Notes on and Description of the Male of Cœlostoma immane (Maskell), and of a New Species of a Leaf-mining Moth.

By J. G. O. Tepper, F.L.S., F.I.Sc., &c.

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Coelostoma immane, *Maskell.*

The female of *Cœlostoma immane*, one of the Monophlebidæ, is probably the largest sized of all Coccids, was first figured and described by the late F. M. Maskell in the Transactions of the New Zealand Institute, 1891 (p. 49, pl. XI., figs. 9—12), and afterwards mentioned repeatedly in subsequent volumes up to 1898. The male has, however, remained unknown hitherto, it seems, although it is mentioned by Maskell that the species was reported as having been observed near Sydney on some kind of Eucalypts. Nor was the precise locality known where the original type specimens in the South Australian Museum had been collected, as they were received without any note or indication, except a half-obliterated postmark indicating the Far North. Both these points are now cleared up by a parcel of specimens received at the S.A. Museum on September 5th of this year, having been sent by Mr. George Prout from the Wheal Turner Mine, in the neighbourhood of the Yudanamutana and Umberatana Stations, north of Port Augusta, to Prof. R. Tate, who courteously handed them over to the Museum Collection.

Some six or seven females, fixed to the twigs of *Acacia aneura* (Mulga), were still fresh, and some of them actually alive. They were of various sizes, the largest measuring 35 mm. in length, and 17 mm. in width; but with them were also about twice as many males enclosed, which were, however, all dead, and unfortunately, more or less distorted and damaged. There were likewise a quantity of eggs which had been deposited *in transitu.*

The antennæ of the females are stout, ten-jointed, 9 mm. long, gradually attenuated from the base to the apex, the joints subcylindrical, and each apparently with a narrow white annulus at the base. The body segments are distinctly separated by more or less deep constrictions; hence the margin is sinuate, besides being otherwise sculptured above with mature individuals, the young ones being almost smooth and entire in this respect. The whole body in life is covered thinly with a mealy-white layer of wax, which also covers the twigs and foliage near the specimens, and appears not to be dissolved by strong methylated spirit. In formaline solution the wax forms a more or

less contiguous mass, and separates in larger or smaller flakes imperfectly. When this occurs, the whole of the epidermis is then seen to be marked by minute round pits, from which the waxy meal appears to be exuded. The general colour is a deep blackish-brown, here and there verging into lurid.

Mr. Maskell placed the species in the genus Cœlostoma "on account of the absence of a rostrum" (op. cit. p. 51). and says "there is no doubt of its being a Monophlebid," but it appears that this "absence" is only apparent in the Monophlebidæ, for both *Monophlebus Crawfordi* and *Cœlostoma australe* are known to possess a rostrum (sucking tube) of great length, which during life is deeply buried in the tissues of the bark of the twigs on which the insect is located. When, however, the organ is withdrawn it is at the same time retracted into the body; its extreme slenderness and the minuteness of the otherwise unmarked orifice rendering it next to impossible to detect its presence. Mr. A. Zietz informs me that he has frequently detached living Monophlebi from the bark and seen their rostrum retracted, and I have noticed in the present instance that the living insect (Cœlostoma) had its body closely and immovably fixed to the twig by its rostrum, but later, when dead, had its forepart raised and the rostrum completely retracted. The "absence" of a rostrum, as a distinction, will, therefore, have to be omitted in future.

The male of *C. immane* is very insignificant in size compared with that of the female, and is provided with two ample wings of similarly simple structure as those of *C. australe.* The body is usually black, also the legs, but more or less covered by the thin whitish meal already mentioned, which also dusts the wings and antennæ of the specimens.

The head contracts posteriorly into a distinct neck. The eyes are brown, large, oval, and provided with very numerous, extremely minute facets. The antennæ are shortly hirsute (?), notably the two apical joints, 12-jointed; the basal joint is very short, much thicker than long, cup-shaped, the second similiar, but thinner and longer; joints 3, 8, 9 sub-cylindrical, sub-equal, each about twice the length of the second; joints 4-7 and 10 filiform, subequal, each about twice as long as the preceding; 11 and 12 similar, subequal, together a little longer than the preceding one, the penultimate being the shorter.

The thorax is uneven, shiningly black; the mesonotum exhibits an oval raised median space convex above; scutellum indistinct.

Abdomen rugose, flat, 6 (?) jointed, acuminate, and terminating in a slender, flat filament (? penis) twice or more longer than the body (this is usually absent from dried specimens, or more or less contorted, owing to its extreme slenderness and brittle nature).

The anterior wings are large, rose-coloured, oval, and about two and a-half times longer than wide, but very thin and brittle.

The costal nervure (vein) is very strong, acuminate from the middle, and terminating towards the apex, colour brownish-black, base pink ; the main branch vein starts from the costal nervure at about one-third of its length from the base ; terminating beyond the middle of the hindmargin, and is dark coloured and prominent above ; the second branch is close to the first and parallel with it, but is very fine, pale coloured and *prominent on the underside ;* the cubital nervure is short, also very fine, pale coloured and midway between the costal vein and the hindmargin ; the membrane itself is translucent, rose coloured, and, in dried specimens, the superior surface resembles certain parts of the skin of the human finger, the depressed fine lines branching from the nervures.

The legs are black, smooth, the anterior much shorter than the second and third pairs, which are much longer than the body, the middle pair being the longest. Femora more or less dilated, tibia linear, tarsi entire (?), claw simple, minute.

The ova are elongate oval, ends subequal, colour orange-red, length 1 mm., diameter 0·5 mm., quite smooth as seen by means of the triple Coddington lens.

Strong methylated alcohol, in which most of the males and a portion of the ova were immersed, became of a pinkish-yellow colour in a few days, while a white paper label became dyed of a rose colour in the liquid.

Nepticula nigricansella, *sp. nov.*

Metallic brownish-black. Head with long, dense, erect bristles, dull black ; face and pronotum resplendent dark bronze in reflected light ; antennæ nearly as long as the folded wings, silvery towards apex ; forewings with three very narrow, nearly equidistant, metallic bluish-white bands ; hindwings black, tips brilliantly metallic ; body beneath metallic, blackish, with white hairs fringing the segments sparingly ; legs very long, black, with some indistinct pale bands. Length of body—Male, 1·5 mm.; female, 2 mm. Span of wings—Male, 4 mm.; female, 6 mm.

One male and two females, bred from leaves of *Kennedya* (Hardenbergia) *nigricans.* Habitat—Unley, Adelaide, S.A.

The leaves, presented on September 4 by Mr. W. H. Grasby, had the underside so completely mined by the larvæ that the entire epidermis became separated from margin to margin in most, and partially so in others. A tiny chrysalis being detected fixed to the upper (still green) part on one of the veins, the leaves were secured in a box with a glass lid. On September 15 the first imago was noticed, and on the 19th two more.

A portion of a Eucalyptus leaf from Mr. A. Zietz exhibits quite similar features, which give the foliage the aspect of being blistered, and shows that there are other species of these, the tiniest of Lepidoptera.

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