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A NEW OSTRACOD (ENTOCYTHERIDAE, NOTOCYTHERINAE) ON NEW GUINEA CRAYFISH[1])

by

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With nine text-figures

In 1967 we examined the crayfish collections in the Rijksmuseum van Natuurlijke Historie, Leiden, to determine if the crayfishes collected in New Guinea in 1954 by Dr. L. B. Holthuis, Dr. L. D. Brongersma, and Dr. M. Boeseman (Boeseman, 1963) were hosts to commensal ostracods.

Of the collections examined, only the first contained ostracods. Forty-nine specimens were obtained from that collection, and are here described as a new genus and species belonging to the subfamily Notocytherinae.

Elachistocythere gen. nov.

Diagnosis. — A genus of the entocytherid subfamily Notocytherinae. Antennule with six podomeres. Dorsal antennal claw subspiculiform and devoid of setae. Mandibular protopodite with distal row of five teeth. Peniferum bifid. Penis straight, ventrally directed, and situated slightly below mid-length of peniferum. Commensal on freshwater crayfishes in New Guinea.

Type-species. — *Elachistocythere merista* sp. nov.

Name. — From the Greek *elachistos* = small, and *cythere*.

Elachistocythere merista sp. nov.

Male. — Shell (fig. 1) subelliptical in outline with eyespot situated approximately ¼ shell length from anterior end. Measurements of 49 specimens are given below in table 1.

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TABLE 1

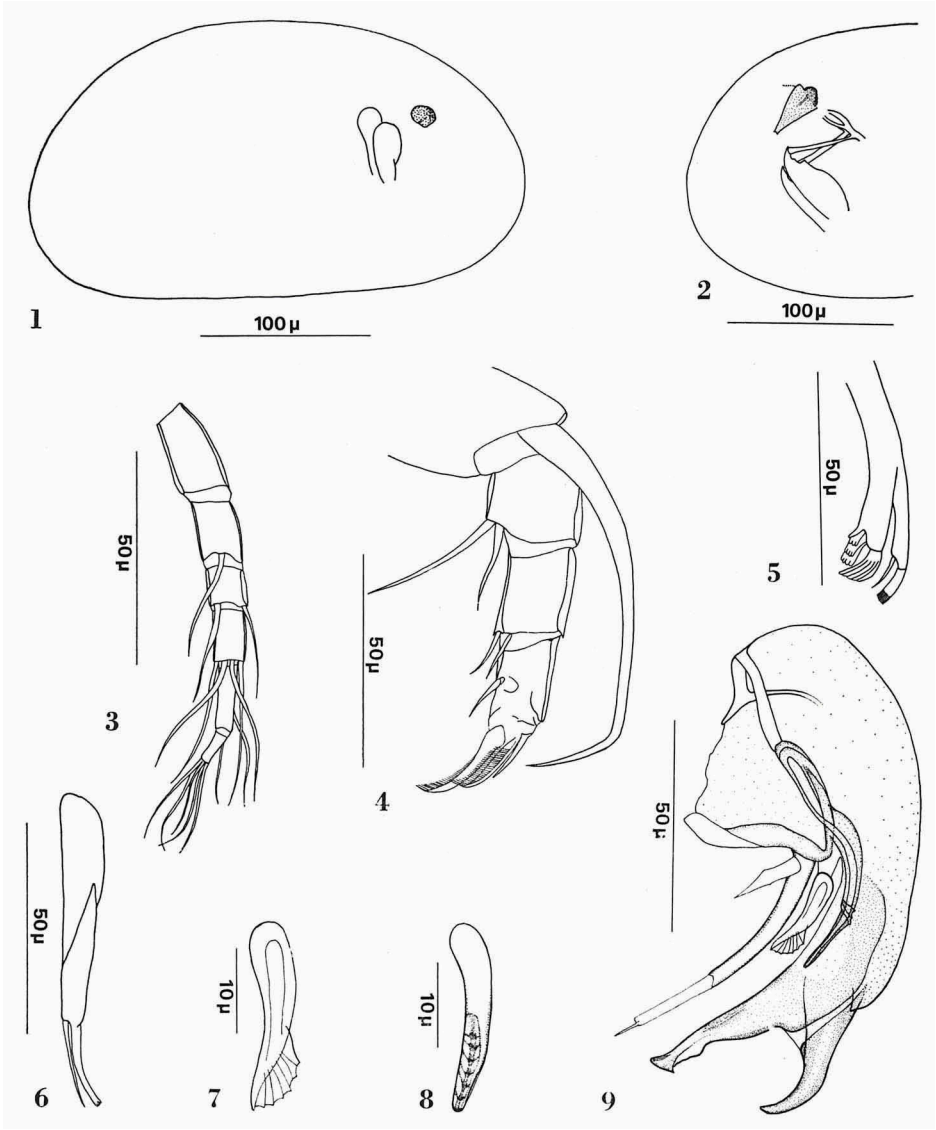
Length and height ranges and averages for two immature stages and adults of *Elachistocythere merista* sp. nov.

	Immature (4 legs)	Immature females (6 legs)	Adult females	Immature males (6 legs)	Adult males
No. of specimens	4	13	7	4	21
Lengths (ranges)	190—230μ	230—260μ	300—320μ	220—270μ	270—300μ
averages	210μ	245μ	307μ	247μ	282μ
Differences between average instar lengths	35μ	62μ	37μ	35μ	
Heights (ranges)	110—120μ	130—160μ	160—190μ	130—150μ	140—190μ
averages	115μ	140μ	177μ	137μ	159μ
Differences between average instar heights	25μ	37μ	22μ	22μ	

Antennule (fig. 3) composed of six podomeres. Second podomere from proximal end bearing single terminal seta extending to distal portion of antipenultimate podomere. Third podomere from proximal end bearing two terminal setae extending to mid-length of penultimate podomere. Antipenultimate podomere bearing six terminal setae extending beyond ultimate podomere. Penultimate podomere devoid of setae. Ultimate podomere bearing five terminal setae subequal in length to combined penultimate and ultimate podomeres.

Antenna (fig. 4) consisting of four podomeres [1]). Basal podomere devoid of setae, with exopodite, or "flagellum", extending from its distal extensor margin for a distance equal to that of remainder of antenna. Second, or antipenultimate podomere bearing two setae on distal flexor margin, one approximately ½ the length of the other; longest seta extending past distal margin of the third podomere. Third, or penultimate podomere bearing two setae on distal flexor margin, subequal in length and extending approximately to mid-point of ultimate podomere. Fourth, or ultimate podomere, bearing single seta on flexor margin at approximately mid-length of podomere. Distal portion of ultimate podomere bearing three claws. Dorsal claw subspiculiform, slightly curved, and devoid of setae; mesial claw longer, slightly

1) As pointed out by Hart, Nair, & Hart (1967), it has been usually considered that entocytherid antennae consist of five podomeres — the ultimate one being reduced in size and situated distal to what we have considered to be the ultimate podomere. It seems likely to us that this "fifth podomere" is actually only a complex area in the distal portion of the fourth podomere where the terminal claws have their origins, and it is so considered in this description.



Figs. 1-9. *Elachistocythere merista* sp. nov. 1, outline of shell of adult male in lateral aspect, showing antennal glands and eyespot; 2, posterior portion of shell of adult female, showing female genital apparatus in relation to posterior pair of legs; 3, antennule; 4, antenna; 5, mandible; 6, maxilla; 7, clasping apparatus (anterior aspect); 8, clasping apparatus (lateral aspect); 9, copulatory apparatus, with clasping apparatus turned 90° so as to show details of denticles as in fig. 7.

curved distally, and bearing row of setae; ventral claw twice as long as dorsal claw, curved along entire length, and bearing row of setae along distal length, diminishing in size proximally.

Mandibular protopodite (fig. 5) with distal row of five teeth. Proximal tooth with one cusp, second tooth with three cusps, third and fourth teeth with four cusps each, and large distal tooth with five cusps. Podomeres of mandibular palp not clearly defined. Single seta present adjacent to base of spatulate terminal spine of palp. Terminal portion of palp bordered with minute setae.

Copulatory complex (fig. 9) with ventral portion of peniferum terminating in two strongly sclerotized tapering processes, which may or may not be apposable. Penis straight, ventrally directed, and situated slightly below the mid-length of the peniferum. Clasping apparatus (figs. 7, 8, 9) short, club-shaped, with seven or eight terminal denticles.

When entire peniferum is viewed in lateral aspect, the clasping apparatus is usually seen as shown in fig. 8, the way we assume it to be positioned normally. Detail of the terminal denticles is brought out by applying slight pressure to the cover-glass, which causes rotation of the clasping apparatus to the position shown in figs. 7 and 9.

Type-locality, distribution, and host. — New Guinea: Small stream near native village of Gariau, on Jamoer Lake (host: crayfish, *Cherax* spec.). This ostracod is known only from the type-locality.

Disposition of types. — Male holotype, female allotype, dissected male paratype, and additional paratypic material deposited in the Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands. Paratypes are deposited in the Academy of Natural Sciences of Philadelphia and the U.S. National Museum, Washington, D. C., U.S.A.

Female. — Shell of triunguis female (fig. 2) similar to that of male in shape, but averaging 25μ more in length. Conspicuous triangular apparatus present in posterodorsal area, probably homologous with the amiculum of the genus *Dactylocythere* in North America (Hart, 1962).

The difference between average instar lengths of six-legged immature (biunguis) females and adult (triunguis) females of 62μ (table 1) appears large when compared with similar data presented by Hart, Nair & Hart (1967) for *Microsyssitria indica*. In that case, the difference between supposedly similar instars was 44μ. So little data on developmental stages of any entocytherid ostracods are available, however, that speculation on this apparent disparity would be meaningless at the present time.

Sufficient material of *M. indica* was available so that six instars plus the eggs and the adult stage were described with relative certainty. Because of

the small amount of material available in the present case, we are hesitant even to ascribe a particular instar to the "six-legged immature females" discussed above — and prefer, for the present, to describe them only as "six-legged immature females."

Relationships. — This ostracod appears to have close affinities with the Australasian entocytherid subfamily Notocytherinae (Hart & Hart, 1967) as well as with the Indian subfamily Microsyssitrinae (Hart, Nair & Hart, 1967). It is similar to the Australian species in having six antennular podomeres (as opposed to five in the Indian), but similar also to the Indian forms in having five mandibular palp teeth (as opposed to six in the Australian [1]). We feel, however, that the preponderance of evidence indicates it should be placed in the subfamily Notocytherinae.

Although the distal portion of the peniferum is bifid, we doubt that the two projections are apposable as they are in *Microsyssitria indica* and as they may be in *Chelocythere kalganensis* (Hart & Hart, 1967).

Name. — From the Greek *meristos* = split or bifid. With reference to the form of the distal portion of the peniferum.

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1) Hart, Nair & Hart (1967: 4) erroneously indicated that the species here described bore six mandibular palp teeth.