

A journal of world insect systematics

INSECTA MUNDI

0943

A new *Phyllophaga* (*Listrochelus*) *timida* group species
from Baja California Sur
(Coleoptera: Scarabaeidae: Melolonthinae)

William B. Warner

1345 W. Gila Lane, Chandler, Arizona 85224 USA

Date of issue: July 29, 2022

Center for Systematic Entomology, Inc., Gainesville, FL

Warner WB. 2022. A new *Phyllophaga* (*Listrochelus*) timida group species from Baja California Sur (Coleoptera: Scarabaeidae: Melolonthinae). *Insecta Mundi* 0943: 1–4.

Published on July 29, 2022 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 and CAB Abstracts. *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.

Guidelines and requirements for the preparation of manuscripts are available on the *Insecta Mundi* website at <http://centerforsystematicentomology.org/insectamundi/>

Chief Editor: David Plotkin, insectamundi@gmail.com
Assistant Editor: Paul E. Skelley, insectamundi@gmail.com
Layout Editor: Robert G. Forsyth
Editorial Board: Davide Dal Pos, Oliver Keller, M. J. Paulsen
Founding Editors: Ross H. Arnett, Jr., J. H. Frank, Virendra Gupta, John B. Heppner, Lionel A. Stange, Michael C. Thomas, Robert E. Woodruff
Review Editors: Listed on the *Insecta Mundi* webpage

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

Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA
The Natural History Museum, London, UK
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) in PDF format

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/>

A new *Phyllophaga* (*Listrochelus*) *timida* group species
from Baja California Sur
(Coleoptera: Scarabaeidae: Melolonthinae)

William B. Warner

1345 W. Gila Lane, Chandler, Arizona 85224 USA
wbwarner1@cox.net

Abstract. *Phyllophaga* (*Listrochelus*) *baja*, **new species** (Coleoptera: Scarabaeidae: Melolonthinae), is described and illustrated. Its relationship to other species in the “*timida* group” is discussed.

Key words. May beetle, Rhizotrogini, taxonomy.

ZooBank registration. urn:lsid:zoobank.org:pub:5F6FE0DE-157E-45A3-A5C0-4C200E872555

Introduction

Morón (2002) reviewed the *Phyllophaga* Harris (*Listrochelus* Blanchard) species near *P. timida* (Horn) and included a key to the eight known species of the “*timida* group.” Many species in this group are difficult to distinguish from one another via external characters; however, the male genital shape is diagnostic for each. Here I describe a new species from Baja California Sur, Mexico, that falls within that group.

Materials and Methods

Terminology for phyllophagan characters follows Warner (2021). Length and (widest) width measurements are rounded to the nearest 0.5 mm.

Systematics

Phyllophaga (*Listrochelus*) *baja* Warner, new species

Figures 1–6

Holotype male and allotype female (both deposited in the Instituto de Biología, Universidad Nacional Autónoma de México, D.F., México), and 11 paratypes (7♂, 4♀), all with data: “Mexico: Baja California Sur; W side San José del Cabo; 23.049°, –109.719°; toll plaza lights on Hwy. 1D; ix-29-2003; W.B.Warner.” Paratypes are deposited in Arizona State University, Tempe, AZ; Centro de Investigación Científica y de Educación Superior de Ensenada, Baja California, México; Florida State Collection of Arthropods, Gainesville, Florida; K. E. Schnepf collection, Gainesville, Florida, and the author’s collection.

Diagnosis. Subparallel, rufotestaceous, base of head lacking carina or ridge (Fig. 1); elytron ecostate and estriate except for tumid sutural interval; tarsal claws serrate along a single margin, in male without intervening larger tooth (Fig. 6), in female apically deeply cleft (Fig. 5); male genitalia complex (Fig. 2–4) bilaterally symmetrical, parameres bilobed in lateral view, sclerotized portion of aedeagus tubular, apically open and expanded “spathe-like.”

Description. Holotype male. Length: 9.5 mm. Width: 4.5 mm. Body elongate, subcylindrical, widest at about middle of elytra, dorsally glabrous, rufotestaceous, weakly shiny, elytron and abdomen lighter in color than head and pronotum. Head nearly contiguously punctate except for impunctate band at base, without transverse basal carina or ridge dividing punctured and impunctate area; clypeus very weakly bilobed, moderately reflexed, densely punctured as on head. Antenna 10-merous; antennomere 2 subovoid, appearing “inflated” and nearly as



Figures 1–6. *Phyllophaga baja*. 1) Male dorsal habitus. 2–4) Male genitalia: 2) Dorsal view. 3) Ventral view. 4) Lateral view. 5) Female mesotarsal claw. 6) Male protarsal claw.

wide as scape apex; antennomeres 3–7 distinctly narrower; club about as long as to slightly longer than antennomeres 2–7. Pronotum widest and obtusely angulate at posterior two fifths, width about 1.6 times length, lateral margins straight and evenly weakly converging anterior and posterior to angle, sparsely punctate, punctures rather shallow, moderate in size, mostly separated by one to about five times their own widths, only slightly more dense near margins. Scutellum with lateral margins convex, apical angle nearly right, impunctate basomedially, finely and densely punctate along free submargin, punctures about half size of elytral punctures. Elytron slightly less than three times as long as pronotum, without striae except sutural interval swollen, making sutural stria weakly evident; disc punctured as in pronotum except punctures perceptibly deeper, lateral margin fimbriate, setae alternating long and short, long setae shorter than sutural interval. Pygidium weakly convex, subtriangular, punctures similar in size to those on elytra, except punctures more variably spaced and deeper, subocellate, mostly separated by about one-fourth to thrice their own diameters. Venter with thoracic sternites rather uniformly moderately setose, abdomen without strong sexually dimorphic characters though flatter in lateral view than in female, sparse setae mostly short and appressed, but with scattered longer setae laterally and apically; last visible abdominal ventrite with median carina distinct in about lateral thirds (Fig. 2), with weakly impressed submargin in about middle third. Anterior tibia tridentate on external margin, tarsi on all legs longer than their respective tibiae by length of terminal segment or (metatarsus) less; tarsal claws narrow, serrate along a single margin in basal two thirds, without any larger intervening tooth. Genitalia with parameres fused basally, complex, in lateral view dorsally deeply obliquely incised at about middle to form a short dorsal lobe and long ventral lobes, lobiform and narrower past incisure, in dorsal view with basal lobe truncate apically, medially produced into short, blunt protrusion that overhangs convex shelf connecting ventral lobes; ventral lobes divided in about apical half, pincer-like, lacking apical setae, dorsally with inner edges abruptly emarginated at basal two-fifths; sclerotized portion of internal sac tubular, tube subapically widened into dorsal spathe-like opening, opening subhexagonal, apex mucronate.

Allotype female. Length: 11.0 mm. Width: 5.0 mm. As in male except antennal club about as long as antennomeres 3 to 7 combined; abdomen more convex, last visible abdominal ventrite similar to that of male but more convex; all tarsal claws shorter, more strongly curved and deeply apically cleft and with ventral tooth ventrally serrate except apically, and dorsal ramus lacking serrations; genitalia: in ventral “in face” view with inferior plates smooth, subquadrate, superior plates subsemicircular, each with disc concave and quickly becoming membranous, with short marginal row of 4–5 long setae at apex of more darkly sclerotized, narrowly convex rim.

Variation. Males, length: 9.0–10.5 mm, width: 4.0–5.0 mm. Females, length: 10.0–11.0 mm, width: 4.5–5.0 mm. Antennal club length and funicle segment shape varies slightly in the series, otherwise fairly uniform in appearance.

Etymology. This species is named for the colloquial abbreviation for the Baja California peninsula, “Baja,” a Spanish adjective used in this sense as a noun, and here as a noun in apposition.

Habits. Unknown: the type series was collected under mercury vapor lights of the only toll booth at the time on the Los Cabos Airport to Cabo San Lucas tollway.

Relationships. Based on genital form, this species is apparently most closely related to *Phyllophaga oblonga* (Bates) and *P. seri* Morón, sharing similarly complex parameres of a form different from other species in the complex, being distinctly bilobed in lateral view and lacking apical setae, though in the paramera of *P. baja* the medial excavation much narrower than those other two species. Interestingly, specimens of *P. baja* lack the crenate lateral pronotal margins as in those species, have 10-segmented antennae, vs. 9-segmented antennae as in those species, and have the last visible abdominal ventrite (“anal plate” of Morón 2002) with its medial carina distinct laterally. Because of such differences, *P. baja* does not go past couplet 2 in Morón’s (2002) key. The apically cleft female tarsal claws are very unusual in form for the subgenus, and is unique within the *timida* group.

Acknowledgments

M. C. Thomas (deceased) and P. E. Skelley are gratefully acknowledged for their generosity for allowing me access to the FSCA Automontage system used to take most of the figure photographs. I am grateful to K. E. Schnepf and R. H. McPeak for kindly reviewing the manuscript and providing comments for its improvement.

Literature Cited

Morón MA. 2002. Revision of the *timida* group of *Phyllophaga* (*Listrochelus*) Blanchard (Coleoptera: Melolonthidae). *Annals of the Entomological Society of America* 95(4): 449–463.

Warner WB. 2021. Two new scarab beetles from the southwestern USA (Coleoptera: Scarabaeidae: Melolonthinae and Aphodiinae). *Insecta Mundi* 0855: 1–15.

Received February 17, 2022; accepted June 21, 2022.

Review editor M.J. Paulsen.