

Two new species of *Enochrus* Thomson (Coleoptera, Hydrophilidae) from the Neotropical Region

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ABSTRACT

Enochrus (*Methydrus*) *barituensis* new species and *Enochrus* (*Methydrus*) *robustus* new species are described from the Neotropical Region. They are distinguished from all other known Neotropical *Enochrus* (*Methydrus*) by the highly tectiform, anteriorly keel-shaped prosternum. *E. barituensis* can be distinguished from *E. robustus* by its smaller size, by the prosternal and mesosternal crest and by the aedeagus morphology. Illustrations of the diagnostic characters are provided. The total number of Argentine species of *Enochrus* is here increased to 18 (one in the subgenus *Hydatothrephis*, eight in *Hugoscottia* and nine in *Methydrus*).

Keywords: Coleoptera, Hydrophilidae, *Enochrus*, Neotropical Region, taxonomy.

INTRODUCTION

The worldwide genus *Enochrus* Thomson, includes 48 species in the Neotropical Region (Hansen, 1999; Moroni, 2000; Short, 2004, 2005), distributed in four subgenera: *Hydatothrephis* (1 sp.), *Hugoscottia* (17 sp.), *Methydrus* (29 sp.) and *Enochrus* (1 sp.). The genus *Enochrus* is characterized by the following character combination: maxillary palpi with second segment more or less curved outwards, with convex inner face and concave (seldom straight) outer face; elytra with sutural stria; mesosternum with strongly raised, often keel-shaped process; middle and posterior tarsi 5-segmented, with basal segment very short. In the present paper, two new species of the subgenus *Methydrus* are described. The total number of Argentine species of *Enochrus* is here enlarged to 18 (one in the subgenus *Hydatothrephis*, eight in *Hugoscottia* and nine in *Methydrus*).

In a previous paper (Fernández, 1997), the specimens described as *E. lampros* Knisch were misidentified. Thanks to the kindness of Dr. Bert Vicklund, of the Stockholm Museum of Natural History, who sent one type specimen of *E. lampros* it could be confirmed that the wrongly identified material belongs to *E. barituensis* n. sp.

MATERIALS AND METHODS

Measurements and drawings of all external characters were done with a Wild stereoscopic microscope. Details of the male genitalia were studied and drawn with a Leitz compound microscope. Drawings were made using a camera lucida. The length was taken from the clypeus to the elytral apex, and the width across the widest part of the body. Electron photographs were taken with a scanning electron microscope Jeol JSM-6360LV.

The material upon which this study is based will be deposited in the following institutions:

IFML: Instituto-Fundación Miguel Lillo, Tucumán, Argentina. **MACN:** Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires, Argentina. **MLP:** Museo de La Plata, La Plata, Argentina.

A syntype of *Enochrus lampros* Knisch, deposited in the Swedish Museum of Natural History, with the following labels: "Rio Autaz"; "Amazon Roman"; "Knisch det. 1922, *Enochrus lampros* Kn."; "5118, E91"; "Naturhistoriska Riksmuseet, Stockholm", was also examined.

Enochrus (Methydrus) barituensis Fernández, new species

Figs. 1-4, 9-11

Diagnosis.— Length: 3.1 - 3.8 mm; width: 1.6 - 2.1 mm. Prosternum highly tectiform, anteriorly keel-shaped (fig. 1), ventral edge almost straight, slightly sinuous in some specimens, without anterior tooth. Mesosternal lamina narrow, triangle-shaped, without anterior tooth, its lower margin not sinuate in lateral view (fig. 4).

Description.— Head black, clypeus with central area dark brown, yellowish in front of eyes; labrum dark brown. Pronotum and elytra yellowish brown. Antennae and maxillary palpi yellowish. Ventral face dark brown. Clypeal emargination evenly rounded under low magnification, zip-shaped under electron microscope (Fig. 2). Maxillary palpi (Fig. 3) with apical segment shorter than penultimate, second segment more or less curved outwards, with outer face almost straight. Total length of the palps less than the head width. Punctuation on head, pronotum and elytra shallow, head and pronotal punctuation slightly more impressed than of elytra, width between punctures about 2.0 - 3.0x width of one puncture. In the elytra of some specimens the 10 systematic series of points and the yuxtascutellar can be observed. Distinct sutural stria present on basal three fourths. Labial palp shorter than the width of the prementon, approximately 3/4 of the width. Prosternum highly tectiform, anteriorly keel-shaped, ventral edge almost straight, slightly sinuous in some specimens, without anterior tooth. Mesosternal lamina well developed, glabrous, narrow triangle shaped without anterior tooth, its lower and ventral margin not sinuate in lateral view (Fig. 4). Hind femora densely pubescent on basal four fifths. Posterior margin of fifth ventrite with a medium wide and deep apical notch, with yellow bristles, depth of notch approximately 1/6 of the length of the sclerite. Tarsal claws of male more curved than in the female (Figs. 9 and 10); pro-, meso- and metatarsal claws similar, the internal claws equal to the external ones. Male genitalia (Fig. 11): phallobase approximately as long as parameres. Median lobe shorter than parameres, corona situated subapically, apex rounded. Parameres with tips straight and rounded.

Bionomics.— This species occurs in mountain rivers and streams. The description of the pre-imaginal stages of *E. barituensis* was published by Archangelsky (2002), under the name of *Enochrus lampros* Knisch, due to the misidentification by Fernández (1997). Most egg cases were attached to rocks at the edge of the water, only few cases were laid on leaves. Development was fast, the complete development from egg to adult took 19-24 days (Archangelsky, 2002).

Distribution.— Venezuela, Bolivia, Argentina: provinces of Salta, Tucumán, Córdoba, San Juan and Mendoza.

Material examined.— Holotype male and allotype female, Argentina: Salta: Parque Nacional Baritú, Arroyo Arrasallal, 5-7/XII/1981, leg. Trémouilles (MLP). Paratypes: Parque Nacional Baritú, Arroyo Arrasallal, 5-7/XII/1981, leg. Trémouilles, 7 specimens at MLP; and same data, 7 specimens at MACN. Further specimens, not designated as paratypes: Venezuela: La Moka, 3 spec. (MACN). Bolivia: Tarija, Ingeniero Bermejo, 14-28/II/1969, leg. Golbach, 7 spec., (IFML). Argentina: Salta, Juntas de San Antonio, Río Bermejo, leg. M. López Ruf, 1 spec. (MLP); Parque Nacional Baritú, 5-7/XII/1981, leg. E. Trémouilles, 5 spec. (MLP). Tucumán, dique Los Pizarros, 10-13/XII/1982, leg. R. Golbach, 5 females and 5 males; departamento Trancas, Tacanas, 22/XII/1979, leg. R. Golbach, 3 males; departamento Burruyacu, Río Salas, 12/II/1982, leg. R. Gobach, 48 spec. (IFML). Córdoba, Alta Gracia, La Granja, 19/I/1927, leg. C. Bruch, 5 spec. (MACN); San Javier, Yacanto, 14/I/1982, leg. Willink, 3 females and 3 males and 6 spec. (IFML). San Juan, Valle Fértil, 19/X/1970, 4 spec.; idem. 12/X/1970, leg. G. J. Williner, 1 spec.; Mendoza, Santa Rosa, 1 spec. San Luis, San Gerónimo, 2-4/XI/1970, 1 spec. (MACN).

Etimology.— The epithet refers to the area where the holotype was collected.

Enochrus (Methyrus) robustus Fernández, new species

Figs. 5-8, 12-14

Diagnosis.— Length: 5.2 - 5.5 mm; width: 2.8 - 3.1 mm. Prosternum highly tectiform, anteriorly keel-shaped, ventral edge with small anterior tooth, and sinuate in lateral view (fig. 5). Mesosternal lamina narrow, triangle shaped, with anterior tooth, its lower margin sinuate in lateral view (fig. 8).

Description.— Head black, clypeus yellowish brown, with the central posterior area dark brown; pronotum and elytra yellowish brown; labrum brown with yellowish lateral borders; pronotum and elytra yellowish brown. Antennae and maxillary palpi uniformly yellow. Ventral face dark brown. Clypeal emargination shallow, evenly rounded under low magnification, zip-shaped under electron microscope (Fig. 6). Maxillary palpi (Fig. 7), with apical segment shorter than penultimate, second segment more or less distinctly curved outwards, with convex inner face and straight outer face; total length of palpi less than head width. Pronotal and elytral punctation shallow, uniformly distributed, head punctation slightly deeper, width between punctures 2.0 - 4.0x width of one puncture. In some specimens the 10 systematic series of points and the yuxtascutelar can be observed. Distinct sutural stria present on basal three fourths. Labial palp shorter than width of the prementon, approximately 3/4 of the width. Prosternum highly tectiform, anteriorly keel-shaped, ventral edge with small anterior tooth, and sinuate in lateral view. Mesosternal lamina well developed, glabrous, narrow, triangle shaped, with anterior tooth, its lower margin sinuate in lateral view (Fig. 8). Hind femora density pubescent on basal four fifths. Posterior margin of fifth ventrite with a medium wide deep apical emargination, with yellow bristles, depth of notch approximately 1/6 of the length of the sclerite. Tarsal claws of male more curved than in female (figs. 12 and 13); pro-, meso- and metatarsal claws similar, the internal ones equal to the external. Male genitalia (Fig. 14): phallobase ap-

proximately as long as parameres. Median lobe shorter than parameres, corona situated subapically, apex rounded. Parameres with straight and rounded tips.

Biology.— The species was found in a creek in the rain forest.

Distribution.— Argentina: Salta province.

Material examined.— Holotype male and allotype female, Argentina, Salta, Parque Nacional Baritú, Yaculiba, at night, 5-7/XII/1981, leg. Trémouilles (MLP). Paratypes, same data as in holotype, two females. Salta, Parque Nacional Baritú, Arroyo Arrasallal, 7/XII/1981, leg. Trémouilles, two females (MLP). Further specimens, not designated as paratypes: Perú, Avispas, Dto. Madre de Dios, leg. Peña, IX-1962, two specimens (MLP).

Etymology.— The name of the epithet refers to the robust aspect.

REMARKS

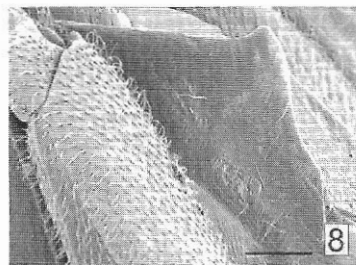
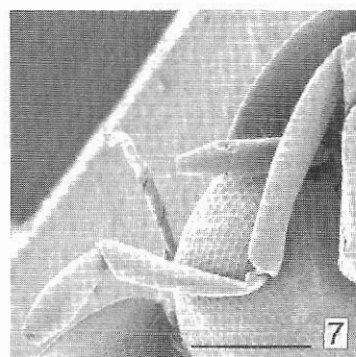
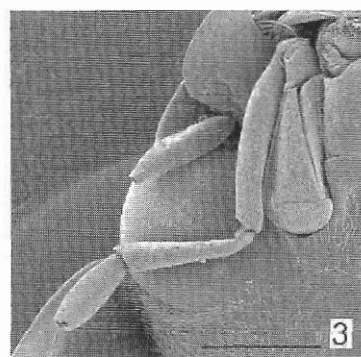
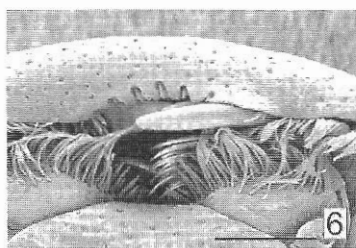
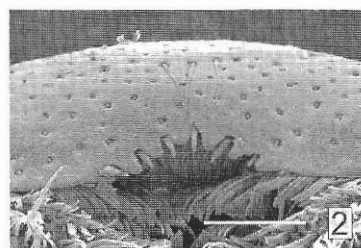
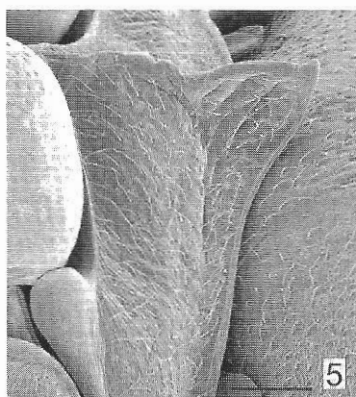
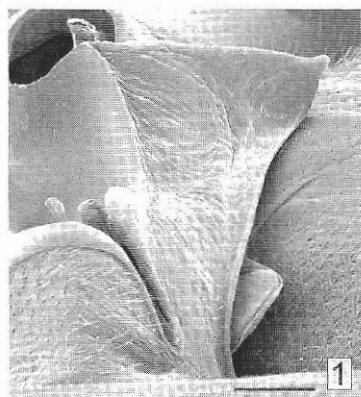
Enochrus barituensis sp. nov. and *Enochrus robustus* sp. nov. are distinguished from all other known Neotropical *Enochrus* (*Methyrus*), by the prosternum which is highly tectiform and anteriorly keel-shaped. *E. barituensis* can be distinguished from *E. robustus* by its smaller size, by the prosternal and mesosternal crest (Figs. 1, 4, 5 and 8) and by the aedeagus morphology (Figs. 11 and 14).

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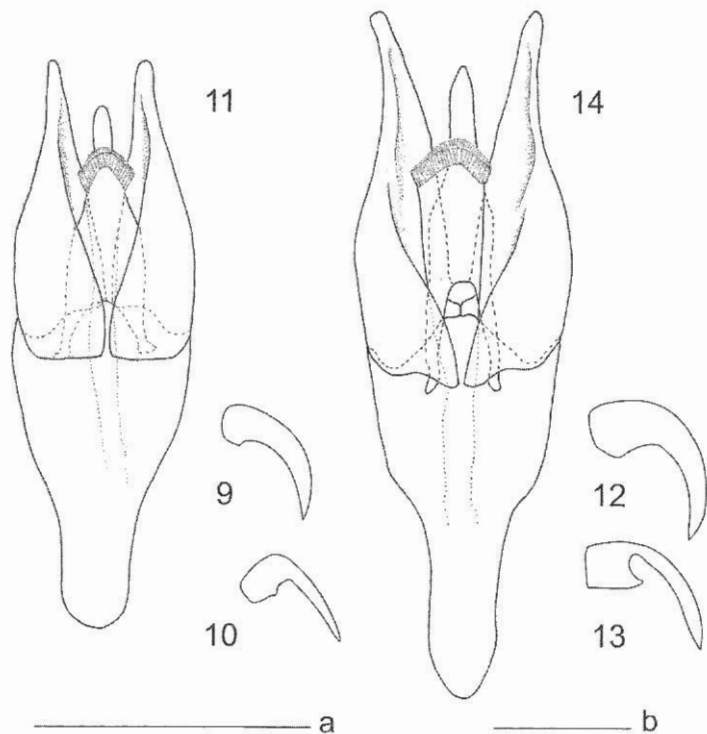
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LITERATURE CITED

- Archangesky, M. 2002. Immature stages of Neotropical *Enochrus* (Coleoptera: Hydrophilidae): *E. (Methyrus) lampros* Knisch, 1924 and *E. (Hugoscottia) tremolerasi* Knisch, 1922. Aquatic Insects 24 (1): 41-52.
- Hansen, M. 1999. World Catalogue of Insects 2: Hydrophiloidea (s. str.) (Coleoptera). Apollo Books, Amsterdam, 416 pp.
- Fernández, L. A. 1997. Nuevos aportes para el conocimiento del género *Enochrus* Thomson (Coleoptera: Hydrophilidae). Physis 53 (124-125): 21 - 29.
- Moroni, J. C. 2000. Aporte al conocimiento de los coleópteros hidrófilos Hydrobiini de Chile. *Enochrus (Hugoscottia) conceptionensis* n. sp. (Coleoptera: Hydrophilidae: Hydrophilinae). Revista Chilena de Entomología 26: 29-33.
- Short, A. E. Z. 2004. Review of the *Enochrus* Thomson of the West Indies (Coleoptera: Hydrophilidae). Koleopterologische Rundschau 74: 351 - 361.
- Short, A. E. Z. 2005. Two new species of *Enochrus* Thomson, subgenus *Hugoscottia* Knisch, from Costa Rica and Mexico (Coleoptera: Hydrophilidae). Zootaxa 865: 1-7.



Figs. 1-8. *Enochrus barituensis*. 1, prosternal crest (lateral view); 2, clypeal emargination; 3, maxillary palpus; 4, mesosternal lamina (lateral view). *Enochrus robustus*. 5, prosternal crest; 6, clypeal emargination; 7, maxillary palpi; 8, mesosternal lamina. Scale bar: figs. 1, 4, 5 and 8 = 100 μ ; figs. 2 and 6 = 50 μ ; figs. 3 and 7 = 200 μ .



Figs. 9-11. *Enochrus barituensis*. 9 claw of female front tarsus; 10, claw of male front tarsus; 11, male genitalia. *Enochrus robustus*. 12, claw of female front tarsus; 13, claw of male front tarsus; 14, male genitalia. Scale bar b: figs. 9-10 and 12-13 = 0.1 mm. Scale bar a: figs. 11 and 14 = 0.5 mm