SMITHSONIAN MISCELLANEOUS COLLECTIONS
VOLUME 99, NUMBER 13

EUPHAUSIACEA AND MYSIDACEA COLLECTED ON THE PRESIDENTIAL CRUISE OF 1938

BY
W. M. TATTERSALL
University College
Cardiff, Wales

(PUBLICATION 3598)

CITY OF WASHINGTON
PUBLISHED BY THE SMITHSONIAN INSTITUTION
JANUARY 31, 1941

The Lord Baltimore Press
BALTIMORE, MD., U. S. A.

EUPHAUSIACEA AND MYSIDACEA COLLECTED ON THE PRESIDENTIAL CRUISE OF 1938

By W. M. TATTERSALL

University College, Cardiff, Wales

The collection submitted to me for examination is a small one, including only three species. One of these is a new species of the genus *Siriella* which I take pleasure in associating with the President of the United States as a mark of appreciation of his interest in marine biological research. There is also a new species of the genus *Neomysis,* but, since the material includes only female specimens, it seems best to await further material before completing the description. The third species is an already known species of Euphausian. I wish to express my thanks to Dr. Waldo L. Schmitt for kindly allowing me to examine and report on this collection.

Order EUPHAUSIACEA

Genus NYCTIPHANES G. O. Sars

NYCTIPHANES SIMPLEX H. J. Hansen

N. simplex Hansen, 1911, 1912, and 1915.
N. simplex Esterley, 1914.

Occurrence.—Station 17, July 25, 1938, at anchorage of Tagus Cove, Albemarle Islands, surface, electric light, 11 p.m., two males.

Distribution.—Hansen has recorded this species from several localities in the eastern Pacific, including some from the Galápagos Islands. Esterley's specimens were caught off the coasts of California. According to Hansen the species is known only from the eastern Pacific between latitude 36° N. and 6° S.

Order MYSIDACEA

Suborder MYSIDA

Family MYSIDAE

Subfamily SIRIELLINAE

Genus SIRIELLA Dana

SIRIELLA ROOSEVELTI, n. sp.

Figs. 1-2

Occurrence.—Station 17, July 25, 1938, at anchorage off Tagus Cove, Albemarle Islands, surface, electric light, 11 p.m., one male. Station 22, July 27, 1938, at anchorage off Gardner Bay, Hood Island, surface, electric light, 11 p.m., 18 females, 8 males, and 47 half-grown specimens. Types, U.S.N.M. No. 79279. Station 23a, July 7, 1938, at anchorage South Seymour Island, surface, electric light, 11 p.m., 1 male, 5 females, and 35 immature specimens. (Acc. No. 148787.)

Description.—A *Siriella* belonging to group II (Hansen, 1910) in which the apex of the telson is armed with three small spines in the center and a single pair of long lateral spines; the exopod of the uropods longer than the endopods with more than half of the margin of the proximal joint furnished with spines; spines along the distal third of the lateral margins of the telson irregular, with smaller spines in series between the larger spines; *both* rami of *both* the third and fourth pairs of pleopods of the male with modified distal setae; pseudobranchial rami on the second to the fourth pleopods of the male spirally twisted; distal joint of the outer uropod less than twice as long as broad; antennal scale without spines on the outer margin.

Carapace similar in both sexes, only slightly produced into a short triangular rostral plate with a pointed apex which extends scarcely beyond the base of the eyestalks; eyes of moderate size, pigment black.

Antennal scale (fig. 1*a*) extending as far forward as the distal end of the antennular peduncle, four times as long as broad, terminal lobe rather broader than long, extending beyond the distal spine of the outer margin, apex of the lobe marked off by a distinct suture.

Sixth joint of the endopods of the third to the eighth thoracic limbs (fig. 1*b*) divided by a transverse suture into two parts, the proximal part rather less than one-quarter of the whole joint.

Both rami of the third pleopods (fig. 2*a*) of the male with two modified setae at the distal end, the outer seta is stout and smooth, the inner seta slightly more slender than the outer and plumose at the distal end.

The endopod of the fourth pleopod of the male (fig. 2*b*) has two strong, smooth, modified setae at the apex set at a widely divergent angle which is constant and characteristic; the penultimate joint has a long stout and smooth seta on the outer angle; the exopod has two

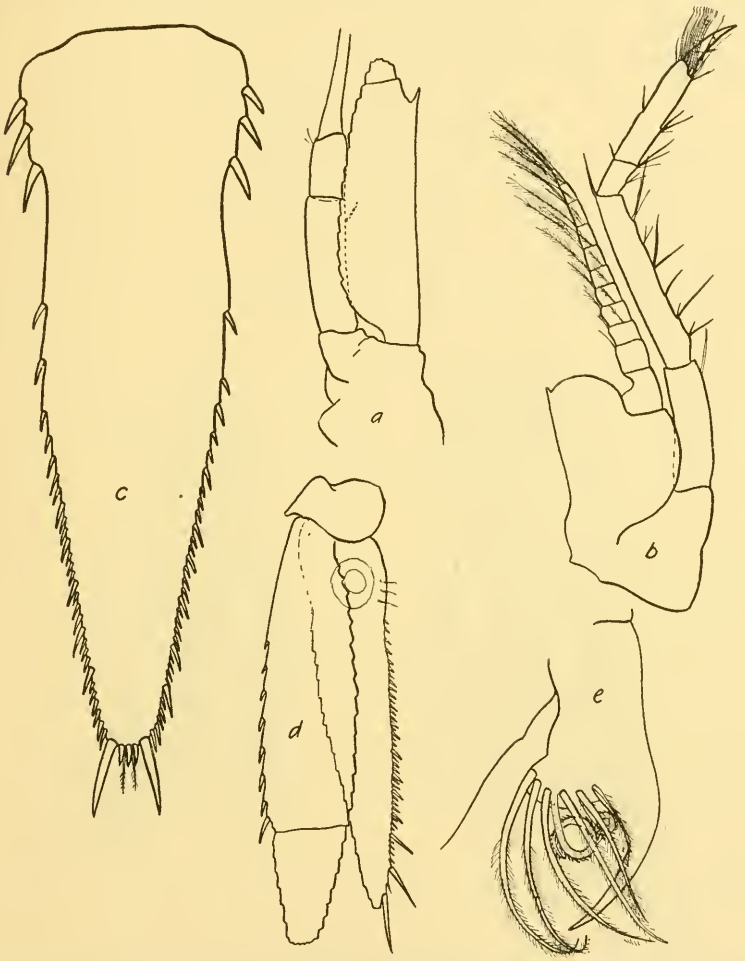

FIG. 1.—*Siriella roosevelti*, n. sp. *a*, antennal scale and peduncle, × 45. *b*, third thoracic limb, × 45. *c*, telson, × 83. *d*, uropods, × 45. *e*, copulatory appendage of the eighth thoracic limb of the male, × 80.

modified setae at the apex, one of which is very long and characteristically bent about one-third of the distance from the base, the other short, less than half the length of the other seta, and smooth.

Endopod of the uropods (fig. 1*d*) distinctly shorter than the exopod, with a row of spines extending from the statocyst to the distal

end, rather irregular and arranged in groups distally; among them near the distal end are three or four specially long, strong, and prominent spines.

Exopod of the uropods (fig. 1*d*) with the proximal joint three times as long as the distal, with eight or nine spines somewhat widely

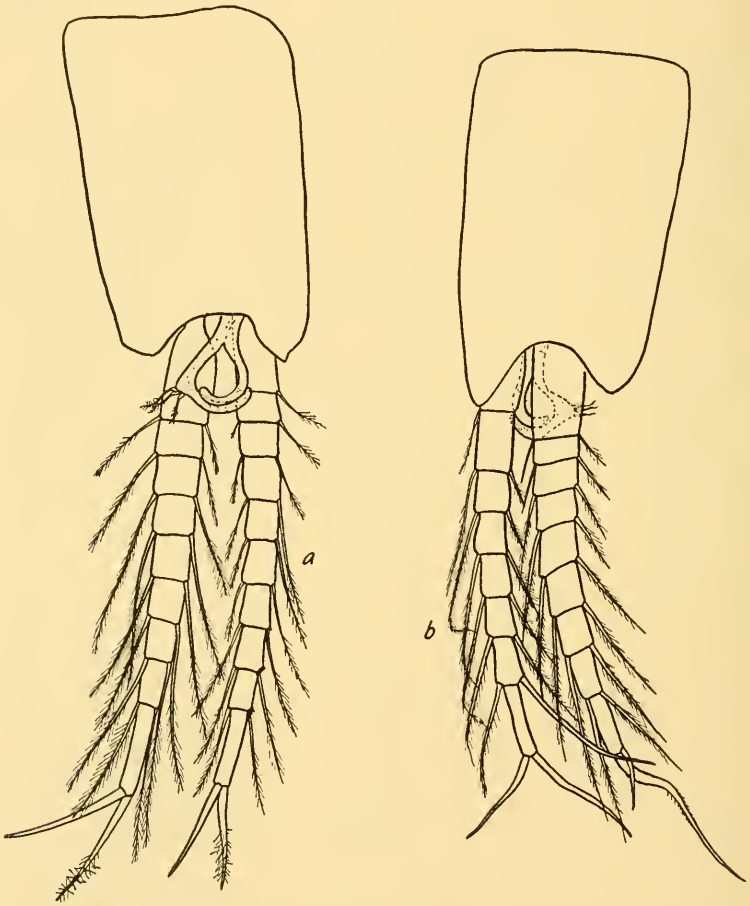

FIG. 2.—*Siriella roosevelti*, n. sp. *a*, third pleopod of the male, × 85. *b*, fourth pleopod of the male, × 85.

spaced occupying more than half of its outer margin; distal joint one and a half times as long as broad.

Telson (fig. 1*c*) three times as long as broad at the base, of the form and shape characteristic of the genus, apex armed with one pair of long and stout spines between which are three small equal spinules

and a pair of plumose setae; lateral margins armed with three strong spines near the base followed by a short smooth portion and then a more or less continuous row of spines to the distal end, the spines arranged in series, especially distally, where there are about five graded smaller spines between each pair of larger spines.

The copulatory lobe of the eighth thoracic limbs of the male has a rather special form which is best described by a figure (fig. 1*e*).

Length of adult specimens of both sexes, 8 mm.

Remarks.—Among the many species of *Siriella,* this species is most closely allied to *S. pacifica* Holmes. Indeed females of the two species are difficult, if not impossible, to distinguish from one another, but males are readily separated on examination of the third and fourth pleopods. Hansen (1913) has given a full description and figures of *S. pacifica.* On comparing this description and figures with those here given for *S. roosevelti,* the following differences between the two forms emerge:

1. Third pleopod of the male. In *S. pacifica* both rami terminate in a *single* robust spiniform naked seta. In *S. roosevelti* both rami terminate in *two* modified setae, one robust, spiniform, and smooth, the other robust and plumose, much stouter than the plumose setae on the other joints.

2. Fourth pleopod of the male. Endopod in *S. pacifica* has two strong spiniform setae at the apex set at an acute angle to one another, one straight and the other slightly bent. In *S. roosevelti* there are two strong smooth spiniform setae set at a widely divergent angle which is constant and characteristic in all the specimens I have examined. The exopod in *S. pacifica* bears two setae, one short and simple, the other long and very curiously bent in an acute angle. In *S. roosevelti* there are also two setae, one quite short and simple, the other longer and more robust and not bent in the same way as in *S. pacifica.*

The most easily observed character for distinguishing the females of the two species is the number and spacing of the spines on the outer margins of the proximal joint of the outer uropods. In *S. pacifica* there are 14-15 spines, rather closely set, whereas in *S. roosevelti* there are only 8-9 spines somewhat distantly spaced so that, although fewer in number, they occupy about as much of the margin as they do in *S. pacifica.*

S. pacifica and *S. roosevelti* agree with each other and differ from all other species of the genus with the exception of *S. anomala* Hansen, in having *both* rami of *both* the third and fourth pleopods

of the male terminating in modified setae. They can both be distinguished from *S. anomala* by the antennal scale which in the latter species is of very special and peculiar shape in the male.

S. pacifica is known from the Pacific coast of California and is, in point of geographical distribution, the nearest neighbor of *S. rooscvelti*.

Subfamily MYSINAE

Genus NEOMYSIS Czerniavsky

NEOMYSIS sp.

Occurrence.—No. 3-38, July 18, 1938, Magdalena Bay, Lower California, Mexico, dredging, boat dredge inside northern point of entrance to bay between Belcher Point and anchorage, 10-15 fathoms, sandy weedy bottom, two females.

Remarks.—Unfortunately, only female specimens are present so that, though I believe they represent a new species, I am unwilling to institute it until male specimens are available. The species belongs to the *Acanthomysis* section of the genus with a short antennal scale, rounded at the apex. It comes nearest to *Neomysis macropsis* Tattersall, *Neomysis pseudomacropsis* Tattersall and *Neomysis columbiae* Tattersall (see Tattersall, 1932 and 1933). It differs from the first two of these species in having more or less normal eyes without specially elongate eyestalks, and from the last of the above species in the absence of the supra-ocular spine on the anterior margin of the carapace. The carapace is broadly rounded anteriorly and somewhat vaulted, very similar to the condition seen in *N. pseudomacropsis* except that perhaps the rostral plate is more produced in relation to the antero-lateral spines of the carapace. The telson resembles most closely that of *N. pseudomacropsis* in that the lateral margins are closely set with spines and the shape is lingular. Male specimens will be awaited with interest so that a full description may be given.

REFERENCES

Esterley, C. O.
1914. The Schizopoda of the San Diego region. Univ. California Publ. Zool., vol. 13, No. 1.

Hansen, H. J.
1910. The Schizopoda of the *Siboga* Expedition. Siboga-Expéditie, vol. 37.
1911. The genera and species of the order Euphausiacea with account of remarkable variation. Bull. Inst. Océanogr. Monaco, No. 210.
1912. The Schizopoda. Mem. Mus. Comp. Zool. Harvard Univ., vol. 35, No. 4.

1913. On some Californian Schizopoda. Univ. California Publ. Zool., vol. 11, No. 9.

1915. The Crustacea Euphausiacea of the United States National Museum. Proc. U. S. Nat. Mus., vol. 48, pp. 59-114.

TATTERSALL, W. M.

1932. Contributions to a knowledge of the Mysidacea of California. Univ. California Publ. Zool., vol. 37, Nos. 13-14.

1933. Euphausiacea and Mysidacea from Western Canada. Contr. Canadian Biol. Fish., vol. 8, No. 15.