

## ON CERTAIN BRITISH HOMOPTERA.

BY JAMES EDWARDS, F.E.S.

(PLATE XVIII.)

*Megophthalmus scabripennis* sp. n.

Differs from *M. scanicus* in having the surface of the corium between the veins covered with closely-placed tubercles; the recurved barbs on each side of the upper edge of the mouth of the aedeagus more than half as long as the stem; genital style (fig. 9) with a broad angular tooth on the outer side about midway between the apex and the bend. In *M. scanicus* the surface of the corium between the veins is covered with a coarse, shallow, confused punctuation, the barbs at the mouth of the aedeagus are about one-fourth the length of the stem, and the style (fig. 8) is of nearly equal width from the bend to the apex.

I have seen *M. scabripennis* from Weston-super-Mare; Hope Hills, Colwyn Bay, Denbighshire; Symonds Yat, Credenhill, Herefordshire; Snowdon; Pendine, Carmarthenshire; and Sherwood Forest, Bulwood Forest, and Linby, Notts; twenty-one examples in all. The only species which I have hitherto found at Colesborne is *scanicus*; but Prof. J. W. Carr has taken both species on the same day at Linby, as did Mr. E. A. Butler at Pendine.

*Idiocerus albicans* Kbm. ab. *fusco-coeruleus* ab. n.

Head, pronotum and legs blackish-brown, with a deep blue tinge similar to that found on the elytra of the male of *Tettigonia viridis*; elytra fuscous, becoming gradually paler just before the apical areas.

One female off White Poplar in a garden at Norwich (*Thouless*).

*Acocephalus trifasciatus* Fourcr.

Nearest to *A. bifasciatus*, but has the elytra white at the apex; *i.e.*, the elytra are white with the base broadly, and two transverse bands, one near the middle and the other just before the apex, dark brown. The barbs of the aedeagus (fig. 1) are as follows: a small recurved pair at the apex, a small straight lateral pair behind the middle, and a large divergent dorsal pair, also behind the middle. On the aedeagus of *A. bifasciatus*, and *A. tricinctus* there are no apical barbs, and the large dorsal post-median pair are sub-parallel. I am not acquainted with any characters by means of which the females of *A. bifasciatus*, *A. trifasciatus*, and *A. tricinctus* may be distinguished with any degree of certainty.

I have only seen this species from Nottinghamshire, where it has been taken by Prof. Carr on Langford Moor.



*Deltocephalus multinotatus* Boh.

Having regard to the six dark spots on the crown, two (triangular) at the apex, two (transverse) in a line with the front edge of the eye, and two (transverse) at the hind margin, and the blackish spot on the elytra at the end of cell M 3, this cannot be mistaken for any other British species of the genus. The veins are in greater part milk-white, and veins R1 and R2 + 3 each stand in a milk-white triangular spot. The pronotum has a dusky cloud on the disk and a black point on each side. The aedeagus (fig. 5) is long, strap-shaped, of three divisions, of which the two outer are more highly chitinated than the inner one; at about the apical fifth each lateral portion is produced outwardly into a recurved tooth, beyond which the remainder of the organ is bent over, in form somewhat like the lip of a jug; the bases of these two teeth are connected by an arch; on the front side opposite to this arch there are two long, straight, divergent spines, of which about the apical third is visible in the cephalad aspect.

I have called this species *multinotatus* Boh., in accordance with common usage; but I can only say with certainty that it is *multinotatus* Then (Mitt. Nat. Ver. Steiermark, 1898, t. II). It is evident from the latter's foot-note, *t.c.* p. 161, that he includes more than one Austrian species under that name, though he only figures the genitalia of our insect.

The macropterous form, of which I have only seen the female, is a most beautiful insect; the dark markings on the crown and pronotum are exaggerated, and the cells of the elytra are nearly all margined with blackish, the white markings becoming by contrast much more conspicuous.

Notts (*Carr*); N. E. Yorkshire (*Butler*).

*Deltocephalus sursumflexus* Then.

Similar in general appearance to *D. flori* Fieb., but the tendency to have black margins to the cells is less marked. The aedeagus (fig. 7) is long and slender, and on each side of the pointed apex there is a long curved horn directed outward and downward in the plane of the long axis of the stem; in the lateral aspect one sees at the apex an irregularly roundish membranous lobe, the distal end of which is strongly chitinated. The tooth on the distal third of the lower edge of the pygofer is small, straight, and not curved inward. The difference in the outline of the hind margin of the last ventral segment in the female does not furnish any reliable distinction between this species and *D. flori*.

I got *D. sursumflexus* from the herbage (rushes, sedges, *Vaccinium*, *Sphagnum*, &c.), at the edge of pools in the Delamere Forest district, at the end of August, 1914; it occurred much more sparingly than is usual with the *Deltocephali*.



*Deltocephalus thenii* sp. n.*D. striatus* Then (pars).

I give this name to the second species mentioned and figured by Prof. Then (t.c. 1899, p. 166, note 2, t. II, fig. 6a). It appears to me that we cannot do better than accept Then's definition of *striatus* L., though none can say with certainty whether this is or is not the kind of insect which was described by Linnaeus under that name; but no useful purpose is served by treating under one name what are obviously two species. *D. thenii* is best distinguished from *D. striatus* Then by the form of the aedeagus (fig. 6), the free portion of which consists of two chitinous branches, in shape somewhat resembling the frame of a lyre and connected by a transparent membrane. The aedeagus of *D. striatus* Then (fig. 13) resembles a spoon of which the handle is about equal in length to the bowl.

*D. thenii* is generally distributed and common in Britain, but I only know *D. striatus* from coast-marshes at Wells and Weybourne, Norfolk.

*Deltocephalus normani* Scott.*D. substriatus* Then.

This is not, as I formerly supposed, an uncommon form of *D. striatus*, but a distinct species, which was described by Prof. Then (op. cit. 1901, p. 186) under the name of *substriatus*. It is likely to be confused with *D. thenii*, from which it differs in being less strongly marked with black, and in its slender aedeagus with a small, oblique, slightly expanded mouth (fig. 4). The inner apical areas have a tendency to whiteness, and it was to specimens in which this feature is particularly well-marked that Scott gave the name *normani* in 1881. In fresh specimens the veins are decidedly yellow.

I have found this species just as common as *D. thenii*.

*Limotettix atricapilla* Boh.

Readily distinguished from *L. striola*, which it otherwise much resembles, by having the front edge of the elytra broadly pale. Genital styles acuminate and curved inward at the apex, on the outer side a little below the apex a strong triangular tooth (fig. 3). The concave hind-margin of the last ventral segment in the female has a feeble semi-circular notch in the middle.

Amongst low plants at the edge of pools, Newchurch Common, Delamere Forest district, September, 1910, and August, 1914.

*Limotettix saturata* sp. n.

Resembles *L. aurantipes* in having the upper-side and legs yellow, inclining to red, and the black spots on the crown small, or even absent, but the frontal black spots are roundish or obtusely trigonate, not wider than long. The genital valve is about twice as wide as high and the genital plates are transversely impressed across their apical third; the inner edge of each is sub-equal to its



greatest breadth. There is no lobe at the base of the aedeagus, and its apex is simply acicular (fig. 12).

In a marsh at Hoveton, Norfolk, September 2nd, 1911 (*Edwards*) ; Leith Hill, Gomshall, Chilworth (*Butler*).

*Limotettix 5-notata* Boh. nec Edw.

Resembles strongly marked examples of *L. 4-notata*, but has a closely-placed pair of short longitudinal black lines on the middle of the fore-part of the crown. The aedeagus (fig. 10) has its lower outline in the lateral aspect continuous (without the large rounded lobe found in *L. 4-notata* [fig. 11]); its apex obtuse, with an acicular spreading appendage at each outer angle, and in the middle a Y-shaped appendage. The genital plates are transversely impressed across the apical third, and their inner apical angle is sometimes sub-dentiform. The elytra are greenish-yellow with some of the areas, especially those near the suture, irregularly margined, or even filled up, with fuscous or black.

Paisley (*Morris Young*) ; Carmarthen (*Butler*).

I find that the insect which I formerly regarded as *L. 5-notata* is really *L. intermedia* Boh. ; it may be distinguished from the former by the yellow elytra inclining to red and without dark markings, and the genital plates with an oblique somewhat curved impressed line running from the inner third of the base to a point on the inner edge just below the apex. The aedeagus is similar to that of *L. 5-notata*.

*Typhlocyba callosa* Then.

Upper-side pale yellow. Crown with a pair of sharply defined transversely-oval dusky spots in front. Scutellum with a pale red triangle on each side of the base. Elytra with a sharply defined, elongate-triangular, dark brown streak along the suture almost to the apex of the clavus ; an oblique suffused fuscous band running backward from the apex of the clavus about half-way across the elytron ; the second apical area sub-sessile ; membrane very feebly infusate. Length (to tip of elytra) 4.9 mm.

The above particulars are taken from a single female captured by Mr. R. S. Bagnall on hawthorn at Egglestone, in the wilds of south-west Durham. The species is found on *Alnus glutinosa* from July to September, and has previously been recorded from Austria, Hungary, and France only.

*Zygina mali* sp. n.

Distinguished from *Z. alneti* and *Z. coryli* by its milk-white colour, which, except for a very slight fuscescence of the apical areas, is complete. Each upper angle of the pygofer (fig. 14) has a slightly incurved strap-shaped process almost as long as the remainder of the segment, and each lower angle has a small triangular tooth ; the styles do not reach the half-length of the plates, and have at the base a large, flat, somewhat rounded lobe.



On October 3rd, 1913, whilst taking *Typhlocyba debilis*, of which both sexes were in swarms on apple trees at Colesborne, I got a male of this species; and fifteen days later, by assiduous working, two females, also from apple trees. I had no opportunity to search for it in 1914.

*Z. alneti*, *coryli*, and *mali*, by reason of their habitus as well as the form of the male genitalia, form a distinct section of the genus; and whether they be regarded as distinct species or as forms of one, separate names are necessary.

*Psyllopsis discrepans* Flor.

Forceps (fig. 16) in the externo-lateral aspect hatchet-shaped, the part corresponding to the blade large and broad, the stem short and slender. In the interno-lateral aspect the hinder half of the blade is occupied by a sub-quadrate space closely covered with black tubercles; from the base of the inner side of the stem there runs a membranous wing which ends, near the angle formed by the hinder edge of the stem and the lower edge of the blade, in a large claw-like black tooth; the upper front angle of the blade bears a bunch of straight black spines which are directed downward and backward; at the base of the hinder edge of the stem within there is a wide triangular membranous lobe. Otherwise similar to *P. fraxini*.

I found the single male from which the above particulars are taken amongst a number of *P. fraxini* beaten by Prof. Carr from ash at Upton, near Southwell, Notts.

*Psylla subferruginea* sp. n.

Similar to *P. melanoneura* Forst., but distinguished by the yellow-brown tendency of its coloration, the yellow-brown veins, concolorous stigma, and the absence of any darkening of the apical third of cell a2. The forceps (fig. 17) are about half as long as the anal valve, evenly narrowed from the base to the apex, the front edge moderately convex, the hinder edge concave, its curve less strong than that of the front edge. In *P. melanoneura* the veins on the outer two-thirds are black, the stigma and the apical third of cell a2 are darker than the remainder, and the forceps (fig. 18) are two-thirds as long as the anal valve, and distinctly sinuate in outline. In *P. nigrita*, which is also like *P. melanoneura*, the forceps (fig. 15) are two-thirds as long as the valve with their hinder edge straight in the basal half and excavated in the apical half.

*P. subferruginea* is common and generally distributed in Britain; it forms a small proportion of the *Psyllae* which one may beat from any coniferous tree at any time between October and April; but I believe that its food-plant is birch, as I have found it numerous on that tree in June.

Colesborne, Cheltenham:

April 23rd, 1915.



## EXPLANATION OF DIAGRAMS.

- Fig. 1.—*Acocephalus trifasciatus*: *a*, aedeagus, lateral aspect; *b*, ditto, cephalad aspect.
- „ 2.—*Limotettix striola*: apical part of genital style.
- „ 3.— „ *atricapilla*: ditto.
- „ 4.—*Deltocephalus normani*: *a*, aedeagus, cephalad aspect; *b*, ditto, lateral aspect.
- „ 5.—*Deltocephalus multinodeatus*: *a*, aedeagus, cephalad aspect; *b*, ditto, obliquely lateral aspect.
- „ 6.—*Deltocephalus thenii*: aedeagus, *a*, cephalad aspect; *b*, ditto lateral aspect.
- „ 7.—*Deltocephalus sursumflexus*: aedeagus, *a*, cephalad aspect; *b*, ditto, lateral aspect; *c*, ditto, dorsal aspect of the apex.
- „ 8.—*Megophthalmus scanicus*: genital style.
- „ 9.— „ *scabripennis*: ditto.
- „ 10.—*Limotettix* 5-notata: aedeagus, lateral aspect.
- „ 11.— „ 4-notata: „ „ „
- „ 12.— „ saturata: „ „ „
- „ 13.—*Deltocephalus striatus*: aedeagus, *a*, cephalad aspect; *b*, ditto, lateral aspect.
- „ 14.—*Zygina mali*: pygofer, *a*, dorsal aspect; *b*, ditto, lateral aspect.
- „ 15.—*Psylla nigrita*: forceps, obliquely lateral aspect.
- „ 16.—*Psylloopsis discrepans*: forceps, lateral aspect.
- „ 17.—*Psylla subferruginea*: „ „ „
- „ 18.— „ *melanoneura*: „ „ „

## NEW SPECIES OF PSELAPHIDAE, SUB-FAM. CLAVIGERINAE.

BY G. E. BRYANT, F.E.S.

## (PLATE XIX).

This short paper deals with four new species of *Clavigerinae* collected by myself in Ceylon, Borneo, and Brazil. These curious and interesting insects are not easy to obtain in the tropics, as in thick jungle country ants' nests are difficult to investigate owing to the vast accumulation of dead leaves, and all the likely looking places, as a rule, swarming with ants and leeches, not to mention an occasional snake. Termites' nests, both under bark and when made of mud, also produced some very interesting forms. During my stay in Borneo I collected



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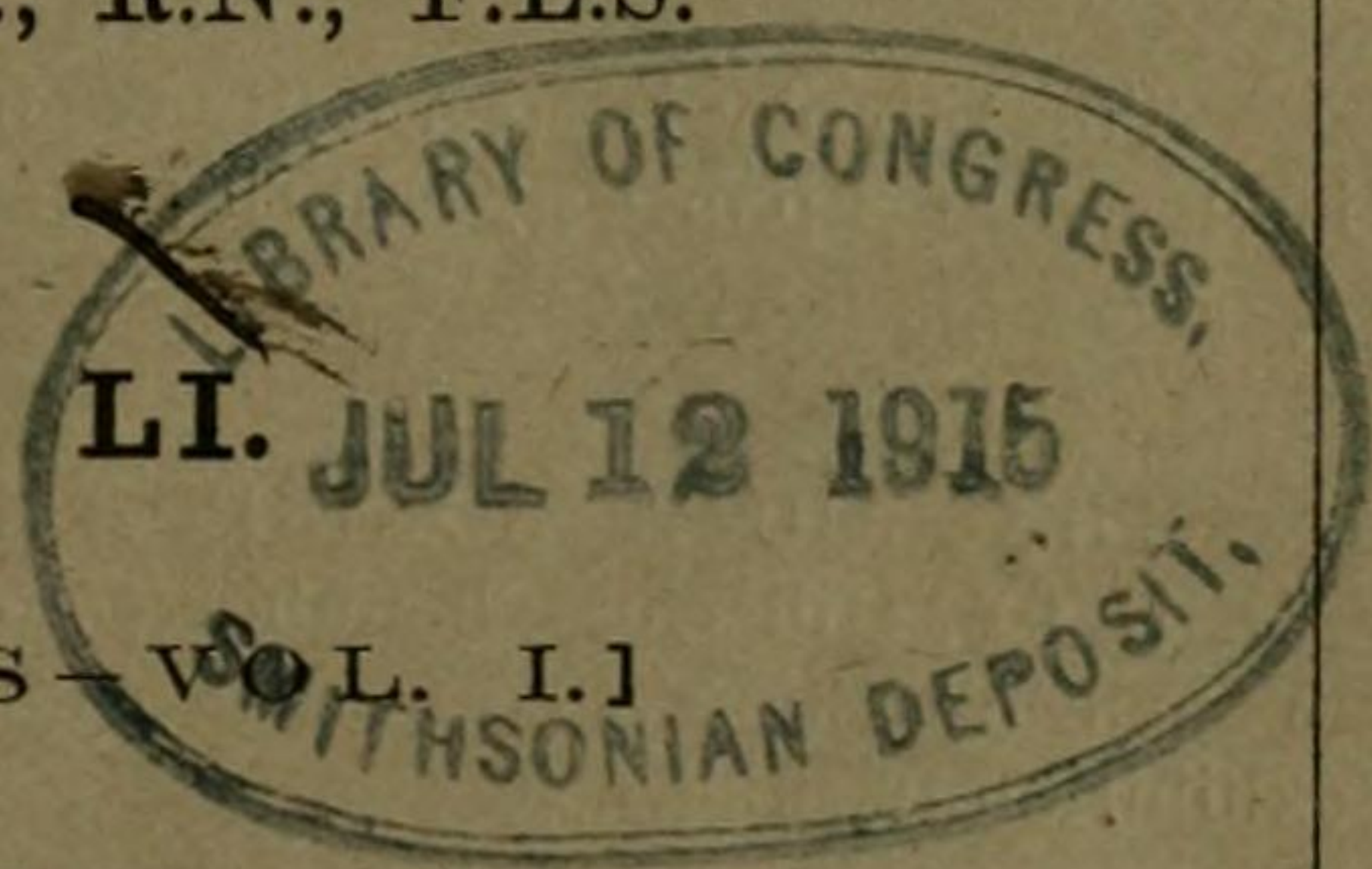
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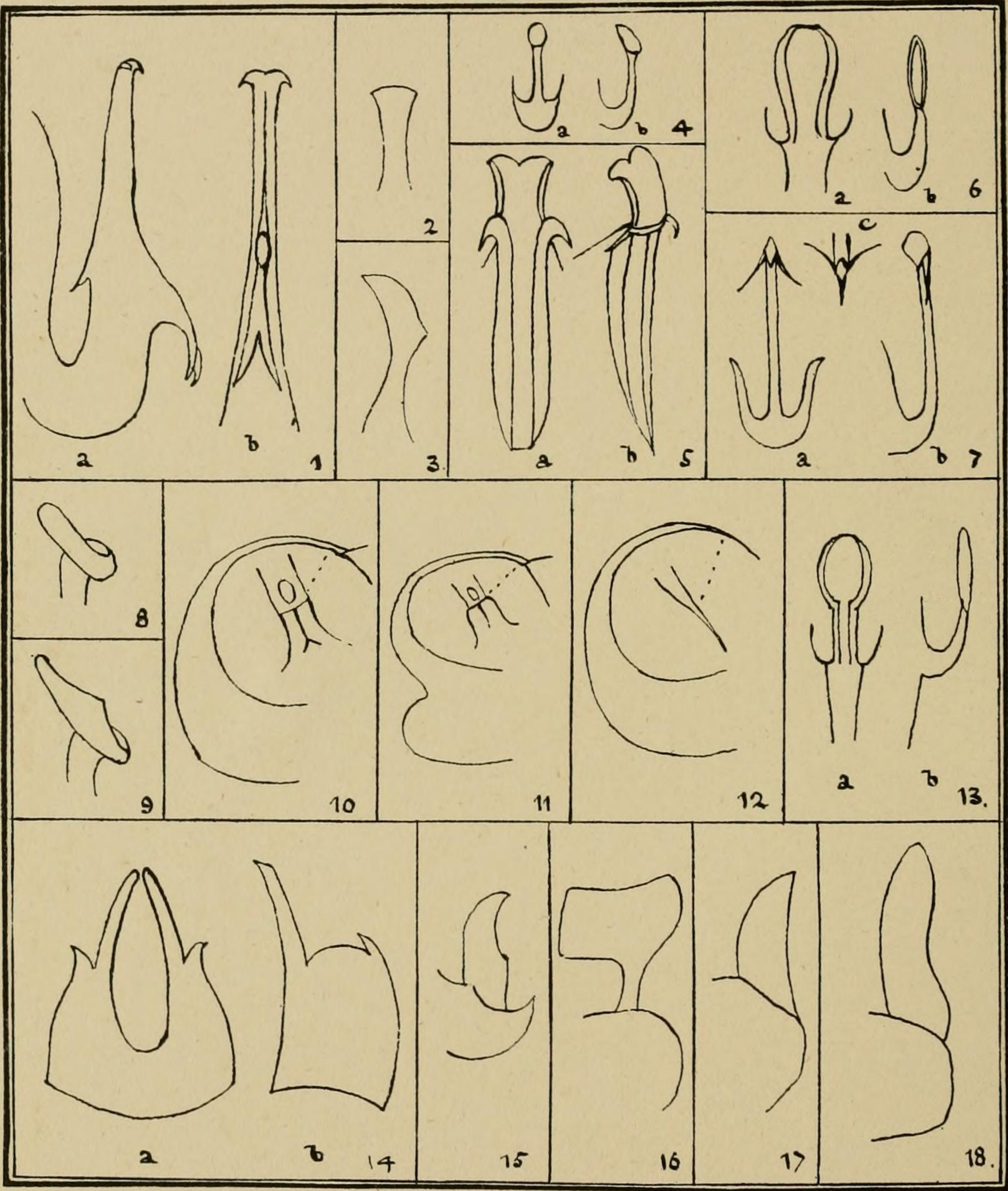
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BRITISH HOMOPTERA.