Colour not yet ascertained.

Length of the specimen examined 0.55 mm.

Remarks. This form may at once be distinguished from any of the other known species by its quite unusually short and stout body. In the structural details it seems to come nearest to *L. littoralis* Scott, described in Vol. V, p. 255. On a closer comparison, however, some well marked differences are found to exist, especially as regards the outer ramus of the posterior antennæ and the 1st and last pairs of legs.

Occurrence.—A solitary, apparently fully grown female specimen of this form was found in a sample taken at Korshavn from a depth of about 30 fathoms.

Gen. **Harrietella,** Scott, 1906.

Generic Characters.—Body short and stout, with the anterior division pronouncedly depressed, the posterior much narrower. Rostral projection well defined and ciliated at the tip. Caudal rami comparatively short. Antennæ and oral parts built on the same type as in *Laophonte*. The 3 anterior pairs of legs likewise of a very similar structure. 4th pair of legs, however, peculiarly developed, and much smaller than the 2 preceding pairs, with the number of joints in both rami reduced. Last pair of legs extended laterally; distal joint large, lamellar, proximal joint short and only very slightly expanded inside. 2 ovisacs present in female.

Male unknown.

Remarks.—This genus was established in the year 1906 by Scott, to include a form previously described by him as a species of the genus *Laophonte*. Indeed, the affinity of this form to that genus is a very close one. Yet there are at least 2 characters which highly distinguish the present genus, and which alone seem to suffice for warranting its validity, viz., the peculiar structure of the 4th pair of legs and the presence in the female, as stated by Scott, of 2 ovisacs. Only a single species of this genus is as yet known.

60. Harrietella simulans, Scott.

(Pl. XLIX).

Laophonte simulans, Scott, Twelfth Annual Report of the Fishery Board for Scotland, Part III, p. 248, Pl. VII, figs. 24–32; Pl. VIII, fig. 1.

Specific Characters.—Female. Body remarkably short and broad, with the anterior division flattened. Cephalic segment very large and expanded'

occupying more than half the length of the anterior division, lateral edges finely ciliated; rostral projection rather prominent, with the tip narrowly rounded off and fringed with delicate cilia between the 2 usual sensory hairs. The 2 succeeding segments with the lateral parts lamellarly expanded and finely ciliated at the edges; the 3rd trunkal segment somewhat less broad, with the epimeral plates less fully developed; last segment very short. Urosome scarcely more than half as long as the anterior division and much narrower, tapered behind; genital segment nearly twice as broad as it is long and distinctly subdivided in the middle; the succeeding segments without any distinctly defined lateral expansions, but, like the genital segment, ciliated at the edges; last segment scarcely smaller than the preceding one and having the anal opercle well developed and minutely denticulate at the edge. Caudal rami about the length of the anal segment and somewhat divergent; apical setæ moderately elongate. Anterior antennæ rather slender, though not attaining the length of the cephalic segment, and composed of 6 joints clothed with scattered rather long setæ; 2nd joint somewhat dilated, but scarcely as long as the 3rd. Posterior antennæ comparatively strongly built, with the spines attached to the terminal joint very coarse and somewhat curved at the tip; outer ramus small, uniarticulate, with 4 ciliated setæ. Posterior maxillipeds very powerfully developed. 1st pair of legs also rather strongly built, with the inner ramus large and armed at the end with an unusually strong curved claw; outer ramus very narrow, 3-articulate, and extending a little beyond the middle of the proximal joint of the inner. The 2 succeeding pairs of legs of rather normale appearance. 4th pair of legs very unlike the preceding pairs and much smaller, 2nd basal joint produced outside to a long digitiform process ciliated on both edges and carrying on the tip the usual slender bristle; outer ramus only composed of 2 joints, the proximal of which is the shorter and provided outside with a thickish densely ciliated seta, distal joint of a somewhat irregular form and edged with 5 setæ similar to that attached to the proximal joint, each seta springing off from a knob-like prominence of the edge; inner ramus composed of a single small joint carrying on the tip 2 setæ. Last pair of legs with the proximal joint quite short and produced outside to a slender process tipped with a bristle, its inner part only very slightly expanded and provided with 3 marginal setæ of about equal length; distal joint remarkably constricted at the base, but widening in its outer part to a broad hairy plate carrying 5 comparatively short marginal setæ.

Colour not yet ascertained.

Length of adult female 0.51 mm.

Remarks.—The outward appearance of the present form is so peculiar that it cannot be confounded with any other member of the family *Laophontidæ*, though there are a few species which exhibit a somewhat similar short and flattened shape of the body, for instance the form described in Vol. V, p. 273 as *Laophontodes expansus*. This form is however otherwise very different.

Occurence.—A single female specimen only of this peculiar form has hitherto come under my notice. It was found in the bottom residue of a large collecting bottle containing several marine animals taken by Mr. Kjær in the neighbourhood of Drøbak from a depth of about 50 fathoms. The specimen was fully grown, but wanted the ovisacs.

Distribution.—Scottish coast.

Fam. Cletodidæ.

Gen. **Cletodes,** Brady.

61. Cletodes Sarsi, Scott.

(Pl. L).

Cletodes Sarsii, Scott; Twenty-third Annual Report of the Fishery Board for Scotland, Part III, p. 146, Pl. XII, figs. 1—9.

Specific Characters.—Female. Body very slender and gradually tapered behind, with all the segments sharply marked off from each other. Cephalic segment comparatively large, equalling in length the 3 succeeding segments combined; rostral projection rather prominent and narrowly blunted at the tip. Urosome (including the caudal rami) nearly as long as the anterior division; genital segment not fully attaining the length of the 2 succeeding segments combined, and imperfectly subdivided in the middle; last segment comparatively small, with the anal opercle well marked and perfectly smooth. Caudal rami very slender and narrow, equalling about half the length of the remaining part of the tail, and slightly divergent; outer edge exhibiting at the end of the first $^1/_3$ of its length a well-marked notch, to which are attached 2 somewhat unequal bristles, another small bristle occurring near the end; dorsal seta issuing about in the middle; apical seta rather slender and flanked by 2 small bristles, the outer of which is partly connected with it at the base. Anterior antennæ comparatively short and stout, scarcely exceeding half the length of

the cephalic segment, and composed of 5 joints, the 2nd of which is the largest and much longer than the 3rd; terminal joint oblong oval in form, with some of the setæ distinctly ciliated. Posterior antennæ and oral parts of the structure characteristic of the genus. Natatory legs rather poorly developed and not very dissimilar in structure; inner ramus in all of them considerably shorter than the outer and biarticulate; outer ramus without any setæ inside. Last pair of legs with the distal joint long and narrow, sublinear in form, and provided with 4 marginal setæ, 2 on the outer edge, one at the tip, and one on the inner edge, the latter very strong, spiniform; inner expansion of proximal joint forming a well defined narrow plate edged with 3 strong setæ and extending about to the end of the first $^1/_3$ of the distal joint.

Male resembling the female in the general form of the body, but easely recognisable by the strongly hinged anterior antennæ. Inner ramus of 3rd pair of legs conspicuously transformed, being distinctly 3-articulate with the middle joint armed at the end outside with a strong spine; terminal joint small, with 2 slender setæ on the tip.

Colour not yet ascertained.

Length of adult female 0.62 mm.

Remarks.—The present species is easily recognised by the very slender and attenuated shape of the body, and more particularly by the structure of the last pair of legs and that of the caudal rami.

Occurrence.—Some few specimens of this form were picked up from samples taken at Risør and Korshavn in depths ranging from 30 to 60 fathoms

Distribution.—Scottish coast (Scott).

62. Cletodes pusillus, G. O. Sars, n. sp.

(Pl. LI).

Specific Characters. Female. Body of a similar slender and narrow shape to that in the preceding species, though somewhat less rapidly attenuated behind. Cephalic segment scarcely attaining the length of the 3 succeeding segments combined, and having the rostral projection less produced and blunted at the end. Urosome almost the length of the anterior division and nearly cylindrical in shape, with the last segment scarcely smaller than the preceding one. Caudal rami long and narrow, nearly attaining half the length of the remaining part of the tail; outer edge with a slight notch in front of the middle carrying a small bristle; dorsal seta issuing a little beyond this notch; apical seta about the length of the ramus. Anterior antennæ comparatively

more slender than in the preceding species, though scarcely as long as the cephalic segment; 2nd joint of about same length as the 3rd, but somewhat broader. Posterior antennæ with the outer ramus very narrow and only provided with a single seta issuing from the tip. Natatory legs comparatively more slender than in *C. Sarsi,* with the setæ of the inner ramus reduced in number. Last pair of legs with the distal joint less slender, oblong fusiform in outline, and carrying 5 marginal setæ, 2 on the outer edge, 2 on the tip, and one inside near the end, none of the setæ spiniform; inner expansion of proximal joint very small, nodiform, with only 2 unequal setæ; digitiform process issuing from same joint outside exceedingly long and slender.

Male exhibiting the usual sexual differences from the female, the anterior antennæ being conspicuously hinged, and the inner ramus of 3rd pair of legs transformed in a similar manner to that in the preceding species.

Colour not yet ascertained.

Length of adult female 0.51 mm.

Remarks.—In the slender and narrow shape of the body this form resembles somewhat *C. Sarsi.* It is however rather inferior in size and, on a closer comparison, exhibits also several well-marked differences in the structural details, as indicated in the above diagnosis.

Occurrence. Of this form also only a small number of specimens have as yet come under my notice. They were found in samples taken at Risør from a depth of about 60 fathoms.

63. Cletodes leptostylis, G. O. Sars.

(Pl. LII).

? Syn: *Cletodes longicaudata,* Brady (not Boeck).

Specific Characters.—Female. Body slender and attenuated, with the segments sharply marked off from each other. Cephalic segment about the length of the 3 succeeding segments combined; rostral projection of moderate size and terminating in 2 minute juxtaposed denticles. Urosome considerably exceeding in length the anterior division, and rapidly tapered behind; genital segment comparatively large and distinctly subdivided in the middle; last segment much smaller than the preceding one. Caudal rami exceedingly narrow and elongated, occupying more than $^1/_3$ of the entire length of the body; outer edge with a well-marked notch near te base carrying 2 well-developed bristles and with another smaller bristle close to the end; dorsal seta attached considerably in front of the middle; apical seta shorter than the ramus, and,

as usual, flanked by 2 small bristles, the outer of which is connected with it at the base. Anterior antennæ of moderate size, not fully attaining the length of the cephalic segment, with the first 2 joint comparatively short and combined scarcely longer than the 3rd. Posterior antennæ with the outer ramus very small, bisetose. Natatory legs moderately slender, with the inner ramus in 1st pair nearly as long as the outer, in the succeeding pairs much shorter; outer ramus in the 2 anterior pairs without any setæ inside, in the 2 posterior pairs with a well developed seta on the middle joint and 2 such setæ inside the terminal joint, the latter joint unusually prolonged, exceeding in length the other 2 combined. Last pair of legs largely developed and highly chitinised; distal joint much elongated and provided with 5 exceedingly strong and densely plumose setæ, 3 on the outer edge, one at the tip, and one on the inner edge near the end, each seta being attached to a well defined knob-like prominence; proximal joint with the outer digitiform process long and narrow, inner expansion of the joint produced in the form of a narrow, somewhat curved ramus densely ciliated inside, and extending along the distal joint until its posterior $^1/_3$ part, outer part of the ramus armed with 4 slender spines.

Colour not yet ascertained.

Length of the specimen examined 0.55 mm.

Remarks.—The above described form agrees in almost all its details so closely with the species recorded by Brady under the name of *Cletodes longicaudata,* that I have been in much doubt, if it not more properly should be referred to that species, in spite of its much inferior size[1]). In any case the specific name *longicaudata* cannot be retained for the present form, as this name had been previously assigned by Boeck to another species of the present genus (see Vol. V, p. 286).

Occurrence.—A solitary, apparently fully grown female specimen of this form was found in a sample taken at Risør from a depth of about 30 fathoms.

Distribution.—?British Isles (Brady & Scott).

64. Cletodes perplexus, Scott.

(Pl. LIII).

Cletodes perplexus, Scott, Seventeenth Annual Report of the Fishery Board for Scotland, Part III, p. 257, Pl. XI, figs. 12—20; Pl. XII, fig. 1.

Specific Characters.—Female. Body comparatively more robust than in any of the preceding species, and tapering somewhat behind. Cephalic

[1]) Brady gives the length to 0.79 mm., and Scott to no less than 0.84 mm.

segment about the length of the 3 succeeding segments combined and broadly rounded in front; rostral projection rather prominent, and terminating in an acute somewhat recurved point. Last trunkal segment comparatively large and tumid. Urosome not fully attaining the length of the anterior division; genital segment fully as long as the 2 succeeding segments combined, and distinctly subdivided in the middle; last segment exceeding in length the preceding one and conspicuously contracted distally. Caudal rami rather slender and narrow, about half the length of the remaining part of the tail; outer edge with 2 successive small bristles in its anterior half; dorsal seta issuing at the end of the first $^1/_3$ of the ramus; apical seta rather slender. Anterior antennæ comparatively short and stout, scarcely exceeding half the length of the cephalic segment; 2nd joint much the largest, being nearly twice as long as the 3rd. Posterior antennæ rather strongly built, with the terminal joint considerably dilated at the end, innermost apical seta remarkably strong and cloted on the outer edge with long cilia; outer ramus more fully developed than in the other species and provided with 3 marginal setæ. Oral parts normal. Natatory legs likewise built in the usual manner, though comparatively rather small; outer ramus in all of them without any setæ inside. Last pair of legs very peculiar and unlike those in any of the other known species; proximal joint without any bristle-bearing process outside, its inner part considerably expanded and highly chitinised carrying inside 2 successive spiniform setæ and produced at the end to a long mucroniform process denticulated in its outer part and pointing obliquely backwards and outwards; distal joint very small and imperfectly defined at the base, with 3 comparatively short setæ.

Male of about same size as female and very like it in its general appearance, though easily recognisable by the distinctly hinged anterior antennæ. Last pair of legs scarcely different from those in female.

Colour pale whitish grey.

Length of adult female 0.55 mm.

Remarks.—The highly remarkable structure of the last pair of legs is sufficient for at once distinguishing the present form from any of the other known species. In the other structural details it shows itself however to be a true member of the present genus.

Occurrence.— Two specimens only of this form, a female and a male, have as yet come under my notice. They were found last summer (1918) at Hvaløer, outside the Christiania Fjord, in a depth of about 6 fathoms, muddy bottom.

Distribuction.—Scottish coast (Scott).

Gen. **Mesocletodes,** G. O. Sars.

Remarks.—This genus was established by the present author to include the form described by Scott as *Cletodes irrasa,* which I found differed in certain points so materially from the other members of the present family as more properly to be separated from them generically. The validity of this genus I am now enabled to confirm by adding 3 other species which are evidently congeneric with the above-mentioned form.

65. Mesocletodes monensis, (Thompson).

(Pl. LIV).

Cletodes monensis, I. C. Thompson, Proc. & Transact. of Liverpool Zool. Society, Vol. VII, p. 260, Pl. XXXIV.

Specific Characters.—Female. Body comparatively more slender than in the type species and about of equal width throughout; all the segments minutely denticulate at the hind edge. Cephalic segment about the length of the 3 succeeding segments combined and somewhat contracted in its anterior part; rostral projection well defined and slightly curved downwards, with the tip acutely pointed; dorsal face of the segment somewhat vaulted and exhibiting behind the middle a very conspicuous horn-like process curved backwards. Urosome about the length of the anterior division; genital segment of moderate size and imperfectly subdivided in the middle; last segment nearly as large as the 2 preceding segments combined, and having the anal opercle somewhat prominent and armed dorsally with 2 successive denticles, the posterior one rather coarse and pointing backwards. Caudal rami slender and narrow, though not nearly attaining half the length of the remaining part of the tail; outer edge with 2 small bristles, the one attached at a short distance from the base, the other close to the end; dorsal seta issuing somewhat in front of the middle; apical setæ very unequal, the middle one much the largest and about as long as the ramus, the innermost extremely small. Anterior antennæ rather slender, nearly attaining the length of the cephalic segment, and composed of 7 sharply defined joints clothed with comparatively short, partly spiniform setæ; 2nd joint much the largest; antepenultimate joint about the length of the last 2 joints combined. Posterior antennæ with the outer ramus very small, bisetose. Oral parts agreeing in structure with those in the type species. Natatory legs likewise rather similar, though comparatively somewhat less slender; inner ramus very small, but, as in the type species, distinctly biarticulate. Last pair of legs confluent in the middle; distal joints narrow linear in form, not dilated

at the end, and provided with 6 marginal setæ, 3 very small on the outer edge, and 3 on the tip; inner expansion of proximal joint more distinctly defined than in the type species, and carrying 3 well-developed marginal setæ. Ovisac very small.

Colour whitish grey.

Length of adult female 0.87 mm.

Remarks.—The present form, first described by I. C. Thompson, may at once be distinguished from the type species, *M. irrasus* Scott, by the peculiar horn-like process springing off from the dorsal face of the cephalic segment. In the more general structural details it shows a near relationship to that species, though, on a closer comparison, some well-marked minor differences may be found to exist, especially as regards the mutual relations of the joints in the anterior antennæ and the shape of the last pair of legs.

Occurrence.—I have only met with this form in a single locality on the Norwegian coast, viz., at Risør, where it occurred occasionally in a depth of about 50 fathoms, coarse muddy sand. All the specimens obtained were of the female sex.

Distribution.—Liverpool Bay (Thompson).

66. Mesocletodes abyssicola, (Scott).

(Pl. LV).

Cletodes abyssicola, Scott, On some Entomostraca collected in the Arctic Seas by W. Bruce. Ann. Mag. Nat. Hist. ser. 7, Vol. VIII, p. 347, Pl. V, figs. 1—8.

Specific Characters.—Female. Body comparatively a little less slender than in the preceding species, with the segments coarsely denticulate at the hind edge. Cephalic segment somewhat tumid, with the frontal part broadly rounded off; rostral projection very small, almost obsolete; dorsal face of the segment considerably vaulted and armed behind, as in the preceding species, with a strong spiniform process still more prominent and curved than in that species. Urosome, as in the other species of the present genus, nearly of uniform width throughout, with the last segment rather large; anal opercle tipped with a strong upturned tooth. Caudal rami very narrow and quite excessively produced, occupying more than $^1/_3$ of the entire length of the body, each ramus provided in the middle with 2 small bristles, the one lateral, the other dorsal; apical setæ very short. Anterior antennæ comparatively slender, exceeding somewhat in length the cephalic segment, and, as in the preceding species, composed of 7 joints, the 2nd of which is rather broad, though

scarcely as long as the 3rd; the 4 outer joints very narrow and subequal in size, constituting together the terminal part of the antenna, as shown by the position of the æsthectask which is attached to the 3rd instead, as usual, to the 4th joint. Posterior antennæ with the outer ramus very minute and only tipped with a single seta. Oral parts scarcely different from those in the other species. Natatory legs with the inner ramus very small, uniarticulate; outer ramus in the 3 posterior pairs exceedingly slender and narrow. Last pair of legs with the proximal joint scarcely at all expanded inside, and only provided with a single small seta on the posterior edge; distal joint narrow linear in form, with a small bristle outside beyond the middle, and with 3 unequal apical setæ.

Colour pale whitish grey.

Length of adult female 0.84 mm.

Remarks.—The near relationship of the present form to the preceding one is clearly shown by the presence of a quite similar spiniform process on the dorsal face of the cephalic segment. It is however at once distinguished from that species by the excessively prolonged and narrow caudal rami, as also by the very small rostral projection. Some aberrant characters, as to the structure of the anterior antennæ and legs, have moreover been indicated in the above diagnosis.

Occurrence.—2 or 3 female specimens only of this form have as yet come under my notice. They were found at Risør at the considerable depth of about 100 fathoms, muddy bottom.

Distribution.—Arctic Sea (Scott).

67. Mesocletodes inermis, G. O. Sars, n. sp.

(Pl. LVI).

Specific Characters.—Female. Body resembling somewhat in shape that of *M. monensis*, though on the whole rather more robust. Cephalic segment, as in that species, slightly contracted in front, with the rostral projection well defined and rather prominent, tridentate; dorsal face of the segment not much vaulted and without any trace of a spiniform process. Urosome about the length of the anterior division, with the last segment rather large; anal opercle not much prominent and edged with about 5 small denticles. Caudal rami only slightly longer than the anal segment, but of the usual narrow linear shape, with 2 small bristles, rather remote from each other, on the outer edge; dorsal seta issuing somewhat beyond the middle; apical setæ comparatively

short. Anterior antennæ rather slender, nearly attaining the length of the cephalic segment, and composed of 8 well defined joints, the 2nd of which is, as usual, the largest, though scarcely as long as the 2 succeeding joints combined, the 4 outer joints, composing the terminal part of the antenna, of about equal size. Posterior antennæ comparatively small, with the outer ramus poorly developed, bisetose. Oral parts of the stucture characteristic of the genus. Natatory legs comparatively less slender than in the other species, and coarsely aculeate outside, inner ramus reduced to a minute nodiform prominence carrying in the 1st pair only one, in the other pairs 2 small bristles. Last pair of legs with the distal joint of the usual narrow linear form, and provided with 5 marginal setæ, 3 apical and 2 lateral, the latter attached to the outer edge beyond the middle; inner expansion of proximal joint produced to a well defined narrow linguiform lamella carrying on the end 2 rather slender and distinctly ciliated setæ accompanied outside by a very small spinule.

Colour brownish grey.

Length of adult female 0.86 mm.

Remarks.—This new species is nearly allied to *M. monensis,* the general form of the body being rather similar, though somewhat more robust. It is however at once distinguished from that species by the absolute absence of any dorsal process on the cephalic segment. The specific name here proposed alludes to this want. As to the structural details, it moreover differs in the distinctly 8-articulate anterior antennæ and in the rudimentary condition of the inner ramus of the natatory legs.

Occurrence.—Several specimens of this form, all of the female sex, were found at Risør in depths ranging from 30 to 60 fathoms, coarse muddy sand.

Gen. **Eurycletodes,** G. O. Sars.

Remarks.—Of this genus 4 species have been described in Vol. V of the present work. To these are now added 4 others, increasing the number of Norwegian species of this genus to 8 in all.

68. Eurycletodes serratus, G. O. Sars, n. sp.

(Pl. LVII).

Specific Characters. Female. Body comparatively short and stout, of nearly equal width throughout, with all the segments coarsely denticulate at the hind edge. Cephalic segment scarcely as long as the 2 succeeding seg-

ments combined, and produced in front to a rather prominent acutely pointed rostral projection. Urosome about the length of the anterior division, with the 3 anterior segments produced on each side to well-marked spiniform prominences, giving that part a pronouncedly serrate appearance; last segment very large and, viewed from above, regularly quadrangular in outline; anal opercle edged with scattered strong denticles (about 5 in number). Caudal rami resembling in shape those in *E. laticaudatus*, being rather narrow and somewhat tapered distally; dorsal seta issuing from a knoblike prominence at a short distance from the end of the ramus. Anterior antennæ not fully attaining the length of the cephalic segment and, as in the other known species, composed of 6 joints, 3 of which belong to the terminal part, 1st joint the largest, 2nd joint a little shorter than the 3rd; terminal part about the length of the 2 preceding joints combined, with the last joint rather produced. Posterior antennæ without any trace of an outer ramus. Mandibular palp distinctly biarticulate. Posterior maxillipeds moderately strong. Natatory legs with both rami well developed; the inner one biarticulate and in 1st pair nearly as long as the outer, in the succeeding pairs rather shorter. Last pair of legs with the distal joint oblong oval in form and only slightly tapered distally, marginal setæ 5 in number; inner expansion of proximal joint not much produced and carrying 3 subequal setæ.

Colour dark grey.

Length of adult female 0.87 mm.

Remarks.—The present form is nearly allied to the type species, *E. laticaudatus* (Boeck), agreeing with it rather closely in most of the structural details. It is however of considerably larger size, and moreover at once distinguished by the conspicuously serrated edges of the urosome, in which latter respect it more resembles *E. latus* (Scott).

Occurrence.—Some few female specimens of this fine species were taken at Risør from a depth of 60—80 fathoms, muddy bottom.

69. Eurycletodes oblongus, G. O. Sars, n. sp.
(Pl. LVIII).

Specific Characters.—Female. Body comparatively more slender than in the preceding species, oblong in form, with the segments less coarsely denticulated at the hind edges. Cephalic segment fully as long as the 3 succeeding segments combined, and produced in front to a broadly triangular rostral projection. Urosome scarcely attaining the length of the anterior

division and somewhat less broad, with the anterior segments produced laterally to well defined, posteriorly-pointing acute projections; last segment very large, with the lateral edges somewhat arched and minutely denticulate; anal opercle edged with about 10 strong denticles. Caudal rami comparatively small, being only slightly longer than they are broad; dorsal seta issuing from a rather prominent tubercle somewhat in front of the middle; apical setæ unusually short. Anterior antennæ not nearly attaining the length of the cephalic segment; 2nd joint shorter, but much broader than the 3rd; terminal part about the length of those joints combined. Posterior antennæ rather small, with the outer ramus replaced by a simple seta. Posterior maxillipeds comparatively strong. Natatory legs with the inner ramus poorly developed, only consisting of a single joint, carrying in the 2 anterior pairs 4, in the 2 posterior pairs only 2 setæ. Last pair of legs with the distal joint narrow oblong in form and only provided with 4 setæ, 2 apical and 2 lateral; inner expansion of proximal joint conically produced, and extending about to the middle of the distal joint, tip provided with 2 subequal setæ.

Colour whitish grey.

Length of adult female 0.78 mm.

Remarks.—In the structural details this form seems to approch nearest to *E. major* G. O. Sars. It is however rather inferior in size and moreover at once distinguished by the well-marked lateral armature of the anterior segments of the urosome, as also by the less produced caudal rami.

Occurrence.—Two female specimens only of this form have as yet come under my notice. They were taken at Risør from a depth of about 30 fathoms.

70. Eurycletodes aculeatus, G. O. Sars, n. sp.
(Pl. LIX).

Specific Characters.—Female. General form of the body somewhat resembling that in *E. oblongus*, though perhaps a little shorter and stouter. Cephalic segment scarcely longer than the 2 succeeding segments combined; rostral projection only slightly prominent and obtusely pointed at the end. Urosome about the length of the anterior division, and having the hind edges of the segments very coarsely dentate, the outermost tooth on the 2 anterior segments being much stronger than the others and projecting on each side. Last caudal segment large, with the lateral edges slightly convex and finely hairy; anal opercle broadly rounded off and edged with about 12 denticles of

moderate size. Caudal rami comparatively small, though somewhat longer than they are broad; dorsal seta issuing about in the middle from a well-marked knob-like prominence; apical setæ of moderate length. Anterior antennæ nearly attaining the length of the cephalic segment; 2nd joint rather short, scarcely more than half as long as the 3rd; 4th joint unusually produced anteriorly. Posterior antennæ, as in the preceding species, with the outer ramus replaced by a simple seta. Posterior maxillipeds moderately strong. Natatory legs with the inner ramus uniarticulate, largest on the 1st pair and successively diminishing in size on the succeeding pairs. Last pair of legs with the distal joint very narrow and somewhat tapered towards the end, carrying 4 setæ, the proximal one rather remote from the other 3, which issue from the outermost part of the joint; inner expansion of proximal joint only slightly produced and provided with 2 subequal setæ.

Colour whitish grey.

Length of adult female 0.73 mm.

Remarks.—The present form may be easily recognised by the unusually coarse dentation of the caudal segments, a character which has given rise to the specific name here proposed. In the structure of the several appendages it seems to come nearest to *E. oblongus*.

Occurrence.—Some female specimens of this form were obtained at Risør in a depth of about 50 fathoms, muddy bottom. It also occurs occasionally at Korshavn in about the same depth.

71. Eurycletodes minutus, G. O. Sars, n. sp.

(Pl. LX).

Specific Characters.—Female. Body short and stout, with the anterior division conspicuously broader than the posterior and somewhat depressed. Cephalic segment comparatively large, considerably exceeding in length the 2 succeeding segments combined, and gradually somewhat contracted in front; rostral projection only slightly prominent and obtusely pointed at the end. Urosome much shorter than the anterior division and narrower than usual, with the segments uniformly denticulated at the hind edges and the lateral corners not produced; last segment, as usual, of rather large size, with the lateral edges slightly convex and finely hairy; anal opercle quite smooth at the edge. Caudal rami about twice as long as they are broad and only slightly tapered distally; dorsal seta issuing about in the middle; apical setæ of moderate length. Antennæ and oral parts resembling in structure those in

the 2 preceding species. Natatory legs with the inner ramus still more reduced in size and apparently quite wanting on the 4th pair; outer ramus in this and the 2 preceding pairs very slender and narrow. Last pair of legs with the distal joint narrow linear in form and imperfectly defined at the base, marginal setæ rather small and 4 in number; inner expansion of proximal joint very slightly produced and carrying 2 unequal setæ.

Colour whitish grey.

Length of adult female 0.53 mm.

Remarks.—This small species may be easily recognised by the somewhat unusual shape of the body, the anterior division being, unlike what is generally the case, conspicuously broader than the posterior. In the structural details it shows itself however to be a true member of the present genus.

Occurrence.—Some few specimens of this form, all of the female sex, were found at Risør in depths ranging from 30 to 50 fathoms, muddy bottom.

Gen. **Leptocletodes,** G. O. Sars, n.

Generic Characters.—Body of slender form, with very thin and fragile integuments. Rostral projection inconspicuous. Urosome narrower than the anterior division, with the segments scarcely denticulate behind; last segment comparatively large. Caudal rami narrow and rather far apart. Anterior antennæ 7-articulate, with the terminal joint elongate. Posterior antennæ small with the outer ramus imperfectly developed. Mandibular palp distinctly biarticulate. Maxillæ with a small exopodal lobe tipped with a single bristle. Maxillipeds normal. Natatory legs slender, with both rami well developed, the inner one shorter than the outer and biarticulate. Last pair of legs with the proximal joint scarcely expanded inside; distal joint long and slender.

Male unknown.

Remarks.—This new genus is only founded on a single species, which however cannot properly be referred to any of the hitherto known genera of the present family, though in some respects apparently approaching somewhat the genus *Eurycletodes*. The generic name here proposed alludes both to the comparatively slender form of the body and to the very thin and fragile integuments.

72. Leptocletodes debilis, G. O. Sars, n. sp.

(Pl. LXI).

Specific Characters.—Female. Body rather slender and narrow, with the anterior division only slightly dilated, though somewhat broader than the posterior. Cephalic segment exceeding in length the 2 succeeding segments combined, and somewhat vaulted dorsally; frontal margin slightly produced in the middle, though not forming any true rostrum. Last trunkal segment comparatively small. Urosome not attaining the length of the anterior division, and rather narrow, cylindrical in form; genital segment fully as long as the 2 succeeding segments combined and imperfectly subdivided in the middle; last segment oblong quadrangular in outline, with the anal opercle broadly truncated at the end and perfectly smooth. Caudal rami widely apart, and narrow linear in form, not however attaining the length of the anal segment, both the outer and inner edge carrying beyond the middle a small seta; dorsal seta issuing near the end of the ramus; apical setæ rather slender. Anterior antennæ fully as long as the cephalic segment and composed of 7 well defined joints clothed with scattered comparatively short setæ; the first 2 joints about equal in size, each of them equalling in length the 2 succeeding joints combined; terminal part of the antenna, composed of the 3 outer joints, almost as long as the proximal one, with the last joint rather large, fully as long as the other 2 combined. Posterior antennæ rather feeble, with the outer ramus very small, uniarticulate, and tipped by a single seta. 1st pair of natatory legs, as usual smaller than the others, with the rami less unequal in length, the outer one being only slightly longer than the inner and without any setæ inside. The 3 succeeding pairs of legs with the outer ramus very slender and narrow, inner one successively somewhat diminishing in length, extending in 2nd pair beyond the middle joint of the outer, in 4th pair only as far as the 1st joint of that ramus. Last pair of legs with the proximal joint produced outside to a long digitiform process tipped with a slender bristle, inner part of the joint not at all expanded, and only provided behind with a single seta arising from a knoblike prominence of the margin; distal joint greatly produced and narrow linear in form, though a little dilated in its outer part, and carrying 4 comparatively small marginal setæ, 2 lateral and 2 apical.

Colour whitish pellucid.

Length of adult female 0.63 mm.

Remarks.—In its outward appearance this form somewhat reminds on *Fultonia hirsuta* Scott (see Vol. V, p. 341), which however otherwise is rather

different, and has been referred provisionally by the present author to another family, viz., the *Tachidiidæ*. The great fragility of the animal renders its exact examination rather difficult, and has indeed given rise to the specific name here proposed.

Occurrence.—Some specimens of this form, all of the female sex, were found at Risør in depths ranging from 50 to 100 fathoms, muddy bottom.

Gen. **Pseudocletodes**, G. O. Sars, n.

Generic Characters. — Body slender and attenuated, with strongly chitinised integuments, and all the segments distinctly denticulate at the hind edge. Cephalic segment peculiarly expanded below, and produced in front to a well defined rostral projection. Urosome with the segments somewhat expanded laterally; last segment smaller than the preceding ones. Caudal rami somewhat produced and rather narrow. Anterior antennæ of moderate size, but with the number of joints much reduced. Posterior antennæ with the outer ramus well defined, uniarticulate. Mandibular palp likewise uniarticulate. Maxillæ without any distinctly defined exopodal lobe. Anterior maxillipeds with 3 setiferous lobes inside the basal part. Posterior maxillipeds moderately strong. 1st pair of legs small, with both rami biarticulate; the 3 succeeding pairs with the outer ramus distinctly triarticulate and very slender, inner ramus biarticulate and shorter than the outer. Last pair of legs of rather a peculiar shape, the proximal joint being remarkably produced both outside and inside, distal joint comparatively small.

Male unknown.

Remarks.—This genus also is only founded on a single species, which however exhibits several very conspicuous peculiarities both as to the outward appearance and the structural details, preventing its reference to any of the hitherto known genera of the present family.

73. **Pseudocletodes typicus**, G. O. Sars, n. sp.

(Pl. LXII).

Specific Characters.—Female. Body of rather slender form and gradually attenuated behind, with the segments rather sharply marked off from each other. Cephalic segment of very large size, occupying rather more than half the length of the anterior division, and forming below on each side a broad

lamellar expansion covering at the sides the oral area; rostral projection considerably prominent, with the end narrowly produced and terminating in 2 small juxtaposed points. Urosome somewhat shorter than the anterior division, with the lateral parts of the segments slightly prominent and rounded off; genital segment comparatively large and distinctly subdivided in the middle; last segment shorter than the preceding one, with the anal opercle coarsely denticulate at the edge; all the caudal segments containing within their lateral parts a very conspicuous rounded opaque body of apparently glandular nature. Caudal rami slightly exceeding in length the anal segment and rather narrow, with 2 juxtaposed bristles on the outer edge at a short distance from the end; dorsal seta issuing a little farther behind; apical setæ very slender. Anterior antennæ nearly as long as the cephalic segment, and only composed of 4 distinctly defined joints clothed with scattered comparatively short and stout setæ; 2nd joint produced behind in the middle to a strong claw-like projection; 3rd joint about the length of the first 2 joints combined, and exhibiting at the end, in addition to the projection carrying the usual æsthetask, a small conical process tipped with a seta, and apparently representing the remnant of a small joint originally intercalated between it and the succeeding (last) joint, but otherwise wholly coalesced with the former; terminal joint about as long as the 3rd, but much narrower. Posterior antennæ of moderate size; outer ramus formed by a small, but well defined joint carrying on the tip 2 somewhat unequal setæ. 1st pair of legs much smaller than the succeeding ones and, as usual, armed at the inner corner of the 2nd basal joint with a deflexed spine; inner ramus somewhat shorter and much narrower than the outer, with the distal joint comparatively small, and carrying on the tip a slender seta accompanied by a short bristle; outer ramus without any setæ inside, its distal joint of about same size as the proximal one, and armed at the end with 3 slender spines followed by a somewhat longer ciliated seta. The 3 succeeding pairs of legs with the outer ramus very slender and narrow and without any seta inside the 1st joint; inner ramus in 2nd pair extending about to the end of the middle joint of the outer, in the 3rd and 4th pairs successively shorter. Last pair of legs with the distal joint very small, oval in form, and edged with 4 setæ; proximal joint produced outside to a long digitiform process tipped with a slender bristle; inner expansion exserted to a long conical lappet extending far beyond the distal joint, and tipped with a slender seta accompanied outside by a very minute bristle.

Colour pale yellowish grey.

Length of adult female 0.62 mm.

Remarks.—In the slender and attenuated shape of the body this form bears a general resemblance to some species of the genus *Cletodes*. It is however at once recognised from them by the peculiar shape of the cephalic segment, as also by the rather different structure of the anterior antennæ and of the 1st and last pairs of legs.

Occurrence.—Some few female specimens of this peculiar form were found at Risør in depths ranging from 30 to 60 fathoms, coarse muddy sand.

Gen. **Nannopus**, Brady.

Remarks.—Two species only of this genus are as yet known, the one (the type), *N. palustris* Brady, occurring in brackisk water on the coasts of northern Europe and described in Vol. V, p. 307, the other having been recorded by the present author form the great fresh-water lake Tanganyika in Central Africa, under the name of *Ilyophilus perplexus*. I am now enabled to add a 3rd very distinct species, which, unlike the other two, is a true marine and deep-water form.

74. Nannopus abyssi, G. O. Sars, n. sp.

(Pl. XLIII).

Specific Characters.—Female. Body short and stout, gradually tapered behind, with the segments not very sharply marked off from each other and perfectly smooth. Eye absent. Cephalic segment about equalling in length the 3 succeeding segments combined, and evenly vaulted above; rostral projection abruptly deflexed, with the tip obtusely pointed and only provided on each side with a single sensory hair. Urosome scarcely longer than the exposed part of the trunk; genital segment comparatively large and imperfectly subdivided in the middle; last segment much shorter than the preceding one, with the anal opercle very small. Caudal rami about twice as long as they are broad at the base, and somewhat tapering distally, each ramus armed, inside the 2 juxtaposed bristles of the outer edge, with a short transverse row of small spinules; dorsal seta issuing near the base of the ramus; apical setæ comparatively short, the middle one of quite normal appearance. Anterior antennæ short and stout, scarcely exceeding half the length of the cephalic segment and, as in the other 2 species, composed of 5 joints clothed with rather strong, for the most part ciliated setæ; the first 3 joints successively diminishing in size, the 3rd being rather produced at the end anteriorly, the

outer 2 joints, composing the terminal part of the antenna, abruptly much smaller and subequal in size, the last one carrying behind an unusually thick and coarsely ciliated seta. Posterior antennæ very strongly built, with the terminal joint coarsely aculeate outside; outer ramus comparatively large, lamellar, with 6 strong marginal setæ. Mandibular palp likewise very fully developed and distinctly biramous, with the basal part considerably expanded and provided at the prominent inner corner with 4 strong curved setæ; both rami uniarticulate and of unequal size, the inner one being much the larger. Maxillæ with both the exopodal and epipodal lobes well defined. Maxillipeds resembling in structure those in the other 2 species. 1st pair of legs well developed and coarsely aculeate outside; inner ramus biarticulate and a little shorter than the outer. The 3 succeeding pairs of legs without the slightest trace of an inner ramus; outer ramus normally developed and only sligtly longer than that of the 1st pair. Last pair of legs extremely small, though distinctly biarticulate, both joints simple, not expanded. Ovisac globular, with only a small number of comparatively large ova.

Colour whitish grey.

Length of adult female 0.68 mm.

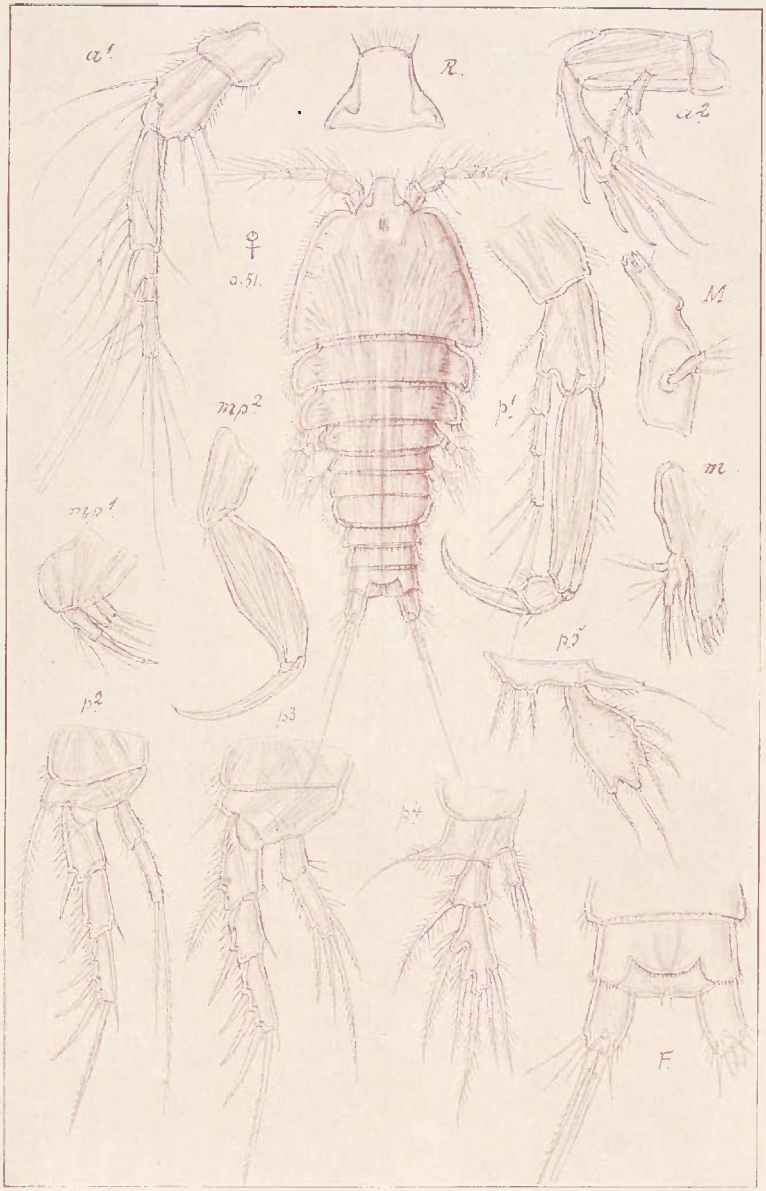
Remarks.—This is a very distinct form, differing in some points rather markedly from the 2 previously known species, though evidently referable to the same genus. The most prominent differences relate to the great reduction of the last pair of legs and the absolute absence of an inner ramus on the 3 posterior pairs of natatory legs. On the other hand are the antennæ and the oral parts rather more fully developed than in those species, though built on the very same type

Occurrence.—A solitary specimen only of this interesting form, an ovigerous female, has as yet come under my notice. It was found at Risør in the considerable depth of nearabout 100 fathoms, muddy bottom.

Fam. Tachidiidæ.

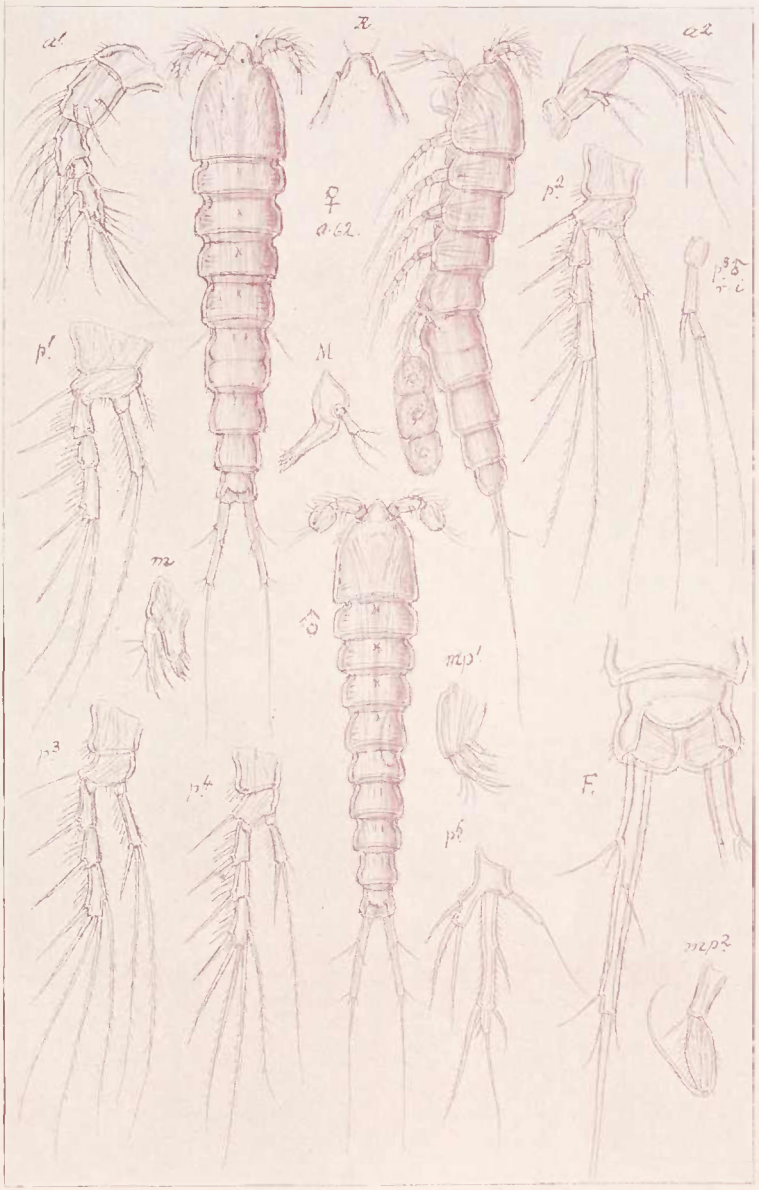
Gen. **Danielssenia,** Boeck.

Remarks.—This genus, which is identical with *Jonesiella* of Brady, comprises as yet 4 species, 2 of which are described in Vol. V of the present work, the other 2 being recorded from the Arctic Seas. I am now enabled to add a 5th well defined and rather large species, to be described below.



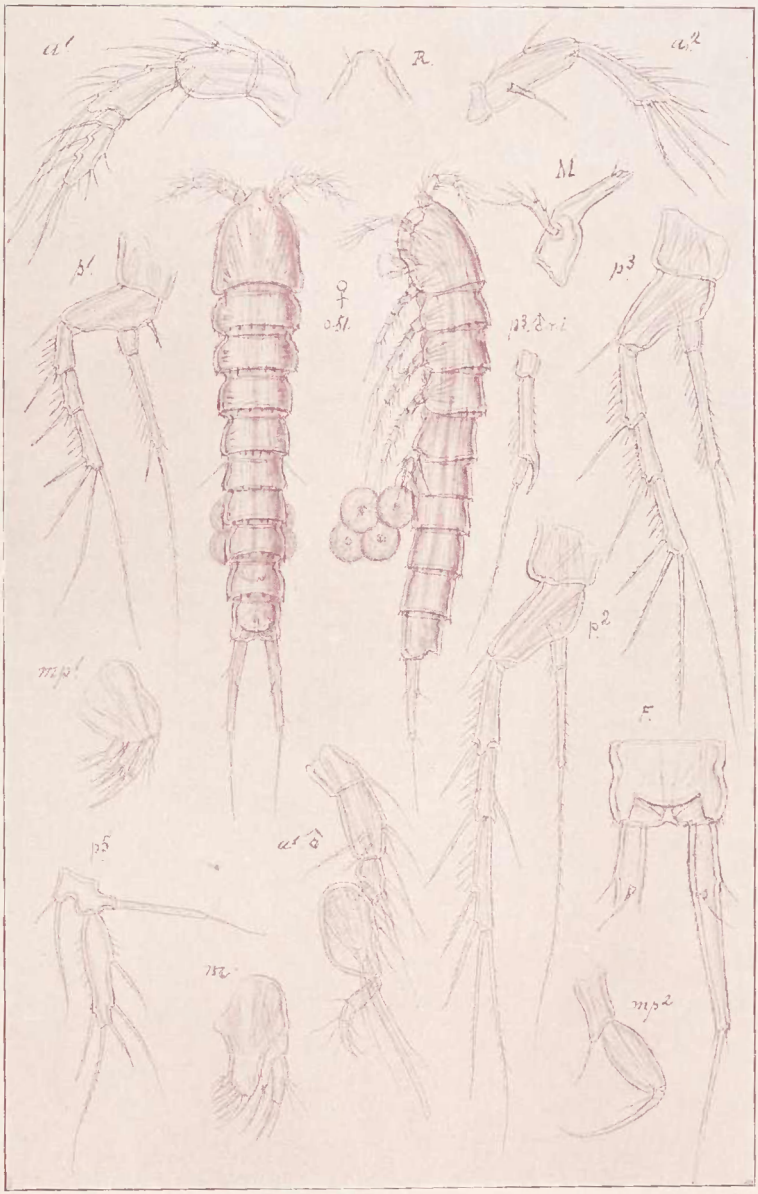
G. O. Sars, del.

Harietella simulans. Scott



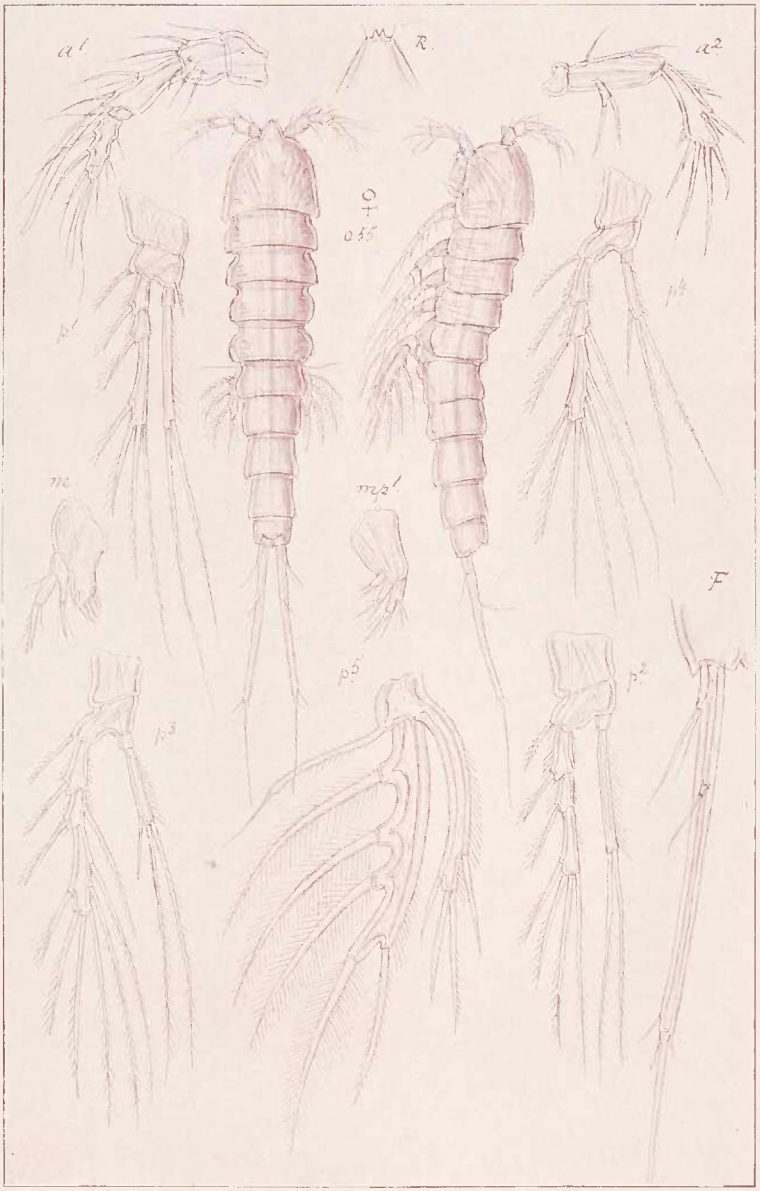
G. O. Sars, del.

Cletodes Sarsi, Scott



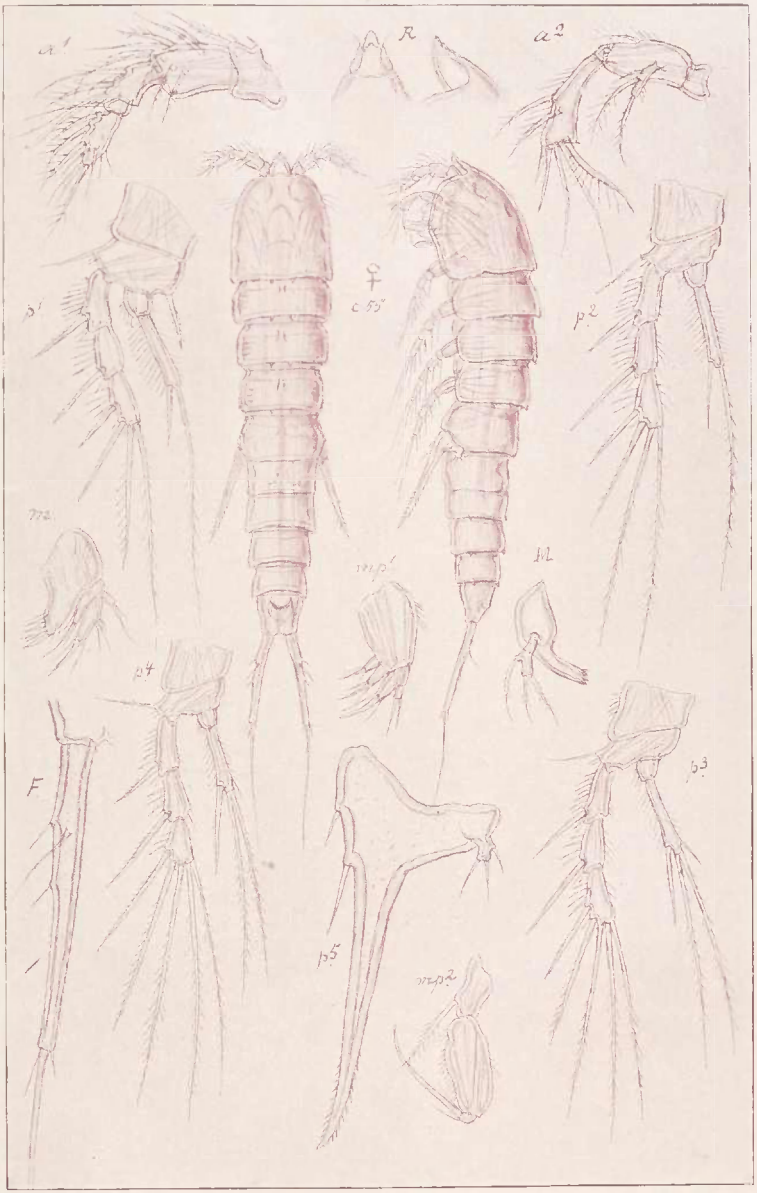
G. O. Sars, del.

Cletodes pusillus, G. O. Sars



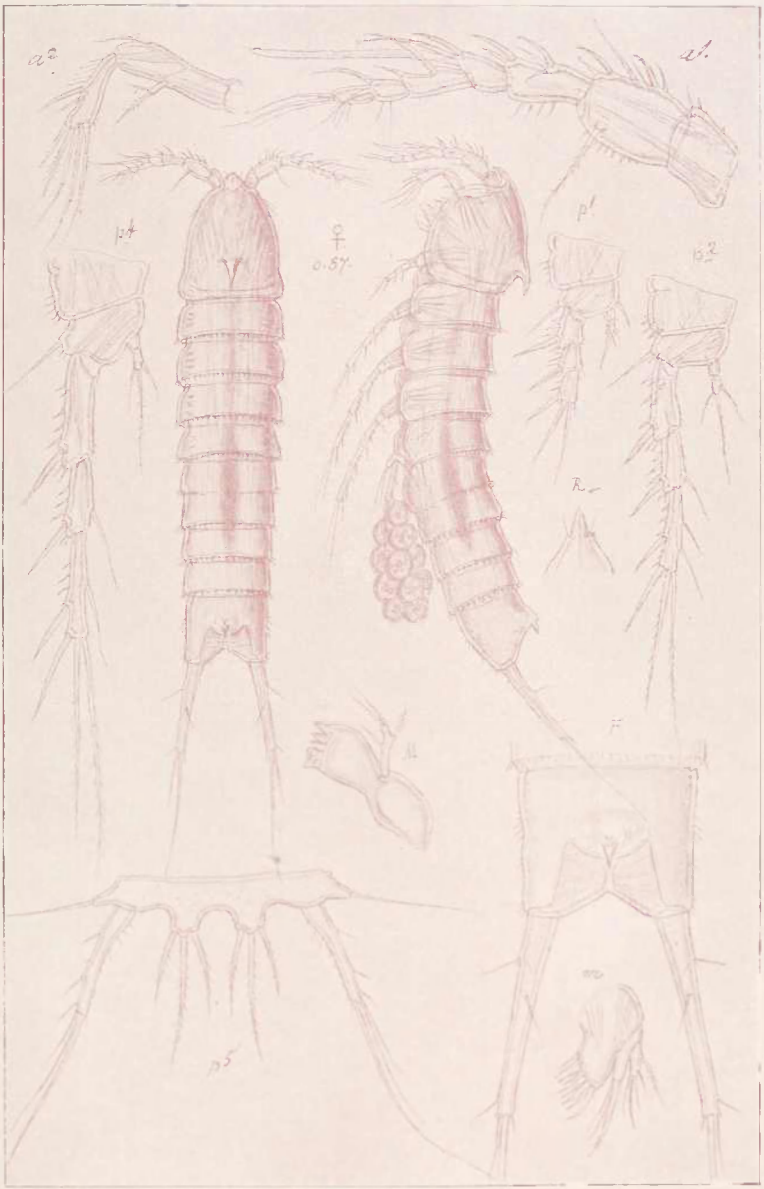
G. O. Sars, del.

Cletodes leptostylis, G. O. Sars



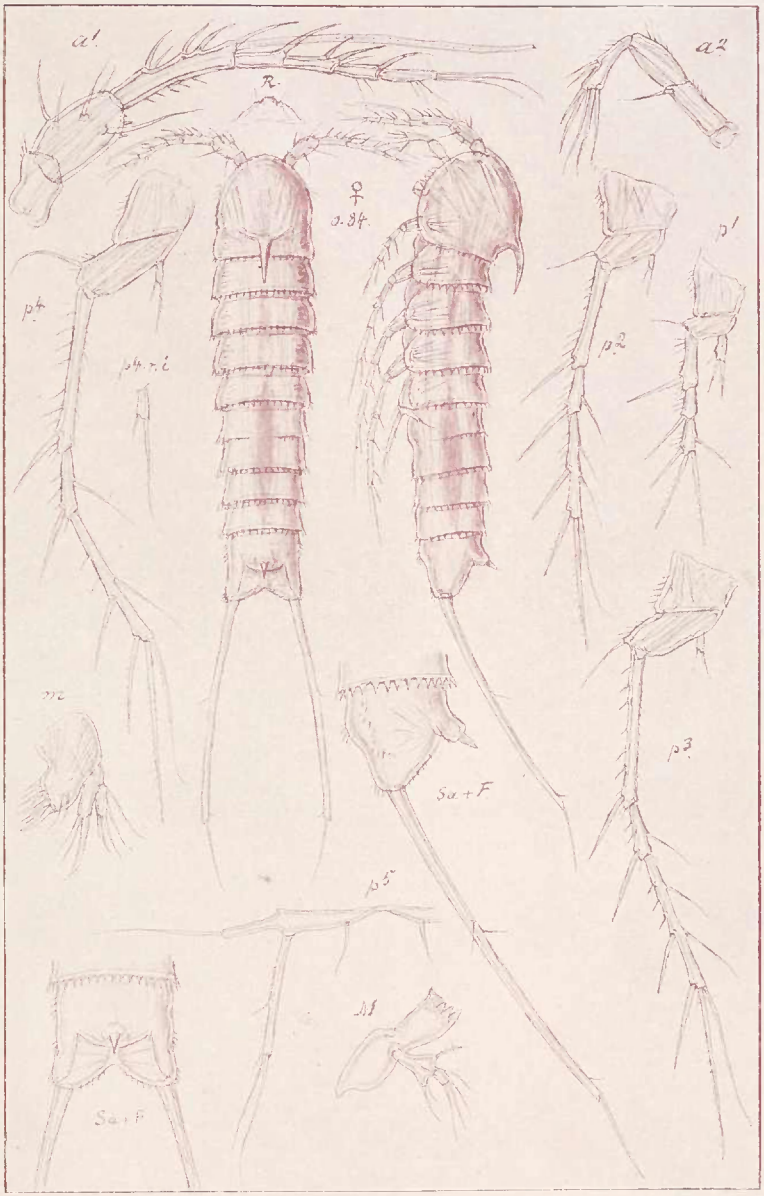
G. O. Sars, del.

Cletodes perplexus, Scott



G. O. Sars, del.

Mesocletodes monensis, (Thomps.)

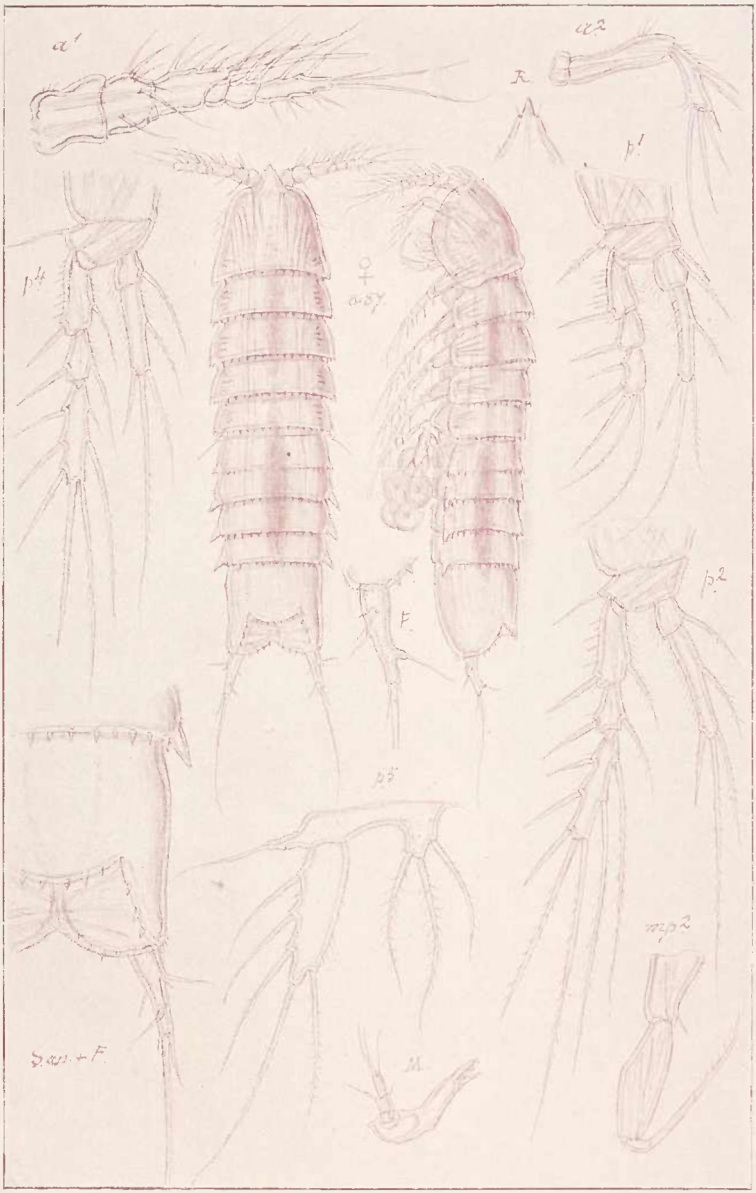


G. O. Sars, del.

Mesocletodes abyssicola, (Scott)

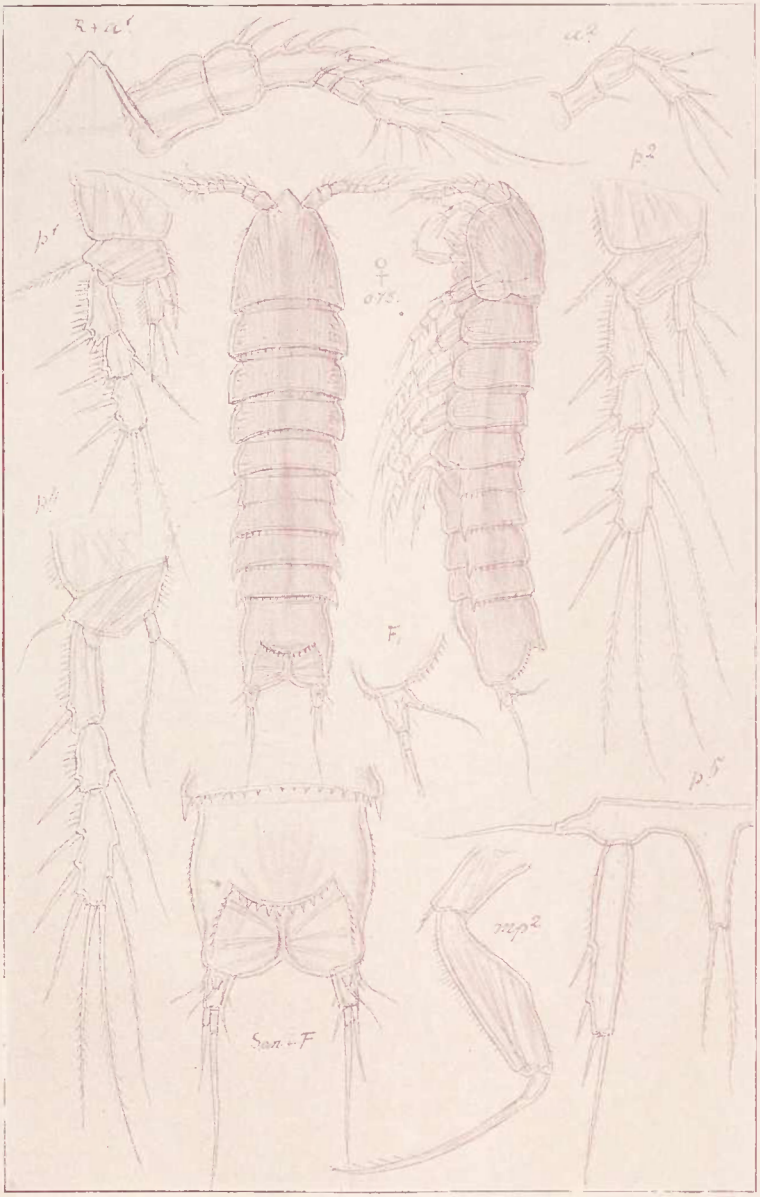
G. O. Sars, del.

Mesocletodes inermis, G. O. Sars



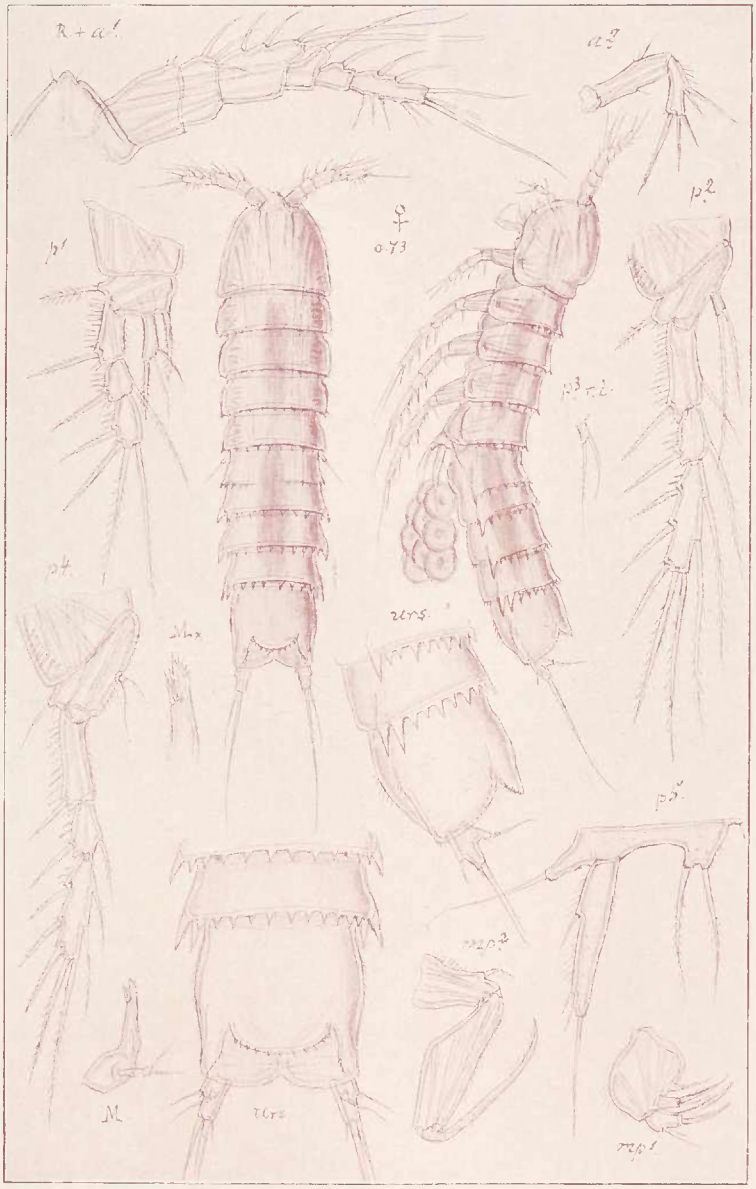
G. O. Sars, del.

Eurycletodes serratus, G. O. Sars



G. O. Sars, del.

Eurycletodes oblongus, G. O. Sars

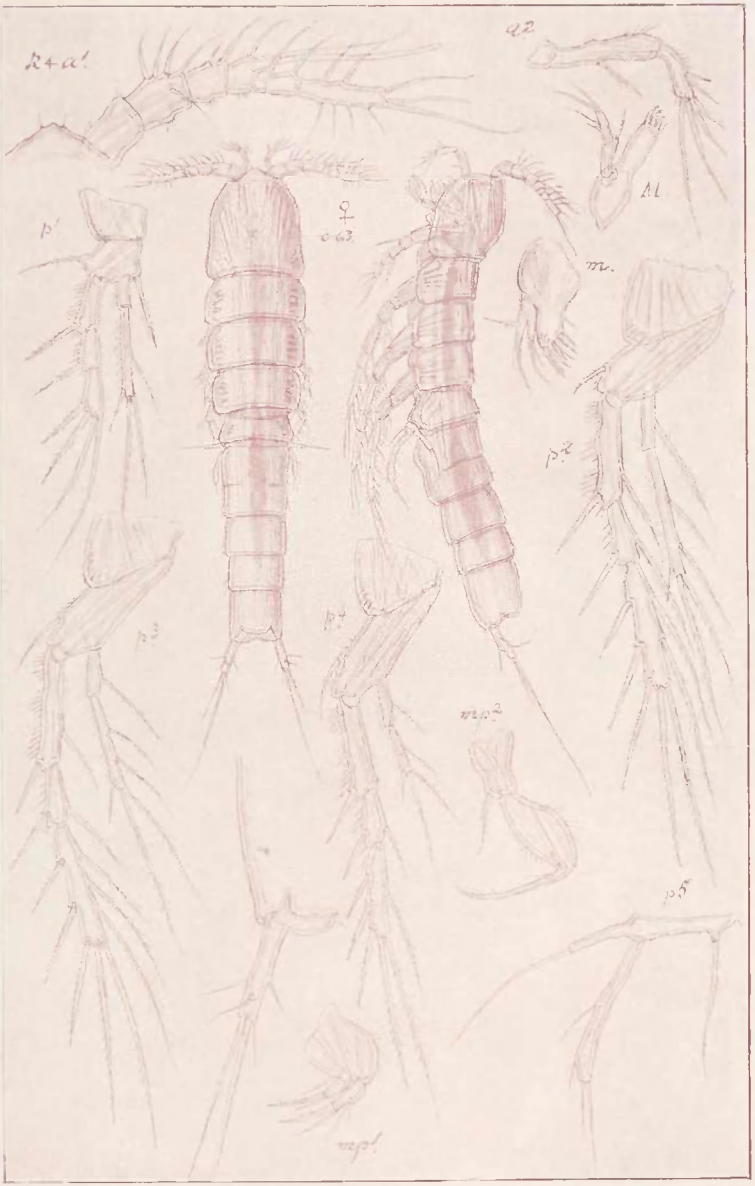


G. O. Sars, del.

Eurycletodes aculeatus, G. O. Sars

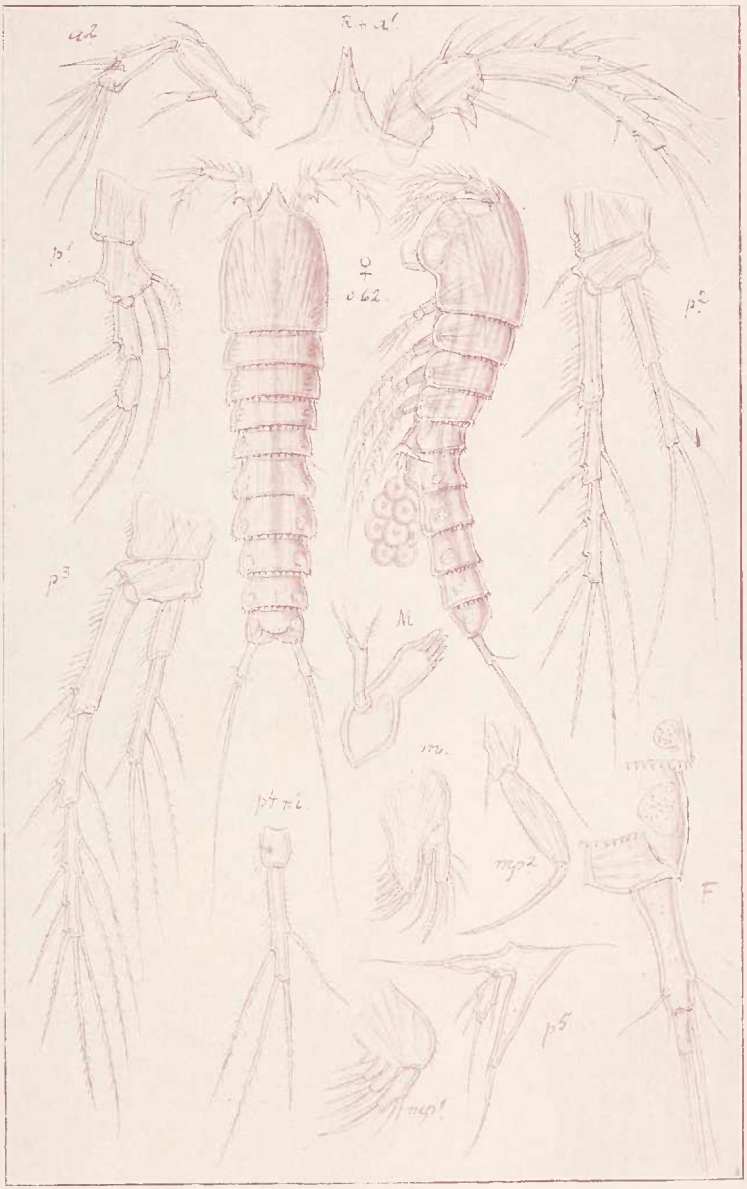
G. O. Sars, del.

Eurycletodes minutus, G. O. Sars



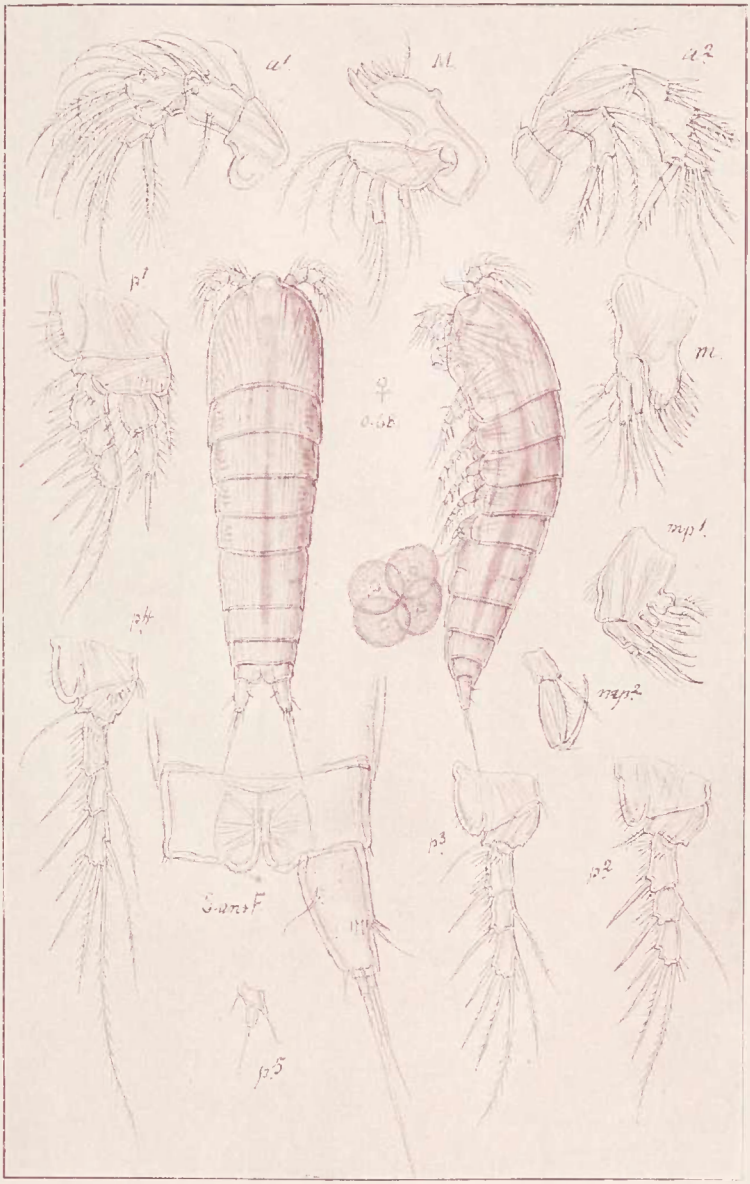
G. O. Sars, del.

Leptocletodes debilis, G. O. Sars



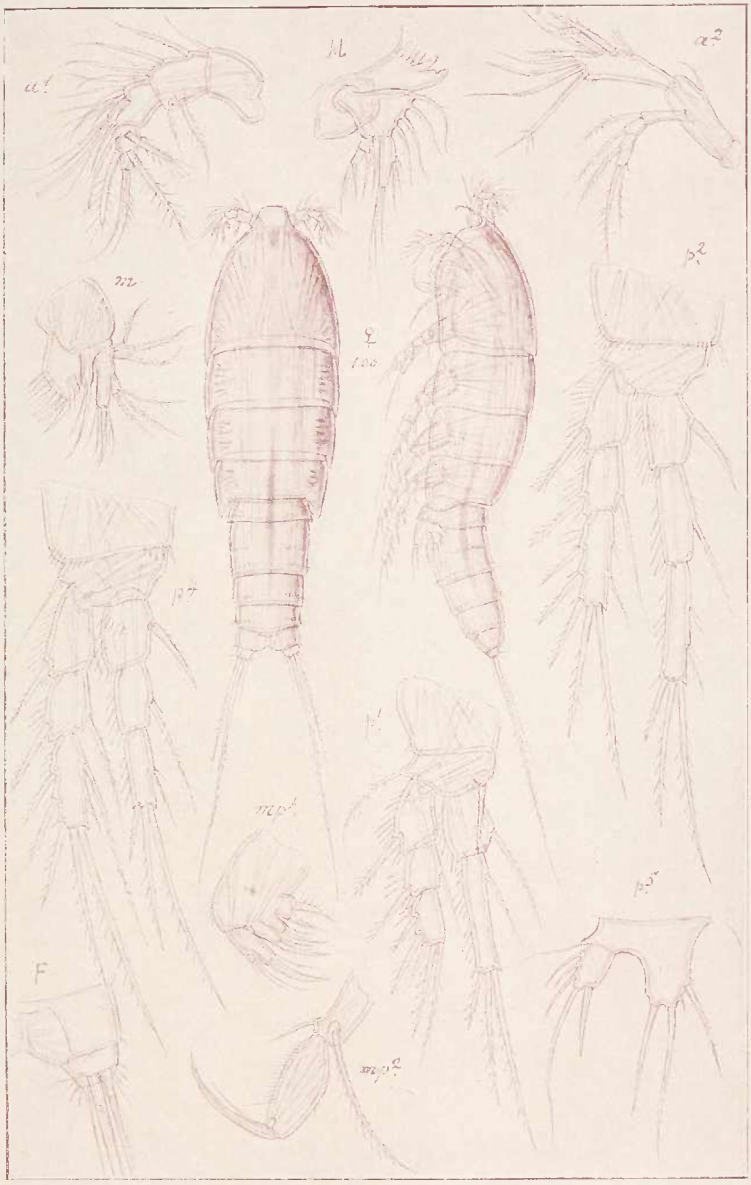
G. O. Sars, del.

Pseudocletodes typicus, G. O. Sars



G. O. Sars, del.

Nannopus abyssi, G. O. Sars



G. O. Sars, del.

Danielssenia robusta, G. O. Sars