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CORYPUS KAVANAUGHI, N. SP., A LARGE-BODIED CHORDEUMATOID MILLIPED FROM IDAHO, WITH A REVIEW OF THE GENUS (CONOTYLIDAE)

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ABSTRACT

Corypus kavanaughii, n. sp., is described from Clearwater County, Idaho; rediagnoses are provided for the genus and the type species, *C. cochlearis* Loomis & Schmitt, from northern Sanders County, Montana. *Corypus* occupies an area along the border between Idaho and Montana that is approximately 80 mi (128 km) in length; a prior record of females of *C. cochlearis* from Missoula County, Montana, is discounted.

While organizing the diplopod collection at the California Academy of Sciences (CAS) in 1996, I discovered two samples of a large-bodied chordeumatoid from Idaho, among the largest ordinal representative that I have ever seen. Examination of the male revealed that the millipeds are conotylids and represent a second species of *Corypus* Loomis & Schmitt, currently known only from the type species, *C. cochlearis* Loomis & Schmitt. I present herein a description of the new species, as well as new diagnoses of the genus and *C. cochlearis*.

Genus *Corypus* Loomis & Schmitt

Corypus Loomis & Schmitt, 1971:123. Shear, 1976:19.

Type species: *Corypus cochlearis* Loomis & Schmitt.

Diagnosis: Moderate-size to large, robust conotylids (12-23 mm in length), generally gray to black in color; anterior and midbody tergites with strong, distinct paranota, latter becoming short and indistinct caudad, absent from caudalmost tergites, dorsal setae moderately long and heavy, straight; legpairs 3-4 with femoral knobs; anterior gonopod sternum undivided; anterior gonopods smaller than posterior gonopod colpocoxites, fitting under overlapping ventral margin of latter, lateral margin either crenulate or with numerous long, filamentous projections, caudal surface either smooth or with tufts of filamentous projections; colpocoxites of posterior gonopods larger than anterior gonopods, ventral margin curving anteriorly over latter, prefemur either fused with coxa or short and indistinct, distal article of normal form for family, moderately setose.

Species: Two are known, but more may occur in northern Idaho and Montana.

Distribution: Occurring along the boundary between Idaho and Montana; the areas of the two known species are separated by some 80 mi (128 km) (Fig. 1).

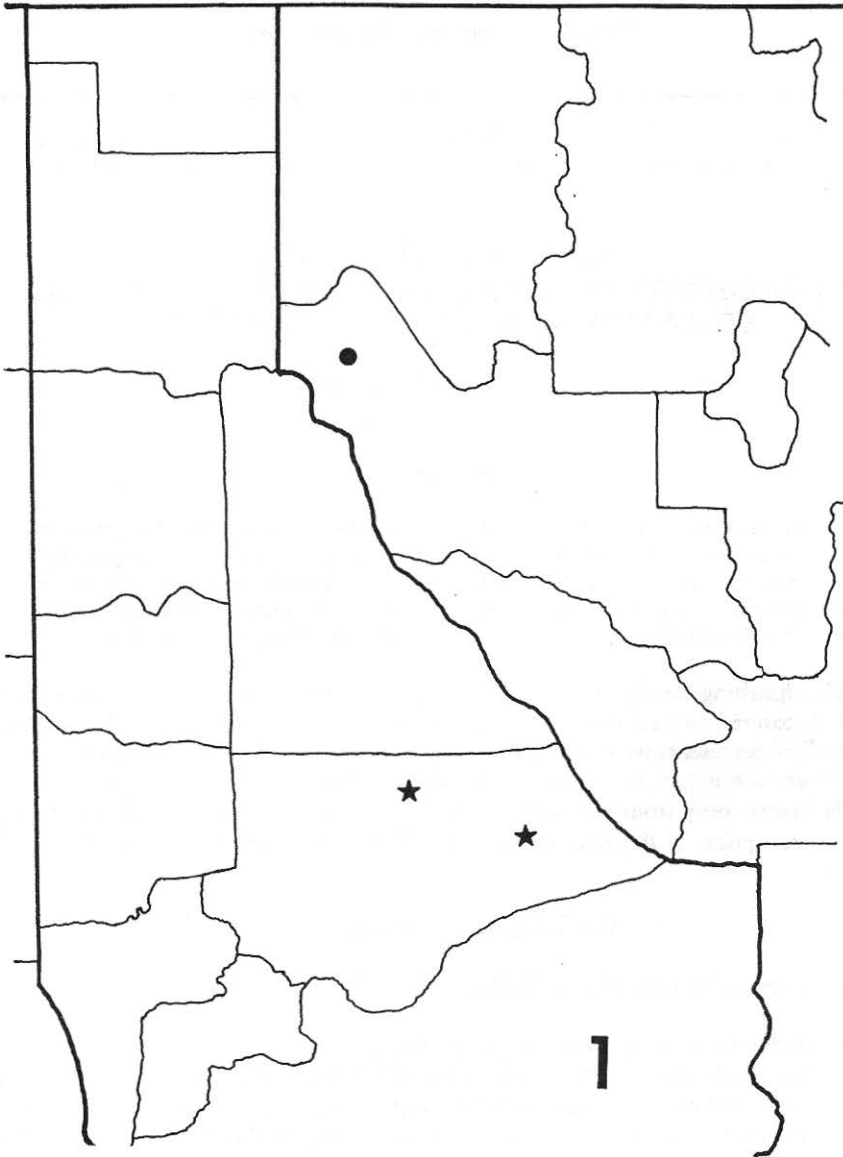


Fig. 1. Distribution of *Corypus*. Dot, *C. cochlearis*; stars, *C. kavanaughi*.

Remarks: Much of eastern Idaho and western Montana is rugged and remote, the only access being along unpaved U. S. Forest Service roads. The areas along the few major highways have been relatively well sampled, but sizeable areas have not been investigated, and additional species of *Corypus* and other chordeumatoid genera probably await discovery in secluded spots.

Shear (1976) correctly noted that *Corypus* is related to *Austrotyla* Causey and distinguished them by the proportions of the gonopods, the posterior colpocoxites being larger than the anterior gonopods in *Corypus*, while the reverse is true in *Austrotyla*. I concur in this judgement and believe that the larger size and stronger paranota also distinguish *Corypus*. *Austrotyla* is widely distributed, extending from Alberta, Canada, to Chihuahua, Mexico, with a cave species in the northern Mississippi Valley (Shear 1971), whereas *Corypus* is localized in the area shown in fig. 1.

Corypus cochlearis Loomis & Schmitt

Corypus cochlearis Loomis & Schmitt, 1971:125, figs. 16-18. Shear, 1876:19, figs. 41-42.

Type specimens: Male holotype and one female paratype (National Museum of Natural History, Smithsonian Institution) and one female paratype (Florida State Collection of Arthropods, Gainesville) collected by R. Schmitt, 9 August 1965, along Finnigan Creek, 2 mi (3.2 km) W Noxon, Sanders County, Montana. According to Loomis & Schmitt (1971), the type series originally consisted of eight females and two juveniles in addition to the holotype; six of the females and the juveniles are therefore lost.

Diagnosis: A small-sized species, 12-16 mm in length; anterior gonopod narrowing greatly distad, caudal surface with short, knob-like dorsal projection, lateral and distomedial margins crenulate, caudal surface smooth and unmodified; overhanging ventral margin of posterior gonopod colpocoxite relatively long and broad, edge irregular, prefemur fused with coxa.

Distribution: Known definitely only from the type locality. Loomis & Schmitt (1971) assigned females from the Garnet Range near Bonner, Missoula County, to *C. cochlearis*, but without males, this determination must be discounted. The site is some 120 mi (192 km) SE of the type locality, farther away than the localities of *C. kavanaughi*, and these specimens may represent *Adrityla cucullata* Loomis & Schmitt (Adritylidae), another large-bodied chordeumatoid that occurs in Missoula County.

Corypus kavanaughi, new species

Figs. 2-8

Type specimens: Male holotype and five female paratypes (CAS) collected by D. H. Kavanaugh, 16 August 1988, along Isabella Creek in the Clearwater Mountains, Clearwater National Forest, ca. 0.2 mi (0.4 km) north of the North Fork Clearwater River and 18 mi (28.8 km) NE Headquarters, Clearwater County, Idaho.

Diagnosis: A large, robust species; anterior gonopod of equivalent width throughout length, caudal surface without dorsal projection, with numerous filamentous projections arising distad and from distolateral margin; overhanging ventral margin of posterior gonopod relatively short and narrow, edge smooth, prefemur short, indistinct.

Color in life: Epicranium mottled black; collum essentially unpigmented, faintly brownish mediad, becoming slightly darker along caudal margin; 2nd tergite light gray caudomedial, expanding along caudal margin and fading laterad; 3rd and remaining tergites with broad gray to black pigmentation mediad forming subcontinuous longitudinal stripe, lighter laterad and slightly darker on lateral margins of paranota (Figs. 2-4).

Description: Holotype ca. 21.7 mm long. Ocelli 23 in four rows. Antennae long and slender, reaching back to near caudal margin of 5th metatergite, relative lengths of antennomeres 3>4>5>2>6>1>7. Paranota arising on 2nd tergite, strong and distinct through tergite 23, fading on 24-26 and absent from 27-30. Legpairs one and two reduced; legpairs three-seven long and slender, subequal in length to postgonopodal legs, three-four with distinct femoral knobs; tenth legs with short, broad coxal lobes; remaining legs unmodified. Anterior

gonopods (Figs. 5-6) smaller than posterior gonopod colpocoxites, not narrowing distad, with triangular spur on medial margin, distomedial margin extending as cupulate projection, distolateral margin folded caudad and divided into numerous comb-like, filamentous projections, additional tufts of filamentous projections arising centrally from caudal surface. Posterior gonopod colpocoxite a broad, quadrate, plate-like structure, cupped anteriorly, ventral margin curving anteriorly over anterior gonopods *in situ*; prefemur short, indistinct.

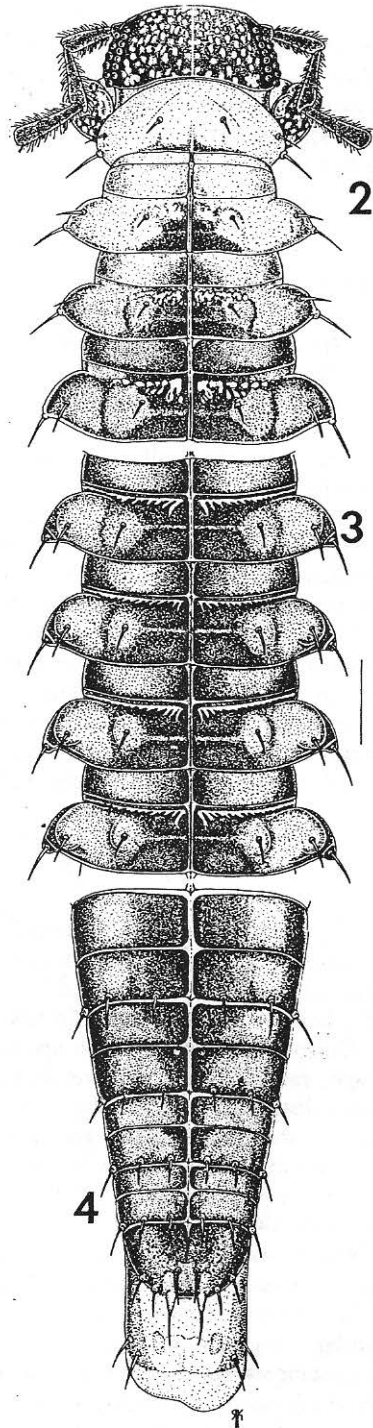
Females slightly longer than male, ca. 22.5-23.0 mm.

Ecology: The specimens were found under rocks on sandy substrates of creek banks in the upper end of the riparian zone; the banks were lined with alders. The types were at 1,673 ft. (510 m) elevation; the other specimen was at 3,444 ft. (1,050 m) elevation.

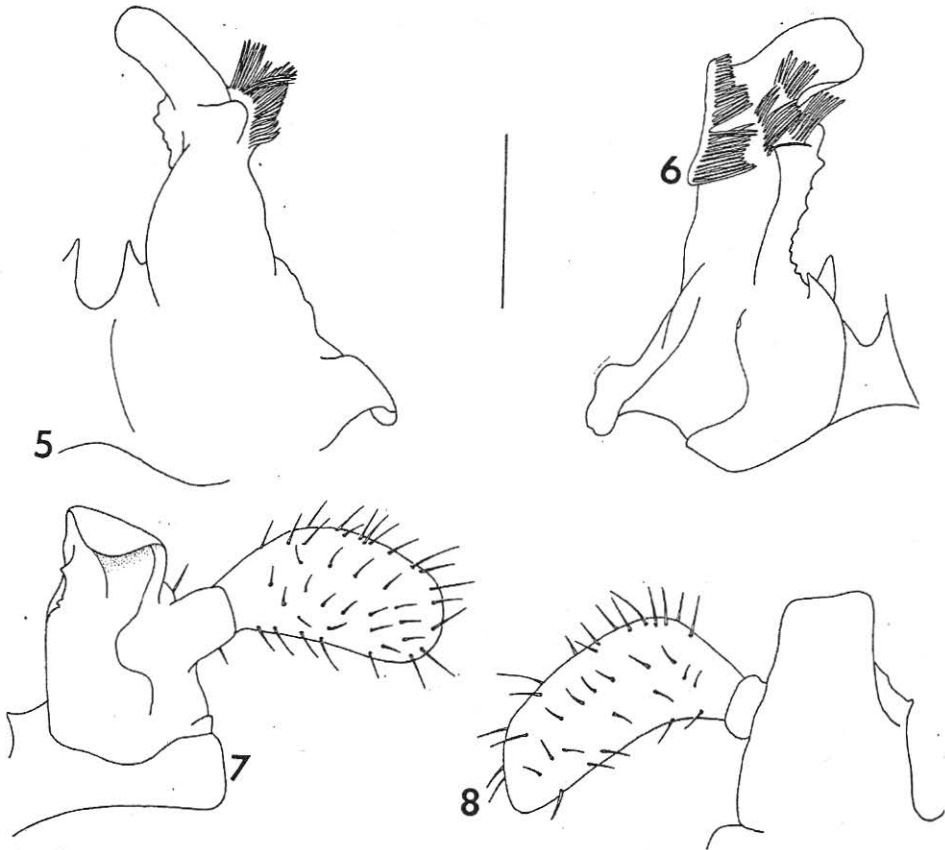
Distribution: Known only from Clearwater County, Idaho. In addition to the types, a female, tentatively assigned to *C. kavanaughi*, was examined from the following site, which is around 23 mi (36.8 km) ESE of the type locality:

IDAHO: Clearwater Co., along Moose Cr. in Moose Mtns., Clearwater Nat. For., ca. 0.2 mi (0.4 km) "below" Independence Cr. and 35 mi (56 km) ENE Headquarters, F, 16 August 1988, D. H. Kavanaugh (CAS).

Remarks: The species is named for the collector, D. H. Kavanaugh, in recognition of his diplopod sampling in general for over 20 years. Dr. Kavanaugh has sampled extensively in the northwestern United States and western Canada in conjunction with his research on carabid beetles, and our knowledge of the fauna of southern Alaska and the Pacific Coast of the northern British Columbia mainland is largely due to his efforts.



Figs. 2-4. Pigmentation patterns of anterior, midbody, and caudal tergites of *C. kavanaughi*. Scale line = 1.00 mm for all figs.



Figs. 5-8. *Corypus kavanaughi* gonopods. 5, right anterior gonopod, anterior view. 6, the same, caudal view. 7, right posterior gonopod, anterior view. 8, the same, caudal view. Scale line = 0.42 mm for figs. 5-6, 0.50 mm for 7-8.

ACKNOWLEDGEMENTS

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