

**A NEW GENUS AND SPECIES OF WATER SCAVENGER BEETLE FROM
AFRICA (COLEOPTERA: HYDROPHILIDAE: SPHAERIDIINAE)**

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The distinctive hydrophilid beetle described herein was found in the National Museum of Natural History collections during routine identifications of miscellaneous beetles for curatorial purposes. The single specimen has been residing in the collections since it was collected by Dr. W. M. Mann 40 years ago. Although we would prefer more specimens for the description, the specimen is a male, which should be easily recognized by the descriptions and illustrations provided here.

Nothing is known about the habits and habitat of this new beetle except that it belongs to the subfamily composed of taxa which are terrestrial rather than aquatic in their habits. Members of this subfamily occur in wet or moist rotting vegetation such as palm logs, fruits, coconut hulls, banana stalks, cactus, etc.; others live in dung. The taxa living in rotting vegetation usually have dense pads of long hairlike pubescence on the ventral surfaces of their tarsi. In contrast, those which live in dung usually lack this pubescence. Therefore, the dense pubescence on the tarsi of this new taxon suggests that it occurs in rotting vegetation.

Sphaeridiini
Kruia, new genus

Body form (Fig. 1) broadly rounded, moderately convex; strongly, coarsely, and irregularly punctate dorsally. Head with anterior margin of clypeus broadly subtruncate and distinctly upturned, expanded shelflike in front of eyes and extending as a canthus to midlength of eye. Labrum short and mostly obscured beneath clypeus. Eyes viewed from above ovoid. Antenna 8 segmented; 2 basal, 2 intermediate, 1 cupule, and 3 club segments; only club segments pubescent. Maxillary palpus 4 segmented; shorter than antennae; basal segment very short; second (pseudobasal) segment inflated, about two-thirds as long as maxillary stipes and shorter than either penultimate or ultimate segment; penultimate segment slightly longer than ultimate segment. Prosternum moderately long in front of procoxal cavities; longitudinally carinate medially; terminating posteromedially in an acute apex between procoxae. Mesosternal process (Fig. 2) a large pentagonal process but appearing triangular with anterior and lateral angles acute; mid-

dle tectiform. Metasternum (Fig. 2) apically with an inclined lanceolate process extending between middle coxae; metasternum bearing two large posteromedial mammilliform processes, one on each side of midline in front of metacoxae; each metacoxal process surmounted with a short tuft of setae. Pronotum strongly broadly swollen on discal area and explanate, especially anterolaterally. Elytron with strongly raised sutural margin; humeral areas tumid; base with vestiges of three costiform intervals between humerus and sutural margins; punctures very coarse, confused basally but in rows apically; lateral margins broadly explanate. Epipleura wide and strongly oblique basally and becoming almost horizontal opposite margin of first abdominal sternum. Scutellum a rather large equilateral triangle. All tarsi covered on ventral surfaces with dense golden setae. Middle and hind tibiae arcuate. Inner apical angle of middle tibia bearing a large dense tuft of golden setae. Ventral surface of middle and hind tibiae with long slender rows of golden setae and other golden setae scattered irregularly between rows. Tarsal claws small, equal, strongly curved. Tarsal formula 5-5-5; basal segments longest. First abdominal sternum with low longitudinal carina on midline; carina extending about five-sixths the length of sternum.

Type-species.—*Kruia chrysopelma*, new species.

Etymology.—*Kruia* from Kru, a tribe of Liberian natives and a major language in that country. Gender: feminine.

This new genus has the basal segment of the hind tarsus longer than the second segment; antenna longer than the maxillary palpus; last glabrous antennal segment cuplike and snugly embracing triarticulate pubescent club; second segment of maxillary palpus distinctly thicker than third or fourth segments. Therefore, the genus belongs to the subfamily Sphaeridiinae. Furthermore, the head is not narrowed in front of the eyes and the anterior margin is broadly expanded and hides the bases of the antennae. Consequently this new genus is assigned to the tribe Sphaeridiini.

In d'Orchymont's (1937) key to sphaeridiine genera, *Kruia* runs to couplet 12 on the basis of the prosternum being long in front of the procoxal cavities and to *Dactylosternum* in couplet 13 because the mesosternum bears a large pentagonal process with narrow base, therefore, appearing triangular or sagittate, and the eyes are deeply emarginate by intrusion of a strong canthus. However, the facies as well as the morphology of *Kruia* is quite different from the genus *Dactylosternum*. For example, *Kruia* is brown; moderately convex, with extremely coarse punctures; punctures confused basally, in rows apically; elytral margins and anterolateral half of pronotum strongly explanate; eyes deeply emarginate; antenna 8 segmented; edge of broad, truncate clypeus narrowly but distinctly upturned; base of mesosternal process narrowly separated from metasternum; tibiae of middle legs each bearing a tuft of golden setae on inner apical angle; and metasternum

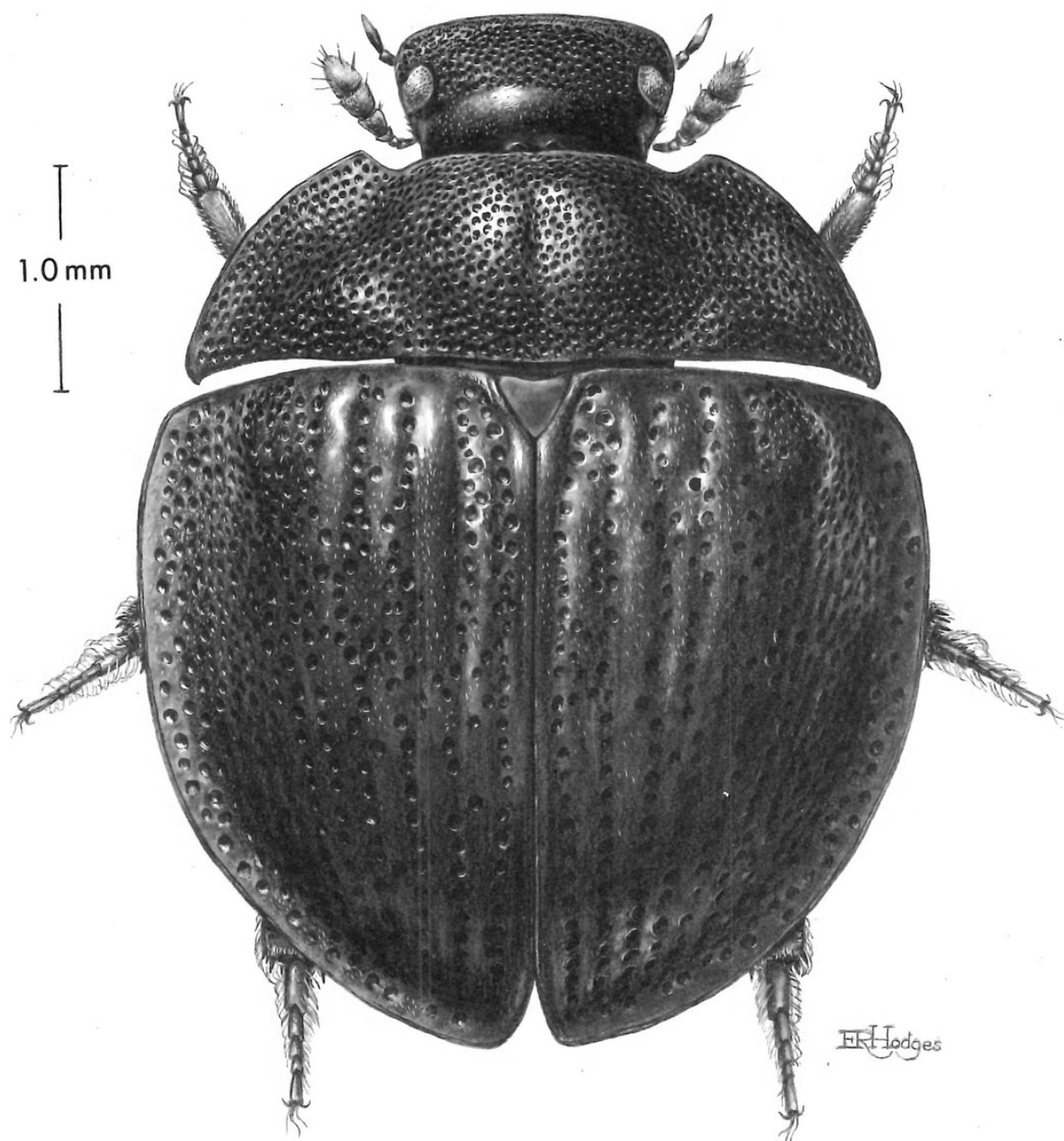


Fig. 1. *Kruia chrysopelma*, n. gen., n. sp., holotype, habitus view.

bearing two large posteromedial mammilliform processes in front of metacoxae. In contrast, *Dactylosternum* is black or black and red; usually strongly convex; elytra distinctly striate or with rows of punctures; punctures small; or moderate in width; elytral and pronotal margins not explanate, eyes may be moderately emarginate; antenna 9 segmented; edge of clypeus not exceptionally broad and not upturned anteriorly; base of mesosternal process broadly separated from metasternum; tibia of middle legs lacking tuft of golden setae; metasternum without large posteromedial processes.

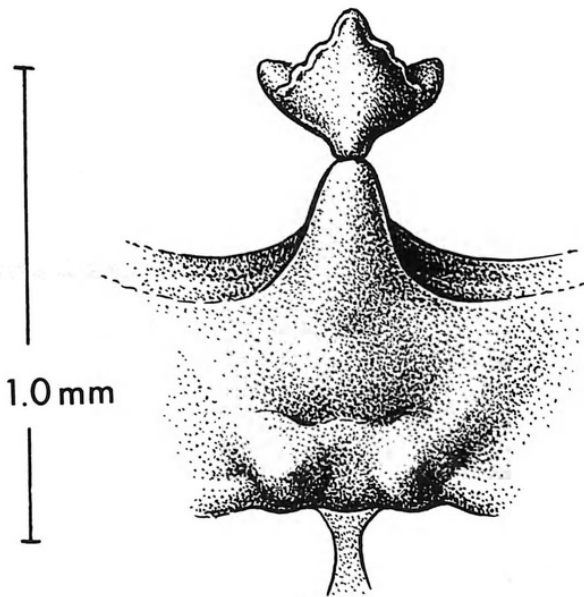


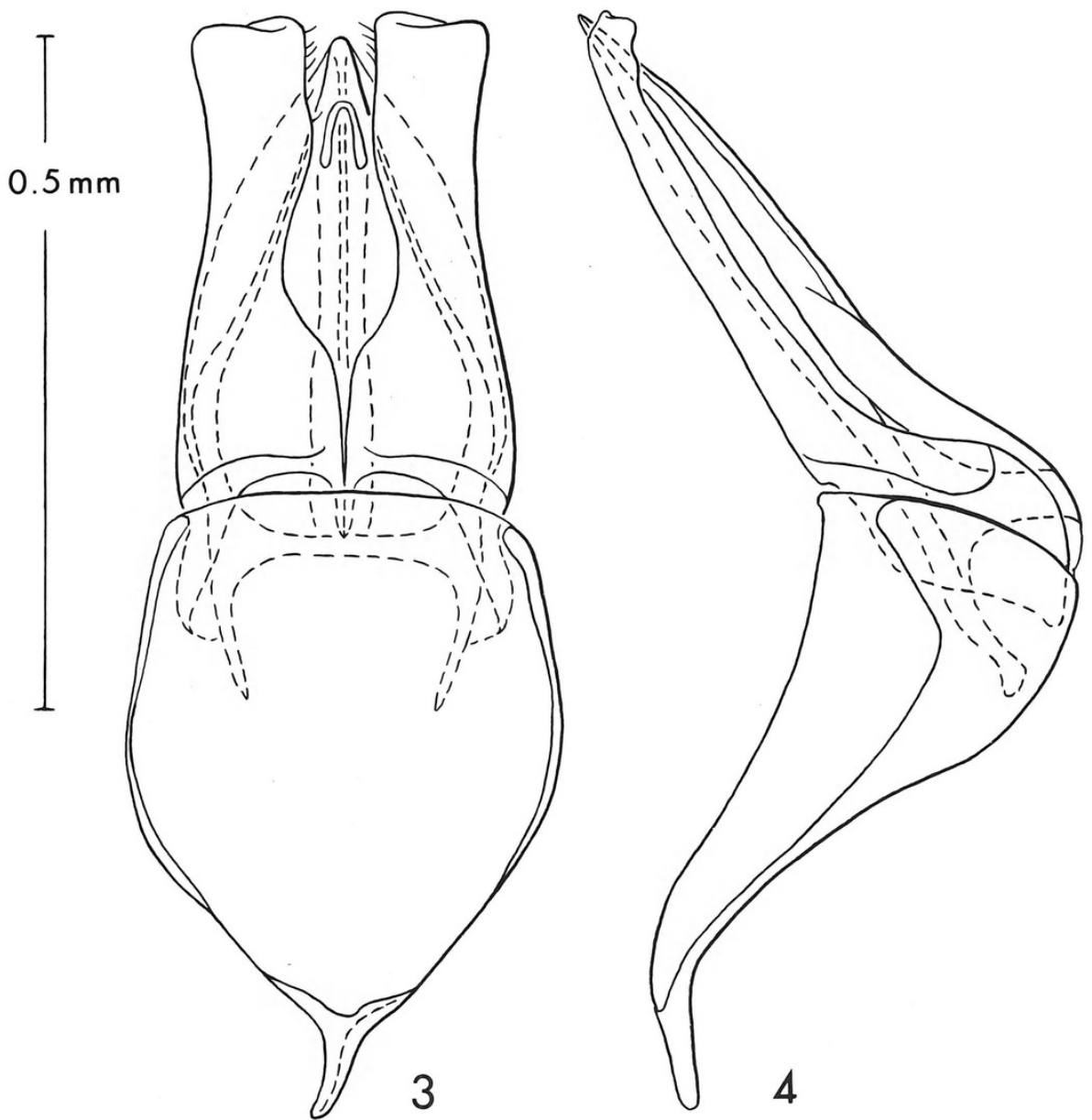
Fig. 2. *Kruia chrysopelma*, n. gen., n. sp., holotype, mesosternum and metasternum.

This new genus may be interpolated into d'Orchymont's key by referring to the following modified couplets.

- 12. Prosternum long in front of procoxal cavities; elytra striate or punctures in rows at least on apex 13
- Prosternum short in front of procoxal cavities; elytra without striae or rows of punctures *Dactylostethus* d'Orchymont
- 13. Eyes without canthus; mesosternum not sagittate 14
- Eyes sometimes with canthus; mesosternum sagittate 13a
- 13a. Antenna 8 segmented; elytral margins strongly explanate; clypeal margin upturned; base of mesosternal process narrowly articulates with metasternum *Kruia*, n. gen.
- Antenna 9 segmented; elytral margins not explanate; clypeal margin not upturned; base of mesosternal process broadly articulated with metasternum *Dactylosternum* Wollaston

***Kruia chrysopelma*, new species**
(Figs. 1-4)

Body form (Fig. 1) broadly rounded; apicolateral halves of margins of pronotum and entire elytral margins broadly explanate. Length 6.8 mm; greatest width 5.5 mm slightly behind midlength. Color of dorsum dark reddish brown except head and pronotum almost piceous and explanate margins of elytra lighter reddish brown. Venter dark reddish brown with labrum, labium, and maxillae lighter reddish brown; antennae and maxillary and labial palpi testaceous.



Figs. 3-4. *Kruia chrysopelma*, n. gen., n. sp., holotype, male genitalia. Fig. 3, Ventral view. Fig. 4, Lateral view.

Head very coarsely, densely punctate; punctures as wide or slightly wider than basal width of ultimate segment of maxillary palpus and separated by about one-third width of a puncture. Clypeus greatly expanded shelflike in front of eyes, expanded laterally as a canthus extending to midlength of eye; anterior margin subtruncate, slightly arcuate laterally; covering all except anterior margin of labrum. Labrum truncate, setose apically, and finely densely punctate. Ventral surface of head with genae microalutaceous; mentum and stipes coarsely, densely punctate and bearing dense, long, golden setae. Antenna and maxillary palpus as described for genus. Labial palpus

3 segmented; basal segment small, about one-fourth length of second segment; second segment broader than basal segment and bearing a dense tuft of golden setae encircling apex; third segment about half as long as second segment and bearing a tuft of golden setae on apex.

Pronotum slightly narrower at base than base of elytra; about three times wider than long at middle of disc; strongly arcuate laterally; sides narrowly margined; discal area strongly swollen and shallowly broadly longitudinally grooved on midline; punctures larger than those on head and those on disc slightly more widely separated; with a few fine sparse punctures on intervals between coarse punctures. Anterolateral and posterolateral angles obtuse; hypopleura broad, almost vertical, and microreticulate.

Scutellum a moderately large isosceles triangle with base wider than length of sides; bearing two moderately coarse punctures.

Elytron broad, moderately convex, strongly explanate laterally; shining; with broad sutural stria; bearing 10 or 11 rows of very coarse punctures, confused on base and only slightly more distinct apically; humerus swollen; with indications of 3 subcostate intervals on base between humerus and suture. Epipleuron wide; with dense transverse striolae; almost vertical opposite mesosternum and metasternum then becoming almost horizontal to apex.

Prosternum, mesosternum, and metasternum as described for genus. Front, middle, and hind legs with femora microalutaceous; with coarse, sparse punctures; each puncture bearing a short golden seta. Middle and hind tibiae arcuate, narrow at base and diverging strongly to apex; ventral surface with several rows of golden setae along margins and other golden setae scattered between rows. Tarsi with long, dense, golden setae ventrally; basal metatarsal segment longest, about twice as long as second segment; second segment slightly less than third and fourth segments combined; fourth segment shortest; fifth segment as long as third and fourth combined; tarsal claws small, equal in length, and rather strongly curved.

Abdominal sterna with very short dense golden setae; except sparse on middle of second through fifth sterna. First sternum with low, distinct carina on basal five-sixths. Last sternum rounded.

Genitalia as illustrated (Figs. 3 and 4).

Female.—Unknown.

Etymology.—*chrysopelma*, from *chrysos*, G.—gold, plus *pelma* from *pelma*, G.—sole of the foot; in reference to the long, dense, golden setae on the ventral surface of the tarsi.

Type-data.—Holotype male.—LIBERIA, Bendija, Smithsonian Firestone Exp. 1940, W. M. Mann; USNM Type No. 75668, deposited in the National Museum of Natural History, Smithsonian Institution.

Acknowledgments

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Literature Cited

- d'Orchymont, A. 1937. Sphaeridiini: bromeliadicoles nouveaux (Coleoptera: Hydrophilidae, Sphaeridiinae). Ann. Mag. Nat. Hist. ser. 10, 20:127-140, 2 figures.
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SCIENTIFIC NOTE

NOTES ON NEARCTIC *HELICHUS* (COLEOPTERA: DRYOPIDAE)

The genus *Helichus* Erichson was established for the nearctic species *lithophilus* (Dryops) Germar in 1847. Since that time almost sixty names and descriptions have appeared for species from nearly all continents, which have been assigned to that genus. In the Nearctic Region alone approximately twenty names have been proposed.

Revisionary studies of the nearctic forms are still incomplete; nevertheless, some facts may be securely presented at this time.

A small complex of species exists within the "lithophilus group" of Hinton (1935, Pan-Pac. Entomol., 11:71), consisting of *striatus* LeConte, *foveatus* LeConte, and *columbianus* W. J. Brown. For almost half a century all three names have been considered as applying to a single species population occurring transcontinentally in North America (cf. Brown, H. P., 1972, USEPA Water Poll. Control Res. Ser. 18050ELD04/72:1-82).



Spangler, P J and Perkins, Philip D. 1981. "A new genus and species of water scavenger beetle from Africa (Coleoptera: Hydrophilidae: Sphaeridiinae)." *The Pan-Pacific entomologist* 57(1), 220–226.

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