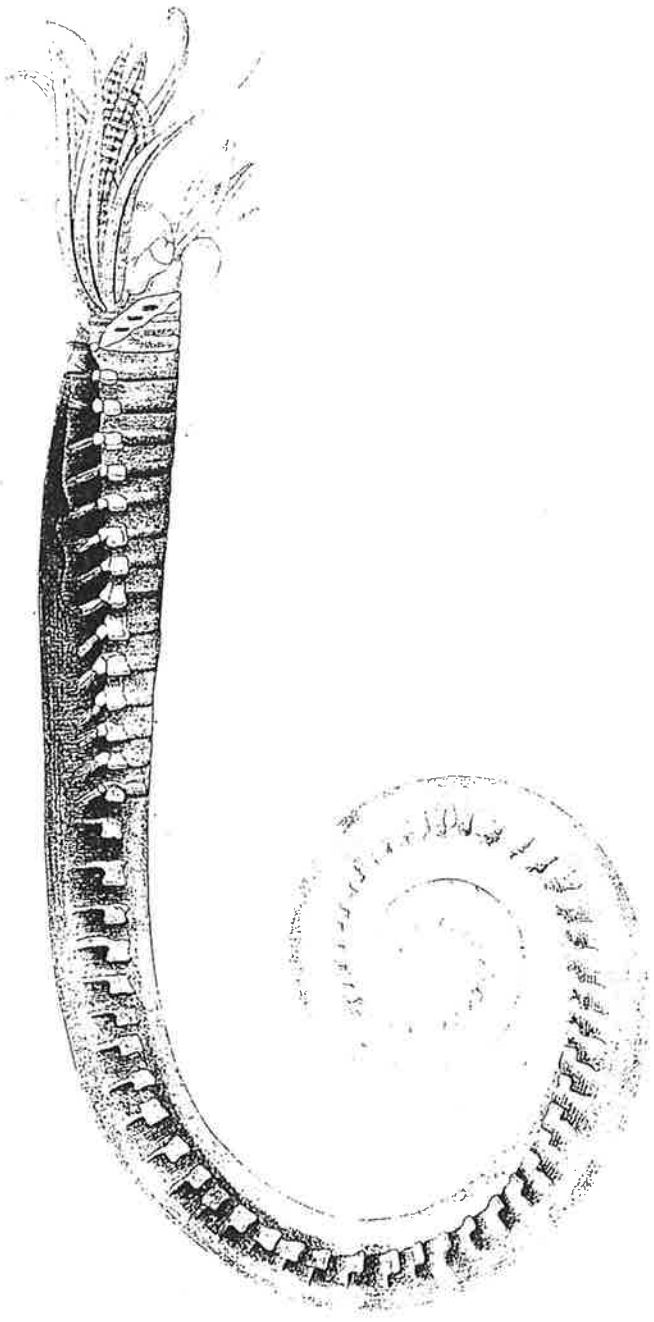
IRTM./ECSA WORKSHOP
PORTAFERRY OCT' 2001

TEREBELLOMORPHS



KEY TO FAMILIES:

1. Posterior segments forming a scaphe. Strong palae present. Tube regular and constructed as a rigid, straight or slightly curved masonry.....Pectinariidae
- No scaphe. Palae present or absent. Tube otherwise.....2
2. Tentacles present and retractable into mouth, upper lip covered by prostomium. Palae present or absent. Dorsal bristles and ventral uncini always present. Branchiae 3-4 pairs in transverse rows, unbranched.....Ampharetidae
- Tentacles not retractable into mouth. No palae. Dorsal bristles and ventral uncini present in most species. Branchia present or absent.....3
3. Uncini of two types: thoracic uncini long, acicular or avicular, never in double rows, abdominal uncini short. Branchiae always present.....Trichobranchidae
- Uncini usually of only one type throughout; exceptionally absent or of two types. In some forms in double rows on a part of thorax. Branchiae paired or absent.....Terebellidae

NORTHERN EUROPEAN PECTINARIDS

Identification of the family: Body short with restricted number of segments. Posterior segments fused, forming a scaphe. Tentacles numerous, not retractable into mouth. Tentacular membrane arising behind tentacles. Behind tentacular membrane a number of stout palae arising from flattened anterior part of dorsum, latter bordered posteriorly by a dorsal brim. Branchiae lateral and lamellate, on segments 4 and 5. Branchial segments achaetous. Dorsal bristles from segment 6 on. Neuropodia with pectinate or avicular uncini present in a number segments. Base of scaphe with lateral acicular hooks. Tube a straight or slightly bent cone (shape similar to elephant tusk shells), constructed by fine sand grains or slightly coarser particles.

Present at most dephts, but most common in shallow to moderate depths on sand and sandy mud.

Remarks: The most common European species can easily be identified to species by the shape of their tubes.

KEY TO NORTHERN EUROPEAN PECTINARIDS

1. Tentacular membrane serrated. Scaphe distinctly set off from body. Tube with fine sand grains.....*Pectinaria*...2
- Tentacular membrane with smooth, partly lobed edged. Scaphe not distinctly set off from body. Tube with coarser particles.....*Petta pusilla* Malmgren, 1866
2. Dorsal brim serrated.....*P. (Amphictene) auricoma* (O.F. Müller, 1776)
- Dorsal brim smooth.....3
3. Dorsal bristles on 15 segments, club-shaped papillae on scaphe.....*P. (Lagis) koreni* Malmgren, 1866
- Dorsal bristles on 17 segments, no club-shaped papillae on scaphe.....4
4. Uncini on 13 segments.....*P. (Pectinaria) belgica* (Pallas, 1766)
- Uncini on 12 segments.....5
5. On each side 7-10 palae.....*P (Cistenides) granulata* (Linnaeus, 1767)
- On each side 12-15 palae.....*P. (Cistenides) hyperborea* (Malmgren, 1866)

NORTHERN EUROPEAN AMPHARETIDS

Identification of the family: Body with restricted number of segments, forming two regions: thorax with dorsal bristles, and abdomen without dorsal bristles. Tentacles retactable into mouth, smooth or papillose. Upper lip covered by prostomium. Segments 1 and 2 achaetous, often fused to following segments. Three to four pairs of digitiform branchiae, superficially arranged in transverse rows on dorsum.

Present at all dephts, on any substrata.

Remarks: Some species may be identified by their characteristic tubes, but specimens should generally be carefully examined.

KEY TO NORTHERN EUROPEAN AMPHARETIDS

1. Segments 3-5 with fine acicular neurosetae. No palae. Postbranchial hooks present or absent.....Melinninae...2
- Segments 3-5 without neurosetae. Palae present or absent. No postbranchial hooks.....Ampharetinae...7
2. Postbranchial hooks present, buccal tentacles of one type.....*Melinna* → 3
- No postbranchial hooks, buccal tentacles of two types.....*Melinnopsis*....5
3. A smooth brim between dorsal hooks and serrated brim.....*M. islandica* (Saemundsson, 1918)
- No such brim.....4
4. Points of serrated brim sharp. Ventral setae on the fourth setigerous segment.....*M. cristata* (Sars, 1851)
- Points of serrated brim blunt. No ventral setae on the fourth setigerous segment.....*M. palmata* Grube, 1870
5. One very large and several small tentacles, dorsal brim absent or indistinct.....6
- Several long and short tentacles, dorsal brim present and denticulate, anterior ventral margin of segment three finely crenulate.....*M. rostrata* (Wesenberg-Lund, 1950)[1]
6. Large tentacle cylindrical, thoracic uncini with four teeth.....*M. arctica* (Annenkova, 1931)
- Large tentacle trihedral and twisted, thoracic uncini with five teeth.....*M. annenkovae* (Uschakov, 1952)[2]
7. Tentacles papillose, 4 pairs of branchiae.....8
- Tentacles smooth, 3-4 pairs of branchiae.....15
8. Twelve segments with both dorsal bristles and ventral uncini, palae distinct or absent.....10
- Eleven segments with both dorsal bristles and ventral uncini.....*Sabellides*...9
9. Branchiae long, in one transverse row; 15-18 uncinigerous abdominal segments.....*S. octocirrata* (Sars, 1835)
- Branchiae short, three branchiae of each group in a transverse row, the fourth slightly behind the row; 12 uncinigerous abdominal segments.....*S. borealis* (Sars, 1856)
10. Palae distinct.....*Ampharete*...11
- No palae.....*Asabellides sibirica* (Wirén, 1883)[3]

11. 12(11) uncinigerous abdominal segments.....12
- 13(12-14) uncinigerous abdominal segments.....*A. finmarchica* (Sars, 1866)
- 17 uncinigerous abdominal segments.....*A. goesi* (Malmgren, 1866)
- 26 uncinigerous abdominal segments.....*A. vega* (Wirén, 1883)
12. Anal segment with two long cirri and a number of long cirriform papillae.....13
- Anal segment with two long cirri and a number of small round papillae.....14
13. Last 14 uncinigers (last two thoracic and 12 abdominal) with a long cirrus over each neuropodium.....*A. acutifrons* (Grube, 1860)
- Last 14 uncinigers without cirri.....*A. baltica* Eliason, 1955
14. Palae much shorter than distance between the two groups of branchiae. Geniculate bristles present.....*A. falcata* Eliason, 1955
- Palae much longer than distance beteen the two groups of branchiae. No geniculate bristles.....*A. lindstroemi* Malmgren, 1867
15. Palae present (may be very small).....16
- No palae.....~~12~~24
16. Four pairs of branchiae.....17
- Three pairs of branchiae.....22
17. Dorsal bristles on 14 or 15 segments.....18
- Dorsal bristles on 16 segments.....*Lysippe labiata* Malmgren, 1866
- Dorsal bristles on 17 segments.....20
18. One pair of notopodia elevated, dorsal bristles on 15 (or apparently 14) segments.....19
- No elevated notopodia, dorsal bristles on 14 segments.....*Amagopsis klugei* Pergamont & Klebovich, 1964
19. Eleventh (or apparently 10th) pair of notopodia elevated.....*Anobothrus gracilis* (Malmgren, 1866)
- Thirteenth pair of notopodia elevated.....*Sosane sulcata* Malmgren, 1866
20. Eight uncingerous abdominal segments.....*Lysidippides fragilis* (Wollebaek, 1912)
- 15-19 uncinigerous abdominal segments.....*Amphicteis*...21
21. 15 uncinigerous abdominal segments.....*A. gunneri* (Sars, 1835)[4]
- 19 uncinigerous abdominal segments.....*A. sundevalli*
22. Dorsal bristles on 12 segments; last pair of notopodia elevated with bristles crossing on dorsum.....*Mugga wahrbergi* Eliason, 1955
- Dorsal bristles on 14 segments.....*Amythasides macroglossus* Eliason, 1955
- Dorsal bristles on 15 segments.....23
23. Glanular ridge across dorsum on the 2nd and 8th uncinigerous segments.....*Melythasides laubieri* Desbruyères, 1978
- No glandular ridge on dorsum.....*Eclysippe vanelli* (Fauvel, 1936)
24. Left and right groups of branchiae connected at base by a dermal brim.....25
- Left and right groups of branchiae separate.....27
25. Dorsal bristles on 17 segments.....*Samytha sexcirrata* (Sars, 1856)
- Dorsal bristles on 15 segments.....26
26. Three pairs of branchiae, no elevated notopodia.....*Samythella neglecta* Wollebaek, 1912
- Four pairs of branchiae, 13th pair of notopodia elevated.....*Sosanopsis wireni* Hessle, 1917
27. Four pairs of branchiae.....*Amage*...28
- Three pairs of branchiae.....31

28. Dorsal bristles on 17 segments.....*A. adspersa* (Grube, 1863)
- Dorsal bristles on 14 segments.....29
29. Three pairs of branchiae.....*A. gallasii* Marion, 1875
- Four pairs of branchiae.....30
30. Eight uncinigerous abdominal segments.....*A. auricula* Malmgren, 1866
- Nine uncinigerous abdominal segments.....*A. scotica* Clark, 1952
31. Dorsal bristles on 14 segments.....32
- Dorsal bristles on 16 segments.....*Alkmaria romijni* Horts, 1919
32. , Abdomen short (8-15 segments), with rudimentary notopodia.....
.....*Amage* (return to 28)
- Abdomen long (c. 25 segments), without rudimentary notopodia.....
.....*Glyphanostomum pallescens*, Théel, 1879

1. Known only from deep waters off West Greenland
2. Reported from Ellesmere Island by Curtis (1972)
3. Closest locality the Siberian Arctic
4. See also Hartley (1985) concerning *A. midas* (Gosse, 1855)

NORTHERN EUROPEAN TEREBELLIDS

Identification of the family: Body long and vermiform, usually forming two regions: thorax with dorsal bristles, and abdomen without dorsal bristles. Exceptionally dorsal bristles extend throughout body, or completely lacking. Ventral uncini usually present in both thorax and abdomen, exceptionally lacking. Prostomium small, fused to peristomium. Tentacles grooved, may be cylindrical; not retractable into mouth. Segment 1 achaetous, exceptionally forming a ventral proboscis. Dorsal branchiae on 0-3 segments; branchiae dichotomous, arborescent or cirriform. Notosetae present in most species, capillary, usually brimmed, smooth or denticulate. Uncini typically avicular with short shafts, exceptionally avicular with long shafts, acicular, pectinate or lacking.

Present at all dephts, on any substrata.

KEY TO NORTHERN EUROPEAN TEREBELLIDS

1. Peristomium ventrally forming a big, protrusive proboscis..... ..... *Artacama proboscoidea* Malmgren, 1866
- No proboscis as such.....2
2. Uncini in double rows on the part of thorax posterior to the sixth setigerous segment (rows may be fused, but this condition may be detected by alternating orientation of uncini).....4
- Uncini in straight or curved but always single rows.....3
3. Cirriform branchiae present.....26
- No branchiae.....29
4. Notosetae on more than 25 segments, extending more or less throughout body, no discernable thorax.....5
- Notosetae on 25 or fewer segments, thorax disceranble.....6
5. Branchiae present. Notosetae subdistally denticulate..... ..... *Terebella lapidaria* Linnaeus, 1767
- No branchiae. Notosetae very finely denticulate..... ..... *Baffinia hesslei* (Annenkova, 1924)
6. Branchiae present.....12
- No branchiae.....7
7. Uncini from the 7th setigerous segment..... *Laphania boecki* Malmgren, 1866
- Uncini from the 2nd or 3rd setigerous segment.....8
8. Uncini from the 3rd setigerous segment..... *Proclea*...9
- Uncini from the 2nd setigerous segment.....10
9. Ventral lobe of segment 2 moderately protruding, smooth..... ..... *P. graffi* (Langerhans, 1884)
- Ventral lobe of segment 2 clearly protruding, papillose..... ..... *P. malmgreni* (Ssolowiev, 1899)
10. Notosetae of two types in all notopodia..... *Phisidia aurea* Southward, 1956
- Notosetae of one type only.....11
11. Notosetae on 10 segments, smooth ..... *Leana ebranchiata* (Sars, 1865)
- Notosetae on 11 segments..... *Lanassa venusta* (Malm, 1874)
- Notosetae on 15 segments..... *Lanassa nordenskioeldi* Malmgren, 1866
12. Notosetae subdistally denticulate.....13
- Notosetae smooth.....18

13. Lateral lobes present, 2-3 pairs of branchiae.....14
- No lateral lobes, two pairs of branchiae.....*Amphitrides gracilis* (Grube, 1860)
14. Two pairs of branchiae.....*Paramphitrite*...15
- Three pairs of branchiae.....16
15. Anterior branchiae clearly dichotomous.....*P. tetrabranchia* Holthe, 1976
- All branchiae with very reduced stems, appearing as a number of free, simple filaments.....*P. birulai* (Ssolowiev, 1899)[1]
16. Branchiae dichotomous with long tips.....*Neoamphitrite*...17
- Branchiae simple filaments arising from a wartlike stem.....*Amphitrite cirrata* O.F- Müller, 1776
17. Notosetae on 24 (exceptionally 25) segments.....*N. figulus* (Dalyell, 1853)
- Notosetae on 2 segments.....*N. grayi* Malmgren, 1866
- Notosetae on 19 segments.....*N. groenlandica* (Malmgren, 1866)
- Notosetae on 17 segments.....*N. affinis* (Malmgren, 1866)
18. Lateral lobes present, 1-3 pairs of dichotomous or arborescent branchiae.....20
- No lateral lobes, two pairs of dichobranchiae.....*Nicolea*...19
19. Notosetae on 15 segments, branchiae with short stems.....*N. zostericola* Örsted, 1844 *in* Grube 1860
- Notosetae on 17-18 segments, branchiae with long segments.....*N. venustula* (Montagu, 1818)
20. One or two pairs of arborescent branchiae.....21
- Three pairs of dichotomous or arborescent branchiae.....24
21. One or two pairs of branchiae, notosetae on 17 segments.....23
- One pair of branchiae, notosetae on 15-16 segments.....*Axionice*...22
22. Notosetae on 16 segments.....*A. maculata* (Dalyell, 1853)
- Notosetae on 15 segments.....*A. flexuosa* (Grube, 1860)
23. Two to four single branchiae, anterior uncini with posteriorly prolonged bases, lateral lobes most prominent on segment 3.....*Pista cristata* (O.F. Müller, 1776)
- One pair of branchiae, all uncini with short bases, lateral lobes most prominent on segment 2.....*Scionella lornensis* Pearson, 1969
24. Uncini of the double rows standing back to back, lateral lobes large and very prominent on segments 1 and 2, branchiae arborescent.....*Lanice conchilega* (Pallas, 1766)
- Uncini of the double rows standing face to face, lateral lobes on segments 2 and 3 small, branchiae dichotomous with short tips.....*Eupolymnia*...25
25. Peristomium ventrally forming a narrow brim, all branchiae with short stems, thoracic uncini with one large and three small teeth above rostrum.....*E. nesidensis* (delle Chiaje, 1828)
- Buccal segment ventrally forming a broad cushionlike lip, anterior branchiae with long stems, thoracic uncini with two large parallel and 1-5 small teeth above rostrum.....*E. nebulosa* (Montagu, 1818)
26. Uncinigerous tori from the fourth setigerous segment.....*Streblosoma*...27
- Uncinigerous tori from the third setigerous segment.....*Thelepus*.....28
- Uncinigerous tori from the ninth setigerous segment.....*Parathelepus collaris* (Southern, 1914)
27. Each branchiae on segment 2 with 3-5 filaments, segment 3 with 2-3 filaments, and segment four with 0-3 filaments.....*S. intestinale* Sars, 1872
- Each branchiae on segment 2 with at least seven filaments, segment 3 with at least four filaments, and segment four with at least four filaments.....*S. bairdi* (Malmgren, 1866)

28. Branchiae on two segments.....*T. cincinnatus* (Fabricius, 1780)
- Branchiae on three segments.....*T. setosus* (Quatrefages, 1865)
29. Setae present.....30
- Setae absent.....*Hauchiella tribullata* (McIntosh, 1869)
30. Ventral setae present, lower lip not protruding but cushionlike or inconspicuous 31
- No ventral setae, lower lip protruding, gutterlike...*Lysilla loveni* Malmgren, 1866
31. Ventral setae long, upper lip prominent, free.....*Amaeana trilobata* (Sars, 1863)
- Ventral setae short, avicular or pectinate, upper lip fused to tentacular ridge.....*Polycirrus*...32
32. 28 or more segments with notosetae.....33
- Less than 28 segments with notosetae.....34
33. Notosetae from segment 3 and in 30-75 segments, six pairs of nephridia..... .....*P. caliendrum* Claparède, 1868
- Notosetae from segment 2 and in 30-40 segments, three pairs of nephridia..... .....*P. aurantiacus* Grube, 1860
34. Some segments with both notosetae and uncini present.....35
- No segments with both notosetae and uncini.....37
35. Tentacles of one type, very long; live animals with red fluid showing throw body wall.....*P. haematodes* (Claparède, 1864)
- Tentacles of two types, moderatel long, body fluid not red.....36
36. Ventral shield distinct; notosetae long, not smooth; tentacular ridge convex; lips opening ventrally.....*P. norvegicus* Wollebaek, 1912
- Ventral shield not distinct; notosetae short, smooth; tentacular ridge concave, lips opening anteriorly.....*P. arcticus* Sars, 1865
37. 17-18 setigerous thoracic segments.....*P. plumosus* (Wollebaek, 1912)
- 10-13 setigerous thoracic segments.....38
38. Upper lip triangular, 12 setigerous thoracic segments, uncini approaching pectinate form.....*P. latidens* Eliason, 1962
- Upper lip with three lobes, 10-13 setigerous thoracic segments, uncini avicular.....*P. medusa* Grube, 1850

1. White Sea closest known locality.

NORTHERN EUROPEAN TRICHOBRANCHIDS

Identification of the family: Body long, divided in two regions: thorax with notosetae and uncini, and abdomen withuncini only. Prostomium small, more or less fused to peristomium. Tentacular lobe folded, with numerous grooved tentacles that cannot be pulled back into mouth. On to several segments achaetous. Two to four pairs of branchiae, or a single, middorsal branchia. Notosetae capillary, smooth or brimmed. Thoracic uncini avicular or acicular with long shafts, abdominal uncini avicular.

KEY TO NORTHERN EUROPEAN TRICHOBRANCHIDS

1. One big quadripartite branchia with transverse lamellae..... ..... *Terebellides stroemi* Sars, 1853
- Branchiae arranged in pairs.....2
2. Two or three pairs of filiform branchiae..... *Trichobranchus*...3
- Four pairs of filiform, foliaceous or rosettlike branchiae..... ..... *Octobranchus floriceps* Kingston & Mackie, 1980
3. Two pairs of branchiae, no eyespots..... *T. roseus* (Malm, 1874)
- Three pairs of branchiae, many eyespots..... *T. glacialis* Malmgren, 1866

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