

HARRIETA, A NEW GENUS FOR
CYMODOCE FAXONI (RICHARDSON)
(CRUSTACEA: ISOPODA: SPHAEROMATIDAE)

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Abstract.—A new genus, *Harrieta*, is diagnosed for *Cymodoce faxoni* (Richardson), a common shallow-water isopod of the Florida Keys and the eastern Gulf of Mexico. The new genus is characterized by the possession of three pairs of oostegites with five pairs of internal pouches and metamorphosed mouthparts in the female, and by a uropodal exopod twice the length of the endopod in the male.

That the isopod family Sphaeromatidae is in need of a generic revision based on phylogenetic principles, is no secret. Between 70 and 80 generic names are in current use, with generic diagnoses often blurred and overlapping. It comes as no surprise that when new criteria are used in an attempt to stabilize a taxonomy, earlier taxonomic placements become questionable. Thus with Harrison's work on the structure of the brood pouch of sphaeromatids (1984), following on from Hansen (1905), it was inevitable that the generic status of some species would need to be re-examined.

The use of such major morphological features as oostegites, internal pouches, and anterior and posterior pockets in ovigerous females, has the potential to give a degree of stability to the classification of the Sphaeromatidae. These female reproductive structures are here regarded as being of such crucial importance as to allow generic placement based on these features only. Which structures or combination of structures are apomorphic, and which plesiomorphic, however, remains to be worked out. This lack of determined apomorphic features lends some uncertainty, but still allows for comparison of genera based on major reproductive morphological features.

Examination of material of *Cymodoce faxoni* (Richardson), and comparison with the diagnosis of *Cymodoce* Leach, 1814 (see Harrison 1984:377) necessitates placing this species in a new genus.

Subfamily Sphaeromatinae
Harrieta, new genus

Diagnosis.—Sexual dimorphism marked by posterior margin of pleotelson more strongly trilobed, and elongation of uropodal exopods, in male.

Female: mouthparts metamorphosed. Mandible fused with cephalosome, incisor, lacinia, and molar not distinguishable. Maxilla 1 of 2 simple rounded lobes; maxilla 2 of 3 simple rounded lobes. Maxilliped with palp articles lacking setae; endite distally broadly truncate, unarmed. Brood pouch consisting of 3 pairs of oostegites on pereonites 2-4 overlapping in midline, plus 5 pairs of internal pouches. Uropodal rami subequal in length.

Male: Adult lacking dorsal processes. Pleopod 2, copulatory stylet articulating basally on endopod, curved, barely reaching beyond apex of ramus, with distal hook. Penes basally fused, rami slender, elongate, tapering to acute apices. Uropodal exopod

twice length of endopod, slender, oval in cross section, tapering to narrowly acute apex.

Type species. — *Exosphaeroma faxoni* Richardson, 1905, Gender: feminine.

Etymology. — The generic name is in honor of Harriet Richardson, the original describer of the type species, and a prolific isopod researcher around the turn of the century.

Remarks. — Based on Harrison (1984: 377), the presence of three, rather than four, pairs of oostegites excludes *faxoni* from the genus *Cymodoce*. Harrison's tables 1 and 2 (1984:394–397) conveniently summarize the brood pouch and mouthparts information for most genera of sphaeromatids. From these tables it can be seen that the combination of three pairs of overlapping oostegites, five pairs of internal pouches, and metamorphosed mouthparts in the female fit none of the known sphaeromatine genera. The present separation of *faxoni* from *Cymodoce* draws attention to these differences and emphasizes the importance of brood pouch characters in the taxonomy of this group.

Harrieta faxoni (Richardson, 1905)

Fig. 1

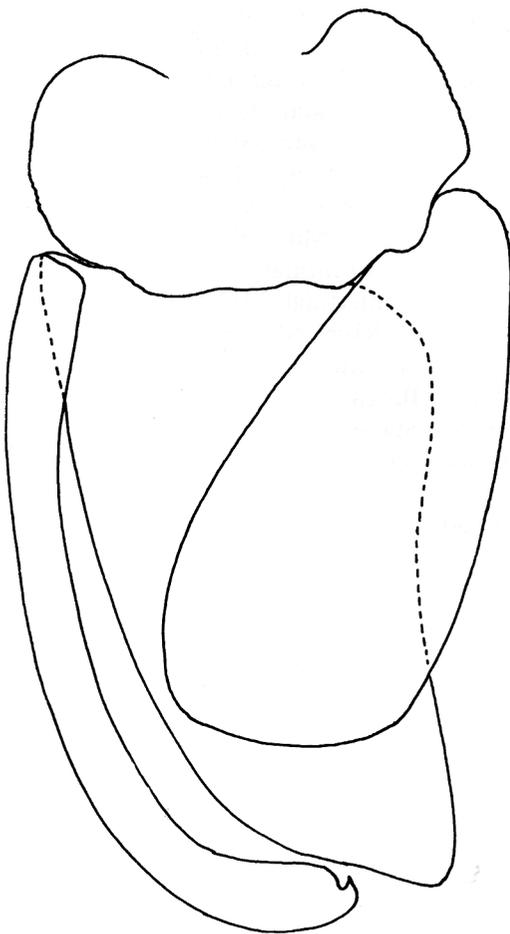


Fig. 1. *Harrieta faxoni*, male pleopod 2.

Exosphaeroma faxoni Richardson, 1905: 292, figs. 307, 308.

Exosphaeroma faxoni: Pearse and Wharton, 1938:640.

Cymodoce faxoni: Menzies and Miller, 1955: 293, figs. 1, 2. — Rouse, 1969:134. — Schultz, 1969:127, fig. 182. — Lyons et al., 1971:28. — Clark and Robertson, 1982:47, 49, 54, fig. 18. — Menzies and Kruczynski, 1983:50, fig. 14. — Harrison and Holdich, 1984:383.

Material examined. — National Museum of Natural History, Smithsonian Institution: USNM 41882, 2 ♂, 2 ovig. ♀, 7 immature, Key West, Florida, Jul 1874. — USNM 41883, 1 ♂, 1 ovig. ♀, Cedar Key, Florida, 1874. — USNM 86833, 2 ♂, 3 ovig.

♀, 1 immature, Jupiter Is., Florida, 16 Feb 1940. — USNM 86834, 2 immature, Apalachicola, Florida, 19 Jan 1936. — USNM 86835, 1 ♂, Apalachicola, Florida, 6 Jun 1935. — USNM 86836, 2 ♂, 1 ovig. ♀, 2 immature, Big Lake, Alabama, 28 Jan 1938. — USNM 86837, 2 ovig. ♀, Bottlepoint Key, Florida, 20 Nov 1939. — USNM 184382, 1 ♂, 8 ovig. ♀, 2 immature, Everglades National Park, Florida, 11 Nov 1965. — USNM 211432, 14 ♂, 4 ovig. ♀, 30 immature, Godfrey Creek, Lemon Bay, Florida, 23 Jan 1938. — USNM 211433, 4 ♂, 1 ovig. ♀, 7 immature, Key West, Florida, 1968. — USNM 211434, 1 ♂, 3 immature, Fleming Key, Florida, 24 Mar 1968.

Indian River Coastal Zone Museum (all material from Florida): Sta 101c, 15 ♂, 22 ovig. ♀, 140 immature, Banana River, Brevard Co., intertidal, 27 Feb 1975.—1 ♂, 1 ovig. ♀, 1 immature, Haulover Canal, Brevard Co., Intertidal, 12 Dec 1978.—1 ♂, 1 ovig. ♀, 2 immature, Key Largo, *Thalassia* seagrass flat, 9 Mar 1982.—Sta 129, 19 ♂, 11 ovig. ♀, 39 immature, Indian River, St. Lucie Co., intertidal, 29 Oct 1975.—Sta 88b, 1 ♂, Indian River, Martin Co., intertidal, 17 Dec 1974.—Sta 116d, 1 immature, Indian River, Brevard Co., intertidal, 29 May 1975.—Sta 79c, 1 ♂, 7 ovig. ♀, 6 immature, Haulover Canal, Brevard Co., 14 Nov 1974.

Diagnosis.—Female: Frontal lamina with broad, slightly convex anterior margin. Cephalon with rounded ridge bearing 2 barely discernible submedian tubercles near posterior margin. Anterior fused pleonites with 2 low rounded submedian tubercles on posterior margin. Pleotelson with 2 strong broadly conical tubercles on inflated midregion; posterior margin faintly trilobed. Uropodal rami subequal in length, endopod distally oblique-truncate; exopod apically acute.

Male: Pleotelson as in female, but with trilobed apex more defined. Uropodal endopod distally oblique-truncate; exopod twice length of endopod, tapering to narrowly acute apex. Penes separate, slender, tapering to acute apex. Pleopod 2, copulatory stylet articulating basally on endopod, curved, barely reaching beyond apex of ramus, with distal hook.

Color.—The majority of freshly preserved specimens examined showed a scattering of red-brown chromatophores on the cephalon, pereon, pleon, antennular and antennal flagella, and uropodal rami. The sternites of ovigerous females are always fairly densely pigmented with a reticulate pattern. A few specimens were seen having the entire dorsum densely pigmented, while yet fewer specimens have the cephalon and pleon densely pigmented with no connecting pigment or a faint to fairly strong connecting middorsal band of pigment.

Distribution.—Florida to Texas, intertidal to shallow infratidal.

Remarks.—Menzies and Kruczynski (1983:50) place both *Exosphaeroma antillense* Richardson, 1912, and *Exosphaeroma barrerae* Boone, 1918, in the synonymy of *Cymodoce faxoni*. Examination of the holotype of *Exosphaeroma antillense* shows this to be a different species: the frontal lamina is not as broad as that of *Harrieta faxoni*, and both uropodal rami are distally rounded. The holotype of *Exosphaeroma barrerae* is more than twice the size of adult *Harrieta faxoni*, and shows several obvious differences, including the shape of the frontal lamina, pleotelson, and uropodal rami. *Exosphaeroma antillense* does possess three pairs of overlapping oostegites, the condition of the holotype does not allow further comment on the brood pouch structure, while the holotype of *E. barrerae* is a non-ovigerous female. Until fresh ovigerous material of these species becomes available, and brood pouch structure can be elucidated, both are excluded from the genus *Harrieta*.

Cymodoce brasiliensis Richardson, 1906, was compared with the present species, in an attempt to discover a possible congener. Examination of the syntypic material (USNM 32246, 32626) showed the ovigerous female to have four pairs of oostegites on pereonites 1–4. The species redescribed as *C. brasiliensis* by Loyola e Silva (1960: 68, figs. 10, 11; 1963:2, unnumbered fig.) was said to have three pairs of oostegites, and is thus not Richardson's species. No mention was made of brood pouches. The male described by Loyola e Silva (1960) has subequal uropodal rami, and is clearly not *Harrieta faxoni*. The difference in the uropodal exopod would suggest that Loyola e Silva's species is not a congener of *Harrieta*.

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