

CONSEIL INTERNATIONAL POUR L'EXPLORATION DE LA MER

Zooplankton

Sheet 96

CEPHALOPODA

SUB-ORDER: TEUTHOIDEA

Families: Ommastrephidae

Chiroteuthidae

Cranchiidae

(By B. J. Muus)

1963

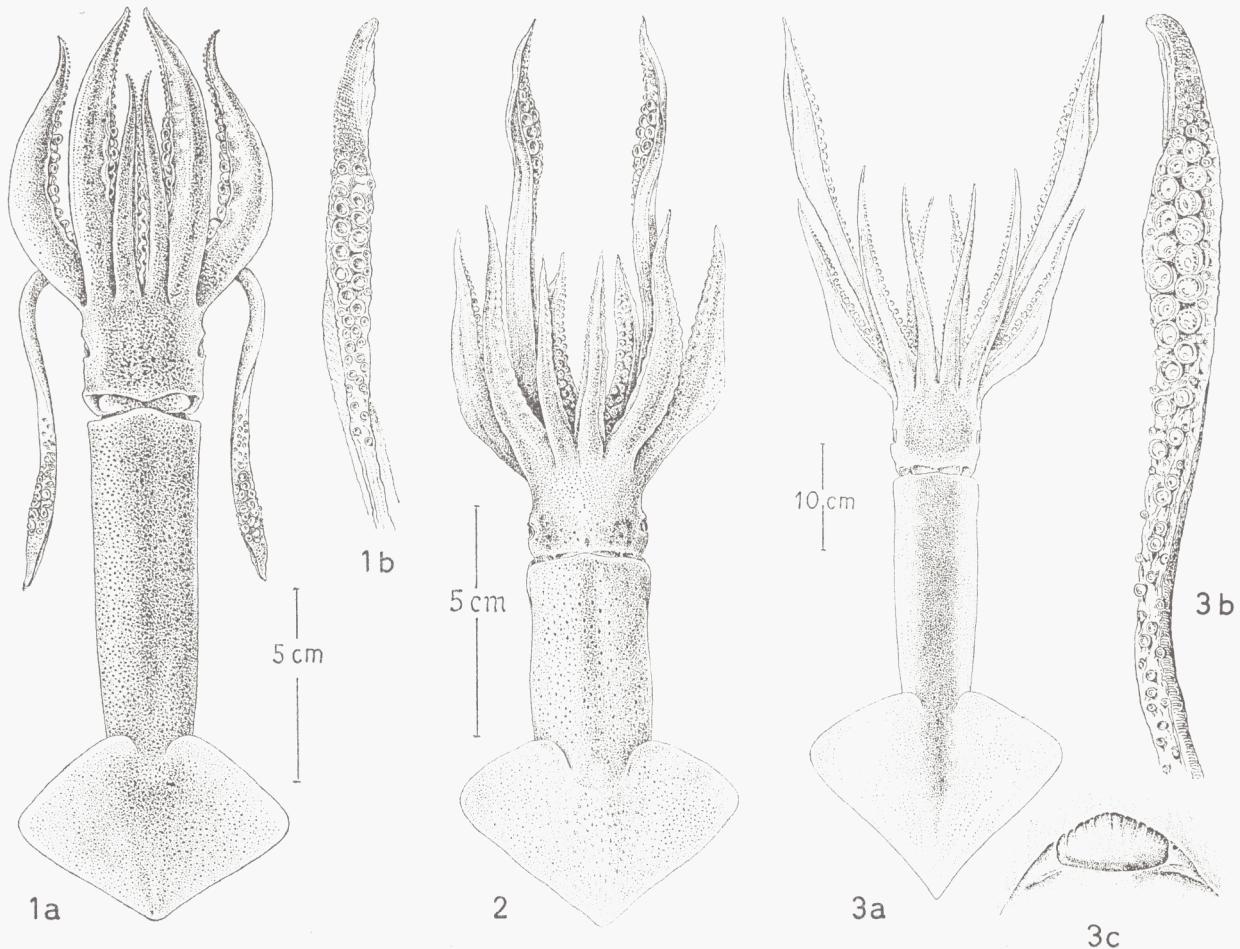


PLATE I

1. *Illex illecebrosus*; b, tentacle club; c, chromatophores on the back of the head at mantle length 15 mm. — 2. *Todaropsis eblanae*. — 3. *Todarodes sagittatus*; b, tentacle club; c, funnel pit. — 4. Ommastrephid funnel pits: A, Illicinacae; B, Todarodinae; C, Ommastrephinae; a, funnel pit; b, funnel; c, opening of funnel; d, funnel valve; e, lunar fold; f, longitudinal folds; s, sidepockets. (Fig. 1a, b; 3a, b from PFEFFER; Fig. 1c from DEGNER; remainder original).

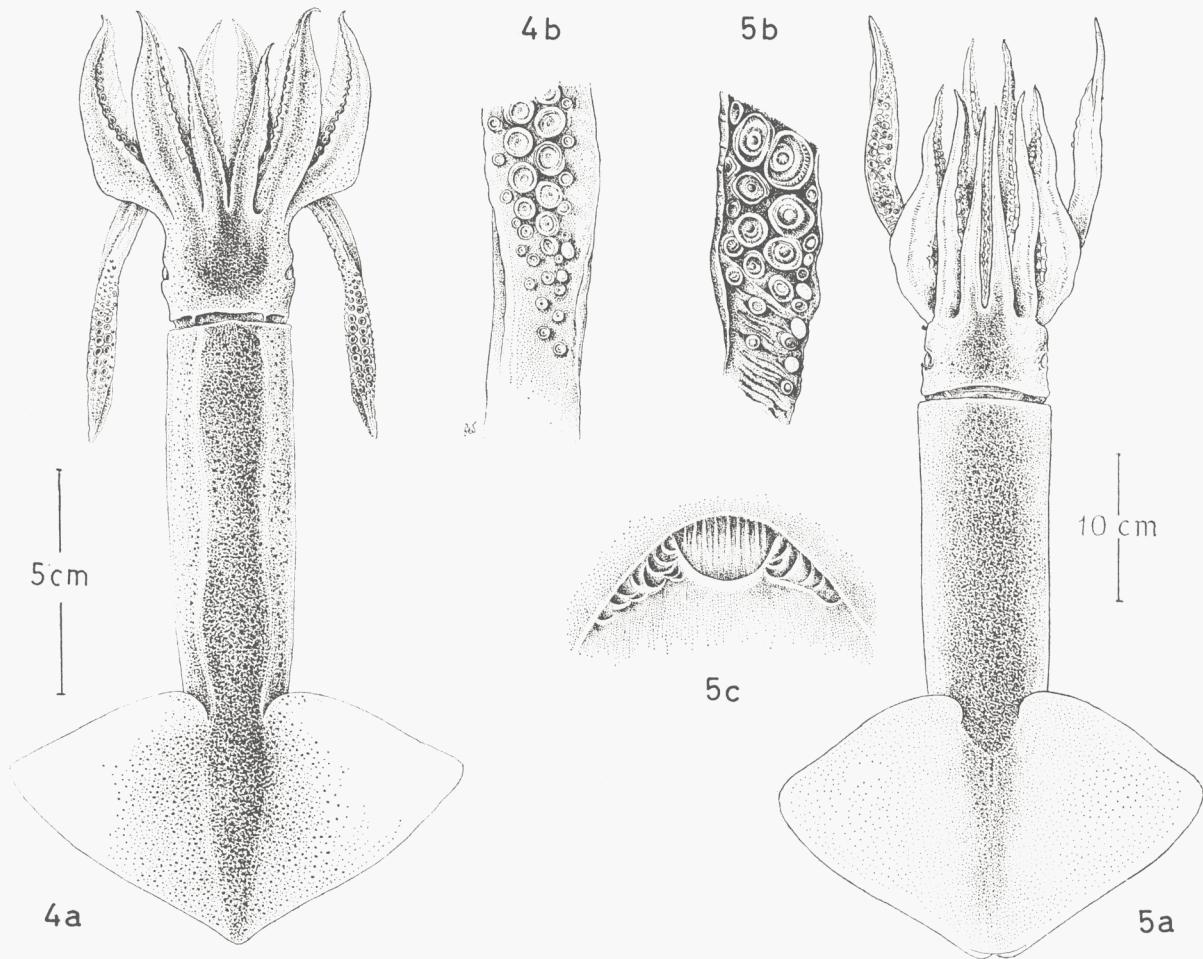


PLATE II

4. *Ommastrephes bartrami*; b, proximal part of tentacle club. — 5. *O. pteropus*; b, proximal part of tentacle club; c, funnel pit. (Figs. 4 a, b and 5c from PFEFFER; Fig. 5a, b from ADAM).

Family Ommastrephidae

Terminal rhombic fins. Funnel lowered into a deep pit. The funnel cartilages which articulate with the mantle have a characteristic L-shaped groove. Arms with two rows of suckers. Tentacle club with four rows of suckers, the central suckers being enlarged.

Sub-family Illicinae (Plate I)

Funnel pit rather open without lunar fold and longitudinal folds (Fig. 4A).

Genus ILLEX Steenstrup

Distal part of the tentacle club with eight rows of very small suckers. The big suckers of the arms with smooth rings or blunt, rounded teeth.

1. *Illex illecebrosus* (Lesueur).

Genus TODAROPSIS Girard

Distal part of the tentacle club with four rows of suckers. The big suckers of the arms with many small teeth.

2. *Todaropsis eblanae* (Lesueur).

Sub-family Todarodinae (Plate I)

Front part of the funnel pit with lunar fold and longitudinal folds (Fig. 4B).

Genus TODARODES Steenstrup

The big suckers of the tentacle club with about 18 teeth placed in some distance from each other. The stalk of the tentacles has two rows of suckers for most of its length.

3. *Todarodes sagittatus* (Lamarck).

Sub-family Ommastrephinae (Plate II)

Front part of funnel pit with lunar fold, longitudinal folds and side-pockets (Fig. 4c).

Genus OMMASTREPES d'Orbigny

The big suckers of the tentacle club with four bigger teeth placed crosswise among > 20 less prominent teeth.

4. *Ommastrephes bartrami* (Lesueur). Proximally to the nethermost fixing cushion of the club are found at least three suckers (Fig. 4b).
5. *O. pteropus* (Steenstrup). Proximally to the nethermost fixing cushion are found 0–2 suckers (Fig. 5b).

Family Chiroteuthidae (Plate III)

Strongly developed head and arm crown. Eyes voluminous. Fourth pair of arms longer and much stouter than the rest. The cartilages of the funnel ear-shaped with a central depression and one or two projections. Consistency of the animal more or less jelly-like.

Sub-family Chiroteuthiniae

Tentacle club with four rows of modified suckers. With light organs on the ventral portion of the eyes, on the inner side of the ventral pair of arms, near the tip of the club and on the ink-sac.

Genus CHIROTEUTHIS d'Orbigny

With a larval "Doratopsis" stage (Fig. 6). The light organs on the eyes forming three diffuse streaks.

6. *Chiroteuthis veranyi* (Ferussac). The distal part of the arm suckers armed with teeth, the proximal edge smooth.

Sub-family Mastigoteuthiniae

Tentacle club with many rows of suckers. Light organs, if present, scattered on the dorsal surface of fins, ventral portion of the mantle funnel head and ventral arms.

Genus MASTIGOTEUTHIS Verrill

With the characters of the sub-family.

7. *Mastigoteuthis* sp. The genus badly needs a revision and the reader is referred to the literature. *M. schmidti* Degner (Fig. 7) has been found in the area.

Family Cranchiidae (Plate III)

Mantle musculature feebly developed and the body is flabby. Dorsally and ventrally the connections between head and mantle have grown together. The funnel is big. The eyes are big and protruding in adult animals, stalky in juvenile specimens. Arms small with two rows of suckers. Tentacles with two or four rows of suckers on the stem, four rows on the club. The larvae with disproportionately long tentacles.

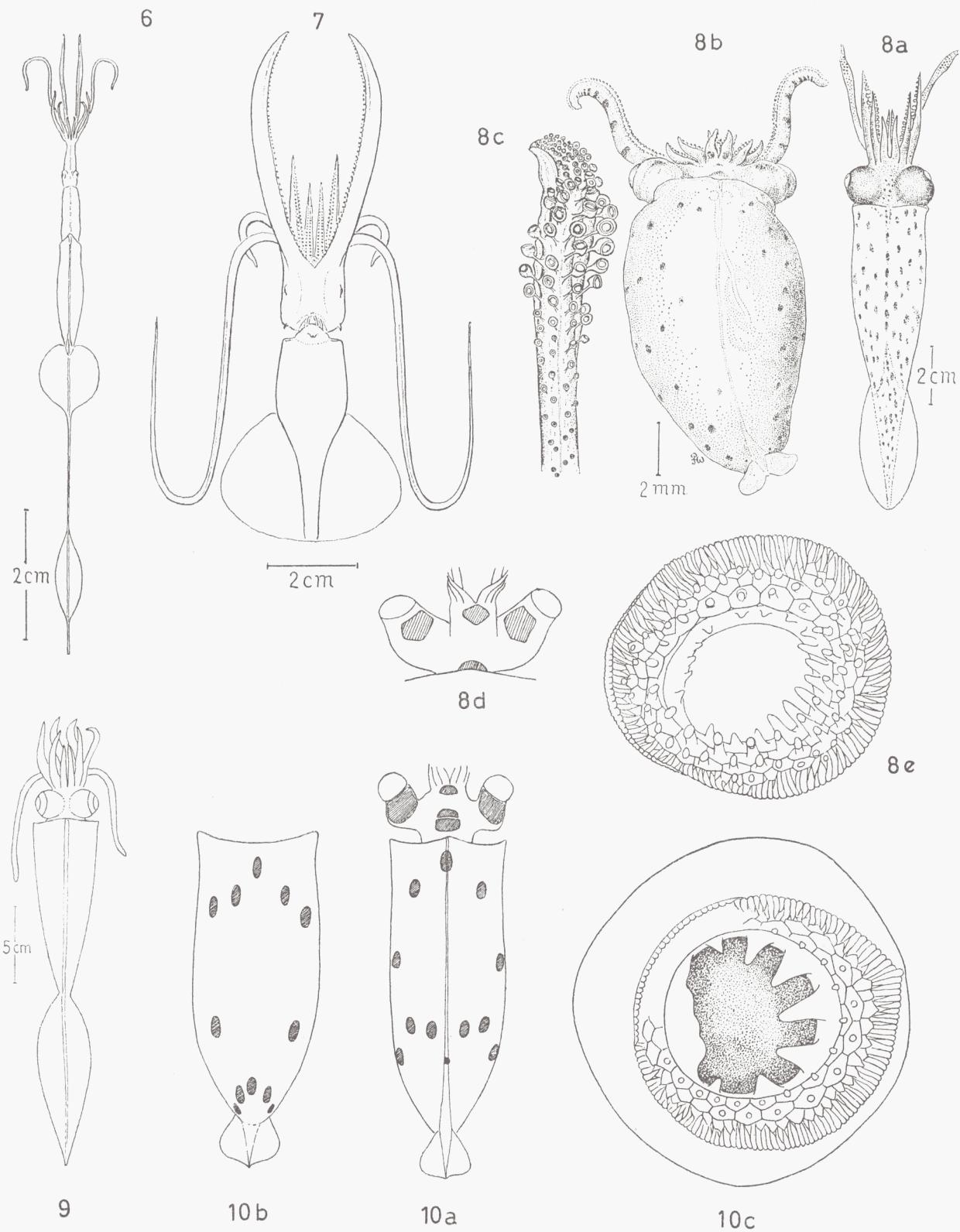
Genus DESMOTEUTHIS Verrill

Mantle conical, in young animals barrel-shaped. Fins narrow and pointed, occupying up to 60 % of the mantle length. Young specimens with small terminal semicircular fins. Light-organs on the ventral part of the eyes. The tentacles with four rows of suckers reaching from base to tip.

8. *Desmoteuthis megalops* (Prosch). Identification of larvae: see the following species.

PLATE III

6. *Chiroteuthis veranyi*, "Doratopsis" stage. — 7. *Mastigoteuthis schmidti*. — 8. *Desmoteuthis megalops*; a, adult specimen; b, larva; c, tentacle club; d, chromatophores on the back of the head at mantle length 10–15 mm; e, sucker from tentacle club, mantle length 21 mm. — 9. *Galietuthis armata*. — 10. *Taonidium pfefferi*; a dorsal, b ventral surface; c, sucker from the tentacle club, mantle length 21 mm. (Fig. 6 after PFEFFER; Figs. 7, 8d, e, 9 and 10a, b, c from DEGNER; Fig. 8a from VERRILL; Fig. 8b, c from MUUS).



Genus GALITEUTHIS Joubin

Mantle conical. The hindmost part of the mantle with a long thin extention supporting the fins. Young specimens with small terminal semicircular fins. A round light-organ is found on the ventral part of the eyes. The tentacles with two rows of suckers on the stem. The club with four rows, of which the marginal ones disappear in adult animals while the rachial rows develop into hooks.

9. *Galiteuthis armata* Joubin. The larvae may be identical with the below mentioned *Taonidium pfefferi* Russell.

Genus TAONIDIUM Pfeffer

A provisional genus encompassing juvenile cranchiids of uncertain systematic position.

10. *Taoniidium pfefferi* Russell. Is distinguished from young *D. megalops* by having two rows of suckers on the stem of the tentacles and by having the eye stems bent at right angles. A good mark of identification seems to be the bipartite chromatophore at the back of the head (Fig. 10a).

Further Information on Identification

- Illex illecebrosus*: ADAM, 1952, p. 80, Figs. 32–36. DEGNER, 1925, p. 40, Fig. 30. JAECKEL, 1958, p. 598. NAEF, 1923, p. 429, Textfigs. 216–222. PFEFFER, 1912, p. 393, Pl. 28, Figs. 1–6; Pl. 29, Figs. 1–8.
 - Todaropsis eblanae*: ADAM, 1952, p. 94, Figs. 41, 42. DEGNER, 1925, p. 41, Fig. 31. JAECKEL, 1958, p. 598, Fig. 64. NAEF, 1923, p. 438, Textfigs. 223–227, Pl. V, Figs. 1–3. PFEFFER, 1912, p. 423, Pl. 30, Figs. 1–11.
 - Todarodes sagittatus*: JAECKEL, 1958, p. 600, Figs. 65, 66. NAEF, 1923, p. 445, Textfigs. 228–237. PFEFFER, 1912, p. 439, Pl. 32, Figs. 1–3; Pl. 33, Figs. 1–12.
 - Ommastrephes bartrami*: JAECKEL, 1958, p. 602, Figs. 67, 68. NAEF, 1923, p. 475, Textfigs. 238–246. PFEFFER, 1912, p. 465, Pl. 35, Figs. 1–8; Pl. 36, Figs. 1–7; Pl. 37, Fig. 16; Pl. 39, Figs. 1, 2.
 - O. pteropus*: ADAM, 1952, p. 103, Figs. 46–48. JAECKEL, 1958, p. 606, Fig. 70. PFEFFER, 1912, p. 490, Pl. 37, Fig. 1; Pl. 38, Figs. 1–9; Pl. 39, Fig. 3, 4.
 - Chiroteuthis veranyi*: ADAM, 1952, p. 111, Figs. 49, 50. NAEF, 1923, p. 381, Textfigs. 188–192. PFEFFER, 1912, p. 594, Pl. 44, Figs. 1–3; Pl. 45, Figs. 1–4.
 - Mastigoteuthis schmidti*: DEGNER, 1925, p. 50, Fig. 37. PFEFFER, 1912, p. 609 (the genus *Mastigoteuthis*).
 - Desmoteuthis megalops*: MUUS, 1956, p. 3, Figs. 1–9.
 - Galiteuthis armata*: NAEF, 1923, p. 398, Textfigs. 196–198. PFEFFER, 1912, p. 731.
 - Taonidium pfefferi*: DEGNER, 1925, p. 71, Figs. 49–51. PFEFFER, 1912, p. 722.

Distribution

Species

(Species in brackets occur
only exceptionally)

Gulf of Bothnia.....	—
Gulf of Finland.....	—
Baltic proper.....	—
Belt Sea	(3)
Kattegat.....	(1), (2), 3
Skagerak	(1), 2, 3
Northern North Sea.....	(1), 2, 3, (5)
Southern North Sea.....	(1), (2), 3, 4
English Channel (eastern)...	(2), 3, 4
English Channel (western)...	(1), 2, 3, 4, (5)
Bristol Channel and Irish Sea	(1), 2, 3, 4
South and West Ireland and	
Atlantic	1, 2, 3, 4, 5, 6, 7, 8, 9,
10	
Faroe-Shetland Area.....	1, 2, 3, 4, (5), 8, 9,
(10)	
Faroe-Iceland Area	1, 2, 3, 4, 6, 8, 9, (10)
Norwegian Sea	(1), (2), 3, 4, 8, ? 9
Barents Sea	3

References to Work on Biology

(Numbers after references give species referred to)
 ADAM (1952) 2, 5, FRIÐRIKSSON (1943) 3. MUUS (1956)
 8. SQUIRES (1957) 1.

References

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FRIÐRIKSSON, Á., 1943. Soc. Sci. Islandica, **2** (2): 170–74.

JAECKEL, G. A., 1958. Tierwelt d. Nord- und Ostsee, Lief. 37, Teil 9, b3: 479–723.

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