
A new species of the South American genus *Metachaetodus* (Coleoptera: Scarabaeoidea: Hybosoridae: Hybosorinae)

OCAMPO, Federico C.

Laboratorio de Entomología, Instituto Argentino de Investigaciones de las Zonas Áridas,
CCT-CONICET-Mendoza, C.C. 507, 5500 Mendoza, Argentina;
e-mail: focampo@mendoza-conicet.gov.ar

Una nueva especie del género sudamericano *Metachaetodus* (Coleoptera: Scarabaeoidea: Hybosoridae: Hybosorinae)

■ **RESUMEN.** Se describe una nueva especie del género sudamericano de hybosórido *Metachaetodus*, *M. carolineae* Ocampo sp. nov. Se provee una clave para las especies del género y caracteres diagnósticos de cada una. Se suministra un mapa de la distribución de las especies, y se cita por primera vez en Brasil la especie *M. discus* De Borre.

PALABRAS CLAVE. Hybosoridae. Neotrópico.

■ **ABSTRACT.** A new species of the South American hybosorid genus *Metachaetodus* is described, *M. carolineae* Ocampo sp. nov. A key and diagnostic characters for all known species of the genus are presented. A map with the known distribution for the species is provided. The species *M. discus* De Borre is cited for Brazil for the first time.

KEY WORDS. Hybosoridae. Neotropic.

INTRODUCTION

The genus *Metachaetodus* was described by De Borre (1886) for two species: *D. discus* De Borre (type species) from Argentina and Uruguay and *M. brunneicollis* De Borre from Argentina (De Borre, 1886; Allsopp, 1984; Ocampo & Ballerio, 2006). Schmidt (1913) provided a short reference to the genus without providing further details on these species. Many years after that, Martínez (1994) refers to *Metachaetodus* and briefly discussed its systematic relationships, suggesting that this genus is closer to *Coilodes* Westwood, *Apalonychus* Westwood, and *Hapalonychoides* Martínez (Hybosorinae) than it is to *Chaetodus* Westwood (Anaidinae) as it was originally proposed by De Borre (1886). The latter hypothesis

was supported by Ocampo & Hawks (2006) in a phylogenetic analysis of the family Hybosoridae. In his contribution, Martínez (1994) also indicated that *M. discus* and *M. brunneicollis* are probably color variations of the same species, but he preferred to keep them as different species.

As a result of a survey and inventory of the scarab fauna of the Chacoan region in Northern Argentina, a new species of *Metachaetodus* was found and it is described here as part of my continuous work on the New World hybosorid fauna. The purpose of this contribution is to describe the new species of *Metachaetodus*, provide a key and diagnostic characters for the three species of the genus, and summarize what it is known about their distribution including a new country record for Brazil.

MATERIAL AND METHODS

Body measurements, puncture density and size, and density of setae are based on the following standards. Body length was measured from the anterior margin of the pronotum (at the middle) to the apex of the elytra. Body width was measured across the elytra at the widest point. Puncture density was considered "dense" if punctures were nearly confluent to less than two puncture diameters apart, "moderately dense" if punctures were two to six diameters apart, and "sparse" if punctures were more than six diameters apart. Puncture size was defined as "small" if punctures were 0.02 mm or smaller, "moderate" if 0.02-0.07 mm, and "large" if 0.07 mm or larger. Setae were defined as "sparse" if there were few setae, "moderately dense" if the surface was visible but with many setae, and "dense" if the surface was not visible through the setae. Elytral carinae were counted from the elytral suture, with the elytral suture included. Holotype specimen label data was copied verbatim using "/" between the lines of the labels.

This study was based on specimens from the following institutions (with curators given in brackets):

CMNC – Canadian Museum of Nature, Ottawa, Canada (R. S. Anderson, F. Génier).

CNCI – Canadian National Collection of Insects, Ottawa, Canada (Y. Bousquet)

FMNH – Field Museum of Natural History, Chicago, USA (A. Newton, M. Thayer)

IADIZA – Colección del Laboratorio de Entomología (CEI), Instituto Argentino de Investigaciones de las Zonas Áridas, Mendoza, Argentina (F. C. Ocampo).

UNSM – University of Nebraska State Museum, Lincoln, Nebraska, USA (B. C. Ratcliffe).

RESULTS

Metachaetodus De Borre, 1886

Metachaetodus De Borre, 1886: 118.

Type species: *Metachaetodus discus* De Borre, 1886 (original designation).

Diagnosis. Hybosorid genus that can be recognized from all other New World genera of the family by the following combination of characters: Mandibles dorsoventrally flat, broadly rounded, lacking dorsal teeth; labrum transverse, with anterior margin slightly emarginated; antenna with nine antennomeres, antennal club with three antennomeres, basal antennomere of club cup-shaped; pronotum with lateral margins convergent toward apex; pronotal anterior angles acute and posterior angles right-angled; pronotal and elytral surface glabrous, punctate, punctures moderately dense; meso- and metatibiae with one transversal carinae, tarsal claws simple, curved; and male parameres strongly asymmetrical.

Metachaetodus brunneicollis De Borre,
1886

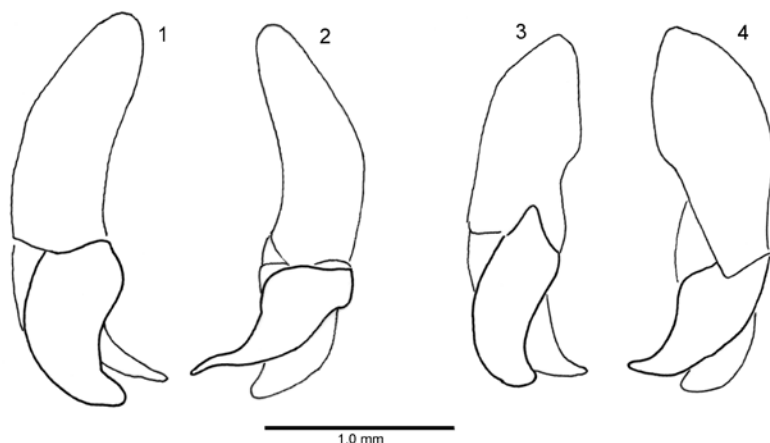
(Figs. 1, 2, 9)

Metachaetodus brunneicollis De Borre,
1886: 119.

Diagnosis. *Metachaetodus brunneicollis* can be recognized from other species in the genus by the following combination of characters: Body color uniform light brown; pronotum with lateral margins smooth; elytral surface punctate lacking carinae; male genitalia as in figures 1, 2.

Distribution (Fig. 9). ARGENTINA. Córdoba: Anisacate (1), Cruz del Eje (2). La Rioja: Chepes (6 km E) (2), Quebrada del Rosillo (3). Mendoza: Ñacuñán (1). San Luis: El Milagro (1), La Toma (1), Quines (3).

Remarks. Aside from the differences in color that are consistent between *M. discus* and *M. brunneicollis*, I found differences in the male genitalia that justify to keep these two as separate species (Figs. 1-4), contrary to what was suggested by Martínez (1994) who probably, at that time, did not study the genitalia of *Metachaetodus*.



Figs. 1-4. Aedeagus of *Metachaetodus* species. *M. brunneicollis*, 1, left view, 2, right view; *M. discus*, 3, left view, 4, right view.

Metachaetodus discus De Borre
(Figs. 3-5, 9)

Metachaetodus discus De Borre, 1886: 118.

Diagnosis. *Metachaetodus discus* can be recognized from other species of the genus by the following combination of characters: Body bicolored; head, pronotum, and elytral disc brown, elytral margins light brown; pronotum with lateral margins smooth; elytral surface punctate, lacking carinae; and male genitalia as in figures 3-4.

Distribution (Fig. 9). ARGENTINA. Buenos Aires: José Carlos Paz (2), Felipe Solá (1), La Plata (1), Sierra de la Ventana (1). Entre Ríos: Pronunciamento (16). BRAZIL. Santa Catarina: Nova Teutonia (2). URUGUAY. Montevideo (De Borre 1886).

Metachaetodus carolineae sp. nov.
(Figs. 6-9)

Diagnosis. *Metachaetodus carolineae* can be recognized from other species of the genus by the following combination of characters: Body color uniformly dark brown; pronotum with lateral margins denticulate; elytra with 10 well developed, punctate carinae.

Description. Holotype Female (Figs.

6-8). Length 6.12 mm; width 3.85 mm. **Color:** Head, pronotum, elytra, legs, and venter brown. **Head** (Figs. 7, 8): Frons slightly convex; surface rugo-strigulate. Frontoclypeal suture obsolete. Clypeal shape subtrapezoidal, anterior margin straight, surface rugo-strigulate. Clypeal anterior declivital surface developed (Fig. 8), surface smooth. Labrum transverse, anterior margin indented; dorsal surface with sparse setae. Mandibles protruding beyond labral apex, dorsoventrally flat. Labial surface sparsely setose, setae long, labial palps with 4 palpomeres. Maxillary palps with 4 palpomeres. Eyes visible in dorsal view. Antennae with 9 antennomeres; antennomere 2 cylindrical, 3 slightly conical, 4-6 moniliform; antennal club with 3 antennomeres; basal antennomere of club cup-shaped, capable of receiving penultimate and ultimate antennomeres. **Pronotum** (Figs. 6, 8): Shape convex, pronotum 0.57 times as long as wide; surface mostly moderately punctate, slightly rugo-punctate on apical half in middle; punctures moderate in size. Anterior margin with weak bead and membrane well developed; lateral margins nearly straight, beaded, denticulate with long setae; posterior margin beaded. Anterior angles acute; posterior angles right-angled. **Scutellum:** Shape sub-triangular. **Elytron** (Fig. 6): Globose, apex rounded; surface with 10, punctate striae, lateral striae only

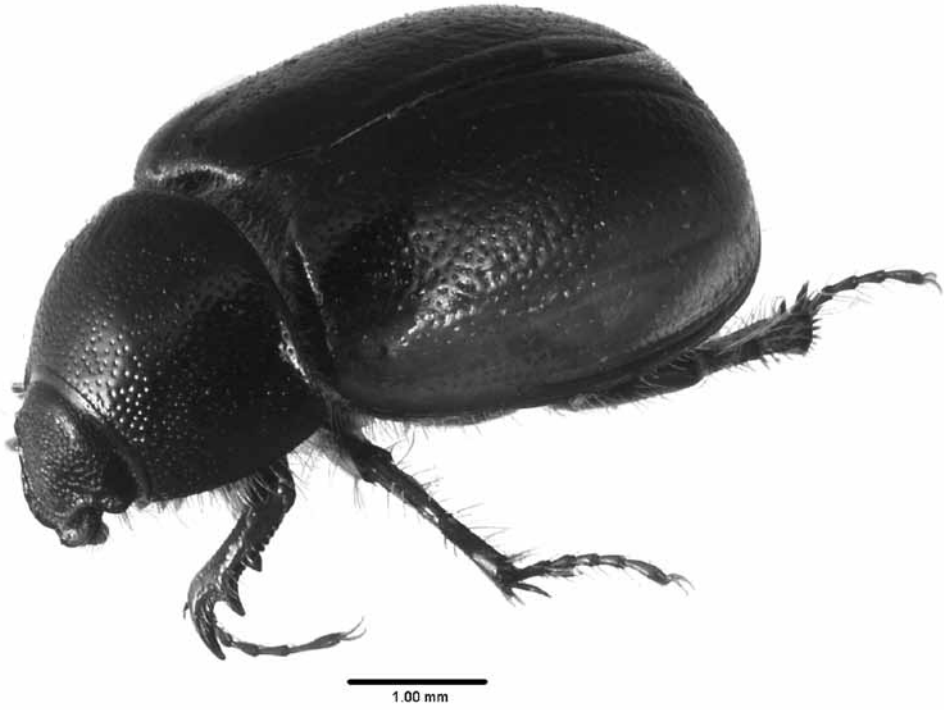


Fig. 5. *Metachaetodus discus*, frontolateral view.

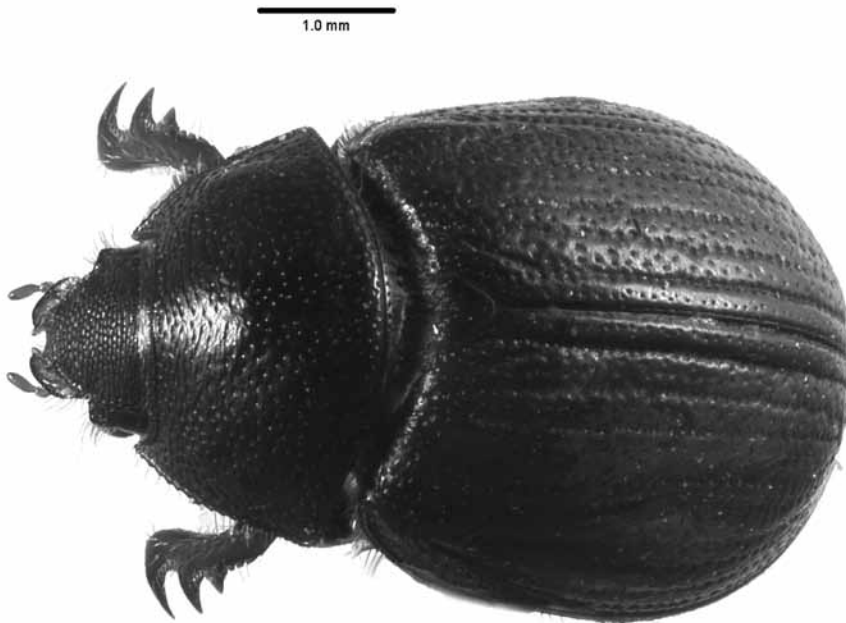


Fig. 6. *Metachaetodus carolineae*, holotype, dorsal view.

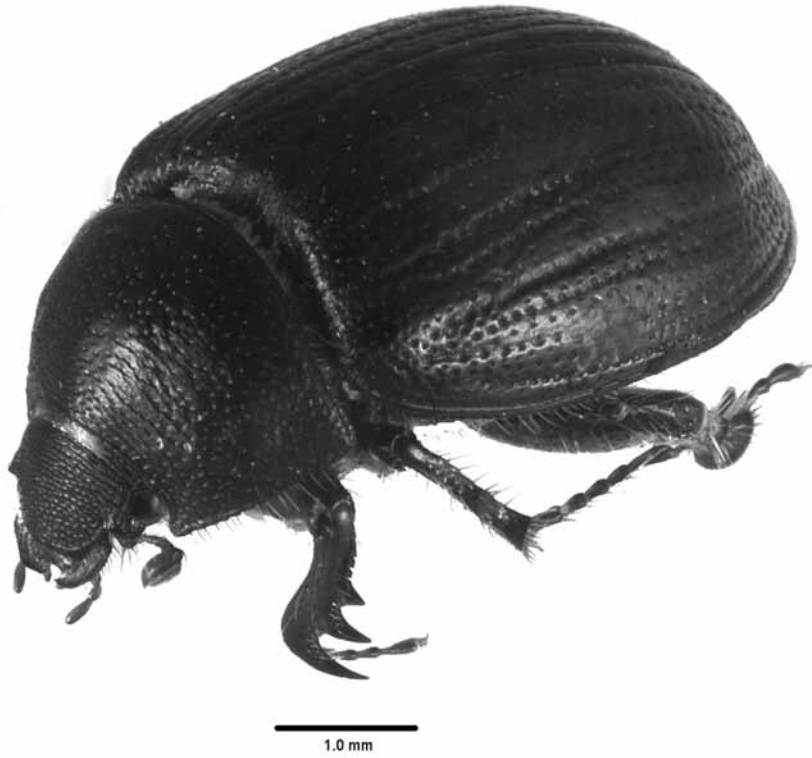


Fig. 7. *Metachaetodus carolineae*, holotype, frontolateral view.



Fig. 8. *Metachaetodus carolineae*, holotype, head and pronotum.

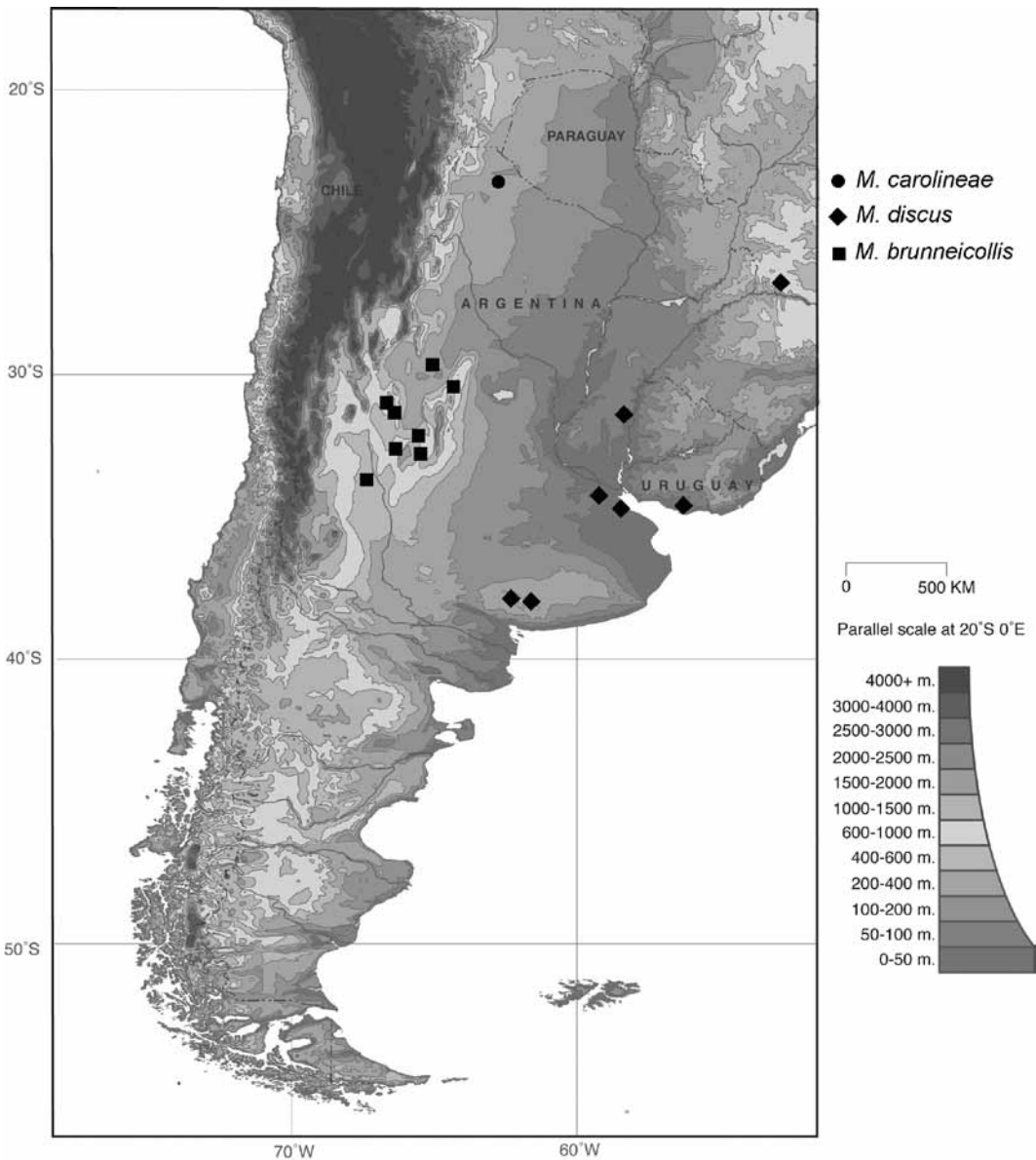


Fig. 9. Distribution map of *Metachaetodus* species.

evident in middle; interval surface punctate, punctures moderately dense. Lateral margin glabrous. Epipleuron only developed on elytral basal half, surface smooth, wider at base, tapered toward middle. *Venter*: pro-, meso-, metasternum, and abdominal sternites surface smooth, sparsely setose, setae long, slender; prosternal shield with posteromedial process poorly developed,

not erected. Six abdominal sternites exposed, basal sternite only visible on lateral view. *Legs* (Figs. 7, 8): Protibia with 3 teeth and 3 denticles on outer margin; basal tooth small, middle and apical teeth well developed, curved; tibial dorsal surface with 2 setose, longitudinal carinae, outer carinae only reaches medial tooth; outer margin setose, setae moderately long; protibial spur shorter

than apical tibial tooth, curved, apex acute. Meso- and metatibial apex expanded. Meso- and metatibiae with 1 transversal carina; with two apical, acuminate (mesotibia) and spatulate (metatibia) spurs. Pro-, meso-, and metatarsomeres 1 longer than 2; tarsomeres 2-4 subequal in length; tarsomere 5 longer than 4. Pro-, meso-, and metatarsal claws 0.5 times as long as tarsomeres 5, simple, curved.

Etymology. I take great pleasure in naming this species after my cousin and goddaughter Caroline Maricourt.

Male: unknown.

Type material. Holotype female at IADIZA labeled: "ARGENTINA: Formosa / RP 39 23 km S Ing. Juárez / 24°05'27" S 61°56'49" W / 13-17-XII-08. F. Ocampo / G. San Blas., F. Campón / MV&UV light trap"; "*Metachaetodus / carolineae* / F. C. Ocampo 2010 / HOLOTYPE" (red label).

Distribution (Fig. 9). ARGENTINA. Formosa: Ingeniero Juárez (23 km S).

Key to species of *Metachaetodus*

1. Body distinctively unicolor, brown or light brown 2
- 1'. Body bicolored, head, pronotum and elytral disc dark brown to black, elytral margins light brown (Fig. 5) *M. discus* De Borre
2. Body light brown, lateral margins of pronotum lacking denticles *M. brunneicollis* De Borre
- 2' - Body dark brown, lateral margins of pronotum with denticles (Figs. 6-8) *M. carolineae* sp. nov.

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