

A NEW SPECIES OF *ELEODES* FROM TEXAS,
WITH NOTES ON THE SUBGENUS *PROMUS*¹
(COLEOPTERA: TENEBRIONIDAE)

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ABSTRACT

A new species, *Eleodes (Promus) knullorum*, from Texas is described and two names for taxa in the subgenus *Promus* are placed in synonymy, *E. seriata* LeConte under *E. goryi* Solier and *E. terricola* Blaisdell under *E. insularis* Linell.

The name *Promus* was originally proposed (LeConte, 1862, p. 226) for a monotypic genus with *Blaps opaca* Say as type species. Horn (1870, p. 302) used the name *Promus* for one of three subgenera into which he divided the genus *Eleodes*. In addition to *E. opaca* (Say), he placed four LeConte species—*E. fusiformis*, *E. seriata*, *E. subnitens*, and *E. striolata*—in the subgenus *Promus*. Blaisdell (1909) divided *Eleodes* into eleven subgenera, retaining Horn's concept of the subgenus *Promus* virtually intact, adding to it only *E. insularis* Linell, a species known only from Baja California, and placing *seriata* as a synonym of *goryi* Solier. The most recent checklist (Tanner, 1961, p. 71) lists only the six species recognized by Blaisdell in *Promus* with only minor changes in nomenclature.

The subgenus *Promus* may be characterized as follows: body fusiform in outline; basal and sometimes second segment of protarsus conspicuously pubescent beneath, interrupting plantar groove in the male but unmodified in the female; in at least two of the species the profemora conspicuously armed with a sharp tooth in the male and simply emarginate in the female. The most diagnostic characters are in the female genitalia, in which the dorsal plate is broadened externally with the margin strongly arcuate, conspicuously punctate, and sparsely clothed with long flying hairs and in which the valvular appendages are moderate to large in size.

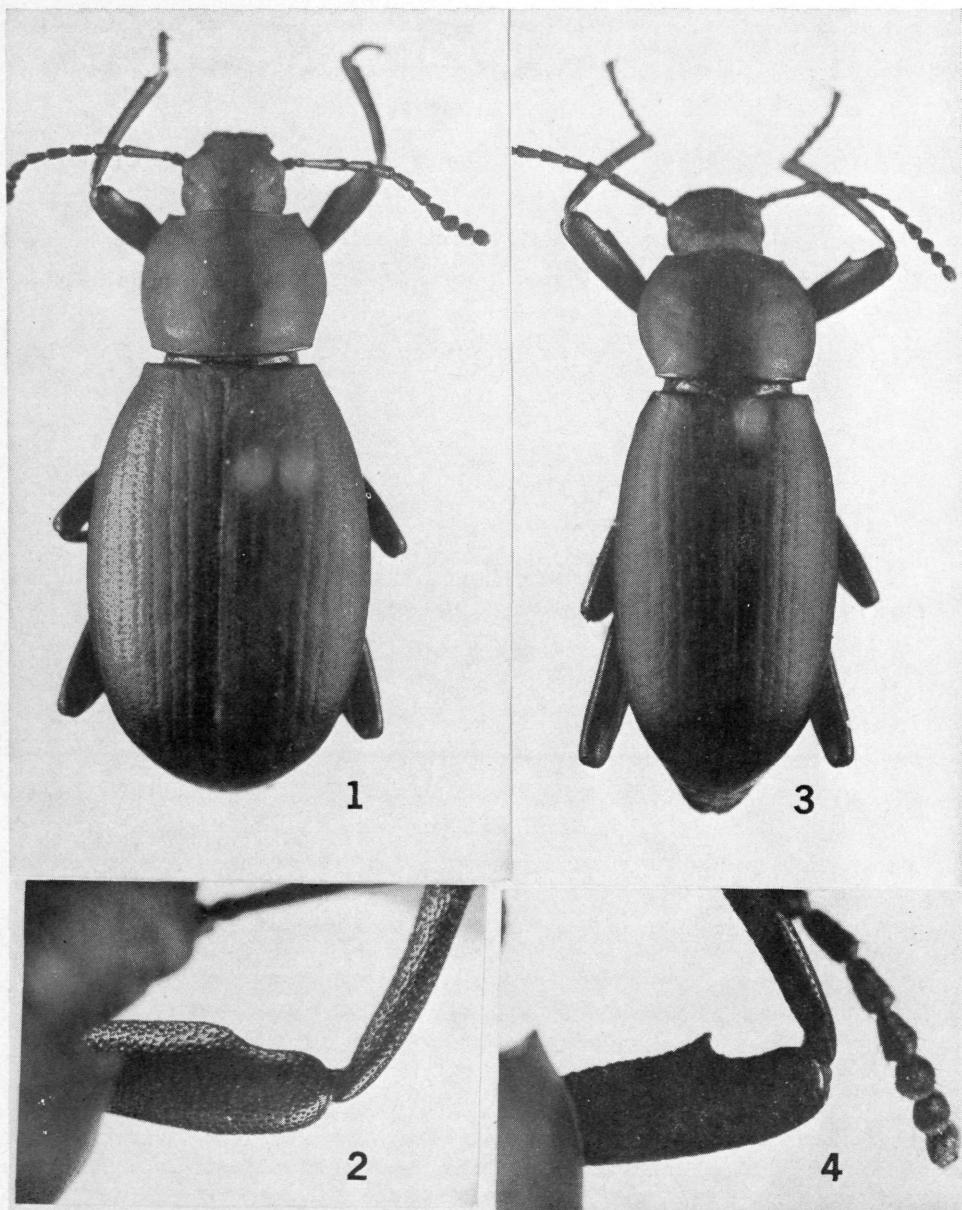
The following new species is clearly a member of the subgenus *Promus*. I take great pleasure in naming it for the collectors who provided the first specimens I ever saw and who were among the earliest and most successful insect collectors in the Big Bend area of Texas, my friends and colleagues, Dorothy J. and Josef N. Knoll.

Eleodes (Promus) knullorum NEW SPECIES

Description: Holotype, female—elongate, robust, fusiform, flattened dorsally, black, subopaque, glabrous. Head $\frac{3}{4}$ as long as broad, flat, and with clypeal suture barely traceable, epistomal margin shallowly emarginate; surface moderately finely and densely punctured; eyes small, narrow, somewhat reniform; antennae moderate in length, extending caudad at least 3 segments beyond pronotal base. Pronotum slightly broader than long, broadest about the middle, lateral margins strongly arcuate, briefly sinuate just before basal angles; anterior margin broadly and shallowly emarginate, angles rectangular, not prominent, basal margin evenly arcuate, angles obtuse; disc slightly convex, a shallow depression on each side of middle, surface very minutely and densely punctulate, strongly alutaceous. Scutellum rather coarsely and densely punctured. Elytra broad, somewhat flattened, widest across middle, sides parallel, strongly arcuate basally and apically, with a pronounced caudal lobe; base emarginate and equal in width to prothoracic base; humeri acute and slightly prominent anteriorly; surface, including inflexed portions, strongly alutaceous, striae not impressed, composed of very fine, closely spaced punctures, intervals flat, finely and sparsely punctured; epipleura narrow, alutaceous, practically impunctate. Legs moderate in size; tibiae roughly sculptured, spiculose, and clothed with spinous hairs; tibial spurs short and slender; tarsi all conspicuously grooved beneath; profemur strongly emarginate on ventral margin about $\frac{1}{6}$ the femoral length from apex; all femora finely and densely punctured and clothed with short, yellow, recumbent hairs. Ventral surface alutaceous, abdominal sterna finely and densely punctured, thoracic sterna

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finely rugose, especially prosternum. Genital segment quadratoparabolic in outline, ovipositor valve (fig. 5) more or less reflexed and explanate externally, deflexed at apex and distinctly setose; appendage moderate, rounded apically, densely setose. Length: 18.7 mm.; width: 9.0 mm.



FIGURES 1-4. All illustrations are of *Eleodes knullorum* new species. Photographs by John C. Moser.

1. Female
2. Right profemur of female
3. Male
4. Right profemur of male

Allotype, male—similar to female, but much more slender and with elytra more attenuate behind middle; apical angles of pronotum acute and prominent; profemur with a strong tooth about $\frac{1}{6}$ the femoral length from apex; basal segment of protarsus with a conspicuous tuft of dense golden hairs interrupting plantar groove. Length: 17.3 mm.; width: 6.8 mm.

Variation: Punctures of the elytral striae range from extremely fine to quite coarse, and sometimes there is a tendency for diffuse punctuation, in which case the striae are poorly defined. The series from Del Rio, Texas, has unusually large striae punctures and the elytral intervals are somewhat convex. The anterior angles of the pronotum vary from rectangular to acute in both sexes and the pronotal impressions are not always present. Some males have not only the basal, but also the second segment of the protarsus conspicuously hairy and interrupting the plantar groove. There is great disparity in size in the series of specimens available for study. Range in size of type series: Males: length: 14.5–23.0 mm.; width: 5.8–8.5 mm. Females: length: 15.8–27.2 mm.; width: 6.9–11.4 mm.

Remarks: *Eleodes knullorum* closely resembles and has many important characters in common with *E. insularis* Linell. The formation of the tufts of hair interrupting the plantar surface in the male appears identical, and both have the

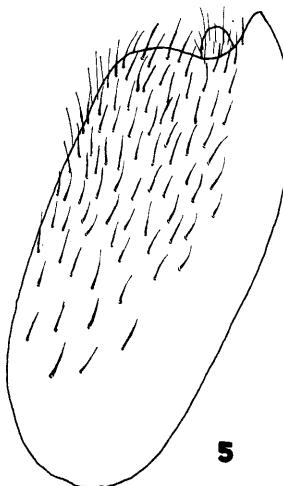


FIGURE 5. Dorsal view of right valve of ovipositor of female holotype. Drawing by author.

profemora armed in the male and simply emarginate in the female. Both species are subject to the same variation in elytral punctuation, ranging from diffuse to distinctly punctate-striate with intervals slightly convex. The female genitalia of the two species are very similar and have the smallest valvular appendages in the subgenus *Promus*.

Eleodes knullorum differs from *E. insularis* in having a more transverse pronotum, with the margins somewhat sinuate before the base. The dorsal surface in *knullorum* is strongly alutaceous and dull in luster, while in *insularis*, it is minutely alutaceous and distinctly shiny. Specimens of both sexes of *insularis* tend to be more uniformly convex dorsally than do those of *knullorum*, specimens of which are frequently distinctly flattened.

A series of 38 specimens of *Eleodes insularis* was collected at six scattered localities in Baja California (Sur) in October and November, 1968, by E. L. Sleeper and F. J. Moore. In this series, the dorsal punctuation varies in much the same way as it does in *knullorum*. I am convinced that the taxon named *terricola* by Blaisdell is not valid, but represents normal intraspecific variation in *insularis*. The same tendency is even more pronounced in *E. goryi* Solier, also a member of the subgenus *Promus*, in which the elytra vary from extremely coarsely punctured to practically smooth. The smooth phase is considered by Tanner (1961, p. 71) as subspecies *seriata* LeConte. I am considering *seriata* a synonym of *goryi*, and

terricola a synonym of *insularis*. As stated before, *knullorum* follows this same pattern in having two rather distinct phases which apparently is merely normal variation and not geographic.

Large specimens of *Eleodes knullorum* could be confused with *subnitens*, a species which inhabits southern California and Arizona. Pronotal shape will separate these two species; the sides of the pronotum in *subnitens* are much less arcuate and the anterior pronotal margin is much more shallowly emarginate. In *subnitens*, the tufts of hairs interrupting the plantar grooves of the first two protarsal segments in the male are in the form of spongy, pubescent pads. The female genitalia are diagnostic, the valvular appendages in *subnitens* being extremely large and rounded.

Types: Holotype, female—Chisos Mts., Texas, August 15, 1962, C. A. Triplehorn, (OSU).

Allotype, male—same locality, August 5, 1962, W. E. and C. A. Triplehorn (OSU). Both of these specimens were taken on the trail between the Upper and Lower Basin in piñon-juniper association. The following specimens, all from Texas, are designated paratypes: *Brewster Co.*: 5♂♂, 11♀♀, Chisos Mts., August 3–17, 1962, C. A. and W. E. Triplehorn; 3♀♀, Chisos Mts., July 17, 1946, D. J. and J. N. Knull; 2♂♂, 2♀♀, Chisos Mts., June 27, 1959, D. J. and J. N. Knull; 1♀, Chisos Mts., June 26, 1961, D. J. and J. N. Knull; 4♂♂, 4♀♀, Chisos Mts., between Upper and Lower Basin, July 12, 1968, W. E. and C. A. Triplehorn (OSU); 12♂♂, 6♀♀, Big Bend National Park, Santa Elena Canyon, September 3, 1968, J. A. Brubaker and F. J. Moore (OSU, CAS, USNM); 4♀♀, Big Bend National Park, Pine Canyon, September 3, 1968, J. A. Brubaker and F. J. Moore (OSU); 1♂, 1♀, Chisos Mts., Window Trail, June 9, 1968, R. and L. Hamilton (OSU); 5♂♂, 4♀♀, Chisos Basin, Window Trail, May [3], 1969, R. L. Berry and F. J. Moore (RLB); 2♂♂, 3♀♀, Big Bend National Park, Pine Canyon, May 4, 1969, R. L. Berry and F. J. Moore (RLB); 1♀, Chisos Basin, August 18, 1962, H. V. Weems, Jr. (FSCA); 1♀, Chisos Basin, Window Trail, August 16, 1962, Pamela Weems (FSCA). *Jeff Davis Co.*: 16♂♂, 9♀♀, Davis Mts. State Park, near Indian Lodge, July 13, 1968, W. E. and C. A. Triplehorn (OSU, CAS, USNM); 1♂, 2♀♀, Fort Davis, Limpia Canyon, August 3, 1968, July 31 and August 1, 1969, W. Suter (RCG); 1♂, 2♀♀, Ft. Davis, July 29, 1965, B. K. Dozier (FSCA); 1♂, 1♀, Davis Mts. State Park, July 25, 1962, J. M. Campbell (JMC); *Val Verde Co.*: 5♂♂, 12♀♀, Del Rio, September 1, 1968, J. A. Brubaker and F. J. Moore (OSU, CAS, USNM); 1♂, Pecos River Bridge on U. S. 90, October 8, 1958, H. V. Weems, Jr. (FSCA). *Terrell Co.*: 2♂♂, 3♀♀, Blackstone Ranch, 16 mi. s. Sheffield on Rt. 349, June 29–July 2, 1959, G. E. Ball family (UALB). This species also occurs in Arizona and probably in New Mexico as well. I can report it from the following localities in Arizona: 1♂, Cochise Co., Guadalupe Cyn., 4200 ft., Sept. 20, 1968, Vincent D. Roth (SWRS); 6♂♂, C. Geronimo, June 5, 8, 15, 23 and August 3, 1941, P. C. Grassman (UAR). The first of these is no doubt an authentic record, but I was unable to locate the latter locality. For several reasons I have not designated any of the Arizona specimens as paratypes.

ACKNOWLEDGEMENTS

Abbreviations for institutions and collections where paratypes are deposited are as follows: California Academy of Sciences (CAS); Florida State Collection of Arthropods (FSCA); J. M. Campbell personal collection (JMC); The Ohio State University Collection of Insects and Spiders (OSU); Robert C. Graves personal collection (RCG); Richard L. Berry personal collection (RLB); Southwestern Research Station, American Museum of Natural History, Portal, Arizona (SWRS); University of Alberta, Canada (UALB); University of Arizona, Tucson (UAR); United States National Museum (USNM). Grateful acknowledgment is made to the individuals in charge of these collections for making the specimens available for study, to the American Philosophical Society for grants of financial aid in conducting field work (Grant No. 3091—Penrose Fund, 1962; Grant No. 4597—Penrose Fund, 1967), to Dr. John C. Moser for taking the photographs and to Dr. Donald J. Borror for valuable suggestions in the preparation of the manuscript.

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