PROC. BIOL. SOC. WASH.
91(2), 1978, pp. 472–482

# THE REASSIGNMENT OF *CAMBARINCOLA ELEVATUS* GOODNIGHT, 1940, (CLITELLATA: BRANCHIOBDELLIDA) TO THE GENUS *SATHODRILUS* HOLT, 1968

Perry C. Holt

*Abstract.*—*Cambarincola elevatus* Goodnight, 1940, is transferred to the genus *Sathrodrilus* Holt, 1968, redescribed, illustrated, its affinities discussed and its distribution recorded.

---

We have long known that *Cambarincola elevatus* Goodnight, 1940, widespread and common in the Midwestern states of the United States, is not a member of the genus *Cambarincola* (Hoffman, 1963:276). An attempt at an adequate diagnosis and a redescription of the species would seem, then, to be overdue. This paper is written to redress my oversight in not including *elevatus* in the report in which I erected the genus *Sathodrilus* (Holt, 1968b) and to fulfill Hoffman's promise that I would do so. Although no effort will be made herein to speculate about the relationships of the genera *Cambarincola*, *Sathodrilus* and their relatives, this report may incidentally contribute to a clarification of these related, speciose and taxonomically confusing genera.

Other than Hoffman's (1963) passing reference to *elevatus* and the possibility of its mention in keys to the invertebrates of the area or compendia that I have not seen, nothing has been written about the species since Goodnight's (1940:35) original description.

Many specimens from 48 collections taken in 8 states have been studied, but the principal material, including two sets of serial sections, on which the following is based was collected in Olmstead County, Minnesota. All of this material is in the collections of the Center for Systematics Collections, Virginia Polytechnic Institute and State University, identified by the initials "PCH." All collections, unless otherwise credited, were taken by my wife and me. Drawings were done with the aid of a camera lucida and all are oriented with the anterior part to the reader's right. Measurements taken with an ocular micrometer are best regarded as approximations. Locality data include hosts in most cases; for some collections the hosts were not received by me or were (e.g., those taken with the Popes in 1956) inadvertently discarded or lost.

I am indebted to the National Science Foundation (grants 4439 and 9828) and the Department of Biology, VPI & SU, for financial support. Dr. Horton H. Hobbs, Jr., identified the host crayfishes and reviewed the manuscript. Prof. Richard L. Hoffman first called my attention to the

inappropriateness of the generic assignment of the species. My wife, Virgie F. Holt, contributed to the collecting. I am grateful to all.

*Sathodrilus elevatus* (Goodnight, 1940), new combination
Figs. 1–4

*Cambarincola elevata* Goodnight, 1940.
? *elevata*.—Hoffman, 1963.

*Type-specimens*.—"Holotype: From Leaf River, Ill. on *Cambarus virilis*. Paratypes: From Macoupin Creek near Carlinville, Ill., on *Cambarus virilis*; Buck Creek near Penfield, Ill., on *C. virilis*; Leaf River near Byron, Ill., on *C. virilis*; Seven Mile Creek, Rock River Drainage, Ill., on *C. virilis* and *C. propinquus*; and Lake Geneva, Wis., on *C. virilis* . . . . The holotype will be deposited in the United States National Museum and paratypes in the collection of Dr. H. J. Van Cleave, of the University of Illinois, and in the collection of the writer" (Goodnight, 1940:35).

*Diagnosis*.—Small to medium-sized branchiobdellids (average length of 5 typical specimens, 2.2 mm); with dorsal ridge on segment VIII, none on major annuli of other segments; lips with slight median emarginations; no oral papillae; jaws small, dental formula 5/4; bursa elongate, both ectal and ental ends less in diameter than median part; approximately ⅗ body diameter in length; penial sheath about ⅔ total bursal length; spermiducal gland long, approaching body diameter in length, without deferent lobes; prostate present, prominent, about ⅔ spermiducal gland in length, subequal in diameter; spermatheca about body diameter in length, with spermathecal bursa, with thick, muscular ectal duct, with glandular cylindrical bulb with narrow lumen, no ental process.

*Description*.—*Sathodrilus elevatus* is composed of rather stout worms which are of moderate size among its congeners. Five specimens from the Olmstead County, Minnesota, locality have the following approximate dimensions in mm (averages followed by ranges in parentheses): total length 2.2 (1.9–2.5); greatest diameter 0.4 (0.3–0.5); head length 0.4 (0.4–0.4); head diameter 0.3 (0.2–0.3); diameter segment I 0.3 (0.2–0.3); diameter sucker 0.3 (0.2–0.3).

The body outline (Fig. 1) is smooth, with the exception of the dorsal ridge of segment VIII, which is provided with 3 or 4 strands of supernumerary muscles which the other segments lack. The anterior nephridiopore is not prominent. The peristomium is divided into dorsal and ventral lips, each with a slight median indentation: there are no lobes of the lips or oral papillae. The head is usually marked by one weak external sulcus exclusive of the peristomial one; internally there is one pharyngeal sulcus. The jaws are small, usually light in color, and the teeth are dif-

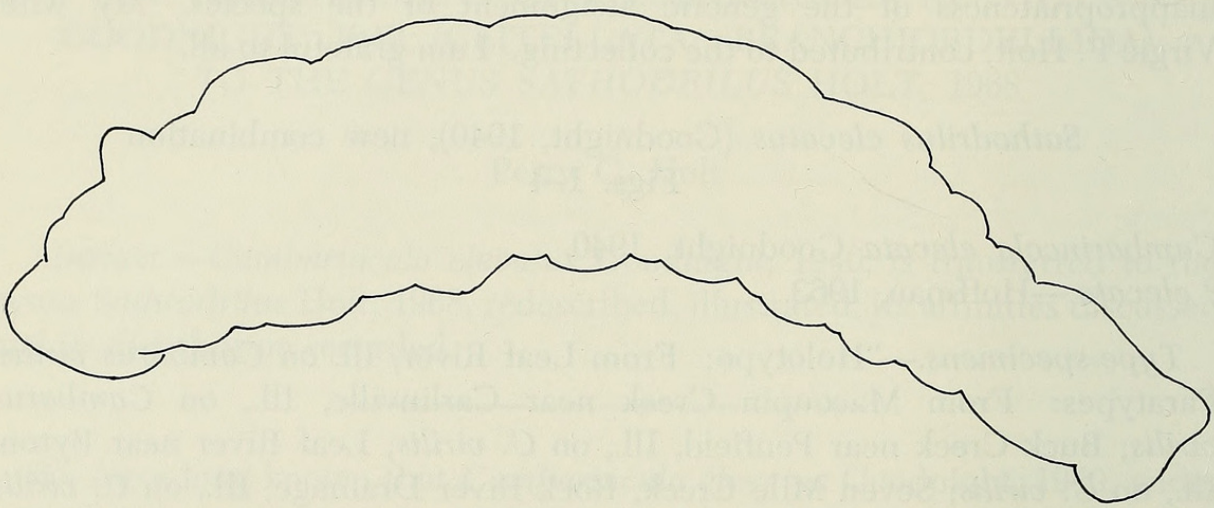

Fig. 1. *Sathodrilus elevatus*. Outline of specimen from Olmstead County, Minnesota (PCH 792).

ficult to count. In specimens mounted entire, it is usually impossible to count them, but in some the dental formula is 5/4 and this is probably the characteristic number for the species. The bases and anterior faces of the jaws are concave and the undamaged teeth (many are broken or worn) are, relative to the size of the jaws, sharp and prominent.

The spermiducal gland is long and thick without deferent lobes (Fig. 2) and tapers markedly to its juncture with the ejaculatory duct (cf. Fig. 3a). In both illustrations, this feature was impossible to fully present because of the relative positions of the organ. Otherwise, the gland is without peculiarities. The prostate is large, lying along the mid-portion of the spermiducal gland. It is subequal in diameter to the latter at its mid-length and entally there is a prostatic bulb. Adhering closely to the middle third of the spermiducal gland, the prostate thus arises at some distance from the junction of the spermiducal gland and the ejaculatory duct.

The ejaculatory duct is a muscular tube, noticeably expanded along its mid-length, narrowing towards its ental and ectal junctions with the spermiducal gland and bursa (Fig. 2). The mid-portion of the duct, in addition to an outer layer of longitudinal muscle, is furnished with a thick layer of radial muscles (cf. Holt, 1977:123, Fig. 3).

The bursa is long, noticeably wider at the junction of its penial sheath and atrial parts. The penial sheath comprises about ⅔ of the organ and encloses the eversible penis (Fig. 4). The latter is a double-walled, eversible cuticular sac, with cytoplasmic strands connecting its inner and outer walls. Entally, the lumen of the penis, near the point where it becomes the lumen of the ejaculatory duct, is thrown into folds and is surrounded by denser tissue, presumably a continuation of the epithelial lining of the ejaculatory duct.

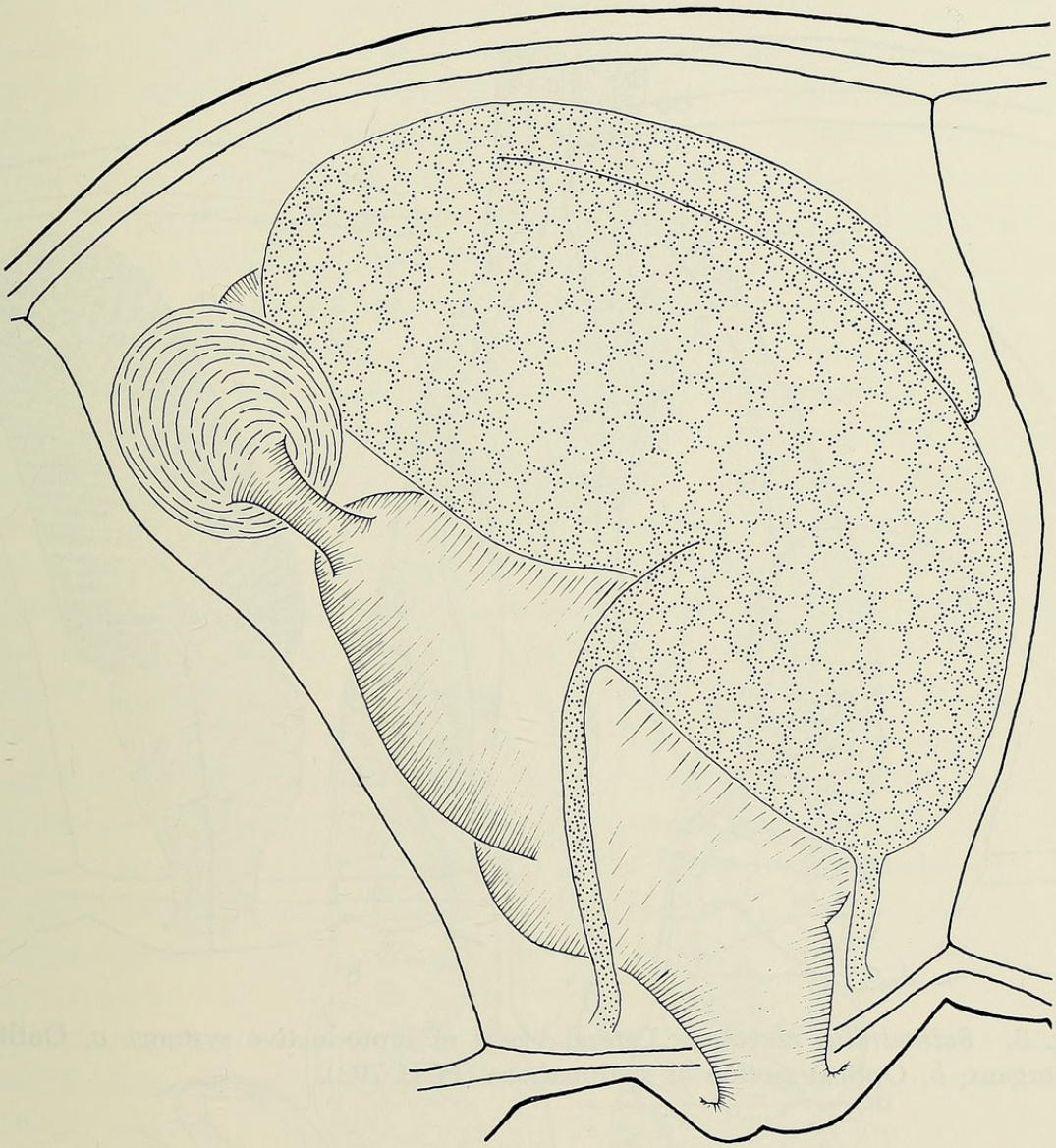

Fig. 2. *Sathodrilus elevatus.* Lateral view of male reproductive system (PCH 792).

The spermatheca (Fig. 3b) is prominent. Its ectal part (the ectal duct) is heavily muscular with a spermathecal bursa (Holt, 1960:64) which continues entally, beyond an expended lumen similar to the atrial region of the bursa, as a muscular spermathecal duct of comparable diameter. The spermathecal bulb is set off from the spermathecal duct by a deep annular constriction. The bulb encloses a narrow lumen; its bulk is principally composed of a columnar epithelium. The inner ends of the cells composing this epithelium almost obliterate the lumen of the organ. Only a few masses of spermatozoa are normally found in the lumen of the bulb. There is no ental process of the spermatheca.

*Variation.*—There is the usual amount of apparent variation attributable to the position of the organs of the reproductive systems at death, degree

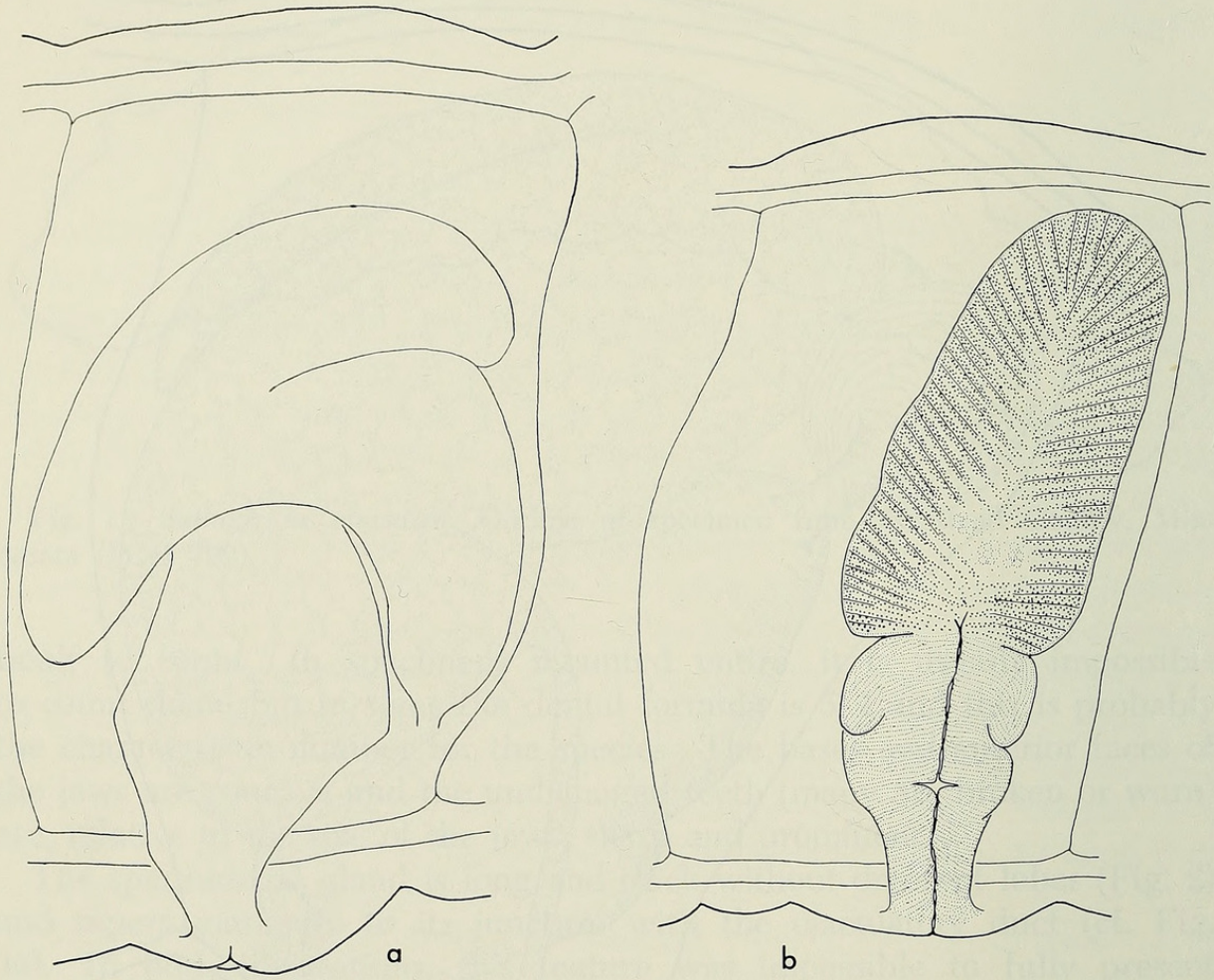


Fig. 3. *Sathodrillus elevatus*. Lateral views of reproductive systems. *a*, Outline of male organs; *b*, Optical section of spermatheca (PCH 792).

of contraction and differences produced by different killing-preservative agents (the description presented above is based upon animals collected in ethanol-formalin). In some specimens the jaws are much darker in color than in most; as noted the teeth are often broken and in many specimens the dental formula appears to be, but probably is not, ½. The unwary may be misled as to the point of origin of the prostate: in specimens in which the ectal end of the spermiducal gland is obscured, the two glands may appear to arise from their juncture with the ejaculatory duct. Among the specimens collected by my wife and myself, there is no consistency of apparent variations with geographical distribution; among those collected by others the variability is attributable to the use of weaker solutions of alcohol as a killing-preservative agent.

*Affinities.*—*Sathodrilus elevatus* is the twelfth species to be assigned to the genus (Holt, 1968; 1973; 1977) and other species are known to me, but remain for future naming and description. Among these 12 species with a recognizable prostate (Holt, 1977:121), *S. norbyi* Holt, 1977, is provided

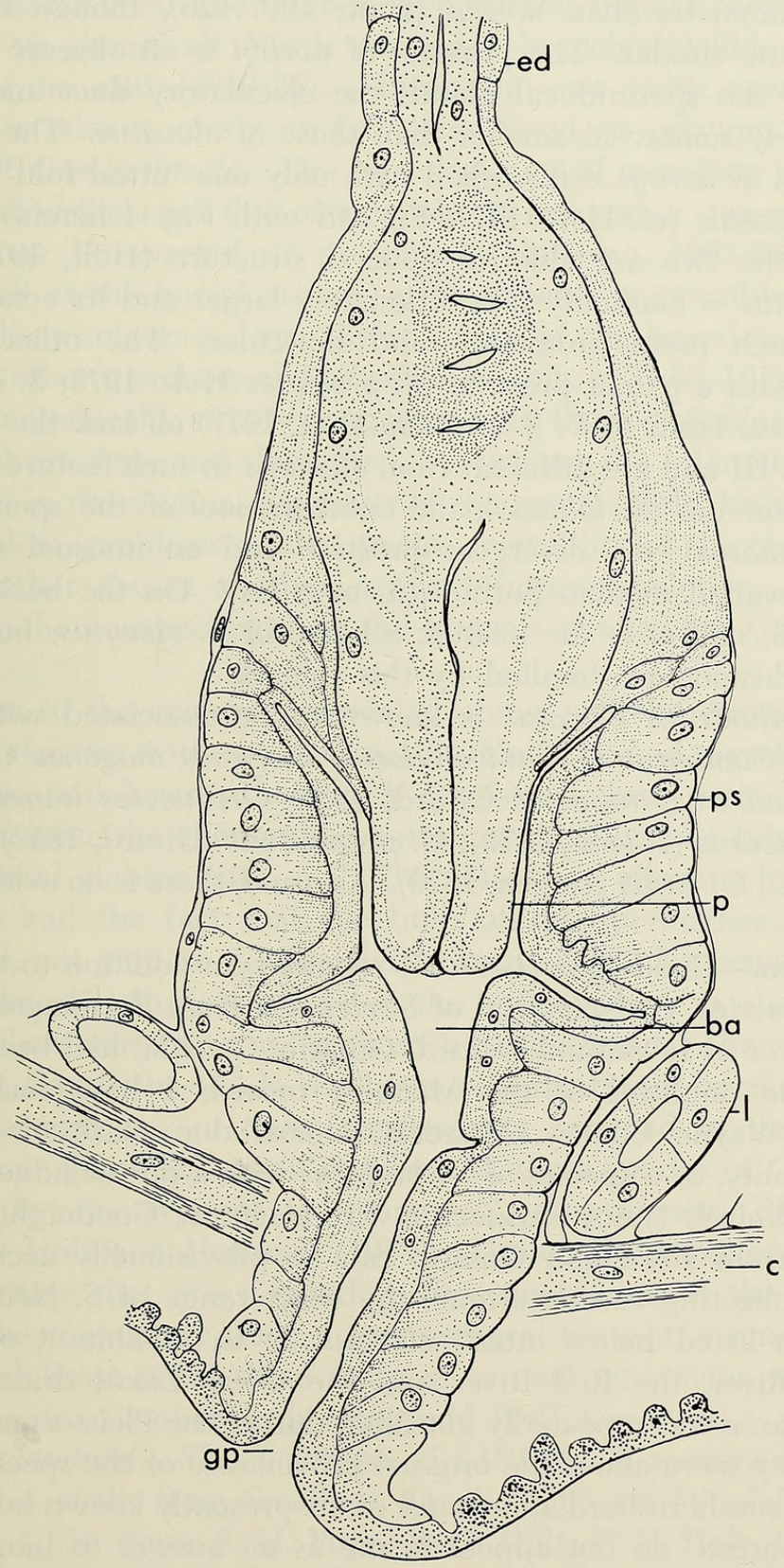


Fig. 4. *Sathodrilus elevatus*. Median section of bursa and penis from transverse sections (PCH 792). Abbreviations: *ba*, bursal atrium; *c*, circular muscle of body wall; *ed*, ectal end of ejaculatory duct; *gp*, male gonopore; *l*, longitudinal muscle of body wall; *p*, penis; *ps*, penial sheath of bursa (PCH 792).

with a dorsal ridge on segment VIII. *S. elevatus* is slightly larger in both length and diameter than *norbyi* (Holt, 1977:126), though the two are externally quite similar. The prostate of *norbyi* is an obscure lobe of the ental end of the spermiducal gland; the ejaculatory duct and bursa are proportionately somewhat smaller than those of *elevatus*. The wall of the bursal atrium of *norbyi* is furnished with only one "atrial fold" as opposed to two in *elevatus* (cf. Holt, 1977, Fig. 4d with Fig. 4 herein). The spermatheca of the two are alike in general structure (Holt, 1977:127), but that of *elevatus* is markedly proportionately larger and its ectal bursa and duct are much more prominent and muscular. The other species of *Sathodrilus* with a patent prostate (*S. prostates* Holt, 1973; *S. dorfus* Holt, 1977; *S. lobatus* Holt, 1977; *S. virgiliae* Holt, 1977) all lack the dorsal ridge on segment VIII and are different from *elevatus* in such features as lobation of the peristomium (*S. lobatus*), the ental process of the spermatheca (*S. dorfus*, *S. lobatus*), the divergent prostate and an unusual spermatheca with a thin-walled median portion (*S. virgiliae*). On the basis of present knowledge, *S. norbyi* is the nearest relative of *S. elevatus*, but no phylogenetic conclusions are implied by this remark.

*Hosts.*—*Sathodrilus elevatus* is known to be associated with 7 species of crayfish: *Cambarus* (*Lacunicambarus*) *diogenes diogenes* Girard, 1852; *C.* (*Puncticambarus*) *robustus* Girard, 1852; *Orconectes immunis* (Hagen, 1870); *O. obscurus* (Hagen, 1870); *O. propinquus* (Girard, 1852); *O. rusticus* (Girard, 1852); *O. virilis* (Hagen, 1870). As usual, there is no evidence of host specificity.

*Distribution.*—Goodnight (1940:35) reported, in addition to the localities for the type-series, that material of *S. elevatus* from Farmington, Missouri; the Iowa River in Iowa; and Oxford, Ontario, Canada, had been examined. I am a little doubtful of the Missouri record; I have material (PCH 1467) from Wayne County, Missouri, almost due south of Farmington, Francois County, of a species of *Sathodrilus* with a dorsal ridge on segment VIII that definitely is not conspecific with *elevatus*. Goodnight's records of the species from Iowa and Ontario can be provisionally accepted. Only additional collecting can determine the exact range of *S. elevatus,* but as the localities listed below attest, *elevatus* is an inhabitant of the upper Mississippi River, the Red River and the Great Lakes drainages. Since most of this area was repeatedly glaciated during the Pleistocene epoch, it is fruitless to say more about the original provenance of the species than that it was at the southern border, or south of, its presently known home: refugia in "driftless areas" do not appeal to me as an answer to biogeographical problems as long as there are any other possible answers.

*Remarks.*—Goodnight (1940), and most prior students of the branchiobdellids of North America, tended to ignore the not well understood structures of the reproductive systems of the animals. His descriptions of the

external appearance and jaws of *S. elevatus* are entirely concordant with mine; his remarks about the reproductive systems require comment. Mostly, they apply to almost all North American branchiobdellids and can be ignored, but he said (1940:35): "Bursa but not penis eversible." This statement was almost surely an inference based on previous observations of species of *Cambarincola.* The bursal atrium of members of *Cambarincola* and *Sathodrilus* (and that of members of most other genera) is everted; the penis may be everted or protruded (Hoffman, 1963:288–289). The penis, as well as the bursal atrium, of *S. elevatus* is eversible. This statement is itself an inference from the structure of the bursal-penial complex (Fig. 4). In other members of *Sathodrilus* (Holt, 1973:98–101) with bursae and penes anatomically strictly congruent with those of *S. elevatus*, everted penes have been seen and illustrated, confirming the inference amounting to prediction in the original diagnosis of the genus (Holt, 1968:294). There are, nonetheless, problems related to the eversibility of the penis in *Sathodrilus* and other genera that must await future resolution; the question before us is the conspecificity of the animals studied by Goodnight and myself.

In addition to the evidence presented above and the comparison of the holotype of *elevatus* with my material by Hoffman and myself, Goodnight (1940:35) also said "spermatheca in V consists of three parts, a short muscular portion near the spermathecal pore, a short middle tubular portion, and large dorsal globose part. . . ." This statement, allowing for differences in language and the fact that the bulb of the spermatheca of *elevatus* is cylindrical, not globose (a superficial examination of specimens in which the spermathecal bulb does not lie in the optical plane as observed would lead to its characterization as "globose") is significant. The spermathecae of species of *Cambarincola* do not have a spermathecal bursa. *Sathodrilus elevatus* is a congener of those species now assigned to the genus that have a prostate gland and not a congener of those species of *Cambarincola* represented by the type of the genus, *C. macrodontus* Ellis, 1912, as emended by Holt and Hoffman (1959). The combination of an eversible penis, a prostate that arises entad to the commissure of the spermiducal gland and the ejaculatory duct, a spermathecal bursa, the small size of the worms, the delicate jaws; these features are not consonant with the concept of the genus *Cambarincola* (Holt and Hoffman, 1959).

*Material examined.*—The holotype; ILLINOIS: 2 specimens, PCH 897, on *Orconectes virilis* from Smallpox Creek, 17.05 km W of Elizabeth, Jo Daviess Co., C. H. Pope, S. H. Pope, P. C. Holt, V. F. Holt, 13 May 1956. Two specimens, PCH 898, on *O. propinquus* from Apple River, Apple River Canyon State Park, Jo Daviess Co., C. H. Pope, S. H. Pope, P. C. Holt, V. F. Holt, 13 May 1956. Ten specimens, PCH 894, on *O. virilis* from Kilbuck Creek, 17.2 km W of Kingston, Ogle Co., C. H. Pope, S. H. Pope,

P. C. Holt, V. F. Holt, 12 May 1956. Two specimens, PCH 805, on *O. immunis*, *O. propinquus*, and *O. virilis* from 14.8 km N of Danville, Vermillion Co., 25 July 1958. INDIANA: 2 specimens, PCH 803, on *O. propinquus*, 4.5 km SE of Fowler, Benton Co., 25 July 1958. One specimen, PCH 1199, on *O. propinquus*, 10.6 km W of Butler, DeKalb Co., 2 August 1960. Nine specimens, PCH 802, 10.3 km N of junction of Ind. Rte. 47 and Ind. Rte. 234 near Crawfordsville, Montgomery Co., 24 July 1958. One specimen, PCH 799, 2.8 km W of county line on U.S. Rte. 60, near Valparaiso, Porter Co., 24 July 1958. IOWA: 5 specimens, PCH 896, 15.9 km N of Saint Donatus, Dubuque Co., C. H. Pope, S. H. Pope, P. C. Holt, V. F. Holt, 12 May 1956. Six specimens PCH 895, on *O. propinquus* from S of St. Donatus at junction of Iowa Rte. 528 and Rte. 670, Jackson Co., C. H. Pope, S. H. Pope, P. C. Holt, V. F. Holt, 12 May 1956. MICHIGAN: 6 specimens, PCH 1177, on *O. propinquus* and *O. virilis* from 3.7 km W of Schoolcraft County line on Mich. Rte. 28, Alger Co., 29 July 1960. Seven specimens, PCH 1187, on *O. virilis* from Big Creek, 4.2 km N of junction of Mich. Rte. 65 and U.S. Rte. 23, near Twining, Arenac Co., 31 July 1960. Six specimens, PCH 1188 on *O. propinquus*, 2.7 km NE of Standish, Arenac Co., 31 July 1960. Two specimens, PCH 1190, on *O. propinquus* and *O. virilis* from Muskegon River, NW of Temple on Mich. Rte. 61, Clare Co., 1 August 1960, 3 specimens, PCH 1189, on *O. propinquus* from Molasses River, E of Gladwin, Gladwin Co., 31 July 1960. One specimen, PCH 1185, on *O. propinquus* from AuGres River, 5.0 km W of junction of Mich. Rte. 55 and Mich. Rte. 65, Iosco Co., 31 July 1960. Six specimens, PCH 1186, on *O. propinquus* and *Cambarus* (*P.*) *robustus* from 4.5 km N of Arenac County line, Iosco Co., 31 July 1960. Three specimens, PCH 1178, on *O. propinquus* from Sage River, Luce Co., 29 July 1960. Eight specimens, PCH 1193, on *O. propinquus* from Twin Creek, 17.7 km N of Baldwin, Lake Co., 1 August 1960. Five specimens, PCH 1180, on *O. propinquus* from Hay Meadow Creek, near Atlanta, Montmorency Co., 31 July 1960. Ten specimens, PCH 1181, on *C.* (*P.*) robustus and *O. propinquus* from Thunder Bay River, Montmorency Co., 31 July 1960. Seven specimens, PCH 1184, on *C.* (*P.*) *robustus* and *O. propinquus* from West Branch Rifle River, 11.9 km E of West Branch, Ogemaw Co., 31 July 1960. Five specimens, PCH 1191, on *O. propinquus* and *O. virilis* from Middle Branch Muskegon River near Marion, Osceola Co., 1 August 1960. Two specimens, PCH 1192, on *O. propinquus* and *O. virilis*, 1.0 km E of Tustin, Osceola Co., 1 August 1960. Five specimens, PCH 1182, on *O. propinquus* and *O. rusticus* from tributary to Au Sable River, 0.8 km N of Mio, Oscoda Co., 31 July 1960. Seven specimens, PCH 1195, on *O. propinquus*, 21 km NW of Hudsonville, Ottawa Co., 1 August 1960. MINNESOTA: 4 specimens, PCH 1146, on *O. virilis* from Buffalo River, 25.7 km E of Moorhead, Clay Co., 22 July 1960. Three specimens, PCH 1152, on *O. virilis* from Saint Francis River,

4.3 km NE of Foley, Benton Co., 26 July 1960. Five specimens, PCH 1154, on *O. virilis* from Ground House River at Ogilvie, Kanabec Co., 26 July 1960. Five specimens, PCH 1153, on *O. virilis* from West Branch Rum River, 4.2 km SW of Milaca, Mille Lacs Co., 26 July 1960. Eight specimens, PCH 792, on *Cambarus* (*L.*) *d. diogenes* and *O. virilis*, 9.5 km W of Eyota, Olmstead Co., 21 July 1958. Six specimens, PCH 1148, on *O. virilis* from Bluff Creek at Bluffton, Otter Tail Co., 23 July 1960. Five specimens, PCH 1149, on *O. virilis* from Leaf River between Bluffton and Wadena, Otter Tail Co., 23 July 1960. Five specimens, PCH 1150, on *O. virilis* from Wing River, 1.9 km NW of Verndale, Wadena Co., 23 July 1960. One specimen, PCH 790, on *O. virilis* from Clearwater River at crossing of Minn. Rte. 152, Wright-Stearns Co. line, A. G. Luker and P. C. Holt, 20 July 1958. OHIO: 7 specimens, PCH 1202, on *O. rusticus* from 2.4 km E of Wyandot County line on Rte. U.S. 30N, Crawford Co., 3 August 1960. Four specimens, PCH 1205, on *O. obscurus* from Beach Creek, 5.3 km W of Alliance, Stark Co., 3 August 1960. Five specimens, PCH 1204, on *O. s. sanbornii* 9.5 km W of Riceland, Wayne Co., 3 August 1960. Four specimens, PCH 1200, on *O. rusticus* 3.1 km W of Crawford County line on U.S. Rte. 30N, Wyandot Co., 3 August 1960. SOUTH DAKOTA: 7 specimens, PCH 789, on *O. virilis* and *O. immunis* at E side of Watertown, Coddington Co., 19 July 1958. WISCONSIN: 2 specimens, PCH 1160, on *O. virilis* from Bear Creek, 4.2 km N of Rice Lake, Barron Co., 27 July 1960. Five specimens, PCH 1162, on *O. virilis* from Duncan Creek, 6.6 km N of Bloomer, Chippewa Co., 27 July 1960. Twelve specimens, PCH 797, on *O. propinquus* and *O. virilis* from Crawfish Creek, Columbia Co., 22 July 1958. Eight specimens, PH 262, Picnic Point, Lake Mendota, Dane Co., Leath, Rogers, Talbot 28 August 1949. Three specimens, PCH 900, Blake Fork River, near Bloomington, Grant Co., C. H. Pope, S. H. Pope, P. C. Holt, 13 May 1956. Fourteen specimens, PCH 798, on *O. propinquus* from Rock River, Watertown, Jefferson Co., 22 July 1958. Six specimens, PCH 899, 4.0 km S of Darlington, Lafayette Co., C. H. Pope, S. H. Pope, P. C. Holt, V. F. Holt, 13 May 1956. Eight specimens, PCH 795, on *C.* (*L.*) *d. diogenes* and *O. virilis*, 18.3 km E of Monroe-LaCrosse County line, Monroe Co., 22 July 1958. Five specimens, PCH 1171, on *O. propinquus* from Oconto River at confluence with Waupee River, Oconto Co., 22 July 1960.

## Literature Cited

Goodnight, Clarence J. 1940. The Branchiobdellidae (Oligochaeta) of North American crayfishes. Illinois Biol. Mong. 17(3):1–75.

Ellis, Max M. 1912. A new discodrilid worm from Colorado. Proc. U.S. Nat. Mus. 42:481–486.

Hoffman, Richard L. 1963. A revision of the North American annelid worms of the genus *Cambarincola* (Oligochaeta: Branchiobdellidae). Proc. U.S. Nat. Mus. 114(3470):271–371.

Holt, Perry C. 1960. The genus *Ceratodrilus* Hall (Branchiobdellidae, Oligochaeta) with the description of a new species. Virginia Jour. Sci., N.S., 11:53–77.

———. 1968. New genera and species of branchiobdellid worms (Annelida: Clitellata). Proc. Biol. Soc. Wash. 81:291–318.

———. 1973a. Epigean branchiobdellids (Annelida: Clitellata) from Florida. Proc. Biol. Soc. Wash. 86:79–104.

———. 1973b. A summary of the branchiobdellid (Annelida: Clitellata) fauna of Mesoamerica. Smithsonian Contrib. Zool. 142:iii + 40 pp.

———. 1977. An emendation of the genus *Sathodrilus* Holt, 1968 (Annelida: Clitellata) with the description of four new species from the Pacific drainage of North America. Proc. Biol. Soc. Wash. 90(1):116–131.

Holt, Perry C., and Richard L. Hoffman. 1959. An emended description of *Cambarincola macrodonta* Ellis, with remarks on the diagnostic characters of the genus (Oligochaeta: Branchiobdellidae). Jour. Tennessee Acad. Sci. 39(2):97–104.

Department of Biology and Center for Systematics Collections, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.

PROC. BIOL. SOC. WASH.
91(2), 1978, pp. 483–489

# A NEW GENUS AND SPECIES OF BOPYRID ISOPOD PARASITIC ON THE WESTERN ATLANTIC PORCELLANID *PACHYCHELES ACKLEIANUS* A. MILNE EDWARDS

John C. Markham

*Abstract.*—A description is given of the pseudionine bopyrid isopod *Kolourione premordica*, new genus, new species, a branchial parasite of the porcellanid crab *Pachycheles ackleianus* A. Milne Edwards from the Gulf of Mexico, Hispaniola, St. Lucia and Curaçao. The new genus occupies an advanced position in the subfamily Pseudioninae and is highly distinctive in that the female's pleon is concave posteriorly.

## *KOLOURIONE*, new genus

*Diagnosis.*—Female: Pseudionine bopyrid. Body only slightly distorted, both dextral and sinistral forms in single species. Maxilliped with non-articulated palp. Frontal lamina and coxal plates prominent. Pleon of only 5 pleomeres, terminal one embedded in fourth, leaving posterior margin concave. Pleonal lateral plates reduced or absent. Pleopods biramous, rami lanceolate, those of pleomere 4 much reduced; no pleopods or uropods on pleomere 5. Male: Body about 3 times as long as broad, sides nearly parallel. Head, pleon and pereomeres distinct. No midventral pereonal tubercles. Pleon fused and lacking appendages.

*Etymology.*—From Greek stems meaning "cut-off tail" + generic name "*Ione*." Gender feminine.

Type-species, *Kolourione premordica*, n. sp.

## *Kolourione premordica*, new species
Figs. 1, 2

"Pseudioninae sur *Pachycheles ackleyanus* A. Milne Edwards."—Bourdon, 1976:238.

*Material examined.*—Infesting *Pachycheles ackleianus* A. Milne Edwards. University of Miami ship R/V *John Elliott Pillsbury* Sta. P-1283, near Enriquillo, Dominican Republic, 17°31′N, 71°32′W, 18–26 m, 19 July 1970: 1♀, holotype, USNM 150711, 1♂, allotype, USNM 150712, 1♀, 1♂, paratypes, USNM 150713. *Pillsbury* Sta. P-895, near St. Lucia, 14°06′N, 61°01′W, 18 m, 8 July 1969: 2♀, 1♂, USNM 150714. Gulf of Mexico, D. L. Adkison, coll., 15 Oct. 1976: 5♀, 5♂, MESC. U.S. Fish Commission Steamer *Fish Hawk* Sta. 7124, off Tampa Bay, Florida, 25°50′15″N, 82°41′45″W, 38 m, 2 April 1901, dredged on sand; 1♀, 1♂, USNM 29232. From sponge *Spheciospongia vesparia* (Lamarck), Mer Frappée, Haiti,