

2016

A new genus and species of Tanyproctini (Coleoptera: Scarabaeidae: Melolonthinae) from the Coquimbo Region of Chile

Andrew B. T. Smith

Canadian Museum of Nature, asmith@unl.edu

José Mondaca

Servicio Agrícola y Ganadero (SAG), jose.mondaca@sag.gob.cl

Follow this and additional works at: <http://digitalcommons.unl.edu/insectamundi>



Part of the [Ecology and Evolutionary Biology Commons](#), and the [Entomology Commons](#)

Smith, Andrew B. T. and Mondaca, José, "A new genus and species of Tanyproctini (Coleoptera: Scarabaeidae: Melolonthinae) from the Coquimbo Region of Chile" (2016). *Insecta Mundi*. 971.

<http://digitalcommons.unl.edu/insectamundi/971>

This Article is brought to you for free and open access by the Center for Systematic Entomology, Gainesville, Florida at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Insecta Mundi by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

INSECTA MUNDI

A Journal of World Insect Systematics

0464

A new genus and species of Tanyproctini
(Coleoptera: Scarabaeidae: Melolonthinae)
from the Coquimbo Region of Chile

Andrew B. T. Smith
Research Division, Canadian Museum of Nature
P.O. Box 3443, Station D
Ottawa, ON, K1P 6P4, Canada

José Mondaca
Servicio Agrícola y Ganadero (SAG)
Avenida Portales N° 3396
Santiago, Chile

Date of Issue: January 22, 2016

Andrew B. T. Smith and José Mondaca

A new genus and species of Tanyproctini (Coleoptera: Scarabaeidae: Melolonthinae)
from the Coquimbo Region of Chile

Insecta Mundi 0464: 1–6

ZooBank Registered: urn:lsid:zoobank.org:pub:87FF98D6-B13D-40F7-BBBC-C9166F75CAAE

Published in 2016 by

Center for Systematic Entomology, Inc.

P. O. Box 141874

Gainesville, FL 32614-1874 USA

<http://centerforsystematicentomology.org/>

Insecta Mundi is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. *Insecta Mundi* will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. *Insecta Mundi* publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

Insecta Mundi is referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc. *Insecta Mundi* is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology.

Chief Editor: Paul E. Skelley, e-mail: insectamundi@gmail.com

Assistant Editor: David Plotkin, e-mail: insectamundi@gmail.com

Head Layout Editor: Eugenio H. Nearn

Editorial Board: J. H. Frank, M. J. Paulsen, Michael C. Thomas

Review Editors: Listed on the *Insecta Mundi* webpage

Manuscript Preparation Guidelines and Submission Requirements available on the *Insecta Mundi* webpage at: <http://centerforsystematicentomology.org/insectamundi/>

Printed copies (ISSN 0749-6737) annually deposited in libraries:

CSIRO, Canberra, ACT, Australia

Museu de Zoologia, São Paulo, Brazil

Agriculture and Agrifood Canada, Ottawa, ON, Canada

The Natural History Museum, London, UK

Muzeum i Instytut Zoologii PAN, Warsaw, Poland

National Taiwan University, Taipei, Taiwan

California Academy of Sciences, San Francisco, CA, USA

Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA

Field Museum of Natural History, Chicago, IL, USA

National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia

Electronic copies (Online ISSN 1942-1354, CDROM ISSN 1942-1362) in PDF format:

Printed CD or DVD mailed to all members at end of year. Archived digitally by Portico.

Florida Virtual Campus: <http://purl.fcla.edu/fcla/insectamundi>

University of Nebraska-Lincoln, Digital Commons: <http://digitalcommons.unl.edu/insectamundi/>

Goethe-Universität, Frankfurt am Main: <http://nbn-resolving.de/urn/resolver.pl?urn:nbn:de:hebis:30:3-135240>

Copyright held by the author(s). This is an open access article distributed under the terms of the Creative Commons, Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. <http://creativecommons.org/licenses/by-nc/3.0/>

Layout Editor for this article: Eugenio H. Nearn

A new genus and species of Tanyproctini (Coleoptera: Scarabaeidae: Melolonthinae) from the Coquimbo Region of Chile

Andrew B. T. Smith

Research Division, Canadian Museum of Nature
P.O. Box 3443, Station D
Ottawa, ON, K1P 6P4, Canada
asmith@unl.edu

José Mondaca

Servicio Agrícola y Ganadero (SAG)
Avenida Portales N° 3396
Santiago, Chile
jose.mondaca@sag.gob.cl

Abstract. A new genus and species of Tanyproctini (Coleoptera: Scarabaeidae: Melolonthinae) is described from the Coquimbo Region of Chile and compared with other taxa from Chile and neighboring countries.

Key words. *Chilenopilus*, Pachydemini.

Resumen. Se describe un nuevo género y especie de Tanyproctini (Coleoptera: Scarabaeidae: Melolonthinae) de la Región de Coquimbo en Chile y es comparada con otros taxones de Chile y países vecinos.

Palabras clave. *Chilenopilus*, Pachydemini.

Introduction

In the Neotropics, the tribe Tanyproctini is represented by 18 genera and 33 species with the greatest diversity in Argentina. The most comprehensive reviews of this tribe are by Martínez (1975) for the Neotropics and Lacroix (2007) for the world (with a focus on the Afrotropics). Several recent papers (e.g., Ocampo and Smith 2006; Ocampo and Ruiz-Manzanos 2007; Neita and Ocampo 2012) added new genera and species to the Neotropical fauna.

During the course of our survey and inventory of the scarabs of southern South America, we discovered a new species endemic to the coastal desert of the Coquimbo Region in northern Chile that does not belong to any of the previously described Neotropical Tanyproctini genera.

Tanyproctini versus Pachydemini. The name used for this tribe has been inconsistent over the past few years. Pachydemini Burmeister, 1855 was in stable usage until Bouchard et al. (2011) resurrected the older but unused name Tanyproctini Erichson, 1847 as a senior synonym (based on its inadvertent usage as a valid name by Smith 2006). Subsequent papers used either Tanyproctini (e.g., Král et al. 2012; Mondaca and Ocampo 2012; Neita and Ocampo 2012; Sehnal 2013, 2014) or Pachydemini (e.g., Harrison 2014; Lacroix and Montreuil 2014; Ziani et al. 2015). Lacroix and Montreuil (2014) attempted to conserve the priority of Pachydemini over Tanyproctini using Article 23.9 (International Commission on Zoological Nomenclature 1999), however, they overlooked the usage of Tanyproctini as a valid name by Smith (2006), which nullifies their action under Article 23.9.1.1. The status of these names now fall under Article 23.10 (erroneous reversal of precedence), which dictates that the matter be referred to the International Commission on Zoological Nomenclature for a ruling. Until that occurs, the principle of priority should be applied to use the older name (Tanyproctini) as the valid name since neither Tanyproctini nor Pachydemini are in prevailing usage (i.e., neither name is used by the “substantial majority of the most recent authors” — see citations above).

Materials and Methods

Specimens. The following institutions and private collections listed below (curators in brackets) are cited in the text as depositories for specimens examined.

CMNC — Canadian Museum of Nature, Ottawa, Ontario, Canada (Robert Anderson, François Génier)

FMNH — Field Museum of Natural History, Chicago, Illinois, United States of America (Alfred Newton, Margaret Thayer)

FRFC — Francisco Ramírez F. Collection, Santiago, Chile

JMEC — José Mondaca E. Collection, Peñaflores, Chile

MNNC — Museo Nacional de Historia Natural, Santiago, Chile (Mario Elgueta)

The label data of the specimens listed in the type series are verbatim with line breaks indicated by a slash “/”. All specimens are recorded in the Scarabs of Southern South America database using the Mantis database program created by Piotr Naskrecki (available from: <http://140.247.119.225/Mantis/index.htm>). Databased specimens have labels stating their unique database number with the “SSSA–” prefix and a data matrix barcode on the label. The map was created by exporting locality coordinates from Mantis and uploading them to the SimpleMappr website (<http://www.simplemappr.net/>).

Chilenopilus Smith and Mondaca, new genus

Type species. *Chilenopilus coquimbensis* new species, here designated.

Description (Fig. 1–5). Length 15.0–16.0 mm. Dorsal surface unicolored with even setal pattern (head and pronotum more setose than elytra). Head: clypeus semicircular, apex strongly reflexed. Labrum reduced, not visible beyond clypeus in dorsal view. Mentum with width greater than length; apex weakly parabolic; surface weakly concave, without medial groove or pit. Antennae with 9 antennomeres, male club approximately equal to funicle in length. Pronotum: widest medially, width greater than length. Apical margin with membranous border. Pygidium: large, wide, with apex curving over plane of sternites. Venter: mesosternal peg absent. Basal sternites compressed, apical sternites and pygidium prominent and curved over plane of basal sternites. Legs: protibia with 3 large teeth on outer margin, teeth evenly separated. Protibial spur present. Claws symmetrical; cleft with strong, subapical tooth. Protibial spurs present. Metatibial apex with 2 spurs, 1 spur adjacent to tarsal articulation and 1 set within apical tibial notch. Metatarsomere 1 slightly longer than metatarsomere 2.

Etymology. *Chilenopilus* is a combination of “Chile” and “hair” in reference to the country where this genus occurs and the long setae on the head and pronotum. The name is masculine in gender.

Composition. This monotypic genus is endemic to IV Región de Coquimbo, Chile.

Diagnosis and classification. The following diagnostic characters were used to place this new taxon in the tribe Tanyproctini: labrum not visible in dorsal view of head, set beneath clypeus; pronotum with translucent apical margin; pygidium large, triangular, partially covered by elytral apex; claws cleft with subapical tooth; metatibia with 2 spurs, one located adjacent to tarsal articulation and the other set on a different plane within apical tibial notch; sternites distinctly defined (not fused), basal sternites compressed lengthwise; apex of abdomen inflated, curved over sternites.

The new genus is based partially on the following characters: antennal club consisting of 3 antennomeres (more than 3 antennomeres in *Anahi* Martínez, *Burmeisteriellus* Berg, *Castanochilus* Ohaus, *Diaphylla* Erichson, *Eideria* Neita and Ocampo, *Lichniops* Gutiérrez, *Lichniopsoides* Martínez, *Luispenaia* Martínez, *Parapetiia* Martínez, and *Pentacoryna* Moser); dentate tarsal claws (simple in *Acylochilus* Martínez and *Puelchesia* Ocampo and Smith); dorsal surface with erect setae (recumbent, scale-like setae in *Faargia* Martínez, *Myloxena* Ohaus, *Myloxenoides* Martínez); body length 15–16 mm (less than 8 mm in *Longicrura* Frey); and claws apically cleft (claws medially dentate in *Leuretra* Erichson). We also compared this genus with hundreds of other Neotropical Tanyproctini specimens and

reviewed the identification guides published by Martínez (1975) and Lacroix (2007) to further establish the uniqueness of this new taxon.

***Chilenopilus coquimbensis* Smith and Mondaca, new species**

Fig. 1–6.

Type locality. Chile: IV Región de Coquimbo: Caleta Hornos.

Type series. Holotype male and nine male paratypes. Holotype male at MNNC labeled a) “CHILE: REGIÓN IV (COQUIMBO) / La Serena, Caleta Hornos / 17 June 2005; G. Castillo” (typeset), b) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001448” (typeset), c) “CHILENOPILUS / COQUIMBENSIS / SMITH & MONDACA / HOLOTYPE ♂” (red label, handwritten and typeset). One male paratype at MNNC labeled a) “Serena / Juan Soldado / 22-Sep-99 / dinerto” (handwritten), b) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001449” (typeset). One male paratype at FRFC labeled a) “GUANAQUEROS / TONGOY. IV Reg / 100 m / 05 – JUN – 1997 / Leg. F. Ramírez” (typeset on upperside) “Atraído a la luz / Sector con Puya, / Lithraea, Tricho- / cerus. / 18:30-2100 hrs.” (handwritten on underside), b) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001450” (typeset). One male paratype at CMNC labeled a) “GUANAQUEROS / TONGOY. IV Reg / 100 m / 05 – JUN – 1997 / Leg. F. Ramírez” (typeset on upperside) “Atraído a la / luz. / 18:30-21:00 hrs.” (handwritten on underside), b) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001451” (typeset). One male paratype at MNNC labeled a) “GUANAQUEROS / 23-IX-55” (handwritten on upperside) “R. Wagenknecht / La Serena” (handwritten on underside), b) “cercano a Leuretra / pectoralis Er., 1847 / G. ARRIAGADA DET. 1987” (handwritten and typeset), c) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001452” (typeset). One male paratype at MNNC labeled a) “Chile Coquimbo / Talinay / 3.07.1975 / leg. Solervicens” (typeset), b) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001453” (typeset). One male paratype at JMEC labeled a) “CHILE COQUIMBO / Pichidangui, Choapa / 18-IX-2014 / col. P. Pinto” (typeset), b) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001454” (typeset). One male paratype at JMEC labeled a) “Fray Jorge / Ovalle / 31/V/1987” (typeset), b) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001455” (typeset). One male paratype at CMNC labeled a) “Fray Jorge / Ovalle / 31/V/1987” (typeset), b) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001456” (typeset). One male paratype at FMNH labeled a) “TALINAY / Costa, Coqbo. / 29,31.Julio-1960 / Coll: L.E.Pena” (typeset), b) “57” (typeset), c) “FMNH,986 / L.PeñaColl. / Acc#17-422” (typeset), d) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001457” (typeset). All paratypes listed above also bear a yellow paratype label.

Description of holotype (Fig. 1–5). Length 15.5 mm. Dorsal surface brown with long, dense setae on head, pronotum, and base of elytra; elytra medially and apically with shorter, sparser setae. Head: clypeofrontal suture well defined, frons with width approximately equal to 2 eye widths. Ventral surface and mouthparts with long, dense setae. Mentum with surface flat, apex broadly triangular. Pronotum: surface moderately punctate, lateral margin with long, dense, laterally directed setae. Elytra: surface with 5 well-defined, punctate striae between medial suture and humerus; 2 poorly-defined striae between humerus and lateral margin. Lateral margin with long, dense, laterally directed setae. Legs: protarsomere 5 longer than protarsomeres 3–4 combined. Mesotarsomere 5 approximately equal in length to mesotarsomeres 3–4 combined. Male genitalia: parameres long, simple, symmetrical (Fig. 2, 4). Other characters detailed in description of the genus.

Variation. Length 15.0–16.0 mm. Dorsal color brown to dark brown. Some specimens with shiny, dark metallic green coloration, especially on frons and pronotum. Female unknown.

Etymology. This species is named for IV Región de Coquimbo, the only region from which this species is known.

Distribution (Fig. 6). CHILE (10): IV Región de Coquimbo (10): Caleta Hornos, Guanaqueros, La Serena, Parque Nacional Fray Jorge, Pichidangui, Talinay. See Fig. 7–8 for photographs of the habitat at Pichidangui, where this species occurs.

Temporal data. May (2), June (3), July (2), September (3).

Acknowledgments

We would like to thank Art Evans and Brett Ratcliffe for reviewing this manuscript. Thanks also to the people listed in the Specimens section for allowing us to access specimens in their collections.

Literature Cited

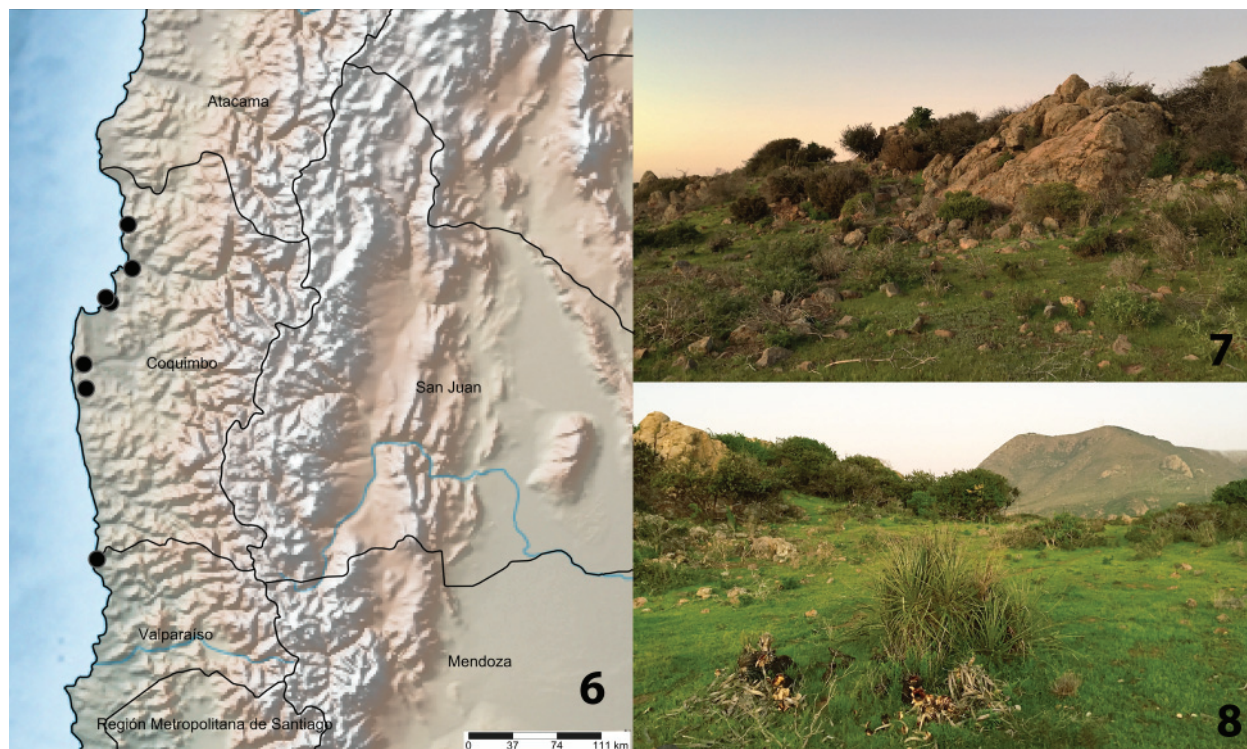
- Bouchard, P., Y. Bousquet, A. E. Davies, M. A. Alonso-Zarazaga, J. F. Lawrence, C. H. C. Lyal, A. F. Newton, C. A. M. Reid, M. Schmitt, S. A. Slipinski, and A. B. T. Smith. 2011.** Family-group names in Coleoptera (Insecta). *ZooKeys* 88: 1–972.
- Harrison, J. G. 2014.** A morphological analysis of the subtribe *Pegyliina* Lacroix, 1989 (Scarabaeidae: Melolonthinae: Melolonthini) reconstitutes its generic composition. *African Entomology* 22: 726–741.
- International Commission on Zoological Nomenclature. 1999.** International code of zoological nomenclature, fourth edition. International Commission on Zoological Nomenclature, London, United Kingdom. 306 p.
- Král, D., R. Sehnal, and A. Bezděk. 2012.** Tanyproctini (Coleoptera: Scarabaeidae: Melolonthinae) of Socotra Island. *Acta Entomologica Musei Nationalis Pragae*, 52 (supplementum 2): 153–182.
- Lacroix, M. 2007.** Pachydeminae du monde genera et catalogue (Coleoptera, Melolonthidae). Collection Hannetons, Paris, France. 450 p.
- Lacroix, M., and O. Montreuil. 2013.** Révision du genre *Perrindema* Lacroix 1997 (Insecta: Coleoptera: Scarabaeoidea: Melolonthidae: Pachydeminae). *Annales de la Société entomologique de France* 49: 355–365.
- Martínez, A. 1975.** Contribución al conocimiento de los Pachydemini neotropicales (Col. Scarabaeidae, Melolonthinae). *Entomologische Arbeiten aus dem Museum G. Frey* 26: 227–251.
- Mondaca, J., and F. Ocampo. 2012.** Revision of the Chilean genus *Ptyophis* (Scarabaeidae: Melolonthinae: Macroductylini). *Revista Chilena de Entomología* 37: 47–60.
- Neita, J. C., and F. C. Ocampo. 2012.** A new genus and three new species of Neotropical Tanyproctini (Coleoptera: Scarabaeidae: Melolonthinae). *Zootaxa* 3281: 41–55.
- Ocampo, F. C., and A. B. T. Smith. 2006.** *Puelchesia gracilis*, a new genus and species of Pachydemini endemic to the Monte biogeographical province in Argentina (Coleoptera: Scarabaeidae: Melolonthinae). *Zootaxa* 1349: 53–62.
- Ocampo, F. C., and E. Ruiz-Manzanos. 2007.** A revision of the Neotropical genus *Anahi* Martínez (Coleoptera: Scarabaeidae: Melolonthinae) with the description of two new species. *Neotropical Entomology* 36: 729–736.
- Sehnal, R. 2013.** Two new species of the genus *Scapanoclypeus* from Northern Cape, Republic of South Africa (Coleoptera: Scarabaeidae: Melolonthinae). *Acta Entomologica Musei Nationalis Pragae* 53: 245–252.
- Sehnal, R. 2014.** *Scapanoclypeus hardap* (Coleoptera: Scarabaeidae: Melolonthinae: Tanyproctini), a new species from Hardap province, Namibia. *Zootaxa* 3861: 96–100.
- Smith, A. B. T. 2006.** A review of the family-group names for the superfamily Scarabaeoidea (Coleoptera) with corrections to nomenclature and a current classification. *The Coleopterists Society Monographs* 5: 144–204.
- Ziani, S., A. Bezděk, T. Branco, O. Hillert, S. Jákl, D. Král, M. Mantič, E. Rößner, and R. Sehnal. 2015.** New country records of Scarabaeoidea (Coleoptera) from the Palaearctic Region. *Insecta Mundi* 0409: 1–36.

Received November 10, 2015. Accepted December 9, 2015.

Review Editor Michael L. Ferro.



Figures 1–5. *Chilenopilus coquimbensis* holotype male. 1) Dorsal habitus. 2) Parameres, lateral view. 3) Head and pronotum. 4) Parameres. 5) Habitus, oblique view.



Figures 6–8. *Chilenopilus coquimbensis* distribution and habitat. **6)** Distribution map of IV Región de Coquimbo, Chile. **7)** Habitat at Pichidangui, Coquimbo. **8)** Habitat at Pichidangui, Coquimbo.