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EBSA

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SEDENTARY POLYCHAETE

WORKSHOP 1984

SWANSEA UNIV.

superior chaetae tend to be longer and may be spatulate

1 Sabellidae

Tubes variable, ~~from~~ thick and gelatinous in mud, of a thin mucous membrane in detritus amongst holdfasts of turf algae and soft encrusting organisms (sponges and ascidians), thin and horny in rock crevices and burrows, or horny covered with a layer of silt and mucus or grains of sand or shell in less silty substratum. Tube never calcareous.

The radioles of the crown are supported by a cellular (cartilaginous) skeleton. The arrangement of cells and the shape of the epithelium in cross section can be a diagnostic aid. Such sections can be made with a scalpel or razor blade on a slide adding glycerol and a coverslip. The base of a dorsal radiole is usually used for comparison. The crown is ~~not~~ easily shed in most genera. The dorsal lips (palps or tentacles in some texts) one each side of the mouth are often diagnostic sometimes at generic level. These are best seen if the crown is cut in half dorso-ventrally. There is one in each half. Alternatively the radioles can be splayed out with pins on a wax lined dish. Tapered dorsal lips are supported by a radiolar midrib and usually ~~enlarged~~ pinnules at the base of the adjacent radiole. Others are supported just by these pinnules.

The thoracic membrane extends only distally as a collar from the sides of the first segment (absent in some genera). This is usually cleft ventrally and sometimes ~~laterally~~ dorsolaterally. Glandular areas can be diagnostic. Many genera have prominent glandular 'cushions' on the ventral surface usually referred to as ventral shields. The shape and proportion of these is sometimes helpful

The arrangement of the abdominal setae within the fascicle is diagnostic in a few genera. These should be viewed with the setae pointing directly into the objective of the microscope. The shape of setae particularly the shorter ones, in all thoracic fascicles ~~except~~ the first, is often important specifically. ~~Like~~ Likewise the shape of the uncini and (in the thorax) adjacent companion setae can be important. The fascicles or tori should be removed, ~~and~~ teased apart with a needle and mounted either in glycerol (temporary) or polyvinyl-lactophenol.

Tori = crown of uncini
Fascicle = of chaetae



Companion setae only adjacent to thoracic uncini

- 1 Abdominal ^{tori} forming nearly complete girdles around body; radióles ^W webbed for most of their length. (Myxicolinae) 39
- Abdominal tori no longer than two thirds of the width of body, commonly shorter; radioles with or without webbing. 2
- 2(1) Abdomen shorter than thorax; with ^(only 3 to 6 segments) (Fabriciinae) 33
 Abdomen ~~much~~ longer than the thorax with more than 15 segments 3
- 3(2) Crown with two or more bare filaments adjacent to the ventral radioles which may be with or without webbing; companion setae absent; abdominal setae in transverse rows (mostly Fabriciinae) 24
 No such filaments present; webbing low or vestigial; companion setae usually present (mostly Sabellinae) 4
 ↳ alongside thoracic uncini
- 4(3) Abdominal setae arranged in tight pencil-like tufts 5
 Abdominal setae arranged in rows more or less transverse to the axis of the body 13
- 5(4) Abdominal setae arranged in a neat spiral, collar margins well separated dorsally; radioles rounded on outer surface 6
 Abdominal setae arranged in a C-shape or ? mark additional setae usually forming an inner arc; radióle outer ~~outer~~ surface bounded by two rounded angles 10
- 6(5) Terminal part of each radióle slender but with a pale subdistal swelling Sabella (Pseudosabella) variabilis
 Terminal part of radióle tapered or blunt and without subdistal swelling. 7
- 7(6) Crown with more radioles on the left (eg 45:36, 162:28), body commonly more than 15cm long. 8
 Crown more or less symmetrical, radioles less than 25 each side, body less than 5cm. 9
- 8(7) Body excluding crown long, commonly 30cm, and thick; average thoracic segment about 8 times as broad as long; left side of crown in distinct spiral of several whorls; dorsal margins of collar extend back to the second fascicle of thoracic setae. Sabella spallanzani
 Body long and slender, average thoracic segment about 4 times as broad as long, left side of crown slightly spiralled in the largest specimens, dorsal margins of collar extend ~~back~~ arise near the 1st fascicles. Sabella pavonina

9(7) Body small and plump, average thoracic segment about 7 times as broad as long, tapered dorsal lips as long as the length of the thorax. Sabella sarsi

Body small and slim; average thoracic segment about 3 times as broad as long; tapered dorsal lips equal to about 4 thoracic segments; radioles each with several pairs of brownish pigment patches. Sabella flabellata

10(5) Central setae of each abdominal fascicle longer than those of the surrounding arc; outer surface of each radiole bears epithelial flaps (stylodes) (Fig.); collar margins extend to the middle of the dorsal surface, no companion setae. Branchiomma bombyx.

Central and outer setae of arc more or less the same (except for those on the most posterior segments; no stylodes on radioles; crown strongly involuted in adult specimens. 11

11(10) Radioles each with one dark subterminal bulbous composite eye and arising from a massive cartilaginous base. Pseudobispira palmata

Most radioles with one or more pairs of dark composite eyes 12

12(11) Crown forming spirals of up to 3 whorls^{on} each side; thoracic fascicles other than the first with the inferior setae flat & obtusely tapered distally (Fig.).

Bispira volutacornis

Crown involuted ventrally for no more than one whorl^{inferior}; thoracic setae broad ~~xxx~~, less flat, and more tapered distally. Bispira crassicornis

13(4) Collar absent; thoracic setae few per fascicle and with broad^a hoods (Fig.); uncini with short shafts and in short rows. Amphiglena mediterranea

Collar distinct with a mid ventral cleft separating triangular lappets. 14

14(13) Dorsal collar margins widely separated. 15
Collar extending to the mid dorsal line, with or without a dorso-lateral notch 19

15(14) Thoracic tori fairly short with a gap between their ventral ends and the adjacent thorac^{ic} shields. 16
Thoracic tori long, their ventral ends indenting the sides of the adjacent thoracic shields. 17

16 (15) Rockboring or crevice dwelling, companion setae with a triangular blade, hood of each inferior thoracic seta rounded with a small distal point. Perkinsiana rubra

Muddy sand habitat (so far found at 18m and over); companion setae with a bulbous toothed head and filamentous 'blade'; each inferior setae with a broad but tapered hood; terminal part of radiole strap-like Demonax torulis

17 (15) Terminal part of each radiole tapered 18
Terminal part ^{of} each radiole swollen, oval in cross section (wider than the rachis in side view Fig)) and with a whitish pigment; hoods of ^{each} inferior setae a broad and tapered; rock dwelling. Demonax langerhansi

18 (17) Eight thoracic segments; hoods of inferior setae narrow and tapered ; Muddy sand habitat(so far found 18m and over). Demonax cambrensis
Five or six thoracic segments;
~~Terminal part of each radiole finely tapered;~~
hoods of inferior setae broad and tapered; 'lithothamnion' and crevice dwelling. Demonax brachychona

19 (14) Collar with dorso-lateral notches, as well as the usual dorsal groove and ventral cleft, giving four parts, two dorsal lappets and two latero-ventral lamellae 20

Collar without dorso-lateral notches, extending uninterruptedly to dorsal groove of anterior thorax 22

20 Radioles without eyes; first segment three times as long as the next one; thoracic uncini and companion setae with very long shafts. Rare found only in deep water north of the Hebrides. Potamethus murrayi
Radioles bearing rounded, pigmented composite eyes 21

21 Eyes lenticular & rust-coloured, on outer sides of proximal halves of most dorsal radioles, several per radiole; rock boring and crevice dwelling. Pseudopotamilla reniformis
Black bulbous eyes near the end of each radiole between the terminal filament and the pinnate region. Megalomma vesiculosum
LWS and sublittoral in stony mud.

22 (19) Collar short, margin not reaching base of crown, deeply cleft ventrally; dorsal lips not tapered, supported only by enlarged pinnules arising from base of adjacent radiole; radioles webbed for only one fifth of their length; thoracic uncini avicular, with shaft not longer than distance between breast and crest. Found in deep water west of Orkney Is. Most British records involved misidentifications of other species Potamilla neglecta

Collar long, margin reaching halfway up fused ~~the~~ base of crown, and not cleft ventrally; dorsal lips tapered supported by both a radiolar midrib and by enlarged pinnules of the adjacent radioles, the latter webbed for a quarter of their length; thoracic uncini crochet-shaped with very long shafts. Rare, recorded only from Plymouth. Dialychone acustica

24(3) Radioles not webbed together, ^{thoracic} uncini with or without long shafts. 25
Radioles webbed for 0.5 to 0.8 of length; thoracic uncini with long shafts. 27

25 (24) Ventral crown includes two sinuous unbranched filaments, joined by a membrane across the midline; collar cleft ventrally but entire dorsally; uncini truncated (no real shaft) Laonome kroyeri
Ventral crown with two or more sinuous filaments, but these are not webbed together 26

- 26(25) Ventral part of crown with at least four elongated pinnules, two each side adjacent to (but not arising from) the ventral radioles. All radioles are easily shed but the elongated pinnules characteristically remain. Collar forming a mid-dorsal groove; thoracic uncini with a long shaft abdominal uncini with shorter ones. posterior part of abdomen with an obtuse Jasmineira elegans taper.
As J. elegans but posterior of abdomen with a pointed elongated process. Jasmineira caudata
- 27 (24) Abdomen with several posterior segments forming a funnel at the ventral surface. 31
Abdomen without funnel, either smoothly pointed or with a terminal filament 28
- 28(27) Collar with a ^{finely} scalloped margin. Chone e.....
Collar with smooth margin.
- 29 (28) Abdomen with a fine terminal filament; collar margin minutely incised ventrally, where it is fused to the finely bilobed apex of the anterior thorax Chone filicaudata
Abdomen obtuse posteriorly, with no filament 30
- 30 (29) Collar flanking dorsal groove oblique in side view, the margin entire ventrally and covering the ventral apex of the body and the base of crown; tips of radioles short and flanged beyond the webbed area. Chone fauveli
Collar margin oblique as in C. fauveli, but not covering base of crown; tips of radioles, distal to pinnules & web, finely tapered and long. Chone duneri
- 31(27) Glandular areas extend in narrow bands from the ventral to dorsal abdomen; posterior funnel covers about 11 segments, is accentuated by an epithelial membrane along its antero-lateral edge. Euchone rubrocincta
Glandular areas obvious only on the ventral surface. 32

- 32(31) ^{ventral} Glandular areas of both thorax and abdomen ^{ventral}, and ~~are~~ distinctly biannulate per segment; a very small species. Type material just over 4mm long the funnel covering 3 to 4 segments. Eucone southerni
- Ventral glandular areas biannulate in the thorax but in the abdomen they are more discrete and (due to the fecal groove) form four subcircular patches per segment; the funnel of this larger species covers about 9 segments. Eucone papillosa
- 33 (2) With pinnate radioles. 34
Filaments of crown not pinnate. 38
- 34 (33) Abdomen with only three segments; abdominal uncini with small straight flat shafts. 35
Abdomen with six segments; abdominal uncini truncated. 37
- 35(33) No collar but with a triangular fleshy, mobile process on the ventral peristomium; no ventral tactile filaments (enlarged pinnules?) Fabricia sabella
With tactile filaments at ventral side of crown. 36
- 36(35) Collar vestigial laterally and a median triangular lappet ventrally. Fabriciola baltica
Collar encircling the first segment with a groove dorsally, the margin covering the base of the crown and higher ventrally; base of crown white with granular flecks. Fabriciola berkeleyana
- 37(34) Collar vestigial laterally and ventrally; A pair of tactile filaments ventrally but set high on the anterior of first segment. Oriopsis armandi
Collar shallow but distinct and set low on the first segment, showing the oblique margin of the peristomium above. Oriopsis hynensis.
- 38(33) Crown with four pairs of ciliated filaments (pinnular?) ~~each side~~ and ^{additional} with two filaments (each containing a blood sinus) flanking the ventral midline; inferior setae 3 times as long ^{as broad.} Manayunkia aesturina
common in mud of brackish waters.

Crown with 8 to 15 pairs of ciliated filaments (those with blood sinus not recorded); inferior setae as slender as the superior ones in same fascicle but shorter. Found ^{in detritus} on rocky platforms ~~xxxxxx~~ adjoining open sea.

Manayunkia cursoria.

- 39(1) Worm only a few mm long; thorax indistinct, of only 1 to 4 segments; 1 to 4 eyespots per segment on each side are noticeable throughout body; radioles webbed for most of their length and uniform in colour.

Myxicola aethetica

Large specimens 3 to 20 cm long with a distinct thorax of 7 to 9 segments.

40

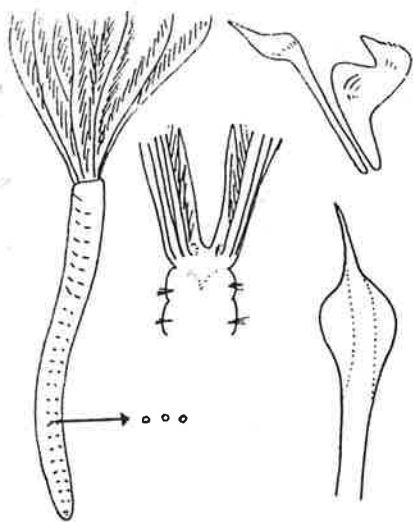
- 40(39) Length up to 20 cm; thoracic setae in circular pads small (scarcely visible under low power microscopy), but numerous (100 plus); projecting tips of radioles (beyond webbing) triangular & pigmented with dull purple

Myxicola infundibulum

Length about 6 cm; thoracic setae in circular pads ~~are~~ fewer but larger than in infundibulum and thus more distinct. The short flanged tips ~~xxxx~~ of radioles above web are not specially pigmented.

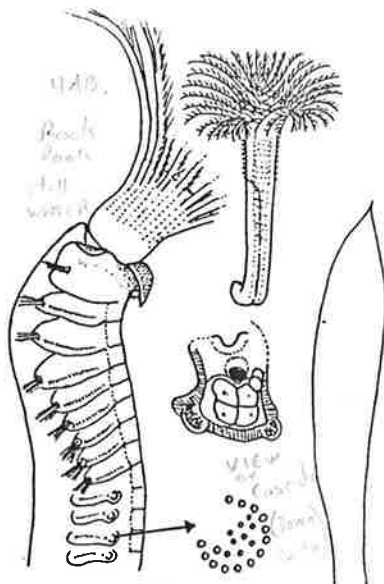
Myxicola steenstrupi

Habitat
Turf Moss
Holdfast
Creeper



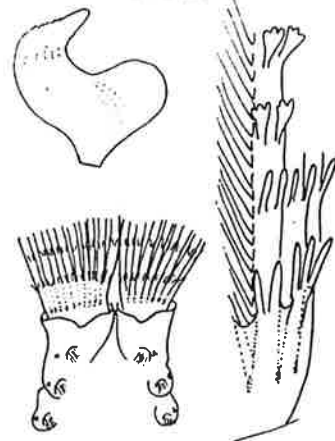
Amphiglena mediterranea

HAB.
Rock
Pools
Full
water



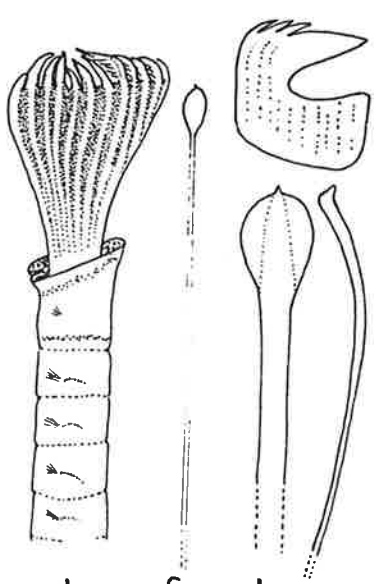
Bispira voluticornis

HAB UNDER
STONES



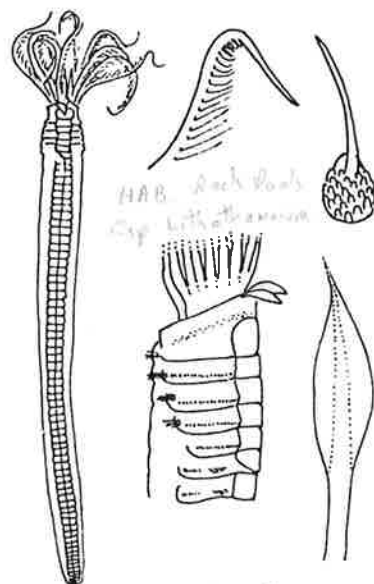
Branchiomma bombyce

HAB
Sub-littoral



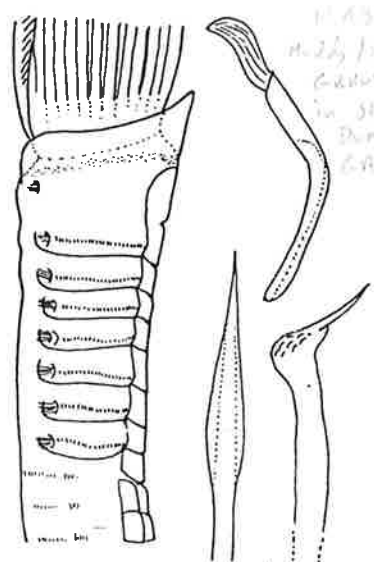
Chone fauveli

HAB Rock Pools
Cup lithothamnium



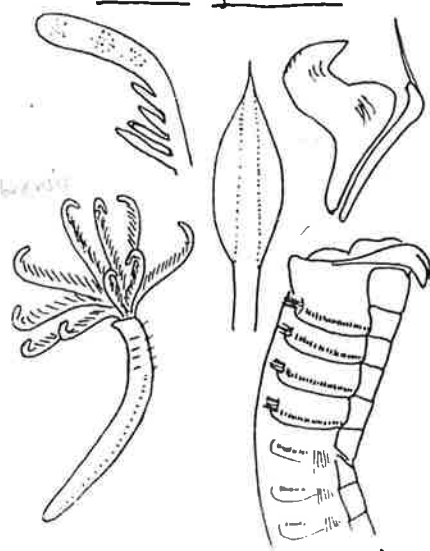
Demonax brachychona

HAB
M. 25, 1. AND
CREEPER
IN STONE
DUMP
(GROUNDS)



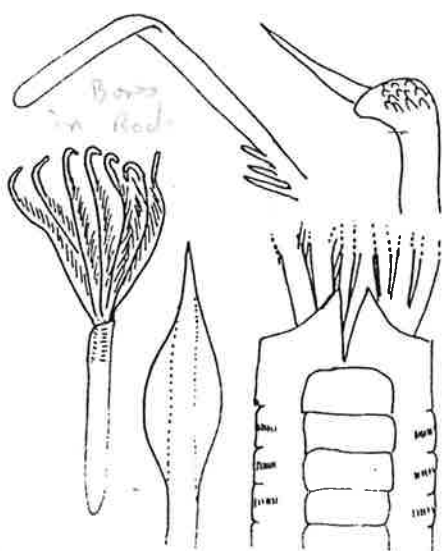
Demonax cambrensis

-D. 4
D. cambrensis

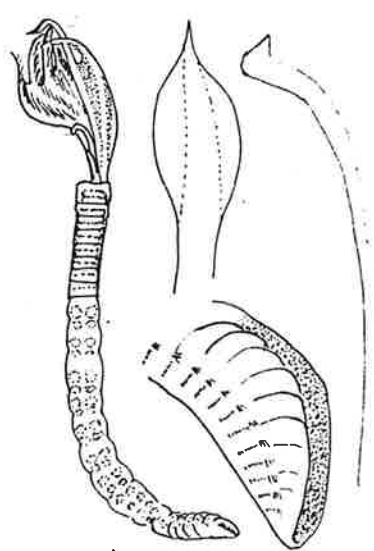


Demonax langerhansi

Boss
in Red



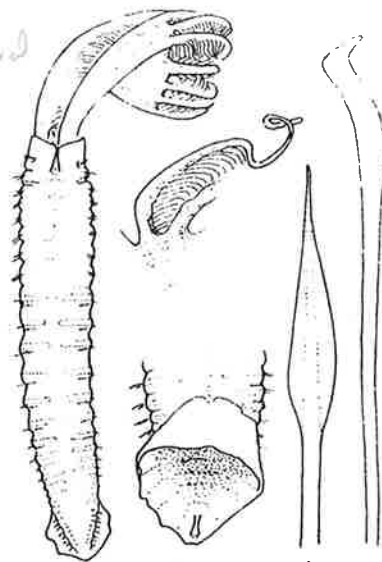
Demonax torulis



Euchone papillosa

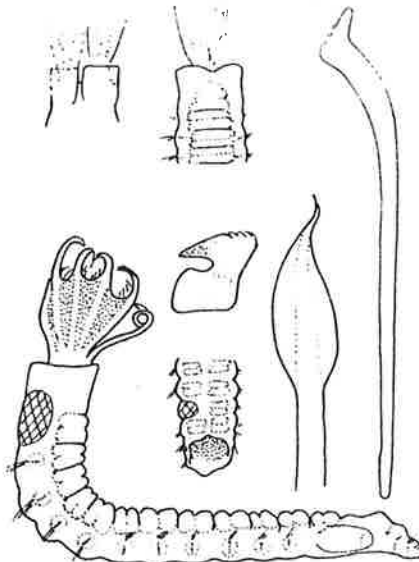
Sub littoral

sub-littoral



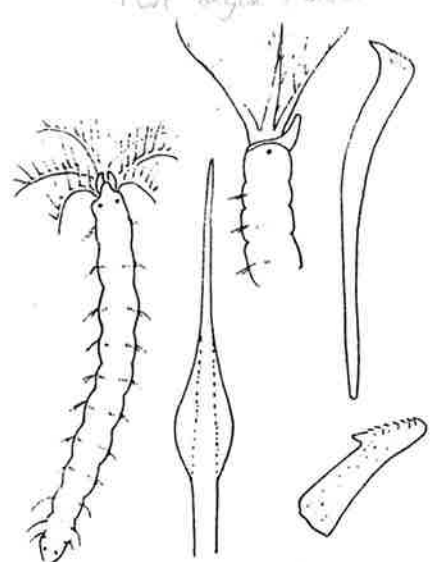
Euchone rubrocincta

sub-littoral



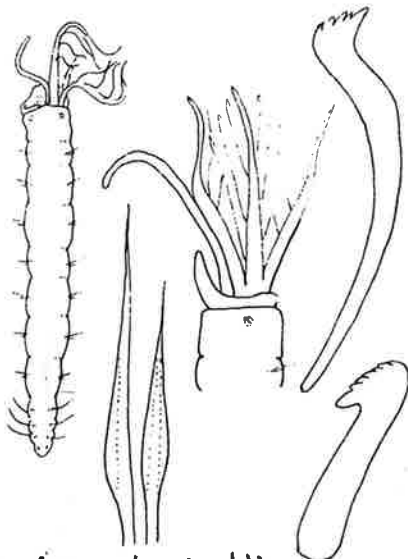
Euchone southerni
syn (varia)

longly shore
with algae / mud

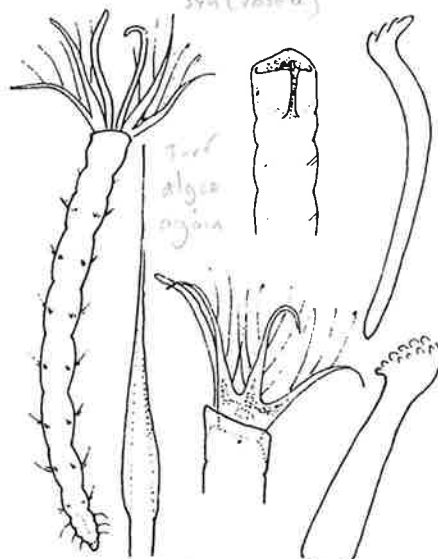


Fabricia sabella

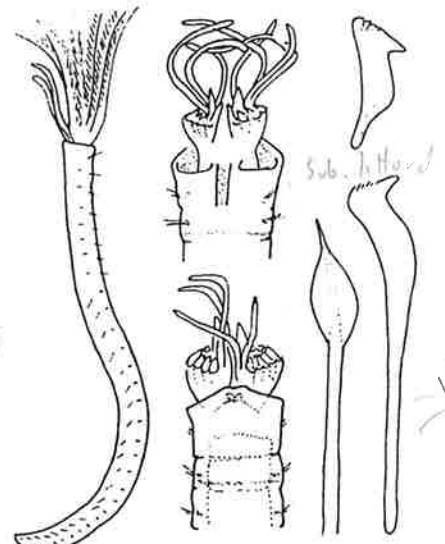
loch
Eil



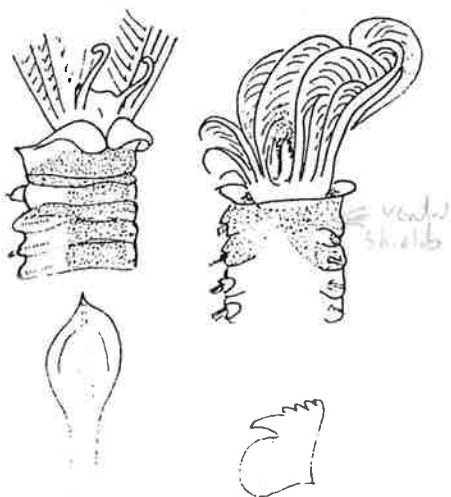
Fabriciella baltica



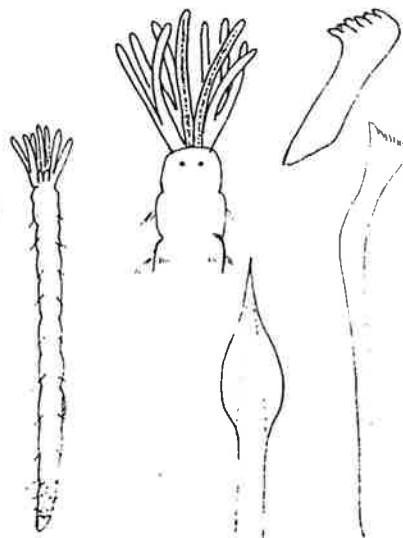
Fabriciella berkeleyi ?
[var. borealis]



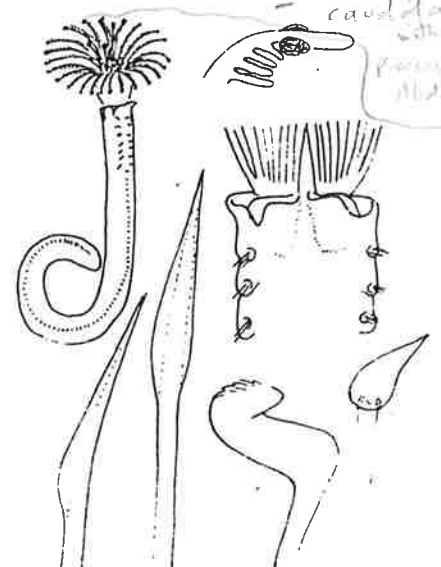
Jaomineira elegans



Laonome kroyeri



Manayunkia aestuarina



Megalomma vesiculosum

RARE - Sand &
Mud

Feeding
(possibly related to other spp.)

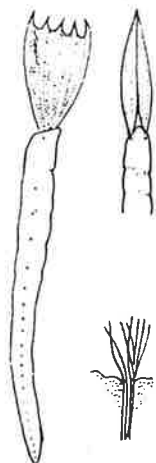
Lower littoral in often
medium & porous when grafted
Megalomma subulatum mudico

Turb. algae
shrub

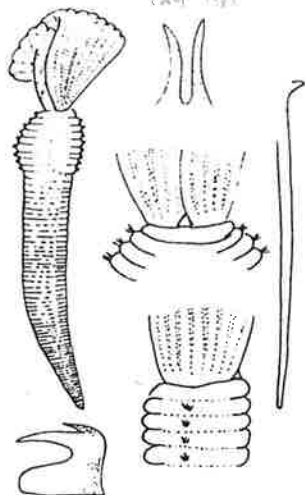
V. Small mass
have only one segment
Normally 1-4 segments
head fast

Northern common in
Scotland
(low temp)

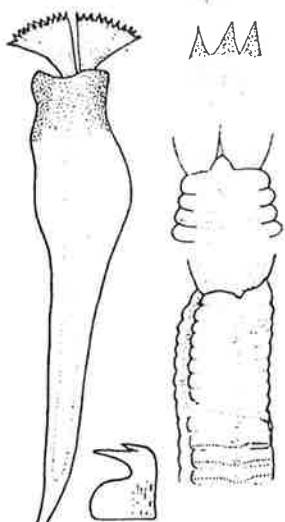
Shrub
type



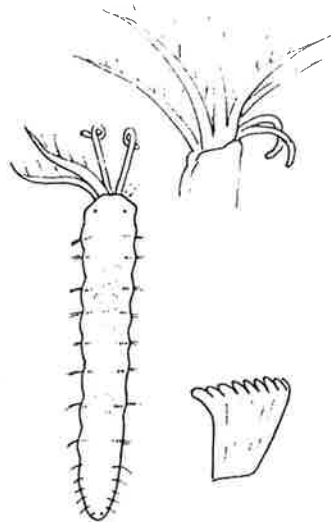
Myxicola
~~aestu~~ aesthetica



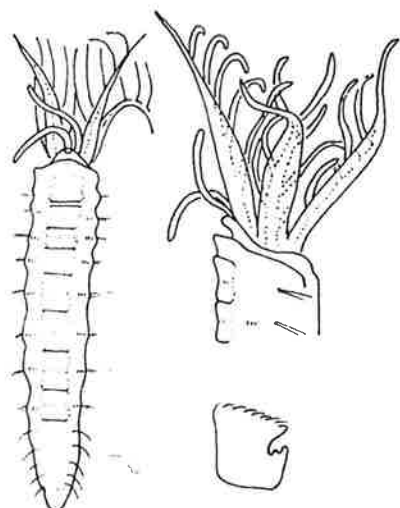
Myxicola
steenstrupi



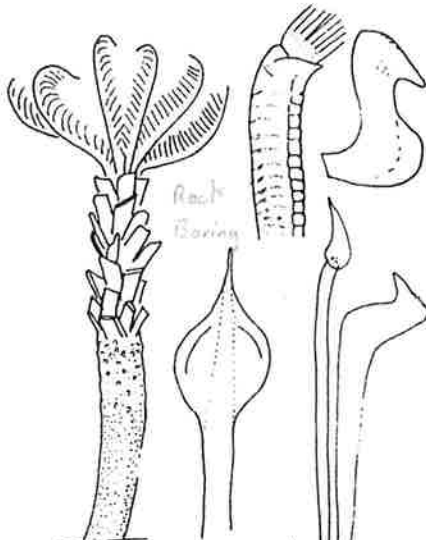
Myxicola
infundibulum



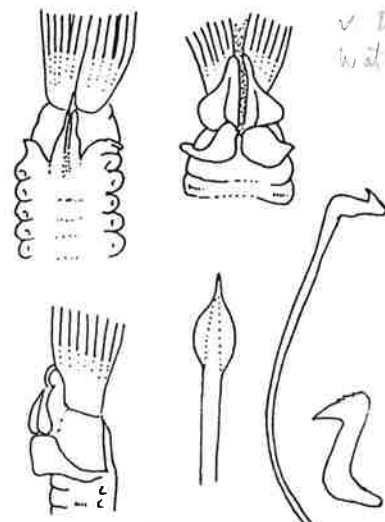
Oriopsis
armandi



Oriopsis
hynensis



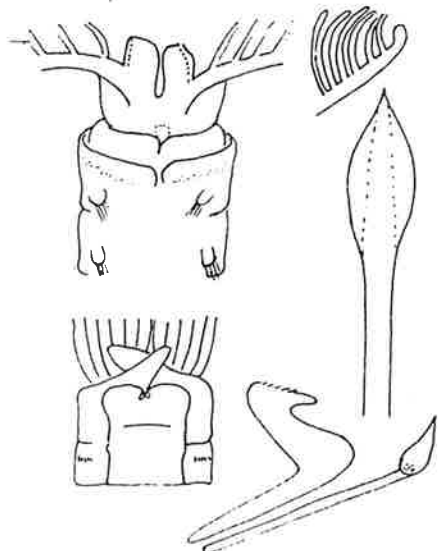
Perkinsiana
rubra



Potamethus
murrayi

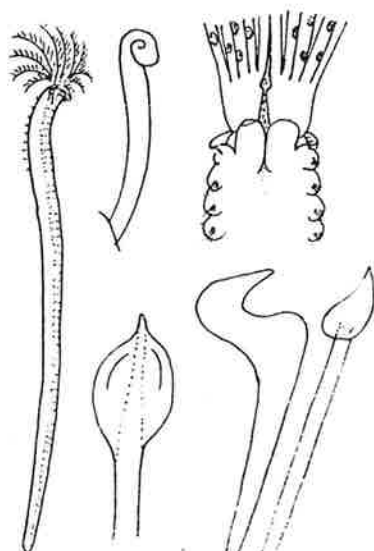
v. Deep
water

Turb.
Algae
shrub



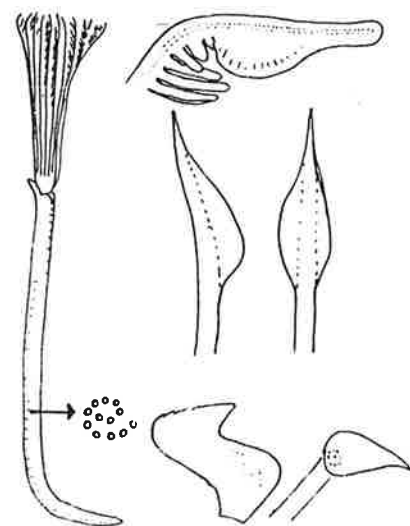
Potamilla
neglecta

Rare Northern Sp.
Siberia, littoral



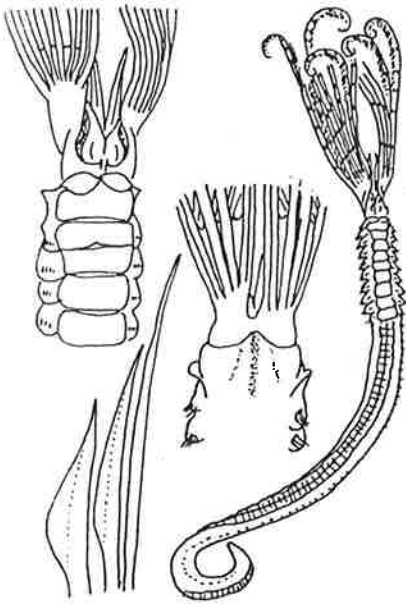
Pseudopotamilla
reniformis

Rocks, boring



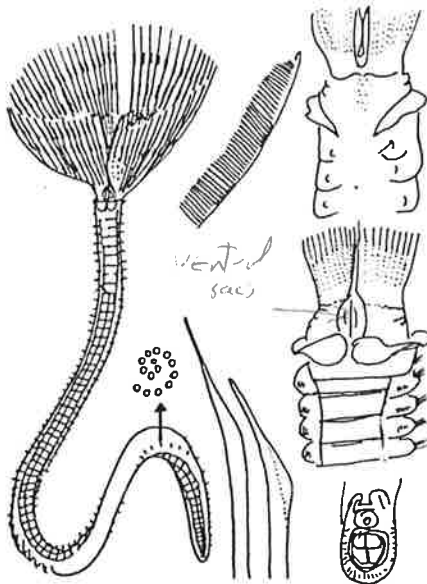
'Sabella'
variabilis

Rocks, sub littoral
Colonies of



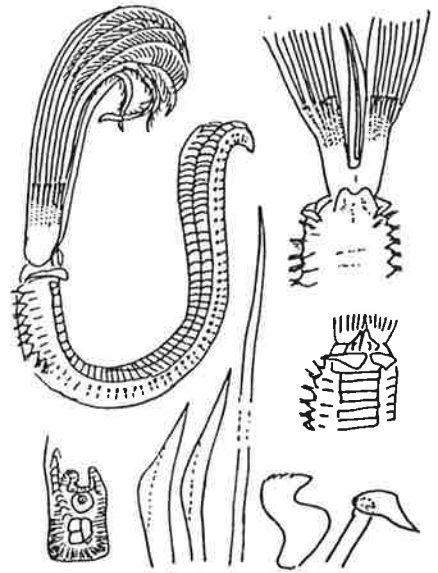
Sabella flabellata

Small
 spp. Non Separate
 Roughty to crevices
 Never not found on
 sand



Sabella pavonina

Sand



Sabella sarsi

10th crevices

Sabella pavonina