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FIRST DESCRIPTION OF THE FEMALE OF THE RARE *MEGASOMA LECONTEI* HARDY (COLEOPTERA: SCARABAEIDAE: DYNASTINAE: DYNASTINI)

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ABSTRACT

Megasoma lecontei Hardy is the most rarely collected of all species of *Megasoma* Kirby, and the female remained undescribed. A description and illustrations of the female of *M. lecontei* are provided for the first time based on several specimens from near Cabo San Lucas, Baja California Sur, Mexico. A revised key to the *Megasoma* species occurring in Baja California Sur, Mexico is presented.

Key Words: elephant beetle, morphology, Neotropics, identification key

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INTRODUCTION

The genus *Megasoma* Kirby consists of 16–21 species (depending on the authority) and a number of subspecies. Species in the genus are found from the southwestern USA to northern Argentina. Adults of *Megasoma* species are collectively known as elephant beetles because of their moderate to large size and long cephalic horn in the male. Adults are characterized by a broadly truncate to emarginate clypeal apex with acute or toothed anterior angles in the male, mandibles with two or three acute teeth, short prosternal process, and tridentate protibia. Males all have a variably developed, bifurcate head horn, and the pronotum is either armed or not.

Hardy (1972) reviewed the North and Central American species of *Megasoma*. Endrödi (1977, 1985) provided a synopsis of all the species then known. Pictorial treatments of all species of *Megasoma* were provided by Lachaume (1985), Nagai (2003), Hwang (2011), and Kobayashi (2019).

Megasoma lecontei Hardy is the most rarely collected of all the species and has been found only near

Cabo San Lucas in Baja California Sur, Mexico. As of 2013, less than two dozen males (Figs. 1–2) were known (Ratcliffe *et al.* 2013). The females (Figs. 3–4) are even more rare, with just a handful of specimens residing in the personal collections of Guillermo Nogueira (Mexico), the late Miguel Morón (Mexico), Rich Cunningham (USA), and Leonelli Milani (Italy). Nogueira and Morón had been planning to describe the female until the untimely passing of Miguel in 2017.

The complete description of the male is found in Ratcliffe *et al.* (2013), and the female is described here for the first time.

MATERIAL AND METHODS

The description of the female is based on six specimens collected by Guillermo Nogueira near Cabo San Lucas in the Sierra La Laguna (710–980 m elevation), Baja California Sur, Mexico, in September 2010 and 2011.

Plant names used in the habitat characterization are from Martínez (1979), Rebman and Roberts (2012), Rebman *et al.* (2016), and Tropicos.org (www.tropicos.org).

Figs. 1–4. *Megasoma lecontei*. 1–2) Male, dorsal and lateral views, respectively; 3–4) Female, dorsal and lateral views, respectively.

***Megasoma lecontei* Hardy, 1972**
(Figs. 1–16)

Female Description. $n = 5$. Length from clypeal apex to elytral apex 24.7–34.1 mm; width across humeri 14.5–20.0 mm. Color black. **Head:** Frons coarsely rugose. Clypeus rugose and with a transverse,

binodose tubercle on base; apex broadly rounded either side of emargination (Figs. 3–5). Interocular width equals 3.3 transverse eye diameters. Antenna with 10 segments, club subequal in length to antennomeres 2–7. **Pronotum:** Surface glabrous with large, dense punctures, minutely aciculate between punctures; punctures becoming denser on sides and in anterior

Figs. 5–10. *Megasoma lecontei*, female. **5)** Head showing detail of clypeal apex and transverse tubercle; **6–7)** Pygidium, caudal and lateral views, respectively; **8–9)** Meso- and metatibiae, respectively, lateral views; **10)** Genital plates, ventral view.

angles. Base lacking marginal bead. **Elytra:** Surface shiny, glabrous, with poorly defined punctate striae; punctures of striae and intervals large, umbilicate. Punctures in striae separated by about 1 puncture diameter, punctures of intervals separated by about 1–3 puncture diameters. Sutural stria not an impressed line, instead a row of punctures. **Pygidium:** Surface on basal half with moderately large, dense punctures; apical half roughened or weakly rugose, all punctures setigerous; setae long, dense, light yellowish brown (Figs. 6–7). Surface weakly convex in lateral view. **Legs:** Protibia tridentate, basal tooth strongly removed from other teeth (Fig. 3). Meso- and metatibiae on basal fourth and on middle each with 2 large spines and 1 subacute angle (Figs. 8–9). Apex of metatibia obliquely truncate and with large, triangular angle at middle. Apex of 1st metatarsomere elongated into short, stout spine. **Venter:** Prosternal process short, triangular, laminate. **Genital plates:** Pear-shaped, apex with long setae (Fig. 10).

Diagnosis. Both sexes of *M. lecontei* are glabrous on the pronotum and elytra, whereas the other two species from Baja California Sur are setose.

Geographic Distribution. Near Cabo San Lucas in the Sierra La Laguna, Baja California Sur, Mexico (Fig. 13).

Temporal Distribution. May (1), August (7), September (9), October (1).

Natural History. Specimens (Figs. 11–12) were collected in an area of arid tropical forest and oak-piñon woodland (*Quercus idonea* Goldman/*Quercus brandegeei* Goldman (Fagaceae) and *Pinus cembroides* Zuccarini (Pinaceae)) where the principal vegetation consists of madroño (*Arbutus peninsularis* Rose & Goldman, Ericaceae), palo verde (*Parkinsonia peninsulare* Rose, Fabaceae), palo amarillo (*Esenbeckia flava* Brandegees, Rutaceae), palo blanco (*Lysiloma candidum* Brandegees, Fabaceae), palo de arco (*Tecoma stans* (Linnaeus), Bignoniaceae), palo breá (*Parkinsonia praecox* (Ruiz & Pavón), Fabaceae), palo zorrillo (*Cassia occidentalis* (Linnaeus), Fabaceae), palmita (*Nolina matapensis* Wiggins, Asparagaceae), palma talco (*Erythea brandegeei* Purpus, Arecaceae), mauto (*Lysiloma divaricatum* (Jacquin), Fabaceae), cardón-barbón (*Pachycereus pecten-aboriginum* Britton & Rose, Burseraceae), ciruelo (*Cyrtocarpa*

Figs. 11–16. *Megasoma lecontei*. 11–12) Live female and male, respectively; 13) Distribution; 14–16) Habitat near Cabo San Lucas in the Sierra La Laguna, Baja California Sur, Mexico. Photographs by G. Nogueira.

edulis (Brandege), Anacardiaceae), blede (*Celosia floribunda* A. Gray, Amaranthaceae), huinol (*Acacia cymbispina* Sprague & Riley, Fabaceae), jacolosuchil (*Plumeria acutifolia* Poiret, Apocynaceae), torote (*Pachycormus discolor* (Benth), Anacardiaceae), yucca (*Yucca valida* Brandege, Agavaceae), and mesquite (*Acacia greggii* A. Gray) (Figs. 14–16).

KEY TO THE SPECIES OF ADULT *MEGASOMA* FROM BAJA CALIFORNIA SUR, MEXICO

1. Pronotum and elytra glabrous (Figs. 1–4) ...
..... *M. lecontei* Hardy
- 1'. Male elytra and pronotum with recumbent,
pale setae. Female elytra with recumbent setae
on posterior half or just near apices and often
on lateral pronotal margins 2
2. Male pronotum with anterior angles angulate
(normal). Female frons with simply rounded
or conical tubercle *M. cedrosum* Hardy
- 2'. Male pronotum with anterior angles produced
into short, acute horns projecting obliquely.
Female frons with transversely binodose tu-
bercle *M. thersites* LeConte

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