* Horv.

ST. Clonmel : River Suir near Kilsheelan, close to the Poulnakerry Rapids, larvae, 31/8/'31, *Pearce* '31. **QC.** River Nore south of Abbeyleix : 8/10/'26 (Stelfox). **KD.** River Barrow at Monasterevan : 29/9/'06 (H.). **DU.** In drains by the Grand Canal between Clondalkin and Inchicore, larva and adult, 12/8/'06 (H.). **AR.** Lough Neagh : bay between Ardmore Point and Reedy Island, living and dead specimens, 12/10/'02 (*Buckle Diary*). Ardmore : "only a dead and broken specimen could be found," 6/'02, *Kemp* '02. **AN.** Lough Neagh near Toome : larva (Welch), *H.*'02. Glenavy : larva, 5/'01 (H.). In same place, many dead specimens, 26/9/'01 (*Buckle Diary*). Sandy Bay, Lough Neagh : a large number of dead specimens washed up on shore, *Buckle* '02. Shane's Castle : dead specimens common in drift on shore, 9/8/'02 (*Buckle Diary*).

The first Irish specimen of this local species was dredged many years ago by Mr. R. Welch near Toome at the northern extremity of Lough Neagh. We know nothing of the conditions under which it lives in the lake; it must, however, be common there, as numbers of dead specimens

have been found washed up after high floods, especially on the eastern shores. Elsewhere in Ireland it occurs in three of our largest southern rivers, the Suir, the Nore, and the Barrow. In the Dublin district I have found it in one of the drains connected with the Grand Canal; these are known locally as "back-drains" and they carry off overflow water between the canal loughs. At times there is a considerable rush of water through these drains when they resemble rapid streams, harbouring such plants as *Ranunculus penicillatus* and *Potamogeton densus*, as well as a few species of fresh-water mollusca, isopods, and insects. I do not know of any other Dublin locality, so that the insect may have found its way from the River Barrow which flows under the canal at Monasterevan.

The winged form of *montandoni* Horv. has not been found in Britain. It is a rapid swimmer and appears to favour running water, frequenting mill ponds, streams, and rivers in localities ranging from Somerset to Yorkshire, Central Europe, and Northern Russia.

Family XV.—NOTONECTIDAE.

The three insects known as *Notonecta furcata* Fabr., *N. maculata* Fabr., and *N. marmorea viridis* Dele., were for long recorded as varieties of the common *N. glauca* Linn. There are reasons, however, for treating these as distinct species, one being the fact that no intermediate forms occur, at least in Western Europe. On this point Mr. J. Edwards writes: "It does not appear that there is any reason for assuming that the laws of heredity are suspended in the case of *Notonecta*; and there is no advantage in continuing to attribute to *N. glauca* a degree of variability that it does not possess."

The absence of *N. maculata* from Ireland, which has yet to be proved, would be additional evidence in favour of treating it as a distinct species.

Notonecta glauca Linn.

SK. Kenmare: 7/'98, *H.*'98. **NK.** Killarney district: common (H. and Bullock). **MC.** Cork: 5/'02 (H.). **EC.** Youghal marshes: 8/'33 (H.). **WX.** Wexford: 7/'00. Kilmore Quay: 8/'31 (H.). **QC.** Dun Brin: River Barrow, 9/'28 (O'Mahony). **WG.** Clifden: 8/'34. Roundstone: 4/'96 (H.). **EG.** Galway: (H.). **WI.** Murragh. Kiltimon: 9/'34 (H.). Lough Ouler, Tonelagee, 1,868 ft. (Stelfox). **DU.** Dublin district: Johnson '94. Ponds at Howth and Sutton: 5/'23. Raheny: 6/'34. Donabate: 10/'27. Glenageary: 9/'34. Kill of the Grange: dark var., 9/'33 (H.). **WH.** Mullingar: 5/'01 (H.). **WM.** Westport and Louisburgh: *H.*'12. **SL.** and **LE.** Sligo district: 7/'04, *H.*'04. Dromahair: 7/'31 (H.). **CV.** Cavan: Lough Oughter, 10/'93, Johnson '94. **ED.** Ardara: Johnson '93. Coolmore: Johnson '94. Foyle district (Buckle).

AR. Clonmacate, Lough Neagh (Johnson). Slieve Gullion: 1,800 ft., H.'93. **AN.** Ballycastle: 9/'06 (H.).

The "water boatman" is a common and widespread species in Ireland. Specimens in which the elytra are more or less spotted, resembling *N. maculata* Fabr., occur; I have found some very dark forms in rank muddy ponds in the Dublin district.

Notonecta furcata Fabr.

SK. Kenmare: 7/'98, H.'12. **NK.** Killarney district, H. and Bullock. **WX.** Courtown: 5/'99. Killurin: 8/'25 (H.). **WG.** Roundstone: 4/'96. Bog pools near Clifden: 8/'34 (H.). **WI.** Ballyknockan Bog: common, 8/'04, H.'12. **DU.** Dublin district: occurs in boggy places, H.'08. **WM.** Clare Island: 6/'09. Louisburgh and Westport: 7/'10, H.'12. Caher Island. **ED.** Bundoran: 9/'08, H.'12. Foyle district (Buckle). Carrablagh, Lough Swilly: 12/'00 (Hart). **WD.** Bunbeg. **DO.** Bangor (H.'12).

Locally common and seems to occur most frequently in pools in bog lands, sometimes to the exclusion of the common *N. glauca* Linn.

[*Notonecta maculata* Fabr.]

The dark form of *N. glauca* in which the elytra are more or less mottled with black has evidently been mistaken for this species in Ireland. The records Clonmacate and Lough Oughter, Johnson '93 and '94, should refer to *N. glauca*. I have not been able to trace the Waterville specimens collected by Yerbury and recorded by Distant '02; there may have been an error also in this case. It is likely, however, that the species will eventually be found here, as it is widely distributed in England. Apart from the black marking on the hemelytra *N. maculata* Fabr. may be recognised by the orange-yellow metanotum, in *N. glauca* and its varieties this is always black, (See Edwards, *Entom. Mo. Mag.*, 1918, p. 58.)]

Notonecta marmorea viridis Delc.

WX. Pool at Ballyteige Burrows near Kilmore Quay: 26/8/'31 (H.).

The only locality known to me for this unrecorded Irish species is a Chara-pool beside the Ballyteige dunes on the south coast of Wexford. The water was slightly brackish, and with the exception of some water beetles such as *Coelambus inaequalis*, *Hydroporus palustris*, and the local *Agabus conspersus*, there was little to be found in the pool. The late J. Edwards described this species as new (*N. halophila* Edw.) in his paper⁹ on the genus *Notonecta* from specimens collected in the south of England. Some of these were examined by M. Raymond Poisson,¹⁰ who

⁹ *Entom. Month. Mag.*, liv, 1918, p. 58.

¹⁰ *Bull. Soc. Entom.*, France, 1925, 256.

states they are identical with *N. viridis* Delcourt, which is known to occur in brackish water in north-western France and in Holland. It is now regarded as a form of *N. marmorea* Fabr., a non-British species "widely distributed in fresh-water throughout the Mediterranean region, and extends through Palestine and Crimea to Persia and Transcaspia."

N. marmorea viridis has been found in a few south of England localities ranging from Norfolk to Cornwall, and there seems little doubt, as has been pointed out by Mr. W. E. China (1930), that it is a species of Lusitanian origin.

Plea minutissima Fabr.

NK. Streamlet near Gallerus Sands: *Haliday and Hogan*, 1855 b. Ventry: in a small stream, 31/5/'94 (H.). Killarney: Ardagh Lough, 5/'26 (Bullock). **MC.** Cork (*Haliday MS.*). **EC.** Youghal marshes: 7/'07 (Standen). 8/'33 (H.). **WX.** Common in pools on marsh land south of Wexford: larva and adult, 8/'25. Pond at Courtown Harbour: 24/5/'99. Ballyteige marsh: 19/5/'34 (H.). **WG.** Roundstone: Cregduff Lake, 5/4/'96 (*H.'12*). **WI.** Arklow marsh: 9/'28 (H.). **SL.** Lough Gill: 7/'04, *H.'04*. **DO.** Newcastle: 8/'02 (H.). **LD.** River Faughan: 4/8/'99 (*Buckle Diary*).

Widespread though rather local, and usually found in stagnant water near the sea coast.

Family XVI.—CORIXIDAE.

The genus *Corixa* is well represented in Ireland, we have at least twenty-five of the recorded British species which number thirty-one, and two of the latter are probably only aberrant forms. It is likely that the majority of the Irish species will prove to be common and generally distributed, even in the case of local species of which there are few records such as *C. limitata* Fieb. and *C. venusta* D. & S., a wide range is indicated. The following would seem to be really local:—*C. dentipes* Thoms., *C. scotti* Scott (lakes in the north and west), *C. concinna* Fieb., and *C. cavifrons* Thoms. (Killarney).

Corixa geoffroyi Leach.

NK. Killarney district: April to November (Bullock). **EC.** Youghal: 8/'33 (H.). **QC.** River Barrow at Lough Brin: 9/'28 (O'Mahony). **WG.** Galway district: 9/'05 (H.). **WI.** Murragh of Wicklow (H.). **DU.** Bog of the Ring: 9/'02. Ponds at Glenageary: 7/'34. Kill of the Grange: 9/'34. Sutton: 9/'34, and Donabate: 10/'29 (H.). **RO.** Mote Park: 6/'97 (H.). **WM.** Clare and Achill Islands: *H.'12*. **ED.** Coolmore: Johnson '94. Foyle district: 3/'99 (Buckle). **WD.** Ardara (Johnson).

Bunbeg : **H.**'10. **AR.** Armagh : common, *Johnson* '93. **DO.** Lagan Canal near Belfast (Buckle), **H.**'02. **AN.** Toome (H.). **LD.** Culmore Moss : 4/'99 (Buckle).

A widely distributed species which is usually very common where it occurs.

Corixa dentipes Thoms.

NK. Killarney : in a small pond-like lake close to Lough Loosecaunagh in the Upper Lake region, *Bullock* '28. **DU.** Dublin district : ♂, exact locality unrecorded (H.). **AN.** Lough Beg on the River Bann near Toome : ♀, 15/8/'03 (H.).

Recorded as a British species by Mr. W. E. China from a Lincolnshire specimen found by Mr. J. E. Mason as long ago as 1887.¹¹ The species closely resembles *C. geoffroyi* Leach, from which it is easily recognised by the structure of the second pair of legs. In the same year (1928) Mr. E. Bullock found it in a small lake "full of black peaty mud" on boggy ground where he has since taken it in numbers during the months of May, September, and October. The Lough Beg specimen is a female, showing the sinuate base of the tibia and the markings of the upper surface are less indistinct than is usual in *dentipes*.

Though local this species is being brought to light in various localities, and it is now definitely recorded from Essex, Cambridge, Norfolk, Lincoln, Stafford, and as far north as Cumberland. The Continental range is extensive including Scandinavia, Central Europe, Russia, and Siberia.

Corixa panzeri Fieb.

NK. Killarney district : May, June, and September (Bullock). **WX.** Wexford district : 8/'25. Ballyteige : 8/'31 (H.). **EG.** Galway district : 7/'04. **WG.** Tonabrocky : 9/'05. Lakes at Roundstone and Clifden : 8/'34 (H.). **DU.** Ponds at Raheny, Sutton, Glenageary, and Kill of the Grange : May to September (H.). **SL.** Rosses Point : 7/'04 (H.). **WD.** Milford district : 9/'06 (H.).

This species has been confused with the following (*C. affinis*) in collections; probably they are generally distributed in Ireland. In the Foyle district of Donegal *C. affinis* seems to be the prevalent form; while on a recent visit to Connemara only *C. panzeri* occurred. I have found both species living in the same ponds in county Dublin.

Corixa affinis Leach.

NK. Killarney district (Bullock). **SG.** Lough Rea : 9/'19! (Phillips). **DU.** Ponds at Glenageary and Kill of the Grange : among Elodea, 9/'34

¹¹ *Entom. Month. Mag.*, lxiv, 1928, p. 85.

(H.). **WH.** Mullingar : 5/'01 (H.). **ED.** Coolmore (Johnson). Foyle district : 4/'90. Quigley's Point : 2/'99. Kilderry : 4/'99! (Buckle collection). **LD.** Culmore Moss : 5/'99! (Buckle).

Corixa lugubris Fieb.

SK. Kenmare : 7/'98 (H.). **EC.** Youghal marshes : 8/'33 (H.). **WA.** Waterford : 9/'29. Tramore saltmarsh, 7/'01 (H.). **WX.** Wexford saltmarsh : 8/'25. Ballyteige : brackish water, 8/'31 (H.). **SG.** Ardfry : 6/'16 (H.). **DU.** Ponds at Donabate : 10/'27. Sutton : brackish, 9/'34. Glenageary : 7/'34 (H.). **ED.** Swamp at Tullyarden and Ballygarnet : 4/'99. Shore at Quigley's Point : 2/'99. Mearingland River : 3/'99 (Buckle).

In common with *C. heiroglyphica* this species is partial to brackish water, though both have been found at inland localities.

Corixa heiroglyphica Duf.

NK. Killarney : common in Ballast Pit, February to November (Bullock). **EC.** Youghal marshes : 8/'33 (H.). **SG.** Ardfry : 6/'16 (H.). **NG.** Clonbrock : 6/'96 (H.). **DU.** Dublin district : ponds at Raheny : 4/'99. Portmarnock : 9/'03. Malahide : pool on dunes, 4/'99 (H.). **ED.** Foyle district : bog hole at Kilderry : 4/'99. Ballygarnet Swamp : 5/'99. Mearingland River : 3/'99 (Buckle collection). **LD.** Culmore Moss : 4/'99 (Buckle).

Corixa sahlbergi Fieb.

SK. Kenmare : Cloonee Lakes, *Mason* '03. **NK.** Killarney district : March to November (Bullock). **EC.** Youghal marshes : 8/'33 (H.). **LK.** Limerick : Kiltealy, 8/'34! (O'Mahony). **WX.** Wexford district : 7/'25. Ballyteige : 8/'31 (H.). **NG.** Clonbrock : 6/'96 (H.). **WI.** Kilmacanogue : 7/'34. Kiltimon : 9/'34 (H.). **DU.** Dublin : ponds at Donabate, 1/'27. Kilbarrack : 6/'25. Kill of the Grange : 9/'34. **WM.** Clare Island : H.'12. **CV.** Lough Oughter : 10/'93 (H.). **ED.** Foyle district : Roosky, 2/'99. Quigley's Point, 2/'90. Tullyarden, 4/'99. Kilderry, 4/'99. **WD.** Ardara : 8/'92, *Johnson* '93. **AR.** Armagh : *Johnson* '93. **DO.** Holywood : *Johnson* '93. Lagan Canal near Belfast (Buckle). Bangor (Wyse). **AN.** Ballycastle : 9/'06 (H.). Belfast Waterworks : 6/'00 (Buckle). **LD.** Culkeeragh : 4/'99 (Buckle).

Common and widely distributed and often found in company with the following species.

Corixa linnaei Fieb.

SK. Kenmare : 7/'98, H.'98. **NK.** Dingle : 6/'94 (H.). Killarney : Ardagh Lough (Bullock). **EC.** Youghal marshes : 8/'33 (H.). **LK.** Lough

Gur: 6/'03 (H.). **WX**. Wexford district: 8/'25. **WG**. Lakes near Clifden and Roundstone: 8/'34 (H.). **NG**. Clonbrock: 6/'96 (H.). **WI**. Arklow marsh: 7/'26 (H.). **DU**. Ponds at Raheny, Sutton, Gollierstown, Kill of the Grange, May, June, and September (H.). **SL**. Ballysadare: 7/'04, *H.'04*. **AR**. Armagh: 9/'91, *Johnson '93*. **DO**. Lagan Canal near Moira: 6/'00 (Buckle). **ED**. Foyle district: Mearingland River, 3/'99 (Buckle). **AN**. Ballycastle: 9/'06 (H.). **LD**. Culkeeragh ponds and Culmore Moss: 4/'99 (H.).

Common and widely distributed. The Continental range extends to Siberia and N. America.

Corixa limitata Fieb.

NK. Killarney: Ardagh Lough (Bullock). **ED**. Foyle district: Ballygarnet, Pool at Muff, Mearingland River, March and April (Buckle). **DO**. Newcastle: *H.'02*.

There are few Irish records of this species and doubtless it has been overlooked. It is widespread in England ranging north at least to Cumberland.

Corixa semistriata Fieb.

SK. Kenmare. **NK**. Killarney district: March to November (Bullock). Dingle: 5/'94 (H.). **EC**. Youghal marshes: 8/'33 (H.). **WX**. Kilmore Quay: 8/'31 (H.). **WG**. Ross: 9/'05. Lakes near Clifden and Roundstone: 8/'04 (H.). **NG**. Clonbrock: 6/'96 (H.). **WI**. Glendalough: 4/'08 (H.). **DU**. Ponds at Donabate: 10/'27. Howth: 4/'23. Kill of the Grange: 9/'34 (H.). **RO**. Mote Park: 7/'04, *H.'04*. **WM**. Clare Island: *H.'12*. **SL**. Ballysadare: *H.'04*. **ED**. Foyle district: common, February to April (Buckle). **WD**. Milford: lakes, 9/'06 (H.). **AR**. Armagh: 4/'90 *Saunders '92*. **LD**. Culkeeragh ponds: 5/'99, and Culmore Moss: 5/'99 (Buckle).

A common and widely distributed species in Britain.

Corixa venusta D. & S.

NK. Killarney district: October and November (Bullock). **NG**. Clonbrock: 6/'96 (H.). **WI**. Glendalough: 4/'08 (H.). **ED**. Coolmore (Johnson). Foyle district: Quigley's Point, Mearingland River, Roosky, February and March (Buckle). **WD**. Ardara: *Johnson '93*. **AR**. Armagh: Slieve Glah. **DO**. Holywood: *Johnson '93*. Newcastle (Champion), *Saunders '92*. **LD**. Culmore Moss (Buckle).

Apparently rather a local species. It is said to inhabit running water in streams, so that it may have been overlooked in this country.

Corixa striata Linn.

SK. Kenmare: *H.*'98. **NK.** Dingle (H.). Killarney: April to November (Bullock). **EC.** Youghal 8/'33 (H.). **LK.** Limerick: 8/'34 (O'Mahony). **WX.** Ponds south of Wexford and Ardecahan: 8/'25 (H.). **QC.** River Barrow at Dun Brin: 9/'28! (O'Mahony). **WG.** Lakes at Clifden and Roundstone: 8/'34 (H.). **NG.** Clonbrock: 6/'96 (H.). **WI.** Arklow marsh: 7/'26. Devil's Glen: 5/'20. Kiltimon: 9/'34 (H.). **DU.** Ponds at Portmarnock, Raheny, Kilbarrack, Bog of the Ring, Donabate, Lucan, Kill of the Grange, and Glenageary, March to October. Royal and Grand Canals (H.). **WH.** Mullingar lakes: 5/'01 (H.). **WM.** Clare Island, Louisburgh, and Westport: *H.*'12. **SL.** Sligo district: common, *H.*'04. **CV.** Lough Oughter: 10/'93 (H.). **ED.** Foyle district (Buckle). **WD.** Lakes at Milford: *H.*'10. **DO.** Holywood: *Johnson* '94. Lagan Canal. Belfast Waterworks: 6/'00 (*Buckle Diary*). **AN.** Lough Neagh: Toome, 6/'02 (H.). **LD.** Lough Enagh: 4/'99. Culmore Moss: 4/'99 (*Buckle Diary*).

Generally distributed and probably the commonest species of the genus in Ireland, occurring both in stagnant and slow-flowing water. Palæartic and Nearctic Regions.

Corixa distincta Fieb.

NK. Killarney district: Ballast Pit. Bog pond at Derrycunihy, dark form, February to November (H. and Bullock). **EC.** Youghal marshes: 8/'33 (H.). **NG.** Clonbrock: 6/'96 (H.). Clonbur! (Scharff). **WG.** Galway district: common. Lakes at Roundstone and Clifden: 8/'34 (H.). **DU.** Dublin: ponds at Kill of the Grange: 6/'34. Glenageary and Lucan: 9/'34 (H.). **WH.** Mullingar: 5/'01 (H.). **WM.** Clare Island, Castlebar, and Westport: *H.*'12. **SL.** Ballysadare: 7/'32 (H.). Lakes at Rosses Point: 7/'04, *H.*'04. **LE.** Dromahair: 7/'32 (H.). **ED.** Foyle district: February and April! (Buckle). **WD.** Ardara: 8/'92, *Johnson* '93. Milford: 9/'06 (H.). **AR.** Armagh: 9/'91, *Johnson* '93. Tanderagee: 8/'03 (H.). **DO.** Newcastle (Champion), *Saunders* '92. **AN.** Lough Neagh at Toome. Belfast: 6/'00 (*Buckle Diary*). **LD.** Lough Enagh: 4/'99, and Culmore Moss: 4/'99 (*Buckle Diary*).

Corixa fallenii Fieb.

NK. Killarney: Ballast Pit, Aug. to Oct. (Bullock). **LK.** Lough Gur: 6/'08 (H.). **WX.** Wexford: River Slaney: 7/'25 (H.). **QC.** River Barrow at Dun Brin: 9/'28! (O'Mahony). **WG.** Lakes near Galway and Moycullen: 9/'05 (H.). **KD.** Kilecock: Royal Canal, 6/'02 (H.). **DU.** Ponds at Raheny, Bog of the Ring, and Lucan, June and September. Royal Canal: 4/'94 (H.). **ME.** River Blackwater: 4/'32! (O'Mahony).

WH. Athlone: 7/'99, and Mullingar: 7/'01 (H.). **WM.** Achill and Louisburgh: H.'12. **SL.** Ballysadare: H.'04. **ED.** Foyle district: (Buckle). **WD.** Ardara: 8/'92 (Johnson). **AR.** Armagh: *Johnson* '93. Tanderagee: 8/'03 (H.). **AN.** Toome, Lough Neagh: 10/'02 (Buckle). **DO.** Newcastle (Champion). Belfast: 6/'00 (Buckle). **LD.** Lough Enagh: 4/'99 (*Buckle Diary*).

Corixa moesta Fieb.

SK. Kenmare: Cloonee Lakes, *Mason* '03. **NK.** Killarney (Bullock). **LK.** Lough Gur: ♀, 6/'03 (H.). **DU.** Kill of the Grange: ♂, 6/'34. Portmarnock sandhills: ♀, 9/'03 (H.). **ED.** Kilderry: in bog pools, ♀, 4/'99 (Buckle). **LD.** Culmore Moss: ♀, 4/'99 (Buckle).

Little is known of the occurrence of this species, as the majority of the specimens named "moesta" in collections are *C. castanea* Thoms. This applies to the following records:—Armagh: *Johnson* '93. Clare and Achill Islands: H.'12, and probably to Kenmare: *Mason* '03. It is desirable that records based on female specimens should be verified by the finding of the male.

Corixa castanea Thoms.

SK. Kenmare: 7/'98 (H.). **NK.** Killarney: 6/'05 (H.), **WG.** Lakes near Clifden and Roundstone: 8/'34 (H.). **WI.** Glendalough: 4/'08 (H.). **WM.** Clare and Achill Islands: 8/'09 (H.). **ED.** Foyle district: Ballyargus and Drung: 2/'09! (Buckle). Bundoran (H.). **WD.** Milford district (H.). **AR.** Loughgilly! (Johnson). **AN.** Ballycastle: 9/'06 (H.). **LD.** Culmore Moss! (Buckle).

In a recent paper¹² Mr. W. E. China records the occurrence of two species under the name "*C. moesta*" in collections, the second one being *C. castanea* Thoms. Both of these species occur in Ireland, and as far as can be judged from the limited number of specimens the latter is the more prevalent. It is also more widely distributed in Britain, ranging from Dorset to Scotland.

Corixa fossarum Leach.

NK. Dingle: 6/'94 (H.). Killarney district: common March to May, and Sep. to Nov. (Bullock). **SG.** Woodford: 8/'01 (H.). **WG.** Ross and Moycullen: 9/'05. Lakes near Clifden and Roundstone: 8/'34 (H.). Recess (Dillon). **NG.** Clonbrock: 6/'96 (H.). **KC.** River Blackwater: 4/'32! (O'Mahony). **WI.** Wicklow (H.). **DU.** Ponds at Raheny, 6/'94. Glenageary, 7/'34. Kill of the Grange, 9/'34. Royal Canal, 8/'00 (H.).

¹² A New Addition to the British List of Corixidae. *Entom. Mo. Mag.*, lxix, 154 (1933).

WH. Athlone: 6/'99 (H.). **WM.** Clare Island and Castlebar: *H.*'12. **SL.** Ballysadare and lakes at Rosses Point: *H.*'04. **ED.** Foyle district (Buckle). **AR.** Armagh: *Johnson* '93. **DO.** Lagan Canal near Belfast (Buckle): *H.*'02. **AN.** Toome (H.).

Corixa scotti Scott.

SK. Kenmare: 7/'98 (H.). **NK.** Lough Crineacum: 5/'05, *H.*'12. Dingle: 6/'94. Killarney: 6/'05 (H.). Lakes! (Bullock). **LK.** Lough Gur: 6/'03 (H.). **WG.** Lakes at Clifden and Roundstone: 8/'34 (H.). **NG.** Clonbur: 9/'05! (Scharff). **ED.** Foyle district: Roosky, 2/'99. Ballygarnet Swamp: 4/'99. Quigley's Point: 2/'99 (Buckle collection). **WD.** Milford district: Cratlagh and Tawny Lough, *H.*'12. **DO.** Lagan Canal near Belfast: 6/'00! (Buckle collection). **AN.** Ballycastle: lakes at Fair Head, 9/'06, *H.*'12.

Occurs in lakes in the north and west of Ireland. As a rule there are five lines on the pronotum, and sometimes there is a faint indication of a sixth. I have also seen one or two specimens with only four clear lines, but this form must be very rare. The species has been recorded from N. Britain and ranges into the south-western parts of England. Apparently it is little known on the Continent; Butler mentions France only.

Corixa nigrolineata Fieb.

NK. Dingle: 6/'94 (H.). Lough Eighter, 1,550 ft., *Scharff and Carpenter* '99. Killarney: common, March to May and Nov. (Bullock). **WA.** Waterford, *Power* '78. **LK.** Limerick: 8/'34 (O'Mahony). **WX.** Ballyteige Burrows: 5/'34 (H.). **WI.** Glendalough: 4/'08. Kippure: 6/'02. Kiltimon: 9/'34 (H.). **DU.** Pools by the Dodder at Tallaght: 5/'93 (H.). **WH.** Mullingar: 7/'06 (H.). **WM.** Clare Island: dark form in peaty lakes, *H.*'12. **CV.** Lough Oughter: 9/'93 (H.). **ED.** Foyle district: common, Feb. to May (Buckle). **DO.** Holywood, *Johnson* '93. Mourne mountains. **AR.** Armagh, *Johnson* '94. Newtown Hamilton, *Johnson* '93. **LD.** Culkeeragh and Culmore Moss: 4/'99 (Buckle).

Corixa praeusta Fieb.

NK. Killarney: Ballast Pit and Ardagh Lough, Aug. to Oct., with *v. wollastoni* (Bullock). **NG.** Clonbrock! (Dillon). **WG.** Lakes near Clifden and Roundstone: typical form common, 8/'34 (H.). **WI.** Lough Bray: *v. wollastoni*. Kiltimon: 9/'34 (H.). Liffey Head: 1,680 ft., *v. wollastoni*, 9/'25! (Stelfox). **DU.** Ponds at Raheny: 5/'94. Bog of the Ring: 9/'02. Glenageary: 9/'34. Portmarnock (H.). Seapoint: flying to light, 10/'33! (Beirne). **WH.** Athlone: 6/'99 (H.). **WM.** Clare Island and Achill, *v. wollastoni*, *H.*'12. **ED.** Foyle district: Mearingland River, 3/'99. Scalp mountain, 5/'99, *v. wollastoni* (Buckle). **WD.** Ardara:

v. *wollastoni* (Johnson). Lakes near Milford: 9/'06 (H.). **AR.** Armagh: Newtown Hamilton: v. *wollastoni*, Johnson '93. **DO.** Newcastle: v. *wollastoni* (Haliday collection). Lagan Canal: 6/'00 (Buckle), H.'02. **AN.** "Lough Neagh D. & S." (Haliday ms.). Lisburn: 6/'00 (Buckle). **LD.** Lough Enagh: 4/'99. Culmore Moss: 4/'99. Culkeeragh: 5/'99, v. *wollastoni*! (Buckle).

Common and widely distributed. The variety *wollastoni* D. & S. occurs in many localities, especially in upland districts.

Corixa concinna Fieb.

NK. Killarney: Ballast Pit and Ardagh Lake, April, and Sep. to Oct. (Bullock). **WA.** Tramore: 7/'01 (H.). **SG.** Ardfry: 6/'16 (H.). **ED.** Mearingland River: 3/'99 (Buckle). **AN.** Glenavy, Lough Neagh: 6/'02 (H.). **LD.** Culkeeragh Ponds: 5/'99. Culmore Moss: 4/'99 (Buckle).

Evidently one of our rarer species, and as yet there are no records from the province of Leinster.

[*Corixa carinata* Sahlb.]

"Ireland, *Haliday coll.*" *Saunders* '92. "Newcastle, Ireland, *Champion*," *Saunders* '92. Ardara, Donegal: *Johnson* '93 (= *C. germari* Fieb.). "It is recorded also (doubtfully) from Ireland," *Butler* '23.

It is probable that all of these records should refer to *C. germari* Fieb.]

Corixa germari Fieb.

NK. Killarney: Ballast Pit, Sep. and Oct. (Bullock). **SG.** Ardfry: 6/'26 (H.). **DU.** Raheny ponds: 5/'28 (Bullock). **WM.** Lakelets in N.E. Achill: 6/'09, H.'12. **SL.** Pools on the shore of Lough Gill: 7/'04, H.'12. **ED.** Foyle district: Mearingland River: 3/'99 (Buckle). **WD.** Ardara: Killystewart, 7/'92, H.'12. Lakes near Milford: 9/'06 (H.). **AN.** Lough Neagh at Toome and Shane's Castle. **LD.** Lough Enagh: 4/'99. Culmore Moss: 5/'99 (Buckle).

Found locally in lakes and ponds, chiefly in northern localities. On the distribution of this species Mr. W. E. China remarks: "recorded from Alaska, also occurs in both Ireland and Scotland and in north-western England, while in Europe it is reported only from Germany and Sweden" (1930).

Corixa cavifrons Thoms.

NK. Killarney: at Derrycunihy in May, June, and October, 1929 (Bullock).

The discovery of this alpine species is due to Mr. E. Bullock, who found it in some numbers in a bog pond. The Killarney specimens that I have seen are referable to the dark form found in the Scottish highlands, though

the legs are pale coloured, not "more or less black," as described by Butler. The species has also been recorded from England (Hants, Cambs, and Westmorland), where it is represented by a smaller and narrower form with distinct markings on the upper surface.

The dark form is "widely distributed in the mountains of Scotland, while elsewhere it occurs in Sweden, Lapland, Arctic Russia, and the mountains of Central Europe and Greece" (*China*, 1930).

Corixa bonsdorffi Sahlb.

SK. Kenmare. **NK.** Killarney: Ballast Pit, Ardagh, and Guitane Bog, April to June, and Sep. to Nov. (Bullock). **LK.** Lough Gur: 6/'02 (H.). **WG.** Galway: *H.*'12. Lakes at Ross, Tonabracky, and Moyeullen, 9/'05. Clifden and Roundstone: common, 8/'34 (H.). **KD.** Royal Canal at Kilcock: 6/'02 (H.). **DU.** Dublin: common in Royal Canal, 4/'99, *H.*'08. Gollierstown ponds: 3/'99 (H.). **WH.** Westmeath, *H.*'12. Athlone: 7/'99. Mullingar lakes: 5/'01, *H.*'12. **WM.** Clare and Achill Islands and Westport: *H.*'12. **SL.** Lakes at Rosses Point: common, 7/'04, *H.*'04. **AR.** Armagh (Johnson). **AN.** and **DO.** "Occurs plentifully at the Belfast end of the Lagan Canal," 6/'00, *Buckle* '02. Lough Gullion: 10/'02 (Buckle). Toome, L. Neagh (H.).

Widely distributed and common where it occurs.

"In county Dublin it is abundant in the Royal Canal, along which it has evidently made its way from the Mullingar lakes, where it is quite common. The nymph of *C. Bonsdorffi* is rather a distinctively coloured insect. It is of a delicate greenish white, the apical margins of the body-segments and the connexivum are brown, and the lateral margins of the wing-pads are orange-yellow. Both the notum and wing-pads are clothed with long black hairs" (*H.*'12).

Micronecta minutissima Linn.

NK. Auniscaul lake: 5/'94 (H.). Stream at Gap of Dunloe: 7/'27 (H.). **WA.** Blackwater at Lismore: 7/'94, *H.*'95 a. **WG.** Cregduff Lough near Roundstone: 5/'96, *H.*'12. **DU.** Killiney and Glasnevin (*Haliday MS.*). Grand Canal: 9/'00 (H.). **SL.** Lough Gill: *H.*'04. Ballysadare: 4/'01 (H.). **ED.** Tullyarden Moss: 8/'99 (*Buckle Diary*). **WD.** Coolmore: *Johnson* '94. Mervagh (Johnson). **AN.** Toome: 6/'02 (Buckle). **LD.** River Faughan: 8/'99 (Buckle).

HEMIPTERA HOMOPTERA.

In the following list of the Cicadina and the allied Psyllina that have been found in Ireland there are one hundred and fifty-one species or less than half the number recorded from the British Isles. The writer has

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[2 D]

given some attention to these insects and in their identification, which often presents difficulties, he has had much valuable assistance from the late J. Edwards, F.E.S., who was our leading authority on the group; most of the species, especially in such genera as *Liburnia* and *Athysanus*, have been verified by him. The great majority of the specimens are now in the collection of the Irish National Museum.

Much work remains to be done in this group more especially in ascertaining the range of the species. The available records even of our commonest forms are few in number, and some recently collected material remains to be identified. Under these circumstances it has been considered desirable to restrict this section of the report to a list of the species which certainly occur in Ireland followed by localities for some of the rarer and more interesting forms.

The nomenclature used is that of the Edwards "Catalogue" which was published in 1908.¹³ Many changes have been suggested in recent years chiefly affecting the generic names and their systematic arrangement. There is an advantage, however, in following a catalogue the nomenclature of which agrees largely with Mr. Edwards' monograph on "The Hemiptera Homoptera of the British Islands" (Edwards '96), a standard work in which the species are described and figured; combined with his more recent papers it is still the principal guide for students of the British fauna.

Among the species which are apparently missing from the Irish fauna are a number characteristic of southern England, notably *Cicadetta montana* Scop. (a New Forest insect), *Gargara genistae* Fabr., *Tettigometra impressopunctatus* Sign., and *Ledra aurita* Linn. On the other hand there are in Ireland several uncommon species some of which are of southern origin, the following may be mentioned:—*Issus coleoptratus* Geoffr. (Glengarriff), *Oliarus leporinus* Linn. (Killarney), *Araeopus pulchellus* Curt. (south and west of Ireland), *Delphax lugubrina* Boh., and *Stenocranus longipennis* Curt. (marshes in south-east Ireland).

Such species as have been recorded are mainly to be found in the reports of the Lambay and Clare Island Surveys (H.'06 and '12). They are marked with an asterisk in the following list:—

Family Cercopidae.

* <i>Aphrophora alni</i> Fall.	* <i>P. forma ustulatus</i> Fall.
<i>A. myricae</i> Edw.	* <i>forma leucophthalmus</i> Linn.
<i>A. salicis</i> De G.	* <i>forma gibbus</i> Fabr.
* <i>Philaenus spumarius</i> Linn.	* <i>forma lateralis</i> Linn.

¹³ Catalogue of the British Hemiptera. Heteroptera by E. Saunders, F.R.S. Homoptera by James Edwards, F.E.S. Perth, 1908.

- | | |
|--------------------------------------|---------------------------------|
| *P. forma <i>leucocephalus</i> Germ. | *P. forma <i>lineatus</i> Fabr. |
| * P. forma <i>praeustus</i> Fabr. | * P. forma <i>populi</i> Fabr. |
| * P. forma <i>marginellus</i> Fabr. | P. <i>lineatus</i> Linn. |

Family Jassidae.

- | | |
|--------------------------------------|--|
| *Ulopa reticulata Fabr. | *D. <i>distinguendus</i> Flor. |
| *Megophthalmus seanicus Fall. | *D. <i>socialis</i> Flor. |
| *Tettigonia viridis Linn. | *D. <i>sabulicola</i> Curt. |
| * T. forma <i>arundinis</i> Germ. | D. <i>striatus</i> Linn. |
| *Euacanthus interruptus Linn. | *D. <i>normani</i> Scott. |
| *E. <i>acuminatus</i> Fabr. | D. <i>thenii</i> Scott. |
| *Batracomorphus lanio Linn. | *D. <i>pascuellus</i> Fall. |
| *Oncopsis alni Schr. | D. <i>maculiceps</i> Boh. |
| *O. <i>rufuseulus</i> Fieb. | *D. <i>pulicaris</i> Fall. |
| *O. <i>flavicollis</i> Linn. | *Jassus <i>mixtus</i> Fabr. |
| Macropsis rubi Boh. | *Thamnotettix <i>prasinus</i> Fall. |
| *M. <i>tibialis</i> Scott. | T. <i>dilutior</i> Kbm. |
| *M. <i>impura</i> Boh. | *T. <i>subfusculus</i> Fall. |
| *M. <i>cerea</i> Germ. | T. <i>eruentatus</i> Panz. |
| M. <i>virescens</i> Fabr. | T. <i>splendidulus</i> Fabr. |
| *Idiocerus litoratus Fall. | T. <i>croceus</i> H.S. |
| *I. <i>confusus</i> Flor. | *Limotettix <i>striola</i> Fall. |
| I. <i>albicans</i> Kbm. | L. <i>antennata</i> Boh. |
| *Agallia venosa Fall. | *L. <i>intermedia</i> Boh. |
| *A. <i>brachyptera</i> Boh. | L. <i>lunulifrons</i> Sahlb. |
| *Acrocephalus nervosus Schr. | *L. <i>iv-notata</i> Fabr. |
| *A. <i>limicola</i> Edw. | L. <i>sulphurella</i> Zett. |
| A. <i>tricinctus</i> Curt. | Cicadula <i>metria</i> Flor. |
| *A. <i>albifrons</i> Linn. | C. <i>dahlbomi</i> Zett. |
| A. <i>histrionicus</i> Fabr. | *C. <i>vii-notata</i> Fall. |
| A. <i>flavostrigatus</i> Don. | *C. <i>warioni</i> Leth. (<i>fasciifrons</i> Edw.). |
| *Strongylocephalus agrestis Fall. | *C. <i>vi-notata</i> Fall. |
| Eupelix <i>cuspidata</i> Fabr. | *C. <i>fieberi</i> Edw. |
| E. <i>producta</i> Germ. | Balclutha <i>punctatus</i> Thunb. |
| *Athysanus <i>sordidus</i> Zett. | Alebra <i>albostriella</i> Fall. |
| A. <i>sahlbergi</i> Reut. | *Dikraneura <i>flavipennis</i> Zett. |
| *A. <i>grisescens</i> Zett. | D. <i>citrinella</i> Zett. |
| *A. <i>plebejus</i> Fall. | *Empoasca <i>smaragdula</i> Fall. |
| *A. <i>lineolatus</i> Brulle. | Chlorita <i>flavescens</i> Fabr. |
| *A. <i>obsoletus</i> Kbm. | *C. <i>viridula</i> Fall. |
| var. <i>piceus</i> Scott. | *Eupteryx <i>vittatus</i> Linn. |
| Deltocephalus <i>ocellaris</i> Fall. | E. <i>notatus</i> Curt. |
| D. <i>repletus</i> Fieb. | |

* <i>E. urticae</i> Fabr.	<i>T. lethierryi</i> Edw.
* <i>E. stachydearum</i> Hdy.	<i>T. rosae</i> Linn.
* <i>E. auratus</i> L.	<i>T. quercus</i> Fabr.
<i>E. signatipennis</i> Boh.	<i>T. nitidula</i> Fabr.
* <i>E. pulchellus</i> Fall.	<i>T. geometrica</i> Schr.
<i>Typhlocyba vi-punctata</i> Fall.	<i>Zygina alneti</i> Dahlb.
* <i>T. ulmi</i> Linn.	<i>Z. flammigera</i> Geoffr.
<i>T. tenerrima</i> H.S.	<i>Z. parvula</i> Boh.

Family Fulgoridae.

* <i>Oliaris leporinus</i> Linn.	* <i>Conomelus limbatus</i> Fabr.
* <i>Cixius pilosus</i> Ol.	* <i>C. lepidus</i> Boh.
* <i>C. eunicularis</i> Linn.	* <i>Delphax distincta</i> Flor.
* <i>C. nervosus</i> Linn.	<i>D. signoreti</i> Scott.
* <i>C. stigmaticus</i> Germ.	* <i>D. lugubrina</i> Boh.
* <i>C. brachycranus</i> Scott.	* <i>D. leptosoma</i> Flor.
<i>Issus coleoptratus</i> Geoffr.	* <i>D. pellucida</i> Fabr.
<i>Araeopus pulchellus</i> Curt.	* <i>D. difficilis</i> Edw.
* <i>Megamelus notula</i> Germ.	* <i>D. discreta</i> Edw.
<i>M. iv-maculatus</i> Sign.	<i>D. discolor</i> Boh.
<i>M. fieberi</i> Scott.	* <i>D. forcipata</i> Boh.
<i>Stenocranus minutus</i> Fabr. (<i>lineola</i> Germ.).	<i>D. aubei</i> Perris.
<i>S. longipennis</i> Curt.	* <i>D. fairmairei</i> Perris.
* <i>Kelisia vittipennis</i> J. Sahl.	* <i>Dieranotropis hamata</i> Boh.
* <i>Delphaeinus mesomelas</i> Boh.	<i>Stiroma albomarginata</i> Curt.
<i>Chloriona prasinula</i> Fieb.	<i>S. pteridis</i> Boh.
<i>Euryza lineata</i> Perr.	<i>S. affinis</i> Fieb.

Family Psyllidae.

* <i>Livia juncorum</i> Latr.	* <i>P. forsteri</i> Flor.
* <i>Rhinocola ericae</i> Curt.	* <i>P. betulae</i> Linn.
<i>Aphalara nervosa</i> Forst.	* <i>P. buxi</i> Linn.
* <i>A. exilis</i> Web. & Mohr.	* <i>P. hartigii</i> Flor.
* <i>A. picta</i> Zett.	<i>P. pruni</i> Scop.
* <i>Psyllopis fraxini</i> Linn.	<i>P. nigrata</i> Zett.
<i>Psylla crataegi</i> Schr.	* <i>P. salicicola</i> Forst.
* <i>P. costalis</i> Flor.	<i>P. spartii</i> Guer.
* <i>P. peregrina</i> Forst.	<i>Livilla ulicis</i> Curt.
* <i>P. mali</i> Schindbg. var. <i>viridissima</i> Scott.	<i>Arytaena genistae</i> Latr.
* <i>P. alni</i> Linn.	* <i>Trioza urticae</i> Linn.
	<i>T. galii</i> Forst.

FAMILY CERCOPIDAE.

Aphrophora alni Fall. A large dark-coloured form of this common species, in which the second costal blotch is absent, occurs in marshy places, as at **NK**. Killarney : 7/’27 (H.). **EC**. Youghal : 8/’33, and **DU**. Sutton : 8/’28 (H.). In the west of Ireland I have found the typical form on sweet-gale (*Myrica*) and willows, as well as on alder. It has also been recorded as an injurious species “present in numbers on the tops of potato shoots causing shrivelling and arrest of growth” (*Carpenter* ’16). **Aphrophora myricae** Edw. **WI**. Arklow : common in marshy fields by the Ovoca River, 17/7/’26 (H.). **Aphrophora salicis** De G. **SG**. Woodford : 8/’01 (H.). **NG**. Clonbrock : 6/’96 (H.).

FAMILY JASSIDAE.

Tettigonia viridis Linn. The variety *arundinis* Germ. occurs. There is also a variety which differs from the typical form in having the hinder part of the pronotum black instead of green, and the spots on the head are joined to form a more or less continuous dark band. This variety has been found on lake shores at **WM**. Castlebar : (H.’12), and in **NK**, the Muckross Demesne near Killarney : 8/’25 (H.). **Evacanthus acuminatus** Fabr. **DU**. Dublin : (H.) *Edwards* ’96. **KK**. Inistioge : 8/’02, *Turner* ’03. **AR**. Fathom mountain : (H.) *Johnson* ’94. **AN**. Shane’s Castle at Lough Neagh : 8/’02! (Buckle). **Macropsis rubi** Boh. **WI**. Vale of Clara : 7/’19 (H.). **SG**. Woodford : 8/’01 (H.). **DU**. Howth : 9/’10 (H.). **Macropsis virescens** Fabr. **WC**. Glengarriff : 7/’25 (H.). **WH**. Athlone : 6/’99 (H.). **Idiocerus albicans** Kbm. **CL**. South Clare : 7/’95 (H.). **Agallia brachyptera** Boh. **WC**. Lough Hyne : salt marsh, *Renouf* ’34. **SG**. Woodford : in marshy places on the shore of Lough Derg, 8/’01 (H.). **Acrocephalus limicola** Edw. **WC**. Lough Hyne : salt marsh, *Renouf* ’34. **Acrocephalus tricinctus** Curt. **DO**. Near Templepatrick : 16/7/’00 (Buckle). **Acrocephalus histrionicus** Fabr. **WX**. Ballyteige dunes : (Stelfox). **DU**. North Bull : (H.). **Strongylocephalus agrestis** Fall. **SG**. Woodford : 8/’01 (H.). **NG**. Clonbrock : 6/’96 (H.). **WM**. “Castlebar, Louisburgh, and Westport,” H.’12. **Eupelix cuspidata** Fabr. **WA**. Tramore : 7/’01 (H.). **WI**. Arklow : 7/’26 (H.). **Eupelix producta** Germ. **NK**. Killarney : larva, 7/’27 (H.). **SG**. Dalyston : (Dillon). **WI**. Arklow, 7/’26, and Vale of Clara : 7/’19 (H.). **Athysanus sahlbergi** Reut. **NG**. Clonbrock : 6/’96 (H.). **WI**. Avondale : (H.). **AN**. Portmore : 8/’03 (H.). **Athysanus obsoletus** Kbm. var. *piceus* Scott. **WI**. Vale of Clara : 7/’19 (H.). Roundwood : 9/’09 (H.). **Deltoccephalus ocellaris** Fall. **NG**. Clonbrock : 6/’96 (H.). **Deltoccephalus sabulicola** Curt. **WA**. Tramore : 7/’01 (H.). **WI**. Kilcoole : (H.). **DU**. Portmarnock and North Bull sandhills : (H.). **ME**. Laytown : (H.). **WM**. Louisburgh : H.’12. **Deltoccephalus thenii** Scott. **WM**. Mount

Brown Lough: 7/’11 (H.). **Deltoccephalus maculiceps** Boh. **SG.** Woodford: 8/’01 (H.). **Thamnotettix dilutior** Kbm. **DU.** Howth: 10/’12 (H.). **Thamnotettix cruentatus** Panz. **CL.** South Clare: 7/’95 (H.). **SG.** Woodford: 8/’01 (H.). **WG.** Ballynahinch: 8/’34, and Recess: 7/’95. **NG.** Clonbrock: 6/’96 (H.). **WM.** Achill: Glendarary, 6/’09 (H.). All of these localities are in the West of Ireland. Edwards records it from as far north as Arran, where it was found on heather. **Thamnotettix splendidulus** Fabr. **KK.** Thomastown: 7/’01 (H.). **Thamnotettix croceus** H.S. **DU.** “Dublin district”: (H.). *Edwards* ’96. **Limotettix antennata** Boh. **NK.** Kenmare Demesne: 8/’25 (H.). **WA.** Waterford district: 7/’09 (H.). **WI.** Arklow: 9/’28 (H.). **DU.** Dublin district: (H.). **LH.** Louth: (H.). **Limotettix lunulifrons** J. Sahlb. **WI.** Roundwood: 9/’09 (H.). Ballyknockan: 8/’04 (H.). **AN.** Ballycastle: 9/’06 (H.). This species is not included by Edwards (1908); specimens from these localities were named by him. **Cicadula metria** Flor. **AN.** Portmore Lough: 8/’08 (H.). **Cicadula dahlbomi** Zett. **NK.** Glenear: 6/’06 (H.). **Balclutha punctatus** Thunb. **NK.** Killarney: (Bullock). **WX.** Killoughrum Forest: 20/5/’99 (H.).

FAMILY FULGORIDAE.

Oliarus leporinus Linn. **NK.** Killarney: 7/’98. Common among coarse grass and sweet-gale (*Myrica*) on high ground south of the Upper Lake (H.). **Cixius stigmaticus** Fieb. **WM.** “A specimen of Cixius taken by Mr. C. Morley on Croaghpatrick on heather is referred by him to this species”: H.’12. **Cixius brachycranus** Fieb. **WM.** “A specimen taken by sweeping amongst scrub on the shores of Lough Lannough, at Castlebar, in July”: H.’12. **Issus coleoptratus** Geoffr. **WC.** Glengarriff: 1/8/’24 (H.). A single specimen of this unrecorded species was found under moss growing on an oak tree in the Bantry Demesne near Glengarriff; an unexpected capture, as I had always regarded this species as one not likely to occur in Ireland. The recorded British localities are mainly in the south, and it ranges as far north, at least, as Derbyshire. **Araeopus pulchellus** Curt. **EC.** Youghal marshes: 8/’33 (H.). **WA.** Waterford district: 4/9/’29 (H.). **WX.** Estuarine marsh at Killurin: 31/7/’25 (H.). **SG.** Woodford: 8/’01 (H.). **WG.** Clifden: shore of brackish lake at Ballinaboy, 8/’34 (H.). **WI.** Murragh of Wicklow: 30/8/’27. Kilcoole: 5/8/’27 (H.). Locally common in marshy places on reeds (*Arundo phragmitis*) in the south of Ireland, and as far north as Clifden on the west coast. **Megamelas iv-maculatus** Sign. **DU.** Dublin: Santry, 8/9/’95. Kilbarrack Pits: 18/8/’28 (H.). **Stenocranus longipennis** Curt. **EC.** Youghal marshes: 9/8/’33 (H.). **WI.** Arklow marsh: 16/9/’28. Kilmacanogue: 12/9/’33 (H.). This distinct species occurs very locally in marshes. Edwards records it from a few places in the south of England.

Chloriona prasinula Fieb. **NG.** Clonbrock: banks of the River Suck, 6/’96 (H.). **Euryxa lineata** Perr. **DU.** Dublin district: South cliffs at Howth, 4/6/’09. Dalkey: (H.). **Delphax signoreti** Scott. **DU.** Portmarnock (H.). **ME.** Laytown: 6/’94 (H.). **Delphax lugubrina** Boh. **KK.** Woodstock: 2/7/’01 (H.). **WH.** shore of Lough Derevaragh: H.’06. Apparently a rare species here as well as in England. On the Continent it has been found in damp meadows, and on river banks (in Sweden and Finland) on *Phragmites* and *Carices*. **Delphax aubei** Perris. **WA.** Tramore sandhills: 7/’01 (H.). **DU.** North Bull sandhills (H.). **Stiroma pteridis** Boh. **WC.** Glengarriff: 7/’24 (H.). **WX.** Courtown: 5/’99 (H.). **WI.** Powerscourt Deer Park: 6/’26. Kilmacanogue: 5/’34 (H.). Abundant on young plants of the bracken fern in the last locality.

FAMILY PSYLLIDAE.

Aphalaria nervosa Forst. **EC.** Youghal: 8/’33 (H.). **WI.** Murragh of Wicklow: 8/’27 (H.). **ME.** Laytown: (H.). **DU.** Templeogue: (H.). **Psylla spartii** Guer. **WI.** Drumgoff: 6/’96 (H.). **Livilla ulicis** Curt. **WI.** Ovoca (Haliday Collection). **Arylaena genistae** Latr. **NK.** Muckross: 9/’25 (H.). **WX.** Wexford district: 7/’25. **WI.** Greystones: 8/’33. Roundwood: 9/’09 (H.). On broom.

ADDENDA.

Heterogaster urticae Fabr.

Ireland (Haliday). *Saunders* ’92.

Found by Haliday, and there are two Irish specimens in his collection.

Lasiosomus enervis H.S.

WA. Cappoquin: 15/8/’28! (Stelfox).

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SECTION B.

- p. 52, l. 11 from bottom. *For cultivated wheat read Holcus lanatus.*
- p. 218, l. 10 from bottom, and throughout list. *For Murragh read Murrough.*
- p. 232, l. 10 from bottom. *For Acompus rufipes Wolff read Lasiosomus enervis H.S.*
- p. 234, l. 7. *For Ballyhenry: 16.6.'26 read Glencree: 4.5.'24.*
- p. 331, l. 17 from bottom. *For slightly read slight.*
- p. 378, ll. 18 and 24. *For Table 5 read Table 2.*