

CONSEIL INTERNATIONAL POUR L'EXPLORATION DE LA MER

Zooplankton.

Sheet 49.

COPEPODA

SUB-ORDER: CALANOIDA

Family: Aetideidae

GENERA: CHIRUNDINA

UNDEUCHAETA

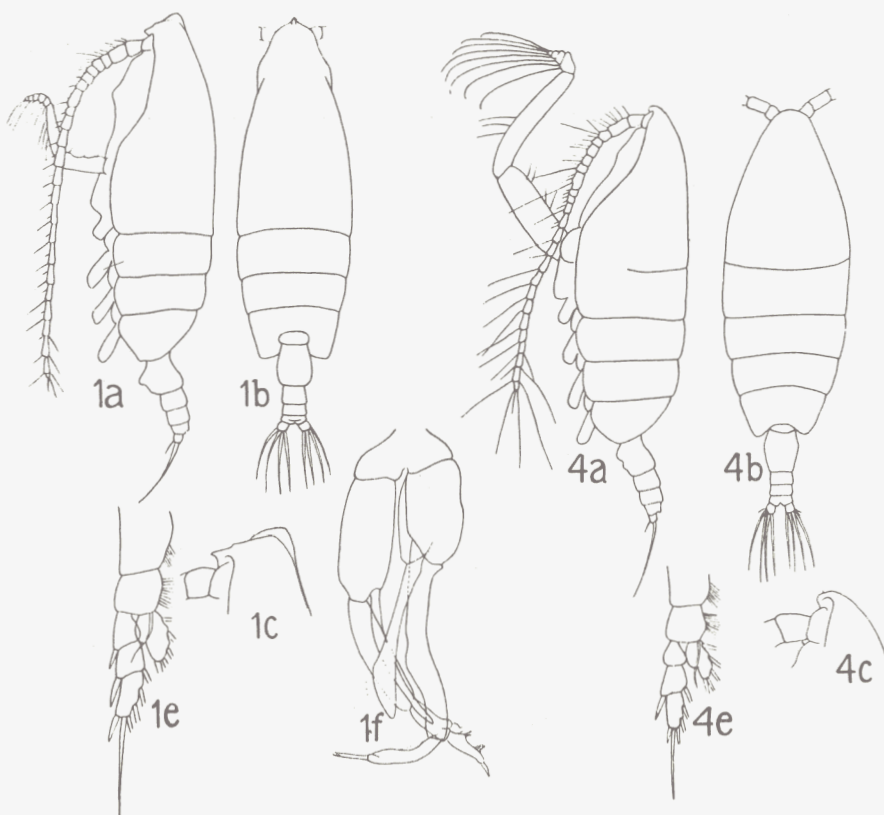
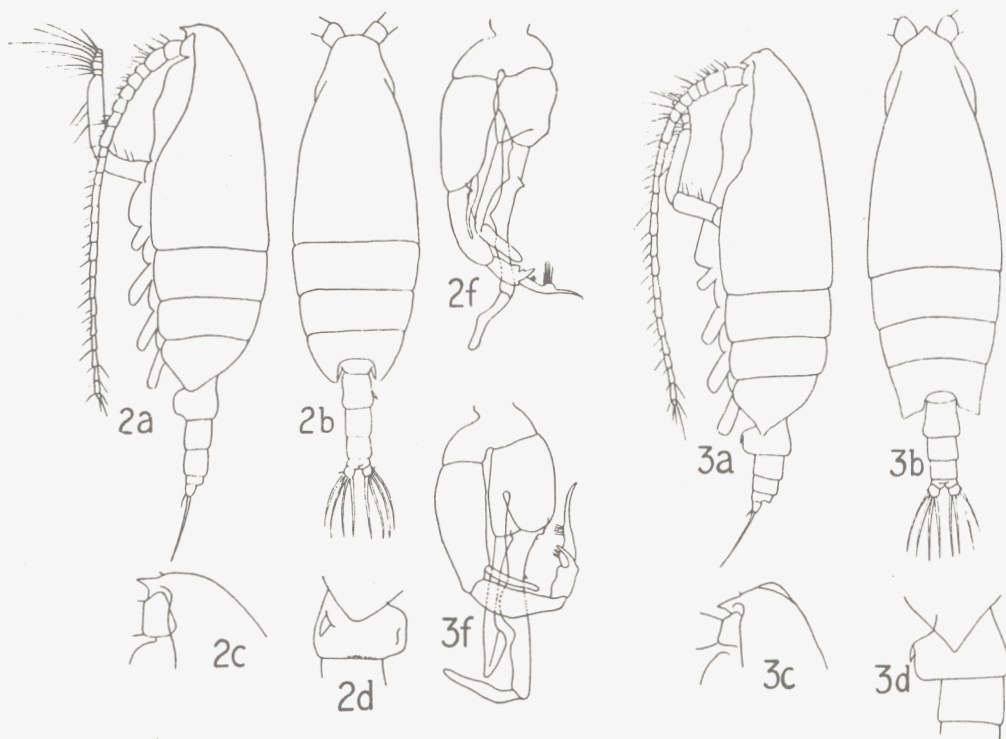
PSEUDEUCHAETA

(By W. Vervoort)

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1, *Chirundina streetsii*. 2, *Undeuchaeta plumosa*. 3, *Undeuchaeta major*. 4, *Pseudeuchaeta brevicauda*.
a, ♀, lateral view; b, ♀, dorsal view; c, head, lateral view; d, genital somite, lateral view; e, 1st feet; f, ♂, 5th feet.
(All figures after Sars).

Genus CHIRUNDINA Giesbrecht, 1895

Copepods with strongly built, elongate body, in appearance intermediate between *Euchirella* and *Undeuchaeta*. Females with head and 1st thoracic somite fused; 4th and 5th thoracic somites also fused. Cephalon with moderately high, triangular crest; rostrum distinct, 1-pointed. Postero-lateral thoracic border triangularly produced, in lateral aspect with a blunt point. Genital segment symmetrical, no spines are found on the ventral surface. Endopods of 2nd antennae $\frac{1}{2}$ the length of exopods. Exopods of 1st feet 2-jointed, each with 2—3 spines on outer edge; endopods 1-jointed. Endopods of 2nd feet 1-jointed. No spinules are to be observed on posterior surfaces of 1st basal joints of 4th feet.

Males with more slender body and a low crest. Structure of 5th feet complicated, biramous on both sides; basal joints swollen; right foot more strongly developed than left; endopods 1-jointed, elongate, truncate at their apices; left exopods 3-jointed; right exopods 3-jointed, apical joints styliform.

1. *Chirundina streetsii* Giesbrecht, 1895. ♀ 4.1—5.3 mm., ♂ 3.8—4.4 mm.

♀. Crest distinct, triangular, elevated. 1st antennae slightly longer than cephalothorax. Postero-lateral thoracic border with distinct, blunt point. Abdomen $\frac{1}{3}$ the length of cephalothorax, genital somite $1\frac{1}{2}$ times as long as wide, slightly swollen on both sides, genital tubercle distinct.

♂. 5th feet as illustrated in Figure 1f. Head with low, although not always distinct crest. Deep water of temperate and northern Atlantic. (Specimens with a low crest and rounded postero-lateral thoracic border, that usually have 2 spines on the outer edges of each of the exopods of the 1st feet, have been described from Indian waters by Sewell (1929) as *Chirundina indica*. This form may not be exclusively restricted to Indian waters).

Genus UNDEUCHAETA Giesbrecht, 1888

Females with cephalon and 1st thoracic somite indistinctly separate; 4th and 5th thoracic somites fused. Head rounded, occasionally crested. Postero-lateral thoracic border rounded or triangular with rounded apex. Rostrum small, 1-pointed. Abdomen 4-segmented; genital somite symmetrical with spine or spinules on ventral surface. 1st antennae 2—3-jointed, rather long. Endopods of 2nd antennae more than half the length of exopods. Endopods of 1st maxillae small; endopods of maxillipeds small, $\frac{1}{3}$ the length of 2nd basal joints. Exopods of 1st feet 2- or 3-jointed, each with 2 or 3 spines on outer edge; endopods 1-jointed. Exopod of 2nd to 4th feet 3-jointed; endopods of 2nd feet 1- or 2-jointed; endopods of 3rd and 4th feet 3-jointed. 1st basal joints of 4th feet without spines on posterior surfaces.

Males with more slender bodies; oral parts reduced. 5th feet biramous on both sides; basal joints swollen; both endopods 1-jointed; left exopod 3-jointed, apical joint with styliform distal portion and a patch of hairs about half way along its length.

2. *Undeuchaeta plumosa* (Lubbock, 1856). ♀ 3.0—4.2 mm., ♂ 3.2 mm.

♀. Cephalon rounded, without crest and with small 1-pointed, downwardly directed rostrum. Cephalon and 1st thoracic somite fused. Postero-lateral thoracic border rounded laterally. Abdomen $\frac{1}{3}$ the length of cephalothorax, genital somite with a small, curved spine on right side near dorsal surface. 1st antennae as long as cephalothorax. 1st feet 2-jointed, each exopod with 2 spines on outer edge. 2nd feet with 1-jointed endopods.

♂. Body almost as in the female, slightly more slender. Abdomen 5-segmented. 5th feet slightly longer than abdomen; their structure can best be described by referring to Figure 2f; basal joints much swollen. Right exopod 2-jointed, with a number of internal and external carinae; left endopod short; left exopod 3-jointed, apical joint with acutely pointed portion and a patch of hairs.

Moderately deep water of temperate and northern Atlantic; occasionally, during the night, in epiplankton.

3. *Undeuchaeta major* Giesbrecht, 1888. ♀ 4.5—5.5 mm., ♂ 6.0—6.6 mm.

♀. Cephalon and 1st thoracic somite separate. Head with low but distinct crest; rostrum distinct but small, slightly curved. Postero-lateral thoracic margin triangularly produced, terminating in a blunt point, occasionally slightly asymmetrical. Abdomen $\frac{1}{4}$ the length of cephalothorax, genital segment distinctly longer than wide, with a tubercle on the right side. Genital tubercle prominent, a backwardly directed spine is to be observed on right side of genital opening. Exopods of 1st feet 2-jointed, with indications of lines of division in proximal joints. There are 2 spines on the outer edge of each exopod.

♂. Usually bigger than the females, cephalon without crest. Exopods of 1st feet indistinctly 3-jointed. 5th feet almost as in preceding form but bigger, carinae on right exopod very distinct. Deep and moderately deep water of Atlantic, very occasionally in epiplankton.

Genus PSEUDEUCHAETA G. O. Sars, 1905

Females with cephalon and 1st thoracic somite partly separate, 4th and 5th thoracic somites fused. Head rounded, without carina or rostrum. Postero-lateral thoracic border pointed or rounded. Abdomen $\frac{1}{4}$ the length of cephalothorax. Genital segment distinctly longer than wide, slightly produced laterally, with some small ventral tubercles. 1st antennae about as long as cephalothorax, setose. Endopods and exopods of 2nd antennae of almost the same length. Exopods of mandibles with long, plumose setae. Maxillipeds enormously developed, basal joints very strong and long, of almost the same length; endopods with strong, curved, densely haired setae. Exopods of 1st feet 3-jointed, each with 2 spines on outer edge. Endopods of 2nd feet 2-jointed.

(The systematic position of this genus is uncertain. It shows unmistakable relations with both *Aetideidae* and *Euchaetidae*. The males, unfortunately, are unknown).

4. *Pseudeuchaeta brevicauda* G. O. Sars, 1905. ♀ 5.0—5.6 mm. Rostrum absent, postero-lateral thoracic border rounded.

Deep water of temperate Atlantic.

References to Descriptions and Figures.

1. *C. streetsii*: Giesbrecht, 1895, Pl. 1, Figs. 5—10; Giesbrecht & Schmeil, 1898; Wolfenden, 1905a, Pl. 6, Figs. 1, 2 (as *Euchirella carinata*); Esterly, 1906, Pl. 9, Fig. 2, Pl. 10, Fig. 28, Pl. 12, Fig. 58, Pl. 14, Figs. 86, 87; van Breemen, 1908; A. Scott, 1909, Pl. 12, Figs. 1—11; Wolfenden, 1911, Textfig. 26; With, 1915, Pl. 5, Fig. 4, Pl. 8, Fig. 5, Textfig. 38; Sars, 1924—25, Pl. 22, Figs. 8—13; Wilson, 1932, Fig. 29; Rose, 1933, Fig. 83; Sewell, 1947.
2. *U. plumosa*: Lubbock, 1856, Pl. 9, Figs. 3—5 (as *Undina plumosa*); Brady, 1883, Pl. 14, Figs. 6, 8, 9 (as *Euchaeta pulchra* ♀), Pl. 21, Figs. 5—11 (as *E. australis*); Giesbrecht, 1892, Pl. 14, Figs. 31—34, Pl. 37, Figs. 55, 58 (as *U. minor*); T. Scott, 1894, Pl. 6, Fig. 23 (as *Euchaeta australis*); Giesbrecht & Schmeil, 1898 (as *U. minor*, *Undina plumosa* and *Euchaeta australis*); Esterly, 1905, Fig. 17 (as *U. minor*); van Breemen, 1908, Fig. 50 (as *U. minor*); A. Scott, 1909, Pl. 22, Figs. 1—8; With, 1915, Pl. 5, Fig. 3, Textfig. 35 (as *U. minor*); Willey, 1919, Figs. 7, 8 (as *U. minor*); Sars, 1925, Pl. 23, Figs. 1—6; Wilson, 1932, Fig. 40 (as *U. minor*); Rose, 1933, Fig. 85.
3. *U. major*: Giesbrecht, 1892, Pl. 37, Figs. 56, 57, 59; Giesbrecht & Schmeil, 1898; Esterly, 1905, Figs. 16a, e (♀ only); van Breemen, 1908, Fig. 46 (as *Chirundina angulata*), Fig. 49; Esterly, 1911, Pl. 27, Figs. 12, 19, Pl. 28, Fig. 28, Pl. 29, Fig. 59 (as *Undeuchaeta incisa*); With, 1915, Pl. 5, Fig. 2, Textfig. 36; Sars, 1924—25, Pl. 23, Figs. 7—12; Wilson, 1932, Fig. 39; Rose, 1933, Fig. 86; Sewell, 1947.
4. *P. brevicauda*: Sars, 1905; Farran, 1908; Wolfenden, 1911, Pl. 38, Figs. 9, 10, Textfig. 80 (as *Autanepsius minor*); Sars, 1924—25, Pl. 29, Figs. 1—12; Rose, 1933, Fig. 110; Sewell, 1947, Fig. 22.

Distribution

Species

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

References to Work on Biology.

Bigelow (1915) 2, 3; (1926) 1, 2, 3; Brady (1883) 2; van Breemen (1908) 2, 3; Canu (1896) 2; Catalogue, etc. (1906, 1909, 1916) 1, 2, 3; Cleve (1904a) 1, 2, 3; Esterly (1905) 2, 3; (1906) 1; (1911) 3; (1912) 1, 2, 3; Farran (1905) 2, 3; (1908) 1, 2, 3, 4; (1920) 1, 2, 3; (1926) 1, 2, 3; (1929) 1, 3; (1936) 2; Fowler (1903) 1; Giesbrecht (1892) 2, 3; (1895) 1; Giesbrecht & Schmeil (1898) 1, 2, 3; Jespersen (1934) 4; (1940) 1, 2, 3; Lysholm & Nordgaard (1921) 1, 2, 3; Lysholm, Nordgaard & Wiborg (1945) 1, 2, 3, 4; Paulsen (1909) 2, 3; Rose (1924) 3; (1929) 1, 2; (1933) 1, 2, 3, 4; Sars (1905) 1; (1912) 1, 2, 3; (1924—25) 1, 2, 3, 4; A. Scott (1909) 1, 2, 3; T. Scott (1894) 2; Sewell (1947) 1, 3, 4; Thompson (1900) 3; Thompson & Scott (1903) 2; Willey (1919) 2, 3; Wilson (1932) 1, 2, 3; (1936) 1, 3; (1942) 2, 3; With (1915) 1, 2, 3; Wolfenden (1902) 1; (1904) 1, 2, 3; (1905a) 1; (1911) 1, 2, 3, 4.

References

see Sheet No. 41.