

Two New Species of the Genus *Labium* Brullé.

(Hym.: *Ichneumonidae*).

By R. A. Cushman,

United States Department of Agriculture, Bureau of Entomology, Washington.

Through Dr. Hans Sachtleben of the Deutsches Entomologisches Institut, Berlin-Dahlem, Germany, I have received from Mr. Tarlton Rayment, Sandringham, Victoria, Australia, representatives of two apparently undescribed species of the anomalous genus *Labium*, which Mr. Rayment had obtained in association with two species of bees of the genus *Halictus*. In Mr. Rayment's manuscript notes on these insects, which I have had the privilege of reading, he states that the parasites deposit their eggs within the bee larvae.

Although this genus appears to be very numerous both in individuals and in species in Southern Australia this is the first information as to its host-relations.

Turner and Waterston¹⁾ have revised the genus, adding to the four known species 18 new species and one new variety, all from Southern Australia and Tasmania.

The systematic position of *Labium* has been the basis of much difference of opinion. Brullé²⁾ originally compared it with *Tryphon* and placed it next to that genus. Cameron³⁾ considered it an aberrant member of the *Joppini* or, perhaps, as representing a distinct tribe in the subfamily *Joppinae*. Morley⁴⁾ thought its most natural position to be with the *Banchini*. Turner and Waterston were inclined to agree with Cameron's placing of the genus, while pointing out what they considered its most divergent character in that position, the location of the spiracles of the first segment.

In my own opinion the genus finds its closest relatives among the tryphonine groups *Metopiini* and *Exochini* as at present constituted. With these groups as a whole it shares the characters of the non-separated clypeus and the almost or quite completely fused second joint of the trochanter. With *Cultrarius*, *Peltastes*, and *Periope* it agrees in the modification of the mouthparts for the anthophilous habit, with the first two and *Metopiini* and *Peltastes* almost exactly in the areolation of the propodeum, with *Peltastes* in the long, curved, and usually edentate mandibles, and with *Periope* in the prolongation of the head, the slightly

¹⁾ Proc. Zool. Soc. London, 1920, pp. 1-26.

²⁾ Hist. Nat. Ins. Hym., IV, 1846, p. 316.

³⁾ Ann. & Mag. Nat. Hist., ser. 7. vol. 7, 1901, p. 529.

⁴⁾ Rev. Ichn. B. M., Pt. 4, 1915, p. 150.

emarginate eyes, the subclavate antennae, the subclavate petiolate abdomen,¹⁾ and the broken second recurrent vein. My feeling is that of all of these it is most closely related to *Periope*, which I consider as representing a tribe or subtribe distinct from the *Exochini*, in which it has heretofore been placed.

Labium rufiscutum, new species.

In Turner and Waterston's key this species apparently runs best to *pilosus* T. and W., but has somewhat less dense and shorter pubescence, the thorax black with only the mesoscutum red, the antennae entirely black, the hind femur black only apically, the antennae much longer, reaching to apex of second tergite, 37-jointed, and with first flagellar joint somewhat shorter than second and third combined (these antennal differences may be sexual).

Male. — Length 10 mm, antennae 7 mm.

Head polished, with sparse setiferous punctures, the hair unusually long, longest on clypeus and densest on cheeks and malar space; a sharp carina extending from facial tubercle to anterior ocellus; eyes very weakly emarginate, the orbit with a distinct carina opposite the emargination; temple in dorsal view nearly as long as the short diameter of eye; face much broader than long, slightly narrower than frons; clypeus with a mere indication of separation from face, its apex weakly arcuately emarginate; labrum distinctly shorter than clypeus, rather broadly rounded at apex; mandibles long, curved, simple; antennae rather weakly subclavate. Thorax polished, punctate and hirsute like the head, except that the propodeum is posteriorly rugose, sparsely hairy, anteriorly polished and very sparsely and minutely punctate; epomia high and thin, ascending to dorsal margin of pronotum, where they form sharp angles; notauli and sternaui barely indicated anteriorly; apical area of propodeum distinct only laterally, areola and petiolar area confluent; second recurrent vein forming a deep reentrant angle, originating very near second intercubitus, the areolet virtually quadrangular; legs clothed with long hair, front and middle tibiae with many slender spines; empodia long, those of hind tarsi reaching nearly to apex of claws. Abdomen polished, minutely punctate and pilose; lateral keels of petiole not prominent posteriorly; apical tergite deeply cleft medially.

Black with yellow markings and with mesoscutum and abdomen ferruginous; orbits except for narrow interruption behind top of eyes, face, clypeus, labrum, mandibles, humeral margins and ventral angles of pronotum, scutellum, postscutellum, subalar tubercle, and a large spot

¹⁾ In the female of *Periope auscultator* Haliday the abdomen tapers toward the apex, while in the male and in *aethiops* (Cresson) it is distinctly subclavate.

immediately below it yellow; front and middle legs pale testaceous, their coxae and trochanters yellow; hind coxa piceous, more or less reddish above and below and narrowly yellow at apex; femur ferruginous with apex broadly black; tibia yellow at base, black at apex; tarsus fuscous above, reddish below, with apex darker; wings hyaline, venation black; abdomen yellowish at extreme apex and ventrally.

Type-locality. — Sandringham, Victoria, Australia.

Type. — No. 50147, U. S. Nat. Mus.

Paratype. — Deutsches Entomologisches Institut.

Two specimens taken in nests of *Halictus seductus* Cockerell by Tarlton Rayment, in October 1932.

Labium raymenti, new species.

In Turner and Waterston's key this species runs best to *brevicorne* T. and W., but differs from the key characters in that the propodeum is not entirely red but largely yellow with only the base red. From the description of *brevicorne*, it differs further in the pedicel not being yellow beneath, in the mesopleurum being yellow only in the upper angles, in having the pronotum yellow except in the scrobes, the front and middle femora red posteriorly, the pleura and sternum with black markings, and the second recurrent vein much farther from the second intercubitus.

Female. Length 7 mm, antennae 4 mm.

Head polished, sparsely punctate and with very short inconspicuous pubescence; temples in dorsal view much shorter than short diameter of eye; frons and inner orbits without carinae; eyes rather deeply emarginate and strongly convergent below; face nearly as long as broad; clypeus weakly separated, its apex truncate; labrum about as long as clypeus, narrowly rounded at apex; mandibles long, curved, simple; antennae stout, 27-jointed, first flagellar joint not much longer than second and less than half as thick as subapical joints. Thorax polished, less distinctly punctate and pubescent than head, propodeum rugulose posteriorly and laterally; epomia weakly angulate at upper extremities; notauli distinctly indicated anteriorly; apical areas of propodeum not distinctly defined; second recurrent vein deeply incurved, originating much more than half the length of second intercubitus from that vein, the areolet distinctly pentagonal; nervellus broken far below middle, the subdiscoideus complete; legs to knees nearly glabrous, tibiae and tarsi densely pilose, front and middle tibiae conspicuously spinose; empodia long, those of hind tarsus nearly reaching apices of claws. Abdomen polished, impunctate and with fairly dense very minute pilosity; lateral keels of petiole prominent posteriorly.

Pale ferruginous, head and thorax profusely yellow, the occiput and sutures and stains on thorax black; orbits throughout, face, clypeus, labrum, mandibles, lower half of propleura, pronotum except in scrobes, lateral margins of mesoscutum, scutellum, postscutellum, propodeum except basal areas, and pleura largely, yellow; lateral scutellar areas, all thoracic sutures, propleura above, furrow* below subalar tubercle, mesosternum partly, metasternum entirely, apical margin of propodeum, and base and venter of petiole black; antennae ferruginous, black above toward base, scape yellow beneath; mouthparts stramineous; front and middle legs yellow, femora and tibiae pale testaceous behind; hind leg to knee ferruginous, coxa and femur black within at apex, tibia and tarsus fuscous, tibia basally yellow; wings hyaline, stigma brown, veins black.

Type-locality. Sandringham, Victoria, Australia.

Type. No. 50148, U. S. Nat. Mus.

Paratype. — Deutsches Entomologisches Institut.

Three specimens taken in nests of *Halictus victoriellus* Cockerell by *Tarlton Rayment*, the type and one paratype in October 1932, and one paratype on October 28, 1926.

Untersuchungen an deutschen Austernschildläusen (*Aspidiotini*) im Vergleich mit der San José-Schildlaus (*Aspidiotus perniciosus* Comst.).

Von H. Thiem und R. Gerneck, Biologische Reichsanstalt, Berlin-Dahlem.

(II. Teil mit 5 Tafeln und 2 Textfiguren.)

abietis. Es geben an Lindinger (1912/48) 5—7 (5—10) 5—9 und Leonardi (1920/49) von 3 Tieren 0—3 (7—12) 6—9. Wir fanden an 10 Tieren aus Naumburg-S. und Jacobshagen/Pom. 3—5 (5—13) 4—9. Hieraus ergibt sich die Gruppenformel: 0—7 (5—13) 4—9. Im Mittel sind vorhanden gewesen 4 (7) 6. Wie bereits Lindinger bemerkt hat, liegen die Drüsen der mittleren Gruppe zumeist einreihig. Die gesamte Anzahl der Drüsen schwankte bei den von uns untersuchten Stücken zwischen 29 und 44.

betulae. Die auffällig abgerundet liegenden 5 Gruppen von Perivaginaldrüsen variieren insofern nur wenig, als die mittlere und hintere Seitengruppe je zu 71,4 bzw. 69,5% aus 8 Drüsen bestehen. Formel für Drüsengruppen: 8; 7—11, (12/13, 14/15; 8—19), 8; 6—11; für gesamte Drüsenzahl (S_{21}): 55, 40—66. Bei der von Mac Gillivray (1921/318) genannten Formel — (12—16) 9—10 — scheint die mittlere Drüsengruppe übersehen worden zu sein. Unter Einschluß der Außenwerte nach Lindinger (1912/259) — 8—12 (12—17) 8—14 — lautet