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Zooplankton

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CLADOCERA

(By N. DELLA CROCE)

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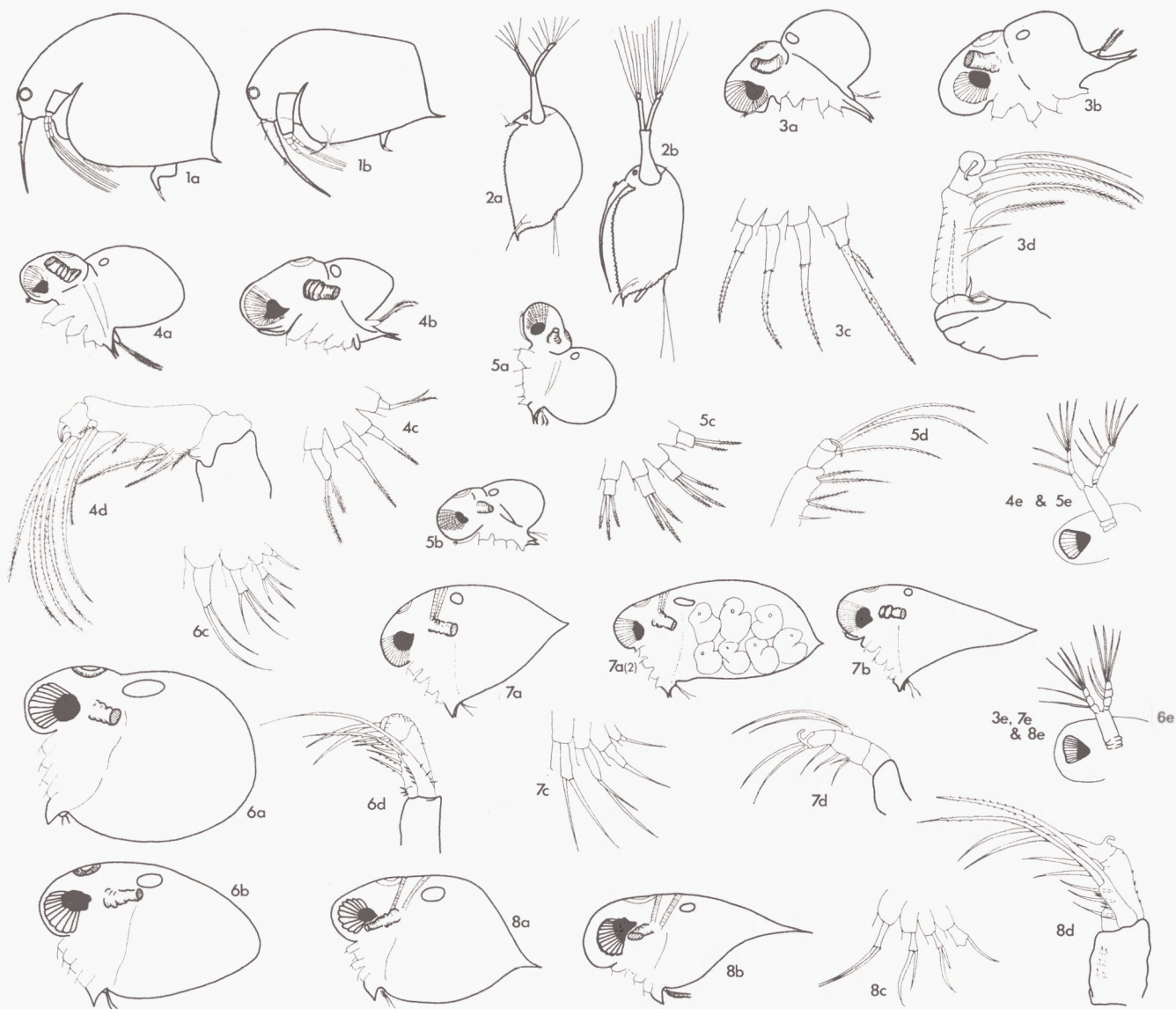


Figure 1-8. 1. *Bosmina coregoni maritima*; 2. *Penilia avirostris*; 3. *Podon leuckarti*; 4. *Podon intermedius*; 5. *Podon polyphemoides*; 6. *Evadne tergestina*; 7. *Evadne nordmanni*; 8. *Evadne spinifera*. - a, female; a (2) female with brood pouch; b, male; c, exopodite of legs I-IV; d, endopodite of leg 1; e, exopodite of antenna.

CLADOCERA

KEY TO GENERA

1. Body and legs covered by bivalve carapace. 2
 Body and legs not covered by bivalve carapace. Carapace converted into large brood sac. 3
2. Antennules of females long and curving backward; sensory setae on side. *Bosmina* Baird
 Antennules of females small and truncated; sensory setae terminal. *Penilia* Dana
3. Junction of head and body marked by a dorsal depression. *Podon* Lilljeborg
 Junction of head and body without dorsal depression. *Evadne* Lovén

Bosmina Baird

1. *Bosmina coregoni maritima* P. E. Müller (Figs. 1 a and b).
 Short, blunt rostrum in males, roundish in females. Antennules very long and varying in length seasonally; immovably fixed to head in females, free in males. Inferoposterior angle of carapace with spine. Six pairs of legs, most posterior reduced; hook and long flagellum on first leg in males. Postabdominal claws with 5-12 denticles. *Length*: 0.4-0.6 mm in females; 0.4-0.45 mm in males. *Distribution*: Baltic sea, from the Skagerak to the Gulf of Bothnia and the Gulf of Finland. Exceptionally found in the Bardawil lagoon, northern Sinai. *Literature*: 1, 4, 23, 27, 30, 36, 37, 40, 42.

Penilia Dana2. *Penilia avirostris* Dana (Figs. 2a and b).

Head with prominent rostral points in females, roundish in males. Antennules small and truncated in females, as long as the carapace in adult males. All the free carapace edged with spines; a larger spine at the inferoposterior angle of carapace. Six pairs of legs, most posterior reduced; strong hook at the distal end of the first leg in males. Copulatory organs longer than postabdomen in adults. *Length*: 0.5–1.2 mm in females; 0.7–0.9 in males. *Distribution*: coastal waters of tropical oceans, and of the warm temperate regions. Extreme records at 52°N–04° E and 40° S–174° E. Rarely in open waters. *Literature*: 10, 11, 12, 13, 14, 17, 31, 34, 39, 46.

Podon Lilljeborg

Stout and oval body. Body shape may be modified by number and size of embryos. Head with a large eye in front and the antennae behind. Exopodites of the antennae with different number of swimming setae (Figs. 3, 4e and 5e). Antennules almost rudimentary. Four pairs of legs. Males with a hook at the distal end of the endopodites of the first pair; carapace smaller than in females.

3. *Podon leuckarti* G. O. Sars (Figs. 3a, b, c, d and e).

Large body. Brood pouch rather small and hemispherical. Caudal claws very protruding. Exopodites of the antennae with 4 joints respectively with 0, 1, 1 and 4 swimming setae. Exopodites of legs I–IV respectively with 1, 1, 1 and 2 setae. *Length*: 1.0 mm in both sexes. *Distribution*: most records are from north of 40° N; Baltic and North Seas; English Channel; Irish Sea; Iceland, Greenland and north-western Atlantic waters; Norwegian, White, Barents, Kara and East Siberian Seas; Asian waters of the Bering Sea; Japan Sea. Other records in the Black Sea and between 50°–55° S in the western Atlantic. Mainly in coastal waters. *Literature*: 4, 7, 9, 17, 21, 22, 24, 29, 30, 37, 38, 39, 40, 47.

4. *Podon intermedius* Lilljeborg (Figs. 4a, b, c, d and e).

Large body. Brood pouch large and oval. Caudal claws protruding. Exopodites of the antennae with 4 joints respectively with 0, 1, 2 and 4 swimming setae. Exopodites of legs I–IV respectively with 2, 1, 1 and 2 setae. *Length*: 1.0–1.2 mm in females; 0.9 mm in males. *Distribution*: all records are from the northern hemisphere. Baltic, North and Norwegian Seas; English Channel; Irish Sea; Atlantic waters between Ireland and Iceland; north-western Atlantic waters; Mediterranean and Black Seas. It can also be found in open waters. *Literature*: 7, 10, 17, 21, 22, 24, 30, 35, 37, 38, 39, 40, 41, 46, 47.

5. *Podon polyphemoides* Leuckart (Figs. 5a, b, c, d and e).

Small body. Brood pouch from roundish to hemispheric. Caudal claws less protruding than in the previous species. Exopodites of the antennae with 4 joints respectively with 0, 1, 2 and 4 swimming setae. Exopodites of legs I–IV respectively with 3, 3, 3 and 2 setae. *Length*: 0.66 mm in females; 0.54 mm in males. *Distribution*: Northern hemisphere, mainly north of 40° N: Baltic and North Seas; English Channel, Irish waters, Norwegian Sea; north-western Atlantic waters; eastern and western Pacific waters; Mediterranean and Black Seas. Southern hemisphere, between 20° and 40° S, eastern and western Atlantic, South African and New Zealand waters. Mainly in coastal waters. *Literature*: 1, 2, 6, 7, 10, 13, 17, 20, 21, 24, 28, 30, 37, 38, 39, 40, 47.

Note: Gieskes (1971) proposes the removal of the species from the genus to include it in the genus *Pleopis*: *Pleopis polyphemoides*.

Evadne Lovén

Body stout; oval or triangular in shape with or without a terminal spine. Body shape may be modified by number and size of embryos. Head with a large eye in front and the antennae behind. Exopodites of the antennae with 4 joints respectively with 0, 1, 1 and 4 swimming setae (Figs. 6, 7 and 8e). Four pairs of legs. Males with a hook at the distal end of the endopodites of the first pair; carapace smaller than in females.

6. *Evadne tergestina* Claus (Figs. 6a, b, c, d and e).

Body oval in shape. Brood pouch from hemispherical to semioval. Exopodites of legs I–IV respectively with 2, 3, 3 and 1 setae. *Length*: 1.0 mm in females; 0.8 mm in males. *Distribution*: all warm and temperate waters of oceans, and in coastal and open seas, between 45° N and 35° S. Extreme records between 52° and 58° N, in the North Sea. *Literature*: 3, 8, 10, 13, 16, 17, 18, 19, 32, 33, 38, 39, 41, 43, 44, 46.

7. *Evadne nordmanni* Lovén (Figs. 7a, a (2), b, c, d and e).

Body triangular in shape with a small terminal spine. Brood pouch elliptical if containing numerous embryos; otherwise triangular. Locomotory muscles of the antennae contiguous. Exopodites of legs I–IV respectively with 2, 2, 1 and 1 setae. *Length*: 0.4–0.7 mm in females; 0.6 mm in males. *Distribution*. Northern hemisphere: Atlantic waters north of 40° N; Greenland, North, Baltic and Norwegian Seas; Barents, Kara and eastern Siberian Seas. Most southern record at 23° N–110° W in the Pacific waters. Mediterranean and Black Seas. Southern hemisphere: south-eastern Australian and south-western Pacific waters; eastern and western Atlantic. Most northerly record at 18° S–12° E. Mainly in coastal waters; also in the open sea in the North Atlantic. *Literature*: 4, 5, 7, 10, 15, 17, 21, 24, 26, 29, 30, 35, 37, 38, 39, 40, 44, 45, 47.

8. *Evadne spinifera* Müller (Figs. 8a, b, c, d and e).

Body oval in shape with a long terminal spine. Oval brood pouch. Locomotory muscles of the antennae separate. Exopodites of legs I–IV respectively with 2, 2, 2 and 1 setae. *Length*: 0.7 mm in females; 0.6 mm in males. *Distribution*: all seas, in coastal and open waters between 60° N and 40° S. Most of the records in the Atlantic Ocean. *Literature*: 4, 8, 10, 13, 15, 16, 17, 21, 26, 30, 32, 37, 39, 40, 41, 44, 46, 47.

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