

SCIENTIFIC NOTE

Two New Records of Ceratocanthinae from Northeastern Argentina
(Coleoptera: Scarabaeoidea, Hybosoridae)ALBERTO BALLERIO¹, GIUSEPPE M. CARPANETO²¹Viale Venezia 45, 25123 Brescia, Italy; alberto.ballerio.bs@numerica.it; ²Dipartimento di Biologia, Università degli Studi "Roma Tre", Viale Guglielmo Marconi, 446, 00146 Roma, Italy; carpanet@uniroma3.it

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Dos Nuevas Citas de Ceratocanthinae para el Nordeste Argentino (Coleoptera: Scarabaeoidea, Hybosoridae)

RESUMEN - *Germarostes (Haroldostes) rugiceps* (Germar) y *Germarostes (Haroldostes) diffundus* (Petrovitz) (Ceratocanthinae) son registrados por primera vez para Argentina, para Misiones y Corrientes respectivamente. Con estos registros se suman a un total de trece las especies de Ceratocanthinae registradas para Argentina hasta el momento. Se incluyen comentarios sobre la serie tipo de *G. diffundus* y las circunstancias en las que fueron colectados los especímenes de Argentina.

PALABRAS CLAVE: *Germarostes (Haroldostes) rugiceps*, *Germarostes (Haroldostes) diffundus*, Misiones, Corrientes, morfología

ABSTRACT - *Germarostes (Haroldostes) rugiceps* (Germar) and *Germarostes (Haroldostes) diffundus* (Petrovitz) (Ceratocanthinae) are recorded for the first time for Argentina from Misiones and Corrientes, respectively. This brings to thirteen the total number of the Ceratocanthinae species recorded for Argentina up to now. Some remarks on the type series of *G. diffundus* and on the collecting circumstances of the Argentine specimens in here discussed are included.

KEY WORDS: *Germarostes (Haroldostes) rugiceps*, *Germarostes (Haroldostes) diffundus*, Misiones, Corrientes, morphology

Eleven species of Ceratocanthinae have been recorded until now from Argentina: *Germarostes (Germarostes) aphodioides* (Illiger), *Germarostes (Germarostes) argentinus* (Ohaus), *Germarostes (Germarostes) macleayi* (Perty), *Germarostes (Germarostes) plicatus* (Erichson & Germar), *Germarostes (Germarostes) posticus* (Germar), *Germarostes (Germarostes) punctulatus* (Ohaus), *Germarostes (Germarostes) pusillus* (Laporte de Castelnau) (doubtful record by Ohaus), *Germarostes (Haroldostes) hamiger* (Ohaus), *Ceratocanthus fuscoviridis* (Ohaus), *Ceratocanthus politus* (Erichson & Germar) and *Astaenomoechus hospes* (Wasmann) (Ohaus 1910, 1911, Paulian 1982, Howden & Gill 2000, Ocampo & Ballerio 2006). The aim of this paper is to provide new records concerning two species of *Germarostes* new to Argentina: the first was found by one of us (A B) among unidentified material in his collection; the second one was collected during a recent faunistic survey carried out by the other of us (G M C) in NE Argentina.

***Germarostes (Haroldostes) rugiceps* (Germar)**

New record. ARGENTINA: Misiones: Pozo Azul,

(Eldorado), 15-25.I.1999, leg. Rehinard Förster, one ex. (A. Ballerio collection); Argentina, Misiones: Puerto Iguazu, X.1997, leg. Rehinard Förster, one ex. (Instituto Argentino de Investigaciones de Zonas Aridas collection, Mendoza, Argentina).

Remarks. *Germarostes (Haroldostes) rugiceps* is a widespread common species which according to Paulian (1982) occurs in Brazil (i.e. Bahia, Goiás, Minas Gerais, Paraná, Espírito Santo, São Paulo), in Paraguay and in Panama (very doubtful record). Identification of Argentine material was made by comparison with the type at the Muséum National d'Histoire Naturelle (Paris, France).

***Germarostes (Haroldostes) diffundus* (Petrovitz)** (Figs 1, 2)

New record. ARGENTINA: NE Argentina, Corrientes: Laguna Ibera, Colonia Pellegrini, 6-14.II.1999, G M Carpaneto leg., 60 exx.; ibidem, 1-12.XI.1999, G M Carpaneto, L Facchinelli & L. Valerio leg.; Reserva Natural del Iberá, reserve station, light traps in forest, h 21:00-24:00, 5 exx.; ibidem, light traps in forest clearings, h 20:00-24:00, 2 exx; light traps in rural areas, h.

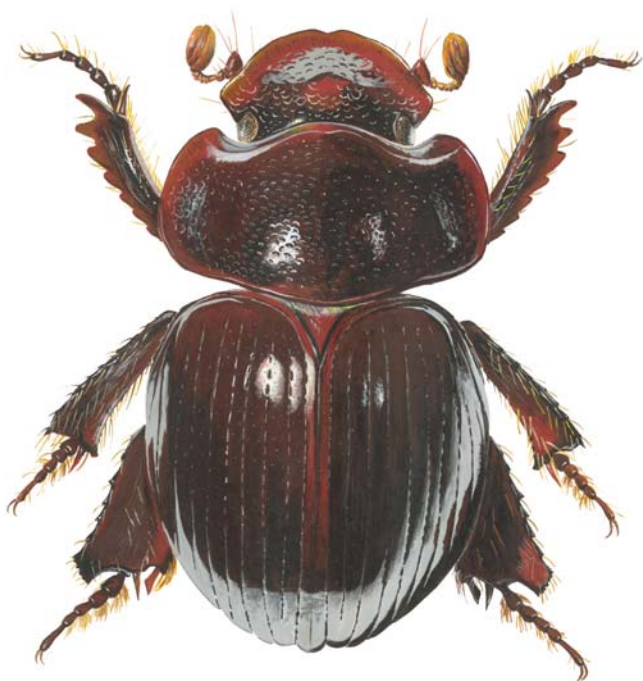


Fig 1 Habitus of a male specimen of *Germarostes (Haroldostes) diffundus* from Colonia Pellegrini (drawing by M. Toledo).

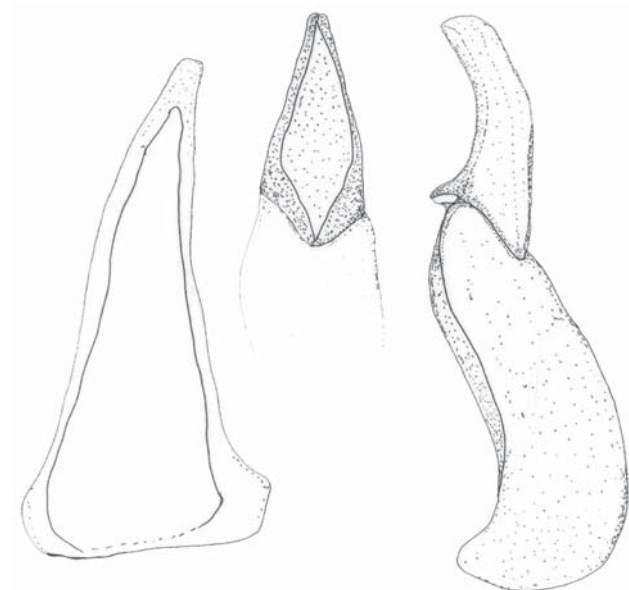


Fig 2 Genital segment and aedeagus in dorsal and lateral view of *Germarostes (Haroldostes) diffundus* from Colonia Pellegrini.

20:00-24:00, 70 exx.; ibidem, 25-31.X.1999, G M Carpaneto, L Facchinelli & L Valerio leg., light traps in rural areas, h 20:00-24:00, 70 exx. (A Ballerio, G Carpaneto and Instituto Argentino de Investigaciones de Zonas Aridas collections).

Remarks. Morphology. All of the specimens collected from

Corrientes belong to the same species and are here attributed to *G diffundus*. However, the type series of this species shows a geographical variation difficult to interpret from a taxonomic point of view. The holotype (collected on the western slopes of the Andes of Ecuador: Santo Domingo and preserved in the Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium) shows some remarkable differences if compared with the paratypes (all collected East of the Andes in Ecuador and in Brazil: Amazonas, São Paulo and Minas Gerais, preserved in the Muséum d'Histoire Naturelle de Genève, Switzerland). Most differences are found on the elytral pattern of striae: the 2nd and 3rd striae join together only near apex, and the 7th stria joins and fuses with the 4th. All the paratypes but one match the Argentine specimens quite well in both general habitus and elytral pattern (2nd and 3rd striae joining together at the beginning of apical declivity, and 7th stria ending without joining any other stria). One paratype from Buritis (Minas Gerais) has a completely different elytral pattern (2nd, 3rd, 4th, 5th and 6th striae joining together), a metallic green colour of elytra and some minor differences in punctuation, probably belonging to a different species. Other variation in the specimens examined, especially among the over 200 individuals collected in Argentina, lies in the punctures of pronotum, in the development of the smooth area at the apical third of the outer face of metatibia, and in the development of the metatibial apical callosity. Without additional specimens from the whole distribution range of this "species", we cannot provide any interpretation of such variability. *Germarostes (Haroldostes) diffundus* is also reported from Paraguay (Paulian 1982), and these specimens are very similar to the Argentine material. Petrovitz (1976) lists also paratype(s?) from Bolivia, but we were unable to locate any of them in Geneva or Brussels Museums.

Study area and ecological notes. All of the specimens from Argentina were collected near and within the Ibera Natural Reserve (Ramsar site no. 1162: Lagunas y Esteros del Iberá, designation date: 18.01.2002). This is an important protected area (28°31'S 057°09'W), including 24,550 ha of lakes, swamps, marshes and sandy banks, at 65 m above sea level. Owing to the extension of rice cultivations and grazing lands for cattle, the arboreal vegetation is reduced to some thickets and very small semideciduous woodlands up to 5-8 m tall, mainly composed of *Croton urucurana*, *Ocotea acutifolia* and *Sapium haemastospermum*. These are the last remnants of a riparian forest belt surrounding the lake, which now can be observed only near the research station and the wardens' house.

The study area is situated in the transition zone between Chaco and Pampas, the so-called Mesopotamic zone (Soriano *et al* 1992, Anonymous 2002). In particular, it deals with a vast mosaic of marshes, swamps, grasslands and subtropical forests growing around the lakeshore. The average annual temperature for the region is 21°C, while the average monthly temperature ranges from 16°C in June/July (winter) to 27°C in January/February (summer). The maximum high temperature recorded is 44°C, while the minimum low is -2°C. The relative humidity is high, with minima in the summer of about 60% and maxima in the winter above 75%. Rainfall ranges between 1,200 and 1,500 mm annually. There is no clear hydrological seasonality; however, the trends are hot

and rainy summers alternated to cold and dry winters. Strong rains also occur primarily in spring and autumn.

The collecting circumstances of *G. diffundus* in the study area are worth of notice: all the specimens were collected at light (which is fairly common for many species of Ceratocanthinae), and the majority of them (over 200) were found in bare rural areas within the rural settlement of Colonia Pellegrini (about 500 inhabitants), where trees are very scarce, apart from few *Eucalyptus* and some local species utilized for fuelwood or local timber-work. The nearest woodland around the research station is situated at 5 km from the settlement, on the opposite shore of the main water basin (the Ibera Lake). This is unusual for the Ceratocanthinae, which are mostly found in forests or woodlands. Unless one argues that they are highly vagile and can disperse over large barriers, they probably should live somewhere in this bareland, maybe in subterranean termite nests and/or in subterranean rotting wood. It must be stressed that a search for them under the bark of dead trees, in rotten woods, leaf litter, termite mounds, carrion and fungi gave negative results.

Only few specimens were collected near the forest at the reserve station, but this shortage of collected individuals could be due to the fact that electric power was not available there, and nocturnal sampling were conducted for a short time with a portable battery light. Moreover, this shortage could also be due to the greater ease in finding these small beetles on paved surfaces rather than on forest and grassy soil, during nocturnal sampling. Interestingly, the aforesaid collecting circumstances are about the same collecting circumstances of *G. diffundus* in the Cerrado near São Paulo (Brazil) (F Z Vaz-de-Mello, pers. comm.).

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