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A NEW SPECIES OF *MEGACERAS* HOPE, 1837 (COLEOPTERA: SCARABAEIDAE: DYNASTINAE: ORYCTINI) FROM PERU

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ABSTRACT

Megaceras sarecagem Ratcliffe and Saltin is described as a **new species** from Oxapampa in the Pasco Region of Peru. A description, diagnosis separating it from similar species, illustrations, and a distribution map are provided.

Keywords: taxonomy, Scarabaeoidea, rhinoceros beetle, South America

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Zoobank.org/urn:lsid:zoobank.org:pub:BDE06E08-1898-4D04-A814-87746BB79A6C

INTRODUCTION

The genus *Megaceras* Hope is comprised of 20 species (Dechambre 1975a–b, 1981, 1998; Endrödi 1976, 1985; Ratcliffe 2007). All of the species occur in South America, and two species extend northward as far as Guatemala, Honduras, and Nicaragua where they are uncommon (Ratcliffe and Cave 2006; Ratcliffe *et al.* 2013).

Species of *Megaceras* are characterized by tridentate protibiae; frons with a single horn in the male or a single tubercle in the female; pronotum broadly arcuate and explanate on each lateral margin and with an often large, forward projecting, bifurcate horn in major males (reduced in minor males), female with small to obsolete double tubercles on the anterior pronotal margin; prosternal process elongate; smooth elytra; antenna with 10 antennomeres, club usually subequal in length to antennomeres 2–7; and mandibles distinctly bidentate and exposed.

Little is known about the life history of these beetles. Adults are active at night and seem to be found primarily in areas of lowland and montane broadleaf forests. Larvae have not been formally described but probably live in decaying logs or in the soil where they feed on organic material.

MATERIALS AND METHODS

For our species delineation, we adhere to the phylogenetic species concept as outlined by Wheeler and Platnick (2000). This concept defines species as the smallest aggregation of populations diagnosable by a unique combination of character states. Not all species are equally diagnosable; some are easily recognized by examining one or a few individuals with a unique set of characters (*e.g.*, the new species described herein).

Specimen label data are quoted verbatim. A forward slash line (/) is used to separate lines on a label, and a forward double slash line (//) separates different labels. Body length was measured in millimeters from the apex of the clypeus to the apex of the pygidium; width was measured across the elytral humeri.

Digital images were captured with a Canon EOS T5i 18MP camera mounted on a Leica stereomicroscope. The image files were subsequently focus-stacked using Quickphoto (PROMICRA, Prague, Czech Republic) and edited on a desktop computer. Adobe Photoshop was used to process and clean all images. The distribution map was made with Photoshop by simply placing a colored symbol on a customized Peru map created by Benchmark Maps (Medford, OR).

TAXONOMY

Megaceras sarecagem Ratcliffe and Saltin,
new species

zoobank.org/urn:lsid:zoobank.org:act:
9998FA09-777B-40A3-88CE-A154DF59C6E1
(Figs. 1–3)

Type Material. Holotype, labeled “DYNASTINAE/*Megaceras morpheus*/Burmeister, 1847? ♂/Peru, Oxapampa, 11-IV-1984./leg.: Rainer Marx./erh. 1985 (IB-Ffm)/det. JPS 2020/JPS COLLNO: Dyn/630/W5e//Peru/Oxapampa/Febr.-Apr. 1984/leg. Rainer Marx” and our red holotype label. Three paratypes have the same data except collection numbers “631”, “632”, and “633”, each with our yellow paratype label. The holotype is deposited at the University of Nebraska State Museum, Lincoln, NE, USA. Two paratypes are deposited in the Jochen Saltin Collection, Dornum, Middelsbur, Germany, and one paratype is in the Brett Ratcliffe Collection, Lincoln, NE, USA.

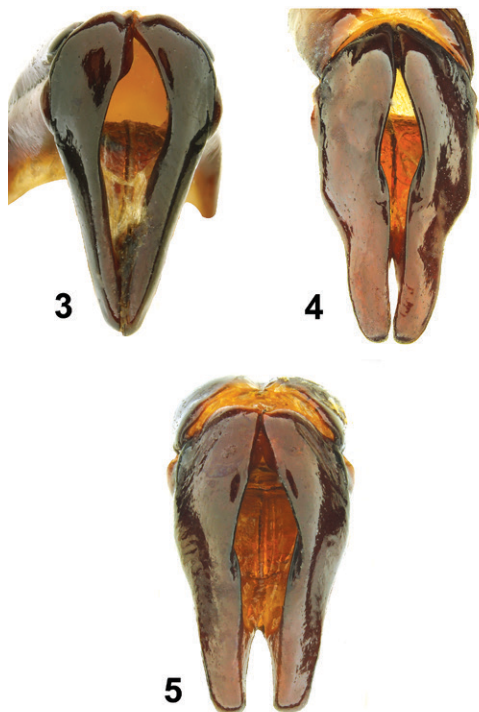
Description of the Holotype. Male (Figs. 1–2). Length 36.7 mm; width across humeri 18.2 mm. Dorsum black, weakly shiny; venter dark reddish brown. **Head:** Frons with large, recurved, acuminate horn, horn extending to just above pronotal horn; posterior margin of horn below apex (opposite apex of pronotal horn) with small, tooth-like swelling; sides of horn nearly flat with small, sparse punctures. Clypeal apex broadly rounded, apex minutely notched at center. Interocular width equals 4.0 transverse eye diameters. Antenna with 10 antennomeres,

club slightly shorter than antennomeres 2–7. Mandible with large, narrowly rounded basal lobe and acute apical tooth. **Pronotum:** Disc with erect, stout prominence with 2 short, slightly converging horns on apex projecting forward; anterior face declivous. Surface mostly smooth except for coarsely rugose lateral margins and posterior angles, rugae connected to rugose *areola apposita*. Lateral margins broadly arcuate, narrowly explanate, widest at middle. Base with slender marginal bead. **Elytra:** Surface nearly smooth and sparsely, minutely granulate. Sutural stria strongly impressed. Lateral margin with strong bead. **Pygidium:** Surface shiny with small, sparse punctures; base and angles with large, moderately dense, setigerous punctures; setae long, reddish brown. In lateral view strongly convex. **Legs:** Protibia tridentate, teeth subequally spaced. Meso- and metatibiae each with 2 transversely oblique carinae. Metatibial apex with 1 large, subtriangular tooth. **Venter:** Prosternal process long, laminate, subtriangular. Metaventrite nearly completely, setigerously punctate; punctures dense, becoming sparser towards midline; setae short, reddish brown. **Parameres:** Form acutely triangular, wide at base, apex slightly rounded (Fig. 3).

Paratypes. The three male paratypes differ from the holotype in the following respects: length 33.3–41.1 mm, width 15.6–19.1 mm. One specimen has slightly smaller horns on the head and pronotum. Two specimens have only sparse rugosity on the lateral pronotal margins. Otherwise, the paratypes do not substantially differ from the holotype.



Figs. 1–2. Holotype of *Megaceras sarecagem*, new species. 1) Dorsal view; 2) Lateral view.



Figs. 3–5. Caudal view of the parameres. 3) *Megaceras sarecagem*, new species; 4) *M. morpheus*; 5) *M. briansaltini*.

Etymology. The specific epithet is a palindrome (a word read backwards) of the genus *Megaceras*, hence *sarecagem*. Article 31.2.3 of the Code (ICZN 1999) states that “If a species-group name ... is not a Latin or latinized word [Arts. 11.2, 26], it is to be treated as indeclinable for the purposes of this Article, and need not agree in gender with the generic name with which it is combined (the original spelling is to be retained, with ending unchanged; see Article 34.2.1)”.

Distribution. *Megaceras sarecagem* is known only from Oxapampa (10.574°S, 75.405°W) in Oxapampa Province in the Pasco Region of Peru on the eastern slope of the Andes (Fig. 6).

Temporal Distribution. April (4).

Diagnosis. *Megaceras sarecagem* will key to couplet 24 in Endrödi (1985) that ends with *Megaceras morpheus* Burmeister; both species are indistinguishable externally. Seven *Megaceras* species have been described since Endrödi (1985), but none of those species have the narrow, nearly acute, triangular parameres (Fig. 3) of *M. sarecagem*. The only other species of *Megaceras* with triangular parameres is *Megaceras jason* (Fabricius), but that is a considerably larger species (36–60 mm) with a distinctly bifurcate frontal horn and broader parameres.



Fig. 6. Location of Oxapampa in Peru, the type locality for *Megaceras sarecagem*, new species.

Megaceras sarecagem, *M. morpheus*, and *Megaceras briansaltini* Ratcliffe belong to that group of species that have a rounded clypeus with a blunt or slightly notched apex as opposed to those species with two distinct teeth. Males can be reliably identified by the form of the male parameres where the apical third is constricted inwardly or not. The parameres of *M. morpheus* and *M. briansaltini* have the angle on the lateral margin of the parameres produced, whether slightly or distinctly, but *M. sarecagem* has totally different parameres that are sharply triangular and do not have an angle on the lateral margin (compare Figs. 3–5).

Natural History. Nothing is known of the life history of *M. sarecagem*. Adult *Megaceras* species are nocturnally active, and they seek shelter to hide during the day. They are usually attracted to lights at night, occasionally in high numbers if there is a large emergence. The type locality of *M. sarecagem* is approximately 1,800 m in elevation, and Oxapampa is in the region known as Selva Alta or high jungle.

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