

CONSEIL INTERNATIONAL POUR L'EXPLORATION DE LA MER

Zooplankton.

Sheet 48.

COPEPODA

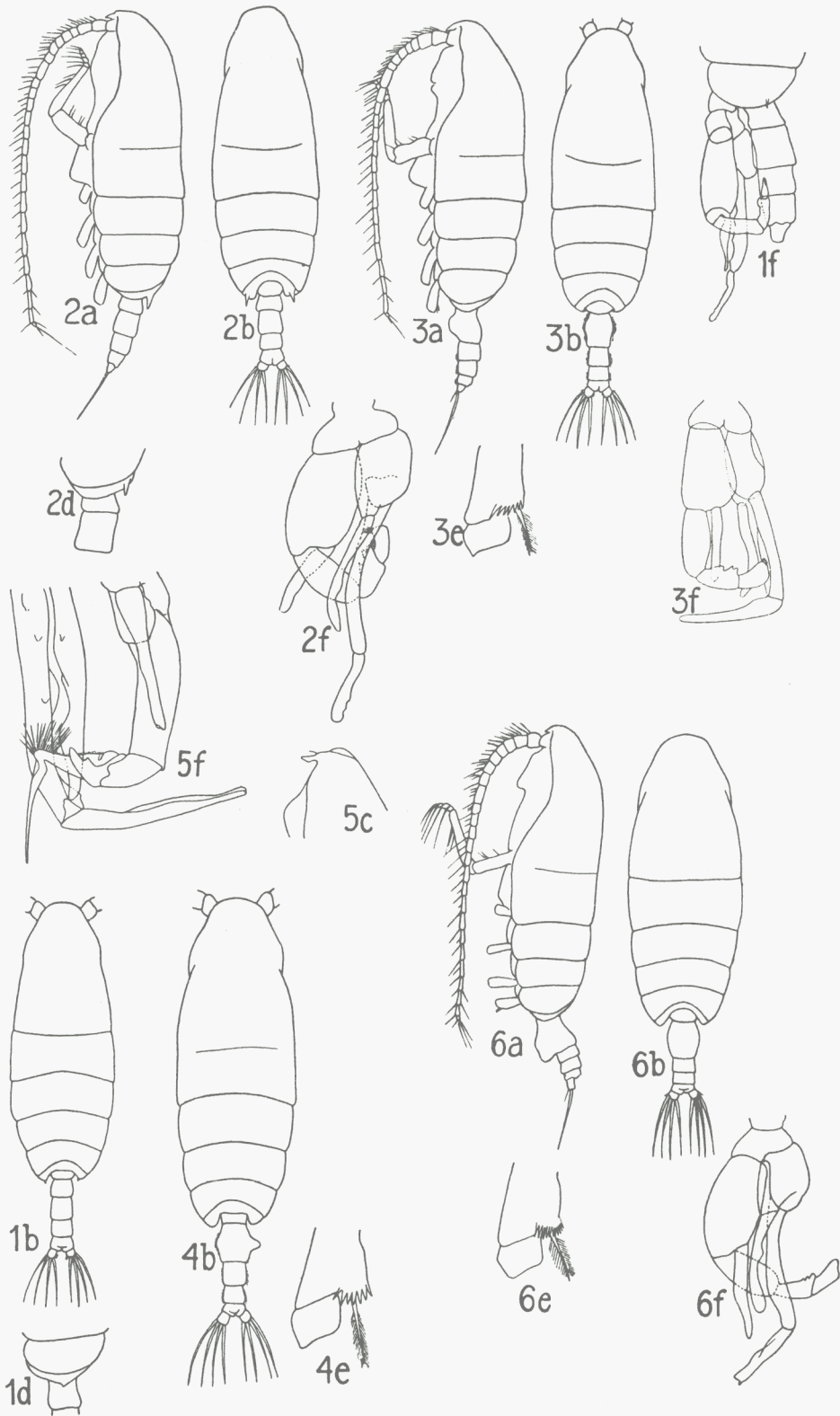
SUB-ORDER: CALANOIDA

Family: Aetideidae

GENUS: PSEUDOCHIRELLA

(By W. Vervoort)

1952



1, *Pseudochirella cryptospina* (immature). 2, *Pseudochirella notacantha* (immature). 3, *Pseudochirella obtusa*.
4, *Pseudochirella pustulifera*. 5, *Pseudochirella superba*. 6, *Pseudochirella dubia*.

a, ♀, lateral view; b, ♀, dorsal view; c, head, lateral view; d, ♀, post. part cephalothorax, lateral view;
e, ♀, basal joints of 4th foot; f, ♂, 5th feet.

(1b, 1d, 2, 3a, 3b, 3e, 4, 6, after Sars; 1f, 5, after With; 3f, after Vervoort)

Genus PSEUDOCHIRELLA G. O. Sars, 1920

Strongly built copepods, which resemble *Euchirella* and *Chirundina* in many particulars. Females with cephalon and 1st thoracic somite, as well as the 4th and 5th thoracic somites, distinctly separate; in some species only the 4th and 5th somites are fused. Head broadly rounded in lateral aspect, in some species with a low crest. Rostrum distinct and strong, 1-pointed. Postero-lateral thoracic border rounded or produced into a spine; in some species with a small spine, distinctly set off from the margin. Abdomen 4-segmented, genital somite asymmetrically developed in many forms. 1st antennae as long as the body or slightly longer. Endopods of 2nd antennae strongly developed, usually half the length of exopods or slightly longer. 1st and 2nd exopodal joints of 2nd antennae separate. Number of setae on endopods of 1st maxillae increased, 11—15 are present on each. Segmentation of feet as in *Euchirella*; basal joints of 4th feet each with 6—14 rather strong spinules on posterior surface. Terminal spines on exopods of 2nd—4th feet each with a very strong row of hairs along internal border. Seta on outer edge of furca thin, usually elongated.

Males with slender body; 1st antennae with a reduced number of joints, some of the setae are thickened. 5th feet with much swollen basal joints; endopods elongate, 1-jointed, truncate at the apex; left exopod 3-jointed, joints short; right exopod 2-jointed, joints elongate.

1. *Pseudochirella cryptospina* (G. O. Sars, 1905). ♀ (Vth cop. st.) 4.7—4.9 mm., ♂ (adult) 5.3 mm.

♀ (immature): Cephalon and 1st thoracic somite indistinctly separated; 4th and 5th thoracic somites separated. Head rounded, without a crest, rostrum distinct, 1-pointed. Postero-lateral margin of cephalothorax rounded, provided with small, ventrally directed, hooked spine. Abdomen 4-segmented. Exopods of 1st feet indistinctly 3-jointed; each with 3 spines on outer edge. Endopods of 2nd feet indistinctly 2-jointed. 1st basal joints of 4th feet smooth.

♂ (adult): Body slender; rostrum, compared with the female, small. 4th and 5th thoracic somites separate. Spines on postero-lateral border small, acute; border rounded. 5th feet much longer than abdomen, basal joints much swollen, shape of feet as indicated in Figure 1f.

Deep water of temperate and northern Atlantic.

2. *Pseudochirella notacantha* (G. O. Sars, 1905). ♀ (Vth cop. st.) 4.4—5.0 mm., ♂ (adult) 5.5—6.7 mm.

♀ (immature): Resembles *P. cryptospina*, but spines on postero-lateral thoracic border much stronger, pointing backwards. 1st foot with very indistinctly 3-jointed exopods, each with 3 spines on outer edge. Endopods of 2nd feet 1-jointed, although a weak line of separation is occasionally present. 1st antennae reach middle of abdomen.

♂ (adult): General appearance as male of preceding form, but spines on postero-lateral thoracic margin slightly bigger. Minor differences are also to be observed in structure of 5th feet.

Deep water of temperate and northern Atlantic.

3. *Pseudochirella obtusa* (G. O. Sars, 1905). ♀ 5.3—5.8 mm., ♂ 4.8 mm.

♀. Head and 1st thoracic somite indistinctly separate; 4th and 5th thoracic somites separate. Head rounded, without crest. Rostrum small but strong, directed downwards and slightly backwards. Postero-lateral thoracic border rounded, without spines. Abdomen $\frac{1}{3}$ the length of cephalothorax; genital somite slightly longer than broad, symmetrical, sides smoothly rounded, slightly produced. 1st antennae as long as body. Endopods of the 2nd antennae $\frac{2}{3}$ the length of exopod. Endopods of 1st maxillae each with 15 setae. Exopods of 1st feet distinctly 3-jointed, each with 3 spines on outer edge. 1st basal joints of 4th feet each with 8—13 strong teeth on posterior surface. A hirsute form, with strongly haired abdominal somites, has been found in tropical waters and may possibly occur in the Atlantic.

♂. Resembles the males of *P. cryptospina* and *P. notacantha*, but postero-lateral thoracic border rounded and without a trace of spines. Additional small differences are observed in the structure of the 5th feet. Deep water of temperate Atlantic.

4. *Pseudochirella pustulifera* (G. O. Sars, 1905). ♀ 7.3—7.4 mm., ♂ unknown.

♀. Body almost as in *P. obtusa*, but bigger and more strongly

built. Cephalon and 1st thoracic somite almost completely fused. Postero-lateral thoracic border broadly rounded, without spines. Abdomen $\frac{1}{3}$ the length of cephalothorax, broadly rounded, without spines. Genital somite asymmetrical, with sack-shaped protuberances on left and right sides and at middle of length; right side usually slightly more produced. Endopods of 2nd antennae slightly longer than half the length of exopods. Exopods of 1st feet indistinctly 3-jointed, each with 3 spines on outer edge. 1st basal joints of 4th feet each with 7 strong, rather acute spines on posterior surface.

Deep water of temperate and northern Atlantic.

5. *Pseudochirella superba* (With, 1915). ♀ 6.5 mm., ♂ 5.35 mm.

♀. Body robust; cephalon and 1st thoracic somite separate, 4th and 5th thoracic somites fused. Postero-lateral thoracic border on right side evenly rounded, on left side slightly more produced, more or less triangular. Cephalon with a low, rounded crest. Rostrum short but distinct. Abdomen $\frac{1}{4}$ the length of cephalothorax; genital somite slightly longer than wide, asymmetrical, left side smoothly rounded, right side with short, spiniform appendage, pointing backwards and upwards. Genital tubercle with backwardly directed spine on right side. 1st antennae not quite as long as body. Endopods of 2nd antennae about $\frac{2}{3}$ the length of exopods. Exopods of 1st feet each with two proximal joints fused and 3 spines along outer edge. Posterior surfaces of 1st basal joints of 4th feet each with 5 short, triangular teeth.

♂. Body more slender than that of female; cephalon with similarly developed crest. 1st antennae reaching 3rd abdominal somite. 1st feet with distinctly 3-jointed exopods. 5th feet with much swollen basal joints, which in some respects differ from the type usually met with in males of *Pseudochirella*.

(The systematic position of this form is uncertain. It may have been described by With after aberrant specimens of *Undeuchaeta major* Giesbr.) Deep water of northern Atlantic.

6. *Pseudochirella dubia* (G. O. Sars, 1905). ♀ 4.9—5.8 mm., ♂ 4.0 mm.

♀. Body elongate, cephalon and 1st thoracic somite indistinctly separate, 4th and 5th thoracic somites separate. Head laterally narrowly rounded, rostrum very small, acute. Postero-lateral thoracic border rounded. Abdomen $\frac{1}{3}$ the length of cephalothorax; genital somite symmetrical in dorsal view, sides evenly rounded, produced. Genital tubercle very big, backwardly produced. 1st antennae slightly longer than cephalothorax, hirsute. Endopods of 2nd antennae $\frac{3}{5}$ the length of exopods. 1st basal joints of 4th feet each with a row of 20—25 fine, hairlike spinules on posterior surface.

♂. Body more slender than in female; cephalon and 1st thoracic somite, as well as 4th and 5th thoracic somites, fused. Rostrum exceedingly small, sharply pointed. Postero-lateral thoracic border rounded. 1st antennae slightly longer than cephalothorax. 5th feet with much swollen basal joints, structure as illustrated in Figure 6f. Deep water of northern Atlantic.

Species	Length in mm.	Head	Postero-lateral thoracic border	Genital somite (Adult female)	Spines on posterior surface of 4th feet (adult female)	Remarks
<i>P. cryptospina</i>	♀ 4.7—4.9 ♂ 5.3	rounded, no trace of crest	rounded with small, ventrally directed spine	?	?	Adult females unknown
<i>P. notacantha</i>	♀ 4.4—5.0 ♂ 5.5—6.7	rounded, no trace of crest	rounded, with big, backwardly directed spine	?	?	Adult females unknown
<i>P. obtusa</i>	♀ 5.3—5.8 ♂ 4.8	rounded, no trace of crest	rounded, no spines	symmetrical	8—13	
<i>P. pustulifera</i>	♀ 7.3—7.4	rounded, no trace of crest	rounded, no spines	asymmetrical	7	♂ unknown
<i>P. superba</i>	♀ 6.5 ♂ 5.35	low, rounded crest	rounded on right side, triangular on left side	asymmetrical	5	
<i>P. dubia</i>	♀ 4.9—5.8 ♂ 4.0	rounded, no crest	rounded, no spines	symmetrical	20—25	

References to Descriptions and Figures.

- P. cryptospina*: Sars, 1905 (as *Gaidius cryptospinus*); Farran, 1908, Pl. 2, Figs. 4—8 (as *G. parvispinus*); With, 1915, Pl. 5, Fig. 8, Textfigs. 42, 43 (as *Chirundina parvispina*); Sars, 1924—25, Pl. 24, Figs. 13, 14 (as *P. cryptospina*); Rose, 1933, Fig. 84 (as *Chirundina parvispina*), Fig. 91.
- P. notacantha*: Sars, 1905 (as *Gaidius notacanthus*); Farran, 1908, Pl. 3, Fig. 7 (as *G. notacanthus*); With, 1915, Pl. 5, Fig. 7, Pl. 6, Fig. 1, Textfig. 41 (as *Chirundina notacantha*); Sars, 1924—25, Pl. 24, Figs. 7—12; Rose, 1933, Fig. 89; Sewell, 1947, Fig. 21a.
- P. obtusa*: Sars, 1905 (as *Undeuchaeta obtusa*); Farran, 1908 (as *Euchirella obtusa*); A. Scott, 1909, Pl. 14, Figs. 1—7 (as *E. dubia*); With, 1915, Pl. 5, Fig. 5, Textfig. 40 (as *Chirundina abyssalis*); Sars, 1924—25, Pl. 24, Figs. 1—4; Sewell, 1929, Fig. 50; Rose, 1933, Fig. 87; Sewell, 1947; Davis, 1949, Pl. 4, Figs. 49—53, Pl. 5, Figs. 54, 55; Vervoort, 1949, Fig. 21c.
- P. pustulifera*: Sars, 1905 (as *Undeuchaeta pustulifera*); Farran, 1908, Pl. 2, Figs. 18, 19, Pl. 4, Fig. 3 (as *Euchirella wolfendeni*); van Breemen, 1908, Fig. 50 (as *Undeuchaeta pustulifera*); With, 1915, Pl. 5, Fig. 6, Textfig. 39 (as *Chirundina pustulifera*); Sars, 1924—25, Pl. 24, Figs. 5, 6; Wilson, 1932, Fig. 35; Rose, 1933, Fig. 88.
- P. superba*: With, 1915, Pl. 4, Fig. 6, Pl. 6, Fig. 1, Textfig. 37 (as *Undeuchaeta superba*).
- P. dubia*: Sars, 1905 (as *Undeuchaeta dubia*); A. Scott, 1909, Pl. 13, Figs. 1—12 (as *Euchirella granulata*); Sars, 1924—25, Pl. 26, Figs. 10—15.

Distribution

Species

Gulf of Bothnia	—
Gulf of Finland	—
Baltic proper	—
Kattegat	—
Skagerak	—
Northern North Sea	—
Southern North Sea	—
English Channel (eastern)	—
English Channel (western)	—
Bristol Channel and Irish Sea	—
South and West Ireland	1, 2, 3, 4
North-eastern Atlantic	1, 2, 3, 4, 6
Faroe Shetland Area	—
Faroe Iceland Area	(2), 4, 5, (6)
Norwegian Sea	—
Barents Sea	—

References to Work on Biology.

van Breemen (1908) 4; Davis (1949) 3; Farran (1908) 1, 2, 3, 4; (1926) 1; (1929) 2; Hardy & Gunther (1935) 2, 4; Jespersen (1934) 2, 3, 4, 5, 6; (1940) 4, 5; Leavitt (1938) 2, 3, 4; Lysholm, Nordgaard & Wiborg (1945) 1, 2, 3, 4; Paulsen (1909) 4; Rose (1929) 3; (1933) 1, 2, 3, 4; (1935) 1; Sars (1912) 2; (1924—25) 1, 2, 3, 4, 6; A. Scott (1909) 2, 3, 6; Sewell (1929) 1, 2, 3; (1947) 2, 3; Wilson (1932) 4; (1936) 3; With (1915) 1, 2, 3, 4, 5.

References

see Sheet No. 41.