



## Systematic revision of the South American genus *Praocis* Eschscholtz, 1829 (Coleoptera: Tenebrionidae). Part 1: Introduction and subgenus *Praocis* s. str.

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### Abstract

The first part of a revision of the species comprising the genus *Praocis* Eschscholtz, 1829 (Pimeliinae: Praociini) is presented. The history of taxonomic research on *Praocis* is reviewed. The subgeneric classification is outlined. The subgenus *Praocis* s. str., distributed in Central and Southern Chile, is revised. Species occur from 26° South to 42° South in the biogeographic provinces of Atacama, Coquimbo, Santiago, Maule and Valdivian Forest. Included is a redescription of the subgenus *Praocis* s. str., redescription of its species, an identification key, habitus photographs of the most representative species, illustrations of external morphology and genital features, scanning electron micrographs of pronotum, head and antenna, as well as distribution maps. *Praocis* s. str. comprises 18 species, two of which are new: *Praocis* (*Praocis*) *bicentenario* **sp.**

**nov.** and *P. (P.) medvedevi* **sp. nov.** Other species include: *Praocis (Praocis) aenea* Gay & Solier 1840, *P. (P.) costata* Gay & Solier 1840, *P. (P.) curta* Solier 1840, *P. (P.) elliptica* Philippi & Philippi 1864, *P. (P.) hirtella* Kulzer 1958, *P. (P.) marginata* Germain 1855, *P. (P.) parva* Gay & Solier 1840, *P. (P.) quadrisulcata* Germain 1855, *P. (P.) rufipes* Eschscholtz 1829 (type species), *P. (P.) sanguinolenta* Gay & Solier 1840, *P. (P.) spinolai* Gay & Solier 1840, *P. (P.) subaenea* Erichson 1834, *P. (P.) subsulcata* Gay & Solier 1840, *P. (P.) sulcata* Eschscholtz 1829 and *P. (P.) tibialis* Gay & Solier 1840. The status of *P. (P.) bicostata* Philippi & Philippi 1864, currently considered a valid name, is discussed. A lectotype is designated for *Praocis (P.) laevicosta* Curtis 1845 (synonym of *P. (P.) subaenea*). The subgenus *Praocis (Parapraocis)* Kulzer 1958 is excluded from *Praocis*.

**Key words:** Tenebrionidae, Pimeliinae, Praociini, *Praocis*, Chile, coastal desert, South America

## Introduction

The genus *Praocis* Eschscholtz 1829 is placed in the Praociini, an endemic Neotropical tribe of Pimeliinae with 149 species arranged in 14 genera, which is distributed in arid and semiarid lands of southern South America (Kulzer 1958; Flores 2000, 2001, 2007, 2009; Flores & Chani-Posse 2005; Flores & Vidal 2009; Flores *et al.* 2011).

*Praocis* was established by Eschscholtz (1829) for *Praocis rufipes* and *P. sulcata* that he collected in Concepcion, Chile. Subsequent authors described additional new species (Lacordaire 1830; Laporte 1840; Germar 1855; Philippi & Philippi 1864; Burmeister 1875; Fairmaire 1883a, b) and revised the genus (Solier 1840, 1851; Lacordaire 1859) increasing the number of species to 93 (Gebien 1938). Kulzer (1958) in his revision of *Praocis* established 15 synonymies and described new species and subspecies, resulting in 77 species and 7 subspecies arranged in ten subgenera, distributed from central Peru to the southern part of Patagonia in Argentina and Chile. Other new species were later described (Kaszab 1969; Molinari 1969; Marcuzzi 1977, 2001), increasing the number of species to 100. Recent examination of types of *Praocis* (Flores 2007, 2009; Flores & Pizarro-Araya 2010; Flores *et al.* 2011) led to 13 synonymies resulting in 77 valid species plus 8 subspecies (Flores *et al.* 2011) and 7 species incertae sedis for which the types are lost (Kulzer 1958; Flores & Pizarro-Araya 2010).

Since *Praocis* was erected (Eschscholtz 1829), 119 names of species and subspecies have been proposed for the genus, 33 of which (27.73 %) are considered synonyms. The worst situation is that of the subgenus *Praocis* s. str. formerly composed of 29 names, of which 16 are valid and 13 (45 %) synonymous.

This paper is the first contribution to a revision of the genus *Praocis*. The history of taxonomic research on the genus and its subgeneric classification are reviewed and a revision is made of the species of the subgenus *Praocis* s. str., which are endemic to Central and Southern Chile.

## Subgeneric classification of *Praocis*

After the description of *Praocis* by Eschscholtz (1829), Guérin-Méneville (1834) created the genus *Anthrasomus* to include his new species *A. chevrolati* from Chile. Solier (1840) revised *Praocis* and described 20 new species for the genus; due to the great variation among its species, he established three divisions within the genus: *Praocis* s. str., *Anthrasomus* (considered within *Praocis* by Solier) and *Orthogonoderes* Gay and Solier (created in the same study). Solier (1840) also created the new genus *Filotarsus*, today regarded as subgenus of *Praocis*. To separate *Praocis* from *Anthrasomus* and *Orthogonoderes*, Solier (1840) used features such as the shape of the body and pronotum and the posterior angles of pronotum; to separate *Anthrasomus* from *Orthogonoderes*, Solier (1840) used the shape of body and pronotum and length of the last antennomere, and to separate the genus *Praocis* from the genus *Filotarsus*, he used the shape of the anterior tibiae. Later, Solier (1851) considered three sections within *Praocis*: *Praocis* s. str., *Anthrasomus* and *Orthogonoderes*. *Filotarsus* was placed within *Anthrasomus*.

Lacordaire (1859) also recognized three sections within *Praocis*: *Praocis* s. str., *Anthrasomus* (including *Filotarsus*) and *Orthogonoderes*. For the limits among these sections, Lacordaire (1859) used the characters proposed by Solier (1840): shape of body, pronotum and anterior tibiae. At this time, most known species of *Praocis* were described from Chile (only two were from Peru). This concept of *Praocis* accommodated all known species of the genus among these three sections.