

TWO NEW SPECIES OF CYPRETTA (OSTRACODA) FROM THE
MARQUESAS ISLANDS AND FLORIDA WITH NOTES ON
THE DISTRIBUTION OF THE GENUS*

By

NORMA C. FURTOS
WESTERN RESERVE UNIVERSITY

Genus CYPRETTA Vavra, 1895

Cypridopsis (*Cypretta*), Vavra, Beiheft zum Jahrb. der Hamburg. Wiss. Anstalten, vol. 12, p. 6, 1895.

Cypretta, G. W. Müller, Abhand. Senckenb. naturf. Ges., Frankfurt, vol. 21, p. 283, 1898.

Stout, boldly arched, tumid forms, less than 1 mm. long. Anterior margin of each valve with a more or less conspicuous row of radiating septa. Natatory setae of the second antenna well-developed, extending approximately to the tips of the terminal claws. Third masticatory process of the maxilla with two fairly strong spines. Terminal claw of the third thoracic leg strong, similar to *Cypridopsis* Brady. Furcal rami feebly developed, slender, each armed with two setalike claws, the dorsal seta generally present and the terminal often absent. Posterior portion of each ovary coiled in a spiral manner in the posterior valve chamber.

The genus is readily confused with *Cypridopsis* Brady from which it differs particularly in the row of septa along the anterior margin of each valve, and in the character of the furcal rami, each of which in *Cypridopsis* consists of a simple base, with or without a dorsal seta, and terminating in a single flagellum.

The male sex is very rarely encountered. In fact, reproduction in the genus has been considered to be exclusively parthenogenetic, as no males have previously been described. There is, however, one authentic species of *Cypretta* in which males are fully as common as are the females. This interesting form, occurring very abundantly in various pools and ditches of Florida, was collected in considerable numbers during August of 1932 by K. R. Salisbury. The female of this species rather closely resembles *Cypretta minna* (King), and the slightly smaller male is particularly characterized by the position of the testes which, similar to the ovaries of the female, are coiled in the posterior portion of the valve chamber. The name *Cypretta brevisaepta* is proposed for this remarkable species. A full account of its characters is given below. Vavra in 1895 described a form from Zanzibar,

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with males as well as with females, which he named *Cypridella lemurensis* and which G. W. Müller later (1912) referred to the genus *Cypretta*. Vavra, however, rightly considered this species to be more closely related to such genera as *Cypricercus* Sars and *Eucypris* Vavra, chiefly because the furcal rami of the Zanzibar specimens more closely approach the condition peculiar to the latter genera. In addition to this, an examination of Vavra's figures for the male of *Cypridella lemurensis* shows that the testes originate as a spiral coil in the anterior portion of each valve chamber, similar to *Cypricercus* and in decided contrast to the condition found in the *Cypretta* from Florida. Consequently the species from Zanzibar should not be included in the genus *Cypretta*, but should be returned to *Cypridella*.

With the omission of *C. lemurensis* and in addition to *C. brevisaepta* from Florida and *C. nukuhivana*, the last being described in the present report, there remain 12 established species in the genus. The majority of these have been found along the eastern coast of Africa, in Madagascar, in Australia and New Zealand, in a few of the South Pacific islands, principally those near the Asiatic coast, and in Ceylon and China near by. Just how extensively the genus is distributed in the Americas is unknown, for very little investigation of the ostracod fauna of this part of the world has been carried on. One species, *Cypretta sarsi*, reported by G. S. Brady for St. Thomas Island of the West Indies, also occurs in Natal, on the southeastern coast of Africa. Another species, *Cypretta turgida* (Sars), common near Beaufort, North Carolina, has a very wide distribution, having been recorded for Australia, New Zealand, Sumatra, China, and Africa. There are no other American records except for a reference by R. W. Sharpe to *Cypris globulosa*, which should undoubtedly be referred to *Cypretta dubiosa* (Daday), and which was found very abundantly in certain tubs in a greenhouse of Madison, Wisconsin. These ostracods were undoubtedly brought into this locality along with water plants, and can hardly be considered native. R. Menzel reported a similar situation in the botanical gardens of Basel, where *Cypretta globulus* (Sars) and *Stenocypris malcolmsoni* (Brady), two species from Asia, Africa, and other localities, were found. The only other European record available is that of *Cypretta minna* (King). One adult female of this species was found by W. Klie in a collection from Bulgaria.

The presence of *Cypretta*, along with *Strandesia* Stuhlmann, *Stenocypris* Sars, and *Chlamydotheca* Saussure in the southern part of North America, in the West Indies, and in South America on the one hand, and in the South Pacific islands, in Africa, and along the Asiatic coast on the other, suggests the probability of a relationship between the faunas of these widely separated areas. If this be true, it would be expected that some of the species from the Marquesas, Samoa, and Hawaii would be rather closely related to certain

forms found in the Americas on the one side, and in Asia, Africa, and Australia on the other. Thus the presence on the island of Nukuhiva in the Marquesan archipelago of a species of *Cypretta* which closely resembles a species found in the West Indies and in Africa is not surprising. Similarly, *Chlamydotheca unispinosa* (Baird) has been reported in Hawaii and in Jamaica of the West Indies by Baird (1862), and in the *cenotes* of Yucatan by Furtos (1934); *Stenocypris malcolmsoni* (Brady) in Africa, Asia, in some of the South Pacific islands near the Asiatic coast, and also in the *cenotes* of Yucatan; and various species of *Strandesia* are similarly distributed. A more specific study of the ostracods of the Marquesas and near-by islands, with special reference to the relationship of the faunas present to the faunas of other parts of the world, is not possible at the present time, for only two species, including the record of the present report, have been described from these regions.

Cypretta nukuhivana, new species (fig. 1).

Female

From the side: stout, boldly arched, height equal to about two thirds of the length, highest in the middle; dorsal margin evenly arched, with no indication of a mid-dorsal angle; extremities broadly and equally rounded; ventral margin somewhat sinuated; anterior margin of each valve with a conspicuous row of from 12 to 18 radiating septa, and a hyaline border, the border of the right valve being considerably wider than that of the left. From above: tumid, ovoid, the breadth greater than the height, broadest slightly behind the middle; right valve enclosing the left and projecting beyond the left at the pointed anterior extremity; posterior extremity broadly rounded, sinuate at the hinge line. Surface of the valves minutely pitted, the pits producing a granulated appearance; also very hairy, the hairs quite short except along the free margins, where they are rather long. Color undetermined, although traces of blue pigment on the preserved specimens indicate the probability of some sort of striping or other ornamentation. Length 0.60, height 0.45, breadth 0.50 mm. Natatory setae of the second antenna well developed, extending slightly beyond the tips of the terminal claws. Third masticatory process of the maxilla with two toothed spines, the teeth of which are long, narrow, closely applied to the sides of the spines so as to be scarcely visible; terminal segment of the maxillary palp cylindrical, about twice as long as broad. Antipenultimate segment of the second thoracic leg with a particularly long, strong seta extending to the proximal third of the terminal claw; terminal claw smooth except for a few delicate denticles near the tip. Terminal claw of the third thoracic leg rather stout, curved, pectinate, less than one half as long as the penultimate segment. Furcal ramus slender, approximately straight, 19 times longer than the width at the level of the dorsal seta, dorsal margin smooth; dorsal seta short, one fifth as long as the subterminal claw, and removed from the claw by the width of the ramus; claws setalike, smooth, the subterminal straight, slightly greater than one half the length of the gently curved terminal claw, the latter being about six sevenths as long as the ramus; terminal seta absent.

Male unknown. As several hundred females were collected, it is probable that there are no males for this particular species, reproduction being exclusively parthenogenetic.

Nukuhiva: Vaihakameama pond, altitude 2600 feet, very common, November 11, 1929, Mumford and Adamson.

The type specimen, a female, has been deposited in Bernice P. Bishop Museum, Honolulu. Paratypes are in the United States National Museum, and in the writer's collection. In the type, the valves are placed in a vial and the body parts on a permanent slide, and both given the same Bishop Museum catalog number.

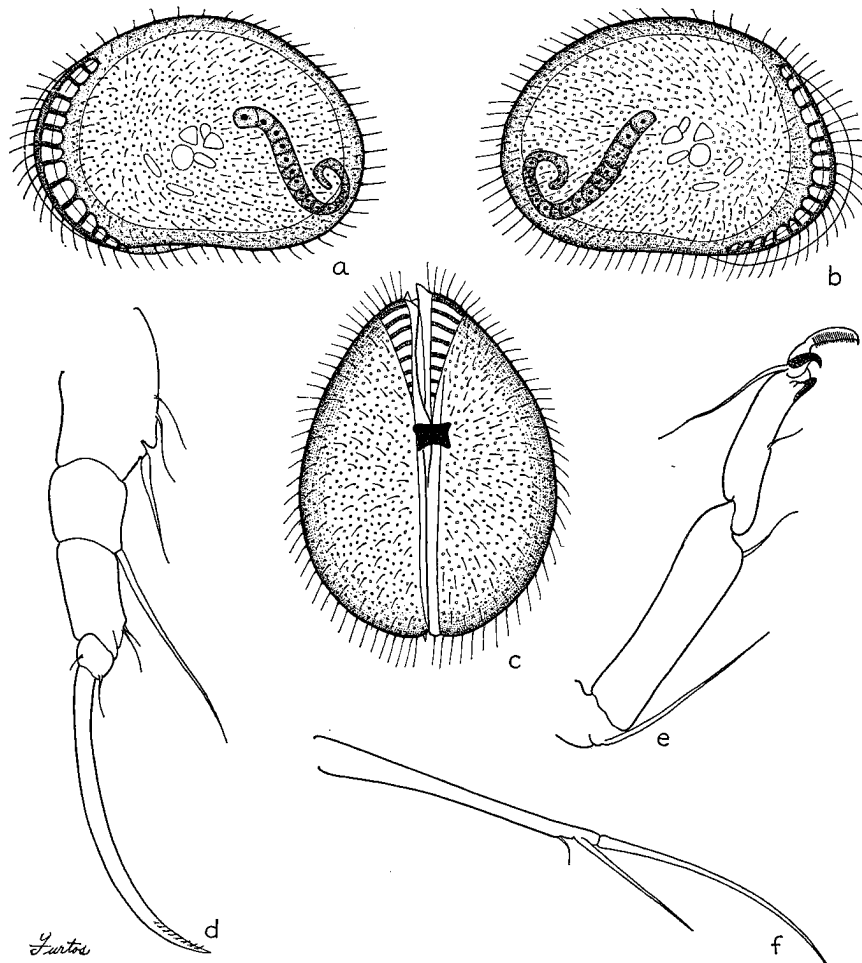


FIGURE 1.—*Cypretta nukuhivana*, new species, female: *a*, left valve; *b*, right valve; *c*, dorsal view; *d*, second thoracic leg; *e*, endopodite of third thoracic leg; *f*, furcal ramus.

This species may be readily confused with *Cypretta sarsi* Brady and *Cypretta globulus* (Sars), for which reason the three forms should be compared and the differences noted. *Cypretta sarsi* is a little larger than the species from the Marquesas, amounting to 0.77 mm. in length, but the valve

proportions and the character of the surface of the two forms are quite similar. The furcal ramus is without a dorsal seta in Brady's species, a character which constitutes the chief difference between *Cypretta sarsi* and *Cypretta nukuhivana*. Brady's drawings of the appendages of *Cypretta sarsi* are considerably distorted, indicating that he may have described the species from a single specimen, in which case the dorsal seta of the furcal ramus may have either been broken off or else hidden from view by the position of the furca. If this should prove to be correct, the species from the Marquesas would be referred to Brady's species and not be considered new. *Cypretta globulus* (Sars) is about the same size as *Cypretta nukuhivana* and the valves similarly pitted. The valves of Sars' species, however, are higher, with a moderate mid-dorsal angle that is entirely absent in *Cypretta nukuhivana*, and the furcal rami are each provided with a well-developed terminal seta.

***Cypretta brevisaepta*, new species (fig. 2).**

Female

From the side: stout, boldly arched, height greater than two thirds of the length, highest in the middle; dorsal margin with a slight sinuation in front of the moderately rounded mid-dorsal angle; extremities broadly rounded, the anterior clearly the broader; ventral margin of the left valve convex, that of the right slightly sinuated; anterior margin of each valve with from 9 to 13 short, inconspicuous, radiating septa, and a narrow hyaline border, the border of each valve of approximately equal width. From above: excessively tumid, ovoid, the breadth exceeding the height, broadest in the middle; left valve enclosing the right and projecting slightly beyond the right at the somewhat pointed anterior extremity; posterior extremity broadly rounded. Surface of the valves smooth, and with numerous short, blunt spinelike processes, each bearing a strong curved hair. Color light, with scattered dark-blue patches somewhat suggestive of dorsolateral bands. Length 0.85, height 0.67, breadth 0.70 mm. Natatory setae of the second antenna extend to the tips of the terminal claws or slightly beyond. Third masticatory process of the maxilla with two smooth spines; the terminal segment of the maxillary palp about twice as long as broad, very slightly narrowed distally. Terminal claw of the third thoracic leg well developed, curved and denticulated, slightly less than one half the length of the penultimate segment. Furcal ramus gently curved, slender, slightly broadened distally, 15 times longer than the width at the level of the dorsal seta, dorsal margin smooth; the dorsal seta a trifle greater than one half the length of the subterminal claw; the latter slender, curved, setalike, exceeding one half the length of the terminal claw; terminal claw strong, gently curved, about three fourths as long as the ramus; the terminal seta one fifth as long as the terminal claw.

Male

Smaller than the female, otherwise similar. Length 0.82, height 0.60 mm. The testes form a conspicuous spiral coil in the posterior chamber of each valve. Prehensile palps slender, unequal; propodus of the larger palp cylindrical, three and one half times longer than the narrowest width, and with the outer margin moderately inflated; propodus of the smaller palp more elongated, and the dactylus short, hooklike. Ejaculatory duct barrel-shaped, armed with about 18 crowns of slender spines, the crowns being very closely crowded together. Penis with two conspicuous terminal lobes and a small median lobe, the latter armed with a few short, inconspicuous spinous processes.

Very common in many wayside pools of Florida during August. Type locality: one half mile north of the railroad station, Buckingham, Florida. Collected by R. K. Salisbury, August 10, 1932. Specimens of this species have been deposited in the United States National Museum. Type female, no. 68157; type male, no. 68158. Paratypes, no. 68159.

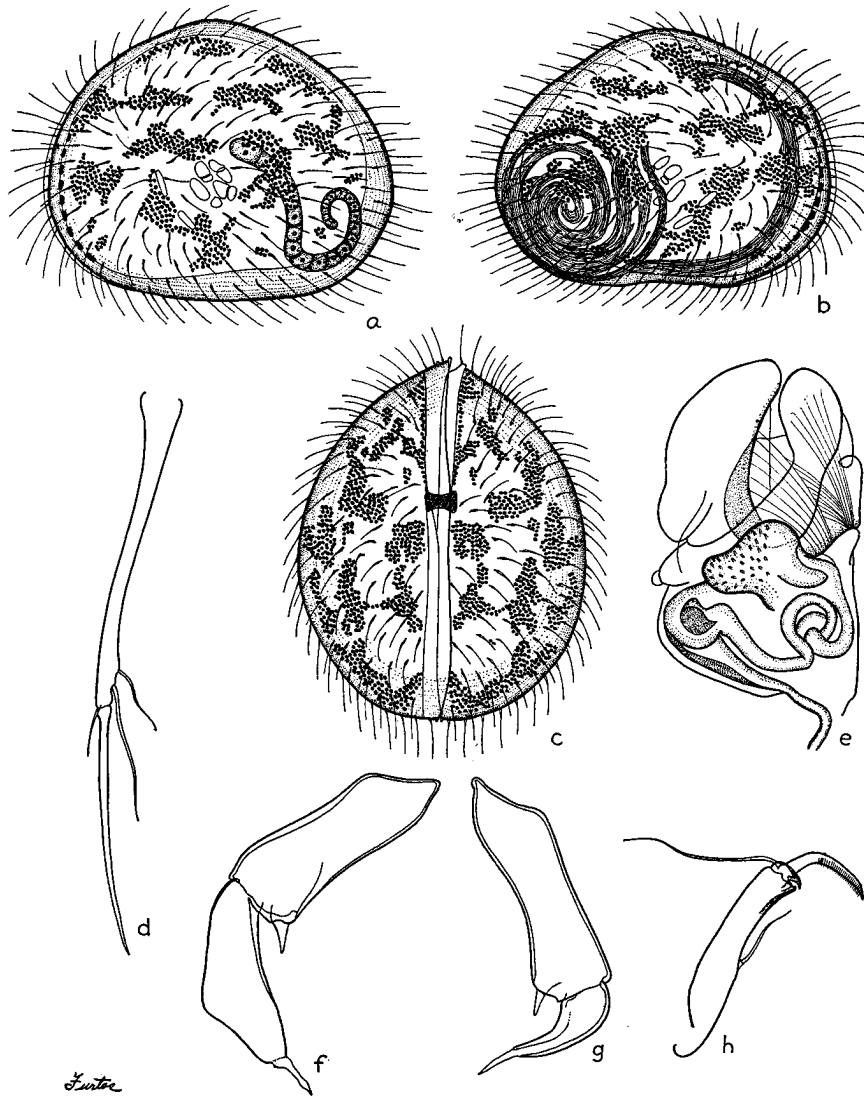


FIGURE 2.—*Cypretta brevisaepta*, new species: a, left valve of adult female; b, right valve of adult male; c, adult female, viewed from above; d, furcal ramus, female; e, penis; f-g, prehensile palps; h, distal end of third thoracic leg.

Table 1. Known Species of *Cyprætta*

	SOUTH PACIFIC ISLANDS		AFRICA AND VICINITY					ASIA		NORTH AMERICA AND THE WEST INDIES							
	Australia	New Zealand	Marquesas Islands	Bismarck Archipelago	Sumatra	New Guinea	Madagascar	South Africa	East Africa	Algeria	Zanzibar	Ceylon	China	St. Thomas Island	Florida	North Carolina	Wisconsin
<i>C. globulus</i> (Sars).....	S 1890							S 1924				D 1898					
<i>C. minna</i> (King).....	K 1855						M 1898	S 1924				D 1898					
<i>C. dubiosa</i> (Daday).....						D 1901											Sh 1910
<i>C. remota</i> (Vavra).....					V 1906												
<i>C. tennicauda</i> Vavra.....										V 1895							
<i>C. viridis</i> (Thomson).....	S 1895	T 1879															
<i>C. turgida</i> (Sars).....	H 1923	S 1894			S? 1903			S 1924					S? 1903		F 1934		
<i>C. papuana</i> Vavra.....				V 1901													
<i>C. sarsi</i> Brady.....								M 1912						B 1902			
<i>C. oxyuris</i> Daday.....																	
<i>C. hirsuta</i> Henry.....	H 1923								D 1910								
<i>C. seurati</i> Gauthier.....																	
<i>C. nukuhivana</i> Furtos.....			F 1934														
<i>C. brevisaepta</i> Furtos.....															F 1934		

Note. Each record includes the initial of the author reporting the species and the date of publication. B=G. S. Brady; D=E. V. Daday; F=N. C. Furtos; G=H. Gauthier; H=M. Henry; K=R. L. King; M=G. W. Müller; S=G. O. Sars; Sh=R. W. Sharpe; T=G. M. Thomson; V=W. Vavra.

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