

By Mr. F. P. Godfrey.—White-browed Babbler, *Pomatorhinus superciliosus*; black crystal chipped off granite rock on Nangunia Station, N.S.W., 25 miles north of the Murray River, corresponding with the small black crystals embedded in partially decomposed granite rock.

By Mr. J. H. Gatliff.—Two new species of shells described by him, *Leuconopsis victoriæ* and *L. tatei*; also, shells included in his "Catalogue of Victorian Estuarine Univalve Mollusca."

By Mr. C. J. Gabriel.—Shell, *Cardium costatum*, Linn., from China.

By Mr. A. D. Hardy.—Various microscopic mounts and coloured drawings in illustration of paper.

By Mr. H. Jeffery.—Shell, *Cypræa umbilicata*, from Tasmania.

By Mr. A. O. Thiele.—Botanical specimens from top of Mt. Wellington, North Gippsland.

By Mr. W. H. A. Roger.—Three specimens of butterfly, *Ialmenus evagoras*, bred from larvæ received on 6th February last from Pantom Hill. The larvæ pupated during the next few days, the butterflies appearing on the 23rd, 24th, and 27th February respectively; *Ogyris abrota*, female, taken near Sandringham on 2nd April.

By Mr. F. M. Reader.—Dried plants—*Medicago arbiontaris*, All., naturalized and new for Victoria, collected at Murchison East on 26/10/04 by Mrs. W. Mather; *Blumea integrifolia*, D. C.; *Verticordia cunninghamii*, Sohan; *Panicum trichoides*, Sw., from Northern Territory, South Australia, collected by Mr. J. H. Niemann in 1904.

After the usual conversazione the meeting terminated.

## SOME NEW VICTORIAN COCCIDÆ.

By E. ERNEST GREEN, Government Entomologist, Ceylon.

(Communicated by F. G. A. Barnard.)

(Read before the Field Naturalists' Club of Victoria, 13th Feb., 1905.)

THE species described below have been forwarded to me by Mr. James Lidgett, of Myrniong, Victoria, who collected them in his district, about 40 miles north-west of Melbourne.

ASPIDIOTUS (EVASPIDIOTUS) SUBRUBESCENS, Mask., var. CORTICOIDES, n. var. (fig. 1).

Puparium larger, darker, and more opaque than in type. Colour chocolate-brown, opaque. Pellicles concealed. Diameter, 2.50 mm.

Adult female larger and more circular. Pygidium proportionately broader. (Typical *A. subrubescens* appears to have a rather narrow, pointed pygidium.) Pygidium with eight lobes, the outer one sharply denticulate (as in type). Circumgenital glands in 4



groups—upper laterals 17 to 27, lower laterals 6 to 10. Length, 1.25 to 1.50 mm.

*Habitat*.—On *Eucalyptus globulus*, Labill. Myrniong, Victoria. (No. 55A.) Very inconspicuous, the scales being exactly of the tint of the bark upon which they rest.

AONIDIA (GREENIELLA) PULCHRA, sp. nov. (figs. 2, 3).

Female puparium circular or broadly oval; strongly convex. Normally with a whitish secretory covering, which becomes ruptured during growth and frequently falls off, together with the larval pellicle, leaving the reddish-brown nymphal pellicle exposed. The first pellicle, when present, may carry the glassy processes found on the larval and male scales, but they are usually lost before the puparium has reached its maximum development. Diameter, 0.75 mm.

Male puparium (fig. 2) larger, flatter, and more oval, consisting of a brownish-grey secretory area (whitish towards margin), with a central fulvous pellicle bearing a number of long curling glassy brittle processes. There are usually 4 of these processes on the median line—2 on each side, above the thorax; and 22 forming a marginal fringe. In exposed situations the processes are often lost by abrasion. Length, 1 mm. Breadth, 0.80 mm.

Adult female enclosed within the second pellicle. Subcircular, the posterior extremity only slightly prominent. Pygidium without lobes, spines, or squames. Margin (fig. 3) irregularly crenulate. A few small circular pores irregularly distributed over both surfaces. Anal orifice central, large, circular. Diameter, 0.50 to 0.60 mm.

Female of second stage with pygidial margin resembling that of *Parlatoria*.

Larva with glassy processes, as on male puparium.

*Habitat*.—Insects of both sexes crowded on under surface of leaves of *Callistemon salignus*, Candol. Myrniong, Victoria. (Coll. J. Lidgett, No. 54.) Received also, on same plant, from Mr. C. French (Nos. 23 and 64).

The character of the larval pellicle clearly suggests relationship with *Aonidia* (*Greeniella*) *cornigera*, from Ceylon. But the second pellicle presents characters found in species of *Gymnaspid*.

MYTILASPIS CASSINIÆ, sp. nov. (figs. 4, 5).

Female puparium long and narrow; sides subparallel; often curved. Colour dull reddish-brown; pellicles reddish, almost concealed. Length of well-developed examples, 2.75 to 3.50 mm. Greatest breadth, about 0.50 mm.

Male puparium of similar colour, but shorter and straighter. Length, about 1 mm.

Adult female deep red-brown (dried examples). Anterior extremity abruptly truncate (before compression). Form other-



wise normal. Rudimentary antenna with 4 stout bristles, 2 of them considerably larger than the others. Anterior spiracles each with a large group of parastigmatic glands. A dorso-lateral series of 4 or 5 stout chitinous spines on each side, situated at the junction of the meso- and metathorax, and following three or four intersegmental divisions (see fig. 5). Occasionally one or more of the spines are duplicated, and those nearer the pygidium tend to become smaller and marginal. Median lobes of pygidium large and prominent; free edge minutely denticulate, and sloping from each side to a blunt point; base constricted. First lateral lobes duplex, prominent inner lobule largest and bluntly pointed, outer lobule somewhat sharply pointed. Second lateral lobe broad, inconspicuous, scarcely projecting beyond margin, its free edge minutely serrate. Circumgenital glands in five groups—median group 4 to 7, upper laterals 11 to 14, lower laterals 12 to 15. Anal orifice at base of pygidium, anterior to circumgenital glands. Length, 1.25 to 1.75 mm.

*Habitat*.—On *Cassinia aculeata*, R. Brown. Myrning, Victoria. (No. 62.)

MYTILASPIS (COCCOMYTILUS) HYMENANTHERÆ, sp. nov. (fig. 6).

Female puparium reddish-brown, more or less covered by fibres of the bark upon which it rests. Pellicles reddish, the second completely concealed. Moderately convex; rather broadly dilated, expanding abruptly behind the first pellicle. Length, 2.50 to 3 mm.

Male puparium not observed.

Adult female oblong oval, narrowed in front, broadest across median abdominal region. Lateral margins of abdominal segments produced into rounded lobes. Pygidium broad; median lobes very large and prominent (fig. 6), the sides sloping steeply from a median point; first and second lateral lobes small, simple, pointed. Spiniform squamæ (*fusi piliformes* of Leonardi) strongly developed, decreasing in size as they approach the extremity of pygidium. No circumgenital glands. Some conspicuous oval pores on dorsal area of pygidium and margins of abdominal segments. Length, 1.25 to 1.75 mm. Greatest breadth, 1 mm.

*Habitat*.—On stems and twigs of *Hymenanthera banksii*, F. v. M. Myrning, Victoria. (No. 63.)

Very close to *M. leptospermi*, Mask.; but easily separable by the absence of circumgenital glands, and the proportionately larger median lobes.

MYTILASPIS INTERMEDIA, var. VICTORIÆ, n. var.

*Mytilaspis intermedia*, Mask., "Trans. N.Z. Inst." 1890, page 7; Leonardi, "Gen. e. Spec. d. Mytilaspides," page 79.

Differs from type in the following particulars:—Lateral margins



of abdominal segments not markedly produced. Median lobes proportionately narrower. Other lobes obsolescent. Circumgenital glands few—median group 1 to 3, upper laterals 6 to 9, lower laterals 4 to 7. The spiniform squames are very small and inconspicuous. Length of puparium, 1.50 to 1.75 mm. Length of adult female, 1.25 to 1.50 mm.

*Habitat.*—On bark of *Acacia montana*. Myrniong, Victoria. (No. 67.)

MYTILASPIS MULTIPORA. (?) Green.

This species has been described and figured by Dr. Leonardi, in his recently published "Genera and Species of the Mytilaspides," 1903.\*

The following is Dr. Leonardi's description :—

"Fœmina fusco-aurantiaca, lagenæformis, segmentis abdominalibus in lobulis productis, ex quibus segmenta tria, pygidium præcedentia, processu conico brevi sub apicem truncato aucta, cuius ad basim glandula major sericipara aperitur. Pygidium trullarum paribus quatuor; mediis bene evolutis; secundi et tertii paris multo minoribus; quarti paris obsoletis. Fusi pili-formes inter trullas et ultra variæ magnitudinis. Disculi ciripari,

$\frac{10}{14-14}$ . Long., 1,000  $\mu$ .  
23-21

"Folliculus fœmineus albicans, vix convexiusculus, exuvia nymphali majore auctus. Exuviæ autem fusco-aurantiacæ. Velum ventrale parum extensum. Long., 1,400  $\mu$ .

"*Habitat.*—Super *Pittosporum undulatum*, Auckland (Nuova Zelanda)."

I would add that the outer lateral lobe is not always obsolescent. In many examples it is as prominent and fully as large as the second lobe. My examples average in length 0.75 mm. (= 750  $\mu$ .) The second pellicle is proportionately large, having a length of 1 mm.

(It should be noted that the *second* and *third* lobes of Dr. Leonardi are usually treated by other authors as separate lobules of a duplex second lobe.)

Dr. Leonardi calls the species *M. multipora*, Green. But as the description is entirely his own, no previous description having been published by me, his name ought rightly to figure as the author.

CHIONASPIS CANDIDA, sp. nov. (fig. 7).

Female puparium snowy-white, smooth and sericeous; pellicles pale yellow. Flattish, moderately dilated behind. Length, 2 to 2.50 mm.

Male puparium white; very feebly keeled. Length, 1.50 mm.

Adult female of normal form; broadest across median abdominal

\* "Generi e Specie di Diaspiti saggio di Systematica delle Mytilaspides," Gustavo Leonardi (p. 87).



region. Lateral margins of abdominal segments produced into rounded lobes. Pygidium broadly rounded. Median lobes conspicuous, prominent, divergent, the extremity expanded and somewhat malleiform. First lateral lobes simple, prominent, narrow, pointed. Other lobes obsolete. Spiniform squames well developed; but other spines obsolescent. Anus anterior to genital orifice. Circumgenital glands in five groups—median 6 to 8, upper laterals 11 to 17, lower laterals 17 to 20. Conspicuous series of oval pores on sides of pygidium, and numerous smaller pores on sides of abdominal segments and metathorax. Length, 1 to 1.50 mm.

Adult male not observed.

*Habitat*.—On leaves of *Callistemon salignus*, Candolle. Myrniong, Victoria. (No. 61.)

*Ch. candida* is readily separable from all its allies by the form of the pygidial lobes. Without a knowledge of the male puparium this species might have been assigned to the genus *Mytilaspis*; but the keeled scale definitely indicates its present position.

SPHÆROCOCCUS PUSTULANS, sp. nov. (fig. 8).

Female insects living beneath flattish blister-like swellings on surface of bark. An isolated pustule measures 4 to 5 mm. in diameter, is roughly circular, with a small median pore. The walls of the cell are stout, and of a corky nature. The cavity is comparatively small, and lined with a whitish film. When crowded the pustules becomes confluent, and lose their circular form.

Adult female circular or broadly oval. Segments ill defined. Antennæ small and atrophied; conical; with 2 (sometimes 3) broad basal segments, and a much wrinkled terminal joint bearing several stout hairs. Legs small; the joints much swollen and wrinkled; tibio-tarsal articulation obscure, indicated by a median constriction; claw proportionately large, stout, curved, with a denticle near the tip on inner edge. Rostrum moderately large. Macerated examples show an ill-defined median darker area on the dorsum. No glandular pores or spinnerets. Some inconspicuous scattered hairs on the derm, slightly larger on the hind margin. Anal and genital orifices obscure, close to posterior extremity, the former with a slightly thickened chitinous dorsal lip. Diameter averaging 2 mm.

Male not observed in any stage.

*Habitat*.—On bark of *Eucalyptus goniocalyx*, F. v. M. Myrniong, Victoria. (No. 52.)

The habitat and habits of this species resemble those of *Sph. elevans*, Mask., which also inhabits blister-like cells in the bark of *Eucalyptus*. But *elevans* is distinguished by the absence of limbs, and by the presence of a complicate rosette pattern on the dorsum. The presence of legs is exceptional in the genus



*Sphærococcus*. The only other species in which they occur are *inflatipes*, Mask., *populi*, Mask., *leaii*, Full., and *tepperi*, Full., all of which are easily separable by the character of their coverings, the two first secreting waxy tests, while the other two inhabit galls.

#### EXPLANATION OF FIGURES.

- 1.—*Aspidiotus subrubescens*, var. *corticoides*, extremity of pygidium of female.
- 2.—*Aonidia pulchra*, male puparium.
- 3.—Do. pygidium of female.
- 4.—*Mytilaspis cassiniæ*, adult female.
- 5.—Do. pygidium of female.
- 6.—*Mytilaspis hymenanthææ*, extremity of pygidium of female.
- 7.—*Chionaspis candida*, extremity of pygidium of female.
- 8.—*Sphærococcus pustulans*, adult female, ventral view.

### NOTES ON THE VOLCANIC HISTORY OF MOUNT SHADWELL, VICTORIA.

By J. T. JUTSON.

With an Appendix by F. Chapman, A.L.S., on Some Rocks and Minerals from the Locality.

(Communicated by F. M. Chapman.)

(Read before the Field Naturalists' Club of Victoria, 13th March, 1905.)

THE observations which I desire to submit for your consideration appear to me to throw some light on the volcanic history of Mount Shadwell, a point of volcanic eruption of the Newer Basalt period, near Mortlake, in the Western District of Victoria. The sections to be described are splendid examples of their kind, and it is hoped that this paper may direct some attention to them.

*Literature*.—This consists practically of bare records. The following are the only references I have been able to find :—

Selwyn, 1866.\* Mount Shadwell is included in his list of craters and points of eruption ; but it is a record only.

Catalogue of the Rocks of Victoria in the Technological Museum, 1894,† which mentions the Mount as a locality for the occurrence of tuffs, scoriæ, lapilli, a bomb, and Oligoclase.

Prof. Gregory, 1903.‡ A reference to the quarries at the Mount as showing good sections of volcanic scoria.

Prof. Gregory, 1904.§ The aboriginal tradition of the eruption of Mount Shadwell is referred to ; and a statement made that the Mount looks much older than the craters of Mount Noorat, respecting which there are no traditions.

\* Exhibition Essays.

† This is based on the Catalogue issued by Ulrich in 1875, in which, however, no references to Mount Shadwell are made.

‡ "Geography of Victoria," p. 192.

§ "The Antiquity of Man in Victoria," Proc. Roy. Soc. Vic., vol. xvii. (N.S.), part 1, pp. 134 and 136.



Green, Edward Ernest. 1905. "Some new Victorian Coccidae." *The Victorian Naturalist* 22, 3–8.

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