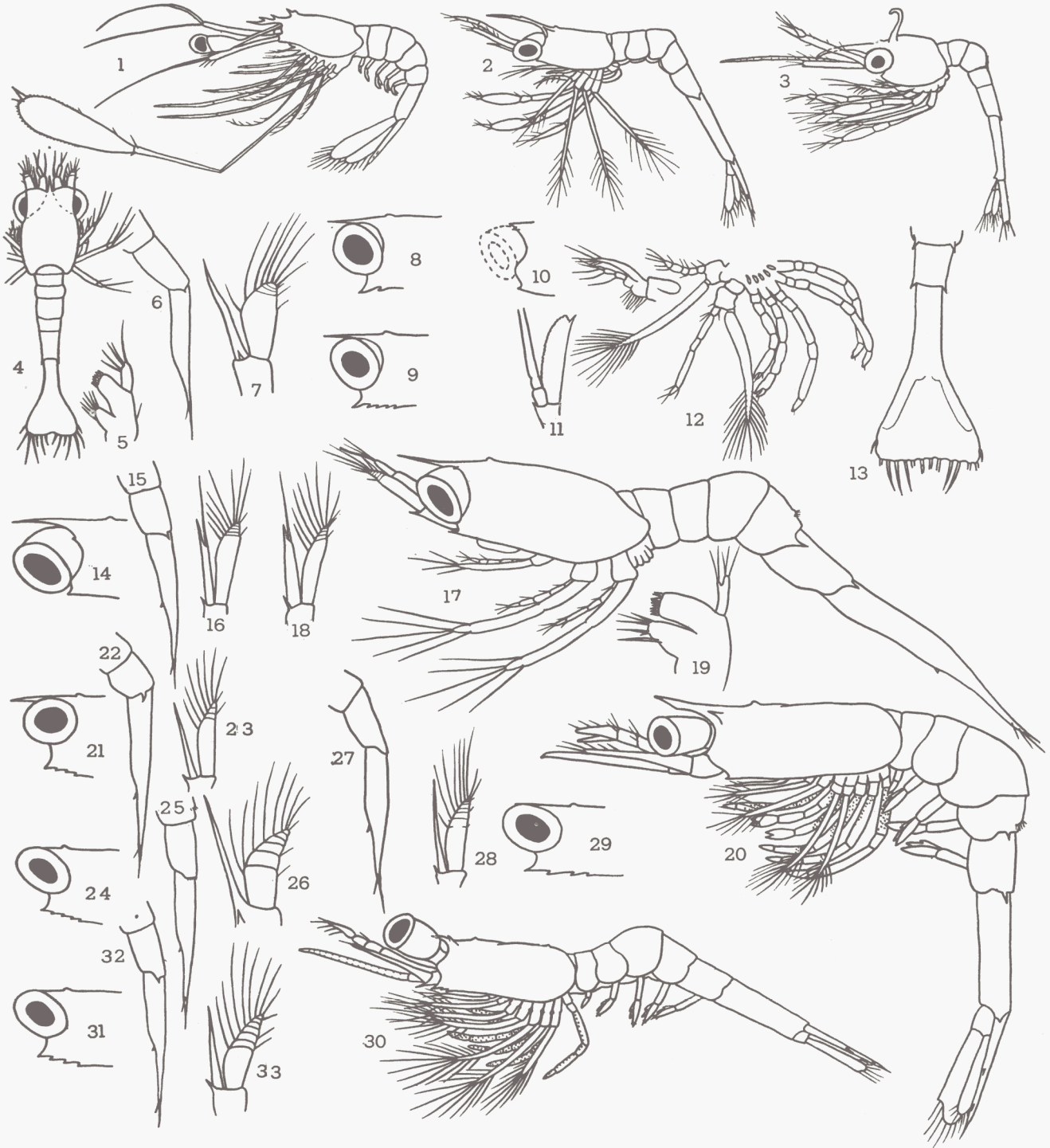


CONSEIL INTERNATIONAL POUR L'EXPLORATION DE LA MER

Zooplankton
Sheet 68

CRUSTACEA,
DECAPODA: LARVAE
V. CARIDEA, Family Hippolytidae
(By D. I. Williamson)
1957



[1 after Caroli; 3, 14, 15, 21—24, 26 after Lebour; 16 after Pike (unpublished); 2, 4, 5 after Sars; 10—13 after Stephensen; 31—33 after H. C. Williamson; 6—9, 17—20, 27—30 original D. I. W.]

Key to Genera

- I. Leg 5 the longest, with propodus greatly expanded in later stages;
eye-stalk very long except in stage I (Fig. 1) LYSMATA
Leg 5 not longer than 1—4, propodus not expanded; eye-stalk normal II
- II. Rostrum about as long as carapace; endopods of mxpd. 3 and legs 1 and 2 expanded
(oar-shaped) (Figs. 2, 3) CARIDION
Rostrum less than half as long as carapace; none of endopods expanded III
- III. A seta on outer side of base of maxillule (Fig. 5); anal spine not developed until stage IV;
later stages with exopods on legs 1 and 2 only; small larvae (stage I <1.7 mm.) HIPPOLYTE
No seta on outer side of base of maxillule (Fig. 19); anal spine present from stage I;
those with exopods on legs 1 and 2 are rather large (stage I >4 mm.) IV
- IV. Ventral margin of carapace with single tooth at anterior end (Fig. 14) V
Ventral margin of carapace with 3 or 4 teeth at anterior end (Fig. 21) VI
- V. Rostrum short (Fig. 10); no exopods on legs; stage I with segmented legs and biramous pleopods LEBBEUS
Rostrum prominent (Fig. 14); exopods on legs 1 and 2 (? occasionally 1—3);
stage I with rudimentary legs and without pleopods SPIRONTOCARIS
- VI. Rostrum long (Fig. 21); paired spines on abd. 5; late stages with exopods on legs 1—3;
or rostrum short (Figs. 24, 29, 30); no spines on abd. 5; late stages with exopods on legs 1—4 EUALUS
Rostrum short (Fig. 31); paired spines on abd. 5; late stages with exopods on legs 1—3 THORALUS

Additional Generic Characters, Identification of Species, and References to Published Descriptions

The approximate range in length between average first stage and average last stage larvae is given where known. Individuals may differ from these averages by up to $\pm 15\%$ in most species.

LYSMATA Risso

Ventral margin of carapace denticulate at anterior end; antennal scale segmented in stage I; maxillule without outer seta; exopods on legs 1—4 in later stages.

1. *L. seticaudata* (Risso). (Fig. 1). No spines on abdominal segments; 1.5—7 mm.
Caroli, 1918, Figs. 1—5.

CARIDION Goës

Ventral margin of carapace not denticulate; dorso-lateral spines on posterior margin of abd. 5; antennal scale segmented in stages I and II; exopods on legs 1—4 in later stages.

2. *C. gordonii* (Bate). (Fig. 2). Carapace in stage II and later with supra-orbital spines but no horns; 3—12 mm.
Sars, 1900, Pl. I—VI (as *Pandalus borealis*); Williamson, 1915, Figs. 45—47 (as *P. borealis*, after Sars);
Lebour, 1930, Pl. II, V, VI.
3. *C. steveni* Lebour. (Fig. 3). Carapace in stage II and later with pair of dorsal horns but no supra-orbital spines; 2.5—9 mm.
Sars, 1900, Pl. VIII, Figs. 5, 6 (stage VIII only, as *Pandalus bonnieri* stage VII); Williamson, 1915, Fig. 44 (as
P. bonnieri, after Sars); Lebour, 1930, Pl. III, VII, VIII.

Legend to Figures

- Fig. 1. *Lysmata seticaudata*, last stage, lateral. Fig. 2. *Caridion gordonii*, stage IV, lateral. Fig. 3. *C. steveni*, stage IV, lateral.
Figs. 4—8. *Hippolyte varians*, stage I: 4, dorsal view; 5, maxillule; 6, end of abdomen, lateral; 7, antenna; 8, front of carapace, lateral.
Fig. 9. *H. inermis*, stage I, front of carapace, lateral.
Figs. 10—13. *Lebbeus polaris*, stage II(?): 10, front of carapace, lateral; 11, antenna; 12, maxillipeds (on left) and legs;
13, end of abdomen, dorsal.
Figs. 14—16. *Spirontocaris lilliborgii*, stage I: 14, front of carapace, lateral; 15, end of abdomen, lateral; 16, antenna.
Figs. 17—20. *S. spinus*: 17, stage I, lateral; 18, antenna of same; 19, maxillule of same; 20, last stage, lateral.
Figs. 21—23. *Eualus gaimardii*, stage I: 21, front of carapace, lateral; 22, end of abdomen, lateral; 23, antenna.
Figs. 24—26. *E. occultus*, stage I: 24, front of carapace, lateral; 25, end of abdomen, lateral; 26, antenna.
Figs. 27—30. *E. pusiolus*: 27, stage I, end of abdomen, lateral; 28, antenna of same; 29, front of carapace of same, lateral;
30, last stage, lateral.
Figs. 31—33. *Thoralus cranchii*, stage I: 31, front of carapace, lateral; 32, end of abdomen, lateral; 33, antenna.

HIPPOLYTE Leach

Antennal scale segmented in stage I; exopods on legs 1 and 2 in later stages.

4. *H. varians* Leach. (Figs. 4—8). Usually with paired spines on posterior margin of abd. 5, but these occasionally absent; ventral margin of carapace with 2 or 3 teeth at anterior end; 1.3—4.3 mm.
Sars, 1912b, Pl. III—V; Williamson, 1915, Figs. 93—105 (stage I original, others after Sars); Lebour, 1931, Pl. I, Fig. 6, Pl. III, Fig. 4 (stage I only); Lebour, 1936, Pl. VI, Figs. 7, 10 (last stage only).
5. *H. inermis* Leach = *H. prideauxiana* Leach. (Fig. 9). Paired spines on posterior margin of abd. 5; ventral margin of carapace with 4 or 5 teeth at anterior end; 1.6—4.8 mm.
Lebour, 1931, Pl. I, Fig. 7, Pl. III, Figs. 5—7 (stages I—III only).
6. *H. longirostris* Holthuis. Development undescribed.

LEBBEUS White

Antennal scale never segmented.

7. *L. polaris* (Sabine). (Figs. 10—13). Paired spines on posterior margin of abd. 4 and 5; 8—10 mm.
Williamson, 1915, Figs. 89—92 (stage I taken from egg, after Krøyer; as *Spirontocaris*). ? Stephensen, 1917, Fig. 5 (probably stage II, as "Spirontocaris-larva Nr. 1, *Sp. polaris*?").

SPIRONTOCARIS Bate

Antennal endopod terminating in a spine and a seta in stage I, seta lost in stage II; scale usually segmented in early stages.

8. *S. lilljeborgii* (Danielsen). (Figs. 14—16). Paired spines on posterior margin of abd. 5 only; exopods on legs 1 and 2; 4.8—8.5 mm.
Lebour, 1937, Fig. 1 (stage I only, as *S. spinus* var. *lilljeborgi*).
9. *S. spinus* (Sowerby). (Figs. 17—20). Paired spines on posterior margins of abd. 4 and 5; transverse row of short setae on dorsal side of abd. 4; exopods on legs 1 and 2; 4.3—7.8 mm.
? Frost, 1936, Fig. 3 (last stage only, as "*Spirontocaris* A").
10. *S. phippisii* (Krøyer) = *S. turgida* (Krøyer). Probably like *S. spinus*, but lacking row of setae on abd. 4. Some specimens (identification doubtful) have exopods on legs 1—3, others on 1 and 2 only. Stage III 6.5 mm., last stage 8 mm.
? Stephensen, 1917, Figs. 6, 7 (stages III and last, as "Spirontocaris-larva Nr. 2, *Sp. turgida*?").

EUALUS Thallwitz

Antennal scale segmented in early stages.

11. *E. gaimardii* (H. Milne Edwards). (Figs. 21—23). Rostrum prominent; paired spines on posterior margin of abd. 5; exopods on legs 1—3 in later stages; stage I 2.8 mm.
Lebour, 1940, Fig. 1 (stage I only, as *Spirontocaris*).
12. *E. occultus* (Lebour). (Figs. 24—26). Rostrum very short (absent in stage I); no spines on abdominal segments, but row of fine denticles on posterior margin of abd. 5 and row of short setae on dorsal side of abd. 4; exopods on legs 1—4 in later stages; 2—5.2 mm.
Lebour, 1936, Pl. VI, Figs. 1—4, 6, 9 (stages I and last, as *Spirontocaris*).
13. *E. pusiolus* (Krøyer). (Figs. 27—30). Rostrum very short; no spines, denticles or dorsal setae on abdominal segments; exopods on legs 1—4 in later stages; 2.2—6 mm.
Bull, 1939, Fig. 1 (stage I only, as *Spirontocaris*).

THORALUS Holthuis

Antennal scale segmented in early stages.

14. *T. cranchii* (Leach). (Figs. 31—33). Rostrum absent in stage I; 1.5—4.5 mm.
Williamson, 1915, Figs. 75—80 (stage I only, as *Hippolyte*); Lebour, 1932, Pls. I—III (later stages confused with *E. occultus*; as *Spirontocaris*); Lebour, 1936, Pl. VI, Figs. 5, 8 (last stage only, as *Spirontocaris*).

LEONTOCARIS Stebbing

15. *L. lar* Kemp. Development undescribed.

CRYPTOCHELES G. O. Sars

16. *C. pygmaea* G. O. Sars. No free larval stages. Sars, 1912a.

BYTHOCARIS G. O. Sars

17. *B. gracilis* Smith. Development undescribed.

18. *B. leucopis* G. O. Sars.

19. *B. payeri* (Heller).

20. *B. simplicirostris* G. O. Sars.

} No free larval stages. Sars, 1885, 1912a.

Distribution (of adult Hippolytidae)	Species
Baltic, G. of Bothnia,	
G. of Finland	—
Belt Sea	8, 11
Kattegat	2, 7, 8, 9, 11, 13, 14
Skagerak	2, 3, 4, 7, 8, 9, 10, 11, 13, 14, 16
Northern North Sea	2, 3, 4, 7, 8, 9, 10, 11, 13, 14, 16
Southern North Sea	2, 3, 4, 11, 13, 14
English Channel	1, 2, 3, 4, 5, 6, 8, 12, 13, 14
Bristol Ch., Irish Sea,	
S. W. Scotland	2, 3, 4, 5, 8, 9, 11, 12, 13, 14
Faroe, Shetland, N. Scotland .	2, 4, 7, 8, 9, 11, 13, 14, 17, 19, 20
Faroe-Iceland Area	2, 7, 8, 9, 11, 13, 17, 18, 19
W. Ireland and Atlantic	2, 4, 5, 8, 9, 12, (13), 14, 15, 17
B. of Biscay	1, 2, 4, 5, 6, 12, 14
Norwegian Sea	2, 4, 7, 8, 9, 10, 11, 13, 14, 16, 18, 19, 20
Barents Sea	2, 7, 8, 9, 10, 11, 13, 18, 19, 20

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