CONSEIL INTERNATIONAL POUR L'EXPLORATION DE LA MER

Zooplankton
Sheet 76

CUMACEA

Family: Diastylidae

(By N. S. Jones)

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6. Family DIASTYLIDAE Bate

Key to Species:

1. Telson very short, with at most one lateral spine in addition to the end spines (Fig. 78) 2
   Telson usually longer, with more than one lateral spine on each side (Figs. 13, 87) 4
2. Uropods very slender, about as long as the last two abdominal somites together (Fig. 80) ..... *Leptostylis longimana*
   Uropods less slender, only about as long as the penultimate somite (Figs. 78, 79) 3
3. Telson about ½ as long as the peduncle of the uropods; front of carapace with triangular teeth (Figs. 79, 81) .. .. *Leptostylis ampullacea*
   Telson less than ½ as long as the peduncle of the uropods; front of the carapace with close rectangular teeth (Figs. 78, 82, 83) ..... *Leptostylis villosa*
4. Pleopods missing or when present without feathered setae (Fig. 1) (♀♀ and immature ♂♂) 5
   Pleopods present and with long feathered setae (Fig. 3) (adult ♂♂) 23
5. Telson about ½ the length of the peduncle of the uropods and less than ⅓ as long as the whole uropod (Fig. 84) ..... *Diastyloides serrata*
   Telson more than ½ as long as the peduncle and more than ⅓ as long as the whole uropod (Fig. 13) 6
6. Carapace with 2 or more distinct folds on each side (Figs. 85, 86, 88) 7
   Carapace without distinct folds (Figs. 91, 92, 93) 11
7. Carapace with vertical folds and with 2 pairs of strong dorsal spines (Fig. 85) ..... *Diastylis rugosa*
   Carapace with diagonal folds and without dorsal spines (Figs. 86, 88, 89, 90) 8
8. Carapace with 2 diagonal folds on each side; post-anal portion of the telson much longer than the pre-anal portion (Figs. 86, 87) ..... *Diastyloides biplicata*
   Carapace with more than 2 diagonal folds on each side; post-anal portion of the telson not much longer than the pre-anal (Figs. 88, 89, 90) 9
9. Length about 15—20 mm. (Fig. 88) ..... *Diastylis scorpioides*
   Length 8—15 mm. 10
10. Diagonal folds on the carapace as in Fig. 89 ..... *Diastylis lepechini*
    Diagonal folds on the carapace as in Fig. 90 ..... *Diastylis edwardsi*
11. Pseudorostrum strongly upturned (Fig. 91) ..... *Brachydiastylis resima*
    Pseudorostrum not strongly upturned 12
12. Carapace thickly beset with hairs (Fig. 92) ..... *Diastylis goodsiri*
    Carapace not thickly beset with hairs 13
13. Carapace and free thoracic somites carrying prominent spines (Figs. 93, 94, 95) 14
    Only small teeth or none on the carapace (Figs. 96, 97) 16
14. Telson longer than the peduncle of the uropods (Fig. 93) ..... *Diastylis spinulosa*
    Telson shorter than the peduncle of the uropods 15
15. Carapace with prominent teeth as in Fig. 94 ..... *Diastylis cornuta*
    Carapace with teeth as in Fig. 95 ..... *Diastylis boecki*
16. The pre-anal portion of the telson about as long as the post-anal portion (Fig. 96) ..... *Diastylis tumida*
    The pre-anal portion of the telson distinctly shorter than the post-anal portion (Figs. 13, 98) 17
17. Telson with a moderate number of lateral spines (about 4 on each side) (Figs. 97, 98) ..... *Diastylis lucifera*
    Telson with 6 or more lateral spines on each side (Fig. 13) 18
18. 2 long rows of small teeth on the frontal lobes (Figs. 2, 99, 100) 19
    Where there are teeth on the frontal lobes they are not in 2 long rows but arranged transversely (Figs. 101, 102) 21
19. Carapace less than 1½ as long as broad (Fig. 99) ..... *Diastylis glabra*
    Carapace more than 1½ as long as broad (Fig. 2) 20
20. Pseudorostrum short (Fig. 2) ..... *Diastylis rathkei*
    Pseudorostrum long (Fig. 100) ..... *Diastylis oxyrhyncha*
21. Carapace more than 1½ as long as broad (Fig. 101) ..... *Diastylis sulcata*
    Carapace less than 1½ as long as broad (Fig. 102) 22

22. Prolongation of the hind end of the last thoracic somite at first broad, then ending in a short point; basis of the first peraeopod shorter than the 4 following joints together (Figs. 102, 103, 104) ..... *Diastylis laevis*
Prolongation of the hind end of the last thoracic somite ending in a long sharp point; basis of the first peraeopod as long as the 5 following joints together (Figs. 105, 106) ..... *Diastylis bradyi*
23. Flagellum of the second antenna distinctly shorter than the carapace + abdomen (Fig. 107) 24
Flagellum of the second antenna at least as long as the carapace + abdomen (Figs. 109, 110) 26
24. Length about 15—20 mm. ..... *Diastylis scorpioides*
Length 8—15 mm. 25
25. Diagonal folds on the carapace prominent (Fig. 107) ..... *Diastylis lepechini*
Diagonal folds on the carapace not prominent (Fig. 108) ..... *Diastylis edwardsi*
26. No lateral ridges on the carapace (Figs. 109, 110, 112) 27
Lateral ridges present (Figs. 115 seq.) 29
27. Anterolateral angle acute and untoothed (Fig. 109) ..... *Brachydiastylis resima*
Anterolateral angle rounded and toothed 28
28. First joint of the inner ramus of the uropods about ½ as long as the two others together (Figs. 110, 111) ..... *Diastylis lucifera*
First joint of the inner ramus of the uropods longer than the two others together (Figs. 112, 113). *Diastyloides serrata*
29. No vertical or diagonal ridges or pseudorostral ridges on the carapace (Figs. 114, 117) 30
Vertical or diagonal lines present on the carapace, or where absent at least pseudorostral lines present (Figs. 118 seq.) 35
30. Subrostral lines present or the lateral ridges extend to the subrostral margin of the carapace (Figs. 115, 116) 31
Subrostral lines absent, lateral ridges not reaching margin of carapace 34
31. No protuberances on the carapace (Figs. 114, 115) 32
Carapace with protuberances in the position where large teeth are present in the ♀ (Figs. 116, 117) 33
32. 3 teeth present on the frontal lobes (Fig. 114) ..... *Diastylis lucifera*
No teeth on the frontal lobes (Fig. 115) ..... *Diastylis tumida*
33. 2 pairs of protuberances (Fig. 116) ..... *Diastylis cornuta*
Only 1 pair of protuberances (Fig. 117) ..... *Diastylis boecki*
34. Carapace thickly beset with hairs; length over 25 mm. ..... *Diastylis goodsiri*
Carapace not thickly beset with hairs; length about 8 mm. (Fig. 110) ..... *Diastylis lucifera*
35. Lateral ridges neither reach the subrostral margin nor join together with the pseudorostral or subrostral lines where these are present (Figs. 117, 119) 36
Lateral ridges reach the subrostral margin or join the pseudorostral or subrostral lines or both together (Figs. 118, 120, 121) 38
36. 2 or more oblique ridges on the carapace (Fig. 118) ..... *Diastyloides biplicata*
No oblique lines on the carapace 37
37. A pair of protuberances on the carapace (Fig. 117) ..... *Diastylis boecki*
No protuberances present (Fig. 119) ..... *Diastylis sulcata*
38. Carapace with two narrow fold-shaped lines running obliquely backward and not reaching near to the frontal lobes (Fig. 118) ..... *Diastyloides biplicata*
Carapace without oblique folds or where present they reach at least to the hind edge of the frontal lobes (Figs. 120, 122, 124) 39
39. The very distinct pseudorostral lines form an angle broadly open towards the underside (Fig. 120) .... *Diastylis laevis*
The pseudorostral lines run otherwise or are absent (Figs. 121, 122, 124) 40
40. 2nd—4th free thoracic somites without depressions in the mid-line 41
2nd—4th free thoracic somites depressed in the mid-line so that two distinct but low longitudinal keels are formed (Fig. 3) 43
41. No pseudorostral lines 42
Pseudorostral lines present (Fig. 121) ..... *Diastylis bradyi*
42. 2—3 vertical lines on the carapace (Fig. 122) ..... *Diastylis rugosa*
Only 1 oblique line on the carapace (Fig. 117) ..... *Diastylis boecki*
43. Pseudorostrum short (Fig. 3) ..... *Diastylis rathkei*
Pseudorostrum long (Figs. 123, 124) 44
44. Length less than 20 mm. (Fig. 123) ..... *Diastylis oxyrhyncha*
Length more than 22 mm. (Fig. 124) ..... *Diastylis glabra*

Genus DIASTYLIS Say

Third maxillipeds with exopodites in both sexes; sometimes a rudimentary exopodite on the 3rd and 4th peraeopods in the ♀; ♂ pleopods with 2 rami; post-anal part of the telson relatively narrow and with numerous lateral spines; inner ramus of the uropods with 3 joints.

38. *D. rathkei* (Kröyer 1841). (Figs. 1—4, 13). Several subspecies (see Zimmer, 1926, 1930, 1933). Moderate depths. Length 12—22 mm. — G. O. Sars, 1900, Pl. XXXIII—XXXIV. Zimmer, 1930, Figs. 2—6. Zimmer, 1933, Figs. 29, 44, 46, 48—52.

39. *D. sulcata* Calman 1912. (Figs. 101, 119). Usually in shallow water. Length about 11—13 mm. — Calman, 1912, Figs. 76—78. Zimmer, 1926, Figs. 87—95. Zimmer, 1930, Figs. 7—8.

40. *D. glabra* (Zimmer 1900). (Figs. 99, 124). Several subspecies (see Zimmer, 1926, 1930). Shallow to deep water. Length about 19—28 mm. — Zimmer, 1926, Figs. 44—86, Pl. 11—14. Zimmer, 1930, Figs. 9—31.

41. *D. oxyrhyncha* Zimmer 1926. (Figs. 100, 123). Shallow to deep water. Length about 14—18 mm. — Zimmer, 1926, Figs. 40—43, Pl. 8—10.

42. *D. laevis* Norman 1869. (Figs. 102—104, 120). Moderate depths. Length about 10—11 mm. — G. O. Sars, 1900, Pl. XXXIX, as *D. rostrata.* Zimmer, 1930, Figs. 36—37. Fage, 1951, Figs. 86—88.

43. *D. bradyi* Norman 1879. (Figs. 105, 106, 121). Shallow to moderate depths. Length about 10—12 mm. — Walker, 1888, Pl. 3. Zimmer, 1930, Figs. 33—35. Fage, 1951, Figs. 86—88.

44. *D. goodsiri* (Bell 1855). (Fig. 92). Moderate depths. Length about 25—35 mm. — Hansen, 1886, Pl. 22, 23. Sars, 1900, Pl. XLI.

45. *D. lucifera* (Kröyer 1841). (Figs. 97, 98, 110, 111). Moderate depths. Length about 6—8 mm. — Sars, 1900, Pl. XXXVIII.

46. *D. tumida* (Lilljeborg 1855). (Figs. 96—115). Moderate depths. Length about 9—10 mm. — Sars, 1900, Pl. XL. Zimmer, 1930, Figs. 38, 39. Fage, 1951, Fig. 91.

47. *D. rugosa* G. O. Sars 1865. (Figs. 85, 122). Shallow water. Length about 8—9 mm. — G. O. Sars, 1879, Pl. XXXIV—XXXVIII. G. O. Sars, 1900, Pl. XXXVII. Fage, 1951, Figs. 1, 2, 8, 9.

48. *D. scorpioides* (Lepechin 1780). (Fig. 88). Shallow water. Length about 15—20 mm. — Zimmer, 1926, Fig. 21, Pl. 1, 2.

49. *D. lepechini* Zimmer 1926. (Figs. 89, 107). Moderate depths. Length about 8—11 mm. — G. O. Sars, 1900, Pl. XLIV, as *D. scorpioides.* Zimmer, 1926, Fig. 27, Pl. 5, 6.

50. *D. edwardsi* (Kröyer 1841). (Figs. 90, 108). Shallow water to moderate depths. Length about 9—13 mm. — Zimmer, 1926, Figs. 22—26, Pl. 2, 3.

51. *D. spinulosa* Heller 1875. (Fig. 93). Usually in fairly deep water. Length about 23 mm. — G. O. Sars, 1900, Pl. XLII.

52. *D. cornuta* (Boeck 1864). (Figs. 94, 116). Usually in fairly deep water. Length about 12—14 mm. — G. O. Sars, 1900, Pl. XXXV—XXXVI. Zimmer, 1930, Figs. 40, 42, 43. Fage, 1951, Figs. 94, 95.

53. *D. boecki* Zimmer 1930. (Figs. 95, 117). Moderate depths. Length about 12—14 mm. — Zimmer, 1930, Figs. 41, 44, 45.

Genus BRACHYDIASTYLIS Stebbing

Pseudorostral lobes upturned in the ♀; 3rd and 4th peraeopods of the ♀ without rudimentary exopodites; the outer ramus of the uropods much longer than the inner.

54. *B. resima* (Kröyer 1846). (Figs. 91, 109). Fairly shallow water. Length about 5—6 mm. — G. O. Sars, 1900, Pl. XLVII, as *Diastylopsis resima.*

Genus DIASTYLOIDES G. O. Sars

Mandibles truncate at the base with a small conical protuberance at the base of the molar process.

55. *D. biplicata* (G. O. Sars 1865). (Figs. 86, 87, 118). Moderate depths to deep water. Length about 7—8 mm. — G. O. Sars, 1900, Pl. XLVI.

56. *D. serrata* (G. O. Sars 1865). (Figs. 84, 112, 113). Shallow to deep water. Length about 6—7 mm. — G. O. Sars, 1900, Pl. XLV. Fage, 1951, Fig. 108.

Genus LEPTOSTYLIS G. O. Sars

Abdomen and appendages relatively slender; first antenna of the ♂ with a brush of setae hiding the flagellum; second antenna of ♂ much shorter than the body; telson not longer than the last somite and with only one pair of lateral spines.

57. *L. ampullacea* (Lilljeborg 1855). (Figs. 79, 81). Shallow to moderate depths. Length about 6 mm. — G. O. Sars, 1900, Pl. L.

58. *L. villosa* G. O. Sars 1869. (Figs. 78, 82, 83). Carapace densely hirsute. Moderate depths. Length about 4 mm. — G. O. Sars, 1900, Pl.L.

59. *L. longimana* G. O. Sars 1864. (Fig. 80). First peraeopods very long and slender. Usually in fairly deep water. Length about 6 mm. — G. O. Sars, 1900, Pl. XLVIII.

References are given in Sheet 71 and Figures in Sheet 72.

Distribution	Species
Baltic proper	38, 53
Belt Sea	38, 45, 46, 53, 57, 58
Kattegat	38, 42, 45, 46, 47, 53, 54, 55, 56, 57, 58, 59
Skagerak	38, 42, 43, 44, 46, 47, 52, 53, 54, 55, 56, 57, 58, 59
Northern North Sea	38, 42, 45, 46, 47, 52, 53, 54, 55, 56, 57, 58, 59
Southern North Sea	38, 42, 43, 45, 47
English Channel	42, 43, 45, 47, 52, 55
Bay of Biscay	42, 43, 47, 52
Bristol Channel, Irish Sea, and S.W. Scotland	38, 42, 43, 45, 46, 47, 55, 58
South and West Ireland and Atlantic	42, 43, 46, 47, 52, 55, 56, 59
Faroe—Shetland Area	41, 45, 54, 55, 57, 58
Faroe—Iceland Area	40, 44, 45, 48, 54, 57, 58, 59
Norwegian Sea	38, 41, 44, 45, 46, 49, 51, 54, 55, 56, 57, 58, 59
Barents, White, and Kara Seas	38, 39, 40, 41, 44, 45, 48, 49, 50, 51, 54, 57, 58