

ON SOME NEW SPECIES OF COCCIDÆ FROM AUSTRALIA, COLLECTED BY W. W. FROGGATT, F.L.S.

By E. ERNEST GREEN, F.E.S., GOVERNMENT ENTOMOLOGIST,
CEYLON.

(Communicated by W. W. Froggatt, F.L.S.)

(Plate xxxiii.).

RHIZOCOCCUS VIRIDIS, sp.nov.

Living insect green (Froggatt). Dried examples and those preserved in alcohol dark purplish-brown. Strongly convex above, with deep transverse corrugations. Under side somewhat concave, the margins clasping the twig upon which the insect rests. Oblong-oval to broadly oval according to age. Divisions of abdominal segments strongly marked, the margins of the four terminal segments produced into rounded lobes: the anal lobes small, but strongly chitinous and darker coloured (fig. 1). Antennæ with six joints only, the 6th longer than the preceding two together (fig. 2). Antennal formula 6, (1, 3), 2, (4, 5). Legs well developed; normal. Tarsus nearly as long as tibia; the two together about equal to femur and trochanter combined. Digitules fine hairs. Spiracles rather small and inconspicuous. Anal ring with six hairs. Derm with minute circular trilocular pores (fig. 1a) and scattered longish sharply-pointed spines on both dorsal and ventral surfaces, larger and more crowded on margins of terminal four or five segments. Caudal setæ (on anal lobes) comparatively short, only three or four times the length of adjacent spines. Total length 2.50 mm.; breadth 2.0 mm.

Young larva (viewed as embryo within body of female), oblong-oval, tapering behind. Antennæ 6-jointed, 6th longest. Dorsum with series of longish blunt spines.

Hab.—Mittagong, N.S.W., (Froggatt Coll. No. 318); on young twigs and leaf-stalks of *Acacia decurrens*.

Subfamily ASTEROLECANIINÆ.

ANTECEROCOCCUS, gen.nov.

Adult female not forming a complete test separable from the insect; but with body closely covered with adherent waxy matter. Antennæ and legs atrophied, the latter consisting merely of a tubercle surmounted by a claw. Anal lobes prominent, each bearing a long seta; and between them a chitinous dorsal prolongation as in *Cerococcus* and *Olliffia*. Derm with figure-of-8-shaped pores.

Male puparium as in *Cerococcus*.

Adult male not known.

ANTECEROCOCCUS PUNCTIFERUS, sp.nov.

Dried examples of the adult female (fig. 3) are irregularly broadly oval, abruptly narrowed behind: dorso-ventrally depressed: with a median longitudinal rounded ridge on thorax, on each side of which is a deeper depression: another depression above the caudal region. Dorsum with a thick covering of brownish granular waxy matter which adheres closely to the insect. Ventral surface thinly covered with similar material. There are compact tufts of longish stout pale yellowish glassy filaments arising from definite spots: two conspicuous tufts on each side corresponding with the stigmatic areas: two smaller tufts directed backwards and inwards from the base of the abdominal depression, and a fringe of outwardly and backwardly directed filaments from the lateral margins of the abdominal extension. The position of these filamentary tracts is indicated on the derm of the insect by groups of large 8-shaped pores. Length 1.50 mm.; breadth 1 mm.

After maceration the insect is seen to be pyriform (fig. 5): the thoracic parts broadly oval: the abdomen abruptly narrowed and constricted near its base, terminating in a pair of prominent conical anal lobes (fig. 9). Mouth-parts large: mentum dimerous. Antennæ rudimentary; divisions confused and impossible to define: truncate, with a few stout hairs at apex (fig. 6). Legs 6, atrophied; each consisting of a stout claw on a rounded chitinous tubercle (fig. 7). Stigmata large and conspicuous. Anal ring with eight stout flattened hairs, finally tapering towards the extremity. There are also some hair-like spines arising from the walls of the anal tube. Anal lobes (fig. 9) prominent: a well defined strongly chitinous patch on the inner edges: each bearing at extremity a long stout seta besides several stout curved spines. Dorsad of the lobes is a triangular chitinous extension of the body, the free extremity rounded and projecting between the lobes, its base continued in a chitinous transverse band which curves inwards and partly encircles the anal ring. Derm closely set with 8-shaped pores of two sizes (figs. 8*a* and 8*c*). The larger pores are grouped at definite spots on the dorsum and give rise to the tufts of glassy filaments seen on the living insect. Viewed in profile, at the edge of the body, they are seen to be sunk in shallow cylindrical pits. The smaller 8-shaped pores are scattered over the whole surface of the body and presumably secrete the waxy matter that closely invests the insect. At each of the stigmatic areas, inside the group of large pores, is a band of small circular pores, with minute compound orifices (fig. 8*d*) extending over both dorsal and ventral surfaces. There are other small circular pores, with larger simple orifices (fig. 8*e*), scattered irregularly over the surface. And on a level with the point where the abdomen is constricted, are two pairs of circular bodies (fig. 8*f*), the function of which is obscure. They appear to be seated just below the derm of the dorsal surface. They are chitinous, funnel-shaped, with the base multiperforate like a sieve. They are possibly homologous with the multilocular glands of *Cerococcus*. Length 1.25 to 1.50 mm.; breadth (across thorax) 1 mm.

Male puparium whitish or very pale fulvous: thinly coated with granular wax, as in the adult female. Thoracic area with two

deep longitudinal furrows. Posterior extremity with a large circular valve (see fig. 4) placed horizontally. Length 1.25 mm.

Hab.—Bathurst, N.S.W., (Froggatt Coll. No. 317); on *Pittosporum eugenioides*.

DESCRIPTION OF PLATE XXXIII.

Figs. 1-2—*Rhizococcus viridis*.

Fig. 1.—Abdominal extremity of adult female: dorsal view.

Fig. 2.—Antenna of adult female.

Figs. 3-9—*Antecercococcus punctiferus*.

Fig. 3.—Adult female, with waxy covering: dorsal view.

Fig. 4.—Puparium of adult male.

Fig. 5.—Adult female, after maceration: ventral view.

Fig. 6.—Antenna of adult female.

Fig. 7.—Foot of adult female.

Fig. 8.—Pores from derm of adult female. *a.* Larger 8-shaped pores.
 b. Larger 8-shaped pores, in profile. *c.* Smaller 8-shaped
 pores. *d.* Small circular pores, from stigmatic area.
 e. Small circular pores, with simple orifices. *f.* Sieve-like
 bodies, from base of abdomen.

Fig. 9.—Abdominal extremity of adult female: dorsal view.



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