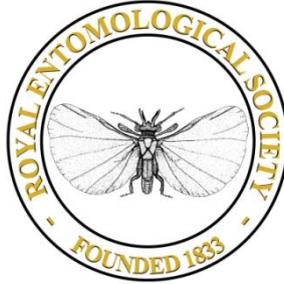


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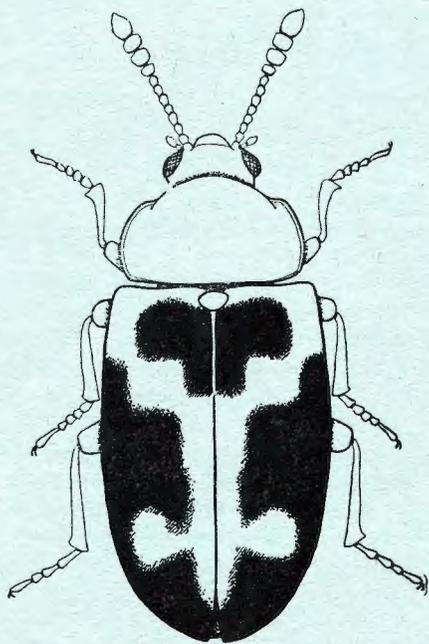
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HANDBOOKS FOR THE IDENTIFICATION OF BRITISH INSECTS



COLEOPTERA

(LAGRIDAE, ALLECULIDAE, TETRATOMIDAE, MELANDRYIDAE,
SALPINGIDAE, PYTHIDAE, MYCTERIDAE, OEDEMERIDAE,
MORDELLIDAE, SCRAPTIDAE, PYROCHROIDAE, RHIPIPHORIDAE,
ANTHICIDAE, ADERIDAE AND MELOIDAE)

By

F. D. BUCK

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INTRODUCTION.

THE families herein dealt with are not in themselves a complete family series but form part of the Heteromera (Cucujoidea, section ii of Crowson), an extremely large group of families distributed throughout the world, though poorly represented in Great Britain. They are very diverse in form, habits and size ; the family series is very complex and the affinities of the individual families are in many instances by no means clear.

ADULT CHARACTERISTICS.

According to Crowson the Heteromera may be defined as follows : tarsi 5-5-4 segmented in both sexes, or 4-4-4 segmented (or 3-4-4 in males, very rarely 3-3-3 segmented) ; front coxae usually projecting, if not trochanters usually of Heteromeroid type and first three visible abdominal sternites connate ; aedeagus never of typical Cucujoid type, usually of characteristic Heteromeroid type ; wings never with more than four anal veins in main group ; met-endosternite usually with narrow stalk and anterior tendons arising from the main arms ; abdomen with seven pairs of spiracles ; maxillae bilobed. The families covered by this work comprise only that part of the Heteromera with 5-5-4 segmented tarsi, excepting the Tenebrionidae.

ADULT HABITS.

The habits of the imagines of these families are as diverse as their form, the majority will visit flowers (some are seldom met away from flowers), some on the foliage of the trees in which their larvae feed, others under bark, in rotten wood, vegetable refuse, grasses and low foliage, and *Metoecus paradoxus* (L.) (Rhipiphoridae) is seldom taken outside the nests of *Vespa* sp. (Hymenoptera).

Though the MELOIDAE are sluggish the greater number are very active, the *Orchesia* (Melandryidae), seldom using their powers of flight, make use of their well developed hind femora to skip about in a most erratic manner.

These insects are diurnal, some even are seldom seen except in bright sunshine ; however the *Prionychus* species are nocturnal and may only be found during the day under bark and in similar places of hiding near their breeding places.

LARVAE.

Crowson characterises Heteromerous larvae as follows : mandibles very rarely with distinct prostheca ; head frequently with distinct median epicranial suture ; maxillary mala obtuse or with spur towards apex of inner edge.

The larvae fall into three main categories :

(1) Those of a regular cylindrical shape with hard integument and without pseudopods (ALLECULIDAE, LAGRIIDAE). Similar in appearance to ELATERIDAE.

(2) With a soft integument (more variable in form) often with pseudopods (OEDEMERIDAE, MELANDRYIDAE, PYROCHROIDAE, etc.).

(3) Those undergoing hyper-metamorphosis, with first instar being campodeiform and becoming modified with ecdysis (MELOIDAE and RHIPIDOPHORIDAE).

A number of different situations may harbour these larvae, rotten and fungal infected wood, fungi, vegetable refuse, under bark, in plant stems and in the nests of wasps and bees.

ACKNOWLEDGMENTS.

My best thanks are due to the Trustees of the British Museum (Nat. Hist.) and Mr. E. B. Britton for facilities afforded ; to the Council and Curator (Mr. F. J. Coulson) of the South London Entomological Society for the loan of material from the Joy collection ; to Mr. A. A. Allen for valuable criticism and other help ; to Mr. R. D. Weal who typed the manuscript and gave useful criticism and many others who have rendered assistance.

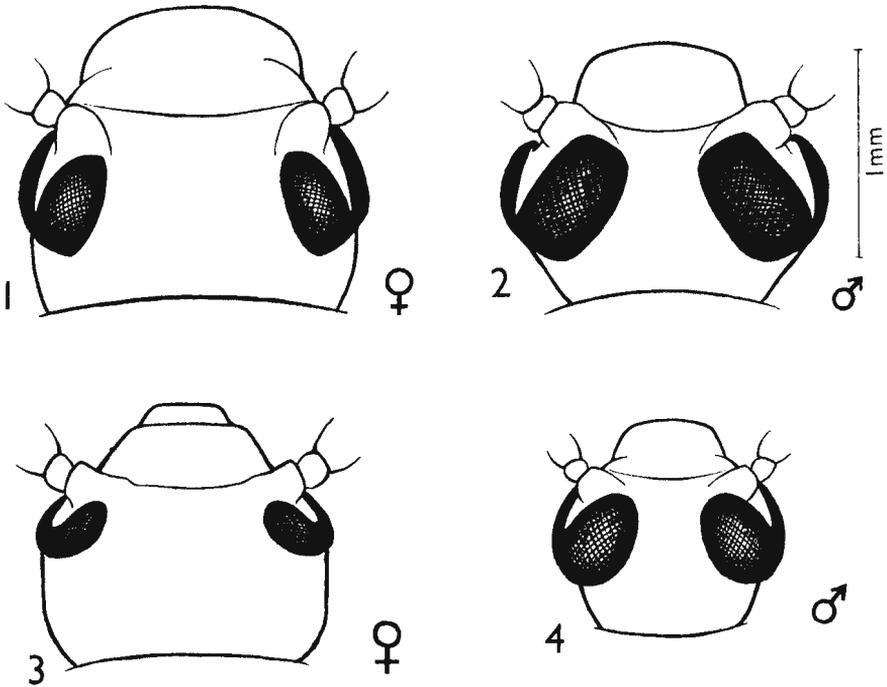
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LAGRIIDAE.

A small family containing but two species in this country. *Lagria atripes* Mulsant, a recent addition (Allen, 1948, *Ent. mon. Mag.* **84**: 287), is swept in woodlands and is, according to our present published records, confined to east Kent, though Mr. Allen informs me of two unpublished records of the New Forest, Hants. *L. hirta* Linnaeus has a much wider distribution and prefers a more open situation. The life history of these species is rather obscure but the larvae are occasionally found under leaves and at the roots of trees.

The two species may be separated as follows :



FIGS. 1-4.—Head of, 1. *Lagria atripes* (Muls. and Guil.) ♀. 2. *L. atripes* (Muls. and Guil.) ♂. 3. *L. hirta* (L.) ♀. 4. *L. hirta* (L.) ♂.

Lagria Fabricius.

1. Larger, 10–12 mm., eyes larger and more deeply incised (figs. 1 and 2). Thorax very finely and sparingly punctate, except on the discal impression which is deepened anteriorly; pubescence on elytra arranged in “herring-bone” fashion
atripes (Mulsant and Guillebeau)
(*South-east Kent and the New Forest, Hampshire.*)
- Smaller, 7–9 mm., eyes smaller and less deeply incised (figs. 3 and 4). Thorax rather strongly and closely punctate, except on the discal impression which is shallow throughout; pubescence on elytra simple. **hirta** (Linnaeus)
(*Widely distributed in England and Eire, also occurs in South-west and North-east Scotland.*)

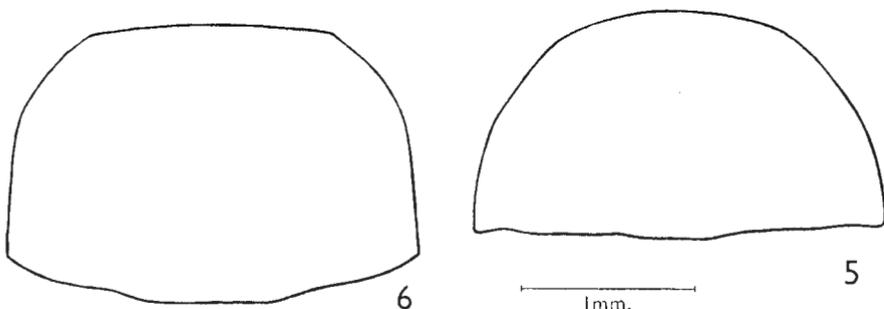
ALLECULIDAE.

With a single exception each of our 8 species is placed in a different genus. They are closely allied to the Tenebrionidae from which they may be readily distinguished by their pectinate tarsi. The insects occur mainly in rotten wood, generally the wood mould in the crown of partially hollow trees. Reitter gives their habitat as fungoid tree trunks and tree fungi; without a doubt the situations in which the larvae of these beetles occur must contain a certain amount of fungoid growth.

They are extremely active and fly readily in warm sunshine, a notable exception being the genus *Prionychus*, the species of which, though still very active, are nocturnal in habit and will not readily take to the wing in the daytime.

KEY TO THE GENERA OF ALLECULIDAE.

- 1 Thorax broadest at base, strongly contracted to anterior margins directly from basal angles, anterior angles absent (fig. 5)..... 2
- Thorax, if broadest at base, sub-parallel for basal half, anterior angles obsolete but noticeable (fig. 6)..... 4
- 2 Antennae serrate, segment 3 shorter than 4..... **Pseudocistela** Crotch (p. 4)
- Antennae simple, segment 3 as long as 4..... 3
- 3 Elytra striate, larger species 12-15 mm..... **Prionychus** Solier (p. 5)
- Elytra confusedly punctured, smaller species 5-6 mm..... **Isomira** Mulsant (p. 5)
- 4 Segment 3 of antennae as long as or longer than 4; eyes small, separated by more than twice their width..... 5
- Segment 3 of antennae shorter than 4; eyes large, separated by less than twice their width..... **Gonodera** Mulsant (p. 5)
- 5 Mandibles prominent and partly exposed, eyes prominent..... 6
- Mandibles not prominent, covered by clypeus, eyes not prominent
Mycetochara Berthold (p. 5)
- 6 Head, thorax and scutellum black, elytra testaceous..... **Omophlus** Solier (p. 5)
- Head and thorax flavous or castaneous, scutellum and elytra flavous
Ctenopus Solier (p. 5)



FIGS. 5 and 6.—Thorax of, 5. *Isomira murina* (L.). 6. *Gonodera luperus* (Herbst).

Pseudocistela Crotch.

Head, thorax antennae and legs black, elytra testaceous, striate-punctate, head and thorax finely and closely punctured; ♂ with eyes larger and antennae more strongly serrate. 9-13 mm..... **ceramboides** (Linnaeus)
(Southern England to Nottinghamshire. On Oaks and blossom.)

Prionychus Solier.

Shining, head and thorax diffusely punctured. 10–11 mm. . . . **fairmairei** Reiche
(Sussex, Nottinghamshire. Under bark.)

Dull, head and thorax closely and coarsely punctured. 14–15 mm.

ater (Fabricius)
(Southern England to Nottinghamshire. In wood mould of decaying trees.
Oak, Willow, Elm, Ash and fruit trees.)

Isomira Mulsant.

Sub-parallel, elytra brownish-testaceous to black, head and thorax black, clothed with short fine pubescence, legs testaceous, antennae fuscous towards the apex. Thorax and elytra closely and confusedly punctate. 5.5–7 mm.

murina (Linnaeus)
(Widely distributed in England, also occurs in Scotland. On blossom.)

Gonodera Mulsant.

Shining, glabrous, black (or ferruginous, ab. *ferruginea* Fabricius), legs testaceous, head closely, thorax diffusely punctured, elytra with closely punctured striae, interstices very diffusely punctured, scutellary stria long; ♂ more elongate, antennae stouter and longer. 7–9 mm. **luperus** (Herbst)
(Southern England to Derbyshire. On blossom.)

Mycetochara Berthold.

Black, elytra with a spot by each humerus yellow, legs testaceous, antennae fuscous with base testaceous, elytra punctate-striate, thorax strongly but diffusely punctate, clothed with black semi-erect pubescence. 5.5–6 mm.

humeralis (Fabricius)
(Southern England to Lancashire. In rotten wood.)

Omophlus Solier.

Head, thorax and scutellum black, elytra testaceous, legs black with tarsi testaceous, head and thorax clothed with long grey pubescence. 8–10 mm.

rufitarsis (Leske)
(Weymouth—there is a specimen in the O'Mahony collection labelled "New Forest" but this is probably erroneous.)

Cteniopus Solier.

Entirely flavous (except ab. *bicolor* Fabricius with head and thorax castaneous), antennae fuscous at apex, elytra obsolete striate, closely and finely punctured, punctures tending to run into lateral rows, thorax more strongly and more diffusely punctured than elytra, head closely punctured at base becoming more diffuse towards vertex where it is almost impunctate. 8–10 mm.

sulphureus (Linnaeus)
(Southern England to Cambridgeshire. Chiefly maritime, but does occur inland.)

TETRATOMIDAE.

This family has the anterior coxae transverse with exposed trochanters; the club of the antennae four-segmented; prothorax with well-marked lateral margins; and the tarsal claws and tibial spurs simple.

In the British Isles the family is represented by a single genus of three fungicolous species—*Tetratoma*. The larvae are normally to be found in *Polyporus*, that of *T. fungorum* F. being particularly plentiful, and the imagines on or near the fungus.

Tetratoma Fabricius.

- 1 Elytra unicolorous, club of antennae wider. 2
 - Elytra testaceous normally with scutellar area, apex and two median spots black (the last three narrowly confluent) but varies from predominantly black with restricted yellow markings to testaceous with an irregular median black patch on each elytron. 2.5-3.5 mm. **ancora** Fabricius
 (*Widely distributed in England and Scotland. In fungus and fungoid wood.*)
 2 Glabrous, thorax testaceous, elytra metallic blue. 4-5 mm. **fungorum** Fabricius
 (*Widely distributed throughout England and Southern Scotland. On and in Polyporus.*)
 - Pubescent, thorax and elytra unicolorous black with bluish or greenish reflection. 3-4.5 mm. **desmarestii** Latreille
 (*Widely distributed in England. In fungoid wood.*)

MELANDRYIDAE.

The species of this family can be recognised despite their diverse forms by the following characters: prothorax with lateral margins more or less distinct, at least at base; elytra at the humeri very little, if at all, wider than the prothorax; antennae filiform to somewhat clubbed, rarely pectinate; penultimate tarsal segment weakly bilobed or simple.

Their larve occur in rotten wood (*Melandrya*, *Phloiotrya*), dead boughs and twigs (*Anisoxya*, *Conopalpus*, *Abdera*), and fungus on timber (*Orchesia*, *Hallomenus*, *Zilora*). Some of these insects are extremely active: *Melandrya* flies very readily and quickly in warm sunny weather and *Orchesia* with their strongly developed hind femora have the power of skipping rapidly from spot to spot after the manner of fleas.

Other species within the family show a considerable variation in size and development, notably *Osphya bipunctata* F., which ranges from 5 mm. to 12 mm. and *Phloiotrya rufipes* Gyll. 6 mm. to 14 mm.

KEY TO THE GENERA OF MELANDRYIDAE.

1. Posterior tibial spurs considerably less than half the length of segment one of hind tarsus 2
 - Posterior tibial spurs very long, at least half the length of segment one of hind tarsus. **Orchesia** Latreille (p. 7)
 2 Elytra broadest at or near base and evenly contracted to apex. 3
 - Elytra broadest behind middle or parallel sided. 4
 3 Thorax with two basal foveae, pubescence very fine, elytra with faint striae
 Hallomenus Panzer (p. 7)
 - Thorax not foveate, pubescence coarser, elytra without traces of striae
 Anisoxya Mulsant (p. 7)
 4 Thorax with two basal foveae. 5
 - Thorax without basal foveae. 7
 5 Thorax with toothed basal angles, coarsely and closely punctured
 Hypulus Paykull (p. 8)
 - Thorax without toothed basal angles, diffusely punctured. 6
 6 Bluish-black, elytra striate, at least at apex. **Melandrya** Fabricius (p. 7)
 - Castaneous, elytra without striae. **Zilora** Mulsant (p. 7)
 7 Elytra with two obsolete costae on each. 8
 - Elytra simple. 9
 8 Thorax transverse and shining, eyes strongly incised. **Conopalpus** Gyllenhal (p. 8)
 - Thorax quadrate and dull, eyes entire. **Phloiotrya** Stephens (p. 8)
 9 Thorax with simple lateral margins. 10
 - Thorax with excavate lateral margins. **Osphya** Illiger (p. 8)
 10 Large species 6 mm. to 9 mm. **Xylita** Stephens (p. 9)
 - Smaller species 2.25-4 mm. **Abdera** Stephens (p. 9)

Orchesia Latreille.

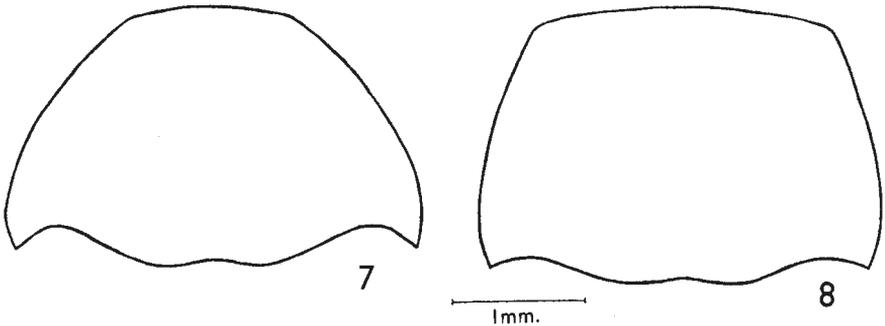
- 1 Antennae gradually enlarged at apex, 4 terminal segments, though wider, scarcely longer than preceding.....2
- Antennae with terminal 3 segments, wider, longer and generally larger than preceding. 4-5.25 mm.....**micans** (Panzer)
(Widely distributed in England, also occurs in Scotland and Eire. In fungus, particularly Polyporus.)
- 2 Unicolorous piceous. 2.5-3.75 mm.....**minor** Walker
(Widely distributed in England and Scotland, also occurs in Eire. In Polyporus.)
- Testaceous with transverse black marks on elytra. 4-5.25 mm....**undulata** Kraatz
(Widely distributed in England, also occurs in Scotland and Eire. In Polyporus, occasionally on Hawthorn blossom.)

Hallomenus Panzer.

- Pitchy red, base of elytra lighter, finely and closely punctured, finely pubescent.
3.5-5 mm.....**binotatus** (Quensel) (= *humeralis* Panzer)
(Widely distributed in England and Scotland. In Polyporus and Trametes.)

Anisoxya Mulsant.

- Fuscous brown, pubescent, finely punctured, base of antennae and legs testaceous.
2.5-3.5 mm.....**fuscula** (Illiger)
(Southern England to Warwickshire. In dead twigs, Ash, Willow, Beech, etc.)



FIGS. 7 and 8.—Thorax of, 7. *Melandrya barbata* (F.). 8. *M. caraboides* (L.).

Melandrya Fabricius.

- 1 Thorax strongly contracted anteriorly, pubescence fine and recumbent (fig. 7).
10-12 mm.....**barbata** (Fabricius)
(Hampshire, Oxfordshire. In decaying timber.)
- Thorax not strongly contracted anteriorly, with outstanding setiform pubescence at lateral margins (fig. 8). 10-16 mm.....**caraboides** (Linnaeus)
(Widely distributed in England, also occurs in Eire, but not recorded from Scotland. In rotten wood.)

Zilora Mulsant.

- Castaneous, darker towards apex of elytra, coarsely pubescent and punctured.
Thorax bifoveate at base, elytra parallel sided. 6-9 mm....**ferruginea** (Paykull)
(North-east Scotland. In Polyporus abietinus on dead Scotch fir.)

Conopalpus Gyllenhal.

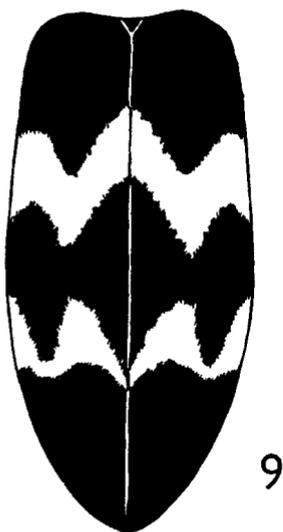
Elongate, elytra slightly widened posteriorly, conspicuously pubescent, antennae fuscous with 3 basal segments testaceous. Head, thorax and elytra testaceous. (Head and elytra black, var. *vigorsi* Stephens.) 6-8 mm. . . . **testaceus** (Olivier)
(Widely distributed in England, also occurs in Eire. In dead boughs.)

Osphya Illiger.

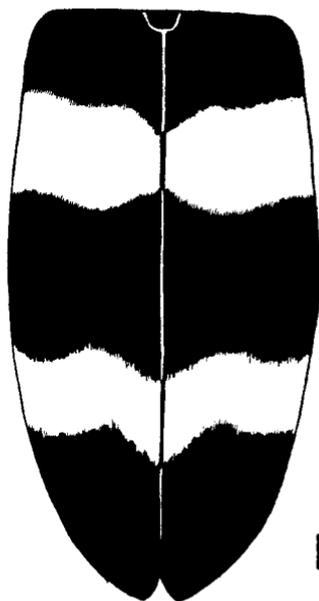
♂ Elytra entirely black, thorax black with anterior and basal margins narrowly and lateral margins broadly testaceous, hind femora strongly enlarged and toothed beneath, hind tibiae spatulately produced inwardly at apex.

♀ Testaceous with apex of elytra, two small spots on thorax and head black, hind femora and tibiae simple.

Small males do occur with hind femora and tibiae simple. The colour pattern seems to be a more reliable guide to sex than the secondary sexual characters on the hind femora and tibiae. 5-12 mm. **bipunctata** (Fabricius)
(Huntingdonshire, Cambridgeshire, Yorkshire, Gloucestershire, Kent, Essex. At Hawthorn blossom.)



9



10

FIGS. 9 and 10.—Elytra of, 9. *Abdera biflexuosa* (Curt.). 10. *A. quadrifasciata* (Curt.).

Hypulus Paykull.

Head and thorax black, elytra testaceous with five black marks, thorax with two deep basal foveae. 4-6 mm. **quercinus** (Quensel)
(Southern England to Huntingdonshire. In decaying wood, Oak, Hazel.)

Phloiotrya Stephens.

Brown, legs, palpi and antennae testaceous, elytra closely punctured, having a tendency to run into lines laterally. Thorax tuberculate. 6-14 mm.

. **rufipes** (Gyllenhal)
(Southern England to Yorkshire. In Oak, Beech, Ash and Hornbeam.)

Xylita Paykull.

Elytra and legs testaceous, palpi and antennae testaceous with fuscous apex, thorax and head black; thorax strongly and closely punctured, much more so than elytra. Pubescence testaceous. 6-9 mm. **laevigata** (Hellenius)
(North-east Scotland. In rotten wood and under bark.)

Abdera Stephens.

- 1 Thorax quadrate, elytra black with two transverse fasciae. 2
 - Thorax transverse. 3
 2 Thorax unicolorous black, elytral fasciae strongly bent (fig. 9) 2·3-3·5 mm.
 biflexuosa (Curtis)
 (Southern England to Herefordshire and Worcestershire. In dead boughs Oak and Ash, and in fungus on Alder.)
 - Thorax black with anterior and posterior margins broadly testaceous, elytral fasciae almost straight (fig. 10). 2·3-3·3 mm. **quadrifasciata** (Curtis)
 (Widely distributed in England, also occurs in North-east Scotland. In rotten wood, particularly Hornbeam, but also Oak, Beech and Horse Chestnut.)
 3 Antennae unicolorous 4
 - Antennae fuscous with base and apex testaceous, elytra testaceous with two transverse fasciae. **flexuosa** (Paykull)
 (Widely distributed in England and Scotland. In Polyporus particularly on Alder, sometimes on Willow.)
 4 Antennae serrate, elytra unicolorous castaneous. 2·5-3·5 mm. **affinis** (Paykull)
 (North-east Scotland. In fungus.)
 - Antennae moniliform, elytra with obscure fasciae. **triguttata** (Gyllenhal)
 (North-east Scotland. Under bark.)

SALPINGIDAE.

These species are found mainly under bark, though some occur in small branches and twigs of trees and hedges, where they and their larvae prey upon other small sub-cortical and wood feeding insects. *Salpingus reyi* Ab. is frequently beaten from burnt saplings and most of the Salpingidae may occasionally be swept under or near their normal habitat.

Though the species in this family are readily distinguishable the genera *Rabocerus* Muls. and *Rey* and *Salpingus* Gyll. have been the subject of considerable confusion of nomenclature.

The synonymy is as follows :

Salpingus Gyllenhal.

= *Sphaeriestes* Stephens (nec Illiger).

castaneus Panzer, 1813, *Index Ent.* 89 (Muls., Reitt., Fowler).

= *immaculatus* Stephens 1831, *Ill. Brit. Ent. Mand.* 4 : 219.

ater Paykull, 1798, *Fauna Suecica* 1 : 298; 1859, Muls., *Col. France Rostrif.* 32; 1891, Fowler, *Col. Brit. Isl.* 5 : 52 (pars); 1911, Reitt., *Faun. Germ. Col.* 3 : 416.

= *picea* Germar, 1825, *Faun. Ins. Europ. Fasc.* 10 : No. 9.

reyi Abeille, 1874, *Bull. Soc. Hist. nat. Toulouse* 8 : 27.

= *aeratus* Fowler, *loc. cit.*

= *ater* Stephens (nec Paykull), 1831, *Ill. Brit. Ent. Mand.* 4 : 218; 1839, *Man. Brit. Col.* : 339.

Rabocerus Mulsant and Rey.

foveolatus Ljungh, 1824, *Vet. Acad. Handl.*, Stockholm; Steph., *loc. cit.*; Fowler, *loc. cit.*

= *mutilatus* Blair (nec Beck), 1918, *Ent. mon. Mag.* 54 : 84; Champ.,

- 1886, *ibid.* 23 : 160 ; Fowler, *loc. cit.* ; Sahlb., 1904, *Medd. Soc. Fauna Fl. fenn.* 29 : 40.
 = *bishopi* Sharp, 1909, *Ent. mon. Mag.* 45 : 245.
gabrielii Gerhardt, 1901, *Z. Ent.* 18 ; Reitter *loc. cit.* ; Hudson Beare, 1916, *Ent. mon. Mag.* 52 : 254.
 = *foveolatus* Blair (*nec* Ljungh), 1918, *ibid.* 54 : 84.

KEY TO THE GENERA OF SALPINGIDAE.

- 1 Thorax with side margins denticulate, 3 terminal segments of antennae distinctly longer and wider than those preceding (fig. 11). **Lissodema** Curtis (p. 10)
- Thorax with side margin simple, 3 terminal segments of antennae not longer, though sometimes wider than preceding (fig. 12). 2
- 2 Head developed into a rostrum anteriorly. 3
- Head not developed into a rostrum anteriorly. 4
- 3 Rostrum excluding mouth parts broader than long (fig. 13), flat, almost as wide as head behind eyes, which are very prominent, scrobes distinctly margined, head unicolorous testaceous with rostrum. **Vincenzellus** Reitter (p. 10)
- Rostrum, excluding mouth parts, longer than broad (figs. 16 and 17), distinctly narrower than head behind eyes, which are less prominent, scrobes not margined, head darker than rostrum or rostrum not testaceous. . **Rhinosimus** Latreille (p. 10)
- 4 Mandibles straight and strongly produced (fig. 14) **Rabocerus** Mulsant and Rey (p. 10)
- Mandibles rounded and not strongly produced (fig. 15). . . **Salpingus** Gyllenhal (p. 11)

Lissodema Curtis.

- 1 Thorax narrowed behind, testaceous, teeth at sides small ; elytra slightly or markedly widened behind, black with four testaceous spots, apical pair sometimes indistinct ; antennal club piceous. 1·75-3 mm.
(Southern England to Derbyshire, Wales, Eire.) **quadripustulatum** (Marsham)
- Thorax almost evenly rounded at sides, which have larger teeth, especially the basal pair ; elytra not or scarcely widened behind, unicolorous ; antennal club testaceous. Body varies from black to testaceous, typically ferruginous. 2-3·5 mm. **cursor** (Gyllenhal) (= *kirkae* Donisthorpe)
(Southern England to Derbyshire and Cheshire.)

Vincenzellus Reitter.

- Elytra green, head, thorax and legs testaceous, antennae testaceous with apex fuscous. 3·75-4 mm. **viridipennis** (Latreille)
(Widely distributed in England, Eire and Southern Scotland. Under bark.)

Rhinosimus Latreille.

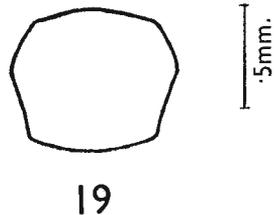
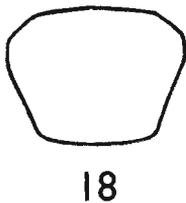
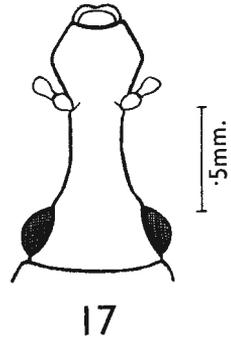
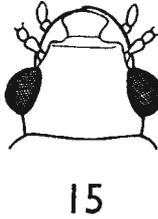
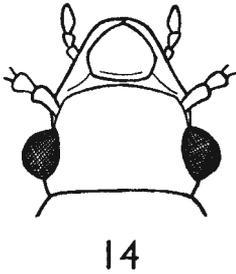
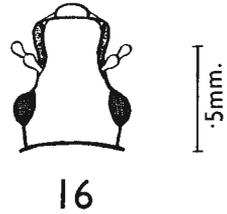
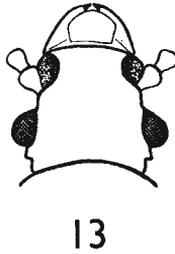
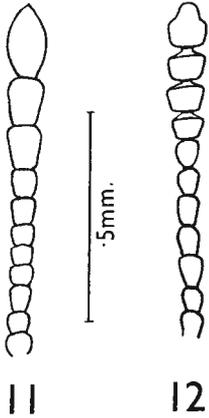
- 1 Entirely brassy green, except legs, antennae and rostrum ; rostrum slightly elongate, never more than twice as long as broad (fig. 16). 2-3·5 mm.
(Widely distributed. Under bark.) **planirostris** (Fabricius)
- Elytra and head bluish green, thorax and rostrum testaceous, rostrum very elongate, more than twice as long as broad (fig. 17) 2·5-4 mm. **ruficollis** (Linnaeus)
(Widely distributed. Under bark.)

Rabocerus Mulsant and Rey.

- 1 Thorax strongly contracted to base (fig. 18), head and thorax strongly and closely punctured. 3·75-4 mm. **gabrielii** Gerhardt
(Mainly a Northern species, Yorkshire and Eastern Scotland, but has been recorded from Gloucestershire and Eire, Co. Wicklow.)
- Thorax not strongly contracted to base (fig. 19), head and thorax finely and more diffusely punctured. 3-3·25 mm. **foveolatus** (Ljungh)
(Generally distributed.)

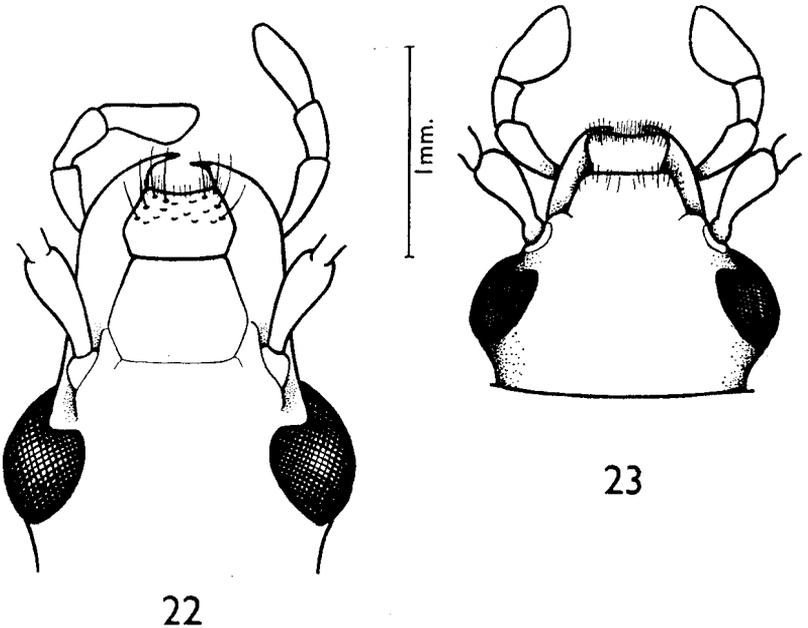
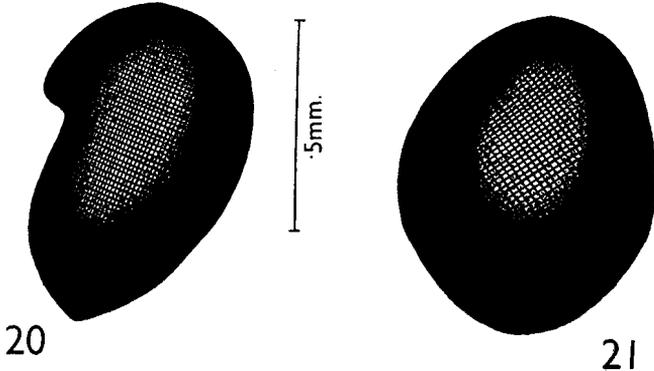
Salpingus Gyllenhal.

1 Black, thorax coarsely and closely punctured. Elytral interstices (first interstice and area around scutellum excepted) with very few irregular punctures, distinctly seriate punctate.....2



FIGS. 11-19.—Antennae of, 11. *Lissodema quadripustulatum* (Marsh.). 12. *Salpingus reyi* (Abeille). Head of, 13. *Vincenzellus viridipennis* (Lat.). 14. *Rabocerus gabrieli* Gerh. 15. *Salpingus reyi* (Abeille). 16. *Rhinosimus planirostris* (F.). 17. *R. ruficollis* (L.). Thorax of, 18. *Rabocerus gabrieli* Gerh. 19. *Rabocerus foveolatus* (Ljungh).

- Ferruginous, thorax less coarsely and more diffusely punctured, elytral interstices with irregular punctures, giving the elytra a confusedly punctate appearance, especially at suture. 3.5-4.5 mm.....**castaneus** (Panzer)
(Generally distributed. Generally on Pine.)
- 2 Elytral striae finely and closely punctured. 3.25-3.75 mm.....**ater** (Paykull)
(Northern species. The records of this and the following species prior to 1947, when Dr. Blair separated them, are unreliable. Burnt twigs.)
- Elytral striae coarsely and less closely punctured. 2.5-2.75 mm. **reyi** (Abeille)
(Southern species. Burnt twigs.)



FIGS. 20-23.—Eye of, 20. *Nacerdes melanura* (L.). 21. *Oedemera nobilis* (Scop.). Head of, 22. *Nacerdes melanura* (L.). 23. *Ischnomera caerulea* (L.).

PYTHIDAE.

Now restricted to one genus, this family, which for so long has been considered part of the Salpingidae by British coleopterists, may be easily separated from them by the mesosternum, in which the coxal cavities are not closed outwardly by the sterna. The front coxae are small, conical and projecting; the prosternum long, the prothorax without distinct side margins, the tarsal segments simple and the antennae rather short and only weakly clubbed.

Pytho Latreille.

Depressed, metallic blue to violet, sometimes reddish towards sides of thorax and elytra, antennae and legs ferruginous, femora darker. 11–14 mm.

depressus (Linnaeus)

(North-west Scotland, extending South to Aviemore.)

MYCTERIDAE.

Mycterus curculioides (F.) is the sole representative of this family in the British Isles. It has the head produced into a rostrum in the manner of some of our Salpingidae from which it may be distinguished by the filiform antennae, the lobed penultimate tarsal segment and the first two visible sternites of the abdomen being connate.

Mycterus Schellenberg.

Black, elytra black to piceous, clothed with grey pubescence; head produced into a rostrum, antennae set in elongate scrobes; head and thorax coarsely and closely punctured, elytra rugosely punctured; antennae and legs testaceous to fuscous. 7–9 mm. **curculioides** (Fabricius)

(Oxfordshire. Doubtfully indigenous.)

OEDEMERIDAE.

A small family which, in Great Britain, is represented by only seven species distributed in four genera, which may be recognized by their soft, elongate elytra, parallel form, anterior coxal cavities open behind, elongate anterior coxae and long slender legs. In *Oncomera* Stephens and some, but not all, species of *Oedemera* Olivier the males have the hind femora strongly enlarged. The earlier stages of some species are spent in the old stems of various plants, whilst others are found in rotten wood. With the exception of *Nacerdes melanura* L. the adults often occur on flowers and foliage.

KEY TO THE GENERA OF OEDEMERIDAE.

- 1 Head punctured, eyes somewhat incised (fig. 20) 2
- Head rugose, eyes round (fig. 21) **Oedemera** Olivier (p. 13)
- 2 Head produced in front of eyes and terminal segment of palpi elongate (fig. 22), elytra testaceous or fusco-testaceous 3
- Head not produced in front of eyes and terminal segment of palpi securiform (fig. 23), elytra metallic or dull green **Ischnomera** Stephens (p. 14)
- 3 Elytra about three times as long as wide, apex piceous, thorax transverse **Nacerdes** Faldermann (p. 14)
- Elytra about four or five times as long as wide, unicolorous, thorax quadrate **Oncomera** Stephens (p. 14)

Oedemera Olivier.

- 1 Elytra dull green 2
 - Elytra metallic, blue, green or coppery; hind femora strongly incrassate and hind tibiae robust in male. 8–10 mm. **nobilis** (Scopoli)
- (Southern England to the Midlands and North Wales.)

- 2 Hind femora incrassate in male, larger species. 8-11 mm. **virescens** (Linnaeus)
 (Gloucestershire, Norfolk and Yorkshire.)
 - Hind femora simple in both sexes, smaller species. 5-7.5 mm. **lurida** (Marshall) ✓
 (Southern England to the Midlands, Eire, Co. Kerry.)

Ischnomera Stephens.

- Unicolorous metallic green, blue-green or blue, thorax with anterior margin not raised, obsoletely impressed on each side of disc. 7-8 mm. **caerulea** (Linnaeus)
 (Southern England to Derbyshire, and South Wales. In rotten wood.)
 Elytra dull green, thorax testaceous with anterior margin raised, and depressed on each side of disc. 9-11 mm. **sanguinicollis** (Fabricius)
 (Southern England to Nottinghamshire; Eire, Co. Wicklow. Decaying wood.)

Nacerdes Faldermann.

- Testaceous with apex of elytra piceous, to more or less suffused with black or entirely black; elytral costae obsolete; elytra finely pubescent. 7-15 mm.
melanura (Linnaeus)
 (Generally distributed throughout England, Eire and South-east Scotland. In old timber, commoner near the coast.)

Oncomera Stephens.

- Fusco-testaceous, thorax with fuscous or piceous marks, the two elytral costae generally joined by a short transverse costa about halfway along the shorter. 12-17 mm. **femorata** (Fabricius)
 (Southern England to Lancashire and Westmorland. On Ivy and Sallows.)

MORDELLIDAE.

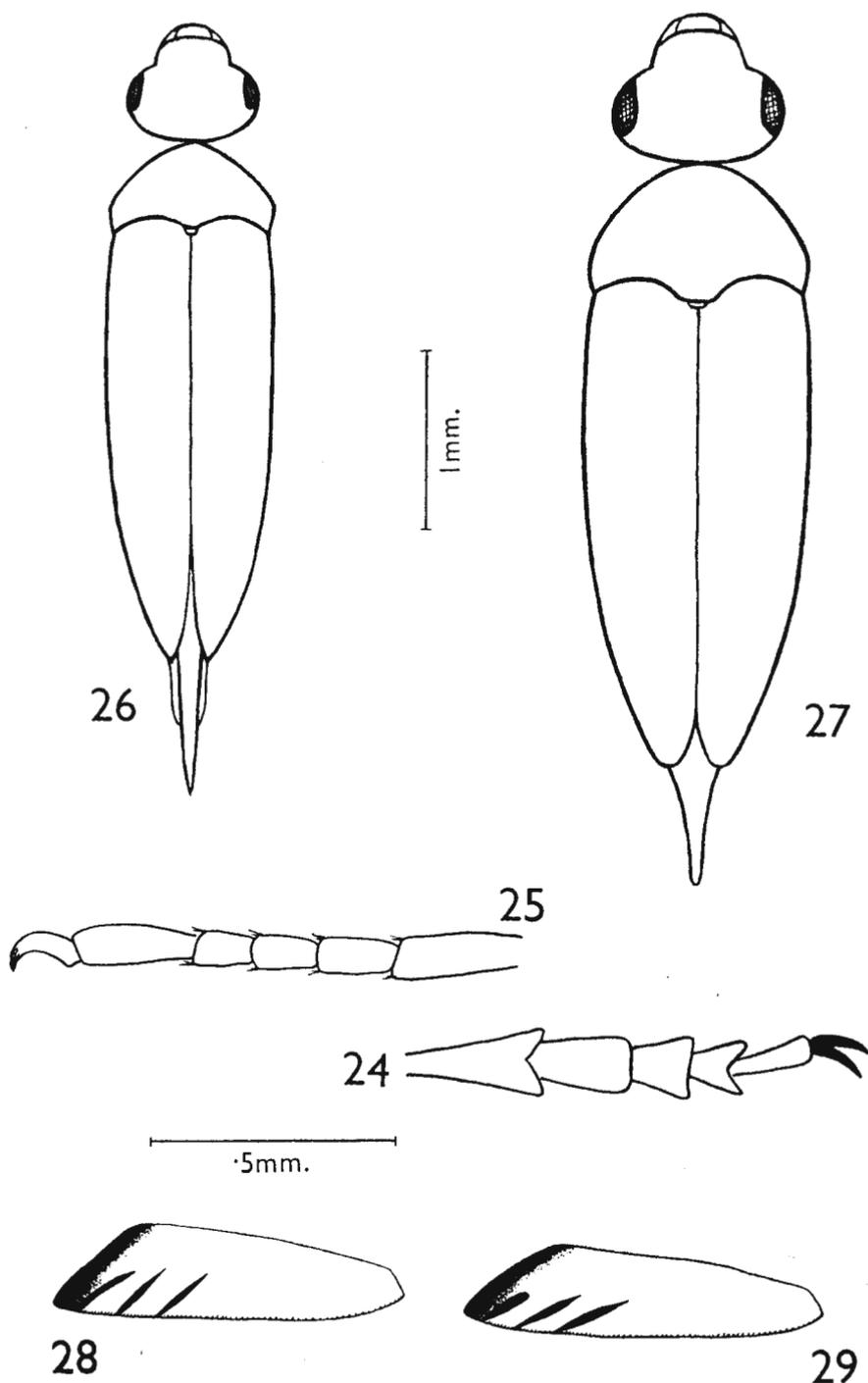
The Mordellidae are of a characteristic shape (figs. 26 and 27) and can only be confused with the Scaptiidae, from which they differ in having the abdomen produced into a style and with a bristle-like appendage under the tarsal claws. Their head is strongly deflexed, flattened ventrally, truncate at base and convex on the vertex, the thorax inclines forward and the elytra are high at the base and convex. The ventral thoracic segments are produced nearly in the plane of the pleurae meeting in the middle ventral line in an obtuse median ridge, the ventral abdominal segments being strongly and evenly convex. The hind tibiae are very short, with apical spines and the hind tarsi elongate and slender.

Our British species number 8, representing three genera, and in their perfect state are most often found on blossom, being frequently beaten from hawthorn and swept from Umbelliferae. *Tomoxia biguttata* (Gyll.) passes its early stages in rotten wood. *Mordella* and *Mordellistena* have been recorded from both rotting wood and plant stems.

These insects are extremely active, leap vigorously when disturbed and readily take to the wing.

KEY TO GENERA OF MORDELLIDAE.

- 1 Segment 4 of anterior and intermediate tarsi short and with anterior angles sharp and produced (fig. 24), intermediate tarsi no longer than tibiae, antennae serrate, pygidial style sharp. **Mordella** Linnaeus (p. 16)
 - Segment 4 of anterior and intermediate tarsi simple (fig. 25), intermediate tarsi longer than tibiae. 2
 2 Antennae distinctly serrate, pygidial style blunt. **Tomoxia** Costa (p. 16)
 - Antennae almost filiform, pygidial style sharp. **Mordellistena** Costa (p. 16)



FIGS. 24-29.—Tarsus of, 24, *Mordella villosa* (Schrank). 25, *Tomoxia biguttata* (Gyll.). Dorsum of, 26, *Mordellistena pumila* (Gyll.). 27, *M. brevicauda* (Boh.). Hind tibia of, 28, *M. humeralis* (L.). 29, *M. variegata* (F.).

Mordella Linnaeus.

Elytra patterned with transverse median band of pubescence ; area around scutellum with pubescence of a lighter colour ; base of antennae rufous

villosa (Schrank) (= *fasciata* Fabricius)

(*Southern England to Cambridgeshire. On Umbelliferae.*)

Elytra not patterned ; with fine, even pubescence ; base of antennae black

aculeata Linnaeus

(*Southern England to Huntingdonshire. On Umbelliferae.*)

Tomoxia Costa.

Black, with silvery pubescence thicker at basal angles of thorax and forming two median spots on the elytra. **biguttata** (Gyllenhal)

(*Surrey, Sussex, Hampshire, Wiltshire. In decaying trunks of deciduous trees.*)

Mordellistena Costa.

- 1 Head entirely black. 2
- Head not entirely black. 5
- 2 Abdomen black. 3
- Abdomen testaceous, anterior legs testaceous, intermediate and hind legs fuscous, thorax black with base testaceous ♂, and testaceous with hind margin often fuscous ♀ **abdominalis** (Fabricius)
- (*Southern England to Lincolnshire. On flowers of Umbelliferae and Hawthorn.*)
- 3 Larger species 4-5 mm., pubescence dull. 4
- Smaller species 2-2.5 mm., pubescence bright and conspicuous
- parvula** (Gyllenhal) v. **inaequalis** Mulsant
- (*Southern England to Norfolk. On Artemisia.*)
- 4 Narrower with elongate pygidial style (fig. 26). **pumila** (Gyllenhal)
- (*Southern England to Norfolk, but has been recorded from Yorkshire. On flowers.*)
- Broader with short pygidial style (fig. 27). **brevicauda** (Boheman)
- (*Southern England. On blossom. Particularly on chalk.*)
- 5 Elytra testaceous, apex of elytra becoming fuscous. **neuwaldeggiana** (Panzer)
- (*Southern England to Lancashire and Cheshire. On flowers of Umbelliferae, etc.*)
- Head testaceous in front of eyes, base black ; thorax testaceous with centre of base fuscous, elytra fuscous with elongate testaceous mark at humeri, or elytra entirely black with thorax entirely testaceous. 6
- 6 Fuscous strigosity on hind tibiae less oblique and not quite parallel (fig. 28) ; humeral marks smaller, one-third length of the elytra ; dark area of thorax narrower and thinner ; pubescence on elytra without any metallic lustre, greyish (elytra black with small testaceous humeral patches and thorax entirely testaceous, v. *axillaris* Gyllenhal). **humeralis** (Linnaeus)
- (*Southern England to Herefordshire, Oxfordshire and Cambridgeshire. On flowers of Umbelliferae etc.*)
- Fuscous strigosity more oblique and parallel (fig. 29) ; humeral mark more elongate extending half the length of the elytra, dark area of thorax wider and deeper ; pubescence on elytra shining, with a metallic purple lustre
- variegata** (Fabricius)
- (*Southern England to Oxfordshire. On flowers of Umbelliferae, etc.*)

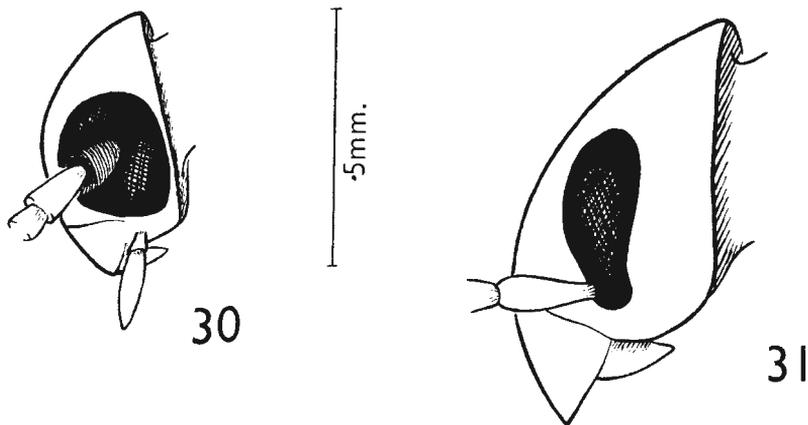
SCRAPTIIDAE.

These insects may be distinguished from the Mordellidae by the absence of an abdominal style and the absence of any bristle-like appendage below the tarsal claws. Following Crowson (1953, *Ent. mon. Mag.* 89 : 56) the genus *Anaspis* Mueller has been transferred from the Mordellidae to this family. Dr. Franciscolo has expressed (*in litt.*) agreement with Crowson on this point. The genus *Anaspis* contains delicate, active species occurring on blossom in spring and early summer, generally in large numbers, the larvae

are lignicolous, as are those of the genus *Scraptia*. The species of this latter genus normally occur on or about rotten wood. *Scraptia fuscula* Muell. appears to be most common according to recorded captures; however, since the discovery of *S. testacea* Allen (1940, *Ent. mon. Mag.* 76 : 59), a closely allied species, it is doubtful to which of the two species earlier records apply.

KEY TO GENERA OF SCRAPTIIDAE.

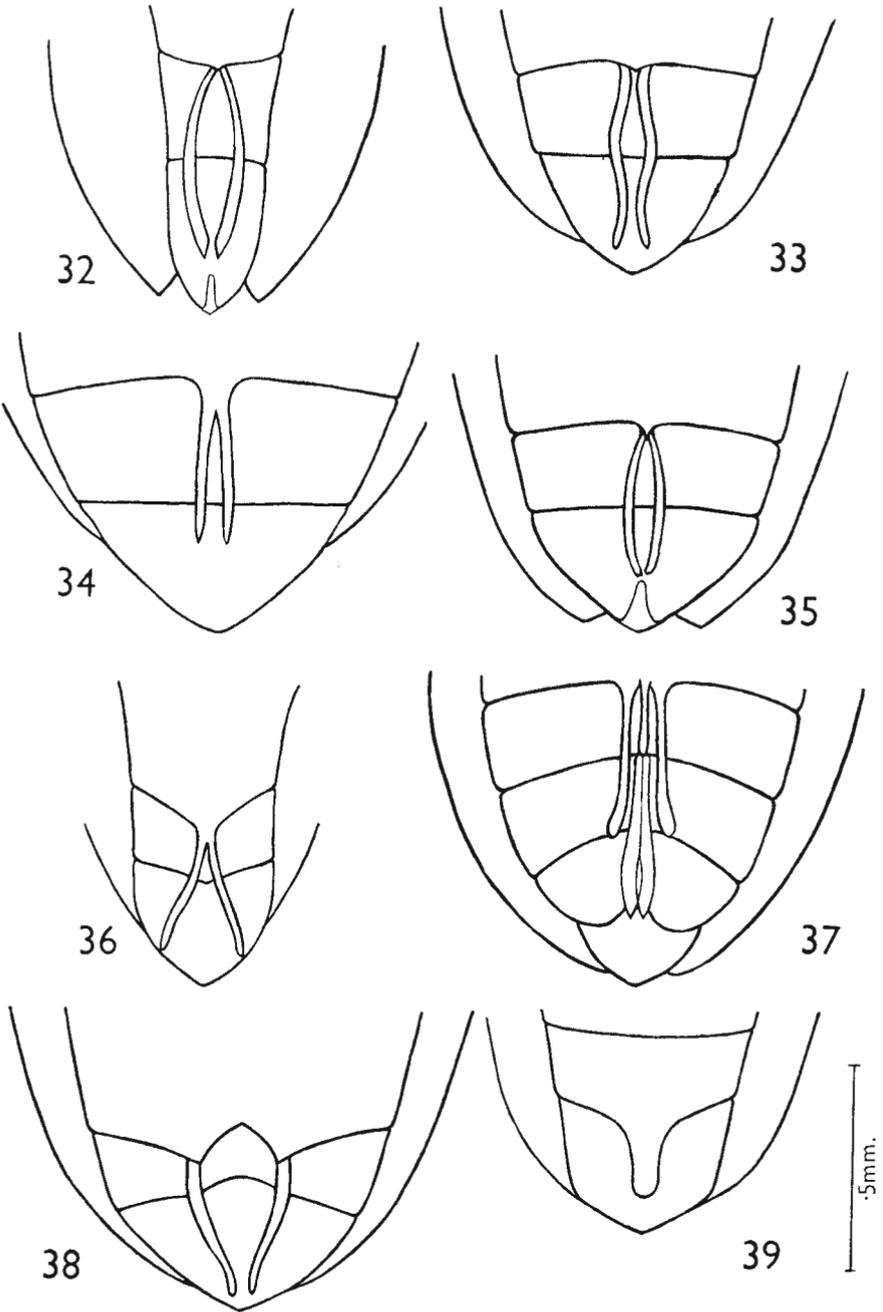
- 1 Depressed; prothorax strongly transverse (twice as broad as long); antennae longer, segments 4-11 elongate, 7 no narrower than 10; hind tarsus about as long as hind tibia, segment 1 about half the length of tibia
Scraptia Latreille (p. 17)
- Convex; thorax at most slightly transverse; antennae shorter, segments 7 to 10 quadrate, or if not, segment 7 narrower than 10; hind tarsus much longer than hind tibia, segment 1 about as long as tibia. Anaspis Mueller (p. 20)



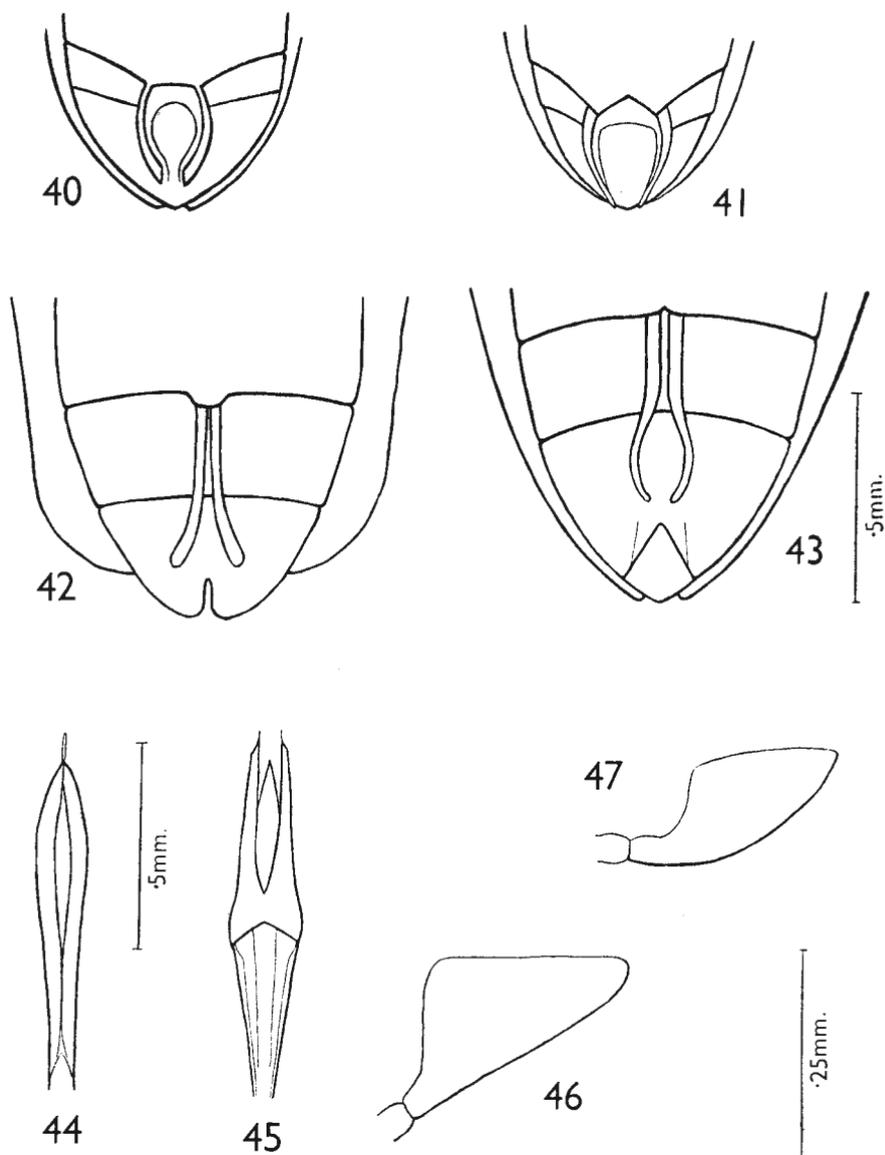
FIGS. 30 and 31.—Lateral view of head of, 30. *Scraptia testacea* Allen. 31. *S. dubia* (Ol.).

Scraptia Latreille.

- 1 Head, viewed laterally, without temples, eyes reaching base of head (fig. 30), pubescence fine. 2
- Head, viewed laterally, with temples, eyes some distance from base of head (fig. 31), pubescence coarse. *dubia* (Olivier)
(Berkshire, Dorset.)
- 2 Very finely and closely sculptured, densely by basal angles of thorax; thorax less transverse, hind angles less marked; colour lighter, thorax not fuscous
testacea Allen
(Essex, Berkshire, Surrey, ? Cumberland, Nottinghamshire, Worcestershire, Herefordshire, Hertfordshire and Hampshire.)
- More coarsely and less closely sculptured, not at all densely by basal angles of thorax; thorax more transverse, hind angles more marked; colour darker, at least thorax fuscous. *fuscula* Mueller
(Surrey, Berkshire, ? Cumberland, Nottinghamshire, Worcestershire, Herefordshire, Hertfordshire and Hampshire.)



FIGS. 32-39.—Abdominal appendages of, 32. *Anaspis costae* Emery. 33. *A. rufilabris* Gyll. 34. *A. hudsoni* Donis. 35. *A. maculata* Geoff. 36. *A. latipalpis* Schil. 37. *A. lurida* S. 38. *A. regimbarti* Schil. 39. *A. humeralis* (F.).

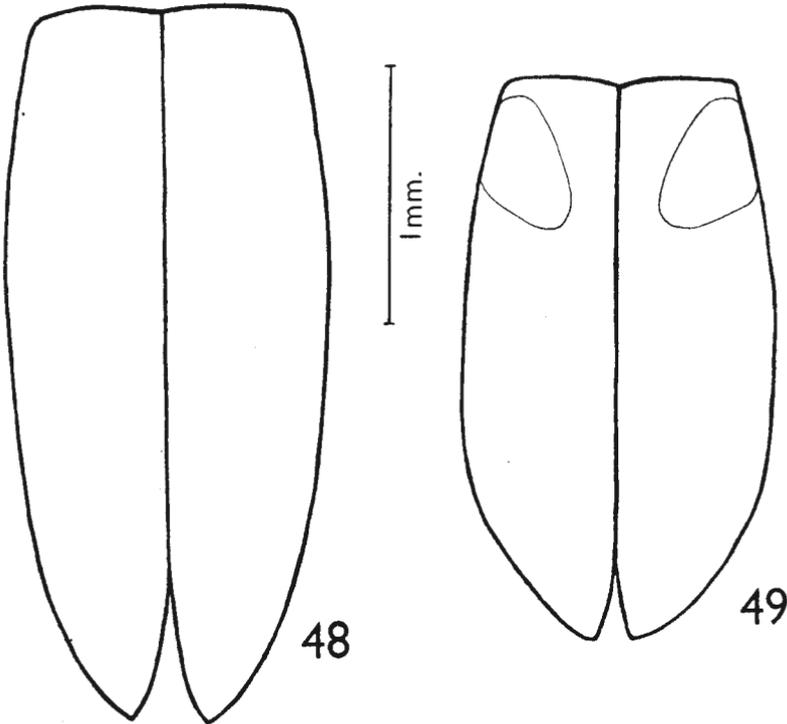


FIGS. 40-47.—Abdominal appendages of, 40. *Anaspis pulicaria* Costa. 41. *A. garneysi* Fowler. 42. *A. septentrionalis* Champ. 43. *A. frontalis* (L.). Aedeagus of, 44. *A. rufilabris* Gyll. 45. *A. hudsoni* Donis. Terminal segment of palpi of, 46. *A. latipalpis* Schil. 47. *A. lurida* S.

Anaspis Mueller.

- 1 Segments 7-10 of antennae quadrate. 2
 - Segments 7-10 of antennae elongate (except in *A. frontalis* where segment 10 is quadrate); segment 7 longer and narrower than 10. 5
- 2 Head, except front parts, thorax and elytra unicolorous black. 3
 - Head and thorax flavous, elytra fuscous, ♂ abdominal appendages characteristic (fig. 32). 4-5 mm. *costae* Emery
 (*Widely distributed in England, also occurs in Southern Scotland. On blossom.*)
- 3 Ventral segments of ♂ simple, thorax obsolete reticulate. 3.25-4 mm. *melanostoma* Costa
 (*Kent, Essex, Cumberland. On blossom.*)
 - Ventral segments of ♂ with appendages, thorax distinctly reticulate. 4
 4 ♂ appendages longer (fig. 33); genitalia distinct (fig. 44). 3.25-4 mm. *rufilabris* Gyllenhal
 (*Widely distributed throughout the British Isles. On blossom, particularly Hawthorn.*)
 - ♂ appendages on ventral segments shorter (fig. 34); genitalia distinct (fig. 45) 4 mm. *hudsoni* Donisthorpe
 (*Inverness-shire. In fungus and on Broom blossom.*)
- 5 Head and elytra flavous. 6
 - Head at base black, elytra mainly black (except in forms of *humeralis* F.). 8
- 6 Segment 9 of antennae only slightly contracted to base, elytra unicolorous. 7
 - Segment 9 of antennae strongly contracted to base, elytra with a black spot on each and a varying amount of black at base and apex, ♂ appendages characteristic (fig. 35), the anterior tarsi dilated and the intermediate tibiae internally bisinuate with the apex dilated inwardly into a small prominence. 2.75-3.75 mm. *maculata* Geoffroy
 (*Widely distributed throughout the British Isles. On blossom, particularly Hawthorn.*)
- 7 Terminal segment of palpi much broader at apex (fig. 46); ♂ terminal segment of antennae not, or scarcely, longer than the preceding; anterior tarsi simple; intermediate tibiae bisinuate on their inner edge. Appendages characteristic (fig. 36). 3-4 mm. *latipalpis* Schilsky
 (*Widely distributed in England. On blossom.*)
 - Terminal segment of palpi narrower at apex (fig. 47), ♂ terminal segment of antennae plainly longer than the preceding; anterior tarsi dilated; intermediate tibiae straight on their inner edge. Appendages characteristic (fig. 37). 3-4 mm. *lurida* Stephens (= *subtestacea* Stephens)
 (*Widely distributed in England, also occurs in Eire. On blossom.*)
- 8 Thorax black, elytra evenly clothed with pubescence. 9
 - Thorax testaceous, elytra with finer pubescence on an area around suture, ♂ appendages characteristic (fig. 38). (Sometimes entirely black, ab. *fraudulenta* Joy) 3-3.75 mm. *regimbarti* Schilsky (= *ruficollis* Fabricius)
 (*Widely distributed throughout the British Isles. On blossom, particularly Hawthorn.*)
- 9 Elytra acuminate at apex (fig. 48). 10
 - Elytra rounded at apex (fig. 49), ♂ appendages characteristic (fig. 39) with testaceous patch at humeri (sometimes with apex also testaceous), ab. *subfasciata* Stephens or wholly black ab. *nigra* Donisthorpe. 2.75-3.5 mm. *humeralis* (Fabricius) (= *geoffroyi* Mueller)
 (*Widely distributed in England and Scotland, also Eire, Co. Kerry. On blossom, particularly Hawthorn.*)
- 10 Palpi, base of antennae and front legs testaceous. 11
 - Palpi, base of antennae and front legs black (thorax often piceous). 3-4 mm. *maculata* ab. *florenceae* Donisthorpe
- 11 Clypeus only testaceous. 12
 - Clypeus and part of head testaceous. 13
- 12 Smaller species (2.25-3.25 mm.); antennae slightly thickened towards apex, penultimate segments in ♂ quadrate; ♂ appendages characteristic (fig. 40) *pulicaria* Costa
 (*Widely distributed in England. On blossom, particularly Hawthorn.*)
 - Larger species (3.25-4 mm.); antennae filiform, penultimate segments in ♂ elongate; ♂ appendages characteristic (fig. 41) (legs entirely black, ab. *atra* Donis-

- thorpe) **garneysi** Fowler
 (Widely distributed in England, also occurs in Eire. On blossom, particularly Hawthorn.)
- 13 Segment 10 of antennae elongate, ♂ anterior tarsi slender, ♂ appendages characteristic (fig. 42). 3.5–3.75 mm..... **septentrionalis** Champion
 (Inverness-shire. In fungus and on blossom.)
- Segment 10 of antennae quadrate, ♂ anterior tarsi dilated, ♂ appendages characteristic (fig. 43) (all legs flavous ab. *flavipes* (Donisthorpe))... **frontalis** (Linnaeus)
 (Widely distributed throughout the British Isles. On blossom, particularly Hawthorn.)



Figs. 48 and 49.—Elytra of, 48. *Anaspis frontalis* (L.). 49. *A. humeralis* (F.).

PYROCHROIDAE.

A small family represented in the British Isles by two genera comprising only three species of conspicuous red beetles with antennae strongly serrate or pectinate. Often swept from blossom but can be taken under bark where they occur with their larvae.

A key to the larvae has been published by F. I. van Emden (1943, *Ent. mon. Mag.* 79 : 263) and further work on the first-instar larvae has been done by E. A. J. Duffy (1946, *Ent. mon. Mag.* 82 : 92).

KEY TO THE GENERA OF PYROCHROIDAE.

Head with basal angles acute, wider than eyes; ♀ with a shallow, ♂ with a deep depression between eyes, simple at base in both sexes; elytra simple with sides narrowly explanate..... **Pyrochroa** Geoffroy (p. 22)

Head with basal angles obtuse, narrower than eyes, convex between eyes; ♂ with a very deep pit at base each side of a median ridge, ♀ simple; elytra with obsolete furrows, sides broadly explanate. **Schizotus** Newman (p. 22)

Pyrochroa Geoffroy.

Whole of upper side of body bright brick-red or brownish scarlet; antennae pectinate in ♂, serrate in ♀. 12-14 mm. **serraticornis** (Scopoli)
(Widely distributed in England; Eire, Co. Limerick. In rotten wood, Oak, Beech, etc.)

Head and scutellum black, rest of upper side of body blood-red; antennae in ♂ more strongly pectinate. 14-19 mm. **coccinea** (Linnaeus)
(Southern England and Southern Wales. Under bark, mainly Oak.)

Schizotus Newman (=Pyrochroella Reitter).

Head black, thorax red with fuscous median area, elytra red, ♂ with antennae very strongly pectinate, base of head with two very deep foveae, fifth ventral abdominal segment slightly emarginate. ♀ with antennae less strongly pectinate, head simple at base. 7-9 mm. **pectinicornis** (Linnaeus)
(Highlands of Scotland; Herefordshire. Birch.)

RHIPIPHORIDAE.

Represented in Britain by a single species which is parasitic on Wasps. A life history is given by Fowler (1891, *Col. Brit. Is.* 5 : 82) and an interesting account of oviposition is given by Chapman (1891, *Ent. mon. Mag.* 27 : 18).

Metoecus Dejean.

Elytra testaceous to piceous, suture approximate only at base, thence strongly divergent to apex, thorax black with a large testaceous patch at each basal angle, strongly longitudinally canaliculate, broader at the base. 10-12 mm. Male antennae strongly bipectinate. Female antennae simply and less strongly pectinate **paradoxus** (Linnaeus)
(Widely distributed in England and occurs in Southern Scotland. In cells of Wasps' nests.)

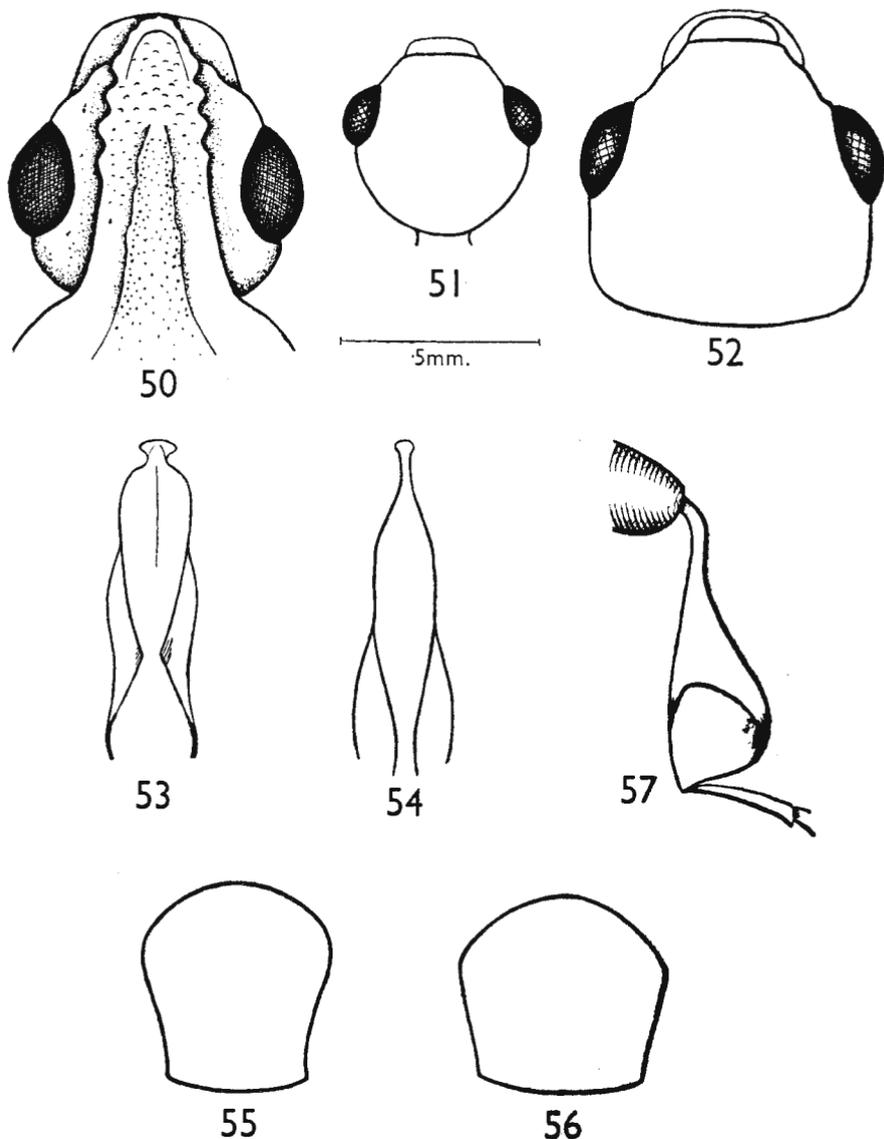
ANTHICIDAE.

These beetles have a characteristic general facies, with slender and delicate legs and antennae, somewhat wide head and narrower prothorax which is either produced into a horn above the head or strongly contracted to the base, and often abruptly constricted into a narrow waist just before the basal margin.

They are represented in the British Isles by two genera, *Notoxus* and *Anthicus*, which together total 13 species. The larvae inhabit rotting vegetable matter, haystack refuse, compost heaps, piles of seaweed, etc., in which the imagines may also be found, though they are sometimes beaten from blossom. Most of our species favour a maritime situation, though inland habitats produce such species as *floralis*, *bifasciatus*, etc.

KEY TO THE GENERA OF ANTHICIDAE.

- 1 Anterior margin of the prothorax produced into an elongate process which extends right over the head (fig. 50) **Notoxus** Geoffroy (p. 24)
- Anterior margin of the prothorax simple, never produced over the head (figs. 51 and 52) **Anthicus** Paykull (p. 24)



FIGS. 50-57.—Head and prothoracic horn of, 50. *Notoxus monoceros* (L.). Head of, 51. *Anthicus constrictus* Curtis. 52. *A. floralis* (L.). Aedeagus of, 53. *A. floralis* (L.). 54. *A. quisquilius* Thoms. Thorax of, 55. *A. tristis* Schmidt. 56. *A. scoticus* Rye. Hind tibia of, 57. *A. instabilis* Sch.

Notoxus Geoffroy.

Head black ; prothorax black to testaceous ; elytra testaceous with large elongate scutellar mark, which has a tendency to break up, extending two-thirds of the length of the suture, and four smaller spots, black ; these marks often become confluent, sometimes producing a form having the elytra black with the apices testaceous. Pubescence long and outstanding **monoceros** (Linnaeus)
(*Widely distributed throughout England; South-east Scotland.*)

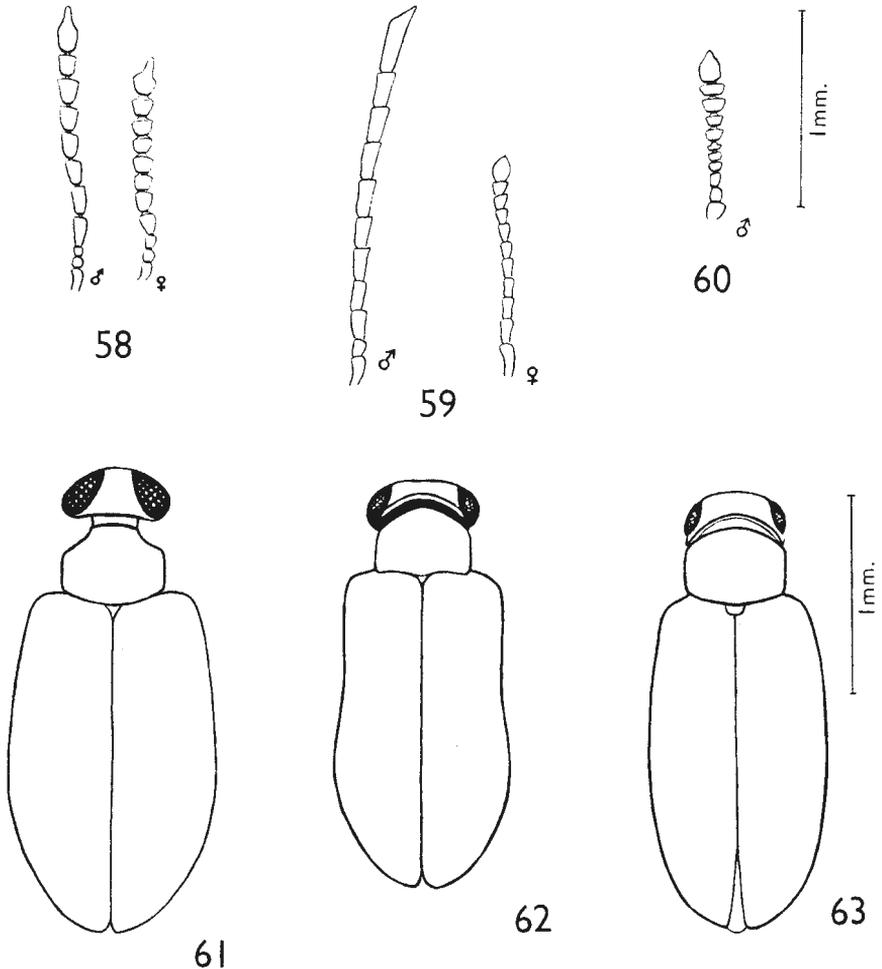
Anthicus Paykull.

- 1 Anterior tibiae with a tooth externally at apex, tibial spurs long, elytra broad and strongly rounded at sides, apex acuminate **bimaculatus** Illiger
(*Southern England to Lancashire. On sandhills.*)
- Anterior tibiae simple ; spurs, if present, very short ; elytra not so strongly rounded at sides 2
- 2 Head strongly and evenly rounded at base, basal angles not present (fig. 51) 3
- Head truncate at base or nearly so, basal angles evident (fig. 52) 4
- 3 Prothorax dull, a little wider than head, and much more closely punctured than either head or elytra, temples parallel sided for a short distance behind eyes
salinus Crotch
(*South and south-east coast. Salt marshes.*)
- Prothorax shining, no wider than head, as closely punctured as head and a little more closely than elytra. **constrictus** Curtis (= *humilis* Brit. auct. nec Germar)
(*England; Eire, Co. Wexford. Salt marshes.*)
- 4 Shining, diffusely punctured, **glabrous** 5
- Dull, closely punctured 7
- 5 Elytra fuscous, base lighter 6
- Elytra black with two transverse fasciae, one sub-humeral and one sub-medial
bifasciatus (Rossi)
(*Leicestershire, Oxfordshire, Cambridgeshire and Rutland.*)
- 6 Prothorax with two tubercles towards the anterior margin, aedeagus characteristic (fig. 53) **floralis** (Linnaeus)
(*Widely distributed throughout the British Isles. In vegetable refuse, haystack bottom, compost heaps, etc.*)
- Prothorax simple, puncturation slightly stronger than *floralis*, aedeagus characteristic (fig. 54) **quisquilius** Thomson
(*As widely distributed and in the same situations as the preceding species with which it is often found.*)
- 7 Head, prothorax and elytra unicolorous black 8
- Head, prothorax and elytra not unicolorous 10
- 8 Prothorax narrower, elongate (fig. 55) 9
- Prothorax quadrate (fig. 56), form broad **scoticus** Rye
(*Cumberland, Scotland, Isle of Man, Eire.*)
- 9 Temples parallel-sided, head finely punctured **tristis** Schmidt
(*South and south-east coast. Salt marshes.*)
- Temples slightly widened to base, head coarsely and closely punctured
angustatus Curtis
(*South and south-east coast, Lancashire, Isle of Man, Eire, Co. Dublin. Salt marshes.*)
- 10 Extremely finely and closely punctured, head and prothorax flavous, elytra fuscous with base and an apical spot on each elytron flavous **tobias** Marseul
(*Widely distributed in England: Lancashire, Leicestershire, Bedfordshire, Hertfordshire, Middlesex, Kent, Surrey, Sussex, and Hampshire; frequently on rubbish dumps.*)
- Not finely punctured, head and prothorax black, or nearly so 11
- 11 Eyes large, prominent and coarsely faceted, head somewhat diffusely punctured, ♂ with apex of hind tibia spatulately enlarged (fig. 57)
instabilis Schmidt (= *tibialis* Curtis nec Wsdl)
(*South and south-east coast. Salt marshes.*)
- Eyes small, not so prominent and more finely faceted, head very closely punctured, elytra with a humeral fascia, and a sub-apical fascia (sub-apical fascia wanting, ab. *irenae* Donisthorpe) **antherinus** (Linnaeus)
(*Southern England to Derbyshire. Haystack refuse, vegetable refuse, etc.*)

ADERIDAE.

The early stage of these insects appears to be spent in rotten wood, particularly the red wood mould so often found in trees decaying in the centre. The imagines may be taken by beating the foliage of the trees in which it breeds and the writer has taken *A. populnea* Panz. in rotten wood. Instances of specimens taken in a strawheap, by sweeping, on blossom, in a manure heap, at light, in frass under bark, and on the wing have been recorded.

None of our species may be considered common and one, *brevicornis* (Perris), is very scarce.



FIGS. 58-63.—Antennae of, 58, *Aderus populnea* (Panz.). 59. *A. pygmaea* (Deg.). 60. *A. brevicornis* (Perris). Dorsum of, 61. *A. populnea* (Panz.). 62. *A. pygmaea* (Deg.). 63. *A. brevicornis* (Perris).

Aderus Westwood (= *Xylophila* Lamarck).

- 1 Segments 2 and 3 of antennae short, segment 3 shorter than 4 (fig. 58)..... 2
 - Segments 2 and 3 of antennae longer, segment 3 as long as 4 (figs. 59 and 60).... 3
 2 Elytra obsoletely ovate (fig. 61), strongly rounded at sides, entirely testaceous, elytra patterned by pubescence, male with longer and stouter antennae (fig. 58). 1.75-2 mm..... **populnea** (Panzer)
 (*Southern England to Lancashire.*)
 3 Elytra parallel sided for basal half, slightly widened apically (fig. 62); head and thorax black, elytra testaceous; ♂ with antennae long and slender, filiform. (fig. 59) 2-2.4 mm..... **pygmaea** (Degeer)
 (*Southern England to Midlands.*)
 - Elytra slightly and evenly rounded at sides (fig. 63). Entirely testaceous to fuscous, sometimes head only fuscous, ♂ with antennae very short and thick, somewhat clubbed (fig. 63). 1.5 mm..... **brevicornis** (Perris)
 (*Berkshire, Hampshire and Sussex.*)

MELÖIDAE

Our nine species in this family are contained within three genera, seven of them comprising the genus *Melöe* Linnaeus. This family has the tarsal claws cleft throughout their entire length and has prominent intermediate coxae. The British species, with the exception of *Lytta vesicatoria* Linnaeus, are more readily recognized by their divergent elytra (overlapping at the base in the genus *Melöe*).

Apalus and *Melöe* are parasitic on bees of the genera *Anthophora* Latreille and *Osmia* Panzer. Rye (1866, *Brit. Beetles*, p. 169) describes the life history of species of *Melöe*. *Lytta* Fabricius has been considered by various authors to have a similar life history, but it is stated by others to be predaceous on the larvae of *Melolontha* Fabricius. Few of our Melöidae can be considered other than scarce.

KEY TO THE GENERA OF MELÖIDAE.

- 1 Head sharply and strongly canaliculate at base; elytra simple at suture, only slightly if at all, divergent towards apex..... **Lytta** Fabricius (p. 26)
 - Head simple at base, elytral structure different..... 2
 2 Elytra strongly divergent from immediately behind scutellum to apex, external margin strongly arcuate, wings partly exposed..... **Apalus** Fabricius (p. 26)
 - Elytra overlapping, divergent towards apex, apterous..... **Melöe** Linnaeus (p. 27)

Lytta Fabricius.

Brilliant metallic green, sometimes with a metallic red reflection; thorax with prominent anterior angles; elytra with three fine obsolete costae, two on disc, one close to side margin, 10-22 mm. ♂ with a single broad spine at apex of anterior tibiae; antennae longer, segments 3-11 about three times as long as broad. ♀ with two spines at apex of anterior tibiae; antennae shorter, segments 3-11 about twice as long as broad..... **vesicatoria** (Linnaeus)
 (*Southern England to Norfolk. Particularly East Anglia. On Ash, sometimes Privet.*)

Apalus Fabricius (= *Sitaris* Latreille).

Head and thorax black, coarsely and irregularly punctured, scutellum black, more finely punctured; elytra fuscous with base flavous, rugcely punctured (elytra unicolorous flavous, v. *flava* Hamm), 8-15 mm.; segments 7-10 of antennae in male distinctly elongate, in female quadrate..... **muralis** (Forster)
 (*Isle of Man, Warwickshire, Oxfordshire, Gloucestershire, Kent, Surrey, Hampshire, Devon. In or near the nests of Anthophora, but has been recorded with Bombus.*)

Melöe Linnaeus.

- 1 Thorax quadrate, antennae thickened in middle in male. 2
 - Thorax transverse, antennae simple in middle in both sexes. 4
 2 Head and thorax with a few scattered punctures, ground sculpture extremely fine. 12-14 mm. **autumnalis** Olivier
 (*Cambridgeshire, Kent and Devon. Grassy places, particularly near the coast.*)
 - Head and thorax closely and coarsely punctured, ground sculpture extremely coarse. 3
 3 Bright blue with depression at base of thorax. 14-35 mm. **violaceus** Marsham
 (*Widely distributed in England and occurs in Scotland and Eire. Heaths, commons, etc.*)
 - Bluish black, base of thorax simple. 10-32 mm. **proscarabaeus** Linnaeus
 (*Widely distributed in England. It occurs in South-east Scotland and Eire. Heaths and grassy places near the coast.*)
 4 Base of thorax strongly depressed in centre. 5
 - Base of thorax scarcely depressed in centre. 6
 5 Thorax contracted to base, head and thorax rugosely punctured. 12-19 mm. **rugosus** Marsham
 (*Oxfordshire, Essex, Kent, Devon. Grassy places, etc.*)
 - Thorax widened to base, head and thorax strongly but diffusely punctured. 10-14 mm. **brevicollis** Panzer
 (*Kent, Surrey, Berkshire, Hampshire, Dorset, Devon. Sandy heaths.*)
 6 Thorax contracted to base, unicolorous black, head slightly widened basally. 25-39 mm. **cicatricosus** Leach
 (*Essex, Kent. Grassy places near the coast.*)
 - Thorax parallel sided, greenish with legs, antennae, sides of thorax and head with coppery reflection, head strongly widened basally. 18-40 mm. **variegatus** Donovan
 (*Kent, Hampshire. Grassy places, etc., near the coast.*)

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