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EREMOCHILINI, A NEW TRIBE OF NEOTROPICAL EPILACHNINAE (COLEOPTERA: COCCINELLIDAE)

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Abstract.—A new tribe, Eremochilini (Epilachninae), is erected to contain the genus *Eremochilus* Weise which was previously misclassified in the subfamily Coccidulinae. Two species are recognized in *Eremochilus*; *E. peregrinus* Weise, and *E. weisei,* new species.

An examination of the unique female holotype of *Eremochilus peregrinus* Weise revealed that it belongs in the subfamily Epilachninae rather than in the Coccidulinae where it has resided since the original description. We find that a new tribe of Epilachninae, Eremochilini, is needed to contain *Eremochilus* and that the subfamily description must be altered slightly. The new tribe is integrated into the existing classification (Gordon, 1976) and a new key to the tribes of Epilachninae constructed.

Four specimens in the collections of the National Museum of Natural History, Washington, D.C. (USNM), the Universidad Federal do Parana, Curitiba, Brasil (UFPC), and William H. Nutting (WHN), represent an unnamed species of *Eremochilus* which we describe here.

We are indebted to Manfred Uhlig, Zoological Museum, Humboldt University, Berlin, for the loan of the type specimen of *Eremochilus peregrinus,* and to R. Pope, British Museum (Natural History), London; J. Chapin, Louisiana State University, Baton Rouge; and E. Baker and R. Smiley, Systematic Entomology Laboratory, USDA, Beltsville, Maryland, for reviewing the manuscript.

Epilachninae

Epilachniens Mulsant, 1846:190.
Epilachninae Ganglbauer, 1899:947; Gordon, 1976:16.

The following changes are made to the subfamily description by Gordon (1976: 16) in order to accommodate the Eremochilini:

Occiput of head normal or *expanded partially to partially shield base of mandible.* Labrum present or *absent.* Labium with palpal insertion median, subterminal, or *terminal.* Antenna *10-* or 11-segmented, inserted in depression on inner side of eye, depression sometimes *partially enclosing antennal base.* Mesosternum with or *without* triangular notch medially on anterior margin for reception of prosternal process.

KEY TO TRIBES OF EPILACHNINAE

1. Labrum absent; base of mandible with large, hairy pad (Fig. 1) .. Eremochilini, new tribe
– Labrum present; base of mandible without hairy pad 2

2. Apex of tibia with at least one apical spur; leg slender, tarsus received in tibial groove; epipleuron descending externally or not, never with depression for apex of femur; form variable ..... Epilachnini
– Apex of tibia with or without spurs; anterior tibia short, wide; middle and hind tibiae with tarsus not received in tibial grooves, epipleuron always descending externally, nearly always with distinct depression for reception of femur; small; form round, convex ..... Madaini

Eremochilini, new tribe

Epilachninae with body elongate oval, somewhat oblong. Head with occiput below eye expanded forward, partially enclosing mandible base. Labrum absent; mouthparts directed posteriorly; mandible long, base with hairy pad (Fig. 1). Antenna 10-segmented, club short, compact, 3-segmented. Pronotum short, transverse. Mesosternum truncate apically, lacking notch for reception of prosternal process. Leg slender, tibia as long as femur, lacking apical spurs; tarsus received in shallow tibial groove; tarsal claw with subquadrate basal tooth. Postcoxal line complete, recurved to base of 1st abdominal sternum.

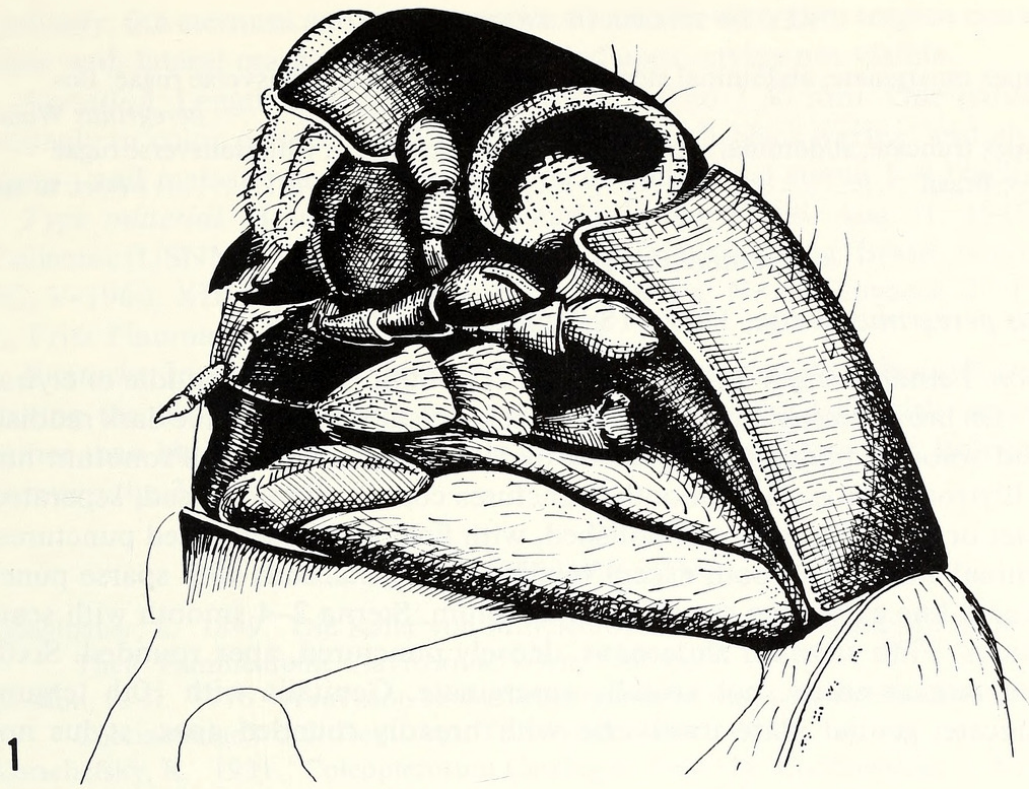
The tribe currently contains only the genus *Eremochilus*. This genus is so aberrant in structure that Weise originally placed it near *Rhyzobius* in the subfamily Coccidulinae. The characters that are unusual in the Epilachninae are: occiput of head below eye produced forward, partially shielding base of mandible; absence of a labrum; mouthparts, including the mandible, extremely elongated and directed posteriorly between the front coxae; presence of a large, hairy pad at the mandible base; and 10-segmented antenna. However, the head shape, antennal placement, and multidentate mandibles are unmistakably epilachnine, and we transfer the genus accordingly.

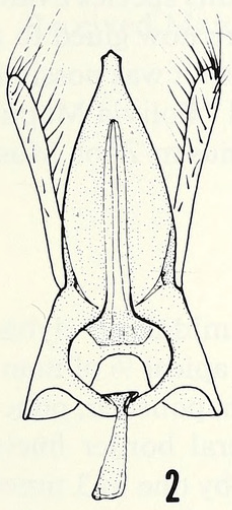
The Eremochilini appear to derive from the Epilachnini, suggesting that the latter group is paraphyletic. This topic is left for future discussion, as it requires a reassessment of the groups and group characters within certain Epilachnini (notably, the *cacica* group of *Epilachna* and the genus *Dira* as defined by Gordon, 1976).

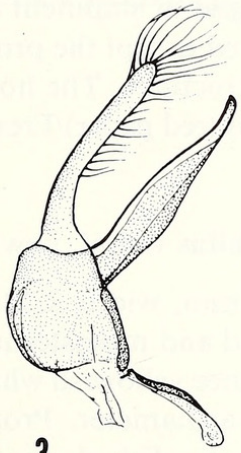
Eremochilus Weise

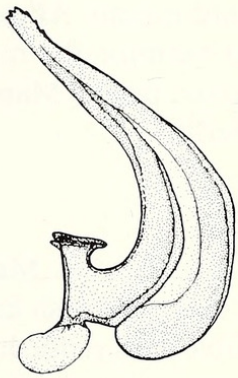
Eremochilini with elongate body, sides nearly parallel, dorsal and ventral pubescence short, sparse. Clypeus very short anterior to antennal insertion; apex of mandible with 3 teeth (Fig. 1); labial palpus inserted posterior to apex of mandible, immediately above prosternum. Epipleuron nearly flat, without depressions for reception of femoral apices. Postcoxal line on 1st abdominal sternum not extending beyond middle of sternum. Apical abdominal sternum notched in male. Male genitalia with short, broad sipho (Fig. 4).

Host plant data are completely lacking for the members of this genus, which is most unfortunate. We consider *Eremochilus* to be a highly derived member of the Epilachninae rather than a primitive form, and knowledge of the host plant(s) might shed light on the reasons for the bizarre structural modifications of the mouthparts and unusual body form.









Figs. 1–4. *Eremochilus weisei.* 1. Lateral view of head and pro- and mesosternum. 2–4. Male genitalia. 2. Ventral view of phallobase. 3. Lateral view of phallobase. 4. Lateral view of sipho.

KEY TO SPECIES OF *EREMOCHILUS*

1. Clypeal apex emarginate; abdominal sterna 2–4 smooth, lacking transverse rugae; Bolivia ..... *peregrinus* Weise
– Clypeal apex truncate; abdominal sterna 2–4 noticeably punctate, with transverse rugae in basal ⅓; Brasil ..... *weisei,* n. sp.

Eremochilus peregrinus Weise

Eremochilus peregrinus Weise, 1912:118; Korschefsky, 1931:81.

Description. Female, length 3.60 mm, width 2.20 mm, widest at middle of elytra. Color yellowish brown except elytron bluish black, apical ⅓ of mandible dark reddish brown. Head smooth, punctures separated by less than a diameter. Pronotum not examined. Elytron with surface smooth, punctures coarser than on head, separated by a diameter or less. Mesosternum polished, with fine, widely separated punctures. First abdominal sternum smooth except median area alutaceous with sparse punctures; postcoxal line extending to middle of sternum. Sterna 2–4 smooth with scattered punctures. Fifth sternum alutaceous, densely punctured, apex rounded. Sixth sternum and tergum entire, not apically emarginate. Genitalia with 10th tergum apically truncate; genital plate transverse with broadly rounded apex, stylus not visible.

Male. Not known.

Type locality. Bolivia, Mapiri.

Type depository. Zoological Museum, Humboldt University, Berlin, DDR.

Remarks. The unique female holotype was the only specimen of this species available for study. It was badly damaged in shipment and the pieces are now glued to a card mount. All parts were retrieved except the pronotum and legs so it was possible to examine the most important structures. The holotype is labeled "Bolivia Mapiri (green paper)/Mapiri Bolivia/Typus (red paper)/Eremochilus peregrinus m/Zool. Mus. Berlin."

Eremochilus weisei, new species

Description. Male, length 3.60 mm, width 2.20 mm, widest at middle of elytra. Color yellowish brown except head and mesosternum dark brown, apical ⅓ of mandible dark reddish brown; pubescence yellowish white. Head smooth, polished, punctures separated by 1 or 2 times a diameter. Pronotum with lateral border finely margined, slightly explanate, surface polished, punctures separated by one to 3 times a diameter. Elytron with surface slightly alutaceous, punctures larger than on pronotum, separated by a diameter or less. Mesosternum polished with fine, widely scattered punctures. First abdominal sternum smooth with coarse punctures medially, separated by less than a diameter; postcoxal line not quite reaching middle of sternum. Sterna 2–5 with transverse rugae on basal ⅓, punctures becoming progressively coarser and denser from 2nd through 5th sterna; apex of 5th sternum notched. Genitalia with basal lobe longer than paramere, tapered to triangular apex; paramere slender (Figs. 2, 3); sipho with denticles at apex and on dorsal margin just before apex (Fig. 4).

Female. Similar to male except 5th abdominal sternum triangularly produced

medially; 6th sternum and tergum entire. Genitalia with 10th tergum convex; genital plate with lateral margin angled to rounded apex, stylus not visible.

Variation. Length 3.40 to 4.0 mm, width 2.0 to 2.30 mm. One paratype differs strongly in color pattern: head reddish brown with black vertex, and elytron, pro-, meso-, and metasterna, and median area of abdominal sterna 1–4 black.

Type material. Holotype, Brasil, Estado de Sao Paulo, Aug 31, 1919, EG Holt Collector (USNM). Three paratypes with the following data: Brasil, Nova Teutonia, SC, V-1966, XII-1966, F. Plaumann col; Brasilien, Nova Teutonia, 27 11′ B 52 23′ L, Fritz Plaumann (UFPC; USNM; WHN).

Remarks. In addition to the key characters, *E. weisei* differs from *E. peregrinus* in having the head less densely punctured, and the elytra yellowish brown or black rather than bluish black. The female genital plates are completely different in shape between the 2 species.

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