

CONSEIL INTERNATIONAL POUR L'EXPLORATION DE LA MER

Zooplankton

Sheet 103

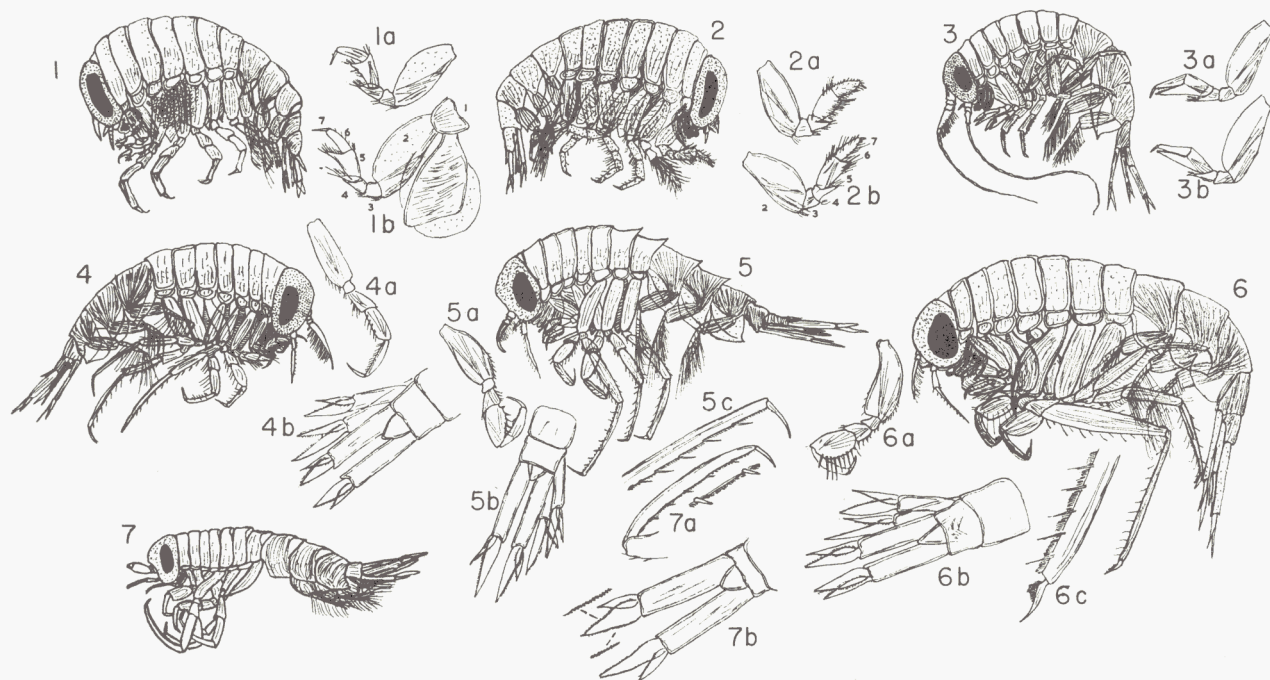
AMPHIPODA

SUB-ORDER: HYPERIIDEA

Family: Hyperiidæ

(By M. J. DUNBAR)

1963



1. *Hyperia galba*, ♀; a, per. 1; b, per. 2. — 2. *Hyperia medusarum*, ♀; a, per. 1; b, per. 2. — 3. *Hyperoche medusarum*, ♂; a, per. 1; b, per. 2. — 4. *Parathemisto abyssorum*, ♀; a, per. 3; b, uropods. — 5. *Parathemisto gauchicaudi* ("short-legged" form), ♀; a, per. 3; b, uropods; c, per. 5. — 6. *Parathemisto libellula*, ♀; a, per. 3; b, uropods; c, per. 5. — 7. *Parathemisto gracilipes*, ♂ (first antenna not drawn in full); a, per. 5; b, uropods 3. (Figures 7, 7a and 7b redrawn from HURLEY; Figure 6c original; remainder drawn from Sars.)

The limbs of the pereaeon, or pereopods, are here numbered in series from 1 to 7, numbers 1 and 2 being also called "gnathopods"; "per." = pereopod.

Only the species of the northern part of the North Atlantic are treated here; the Mediterranean species are omitted. The family is still in need of revision.

Family Hyperiidae

Key to the genera:—

- 1a. Per. 5-7 considerably longer than per. 3 and 4. *Parathemisto* Boeck
- 1b. Per. 5 and 6 longer than 3 and 4; per. 7 much shorter than 5 and 6 *Hyperioides longipes* Chevreux (not figured)
- 1c. Per. 5-7 not longer than 3 and 4. 2
- 2a. Per. 1 and 2, the fixed finger (on joint 5) of the chela not shorter than the movable finger (joint 6). . . *Hyperoche medusarum* (Kröyer) (Fig. 3)
- 2b. Per. 1 and 2, the fixed finger (on joint 5) shorter than the movable finger (joint 6). *Hyperia* Latreille

Key to the North Atlantic species of *Parathemisto* (adapted from STEPHENSEN, 1942; BOWMAN, 1960, with additions):—

- 1a. Per. 5-7 approximately equal in length; per. 3 and 4, margins of joint 5 almost parallel. *Parathemisto abyssorum* (Boeck) (Fig. 4)
- 1b. Per. 5 distinctly longer than per. 6 and 7; per. 3 and 4, joint 5 expanded, margins not parallel 2
- 2a. Per. 5, dactyl (joint 7) with dense tuft of spinules at base (pectinate); female, antenna 1 slender, straight; no dorsal spination. *Parathemisto libellula* (Lichtenstein) (Fig. 6); (syn. *Themisto libellula* (Mandt))
- 2b. Per. 5, dactyl (joint 7) without tuft of spinules (not pectinate); female, antenna 1 stouter, hooked; dorsal spination slight or well developed 3
- 3a. Dorsal spination slight, seg. 6-9; uropod 3, inner ramus serrate on both margins *Parathemisto gracilipes* (Norman) (Fig. 7)
- 3b. Dorsal spination well developed in specimens above 10 mm in length, incipient in smaller specimens, seg. 6-9. Uropod 3, inner ramus serrate on outer margin only. *Parathemisto gaudichaudi* (Guérin) (Fig. 5)

There are “long-legged” and “short-legged” forms of *P. gaudichaudi*, corresponding to the former “bispinosa” and “compressa” forms, differing somewhat in the length of per. 5. *P. gracilipes* and *P. gaudichaudi*, in young stages, probably cannot be distinguished with certainty. *P. gaudichaudi*, however, can be distinguished from *abyssorum* and *libellula* even in quite young stages well under 10 mm in length. Quoting from DUNBAR (1954): “Long before the dorsal spines develop, characteristics of *gaudichaudi* are the lack of the tuft of hairs on the finger of per. 5 (these tufts being characteristic of *libellula*), the longer finger on the same leg, the different armament of joint 6, per. 5, the quite unequal rami of uropod 3 (almost subequal in *libellula*), the presence of a slight keel on the back on the segments which will later develop denticles (spines), and a somewhat different body form, being more hunched anteriorly. *Parthemisto abyssorum*, even in young stages only 2 mm long, is distinguished by the lack of elongation of per. 5, the lack of tuft of hair on the finger (as in *gaudichaudi*), and the armature of joint 6, per. 5.”

Key to the North Atlantic species of *Hyperia* (after STEPHENSEN, 1942):—

- 1a. Pleon segments 1–3, lower hind corners rounded; hand (joint 5) of per. 1 without process, hand of per. 2 with short process; per. 1 and 2 shorter than per. 3–7 *Hyperia spinigera* Bovallius
- 1b. Pleon segment 3, lower hind corner acute 2
- 2a. Per. 1, hand (joint 5) with short process; per. 1 and 2 with a few strong setae, and distinctly shorter than per. 3–7 *Hyperia galba* (Montagu) (Fig. 1)
- 2b. Per. 1, hand without process; per. 1 and 2 densely setose, not markedly shorter than per. 3–7 *Hyperia medusarum* (Müller) (Fig. 2)

Hyperia spinigera is a doubtful species; it is in all probability synonymous with, or a variant of, *Hyperia galba*.

Distribution

Hyperioides longipes. North and South Atlantic, tropical, subtropical and warm temperate; northern limit uncertain. Mediterranean, East Indies, New Zealand and the California coast. Small in size (5–6 mm) but widely distributed.

Hyperoche medusarum. North Atlantic and Subarctic (mixed water region), extending also into the Arctic water. Southern limit in North Atlantic approximately a line between the Gulf of St. Lawrence and Madeira. Known also from the Sea of Japan, New Zealand and the Subantarctic.

Hyperia galba. Predominantly Subarctic (Barents Sea, Svalbard, Iceland, Denmark Strait, West Greenland, Baffin Bay, Hudson Strait, Strait of Belle Isle). Recorded also from Hudson Bay, northeast Greenland and the Siberian shelf. Gulf of Maine and coasts of Norway. Also from the North Pacific and the Sea of Japan, and from the Antarctic. Southern limit in the North Atlantic not yet certain, but known from south coast of England and east mid-Atlantic (as *spinigera*) and the Bermuda region.

Hyperia medusarum. Subarctic and north boreal (temperate), recorded from the Barents Sea, west Svalbard, West Greenland to about 67°N, Hudson Strait and Hudson Bay, south to the Gulf of Maine, west of Ireland, and Denmark. Also north coast of Alaska, Sea of Japan and North Pacific generally.

Parthemisto abyssorum. Typically Subarctic, but known also from southern Norway, almost the whole of the East Greenland coast, and northern Baffin Bay and Smith Sound; taken in the Arctic Ocean both in the

Atlantic layer and occasionally in the upper water. Recorded from the Kara and Laptev Seas where it apparently enters with the Atlantic layer from the north. South to the Gulf of Maine. Southern Beaufort Sea and North Pacific.

Parthemisto libellula. Arctic and Subarctic, probably a good indicator of the presence of Arctic water; south to Belle Isle, south of Greenland to about 58°N, north coast of Iceland and the Faroe Islands, south in the Faroe region to about 60°N. Not recorded from the waters off Norway. Central and western Norwegian Sea, Greenland Sea and northern Barents Sea. In fact, everywhere where Arctic water is known to penetrate at the surface. See DUNBAR (1964).

Parthemisto gracilipes. Recorded from temperate North Atlantic (about 35° to 50°N in the eastern part) and from the Mediterranean and the western North Sea. Also South Atlantic and South Pacific in certain areas. See BOWMAN (1960) and HURLEY (1955).

Parthemisto gaudichaudi. Subarctic and north temperate, Subantarctic and south temperate. Northern limits Hudson Strait, Davis Strait and West Greenland (to about 72°N), west Svalbard and the western Barents Sea. South to the Gulf of Maine, Newfoundland waters, and west and southwest Ireland and the Bay of Biscay (BOWMAN, 1960; DUNBAR (1964)).

References to Work on Biology

See in particular DUNBAR (1964) and STEPHENSEN (1923), which contain useful bibliographies.

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