

***Golofa clavigera* (Linnaeus, 1771) in Bolivia: a new country record (Coleoptera: Scarabaeidae: Dynastinae)**

***Golofa clavigera* (Linnaeus, 1771) en Bolivia: Un nuevo registro para el país (Coleoptera: Scarabaeidae: Dynastinae)**

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Members of the tribe Dynastini are among some of the largest and heaviest insects on Earth. In addition to being among the largest, some species, such as the Neotropical hercules beetles (*Dynastes* species), Neotropical elephant beetles (the larger species of *Megasoma*) and the Neotropical sawyer beetles (the larger *Golofa* species) have some of the most fantastic horns seen in the animal kingdom. Sexual dimorphism is well-developed in most species of Dynastini, and males of some species have huge and/or bizarrely-shaped horns on the head and pronotum, while the females lack horns.

There are 27 species in the Neotropical genus *Golofa* Hope, 1837 (Lachaume 1985; Morón 1995; Ratcliffe 2003a). Species are found from central Mexico to northern Argentina and Chile. Thirteen species are found in Central America, and 14 species are found in South America. Bolivia has previously been known to be home to only two species (Lachaume 1985).

Adult males of most of the South American species may be recognized by their brownish yellow to dark reddish brown color; the presence of a long, upright, slender head horn; the usual presence of a short to long, erect or obliquely oriented pronotal horn; and mandibles either entire or weakly incised at the apex. *Golofa* females are yellowish brown to more commonly black, and they lack any horns.

In spite of modern synopses (Endrödi 1977, 1985, Dechambre 1983, Lachaume 1985, Morón 1995), identification of many of the species of *Golofa* remains difficult, because there is significant morphological variation in male secondary sexual characters combined with an unusual (for dynastines) lack of differentiation of the male genitalia. In many cases, moreover, females can be identified only by being collected simultaneously with conspecific males.

The larvae of only two species of South American *Golofa* have been described: that of *G. porteri* Hope, 1837 and of *G. eacus* Burmeister, 1847 (Morón 1994, 1995). The larva of *G. clavigera* has not been described.

Adults of most species are nocturnal, and they are sometimes, but not always, attracted to light. Howden and Campbell (1974) observed *G. porteri* Hope in Colombia during the day on bamboo or a bamboo-like grass; males were actively feeding, and some were engaged in fighting one another on the bamboo stalks. A few specimens, particularly females, were taken at lights. We know virtually nothing about the biology of these large beetles.

Golofa clavigera (L.) in Bolivia

Golofa clavigera (Figs. 1-2) is a fairly common beetle (Lachaume 1985) in French Guiana, Venezuela, Brazil (Pará State), Colombia, Ecuador, and Peru (Dechambre 1983, Endrödi 1985, Lachaume 1985). Here we report the first known specimen from Bolivia that represents a new national record (Fig.1).

BOLIVIA: Cochabamba, Cristal Mayu (Chapare) (Fig. 2), collected at light in the forest near Cristal Mayu, 17.000991°S, 65.646468°W, 688 m, I-10-2009, Walker Peredo Montaña collector. The specimen is a major male measuring 473 mm in length and is deposited in the collection of the Museum of Natural History Alcide d'Orbigny in Cochabamba, Bolivia.

The town of Cristal Mayu belongs to the municipality of Villa Tunari (Cochabamba: Municipality of Chapare) at 17.001419° S,

65.636159° W. It is 136 km NE of the city of Cochabamba. The area is a high basin containing the Ichilo River in the Department of Cochabamba. According to Navarro & Ferreira (2007), this area is comprised of tropical Andean rain forest (Yungas) with indicator species *Heliocarpus americanus* (L.) (Tiliaceae) and *Inga* aff. *nobilis* Willdenow as well as subandean wet forest (Amazonian) with indicator plants *Elaeagia obovata* Rusby (Rubiaceae) and *Talauma boliviana* M. Nee (Magnoliaceae). Cristal Mayu is located almost at the interface of these two habitat types (Fig. 2).

There are also unpublished records of this species in Bolivia. There are four males and one female of *G. clavigera* collected in January 1990 from the northern Yungas of La Paz (Bolivia) in the personal collection of R.-P. Dechambre, Paris, France (G. Lachaume, pers. comm., 2010).



Figure 1. *Golofa clavigera*, dorsal and anterior views.

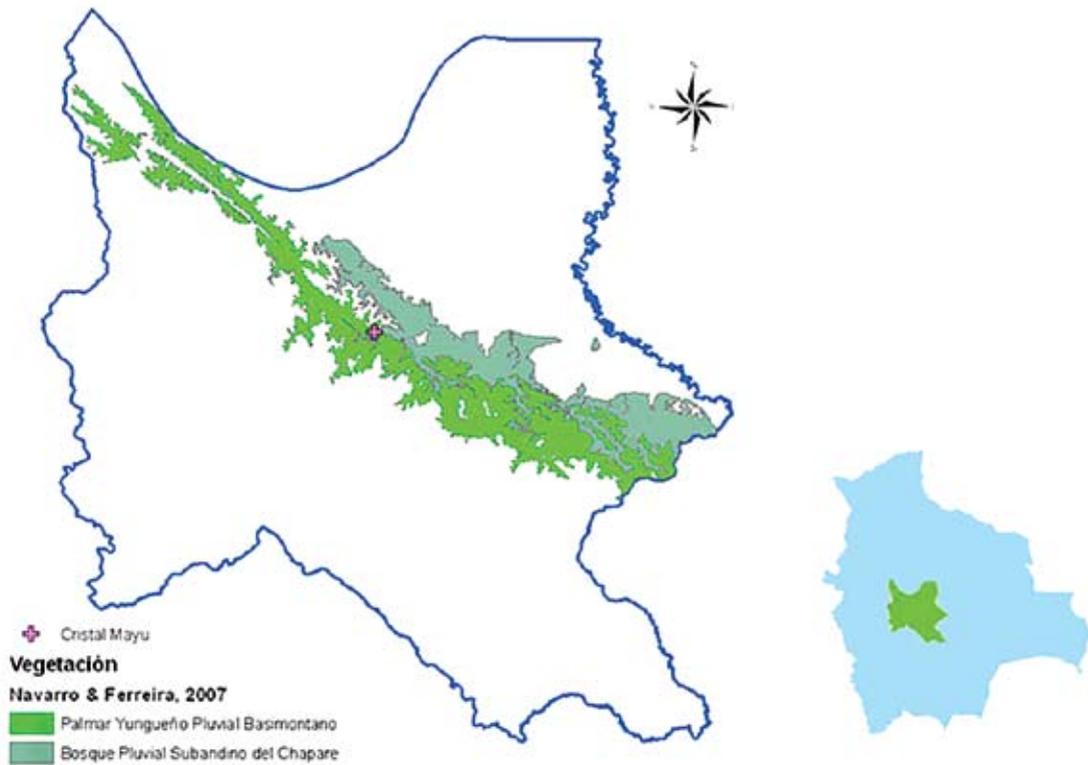


Figure 2. Map showing location of Cristal Mayu, where *Golofa clavigera* was collected, and vegetation units within the Department of Cochabamba, Bolivia (Navarro & Ferreira 2007).

The Cristal Mayu specimen represents a southward extension into Bolivia of the previously known range of *G. clavigera*. Discoveries like these, combined with the well-documented threats to tropical habitats globally, add importance to conducting extensive field studies and faunistic surveys in Bolivia. Collection of new material and identification of existing collections are needed in order to explore and catalog biotic diversity and to facilitate further research. Research infrastructure will be enhanced in Bolivia by collaborative activities such as this one, establishment of authoritatively identified collections, creation / augmentation of

databases, and future partnerships to explore biodiversity. Results should be available to researchers, Bolivian students at all levels, natural resource managers, government entities, and amateur naturalists. Benefits to society would include a better understanding of the importance of and threats to biodiversity, enhanced ability to monitor habitats (conservation, invasive species, pest species) using taxonomic knowledge, educating students and the public about science, training future scientists or technicians, and instilling in the people of Bolivia a sense of responsibility and pride in their own rich biota so they may better care for it.

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