

## A new species of the genus *Notiobia* Perty, 1830 from Argentina and Bolivia and a recent check-list of the subgenus *Notiobia* sensu stricto

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**Taxonomy, new species, Coleoptera, Carabidae, Anisodactylini, *Notiobia*, Neotropical Region**

**Abstract.** A new species of the genus *Notiobia* Perty, 1830 from South America, Argentina and Bolivia respectively, belonging to the subgenus *Notiobia* (s. str.) namely *Notiobia sericea* sp. nov. is described. The newly described species and its position in the species group is discussed, it is compared with the most closely related known species. A check-list of the subgenus *Notiobia* (s. str.) is added.

### INTRODUCTION

In his revision of the Nearctic genera of the tribe Anisodactylini Lacordaire, 1854 Noonan (1973, 1981, 1991) places the taxa *Notiobia* (s. str.) and *Anisotarsus* Chaudoir, 1837 as subgenera of the broadly conceived genus *Notiobia* Perty, 1830. In this concept, the genus *Notiobia* (sensu lato) includes species inhabiting the Australian region and extended to the Neotropical and Nearctic regions including the Canary Islands (subgenus *Anisotarsus* including the synonymised taxon *Diaphoromerus* Chaudoir, 1843), to the Afrotropical region (subgenus *Diatypus* Murray, 1858) and species restricted to the Neotropical region (subgenus *Notiobia* s. str.). According to the recent Carabidae of the World-database, the genus *Notiobia* includes 99 species described so far, of which 27 are classified in the South American subgenus *Notiobia* (s. str.). The ecology of the *Notiobia*-species is connected with fruit fall in tropical forests, larval *Notiobia* are spermatophagous and develop only in specific trees. Important insights into their ecology and development of the species were provided by Arndt et al. (1996), who is also the author of a comprehensive monograph on Brazilian species (Arndt 1998). The latest work with descriptions of the new species was published by the same author with Wrase and added other important findings on larval anatomy and development and distribution of these species (Arndt & Wrase 2001). Here we describe a new species of this group inhabiting the forest regions of southern Bolivia and northern Argentina east of the Andes.

## MATERIAL AND METHODS

The classification of the group is based primarily on external structural details of the adult, with species-level taxonomy relying also on structural details of the aedeagus. The aedeagi were dissected, preserved, studied dry and glued on cards appended beneath the dissected specimens. The habitus of specimens was photographed by Canon digital camera EOS 6D with Canon macro photo lens MP-E 65mm (stitching the pictures using Helicon Focus 7 software). Aedeagi were photographed in the ventral, dorsal and lateral views. Genitals were observed and photographed with Olympus BX 41 using Quick-Photo Camera 3.2 (stitching the pictures using Deep Focus 3.4 software) at Department of Entomology, Moravian Museum Brno.

The acronyms used for the entomological collections where the examined material is deposited are as follows:

MMB	Moravian Museum, Brno, Czech Republic (P. Baňář);
cAD	Private Collection of A. Dostal, Wien, Austria;
cJB	Private Collection of J. Bašta, Brno, Czech Republic;
cMH	Private Collection of M. Häckel, Praha, Czech Republic.

Other abbreviations:

EL	length of elytra
EW	width of elytra
ES3L	length of metepisternum
ES3W	width of metepisternum
HW	head width
HT	holotype
PL	pronotum length
PT	paratype
PW	pronotum width
ARG	Argentina
BLZ	Belize
BOL	Bolivia
BRA	Brazil
COL	Colombia
CRC	Costarica
ECU	Ecuador
GNF	Guyane Française (French Guyana)
GUA	Guatemala
GUY	Guyana
HON	Honduras
MEX	Mexico
NIC	Nicaragua
NR	Nearctic Region
PAR	Paraguay

PER	Peru
PNM	Panama
SAL	El Salvador
SUR	Surinam
TAT	Trinidad and Tobago (Antilles Isl.)
VEN	Venezuela

## SYSTEMATICS

### Subgenus *Notiobia* Perty, 1830

**Characters.** Medium-sized species (7-15 mm) of various colouration, alate. Head of most specimens with eyes large and protruding; labrum straight to emarginate anteriorly; clypeus broadly emarginate; mentum with prominent median tooth, completely separated from submentum by a transverse suture; paraglossae slightly longer than ligula. Frons usually with moderate to prominent fovea bearing a clypeo-ocular prolongation. Supraantennal ridges divergent anteriorly. Pro- and mesotarsi of males moderately to very strongly enlarged, posterior femur usually with two long setae on posterior margin, tarsomere I of metatarsi shorter than tarsomeres II + III. Elytra with a setigerous puncture in apical third of intervals III and VII. Sternum VI of males with a pair of ambulatory setae. Median lobe of aedeagus symmetrical, without apical disc. Valvifer flat to slightly convex, lateral margin semimembranous and without distinct boundary.

#### *Notiobia* (s. str.) *sericea* sp. nov.

(Figs. 1, 2)

**Type locality.** “Argentina, Salta, W of Chicoana”.

**Type material.** Holotype (♂): “Argentina nw, w of Salta, w of Chicoana, 1500m” (cAD). Paratypes: (3 ♂♂): “Argentina nw, w of Salta, w of Chicoana, 1500m” (cAD); (2 ♀♀): “Argentina nw, se Salta, e of Coronel Moldes” (cJB, cMH); (4 ♀♀): “Argentina nw, s of Salta, (50 km) e of Coronel Moldes” (cAD, MZM); (1 ♂): “14/ Argentinien, Prov. Salta, Dept. Tartagal, 37 km s.o. Acambuco” (cAD); (1 ♂, 4 ♀♀): “S America, se-Bolivia, Taria Dept., 30 km s of Entre Rios, Salinas env., 21°49'11”S, 64°14'52”W, 1050 m” (cMH, cJB).

**Description of holotype.** BL 14.5 mm, EW 5.8 mm. Proportions. Head and pronotum (PW/PL 1.52 PW/HW 1.37), elytra (EW/PW 1.55, EL/EW 1.59).

Colouration. Body piceous, head and thorax with a green sheen, elytra with a bronze purple sheen, dull in both sexes, palpi, tarsi and antennae light brown, first three articles blackened.

Head wide, short (length to width ratio 0.75), smooth, frontal foveae deep triangular, clypeo-ocular groove deep and extended to eye, eyes convex, bulging, labrum square, straight anteriorly, slightly grooved in the middle, palpi light brown, long, last joint fusiform. Antennae moderately long, not extending to elytral midlength; antennomeres cylindrical, slightly flattened, twice as long as wide, in the middle with a longitudinal black line, distal from the middle of antennomere 3 densely, short, rusty pubescent. Mentum triangular, obtuse

at the tip, ligula parallel, long, with two setae, slightly cut out at the end.

Pronotum short, broad, transverse, 1.5 times wider than long, convex on disc, anterior angles projecting, rounded, sides regularly rounded, slightly sinuated before posterior angles, posterior angles obtusely rounded, lateral margin and base beaded, lateral groove anteriorly narrower, widens in the last third, and occupies the entire posterior angles, which is impunctate and dull, median longitudinal line fine.

Elytra oblong, oval, widening slightly behind the middle, humeri rounded, subapical sinuation moderate in both sexes, scutellar striae moderately long, posteriorly joining with stria one, with a basal setigerous puncture, sutural angles rounded. Striae very fine, shallow, outer deepened in apical third, intervals flat, matte, microsculpture isodiametric, interval three with a setigerous puncture in apical third.

Ventral side piceous, smooth, glabrous, prosternal projection and middle coxal with several long setae; metasternum and 6 and 7 sternum in the middle with a group of very fine and short hairs.

Legs moderately long and slender, piceous to brownish red, tarsi light brown, anterior and median tarsi of males strongly expanded laterally, fifth article with setae centrally.

**Differential diagnosis.** The newly described species belongs to the species group II sec. Arndt (1998: 293) with flat elytral intervals. It closely resembles *Notiobia jucunda* Putzeys, 1878 from Amazonian forests and Panama. The new species differs from *N. jucunda* by pronotum with lateral margins moderately sinuated before posterior angles, in the surface of elytra less deeply striated (Figs. 1a, 2, 3), and in the shape of aedeagus (Fig. 1b).

**Etymology.** The name refers to the surface of the imago's body, which feels like silk.

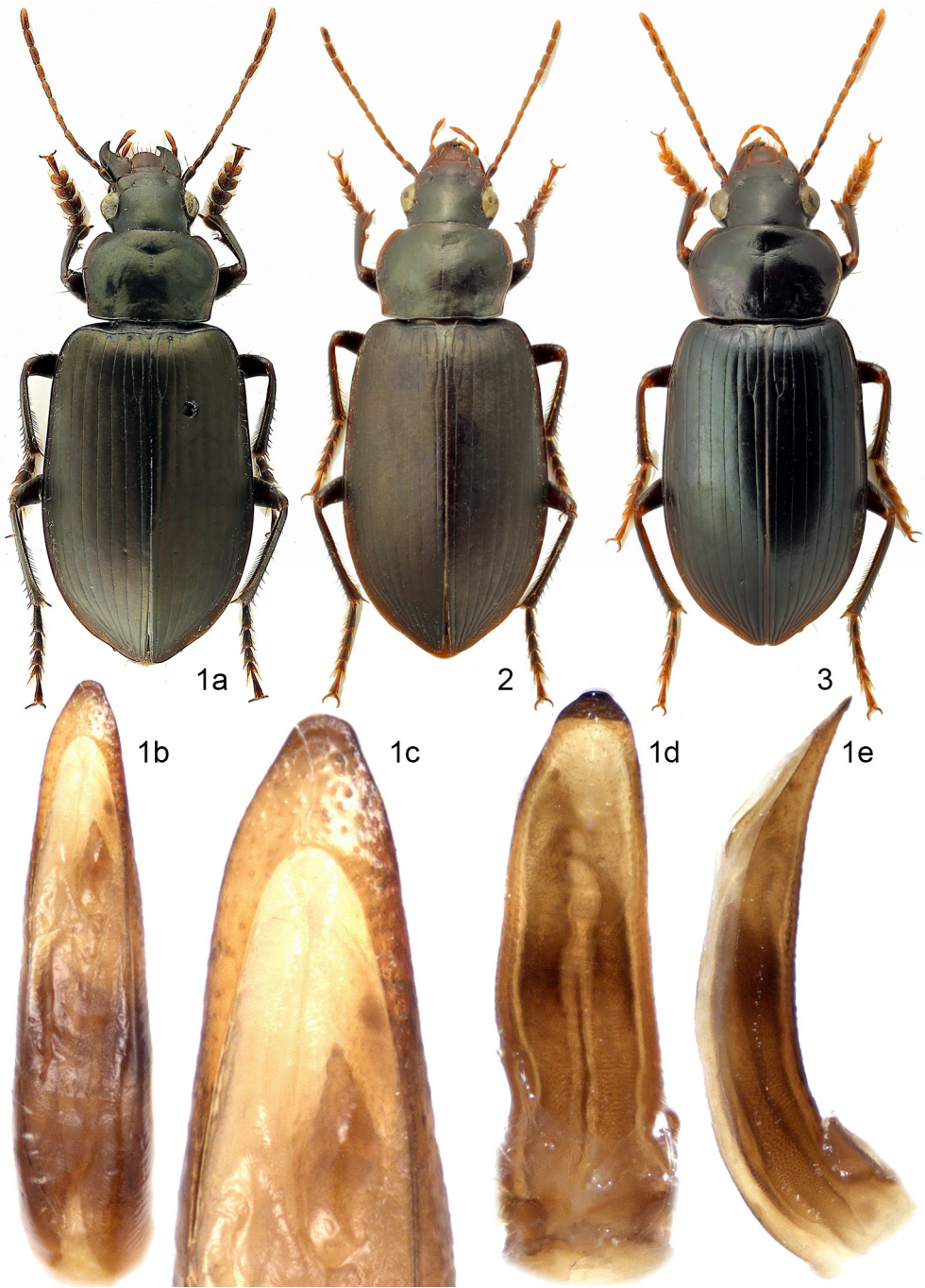
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Fig. 1a. *Notiobia sericea*: sp. nov., HT, habitus of imago, dorsal view.

Fig. 1b-e. *Notiobia sericea*: sp. nov., aedeagus: b- dorsal view; c- detail of apex, dorsal view; d- ventral view; e- lateral view.

Fig. 2. *Notiobia sericea*: sp. nov., PT ♀ from Argentina, Salta, E of Coronel Moldes, habitus of imago, dorsal view.

Fig. 3. *Notiobia jucunda* Putzeys, 1878: ♂ from Ecuador, Napo, habitus of imago, dorsal view.



A CHECK-LIST OF THE GENUS *NOTIOBIA* PERTY, 1830,  
SUBGENUS *NOTIOBIA* S. STR.

**subfamily Harpalinae Bonelli, 1810**  
**tribe Anisodactylini Lacordaire, 1854**

genus *Notiobia* Perty, 1830 type species *Notiobia nebrionides* Perty, 1830

subgenus *Notiobia* s. str.

= *Rhagodactylus* Chaudoir, 1835

= *Ragodactylus* Auct.

= *Atrachion* Chevrolat, 1842

*acuminata* Arndt & Wrase, 2001 NR: VEN “Venezuela, Amazonas, Orinoco Region, Rio Surumoni near La Esmeralda 03.10N/65.40W”

*aulica* (Dejean, 1829) as *Harpalus* NR: ARG, BOL, BRA, COL, ECU, PER, PAR, VEN “Brésil”

*chiriquensis* Bates, 1884 NR: BOL, PNM “Panama, Volcan de Chiriquí”

= *concolor* Bates, 1882 junior homonym [nec. Putzeys, 1878]

*concinna* (Erichson, 1847) as *Anisodactylus* NR: PER “Peru”

*concolor* Putzeys, 1878 NR: COL “[COL: Cundinamarca:] Fusagasugá, Manizales, La Mesa, Copér, Ocaña”

*cooperi* Noonan, 1973 NR: MEX “Nayarit, Tepic”

*cupreola* Bates, 1878 NR: CRC “Costa Rica, Irazú, alt. 6000-7000 feet”

*disparilis* Bates, 1878 NR: BOL, BRA, COL, GNF, NIC, PER, PNM, SUR “Nicaragua, Chontales”

*ewarti* Noonan, 1973 NR: MEX “Veracruz, Coyame, Lake Catemaco”

*flavicineta* (Erichson, 1847): as *Anisodactylus* NR: BOL, BRA, GUA, MEX, PER, PNM “Peru”

= *umbrata* Bates, 1882 “Guatemala, Zapote”

*glabrata* Arndt, 1998 NR: BOL, BRA, COL, GUY, PER “Brazil, AM [= Amazonas], Reserva Florestal Ducke, 35 km NE Manaus”

*incerta* Bates, 1882 NR: BRA, NIC “Nicaragua, Chontales”

*jucunda* Putzeys, 1878 NR: BRA, COL, ECU, PNM, VEN “[COL: Cundinamarca:] Ubáque”

= *championi* Bates, 1882 “Panama, Volcan de Chiriquí”

*leiroides* Bates, 1878 NR: BLZ, GUA, HON, MEX, NIC, PNM, SAL, USA (Texas) “Mexico, Vera Cruz”

*longipennis* Putzeys, 1878 NR: COL “[COL: Cundinamarca:] Entre Tapias et Las Cruces”

*maxima* Arndt, 1998 NR: BRA “Brazil, AM [= Amazonas], Reserva Florestal Ducke, 35 km NE Manaus”

*melaena* Bates, 1882 NR: GUA, MEX “Cordova, Mexico [=Veracruz: Córdoba]”

= *aequata* Bates, 1882: 54 “Cordova, Mexico”

*nebrioides* Perty, 1830 NR: BOL, BRA, CRC, ECD, MEX, NIC, PNM, PER, TAT “Brasilia australis”  
 = *Rhagodactylus brasiliensis* Chaudoir, 1835: 431 “Brésil”  
 = *limbipennis* Bates, 1878 “Chontales, Nicaragua”  
 = *parilis* Bates, 1878 “Chontales, Nicaragua”  
*obscura* Bates, 1882 NR: MEX “Playa Vicente, Mexico”  
 = *virens* Bates, 1882 [unaccepted name]  
*pallipes* Bates, 1882 NR: CRC, GUA, MEX, PNM, TAT “Oaxaca, Mexico”  
 = *subaurata* Bates, 1878 [unaccepted name] “Capetillo, Guatemala”  
*pseudolimbipennis* Arndt, 1998 NR: BRA “Brazil, AM[=Amazonas], Reserva Florestal Ducke, 35 km NE Manaus”  
*ruficruris* (Brullé, 1838) as *Anisotarsus* NR: BOL “la province de Yungas, sur le versant oriental des Andes boliviennes”  
*sericea* sp. nov. NR: ARG, BOL  
*similis* Putzeys, 1878 NR: COL “[COL: Cundinamarca:] Ubáque, Manizales”  
*umbrifera* Bates, 1884 NR: PNM “Bugabá, Panama”  
*variabilis* Arndt & Wrase, 2001 NR: VEN “Venezuela, Amazonas, Orinoco Region, Rio Surumoni near La Esmeralda 03.10N/65.40W”  
*viridula* (Dejean, 1829) as *Harpalus* NR: BOL, BRA, CRC, GUA, GUY, MEX, NIC, PER, PNM, SAL “Brésil”  
 = *limbipennis* Bates, 1878 “Nicaragua, Chontales”  
 = *sinuessa* Bates, 1882 “Guatemala, Zapote”  
 = *Harpalus viridellus* Csiki, 1932 [unaccepted name]  
*wilkensi* (Chaudoir, 1837) as *Harpalus* NR: ARG, BRA, PAR “Brésil”

Note:

*Notiobia praeclara* Putzeys, 1878 was transferred to subgenus *Anisotarsus*.  
*Notiobia transversalis* Putzeys, 1878, *N. aeneola* Putzeys, 1878 and *N. dubia* Putzeys, 1878 were transferred to the tribe Pelmatellini.

ACKNOWLEDGMENTS. Authors are grateful to both colleagues who helped create photo documentation for the article, Petr Baňá, Luboš Dembický and František Kovařík (all Czech Republic).

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Received: 24.3.2023

Accepted: 20.4.2023

Printed: 5.10.2023