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A NEW SPECIES OF *PARACHRYSINA* BATES (COLEOPTERA: SCARABAEIDAE: RUTELINAE) FROM NUEVO LEÓN, MEXICO

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ABSTRACT

Parachrysina borealis is described as new, and a revised key to the species is provided. *Parachrysina borealis* represents the northernmost extent of the genus and is the only species of Areodina known from northeastern Mexico.

Parachrysina is unique among all Rutelini for its 8- or 9-segmented antennae. The genus was recently revised by Deloya and Morón (1988) who recognized five species (four of which were new) from the Transverse Volcanic Belt, the southern Sierra Madre Occidental, and the interior slope of the southern Sierra Madre Oriental in Mexico. Currently, only one female, *P. truquii* (Thomson), is described for the genus (Deloya and Morón 1988; *not* Bates 1888 or Ohaus 1934), and I have seen one additional female specimen of an unassignable species (label data: Zimapan, Hdgo., Mex., VI-11–14-51, On fls. of *Eysenhardtia polystachya* Ort., H. & A. Howden collection). Both females have the outer claw toothed on all tarsi, and presumably all females will prove to share this character. Males, in contrast, have all claws simple on all tarsi. Bates (1888) mistakenly pictured *P. batesi* Deloya and Morón as the female of *P. truquii* (Deloya and Morón 1988).

Parachrysina borealis broadens the definition of the genus due to its lack of obvious enlarged hind femora in the male, its overall dark green shining coloration in the male, and its occurrence in northeastern Mexico where previously no species of *Parachrysina* (nor members of the subtribe Areodina) were known to occur.

Parachrysina borealis Jameson, **new species**
(Figs. 1–6)

TYPE MATERIAL. Holotype male labeled "20 mi. N. Santa Ana, N.L., Mex. Hwy. 57, V-18-1979, J.R. Powers, Collr." Deposited at the California Academy of Sciences (CAS). Paratypes (45 males) with same data as holotype. Two each deposited in the collections of the Instituto de Ecologia (IEMM), United States National Museum (USNM), University of Nebraska State Museum (UNSM), Henry Howden collection (Ottawa, Canada), Paul Lago collection (University, Mississippi), Miguel Morón collection (Xalapa, Mexico), and Brett C. Ratcliffe

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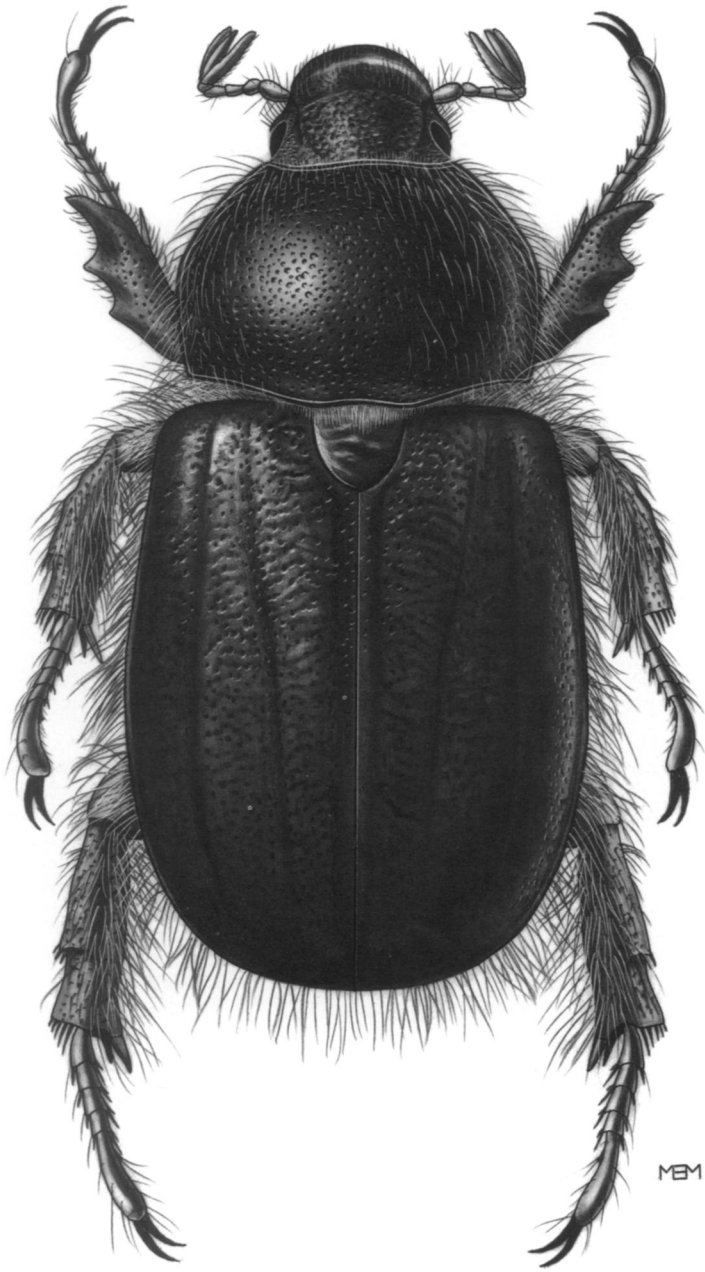


Fig. 1. *Parachrysina borealis,* n. sp., habitus.

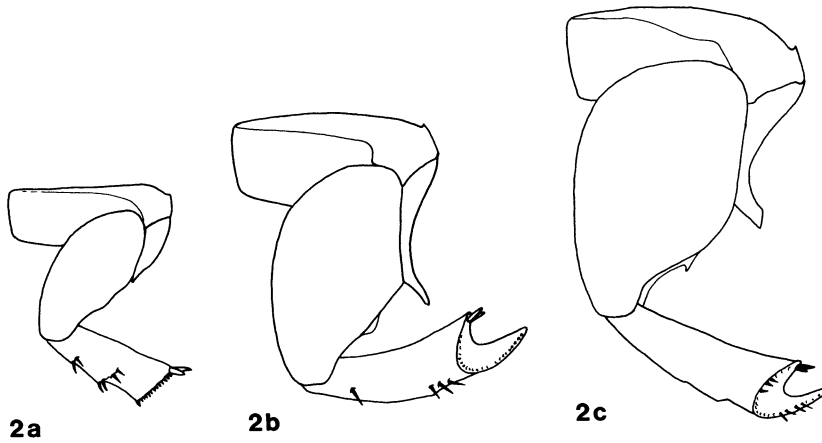


Fig. 2. *Parachrysina* spp., ventral view of right mesoleg (except tarsus) (same scale). a, *P. borealis,* femur not enlarged, trochanter not spinose, apex of tibia not elongate to form spur. b, *P. parapatrica,* femur enlarged, trochanter spinose, apex of tibia elongate to form spur. c, *P. truquii,* femur enlarged, trochanter spinose, apex of tibia elongate to form spur.

collection (Lincoln, Nebraska). The remaining 31 paratypes are deposited in the collection of Jack Powers (Moorhead, Minnesota) at his request.

DESCRIPTION. Male holotype. Length 9.35 mm; width across humeri 4.60 mm; greatest width 5.35 mm. *Head:* Color of frons (with illumination and magnification) dark shiny green. Surface of frons with disc and margins confluently punctate, apically rugopunctate; punctures small, sparsely setigerous on sides; setae moderate in length, pale. Surface of clypeus shiny black, roughened, moderately punctate; punctures small, setigerous; setae moderate in length, pale. Clypeus declivous with respect to frons, apex hemispherical and reflexed. Interocular width equals 10.5 transverse eye diameters. Antenna 8-segmented, club 3-segmented and subequal to segments 2–5 combined. Labrum emarginate apically. Mentum entire apically. Mandibles hidden in dorsal and ventral views. *Pronotum:* Color dark green, shiny. Surface moderately densely punctate, punctures moderately large and small, mixed, sparsely setigerous on sides, apically and medially; setae long, pale. *Elytra:* Color as pronotum except for tan blush on apical third of disc on right elytron (less evident on left elytron) and elytral suture. Surface with loosely defined punctate striae; 1 next to suture, 2 on disc, 2 just mesad of humerus; punctures small to moderate in size. Intervals moderately densely punctate; punctures small to moderate in size, apex with some punctures transversely wrinkled, setigerous; setae at base of elytra and mid-elytra long to moderately long, sparse; setae at elytral apex moderate in length and forming fringe. Elytral apex right-angled. *Pygidium:* Color as elytra. Surface moderately densely punctate, more so laterally and basally; punctures small, setigerous; setae moderately long to long, pale. *Venter:* Color black, shining. Thoracic sternites densely clothed with moderately long to long, pale setae; abdominal sternites less densely clothed. *Legs:* Color of femora and tibia as pronotum, color of tarsi brown. Foretibia tridentate, teeth becoming larger apically (Fig. 1). Metatrochanter weakly spinose apically (Fig. 2a). Metafemur not enlarged, posterior border lacking a tooth near the apex (Fig. 2a). All tarsi with claws simple, untoothed, outer claw slightly larger and thicker than inner claw. Apex of metatibia not elongated to form spur, normal (Fig. 2a; see Figs. 2b,c for contrast). *Parameres:* Converging at apex, symmetrical, not diagnostic (Fig. 3a,b).

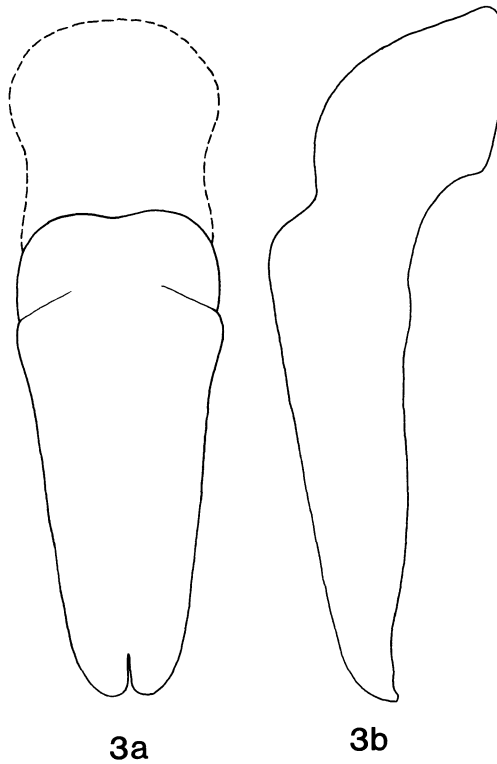


Fig. 3. *Parachrysina borealis,* parameters and phallobase, (a) dorsal and (b) lateral view.

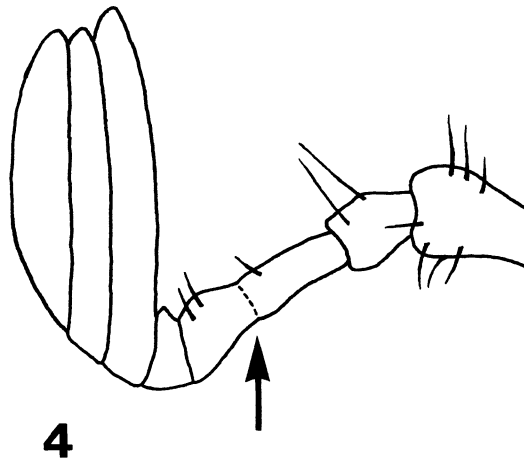
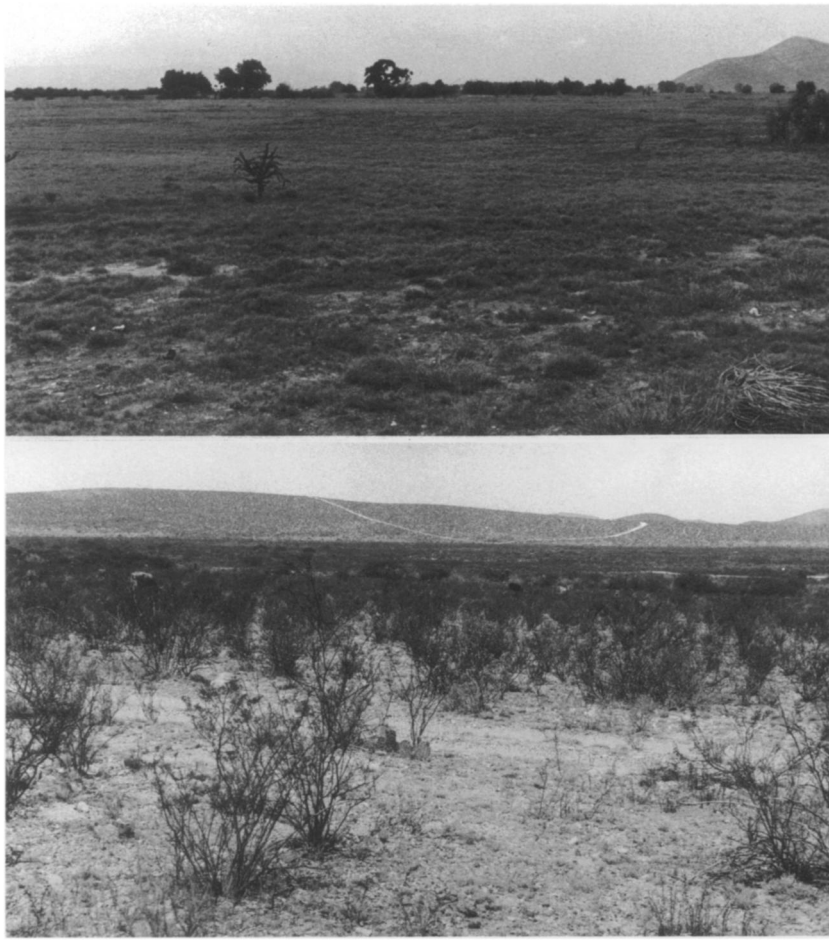


Fig. 4. *Parachrysina borealis,* antenna. Note inconspicuous segmentation between segments 3 and 4.



Figs. 5, 6. 5, type locality 20 miles north of Santa Ana in Nuevo León, Mexico, of *Parachrysina borealis* on May 18, 1979. 6, same scene, slightly different angle, on May 18, 1989. (Photographs by Jack R. Powers)

Paratypes (45 males) differ from holotype in following respects. Length 9.20–11.80 mm; width across humeri 4.15–5.20 mm; greatest width 4.60–6.40 mm. *Head:* Surface of frons confluently punctate to rugopunctate; punctures setigerous or not. Interocular width equals 8.4–11.0 transverse eye diameters. Antenna with segments 3 and 4 occasionally appearing as one segment, nearly fused (Fig. 4). *Elytra:* Tan blush entirely absent, extending to mid-elytra, or present or absent on elytral suture. Loosely defined striae mesad of humerus present or not. *Pygidium:* Surface at base and sides moderately densely punctate to rugulose.

REMARKS. *Parachrysina borealis* is separated from its congeners by its overall dark green, shiny coloration in the male, lack of enlarged hind femora and

metatrochanter spur (Fig. 2a) in the male, and 8-segmented antennae. Members of this species could be mistaken for females if not properly examined. Males possess the overall dark green, shiny coloration of the two known females in the genus and lack the typical enlarged hind femora. Males are easily separated from females by the presence of simple claws on all tarsi.

This species was collected by Jack R. Powers (Concordia College, Moorhead, MN) from stalks of grass (species unknown) on May 18, 1979, when the type locality was a lush, green grassland (Fig. 5). On the same date in 1989, the locality was much more xeric, barren, and cresote (*Larrea* sp.) was the predominant vegetation (pers. comm., J. R. Powers, 1989). No specimens were collected in 1989, and, due to the dramatic change in habitat, one has to wonder if *P. borealis* still occurs there.

ETYMOLOGY. The specific epithet refers to the northerly occurrence of the species in Mexico.

KEY TO SPECIES OF *PARACHRYSINA* (MALES ONLY)

(modified from Deloya and Morón 1988)

1. Color of elytra greenish, shiny, with occasional blush of tan on disc ..... *P. borealis* Jameson, n. sp.
1'. Color of elytra tan, brownish or testaceous 2
2. Disc of pronotum with 1 or 2 shiny, greenish longitudinal stripes 3
2'. Disc of pronotom shiny green, lacking greenish, longitudinal stripes ..... *P. batesi* Deloya and Morón
3. Pronotum with 2 longitudinal stripes. Metatrochanter not spinose apically. Posterior border of metafemur without prominent tooth 4
3'. Pronotum with 1 longitudinal stripe. Metatrochanter spinose apically. Posterior border of metafemur with prominent tooth near the apex 5
4. Antenna 9-segmented ..... *P. amadomartinezi* Deloya and Morón
4'. Antenna 8-segmented ..... *P. mazatli* Deloya and Morón
5. Antenna 9-segmented. Mesosternal projection prominent, elevated ..... *P. truquii* (Thomson)
5'. Antenna 8-segmented. Mesosternal projection small, narrow, weakly elevated ..... *P. parapatrica* Deloya and Morón

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