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from Panama**

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A NEW SPECIES OF *PELIDNOTA*
(COLEOPTERA: SCARABAEIDAE: RUTELINAE)
FROM PANAMA

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ABSTRACT

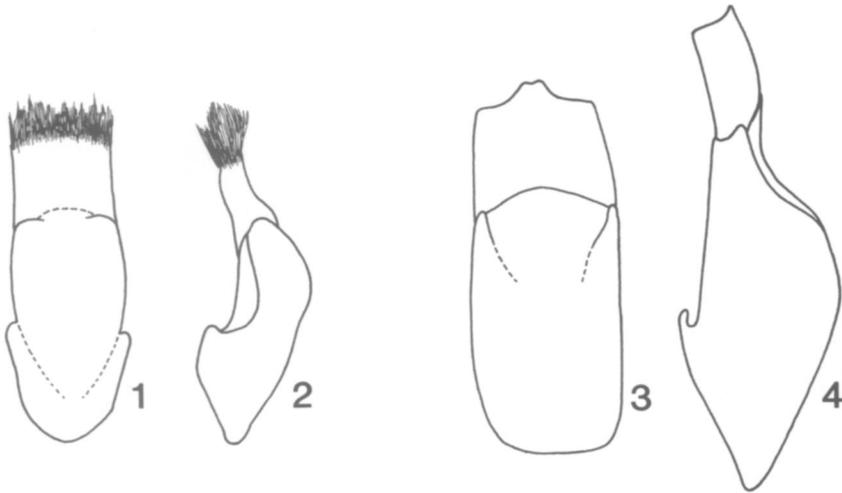
Pelidnota hirsutiphallica new species, is described as new from Colón and Bocas del Toro provinces in Panama. It is incorporated into the most recent key to the genus and distinguished from its congeners.

The genus *Pelidnota* was partially reviewed by Hardy (1975) when he studied the taxa of North and Central America. The South American members of the genus number approximately 90 species (Machatschke 1972) and remain largely unstudied. Hardy recognized 26 species in North and Central America, and only two species from Mexico (Delgado-Castillo *et al.* 1988) have been described since. We describe here a new species of *Pelidnota* that is unique among the North and Central American species because of the form of the male parameres. It is also unlike any South American species with which we are familiar. Hardy's key to species is modified to accommodate the new species.

Pelidnota hirsutiphallica Ratcliffe and Jameson, **new species**
(Figs. 1, 2)

TYPE MATERIAL. Holotype male labeled "PANAMA: Bocas d. Toro, 2 mi. N. of divide on hwy. to Chiriqui Grande, VI-1-1986. B. C. Ratcliffe and party." Allotype female with same data as holotype. One paratype labeled "PANAMA: Colón Prov., Santa Rita Ridge, V-18-21-1977, at lights" and "*Pelidnota* prob. n. sp., *notata* gp.? Det. A. R. Hardy 1983." Holotype and allotype deposited at University of Nebraska State Museum; paratype deposited in the B. C. Ratcliffe collection.

DESCRIPTION. Holotype male. Length 20.6 mm; width across humeri 11.3 mm. Color of dorsum and legs (with magnification and illumination) reddish brown, shiny, with faint coppery reflection on head and pronotal margins; venter slightly darker. *Head*: Frons with surface weakly alutaceous; moderately densely punctate, punctures slightly less dense on disc; punctures moderate in size. Clypeus trapezoidal, apex deeply emarginate, narrowly reflexed, marginal bead complete; surface moderately densely punctate, punctures moderate in size. Interocular width equals 2.0 transverse eye diameters. Mandibles on outer margin distinctly toothed. *Pronotum*: Surface finely alutaceous, moderately punctate on disc, becoming moderately densely punctate on sides; punctures weakly ocellate, mostly moderate in size; center of disc with nearly obsolete longitudinal line, line impressed at apex and raised at base. Marginal bead complete and distinct. Lateral margin with angulation medially. *Scutellum*: Shape parabolic. Moderately punctate, punctures small. *Elytra*: Surface of disc weakly alutaceous; with striae weakly punctate, punctures slightly smaller than those of pronotum. Intervals moderately punctate, punc-



Figs. 1-4. *Pelidnota* spp. Paramere and phallobase, dorsal and lateral view. 1, 2, *P. hirsutiphallica*. 3, 4, *P. prolixa*.

tures small, scattered. Sides with punctures slightly larger than those of disc, scattered. Marginal bead becoming obsolete beneath apical umbone. Elytral apices feebly spinose. *Pygidium*: Surface transversely rugulose, with moderately dense setae; setae pale, short except longer at apex. *Venter*: Sternal spine between mesocoxae produced, subtriangular. Metasternum rugopunctate; punctures small, setigerous; setae pale, moderately long. Abdominal sternites weakly punctate medially (punctures small), becoming rugopunctate laterally; setae similar to but less dense than those of metasternum. Last sternite more shiny because punctures smaller and sparser. *Legs*: Foretibia tridentate, basal tooth slightly removed from 2 anterior teeth. Foretarsus with inner claw (lateral view) a little longer and wider than outer claw. Large claw lacking tubercle. Metatibia with corbel produced. Posterior coxa with posterolateral angle squared (subacute). *Parameres*: Figures 1, 2. Apex of parameres densely setose.

Allotype female. Length 22.8 mm; width across humeri 11.2 mm. As holotype except in following respects: *Head*: Punctures slightly larger and denser. Interocular width equals 2.2 transverse eye diameters. *Pronotum*: Punctures slightly larger and denser. *Pygidium*: Setae not appreciably longer at apical margin. *Venter*: Metasternum with sparser setae. Last abdominal sternite completely transversely rugulose. *Legs*: Foretarsus (in lateral view) with inner claw not wider than outer claw.

Paratype male. Length 21.8 mm; width across humeri 11.1 mm. Does not differ significantly from holotype.

REMARKS. *Pelidnota hirsutiphallica* does not easily key to any species in Hardy's (1975) revision of the genus. Because of its dark reddish brown color, one is initially led to try couplet 7 (entire dorsal surface uniformly dark), but this leads to black or Mexican species only. Couplet 7' (dorsal surface only partially darkened or color entirely light) does not accurately describe *P. hirsutiphallica* and eventually leads to *P. prolixa*. Although *P. hirsutiphallica* and *P. prolixa* are sympatric and each has a produced corbel, they differ significantly in other respects. These include: 1) the slightly testaceous color in *P. prolixa* versus the reddish brown color in *P. hirsutiphallica*, 2) the slightly emarginate (male) or parabolic (female) clypeus in *P. prolixa* as opposed to the deeply emarginate clypeal apex in *P. hirsutiphallica*, 3) the more densely punctate head

and pronotum and distinctly alutaceous elytra of *P. prolixa* as opposed to the less densely punctate head and pronotum and weakly alutaceous elytra of *P. hirsutiphallica*, 4) the more shiny and glabrous pygidium in the male of *P. prolixa* rather than the rugulose and setose pygidium of *P. hirsutiphallica*, 5) the subacute (rather than rounded) posterolateral angle of the posterior coxa in *P. hirsutiphallica*, and 6) the male genitalia which are setose apically in *P. hirsutiphallica* (Figs. 1, 2), but not in *P. prolixa* (Figs. 3, 4).

Hardy's (1975:6) key to North and Middle America *Pelidnota* is modified as follows to accommodate our new species.

- | | | |
|------|--|---|
| 7. | Entire dorsal surface uniformly dark, either black or rufous (may have a surface luster) or dark reddish brown | 8 |
| 7'. | Dorsal surface only partially darkened; or entirely light colored, yellow or testaceous to light brown; or without a posterior thoracic margin | 10 |
| 8. | Ground color rufous, with a metallic pearly luster; Baja California, Mexico | <i>P. lucae</i> LeConte |
| 8'. | Without metallic or pearly aspect of the dorsal surface; United States, mainland Mexico, Panama | 9 |
| 9. | Color black or dark reddish brown. Posterior tibia lacking articulated bristle on dorsal margin of corbel | 9a |
| 9'. | Rufous; posterior tibia with a small, articulated bristle on the dorsal margin of the corbel | <i>P. howdeni</i> Hardy |
| 9a. | Color black. Pygidium glabrous. Sternal process between mesocoxae present as small tubercle only. Male with large claw of anterior tarsus with apical tubercle. Posterior tibia with corbel not produced | <i>P. lugubris</i> LeConte |
| 9a'. | Color dark reddish brown. Pygidium setose. Sternal process between mesocoxae well developed. Male with large claw of anterior tarsus lacking apical tubercle. Posterior tibia with well-developed corbel | <i>P. hirsutiphallica</i> Ratcliffe and Jameson |

The primary types were collected at lights in primary tropical evergreen forest at an elevation of 800 meters. *Pelidnota prolixa* was also collected at this locality on the same night. The paratype was collected at lights in disturbed forest (elevation 300 meters).

ETYMOLOGY. The specific epithet refers to the distinctly setose apex of the parameres.

ACKNOWLEDGMENTS

We thank the other members of our 1986 field party to Panama for their assistance in collecting the specimens: Ronald Young, Charles and Karen Messenger, and Paula SeEVERS. Alan Hardy (California Department of Agriculture) examined the 1977 specimen and suggested the possibility that it might represent a new species. Scott Shaw (Museum of Comparative Zoology) kindly loaned specimens of *P. prolixa* for comparative purposes. Mark Marcuson and Gail Littrell (both of the University of Nebraska State Museum) provided the illustrations and word processing, respectively. Burden's Outdoor Outfitters (Lincoln, Nebraska) helped to provide logistical support for collecting in Central America. Thomas Rinkevich (Department of Classics, University of Nebraska) assisted with the formation of the new name.

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BOOKS ON COLEOPTERA

- UDAYAGIRI, S., AND S. R. WADHI (COMPILERS). 1989. **Catalog of Bruchidae**. *Mem. Amer. Ent. Inst.* No. 45. ii + 301 pp.

Complete catalog of valid names listed in alphabetical order for each category: subfamily, genus, and species. Type species, different combinations, synonymy misidentifications, etc. are all listed, as well as the various hosts. There are indexes to the species and to the supraspecific categories, but not to the hosts.

- PAYNE, T. L., AND H. SAARENMAA (EDITORS). 1988. **Integrated control of scolytid bark beetles**. *Va. Polytech. Inst. and State Univ., Blacksburg, VA.* v + 355 pp.

Collection of 30 papers forming the proceedings of the International Union of Forestry Research Organization held at the XVIII International Congress of Entomology, Vancouver, BC, 3-10 July 1988.

- TASHIRO, H. 1987. **Turfgrass insects of the United States and Canada**. Cornell Univ. Press, Ithaca, NY. xiv + 391 pp. Price about US\$49.00.

Well illustrated, with nearly 37% of the text devoted to beetles with six chapters on Scarabaeidae (overview, Aphodinae, Cetoniinae, Dynastinae, Melolonthinae, and Rutelinae) and one each on Chrysomelidae and Curculionidae. Only 14 species groups are discussed, each with a brief description of the egg, larva, and adult and the biology.

- BOROWIEC, L. 1988. **Bruchidae (Insecta: Coleoptera)**. *Fauna Poloniae*. No. 11. 226 pp.

Written entirely in Polish. The book is very well illustrated and many of the species have a habitus drawing. Covers 62 species, 29 of which occur in Poland. There are keys to subfamilies, genera, and species.

- ZANETTI, A. 1987. **Coleoptera. Staphylinidae. Omaliinae**. *Fauna d'Italia*. Vol. 25. 472 pp. Price nearly US\$50.

The text is in Italian; however, the keys to genera, species, and subspecies are also in English. For each species, the author gives the type locality, description, ecological notes, general distribution (as well as distribution in Italy), and usually some other observations. The aedeagi of many species are illustrated and representative habitus drawings are given for each of the 36 genera.