Bledius crassicollis, Lac., and Bledius occidentalis, Bond.

By W. E. SHARP, F.E.S.

Mr. Donisthorpe recently drew my attention to the fact that the insect, known in our collections as *Bledius crassicollis*, Lac., was probably incorrectly named, and indistinguishable from a *Bledius* described[1] by M. J. Bondroit as *B. occidentalis*. Subsequent correspondence with, and inspection of specimens kindly communicated to me by that authority confirm this view, and there remains little doubt but that the *B. crassicollis*, Brit. Colls., should be relabelled *B. occidentalis*, Bond. This insect has always been rare and extremely local in this country, and, as far as I am aware, has only been taken in a few restricted sandy localities on the coast of Kent and Sussex, and at Wicken fen. In the first-named locality a considerable number of specimens have been taken by Mr. W. H. Bennett, Mr. Donisthorpe and others, and from these localities most of the examples existing in our collections are derived. At Wicken fen specimens have been captured by Professor Hudson Beare and myself. Mr. E. A. Butler has taken it at Corton, in Suffolk. Of the true *B. crassicollis*, Lac., I have been unable to discover an example among all the specimens standing over that name which I have had the opportunity of examining. It may, however, exist in other collections, and in view of the number of species of the genus recently added to the British list, the assertion that any particular *Bledius* did *not* occur in this country would seem somewhat rash.

The characters which distinguish these two species are easily appreciable, and may be stated as follows :—

Vertex of head distinctly punctured. Thorax, parallel sided with posterior angles obliquely sloped, more coarsely alutaceous and less dull, punctuation less close. Hind body more shiny. Ventral spines in ♂ less pointed. . . . . *B. occidentalis*, Bond.

Vertex of head almost impunctate. Thorax, somewhat narrowed behind with posterior angles obliquely sloped, duller and more finely alutaceous, punctuation closer. Hind body duller. Ventral spines in ♂ more sharply pointed. *B. crassicollis*, Lac.

In colour, size, pubescence, &c., the two species strongly resemble each other. M. Bondroit took the type specimens of *B. occidentalis* among the sandhills of Zwijn, in Holland, a locality similar to that in which the species occurs at Deal and Camber.

Some Notes on the Genus Myrmica, Latr.

(With one plate and several woodcuts.)

By H. St. J. K. DONISTHORPE, F.Z.S., F.E.S.

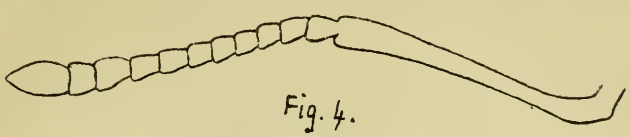
(Concluded from page 8.)

3. **Myrmica sulcinodis**, Nyl., Acta soc. sc. Fennicæ, ii., 3, 1846, p. 934. ☿ ♀.

Myrmica perelegans, Curtis, Trans. Linn. Soc., xxi., 1854, p. 214. ☿ ♀ ♂.

[1] *Annales de la Soc. Ent. de Belge*, li., p. 245, (1907).

Myrmica sulcinodis, Smith, Trans. Ent. Soc. Lond., 2, iii., 1855, p. 119. ☿ ♀ ♂.



ANTENNA OF M. SULCINODIS, ☿.

In the ☿ and ♀ the scape of the antennæ is abruptly bent near the base, and the club is more or less distinctly three jointed; the frontal area is strongly longitudinally striate; the spines of the epinotum are long and strong, and the space between smooth and shining; the thorax, petiole and post-petiole coarsely rugose. In the ♂ the scape of the antennæ is about half the length of the funiculus, and only gradually curved at the base; the club is said to be four-jointed (Forel[59]), or four or five-jointed (Emery[60]). In all the specimens I have seen the club is distinctly five-jointed. The frontal area is coarsely longitudinally striate. This species and *lobicornis* are the two darkest in colour.

Distribution.—North Europe and North Asia, direct east to Manchuria and Amurland; further south in the mountains, Pyrenees, Alps, Appenines, Balkans, and Caucasus.

I have bred males and winged females from pupæ taken in the nests at Nethy Bridge in June. Wheeler[61] records and figures a pseudogyne, but he does not say where it came from.

British distribution:—ENGLAND.—Dorset, Hants., Surrey, Essex, S. Berks., Warwick.

SCOTLAND.—Ayr, Edinburgh, Perth Mid., Aberdeen S., Easterness.

IRELAND.—Antrim, Armagh, Donegal, Mayo W.

WALES.—Glamorgan, Anglesey.

The following Myrmecophiles have occurred with this species in Britain:—

COLEOPTERA.—*Atemeles emarginatus*, Pk. Woking, 4. x. 00. (*Donisthorpe*).

Drusilla canaliculata, F. In the same nest as the above.

4. **Myrmica scabrinodis,** Nyl., Acta soc. sc. Fennicæ, ii., 3, 1846, p. 930. ☿ ♀ ♂.

Myrmica rubra, Curtis, Trans. Linn. Soc., xxi., 1854, p. 213.

In the ☿ and ♀ the scape of the antennæ is bent at a right angle at the base, and is furnished with a more or less developed lateral tooth at the bend; the club is more or less distinctly three-jointed; the frontal area is smooth and shining except at the base, where some of the striæ of the front continue on to it; the epinotum is transversely rugose between the spines. In the ♂ the scape is very short, being equal in length to the first three joints of the funiculus, more or less; the club is more or less distinctly four-jointed.

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[59] *Fourmis de la Suisse*, 1874, p. 79.
[60] *Deutsch. Ent. Zeitschr.*, 1908, p. 174.
[61] *Bull. Amer. Mus. Nat. Hist.*, xxiii., 1907, p. 43, Pl. IV., figs. 45 and 46.

Distribution.—North and Central Europe, Siberia and Turkestan.

I have taken males and winged females in the nests in July and

Fig. 5.

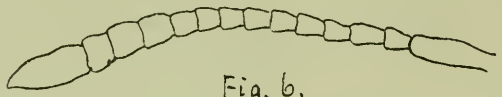

Fig. 6.

ANTENNÆ OF M. SCABRINODIS.
FIG. 5. ♀. FIG. 6. ♂.

August, and at large in September and October. I[62] have often found workers in nests of *Formica sanguinea*. Angus[63] records specimens found in the stomach of a green Woodpecker (*Picus viridis*) shot in January in N. Wales. Dollman picked up a dead ergatandromorph at Ditchling, which he kindly presented to me. I[64] have recorded it, but as it has never been described, I have now drawn up a description:—

Approximately lateral ergatandromorph, right half of body almost entirely that of a ♀, the left being that of a normal ♂ (the left half being blackish and the right reddish-yellow). Right half of head rugously striate, larger than left, eye smaller; right antenna yellow, club three-jointed; scape with strong lateral tooth at the bend; right half of thorax yellow; epinotum with a strong spine; right half of petiole and post-petiole yellow, rugose and punctured; right half of gaster light fuscous-yellow; legs on right side yellow, typical ♀. Left side of head blackish, punctured, not rugously striate; eye larger; median and left ocelli present; antenna fuscous with four-jointed club; left half of thorax blackish; epinotum not armed with a spine; petiole and post-petiole fuscous-black, smooth; the greater part of the left half of the gaster has been eaten away, but what remains is of a darker fuscous colour than the right. Legs on left side fuscous, typical ♂; wings typical ♂.

In this specimen the scape of the left antenna (♂) is longer than in typical *scabrinodis* ♂, and the tooth on the right antenna (♀), is large. It is therefore near to the var. *sabuleti*, Meinert.

Wasmann[65] describes an ergatandromorph in which the left half is ♀ and the right ♂.

British distribution.—ENGLAND.—Cornwall, Devon, Somerset S., Wilts N., Dorset, I. of Wight, Hants., Sussex, Kent, Surrey, Essex, Middlesex, Berks., Oxford, Bucks., Suffolk, Norfolk, Northampton, Glosts. W., Hereford, Worcester, Warwick, Staffs., Lincoln, Leicester, Notts., Derby, Cheshire, Lancs., Yorks. N.E., Yorks. S.W., Durham, Northumberland, Cumberland, Westmoreland.

SCOTLAND.—Dumfries, Ayr, Renfrew, Haddington, Edinburgh, Linlithgow, Fife and Kinross, Sterling, Perth S., Aberdeen S., Westerness, Dumbarton, Ebudes Mid.

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[62] *Ent. Record*, 1902, p. 16, etc.
[63] *Proc. Nat. Hist. Glasgow*, N.S., 1884, p. xviii.
[64] *Ent. Record*, 1908, p. 258.
[65] *Stettin. Entom. Zeitg.*, 2, 1890, p. 298.

IRELAND.—Antrim, Armagh, Tyrone, Donegal, Dublin, Wicklow, Wexford, Westmeath, Mayo W., Galway E., Cork S., Kerry.

WALES.—Glamorgan, Carmarthen, Pembroke, Carnarvon Anglesey.

The following Myrmecophiles have occurred with this species in Britain:—

Coleoptera.—*Atemeles emarginatus*, Pk. Guestling, Wychling, Chesham, Box Hill, Pamber Forest, Porlock, etc. (*Donisthorpe*).

Myrmedonia limbata, Pk. Doddington, Bembridge and Cannock Chase (*Donisthorpe*[66]).

Drusilla canaliculata, F. Guestling, Porlock, and carrying an ant in its jaws at Ditchling (*Donisthorpe*[67]).

Homalota analis, Gr. Porlock, May 16th, 1907; Bradgate Park, May 2nd, 1909 (*Donisthorpe*).

Staphylinus stercorarius, Ol. Forth Bridge (*Donisthorpe*[68]).

Batrisus formicarius. *Smith*[69] records the capture of a beetle under this name in a nest in Yorkshire. The true *Batrisus formicarius*, Aub., is not in the British list. It is possible that Smith referred to *Batrisodes* (*Batrisus*) *renustus*, Reich., a species which occurs in Britain, chiefly with ants.*

Formicidæ:—*Myrmecina graminicola*, Latr. ♀ and eight ☿ ☿ in a nest of this ant, under a stone at Box Hill, September 6th, 1912 (*Donisthorpe*).

Ichneumonidæ:—*Pezomachus aquisgranensis*, Först. Bentley Woods, Suffolk (*Morley*[70]).

Braconidæ:—*Pachylomma buccata*, Bréb, Freshwater Bay, Pembrokeshire (*Marshall*[71]).

Proctotrupidæ:—*Exallonyx fumipennis* var. *donisthorpei*, Kief. Two specimens were taken in a nest under a stone (*Arnold*[72]).

Coccidæ:—*Ortheziola rejdorskyi*, Sulc. Several specimens at Porlock (*Donisthorpe*[73]).

Araneina:—*Myrmarachne* (*Salticus*) *formicarius*, De G. ♂ and two ♀ ♀ at Sandown, I. of W., and a young ♂ at Luccombe Chine (*Donisthorpe*[74 & 75].)

4a. **Myrmica sabuleti**, Meinert, Kong. Danske Viedensk. Selsk. Skrift., v., 1861, p. 327. ☿ ♂ (♀ unknown).

"☿:—Reddish-yellow; gaster darker above; antennal scape bent almost at right angles; base with a tooth, and on the upperside with a high sharp longitudinal keel; frontal flaps large, ear-shaped; frontal portion wholly or partially wrinkled; sides of head irregularly

[66] *Trans. Ent. Soc. Lond.*, 1909, p. 403.
[67] *Ent. Record*, 1911, p. 60.
[68] *Ent. Record*, 1907, p. 255.
[69] *Trans. Ent. Soc. Lond.*, 2, iii., 1855, p. 116.
[70] *Brit. Ichneum.*, ii., 1907, p. 186
[71] *Trans. Ent. Soc. Lond.*, i., 1899, p. 78.
[72] *Ent. Record*, 1908, p. 106.
[73] *Ent. Mo. Mag.*, 1911, p. 179.
[74] *Zool.*, 1908, p. 424.
[75] *Ent. Record*, 1909, p. 290.

* Since the above was written I have acquired the specimen in question from Smith's collection. It is the *B. renustus*, Reich., and is labelled "Yorkshire July 1852."

sculptured ; thorax and nodes of pedicel distinctly wrinkled longitudinally. L. $2\frac{1}{4}$".

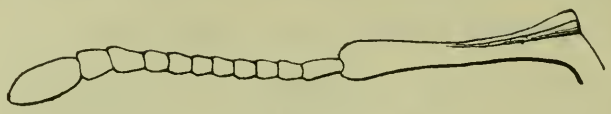

Fig. 7

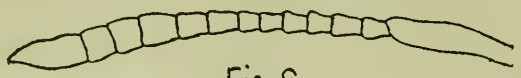

Fig. 8.

ANTENNÆ OF M. SCABRINODIS V. SABULETI.
FIG. 7. ☿. FIG. 8. ♂.

♂ :—Black ; antennæ for the greater part, apex of abdomen, joints of legs, and feet yellow ; antennal scape a third of the length of the funiculus; the last joint longer than the two preceding ones together, often bent or divided in the middle ; antennæ almost bare ; legs with long, oblique, sub-erect hairs ; first node of pedicel wrinkled longitudinally ; wings greyish-brown to beyond middle. L. $2\frac{1}{2}$-$2\frac{3}{4}$"." (*Translation from the Danish*).

I have taken males, winged and deälated females, and workers of this form, which is new to the British List, at Box Hill and the New Forest in July, and at Seaton, when with Crawley, in August this year.

It is rightly considered a variety of *M. scabrinodis*, Nyl. Emery[76] states the ♀ and ☿ are not to be distinguished with certainty from the type form, and the ♂ is to be known by the longer scape which is as long as the first five joints of the funiculus. In my experience, however, the females and workers have a much more developed lateral tooth to the scape than in *scabrinodis* proper, and the longitudinal keel on the upper side, as described by Meinert, is very distinct. It is fortunate that I should have obtained ♂ ♂, ♀ ♀, and, of course ☿ ☿, in all the nests I have found of this variety. From these it is evident that when the scape in the ♂ is long, the lateral tooth in the ♀ and ☿ is well developed, and *sabuleti* represents the extreme form of development of *scabrinodis* in this direction.

5. **Mymica lobicornis,** Nyl., Acta soc. sc. Fennicæ, ii., 3, 1846, p. 932. ☿ ♀. iii., 1849, p. 31. ♂.

Myrmica denticornis, Curtis, Trans. Linn. Soc., xxi., 1854, p. 215. ☿ ♂.

Myrmica denticornis, Smith, Trans. Ent. Soc. Lond., 2, iii., 1855, p. 120. ☿ ♂ ♀.

The scape in the ☿ and ♀ is sharply bent, and is furnished on the top at the bend with a strong transverse ridge, a character which will at once distinguish it. This ridge, when seen in profile, has the appearance of a spine. The club of the antennæ is more or less distinctly three-jointed. In the ♂ the scape is about half the length

[76] *Deutsch. Ent. Zeitschr.*, 1908, p. 176.

of the funiculus, and abruptly bent at the base. The funiculus is short, and the club four-jointed.

Fig. 9.

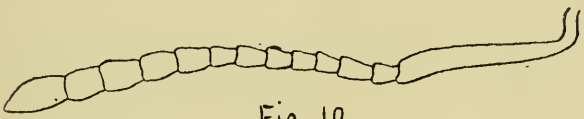

Fig. 10.

ANTENNÆ OF M. LOBICORNIS.
FIG. 9. ♀. FIG. 10. ♂.

Distribution.—North Europe (further south a mountain species), eastwards to Central Asia. I have taken winged females in July and males in July and August in the nests.

Meinert[77] describes a mixed frontal gynandromorph. Morley[78] recorded a hermaphrodite in a sand-pit at Foxhall. I have not seen the specimen, so am unable to say if it is a gynandromorph. Rothney[79] records specimens in nests of *Formica sanguinea* at Shirley, and I have several times found colonies under nests of that ant at Weybridge.

British distribution.—ENGLAND.—Somerset S., Hants. S., Sussex E., Kent E., Surrey, Essex, Berks., Oxford, Suffolk E., Norfolk E., Cheshire, Durham, Northumb. S., Cumberland.

SCOTLAND.—Haddington, Edinburgh, Fife, Kinross, Perth S. and Mid., Easterness, Ebudes Mid., Sutherland E.

IRELAND.—Armagh.

WALES.—Glamorgan, Carnarvon.

The following Myrmecophiles have occurred with this species:—

FORMICIDÆ:—*Myrmica myrmicoxena*, Forel. Forel[80] mentioned small males and females of what he at first thought to be a curious form of *lobicornis* which were taken in the nest of that ant by Bugnion in the Alps. Subsequently[81] he correctly described them as a new species of inquiline ant.

DIPTERA:—*Phora formicarum*, Verrall. Hovering over the ants in a colony at Weybridge (*Donisthorpe*[82]).

6. **Myrmica rubida,** Latr. When staying with my friend Dr. Forel in Switzerland last October, he showed me where *Myrmica rubida*, Latr., was common, on the banks of the Rhone. It was a great pleasure to see this fine large species alive. It is much larger than any

[77] *Vidensk. Selsk. Skrift.*, v., 1869, p. 327.
[78] *Entom.*, 1898, p. 13.
[79] *Ent. Mo. Mag.*, xviii., 1882, p. 262, etc.
[80] *Fourmis de la Suisse*, 1874, pp. 78 and 79.
[81] *Versam. D. Naturf. Arzte. Wien.*, 1894, p. 143.
[82] *Ent. Rec.*, 1912, p. 36.

of our species. In the ♀ and ☿ the epinotum is not armed with spines, and the club of the antennæ is five-jointed. Emery[83] gives for its distribution the mountains of the temperate zone of the Palæarctic Region from the Alps to East Siberia; also in the Appenines and in Asia Minor and the Caucasus. It has never been found in the British Isles, but it is possible that it may have occurred here formerly, since Wheeler[84] suggests it was the original host of the small ant *Formicoxenus nitidulus*, and that the latter only later became associated with *Formica rufa*. *Formicoxenus* is widely distributed in Britain, and often abundant in *F. rufa* nests.

I am indebted to Mr. E. A. Elliot for the translation from the Danish, to Mr. Hugh Main for the photograph of the ergatandromorph of *M. scabrinodis*, and to Mr. Hereward Dollman for the drawings of the wing, and the antennæ. The drawings of the latter are intended more to emphasise the important points of the different species, than to represent an exact model of the antennæ. It must be remembered that from different points of view, the antennæ present quite different appearances. I also wish to express my thanks to the following gentlemen who have kindly given me specimens, or have sent me specimens to examine and name, or have supplied me with localities :— The Hon. N. C. Rothschild, the Revs. E. N. Bloomfield, G. R. Crawshay, J. E. Hull, W. F. Johnson, F. Morice, A. Thornley, and J. Waterston; Drs. M. Cameron, N. Joy, and G. W. Nicholson; Profs. T. H. Beare, J. W. Carr, C. Emery, and A. Forel; Messrs. T. W. Allen, E. A. Atmore, C. Bartlett, E. Bedwell, J. E. Black, H. Bolton, J. Bondroit. F. Bouskell, G. A. Brown, E. A. Butler, H. C. Champion, C. Crawley, H. J. Cuthbert, J. Edwards, E. G. Elliman, H. Willoughby Ellis, W. Evans, H. S. Fryer, C. Best Gardner, W. Gardner, G. T. Gimmingham, J. G. Gordon, J. N. Halbert, H. M. Hallett, A. H. Hamm, B. S. Harwood, F. V. Hodgson, E. A. Hudd, J. H. Keys, J. J. F. X. King, A. H. Martineau, E. Meyrick, R. S. Mitford, C.B., C. Morley, C. H. Rudge, H. Scott, W. E. Sharp, T. Stainforth, J. Taylor, S. O. Taylor, F. V. Theobald and M. Webb.

ERRATA.—p. 1, line 2, for "*Formica rufa*, L.," read *Formica rubra*, L.

Appendix.—First List of Aphides found with Myrmica.

By FRED. V. THEOBALD, M.A., F.E.S.

APHIDES FOUND WITH THE GENUS MYRMICA.

1. **Trama troglodytes**, Heyden.
   = *Trama radicis*, Kaltenbach.
   = *Trama pubescens*, Koch.
   = *Trama radicis*, Koch.
   = *Lachnus longitarsis*, Ferrari.
   = *Rhizobius helianthemi*, Westwood.
   = *Aphis radicis*, Goureau.

REFERENCES :—

Heyden, Mus. Senk., ii., p. 293 (1837).
Kaltenbach, Mono. Pflanz., p. 211 (1843).

[83] *Deutsch. Ent. Zeitschr.*, 1908, p. 167.
[84] *Ants*, 1910, p. 434.