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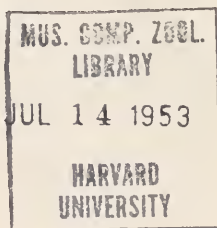
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SOUTHERN LOUISIANA
(CRUSTACEA, MALACOSTRACA)

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ON A NEW GENUS AND SPECIES OF MYSID
FROM SOUTHERN LOUISIANA¹

(CRUSTACEA, MALACOSTRACA)

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Only five species of mysids have been reported from the fresh waters of the Americas (Tattersall, 1951:4; Banner, 1948:72). Three of these are known only from tropical America: *Antromysis cenotensis* Creaser, from the caves of Yucatan; *A. anophelinae* Tattersall, from the holes of a terrestrial crab in Costa Rica; and *Diamysis americana* Tattersall, from ditches in Dutch Guiana. The other two species are found in temperate and arctic North America: *Mysis relicta* Lovén, which reaches south from the arctic coast to the Great Lakes, and which apparently is a circumarctic species; and *Neomysis mercedis* Holmes,² which ranges from brackish into fresh waters along the Pacific Coast from California to Alaska. No mysids have been reported before from the fresh water of the Mississippi basin.

TAPHROMYSIS³, *gen. nov.*

Diagnosis—Body of usual form, carapace covering most of thorax. Eyes well developed. Antennules of normal configuration. Antennal scale rounded and bearing setae on both sides. Labrum rounded anteriorly. Mandibles with strong dentate process laterally on *corpus mandibulae*. Tarsus of thoracic legs (e.g., portion beyond "knee") of four articles. Three pairs of oostegites in females, but those of the sixth thoracic segment strongly reduced. Adult males without sternal thoracic processes. All female pleopods reduced to plates; first and second pleopods of males similar. Third pleopods of males consisting of two articles, representing the protopod and endopod; exopod lacking. Fourth pleopods of males large, with exopod of seven articles, and bearing strong terminal bristles that form a feeble "pincher"; endopod short and composed of two articles. Fifth pleopod of males of two slender articles. Uropods without spines near statocyst. Telson posteriorly cleft.

Type species: *Taphromysis louisianae* Banner.

Discussion—*Taphromysis* was erected solely for the species described below.

This genus plainly belongs to the family Mysidae, the sub-family Mysinae and the tribe Mysini of H. J. Hansen (1910:13), and within

¹ Contribution No. 35, Hawaii Marine Laboratory.

² The taxonomy of this species will be discussed in another paper.

³ Generic name derived from *taphros*, Greek for ditch, referring to the habitat where the type species was found.

the tribe to the *Mysis*-group of Zimmer (1915:202-216). This group may be recognized by a series of characteristics—the lack of an anterior process on the labrum, the possession by the males of six or seven articles in the exopod of the fourth pleopods, and the development on this ramus of long terminal and sub-terminal bristles to form a type of a feeble “pinchers”; and the possession of a truncate or terminally cleft telson. This group until now contained six recognized genera: *Mysis* Latreille, *Hemimysis* G. O. Sars, *Paramysis* Czerniavsky, *Caspiomysis* G. O. Sars, *Schistomysis* Norman and *Synmysis* Czerniavsky. From the last four genera *Taphromysis* is separated by a number of characteristics, the most important being the absence of the exopod on the third pleopod of the males and the presence of setae on the outer margin of the antennal scale.

Taphromysis shows many similarities to *Mysis* and especially to the species *M. relict*a Lovén. If female specimens alone were available to study, only the shorter antennal scale and the presence of the mandibular process could be relied upon to distinguish *Taphromysis*. In the male, however, the exopod of the third pleopod is well developed and consists of six articles in *Mysis* while the entire ramus is lacking in this genus. A difference of this category in the present scheme of classification is considered to be of generic worth.

Taphromysis also shows close affinity to the genus *Hemimysis*. The antennal scale, variable in *Hemimysis*, usually bears setae only on the distal portion of the outer margin instead of along its entire length as in this genus. The presence of the dentate process on the lateral surface of the mandible has not been noted in *Hemimysis*. The oostegites are of similar development in the two genera. In *Hemimysis* the exopod of the third pleopod of the males may be reduced or entirely wanting as it is in this genus. The fourth pleopods of the males are the same in both genera [according to Illig (1950:587), but Tattersall and Tattersall (1951:331) state that the exopod in *Hemimysis* consists of only five to six articles]. The telson in both genera is quite similar. However, the two genera may be distinguished by the fifth pleopods of the males which in *Hemimysis* are well-developed, biramous and natatory, but are reduced to two simple elongate articles in *Taphromysis*.

While this genus appears to lie midway between *Mysis*, to which it is similar in the nature of the fourth and fifth pleopods of the male, and *Hemimysis*, to which it is similar in the nature of the third and fourth pleopods of the male, the modification of the third pleopods appears to be more distinctive than that of the fifth, and the genus, therefore, probably is more closely related to *Hemimysis*. However, it appears to me that these specimens raise doubts as to the validity of small modifications of the antennal scale and of the pleopods of the male as characteristics for generic separations.

It is noteworthy that the American *Taphromysis* should be so closely related to the genus *Hemimysis* which is restricted to the waters of western Europe and the general Mediterranean region,

penetrating into the brackish water of the Black Sea drainage of Rumania (Bacesco, 1940). Tattersall (1951:228) has postulated that the genus *Diamysis*, a brackish water genus with three Mediterranean species—ecologically similar, therefore, to *Hemimysis*—and one American fresh water species, was once a widespread tropical genus of the Tethys Sea of the Tertiary, and that the modern discontinuous distribution represents a relict fauna. It is possible that the genus *Hemimysis* once had a similar distribution, but in the case of its American species the long isolation resulted in sufficient modification to support its classification as a separate genus.

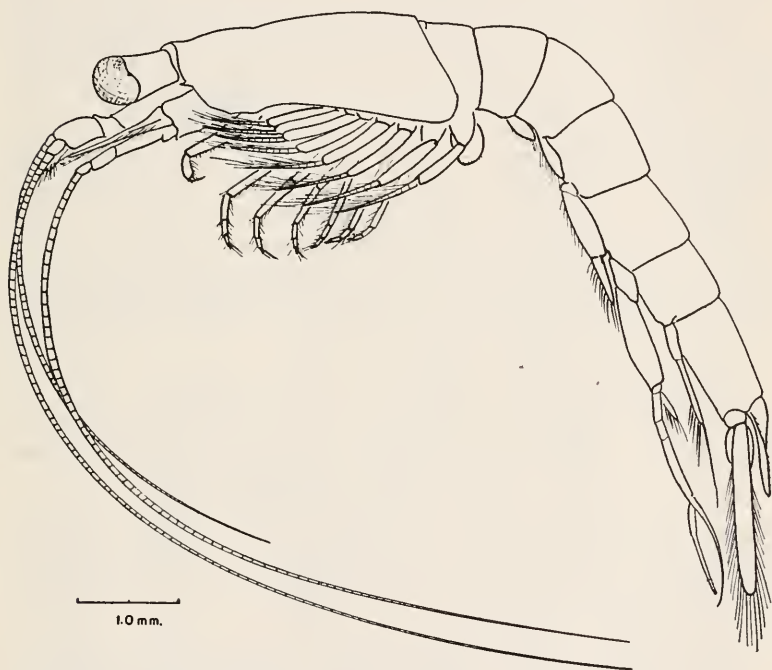


Figure 1. *Taphromysis louisianae*, adult male.

TAPHROMYSIS LOUISIANAE, *sp. nov.*

Type specimens—A male 7.0 mm long, United States National Museum, Catalog No. 94829; paratype series at the United States National Museum, Catalog No. 94830 and also in Tulane University collection, No. 2643.

Type and paratypes all collected in a roadside ditch at Gueydan, Vermilion Parish, Louisiana, Feb. 2, 1952 by F. F. Vizzi. The water was reported to be fresh and static; the bottom was reported to be mud and the vegetation to be sparse.

Description—Adult females about 8.0 mm long, adult males up to 7.5 mm long.

Body of usual development and proportions. Carapace posteriorly leaving dorsal portion of the eighth and part of seventh thoracic segments exposed. Rostral plate short, scarcely reaching the bases of eyes, rounded and depressed. Anterior margin of carapace slightly below base of eyes bearing small acute tooth. Anterior lateral corners of the carapace rounded.

Eyes somewhat elongate and sub-cylindrical, with total length twice maximum breadth of stalk and with evenly rounded corneas 0.4 length of entire stalk. No ocular papilla.

Antennular peduncle with end of second article reaching slightly beyond end of eyes. Basal article 2.7 times length of second and 2.0 times length of third articles. No article bearing any conspicuous teeth or denticles. *Process masculinus* well developed, 1.4 to 2.0 times length of third antennular article, and bearing fine setae. Outer flagellum slightly longer than body, inner flagellum about half body length.

Basicerite of antenna bearing small lateral tooth. Scale reaching to end of antennular peduncle, about 4.6 times as long as broad, bearing setae on both sides; tip rounded; distal twentieth demarked by feeble articulation. Carpocerite of antennal peduncle reaching past middle of scale. Flagellum as long as outer antennular flagellum.

Labrum of normal form, anteriorly rounded.

Opposing faces of mandibles with usual development (rows of spines imperfectly shown in drawings because of the rotation of appendage). *Corpus mandibulae* with strong acute denticle laterally directed. Palp normal, maxillules and maxillae normal.

First thoracic leg (maxilliped) with exopod and endopod located relatively close together on the protopod, but not adjacent. Endite of basis and two basal articles of endopod of moderate development. Exopod only slightly shorter than that of second leg. Second thoracic leg also of normal development.

Third to eighth thoracic legs with basis somewhat enlarged; tarsus (or portion beyond "knee") of four articles, including the "end-claw"; penultimate article bearing heavy spine, more than twice as long as end-claw. All exopods well developed with outer distal angle of basal plate sub-acute and not bearing accessory denticles.

Penis lobes of males well developed. Females bearing three pairs of oostegites, with those of sixth thoracic legs reduced to small setiferous lobes.

All pleopods of females reduced to uniramous plates. First and second pleopods of males similar to female pleopods. Third male pleopod with enlarged protopod, exopod entirely lacking, endopod longer than protopod but less than half as broad, consisting of a single article. Protopod and endopod bearing setae.

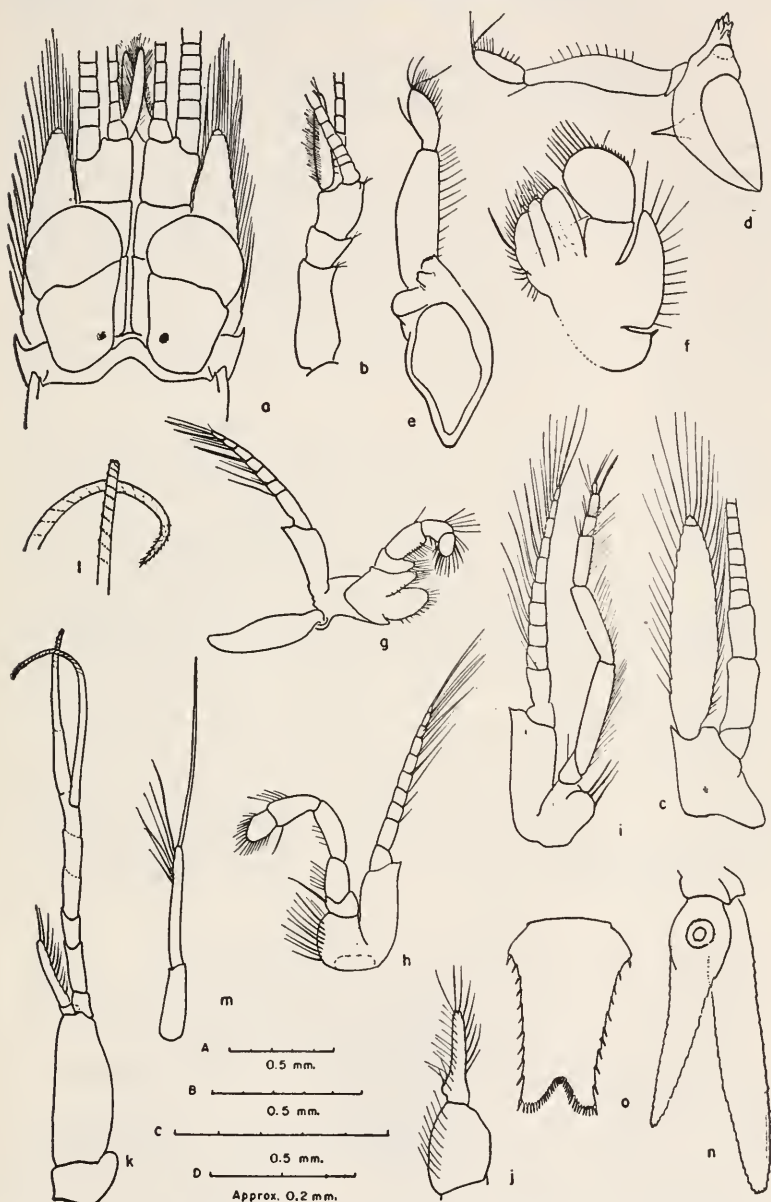


Figure 2. *Taphromysis louisianae*, adult male. a, anterior body region, dorsal aspect; b, antennular peduncle, medial aspect; c, antennal peduncle and scale, ventral aspect; d, mandible, posteromedial aspect; e, mandible, medial aspect; f, maxilla; g, first thoracic leg; h, second thoracic leg; i, seventh thoracic leg; j, third pleopod; k, fourth pleopod; l, tips of distal setae of fourth pleopod; m, fifth pleopod; n, uropod; o, telson. (Figures d and e, scale B; figure f, scale C; figure l, scale D; all other figures scale A.)

Fourth pleopod of males very elongate, reaching to distal tip of uropod. Basal article of protopod with heavy but short lobe on outer side. Second article reaching beyond end of fifth abdominal segment. Endopod consisting of two articles, basal only one seventh as long as distal and bearing small exite; distal article reaching beyond second article of exopod and bearing numerous setae. Exopod composed of seven articles, with the articulations between them very faint. Penultimate article bearing a curved spine, as long (if straightened) as the exopod to its base; bearing distally a series of spiral reinforcements and a series of extremely fine spinules on its acute tip. Terminal article fused with strong terminal seta, more blunt and straight but slightly shorter than penultimate setae, distally armed with very fine spinules in diagonal bands. Terminal and subterminal setae forming a feeble "pincher."

Fifth pleopod of male with tip reaching almost to end of sixth abdominal segment, composed of two articles, the distal about 1.5 times length of proximal. Setae found only on distal portion of second article; terminal setae as long as appendage.

Telson short, less than 0.9 as long as sixth segment, broad and distally emarginate. Tip about 0.6 as broad as base, and 0.4 as broad as telson is long. Lateral margins concave and bearing 10 pairs of movable spines. Posterolateral spines not longer than lateral spines. Terminal emargination less than 0.2 length of telson, rounded and "U" shaped, and bearing about twenty pairs of long narrow denticles that are not articulated.

Uropods slightly less than twice as long as telson, of usual form and not bearing any spines near statocyst.

Specimens in preservative without color but bearing a limited number of small stellate melanophores, one middorsally on each abdominal segment, a pair on base of telson, several pairs on ventral side of cephalothorax and its appendages, and two pairs on oostegites.

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