Dugesiana 16(2): 75-78
Fecha de publicación: 28 de diciembre de 2009

A second species for the genus *Craspedus* Bernhauer, 1908 from the Neotropical region (Coleoptera: Staphylinidae, Osoriinae)

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ABSTRACT

A new species *Craspedus pecki*, sp. nov collected in Mexico is described. It is the second species to the genus *Craspedus* known. The exciting distribution of the genus with one species in southern Brazil and a second species in Mexico is discussed.

Keywords: new species, Neotropics, zoogeography

RESUMEN

Se describe a *Craspedus pecki* sp nov. colectada en México. Ésta corresponde a la segunda especie conocida del género *Craspedus*. Se discute sobre la distribución conocida para las especies del género, una en el sur de Brasil y otra en México.

Palabras clave: Especie nueva, neotropico, zoogeografía.

INTRODUCTION

In the collection of the American Natural History Museum, New York, I found an Osoriinae species that certainly was closely related to *Holotrochus* Erichson, 1839. In contrast to the species of the genus *Holotrochus*, the new species developed a large supraocular carina and a large pronotal margin. This combination of characters together with a setiferous punctate abdomen is found in the genus *Craspedus* Bernhauer, 1908. Although the single species of the genus was described from southern Brazil, the new species collected in Mexico should be placed to *Craspedus*, as the specific characters do not fit to other osoriid genera. The genus was already formerly recorded in Mexico and noticed by Navarrete-Heredia *et al.* (2002), but not yet described. As *C. iheringi* Bernhauer, 1908 seems to be rare, with only one record known in addition to the holotype, a further detailed description is provided to complete the description made by Bernhauer (1908).

MATERIAL AND METHODS

The material was loaned to me by the American Natural History Museum, New York (AMNH). I thank the curator of the Museum, Dr. Lee Herman for his kind support and the loan of the species. Furthermore, I am grateful that one paratype was placed at my disposal for my collection of Neotropical Osoriinae (UIC). A further specimen was found by A. Newton, Field Museum of Natural History, Chicago (FMNH). The length was measured along the middle without the intersegmental space between the abdominal segments. Length of tagmata was also measured along the middle, width across the widest part of the tagmata.

DESCRIPTION OF THE SPECIES

Craspedus pecki n.sp.

Figures: 1 a – c; 3 A, C

Material: HOLOTYPE: MEXICO: **Veracruz:** Fortin, male, August 5, 1969, leg. S. & J. Peck (AMNH); PARATYPES: 3 males and 8 females with the same data as for the holotype (AMNH, UIC); Veracruz, Canyon Rio Metlac near Fortin, berlese litter tropical evergreen forest, 3200 ft. elevation, 1 female, VII-28 – VIII-1-73, leg. A. Newton (FMNH).

Diagnosis: The species is placed to the genus *Craspedus*, because of the large supraocular carina and the largely margined pronotum. Additionally, the aedeagus resembles that of *C. iheringi* in reference to the apical enlargement and the simply-developed endophallus. It is distinctly smaller than *C. iheringi* and its colour is brown, whereas it is black in *C. iheringi*. Furthermore, the lateral margin of pronotum is crenate in *C. iheringi*, but smooth in *C. pecki* and emargination of clypeus is deep in *C. iheringi*, but very slight in *C. pecki*.

Description: *Length*: 3.1 mm. *Colour*: dark brown, legs and antennae reddish, pronotal margin and last two tergites of abdomen lighter brown. *Head*: 0.50 mm long, 0.52 mm wide; eyes slightly prominent, but covered by wide supraocular carina, separated from disc by flat furrow; supraocular carina continued to front edge of clypeus, but much narrower than at eyes; clypeus slightly and widely emarginate in middle; punctation on disc distinct and regular; distance between punctures as wide as diameter of punctures; supraocular space close to supraocular carina and without punctures at base of antennae. *Antennae* nearly as long as head and pronotum combined; 2nd antennomere globular; 3rd antennomere not longer than 2nd, but conical in shape; subsequent antennomeres increasing in width; antennomeres 4 to 5 more or less quadrate; following antennomeres nearly twice as wide as long. *Pronotum*: 0.50 mm long, 0.70 mm wide; widest in the middle; slightly narrowed to anterior tooth-like angles and to obtuse posterior angles; sides widely margined; lateral margin slightly wider in posterior half than in anterior half; disc with regular deep punctation; distance between punctures as wide as diameter of punctures; surface with weak irregular microsculpture; surface nearly polished, shiny. *Elytra*: 0.70 mm long, 0.75 mm wide; with coriaceous ground-sculpture; punctation nearly invisible between the ground-sculpture; surface distinctly less shiny than on pronotum and head.

Abdomen with similar punctation as on head and pronotum, but with setiferous punctures; surface with similar microsculpture as on pronotum and similarly shiny. *Aedeagus* with curved apical part of central lobe forming nearly rectangular angle with basal part; triangular enlargement at top; parameres slender; slightly shorter than apical part of median lobe.

Etymology: The specific epithet is in honour of the collectors S. & J. Peck who collected intensively in Central and South America.

Craspedus iheringi Bernhauer, 1908

Figures: 2 a – c; 3 B, D

Material: HOLOTYPE: BRAZIL, **São Paulo**: Estação Raiz da Serra (46.38°W, 23.38°S), under bark, 30.09.1907, leg. Ihering (FMNH); **Rio de Janeiro**: Sumaré (41°18.45' W, 21°44.48' S), male, 27.9.1959, leg. H. Schubart (UIC).

Diagnosis: *C. iheringi* is distinctly larger than *C. pecki* and colour of fore-body is darker, whereas abdomen of *C. iheringi* is explicitly lighter red than fore-body. The emargination of clypeal front edge is deep in *C. iheringi*, but only slight in *C. pecki,* and the separating emargination between supraocular carina and clypeal margin is also deeper in *C. iheringi*. Moreover, antennae are longer in *C. pecki* in comparison to *C. iheringi*.

Description: *Length*: 4.2 mm. *Colour*: black, legs and antennae brown, pronotal margin lighter brown, abdomen reddish. *Head*: 0.60 mm long, 0.90 mm wide; with slightly prominent eyes, not totally covered by supraocular carina; supraocular carina separated from disc by flat furrow; deep emargination separating supraocular carina from lateral and anterior margin of clypeus, clypeal margin much narrower than supraocular margin; anterior edge of clypeus deeply emarginate; punctation on disc and clypeus regular and deep; distance between punctures as wide as diameter of punctures; few setiferous punctures in outer angles of clypeus and on supraocular space; without microsculpture; surface polished and shiny. *Antennae* only slightly longer than head; 2nd antennomere globular; 3rd antennomere not longer than 2nd, but conical in shape; subsequent antennomeres increase in width; 4th and 5th antennomere more or less quadrate, penultimate antennomeres nearly twice as long as wide. *Pronotum*: 0.70 mm long, 1.07 mm wide; widest shortly behind anterior angles; anterior angles not distinctly prominent, more or less rectangular; lateral sides evenly narrowed to posterior angles; lateral margin crenate; wider at anterior and posterior angles than at middle; at posterior angles with circular depression; punctation of disc less regular than on head and slightly denser; distance between punctures partly half as wide as diameter of punctures; near lateral margin sparser punctate; on lateral margin and on posterior depressions without punctation; with weak netlike microsculpture visible, but surface shiny. *Elytra*: 1.05 mm long, 1.20 mm wide; with weak coriaceous ground-sculpture; punctures nearly invisible between ground-sculpture surface distinctly less shiny than on head and pronotum. *Abdomen* with dense setiferous punctation, denser than on pronotum; with weak netlike microsculpture present; but surface moderately shiny, particularly on central parts of abdominal tergites. *Aedeagus* with long basal part of central lobe and curved apical part; with enlargement close to apex present; parameres only half as long as apical part of median lobe; endophallus straight without further decoration.

DISCUSSION

The two species of *Craspedus* seem to be rare in collections. In addition to the holotype specimen of *Craspedus iheringi* described in 1908, I have only seen one specimen collected by H. Schubart in Rio de Janeiro at Sumaré in 1959, even though the staphylinid beetle fauna of southern Brazil has been intensively investigated, e.g. by F. Plaumann and other collectors. In the meantime, *C. pecki* seems to be more frequent. In total, 12 specimens have been found among more than 100 specimens of other genera in the same region, by different collectors and during different seasons and further specimens are deposited in the Field Museum of Natural History, Chicago, U.S.A. from the same location (Navarrete-Heredia *et al.* 2002). It is astonishing that the two species of the genus were found in such extremely distant regions of the tropical and subtropical regions of the Neotropics, southern Mexico and southern Brazil. There are two hypotheses that can explain this geographical phenomenon: 1) the two species are relicts of a formerly continuous distribution of the genus which probably demand such subtropical climate conditions as can be found from southern Brazil along the Andean range up to southern Mexico or 2) the species of the genus are extremely rare and collecting status in the Neotropical region is low [the second hypothesis is obviously more likely]. In this case we can expect more species of the genus, in particular in the mountainous regions of South and Central America. Unfortunately, we have no idea about the evolutionary history of the genus or the evolutionary relationship to the tribe Osoriini in which *Craspedus* is placed. Genera of the tribe occur in all zoogeographic regions of the world (Herman 2001). Nevertheless, they are usually restricted to one zoogeographic region, e.g. Africa or Madagascar etc., with exception of few genera, e.g. *Holotrochus* Erichson, 1839, that seems to be most closely related to *Craspedus*. The genus *Holotrochus* is very heterogeneous in regard to the high number of species groups (Irmler 1981), and relationships between related genera are uncertain, e.g. between *Holotrochus* and *Paratrochus* McColl, 1985, from the Australian region. Thus, this problem can only be solved if we know more about the evolutionary relationships between the genera of Osoriini, and if we have better knowledge of the geographic distribution of the genus in the Neotropics.

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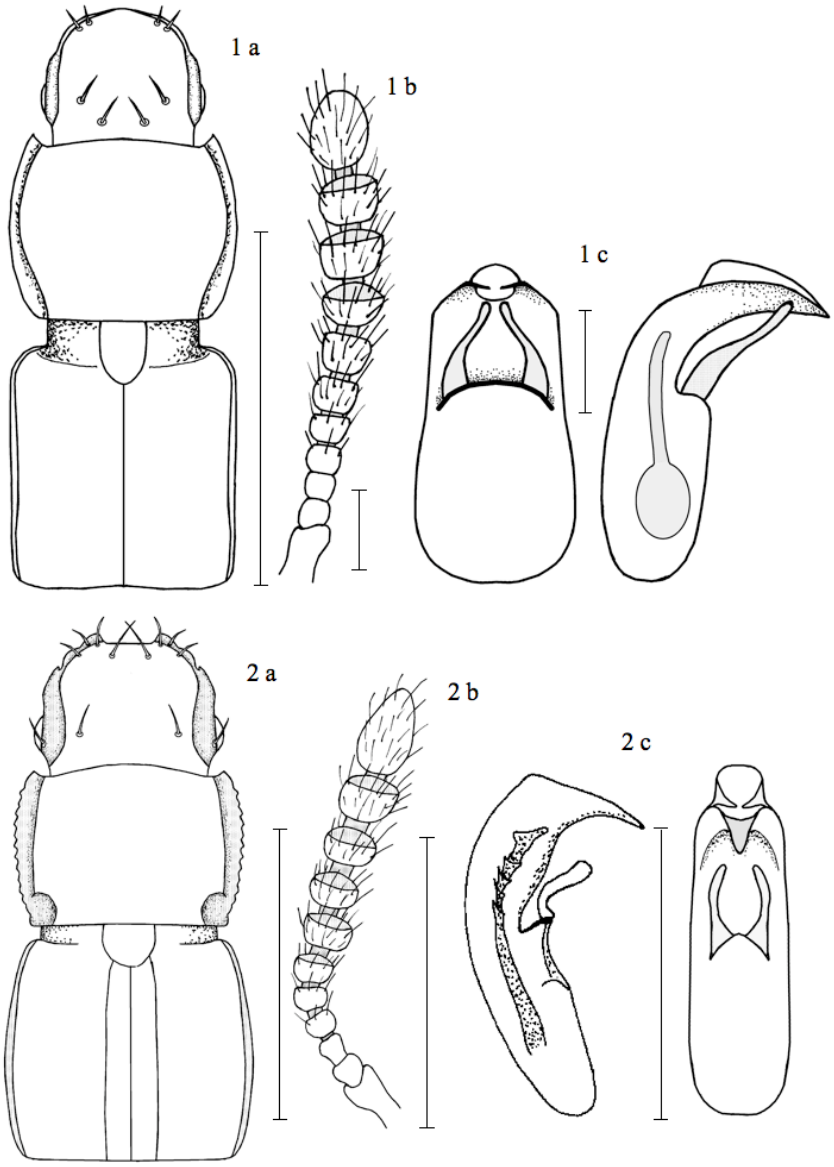
Recibido: 26 de mayo de 2009
Aceptado: 11 de noviembre de 2009

Fig. 3: Fore-body and head of *Craspedus pecki* (A, C) and *C. iheringi* (B, D) showing the surface and punctation, the emargination of the clypeus and the supraocular carina (scale bar: A and B: 1 mm, C and D: 0.25 mm).



Figures. 1: *Craspedus pecki*, 2: *Craspedus iheringi* a: fore-body, b: antenna, c: aedeagus in lateral and ventral aspect (scale bar: a: 1 mm, b and c: 0.1 mm).

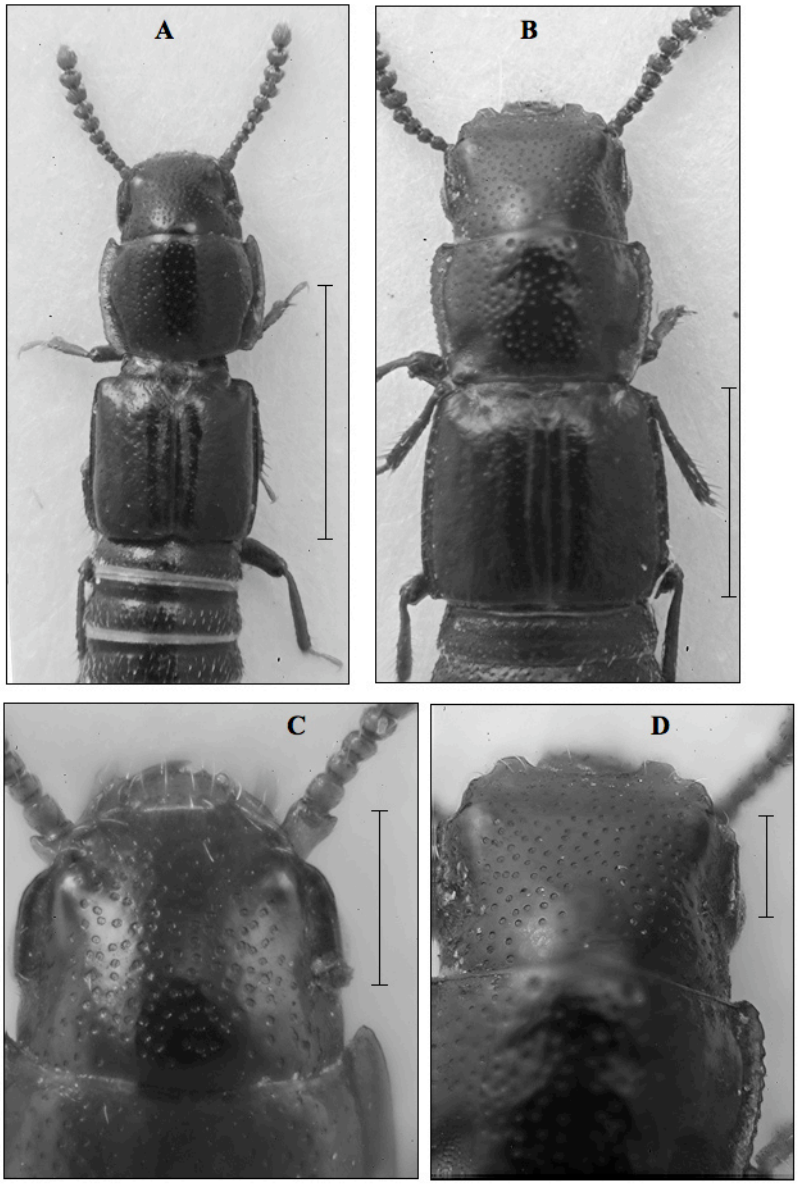


Figure. 3: Fore-body and head of *Craspedus pecki* (A, C) and *C. iheringi* (B, D) showing the surface and punctation, the emargination of the clypeus and the supraocular carina (scale bar: A and B: 1 mm, C and D: 0.25 mm).