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NEW RECORDS OF COCCIDÆ (HOMOPTERA)¹

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1.—A NEW GRASS-FEEDING COCCID FROM NEW CALEDONIA

On May 26, 1928, the senior author found a species of *Antonina* abundant on a grass which grew in the sand along the shore near Bourail, New Caledonia. It was only a short distance beyond high-water mark. The grass was without flowers or fruit and could not be identified, but it is probably an introduced species, and we may suspect the coccid of being likewise introduced. Compton (1917) says that only about six species of grasses are native in New Caledonia, and Schinz and Guillaumin (1914) list no endemic grasses.

The *Antonina*, whether indigenous or not, proves to be undescribed.

Antonina littoralis, new species

Females mostly in the sheathing bases of the leaves, enclosed in the usual dense cottony sacs, about 1.5 mm. long and 1 mm. wide, clear white, often stained with light yellow. A red color is given off on boiling in caustic potash. The female when mounted is oval in outline, 1.75 to 2 mm. long, about 1.5 mm. wide, without any projecting pygidial region. The posterior end, as usual, is brownish and more densely chitinized, with a wrinkled surface. The abdominal region, as in other species, is transversely plicate. The specific characters are as follows:

The broad, oval shape, as against the elongate form of *A. socialis* Newstead and *A. purpurea* Signoret.

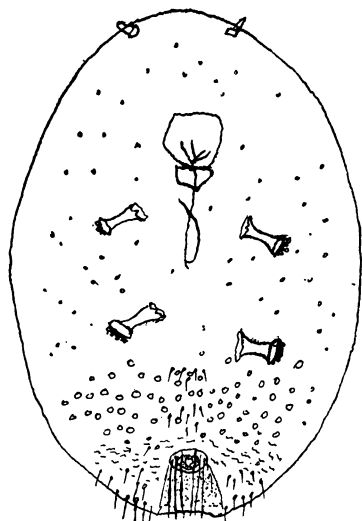
Antennæ minute, two-segmented, the first joint short, the second longer than wide, with apical bristles as usual. The whole antenna is obtusely conical, not cushion-like as in *A. australis* Green.

Spiracles well developed, as usual, without distinct reticulation at base of tube; the usual group of densely packed round glands next to the orifice, these quite numerous, about 17 to 20. (About 6 to 8 in *A. panica* = *A. indica* var. *panica* Hall.)

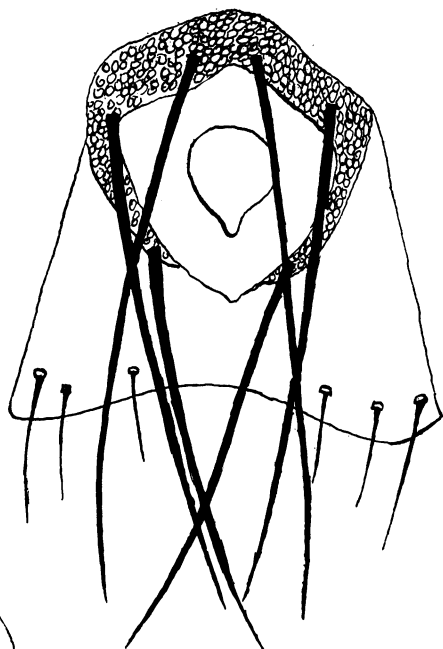
Region adjacent to spiracles like the rest of the skin, not densely packed with minute glands as shown in Green's figure of *A. australis*.

Dermal glands small, circular, averaging about 25 microns apart. In the subcaudal region they are more numerous, forming a broad zone of densely placed glands at about the level of the anal ring.

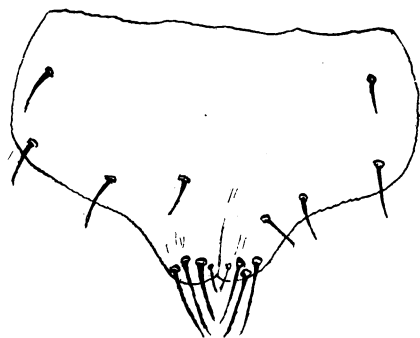
¹The types of all species described are in The American Museum of Natural History



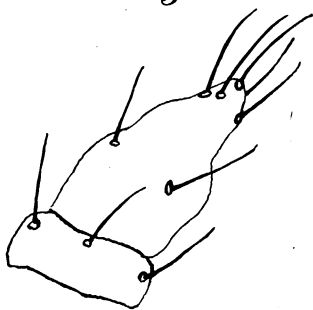
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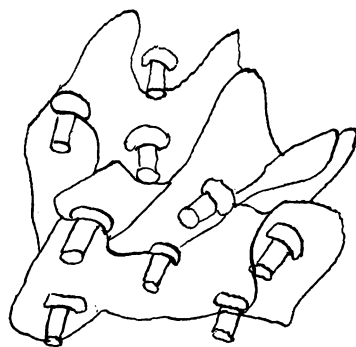
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- Fig. 1. *Antonina littoralis*. Adult female.
 Fig. 2. *Antonina littoralis*. Anal opening with anal ring setae.
 Fig. 3. *Antonina littoralis*. Labium.
 Fig. 4. *Antonina littoralis*. Antenna.
 Fig. 5. *Antonina littoralis*. Deeply furrowed chitin near posterior end.

There are no distinct transverse rows of single glands, such as occur in *A. australis* and *A. panica*.

In the abdominal region are many large circular glands, showing a small central orifice, and ten spoke-like structures extending to the outer edge. These are not nearly so numerous anterior to the last pair of spiracles.

Anal ring with six bristles, as usual in the genus; but caudal region not projecting or pygidium-like, as it is in *A. australis*.

Caudal region with a sparse fringe of short bristles, about 25 microns long. These are wholly absent in *A. australis*, according to the figure; in *A. panica* they are longer and more numerous. In *A. indica* Green they are about as in our species.

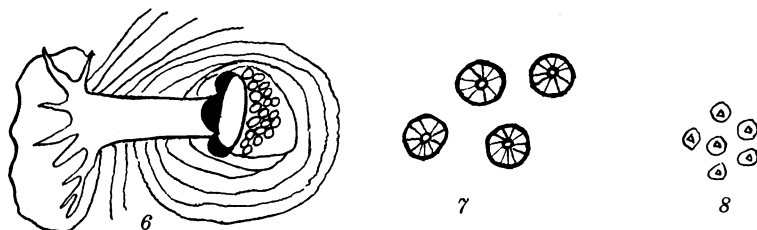


Fig. 6. *Antonina littoralis*. Anterior thoracic spiracle.

Fig. 7. *Antonina littoralis*. Ocular wax glands anterior to chitinized area.

Fig. 8. *Antonina littoralis*. Small glands near anterior end.

On the whole, our species comes nearest to *A. indica* Green. The figure shows no wrinkling at the caudal end, and the description states that the skin is slightly rugose posteriorly. In *A. littoralis* the caudal end is strongly and conspicuously wrinkled in a vermiform manner. The antennæ are very similar to those of *A. indica*. Green's figure shows 29 parastigmatic glands, our species having about 17 to 20. Hall's *A. indica* var. *panica* is still more different and must be considered a distinct species. Green describes a species (*A. maritima*) found on *Cyperus* at high-water mark in sandy soil at Colombo, Ceylon. There is no particular resemblance to the species described by Brain from South Africa.

2.—A NEW GENUS OF DIASPINÆ FROM JAVA

A very peculiar diaspine was found on *Loranthus pentandrus* Linnaeus, parasitic on *Canarium* at Buitenzorg, Java, 1917 (Yaheri), and was sent in by Mr. Jas. R. Weir of Missoula, Montana. The *Canarium* is cited on the label as *C. sleeumanum*, a species unknown to us.

For some unexplained reason, *Loranthus* harbors an extraordinary number of Coccidæ. Interesting particulars and lists are given by F. Schumacher (Nat. Zeits. Forst- und Landwirtschaft, XVI, 1918, pp.

195-238) and H. Morrison (Proc. Entom. Soc. Washington, XXI, 1919, pp. 197-202). Morrison remarks that 44 species of Coccidæ have been recorded from *Loranthus*, but indicates that this means the genus in the old, broad, sense, not necessarily *Loranthus* as restricted by modern botanists. Many of these coccids, of course, are widely distributed forms, in no sense peculiar to Loranthaceæ. Such are *Pseudaonidia articulata* Morgan, *Aspidiotus hederæ* Vallot, *Chrysomphalus aurantii* Maskell, and various lecaniines. Several, however, have been found only on *Loranthus*, and some of these are quite peculiar, as for instance Morrison's *Macrocepiscoccus loranthi* from British Guiana.

The insect from Java appears to form a new genus, which may be diagnosed as follows.

LORANTHASPIS, new genus

Female scale circular, with central to subcentral exuvæ, and a well-developed ventral scale; the scales are crowded on the stems, and set more or less on edge, like small bivalves. They inhabit cracks in the bark, which are filled with them. According to the old classification, based primarily on the scales, this would fall in *Aspidiotus*. In Leonardi's system (1900) it would go best in *Targionia*, though very different from the species described under that genus. In MacGillivray's classification (1921) it also falls near *Targionia*, and might seem to run to *Pygidiaspis*, which is however quite a different insect. The narrow, almost linear, median lobes are especially distinctive, and recall the immature stage of the otherwise quite different *Aonidia tentaculata* Green, 1919. There are no fringed plates or grouped glands.

Loranthaspis microconcha, new species

FEMALE SCALE.—Circular, highly convex dorsally and ventrally, .6-.9 mm. diameter, dark gray; first and second exuvæ central to subcentral, the first represented by an oval pellicle, 250 μ long and 238 broad, light brown, the posterior end with three pairs of lobes, the dorsal side with a circular waxy secretion 126 μ across. Second skin oval, 460 μ long and 390 wide, dorsally with a waxy secretion. Beneath the second skin is the adult female, in a scale 900 μ diameter, with well-developed ventral scale, so that it is completely enclosed (but not in the second skin as in *Aonidia*).

LARVA.—Oval, 245 μ long, 210 wide; antennæ 6-segmented, length of segments in μ (1) 10, (2) 6, (3) 12, (4) 3, (5) 5, (6) 13. Middle leg: coxa 10, trochanter with femur 28, tibia 8, tarsus with claw 25 μ ; caudal end with three pairs of lobes, median wide at base, smooth and slightly convex at apex; second about half width of median, third slightly wider than second.

SECOND STAGE.—Oval, 490 μ long, 406 wide; pygidial region continuous with margin of body, twice as wide as long; median pair of lobes minute, contiguous, spiniform, about one-third length of second lobe; second lobes with broad base and wide convex apex, notched apically on inner side and with two notches on outer; there are slight processes of the body, not chitinized, in place of second and third lobes; a single row of scattered marginal setæ; tubular wax glands numerous, laterad

of the fourth rudimentary lobe; in proximity to anal opening and anterior to it are tubular glands, as figured.

ADULT FEMALE.—Circular; antennal tubercles well developed, with a long slender seta at apex and two short ones at base; pygidial area three times as wide as long; median pair of lobes extremely long and narrow, with no structures between them; second pair broadly rounded, slightly wider than long, notched on inner side, and on

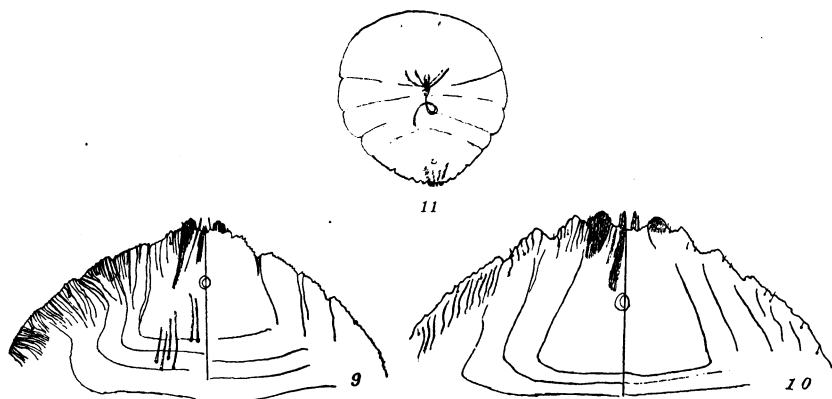


Fig. 9. *Loranthaspis microconcha*. Pygidium of second nymphal female.
 Fig. 10. *Loranthaspis microconcha*. Pygidium of adult female.
 Fig. 11. *Loranthaspis microconcha*. Outline of body of adult female.

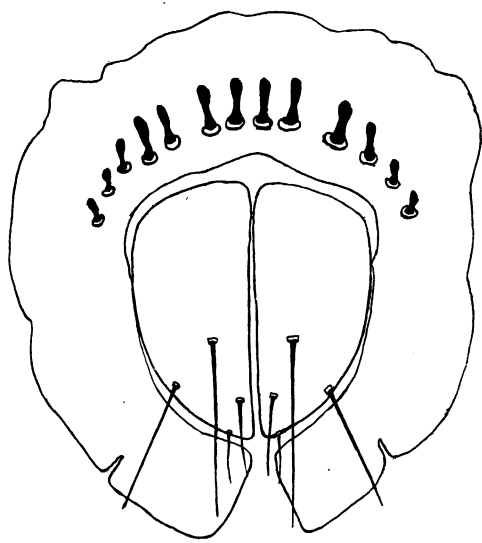
the outer side near base; in the place of the third and fourth lobes are large broadly angular projections of the margin, with notched or irregular edges; laterad of each median lobe is a slender spine slightly longer than the second lobe; setæ few, as figured; grouped glands absent; numerous tubular glands laterad of fourth rudimentary lobe (projection), along pygidial margin.

The insect is evidently viviparous, as many as seven or eight young may be seen within the female.

3.—A NEW WAX-SCALE FROM HAITI

The wax-scales, genus *Ceroplastes*, so far as at present known, number 102 species and 10 races or varieties. The species are most abundant (41) in South America, but America north of Panama has 22, nearly all in the Neotropical portion. Africa shows 31, but Europe, Asia and the Australian region together only eight. The few species which have been spread by commerce are only counted once in this enumeration.

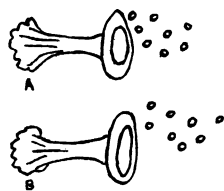
The new species before us was obtained by Professor H. L. Dozier on "Bois de Fourmis" (*Maytenus buxifolia* Grisebach, family Celastraceæ) at Sources Puantes, Haiti, Nov. 14, 1929. From it, he has reared



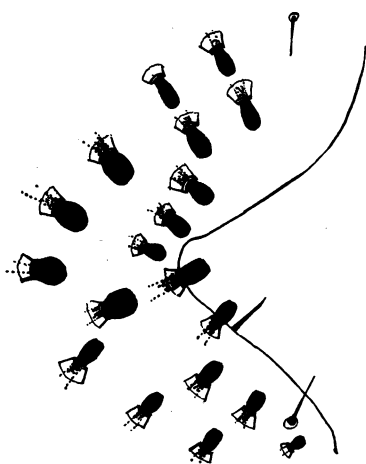
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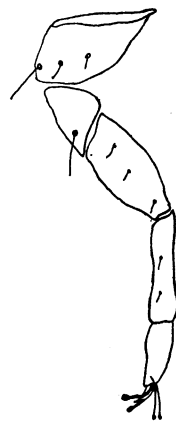
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- Fig. 12. *Ceroplastes dozieri*. Anal plates.
 Fig. 13. *Ceroplastes dozieri*. Spines of stigmatic depression.
 Fig. 14. *Ceroplastes dozieri*. Portion of derm between stigmatic depressions.
 Fig. 15. *Ceroplastes dozieri*. Anterior (A) and posterior (B) thoracic spiracle.
 Fig. 16. *Ceroplastes dozieri*. Middle leg.
 Fig. 17. *Ceroplastes dozieri*. Antenna.

seven different chalcidoid parasites. The genus *Maytenus* seems to be favored by *Ceroplastes*, *C. albolineatus* Cockerell, *C. communis* Hempel, *C. formicarius* Hempel, *C. rotundus* Hempel, and *C. sanguineus* Cockerell, having been taken upon it. These are all Neotropical species, none of them at all closely resembling that from Haiti. The Haitian species, although rather commonplace in external appearance, is evidently new.

***Ceroplastes dozieri*, new species**

Female scales on the twigs and small branches; male scales on the leaves, scattered or along the midrib beneath. Female scales of thick irregular white wax, having a slight greenish tint, but without reddish color; lines of white secretion at the sides, but no division into plates; the general form is oblong, elevated, but the wax irregularly formed and sometimes showing strong ridges. Length, about 5 mm.; width, 4. The denuded female is small, about 2.4 mm. long and 2 wide, but with the caudal horn very small and short, wherein it differs from *C. ceriferus* (Anderson), which has similar wax. The spines of the stigmatic depressions are distinctive, being short, broad, and truncate, or even slightly cupulate at apex; in the anterior depressions are about 18 or 19 of these, five larger than the rest. Anterior thoracic spiracle of ordinary form, with eight derm-pores near outer opening; posterior spiracle also with eight pores. Toward the margins are thick chitinous protuberances, varying in form, but more or less pointed; these seem to form five or six very irregular rows, except near the stigmatic depressions, where there is only one row. Antennæ with six joints, measuring in μ about (1) 24, (2) 30, (3) 88, (4) 22, (5) 25, (6) 40. Middle leg in μ : coxa 25, trochanter with femur 90, tibia 70, tarsus 37; digitules of tarsus long, slender, slightly clubbed at apex; digitules of claw slightly shorter and thicker and distinctly dilated apically. Anal plate 113μ long, 50 wide; three subapical setæ on plate, and also a small one on margin at hind end; anterior to the plates is an arched row of 12 to 14 tube-like structures.

Male scales elongate, slightly over 1 mm. long, white, with a bifid projection at each end, and three obtuse waxy projections on each side. Young female scales are short and oval, pale reddish.

4.—A NEW *LECANIINE* SUBGENUS

MARSIPOCOCCUS, new subgenus

On January 19, 1928, on Pah Meeung Mountain in northern Siam, Miss Alice Mackie found male and female scales of a very interesting lecaniine coccid on leaves of an undetermined plant. The species proves to be *Lecanium marsupiale* Green, hitherto known from India and Ceylon. Under some of the male scales are perfect males, agreeing with Green's figure.

The species falls in the genus which has been well described (1929)

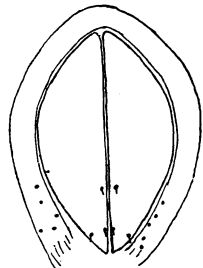


Fig. 18. *Lecanium marsupiale*. Anal lobes.

by Steinwenden as *Coccus*, though the senior author has given reasons for considering that this name is not applicable. It nevertheless forms a very distinct section or subgenus, especially characterized (female) by the stigmatic clefts, with thickened margin, no trace of a central spine, but a structure like the end of a finger at each side. Also characteristic are the ventral pouches, which gave rise to the specific name. The antennal segments were found to measure in μ : (1) 63; (2) 42; (3) 84; (4) 56; (5) 65; (6) 35; (7) 35; (8) 58. Middle leg: coxa 140; trochanter with femur 294; tibia 154; tarsus 126. For this insect we propose the subgeneric name **Marsipococcus**.