Bol. Mus. Nac. Hist. Nat. Parag. Vol. 14 (1-2), Setiembre 2002, pp. 25 - 29

NOTES ON NEOTROPICAL EUMENINAE (HYMENOPTERA: VESPIDAE) II, THE GENUS *INCODYNERUS* WILLINK

BOLÍVAR R. GARCETE-BARRETT
Museo Nacional de Historia Natural del Paraguay, Sucursal 1 Campus U.N.A., 2169 CDP, Central XI, San Lorenzo, PARAGUAY. e-mail: bolosphex@sce.cnc.una.py

Abstract.- The female of *Incodynerus fulvipennis* Giodani Soika is described. *Incodynerus urubambae* Schrottky **n. comb.** is proposed as a new combination for *Hypodynerus urubambae* Schrottky and its here proposed junior synonym *Odynerus romandinus* var. *urubambae* Bertoni **n. syn.** The female of *Incodynerus ambiguus* Willink is briefly described, as well as color variation of this species.

Resumen.- Se describen la hembra de *Incodynerus fulvipennis* Giordani Soika. *Incodynerus urubambae* Schrottky **n. comb.** es propuesto como una nueva combinación para *Hypodynerus urubambae* Schrottky y su sinónimo posterior aquí propuesto *Odynerus romandinus* var. *urubambae* Bertoni **n. syn.** La hembra de *Incodynerus ambiguus* Willink es brevemente descrita, así como la variación de color de la especie.

The genus *Incodynerus* was proposed by Willink (1967) for a group of South American high-altitude eumenines whose species were mostly included in the genus *Hypodynerus* by previous authors. *Incodynerus* is recognizable by the combination of tergum I rather short and broad without either transverse carina or preapical sulcus, tegula pointed posteriorly, pronotum without oblique carina, with pretegular carina and with anterior face smooth, propodeal valvulae broadly rounded and fused to the submarginal carina, propodeal dorsum declivous, parastigma short, axilary fossae broad, palp formula 6 : 4, second metasomal sternum basally truncate, broad temples and females with cephalic foveae.

Later Willink (1969) revised the genus and divided it the *romandinus* group and the *vilcanotae* group. Willink separated the *romandinus* group into two subgroups: species with the legs red-marked (*coccineipes* and *ambiguus*) and species with wholly black legs. This latter subgroup can also be divided in two by the presence (*romandinus*, *tegularis* and *fulvipennis*) or absence (*moei* and *urubambae*) of a basomedian projection on sternum II.

This paper, my second miscellaneous contribution to the knowledge of the neotropical Eumeninae (first one is Garcete-Barrett, 2001), is a small addition to the knowledge of some species of *Incodynerus*. In my opinion, a serious new revision must be made, mainly to better understand the variability and limits of species in the group of *Incodynerus romandinus*.

Incodynerus fulvipennis Giordani Soika

(Figs 1-2)

Incodynerus fulvipennis Giordani Soika, 1974 (1973), Boll. Mus. Civ. Stor. Nat. Venezia 24: 109, holotype male - "Bolivia: Oruro, Playa verde, 3800 m" (BMNH) [examined].

Female: *Black* with *light yellow* as follows: epistomal spot, small temporal spot, thin transverse band on pronotum, thin, regular bands on tergum I, tergum II and sternum II. Tip of the three apical teeth of mandibles *chestnut*. Wings and venation *orange amber* turning to *brown* towards the tips.

Length to the apex of tergum II 10 mm. Wing length 9 mm. POL: OOL = 6: 9. Relation width : heigth of clypeus (Fig. 1) = 24 : 20. Clypeus shallowly emarginate, without lamella. Pronotal carina widely interrupted, only marked at humeri where it projects as an almost right angle (Fig. 2). Propodeum with a complete central carina and lateral carinae dying far from spiracles at a distance nearly equal to one and a half times their own length. Ster-

num II with a perpendicular anterior face smoothly separated from the posterior face by a convex surface, elevated in the middle forming a projection.

The whole body is covered with rather sparse, long pale fulvous erect hair, becoming shorter from posterior half of tergum I. Metasoma also covered with rather dense, very short brown decumbent hair, covering only the sides on sterna II-V (corresponding to the microsculptured portions), and being appressed on tergum II. Tegula with short brown erect pilosity on anterior and posterior corners.

Clypeus with micropunctures covering the lateral and upper borders, being replaced by weak shagreen towards the middle and free portion without microsculpture; macropunctures smaller on lateral and upper borders, becoming larger and elongate at the middle and rounded again on the free portion. Scape with dense micropunctation mixed with some larger punctures, except for the very apical portion. Frons with very dense macropunctation, intervals micropunctate. Punctures of moderate size, larger on ocular sinus, becoming progressively sparser at vertex, temples and downwards on genae. Pronotal and mesopleural sculpture similar to that on frons, but a bit coarser. Pronotal lobe without punctures. Mesoscutum, scutellum and anterior, horizontal portion of metanotum with sculpture similar to that on vertex. Posterior, declivous portion of metanotum well micropunctate and with some sparse macropunctures. Mesopleuron with some fine vertical striae on its posterior fifth. Metapleura with dense micropunctation and finely longitudinally striate; macropunctures sparse on middle, but concentrated at the anterior upper and inferior extremes. Sides of propodeum finely longitudinally striate and micropunctate; macropunctures progressively denser backwards and coarser upwards. Upper lateral regions of propodeum coarsely and densely punctated. Posterior part of propodeum with macropunctation mixed with oblique striae. Tegula micropunctate, with some sparse larger punctures at anterior and posterior corners. Terga rather densely micropunctate, and with sparse macropunctures, sparser and finer on tergum II, larger on tergum I, and denser and more mixed with the microsculpture on terga III-V. Sternum I with rather dense macropunctures. Sterna II-V all covered with well-spaced macropunctures and covered with micropunctures only at sides, absent on middle of sclerite. Tergum VI and sternum VI with dense micropunctation obscuring the macropunctures that are more discernible towards the apex.

Material examined: BOLIVIA: Altiplano, Pillapi, 70 km E of La Paz, 3780 m, field of alfalfa and grass, 10-16. iv. 1964, J.L. Chandler coll. (1 female BMNH); Oruro, playa verde, 3800 m., 15. i. 1964, J.L. Chudley coll. (2 males BMNH, holotype and paratype, in the original description they are marked as collected on “18. i. 1964”).

***Incodynerus urubambae* (Schrottky) n. comb.**

(Figs 3–8)

Hypodynerus urubambae Schrottky, 1911, Entomol. Rdsch. 28: 11, macho - “Peru: Urubamba, 3000 m., i-ii” (depository unknown). - Willink, 1969, Acta Zool. Lilloana 24: 68 (perhaps an *Incodynerus*).

Odynerus romandinus var. *urubambae* Bertoni, 1918, An. Cient. Parag. 2 (3): 196, hembra, macho - “Urubamba, Perú, 3000 m” (IBNP, coll. Bertoni). Lectotype female here designated. **n. syn.**

After a careful reading of both descriptions I reached the conclusion that Schrottky and Bertoni used the same name to describe the same species. Moreover, the data recorded on the labels are the same. Thus, I consider *urubambae* Bertoni to be a homonymous synonym of *urubambae* Schrottky. The species is redescribed below.

Wasp *black* with *yellow* as follows: central and subapical marks on female clypeus; whole male clypeus except for the black borders;

interantennal spot; a small spot at temples; upper transversal band of pronotum, broader at sides; inverted triangular subalar spot; hind corner of tegula; a pair of circular spots on scutellum and a pair of oval spots on metanotum (both may be absent in males); apical band on terga I-II and sternum II. Flagellomeres X-XI *orange* as well as venter of flagellomere IX (Fig. 7) and sometimes some suffusion beneath other flagellomeres. Wings rather clear, brownish along costal area, venation chestnut.

Body length from frons to apex of tergum II approximately 9mm. All body covered with a hirsute yellowish-white pilosity. Mandible with an elongate basal triangular tuft of whitish apressed pubescence. Clypeal apex truncate in both sexes (Figs. 2 – 3). Clypeus of female (Fig. 5) as long as broad, finely microreticulate and with moderately dense punctures. Clypeus of male (Fig. 6) 1.26X longer than broad, less evidently microreticulate and with scattered punctures. Macropunctation of head, pronotum, mesoscutum, scutellum, mesepisternum and upper metanotum extremely dense, leaving reticular intervals. Upper temples around yellow spot and posterior area of metanotum with just scattered punctures. Humeral angles forming large, very outstanding conical projections (Figs 3-4). Sides of metapleurae and propodeum densely microreticulate, the latter also longitudinally microstriate. Rear of propodeum with fine central keel and diagonal striae diverging from above; sides with just small blunt angulations. Tergum I finely and densely microreticulate with obscure scattered punctures in the female and coarse, moderately dense punctures in males. Tergum II (Fig. 8) with very slight basomedian convex elevation and latero-apical impressions (both more evident in males) and with fine punctures increasing in size and density from the nearly impunctate basomedian area towards the apex and the sides. Following terga with coarse punctures (quite dense on terga III and IV) decreasing in size and density on each consecutive sclerite at the same time they become obscured by dense micropunctation. Sternum II (Fig. 5) basally just truncate, not especially elevated basomedially, with latero-apical impressions (more evident in males) and covered with coarse, moderately dense punctures decreasing in size towards the sides. Following sterna sculptured as their respective terga.

This species is close to *Incodynerus moei*, sharing with it the absence of a strong basomedial projection on sternum II (present in *tegularis*, *romandinus* and *fulvipennis*). The clypeus of *moei* is apically notched in both sexes (perfectly truncate in *urubambae*) and shorter in *moei* males than in males of *urubambae*. *Incodynerus urubambae* is also different in having a subalar inverted yellow triangle. The very large pronotal projections are also remarkable.

Material examined: 1 female (marked "typus") and 3 males (marked "cotypus") from PERÚ: Urubamba, 3000 m., i-ii. Labeled with Bertoni's reference number 2605. They are deposited in the Museo Nacional de Historia Natural del Paraguay (IBNP). I labeled the female with the reference number "E. 102" and designate it as lectotype. The males are labeled with the reference numbers "E. 16", "E. 20" and "E. 70" and are designated as paralectotypes. These designations are made in order to provide an objective stardard of reference for the appliation of the name here treated.

***Incodynerus ambiguus* Willink**

(Figs 9-13)

Incodynerus ambiguus Willink, 1969, Acta Zool. Lilloana 24: 69 (key), 75, male - "Peru: Apurimac Andahuaylas" (Museum of Comparative Zoology).

Willink described this species from a single male, differentiating it from other species by color marks and the shape of the humeral projections. I have seen a short series of males and females and have found some subtle color

variation, as well as an important structural difference between males and females. The description given below is not exhaustive, merely an addition to the description given by Willink (1969).

Female: *Black* with *ivory* as follows: a large subapical marking on the clypeus; an inverted pyriform spot at the lower orbit, close to the clypeus; an oval spot at the temple; a more or less broad (broader than that of males) pronotal band that ends at humeral angles; an external line along posterior half of the tegula; a thin metanotal band; apical band at terga I – II and sternum II. The legs are *reddish* from the apex of femorae.

Structurally it mostly fits the description of the male given by Willink (1969). The sculpture of the clypeus (Fig. 9) is stronger than in the male (Fig. 10). The clypeus becomes gradually shinning towards the apex, and its apical margin is weakly concave with a very thin apical lamella. The humeral angles form rather low and short conical projections (Fig. 12), not digitiform projections as in the male (Fig. 13). Nevertheless half the males I examined had the angles a bit lower, not definitely digitiform.

Color variation of the species: The legs are *reddish* from the apex of the femorae in the males, but the *reddish* color can extend along the dorsum of the femorae down to their mid point. The tibiae are all *reddish*, but males usually have a large blackish suffusion at the middle. One female has also two sub-basal *ivory* spots on the clypeus. The *ivory* line on the tegulae can be reduced to completely absent in the males, but well marked in all of the examined females. The *ivory* band of the metanotum can be complete, reduced to lateral fragments or completely absent in both sexes.

The color variation of this species as well as the shape of the female humeri vitiate the separation of *Incodynerus ambiguus* Willink from *Incodynerus coccineipes* (Zavattari) in the way proposed by Willink (1969). However, I am not in position to determine the status of the present species without doing a thorough revision.

Material examined: PERU: 5 mi. N. of Andahuaylas, 7. iii. 1951, Ross & Michelbacher colls (6 females and 4 males CAS).

AKNOWLEGMENTS

I thank Jim Carpenter, Ian Gauld and Sondra Ward for their assistance during my stay at New York and London. Special thanks to the first for his continuous help with comments, literature and unpublished data. Thanks to Wojciech Pulawski of the California Academy of Sciences (CAS) for the eumenine material he kindly sent to me. Thanks also to Barry Bolton of The Natural History Museum, London (BMNH) for suggesting a way to solve the taxonomic problem derived from using Schrottky's and Bertoni's names for *Incodynerus urubambae*.

LITERATURE

Bertoni, A.W. 1918. Contribución al conocimiento de los himenópteros diplópteros americanos (especies y nidos nuevos o poco conocidos). Anales Científicos Paraguayos, II (3): 184-202.

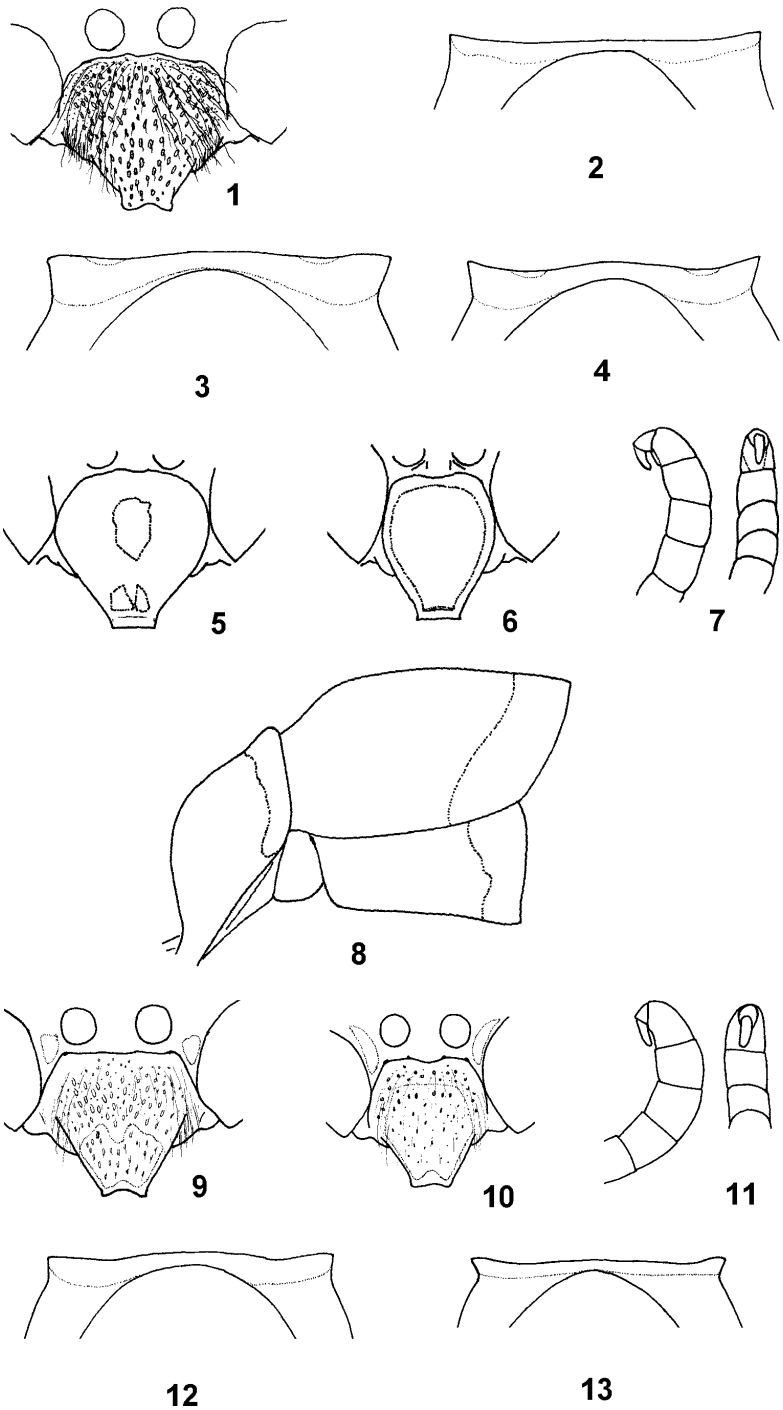
Garcete-Barrett, B.R. 2001. Notes on neotropical Eumeninae I (Hymenoptera: Vespidae). Boletín del Museo Nacional de Historia Natural del Paraguay, 13 : 38 – 40.

Giordani Soika, A. 1974 (1973). Notulae vespidologicae XXXV, descrizione di nuovi eumenidi. Boll. Mus. Civ. Stor. Nat. Venezia 24: 97-131.

Schrottky, C. 1911. Neue südamerikan. Hymenoptera. Entomol. Rdsch. 28: 10-11.

Willink, A. 1967. Nuevos géneros de euménidos neotropicales (Hym., Eumenidae). Acta Zoológica Lilloana, XXII: 143-155.

Willink, A. 1969. Las especies del género *Incodynerus* Willink (Hym., Eumenidae). Acta Zoológica Lilloana, XXIV: 65-87.



Figs. 1-13. Genus *Incodynerus*. 1-2) *Incodynerus fulvipennis* Giordani Soika, female. 1) Clypeus showing sculpture and pilosity. 2) Dorsal aspect of pronotum showing shape and color pattern. 3-8) *Incodynerus urubambae* Schrottky, schematic figures showing shape and color patterns. 3, 5) Female. 4, 6, 7, 8) Male. 3-4) Dorsal aspect of pronotum. 5-6) Clypeus. 7) Outer and ventral aspect of left antenna. 8) Terga and sterna I-II in side view. 9-13) *Incodynerus ambiguus* Willink. 9, 12) Female. 10, 11, 13) Male. 9-10) Clypeus showing sculpture, pilosity and color pattern.. 11) Inner and ventral view of right antenna. 12-13) Dorsal aspect of pronotum showing shape and color pattern. Variable scale.