species is "somewhat rare." Van der Wulp (Diptera Neerlandica, Eerste Deel, 1877, p. 325) also says that it "appears to be rare," adding that the ♀ has been taken in August at Brummen, near Zutphen, and in the dunes near Vogelenzang, not far from Haarlem.

British Museum (Natural History):
August 16*th*, 1895.

NOTES ON *COCCIDS* FROM KENT.

BY E. ERNEST GREEN, F.E.S.

Diaspis rosæ, Bouché.

In a note on this insect, published in the Ent. Mo. Mag., June, 1887, it is intimated that the species is somewhat rare in England. In reply to a query on the subject, Mr. J. W. Douglas informs me that he has had no notice of its occurrence since the date of that article. I have, however, received specimens from Mr. R. Newstead, taken at Chester in 1892. Its appearance this year in the Maidstone district may be worthy of notice. I find a large colony of the insects located on the stems of a wild rose tree in a garden at Bearsted, and another colony on a cultivated rose (*Gloire de Dijon*) trained against a wall in the same garden. In each case the scales are principally confined to the old stems. The ♀ scales contained, in July and August, adult insects of the normal form (fig. 1) and numerous eggs. In the specimens under examination the median pair of pygidial lobes only are conspicuous, the others being almost completely concealed within the margin of the body. I find the number of orifices in the grouped glands to vary considerably in different specimens; nor are they generally symmetrical. The formulæ for six specimens examined are as follows, viz.:—

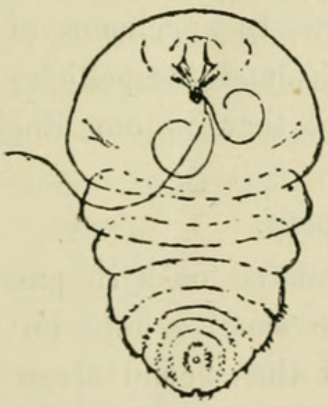


fig. 1

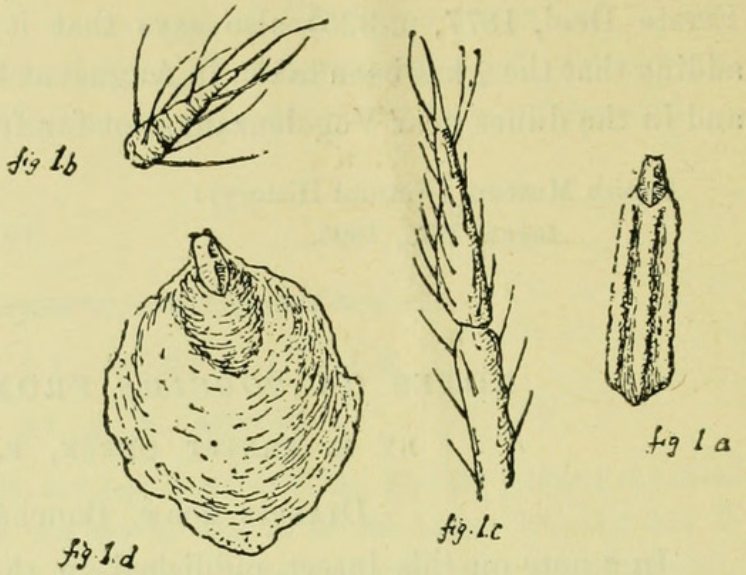
$$\begin{pmatrix} 18 \\ 36 & 30 \\ 40 & 27 \end{pmatrix} \quad \begin{pmatrix} 18 \\ 18 & 22 \\ 14 & 26 \end{pmatrix} \quad \begin{pmatrix} 16 \\ 35 & 40 \\ 36 & 35 \end{pmatrix} \quad \begin{pmatrix} 16 \\ 32 & 29 \\ 29 & 29 \end{pmatrix} \quad \begin{pmatrix} 16 \\ 24 & 25 \\ 25 & 26 \end{pmatrix} \quad \begin{pmatrix} 15 \\ 27 & 29 \\ 25 & 28 \end{pmatrix}$$

other six specimens from Chester give the following numbers:—

$$\begin{pmatrix} 23 \\ 24 & 17 \\ 28 & 24 \end{pmatrix} \quad \begin{pmatrix} 22 \\ 24 & 22 \\ 26 & 27 \end{pmatrix} \quad \begin{pmatrix} 15 \\ 21 & 27 \\ 27 & 24 \end{pmatrix} \quad \begin{pmatrix} 14 \\ 24 & 25 \\ 30 & 30 \end{pmatrix} \quad \begin{pmatrix} 14 \\ 34 & 30 \\ 30 & 26 \end{pmatrix} \quad \begin{pmatrix} 11 \\ 23 & 26 \\ 26 & 24 \end{pmatrix}$$

The lateral groups are almost continuous; but the divisions can be determined by following the contour lines that enclose each group.

The ♂ scales are strongly tricarinate (fig. 1*a*). The adult males appeared in August. They are of the normal Diaspid form; body rather slender; colour bright orange-red. The terminal joint of the antenna (fig. 1*b*) bears a stoutish knobbed hair at its apex. The feet (fig. 1*c*) have three knobbed digitules only, two on tarsus and one on claw.



An examination of the ♀ scales shows them, where not distorted by overcrowding, to be almost Chionaspiform. The pellicles are on the extreme edge, and the first pellicle very frequently projects beyond the margin (fig. 1*d*). In this respect (the position of the pellicles) I see little difference between *Diaspis rosæ* and *Chionaspis biclavis*, Comstock; nor does the form of the ♂ scale help us. In both genera they are of the same form, viz., white and tricarinate. The same peculiarity of form of the ♂ scale may often be noticed in *Diaspis lanata*, Morg. & Ckll., in the early adult stage. In specimens of *D. rosæ* sent to me by Mr. Maskell from New Zealand, the pellicles are in every case central and much darker coloured than in our English examples.

Aspidiotus zonatus, Frauenf.

This insect is fairly common here on isolated oaks in pasture land. The ♂ scales may be found singly or in small groups on the under-surface of the leaves. The ♀ scales of the second stage are clustered on the terminal branchlets at the base of the new year's growth and sheltered by the dry bud-scales. The mature ♀ scales are found on the older branches, but not in any quantity; and at this time of the year most of them seem to have been eaten out, possibly by some Coccinellid beetle. In this stage they are extremely difficult to detect, being covered by the dark smoky deposit that settles upon the bark. The whitish scars left by the fallen scales will sometimes show the locality of a colony of the insects.

The minute winged males (fig. 2) made their appearance at the end of August and early part of September. Their colour, bright clear yellow, with jet-black apodema, the mesothoracic plates with

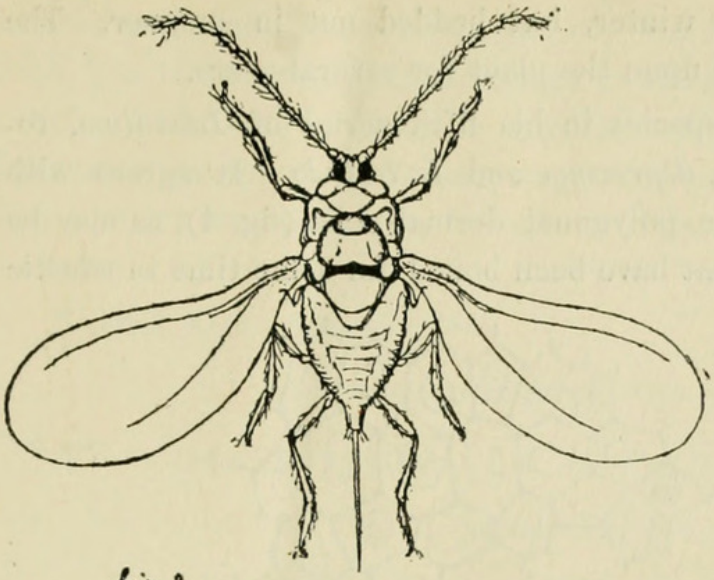


fig. 2.

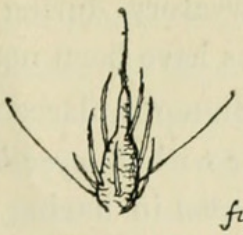


fig. 2.b

fig. 2.a

brownish margins, legs and antennæ colourless. There is a prominent colourless ocellus on each side of the head, besides the four large black eyes. Feet with four knobbed digitules (fig. 2*a*). Terminal joint of antenna with three long knobbed hairs (fig. 2*b*), one at apex and two near the base. Total length, $1\frac{3}{4}'''$, of which the genital spike occupies $\frac{3}{4}'''$. The black apodema is a striking feature in this insect, and doubtless suggested the name of the species; for Frauenfeld's description was made from the male insect only.

Asterolecanium quercicola, Bouché.

This pretty little *Coccid* is also common on the oak branchlets. The ♀ of second stage I find in the same situation as that of *Asp. zonatus*. In this stage the colour of the test is yellowish-brown, or it may be better described by the tint known to water colourists as "brown-pink." There are on the dorsal surface of the test five longitudinal series of detached thin waxy plates (fig. 3), representing possibly the early larval test, which has become fissured along the lines of growth, and the parts separated by the secretion of fresh material. The colourless glassy fringe can only be seen in its entirety in this stage. The older females occupy shallow depressions in the bark, as does their near ally, *Planchonia ventricosa* of Maskell.

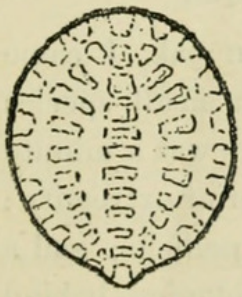


fig. 3.

I have been unable to find the males or male scales of this species.

Lecanium oleæ, Bernard.

I have found this species in considerable numbers upon an oleander plant in Yalding, Kent. The plant in question is kept in a

conservatory during the winter, but bedded out in summer. The insects have been noticed upon the plant for several years.

Signoret places this species in his fifth series of *Lecanium*, together with *L. cycadis*, *L. depressum* and *L. testudo*. It agrees with *depressum* in having large polygonal dermal cells (fig. 4), as may be well seen in specimens that have been boiled for some time in caustic

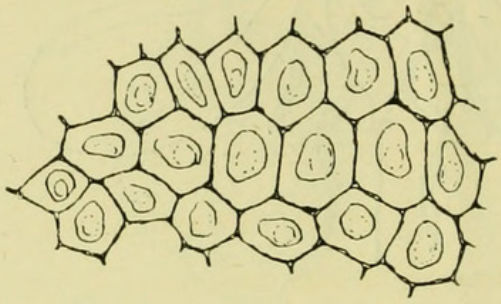


fig. 4

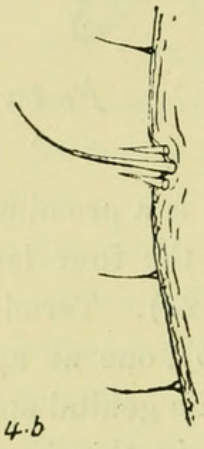


fig. 4.b

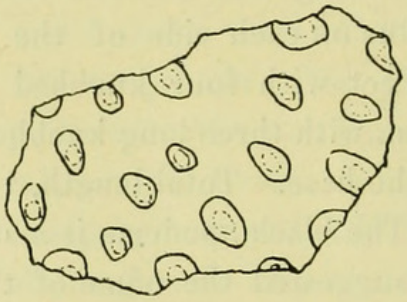


fig. 4 a

potash; whereas unmacerated or insufficiently treated specimens will show only the large oval nuclei (fig. 4*a*). The marginal hairs are simple, with bulbous bases. The three stigmatic spines are sharply pointed, the median one about three times as long as the others (fig. 4*b*).

Mimicry of Coccid scale by a leaf miner.

While hunting for scales of *Aspidiotus zonatus* on oak, I came across numerous specimens of what I supposed to be a small species of *Chionaspis* on the under-surface of the leaves. There was a minute pellicle at the narrow anterior extremity; a suggestion of a second pellicle; and a delicate greyish scale widening behind (fig. 5). I was congratulating myself upon the discovery of Comstock's *Chionaspis quercûs* in England, and confidently expected to find the single undivided median lobe peculiar to that species; but, upon dissection, instead of a female *Chionaspis*, beneath the supposed Coccid scale was a minute caterpillar. In fact, my imaginary *Chionaspis* proved to be the work of the mining

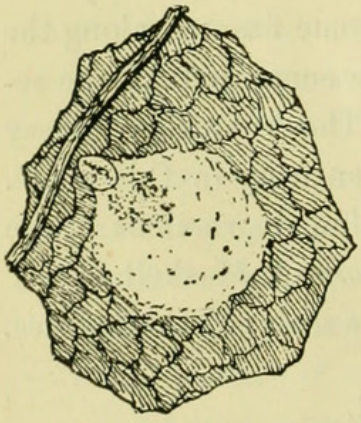


fig. 5

larva of one of the *Micro-Lepidoptera*.* The terminal pellicle resolved itself into the empty egg-shell vacated by the caterpillar; the separated cuticle of the leaf formed the greyish scale, and the collection of frass near the anterior extremity suggested a concealed second pellicle. The mimicry was complete, though doubtless unconscious and accidental.

Bearsted, Kent: *September*, 1895.

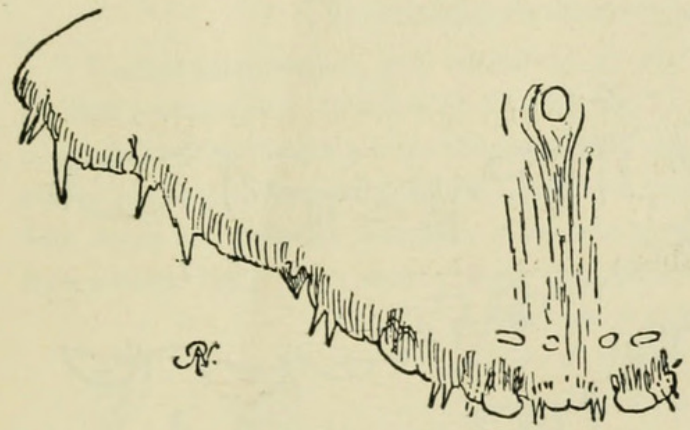
OBSERVATIONS ON *COCCIDÆ* (No. 13).

BY R. NEWSTEAD, F.E.S.,

CURATOR OF THE GROSVENOR MUSEUM, CHESTER.

CHIONASPIS BILOBIS, *n. sp.*

♀ adult dull crimson (after death). After treatment with caustic potash, black; but on examination with transmitted light, blue-black: this colour is apparently due to ova contained in the body, as older individuals without ova were rendered almost transparent in the potash. More or less pyriform, narrowed in front. The pygidium (fig.) has the five groups of spinnerets distinctly separated; the anterior of 10; the anterior laterals of 14; the posterior laterals 10 to 15. Median lobes contiguous, much smaller than second pair; the latter, the largest, are united to the third pair. There are two short plates between the first and second pairs of lobes; and following the third lobe are two more, and beyond them several others. Projecting a little beyond the third lobe are two very slender spines. Within the margin are several scattered pores.



Scale of the ♀ pure white, more or less pyriform, suddenly widened immediately behind the second moult; or elongated with sides parallel; very convex; larval and second moult yellowish, or frequently pure white.

Long, 1·5, wide, ·75 mm.

Scale of the ♂ and larval moult pure white, with distinct lateral and central carinæ. Many of the specimens have numerous very coarse waxen threads attached to them, indicating a loose covering, as *Diaspis Boisduvalii*, Sign.

Hab.: on *Deverra scoparia*, Biskra, Algeria, March 2nd, 1895. Collected by the Rev. A. E. Eaton.

The continuity of the lobes as indicated above is the distinguish-

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* *Diptera?*—R. McL.