

Identification of scale worms in British and Irish waters

February 2011

Ruth Barnich

Senckenberg - Forschungsinstitut und Naturmuseum Frankfurt



List of scale worms occurring in British and Irish waters

Aphroditidae Kinberg, 1856

Aphrodita aculeata Linnaeus, 1758

**Aphrodita alta* Kinberg, 1856

**Aphrodita perarmata* Roule, 1898

Laetmonice filicornis Kinberg, 1856

Laetmonice hystrix (Savigny in Lamarck, 1818)

Laetmonice producta britannica McIntosh, 1900 (revision necessary)

Laetmonice uschakovi Jirkov, 1989 (revision necessary)

Acoetidae Kinberg, 1856

**Euarche tubifex* Ehlers, 1887

**Eupanthalis kinbergi* McIntosh, 1876

**Eupolyodontes gulo* (Grube, 1855)

Panthalis oerstedii Kinberg, 1856

Polyodontes maxillosus (Ranzani, 1817)

Pholoidae Kinberg, 1857

Pholoe assimilis Örsted, 1845 (cf. Petersen 1998)

Pholoe baltica Örsted, 1843 (cf. Petersen 1998)

Pholoe fauveli Kirkegaard, 1983 (maybe not valid; = possibly *inornata*)

Pholoe inornata Johnston, 1839 (cf. Petersen 1998)

Pholoe pallida Chambers, 1985

**Pholoides dorsipapillatus* (Marenzeller, 1893)

Sigalionidae Kinberg, 1856

Claparedepelogenia inclusa (Claparède, 1868)

Euthalenessa oculata (Peters, 1855)

Fimbriosthenelais minor (Pruvot & Racovitza, 1895)

Fimbriosthenelais zetlandica (McIntosh, 1876)

Labioleanira yhleni (Malmgren, 1867)

Leanira hystericis Ehlers, 1874

Neoleanira tetragona (Oersted, 1845)

Parasthenelais hibernica (McIntosh, 1876)

Pelogenia arenosa (Delle Chiaje, 1830)

Sigalion mathildae Audouin & Milne-Edwards in Cuvier, 1830

Sigalion squamosus Delle Chiaje, 1830

Sthenelais boa (Johnston, 1839)

Sthenelais jeffreysii McIntosh, 1876

Sthenelais limicola (Ehlers, 1864)

Polynoidae Kinberg, 1856

- Acanthicolepis asperrima* (M Sars, 1861)
 **Acanthicolepis zibrowii* Barnich & Fiege, 2010
Acholoe astericola (Delle Chiaje, 1841)
Adyte hyalina (G.O. Sars, 1873)
Alentia gelatinosa (M Sars, 1835)
Arcteobia anticostiensis (McIntosh, 1874)
Austrolaenilla mollis (M Sars, 1872)
 **Bathyliasona abyssicola* (Fauvel, 1913)
 **Bathyliasona kirkegaardii* (Uschakov, 1971)
Bathyfauvelia affinis (Fauvel, 1914)
Bylgides acutisetis Loshamn, 1981
Bylgides annenkovae Pettibone, 1993
Bylgides elegans (Théel, 1879)
Bylgides groenlandicus (Malmgren, 1867)
Bylgides promamme (Malmgren, 1867)
 **Diplaconotum paucidentatum* (Eliason, 1962)
Enipo elisabethae McIntosh, 1900 (genus should be revised)
Enipo kinbergi Malmgren, 1866
Enipo torelli (Malmgren, 1866)
Eucranta villosa Malmgren, 1866
Eunoe nodosa (M Sars, 1861)
Eunoe oerstedii Malmgren, 1866
Gattyana amondseni (Malmgren, 1867)
Gattyana cirrhosa (Pallas, 1766)
Gattyana nutti Pettibone, 1955
 **Gesiella jameensis* (Hartmann-Schröder, 1974)
Harmothoe abyssicola Bidekap, 1894
Harmothoe antilopes McIntosh, 1876
Harmothoe areolata (Grube, 1860)
Harmothoe aspera (Hansen, 1879)
Harmothoe clavigera (M Sars, 1863)
Harmothoe extenuata (Grube, 1840)
Harmothoe fernandi Barnich & Fiege, 2009
Harmothoe fragilis Moore, 1910
Harmothoe fraserthomsoni McIntosh, 1897
Harmothoe glabra (Malmgren, 1866)
Harmothoe globifera (GO Sars, 1873)
Harmothoe imbricata (Linnaeus, 1767)
Harmothoe impar (Johnston, 1839)
Harmothoe mariannae Barnich & Fiege, 2009
Harmothoe ocularum (Storm, 1879)
Harmothoe rarispina (M. Sars, 1861)
Harmothoe spinifera (Ehlers, 1864)
Harmothoe vesiculosa Ditlevsen, 1917
Harmothoe viridis Loshman, 1981
Lepidasthenia argus Hodgson, 1900
Lepidasthenia brunnea Day, 1960 (as *L. maculata*)
Lepidonotus clava (Montagu, 1808)
Lepidonotus squamatus (Linnaeus, 1758)
Leucia nivea (M. Sars, 1863)
 **Leucia violacea* (Storm, 1879)
Macellicephala longipalpa Uschakov, 1957
Macellicephala violacea (Levinsen, 1887)
Malmgrenia andreapolis McIntosh, 1874
Malmgrenia arenicolae (Saint-Joseph, 1888)
Malmgrenia castanea McIntosh, 1876
Malmgrenia darbouxi (Pettibone, 1993)
Malmgrenia jungmani (Malmgren, 1867)
Malmgrenia marphysae (McIntosh, 1876)
Malmgrenia mcintoshii (Tebble & Chambers, 1982)
Melaenis loveni Malmgren, 1866
 **Neopolynoe acanellae* Verrill, 1881 (cf. Bock et al. 2010)
Neopolynoe paradoxa (Storm, 1888)
Pettibonesia furcosetosa (Loshamn, 1981)
 **Polaruschakov polaris* (Uschakov, 1957)
Polynoe scolopendrina Savigny, 1822
Robertianella synophthalma McIntosh, 1885
Subadyte pellucida (Ehlers, 1864)

➤ **Number of species**

Polynoidae : dominant family with 68 species (8 unconfirmed for considered area)

Sigalionidae: 14 species

Aphroditidae: 7 species (2 unconfirmed)

Pholoidae: 6 species (1 unconfirmed)

Acoetidae: 4 species (2 unconfirmed)

➤ **Problematic genera / species**

Revisions necessary for genera *Laetmonice*, *Enipo*, *Gattyana* and *Lepidasthenia*

Speciose genera like *Harmothoe*, *Malmgrenia*, *Bylgides*

Deep water species, especially Macellicephalinae and Polaruschakovinae

Small species like Pholoidae

➤ **Terminology**

consistent with revisions

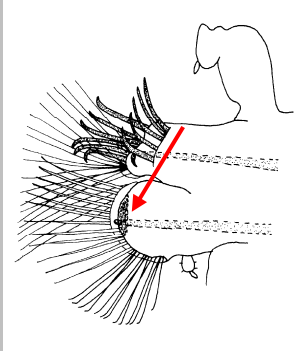
➤ **Material /Conservation**

one specimen per vial (fragmentation, loss of elytra)

Scale worm families

Eulepethidae*

Neuroacicula distally hammer-shaped



Aphroditidae

Prostomium with one antenna; with or without felt covering elytra; beginning with segment 25 elytra on every 3rd segment



Pholoidae & Sigalionidae

Most neurochaetae compound



falcigers with short, sickle-shaped blade => Pholoidae



falcigers (often multiarticled) or spinigers => Sigalionidae



Acoetidae

With segmental spinning glands producing fibres for tube



Polynoidae

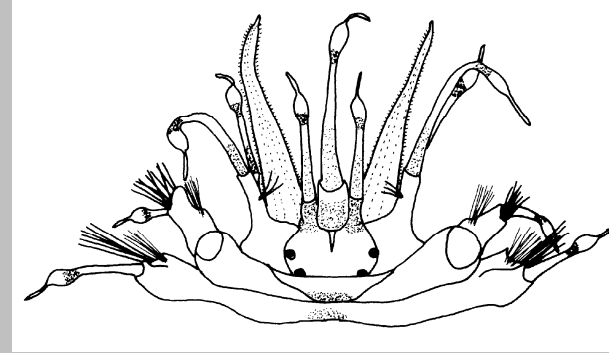
Characters otherwise



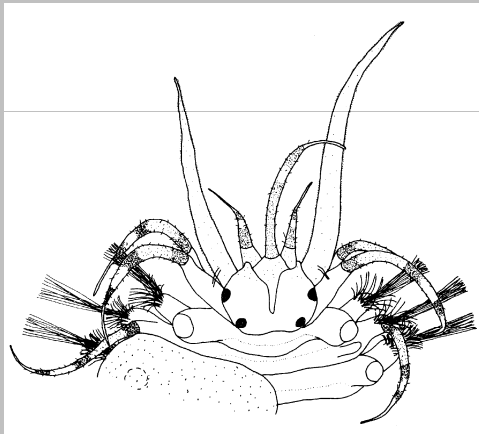
Polynoidea: Subfamilies

Lateral antennae inserted **terminally**

e.g. Lepidastheniinae
Lepidonotinae

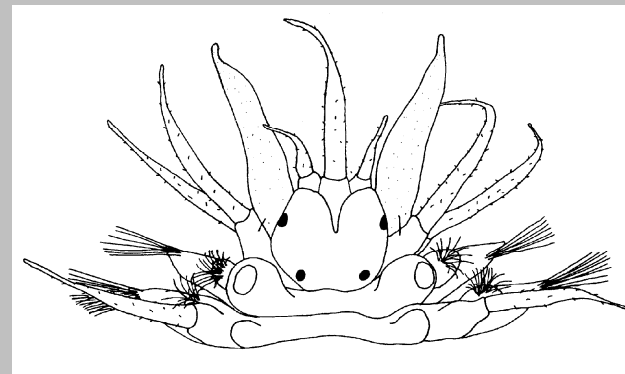


Lateral antennae inserted
ventrally



or

terminoventrally

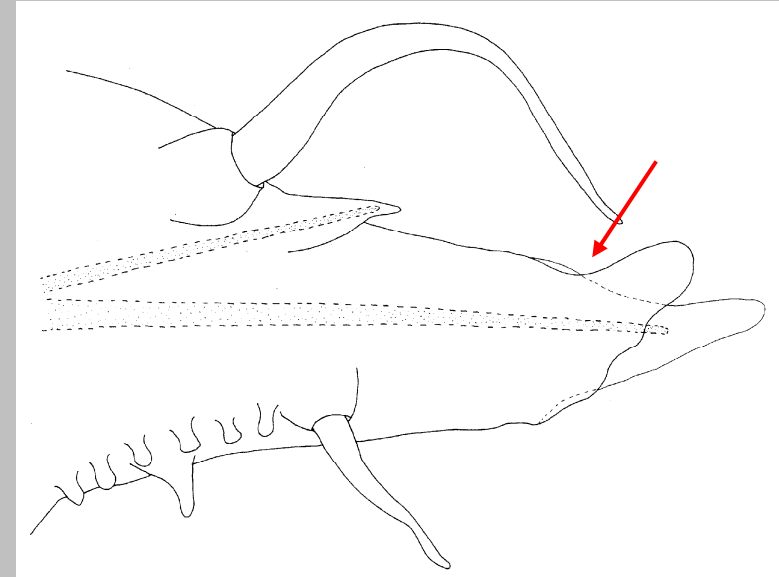


e.g. Polynoinae

Lepidastheniinae / Lepidonotinae

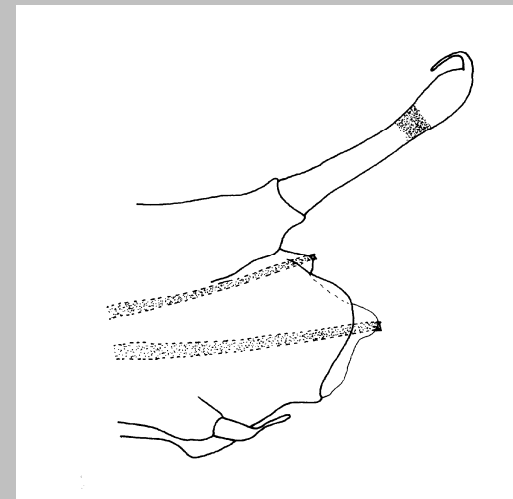
Neuropodia deeply incised dorsally and ventrally:

Lepidastheniinae



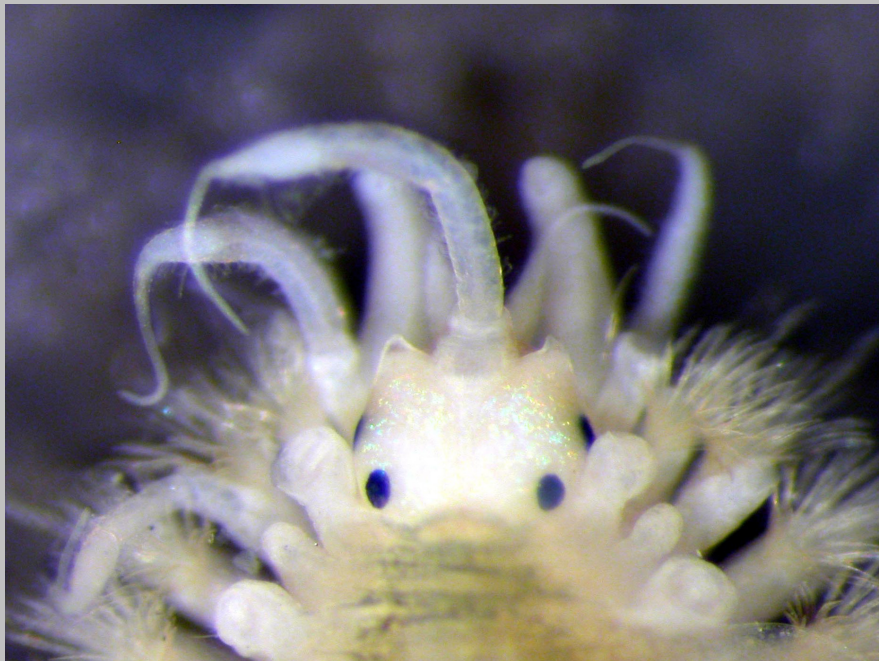
Neuropodia not deeply incised dorsally and ventrally:

Lepidonotinae



Polynoinae: Antennae

Lateral antennae inserted **ventrally**
(= distinctly below median antenna)



Harmothoe

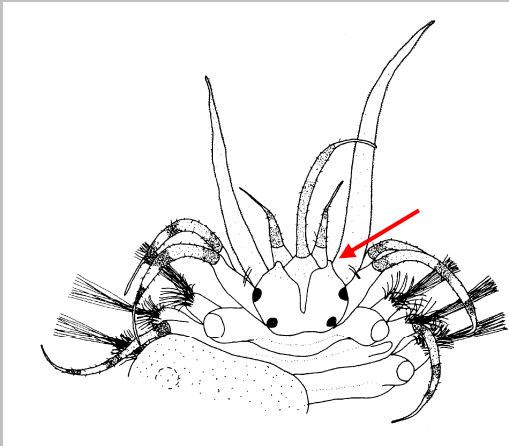
Lateral antennae inserted **terminoventrally**
(= at almost same level than median antenna)



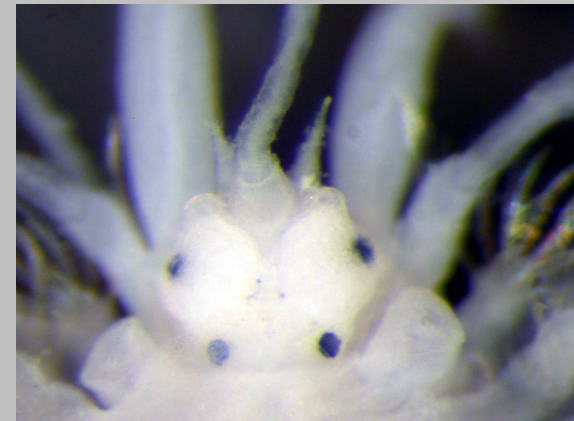
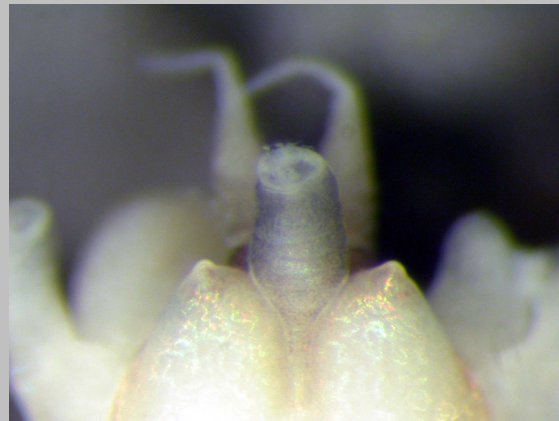
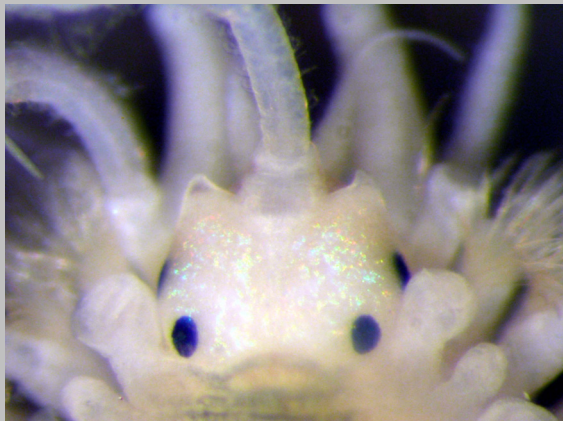
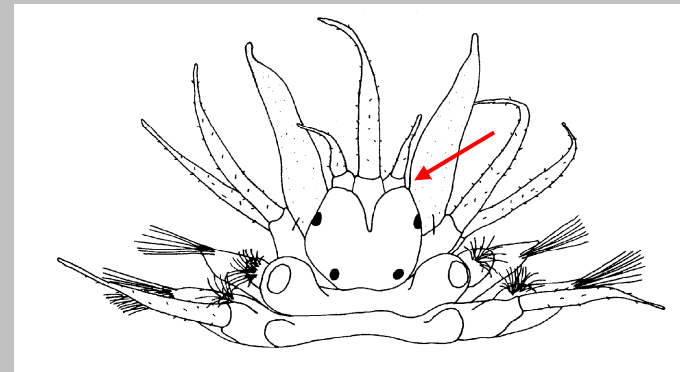
Malmgrenia

Polynoinae: Cephalic peaks

With cephalic peaks
(lat. antennae always ventral)

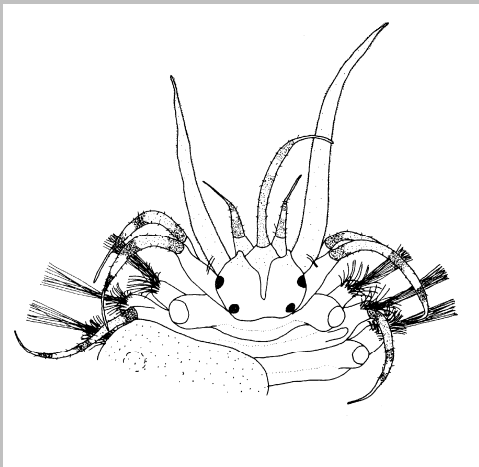


Without cephalic peaks
(lat. antennae ventral or terminoventral)



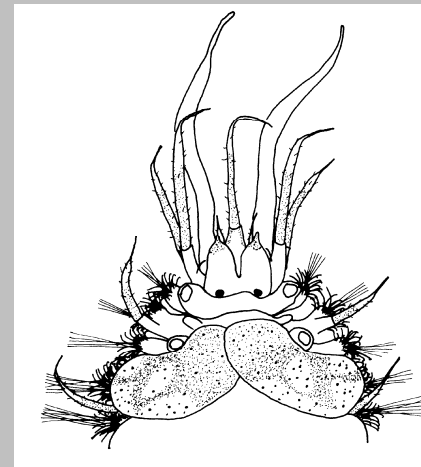
Polynoinae: Eyes

Anterior pair of eyes **dorsolateral**
on widest part of prostomium



e.g. *Harmothoe*
Eunoe
...

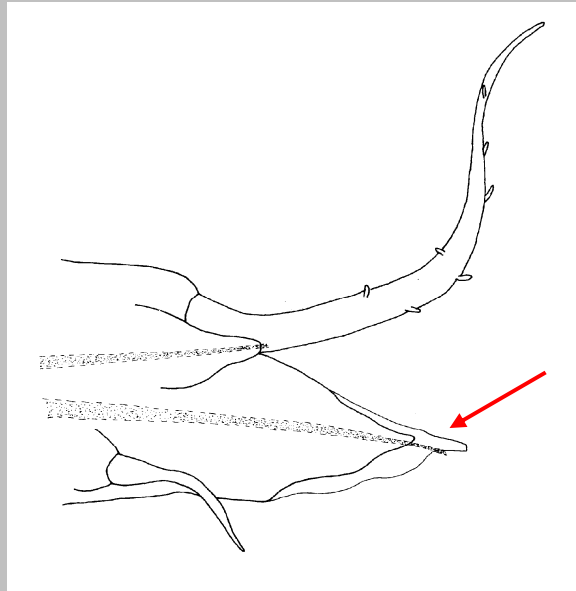
Anterior pair of eyes **anteroventral**
beneath cephalic peaks



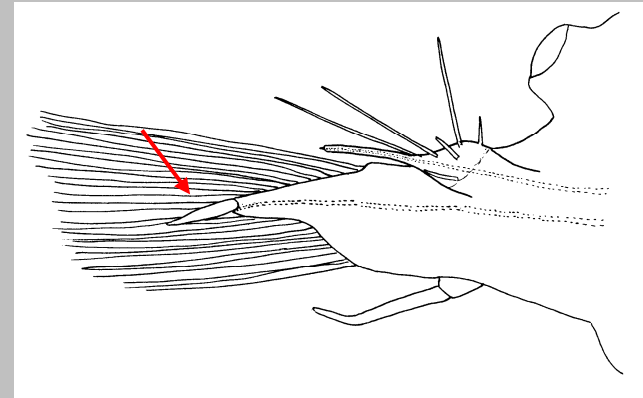
e.g. *Eucranta*
Gattyana
Harmothoe
Polynoe
...

Polynoinae: Neuropodium

Neuropodium
with **supra-acicular process**

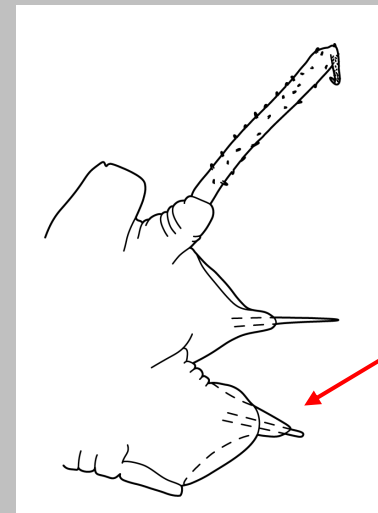


or **terminal papilla**



from: Pettibone 1993

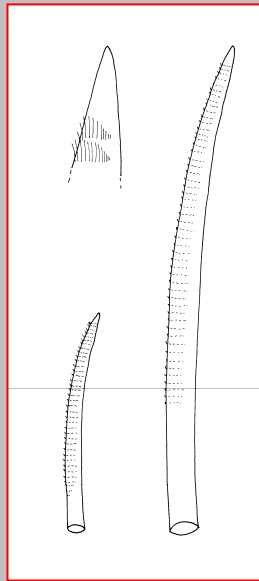
Neuropodium
without process or papilla



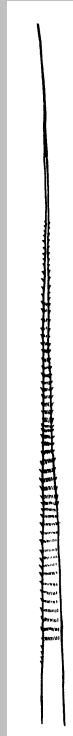
from: Bock et al. 2010

Polynoinae: Notochaetae

Tips of notochaetae:

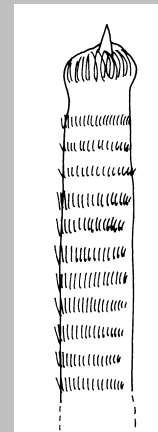


blunt

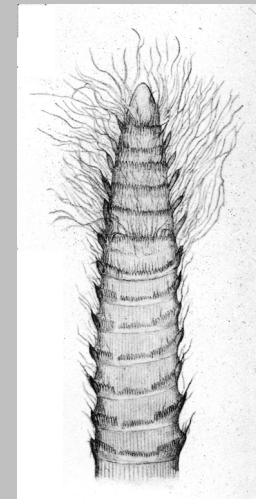


from: Pettibone 1953

capillary



pin-like

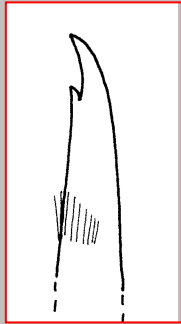
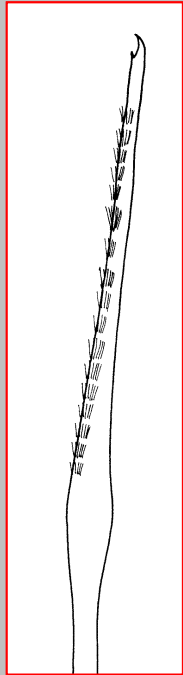


from: Bergström 1916

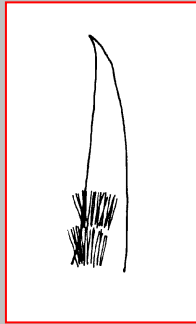
penicillate

Polynoinae: Neurochaetae

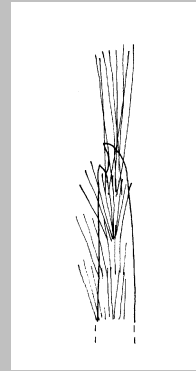
Tips of neurochaetae:



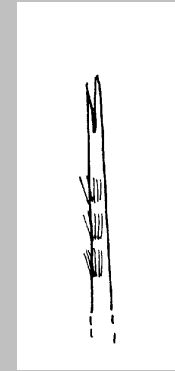
bidentate



unidentate



penicillate



furcate



tridentate

Characters of Polynoinae: Summary

- Important characters:
- Antennae:** number & insertion
 - Cephalic peaks:** presence/absence, size (minute, distinct, prominent)
 - Eyes:** presence/absence & position of anterior pair
 - Elytra:** number of pairs, insertion, distribution & shape of papillae, macro- and microtubercles
 - Check preferably anterior (kidney-shaped) elytra, since characters tend to disappear in posterior (oval) elytra !
 - Macrotubercles = tubercles which are distinctly larger than closest microtubercles
 - Neuropodium:** presence/absence of supra-acicular process (length, shape), etc.

 - Chaetae:** rows of spines, tip uni- or bidentate, ...
 - Segments:** up to 50 or more than 50 (short/long worms)
 - ...
- Poor characters:
- Orientation of cephalic peaks (inflated or contracted prostomium due to fixation)
 - Number of uni- or bidentate neurochaetae per parapodium (varies depending on age and size)
 - Colour (tends to be washed out, or may depend on habitat, ...)

Key to Aphroditidae

I. ELYTRA COVERED BY DENSE FELT; EYES SESSILE

A. Lateral capillary notochaetae iridescent

Acicular notochaetae stout, smooth
Acicular neurochaetae smooth or pilose
=> *Aphrodita aculeata*

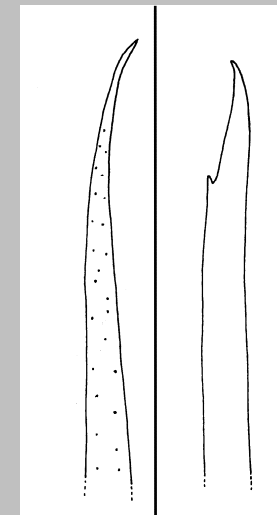


B. Lateral capillary notochaetae not iridescent

Acicular notochaetae tapering to hook-shaped tip
Acicular neurochaetae pilose
=> *Aphrodita alta**

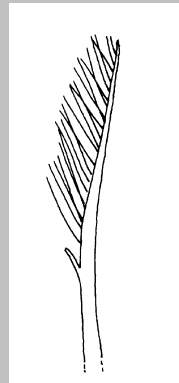


Acicular notochaetae tapering to acute tip
Acicular neurochaetae smooth with lateral spine subdistally
=> *Aphrodita perarmata**



II. ELYTRA NOT COVERED BY FELT OR COVERED BY VERY THIN LAYER;
EYES STALKED

**A. Neurochaetae with a filamentous row
of hairs** on the terminal recurved surface

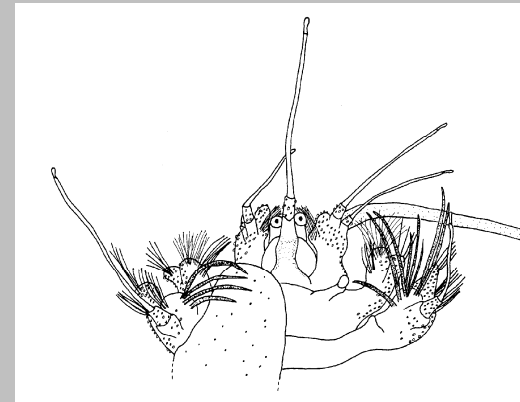


A.1. Without felt;
18-20 pairs of elytra;
up to 47 segments
=> *Laetmonice producta britannica*

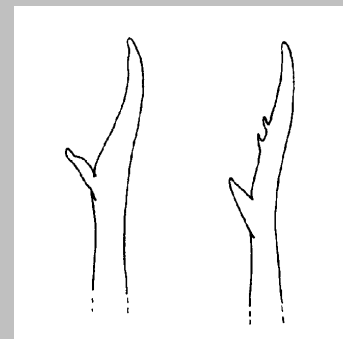
A.2. With thin layer of felt

17-18 pairs of elytra;
up to 42 segments
=> *Laetmonice uschakovi*

15 pairs of elytra;
up to 36 segments
=> *Laetmonice filicornis*

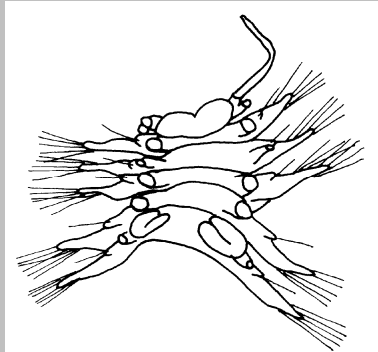


**B. Neurochaetae with or without
denticles** on the terminal recurved surface
=> *Laetmonice hystrix*



Key to Polynoidae

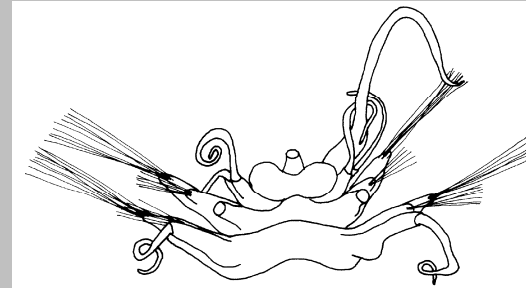
I. PROSTOMIUM WITHOUT ANTENNAE;
segment 6 with scale-like structures



Elytra 9 pairs; 21-25 segments;
posterodorsal side of neuropodia without
bulbous papilla
=> *Polaruschakov polaris**

Elytra 11 pairs; 21-28 segments;
posterodorsal side of neuropodia with
bulbous papilla
=> *Diplaconotum paucidentatum**

II. PROSTOMIUM ONLY WITH MEDIAN ANTENNA;
segment 6 without scale-like structures



A. Dorsal tubercles as cirriform ciliated
branchial structures; elytra 9 pairs
=> *Bathyfauvelia affinis*

B. Dorsal tubercles indistinct or otherwise

B.1. Elytra 9 pairs; tentacular segment achaetous

Dorsal tubercles distinct, digitiform to subconical
=> *Macellicephala violacea*

Dorsal tubercles small to absent
=> *Macellicephala longipalpa*

B.2. Elytra 8 pairs; tentacular segment with chaetae
=> genus *Bathyeliasona**

III. PROSTOMIUM WITH THREE ANTENNAE

A. With accessory filamentous organs

on dorsal cirrophores

=> *Gesiella jameensis**

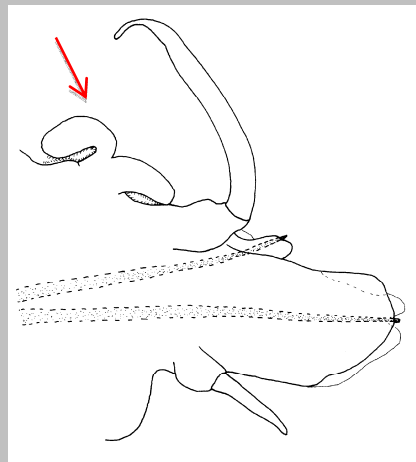
B. Without filamentous organs

on dorsal cirrophores

B.1. Lateral antennae ventral or terminoventral

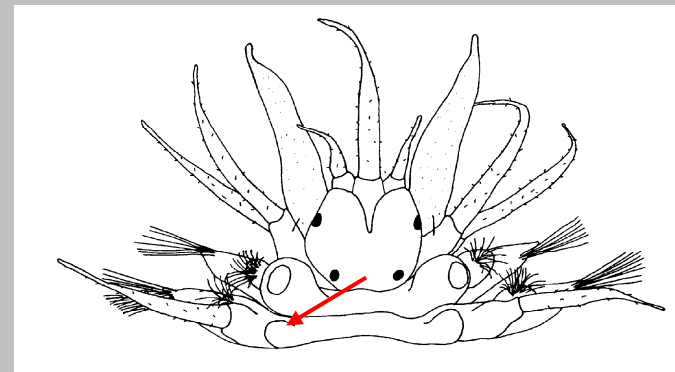
Lateral antennae terminoventral;
dorsal tubercles t-shaped

=> *Acholoe astericola*



Lateral antennae ventral or terminoventral;
dorsal tubercles nodular

=> **POLYNOINAE** (see separate key)

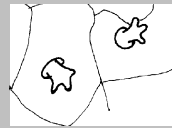


B.2. Lateral antennae terminal

Ceratophores of lateral antennae fused to prostomium;
neuropodia not deeply incised dorsally and ventrally
=> LEPIDONOTINAE

Ceratophores of lateral antennae distinct;
neuropodia deeply incised dorsally and ventrally
=> LEPIDASTHENINAE

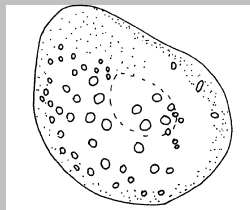
Elytra 18 pairs, covered by microtubercles with multifid tip
=> *Alentia gelatinosa*



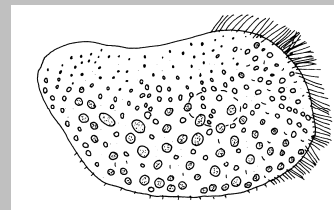
Scattered papillae on dorsal and ventral side of parapodia
=> *Lepidasthenia argus*

6-8 papillae on ventral side of parapodia
=> *Lepidasthenia brunnea*

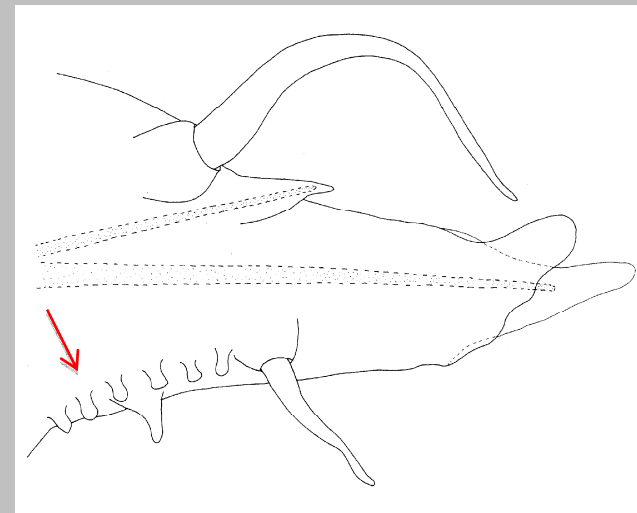
Elytra 12 pairs



Lepidonotus clava



Lepidonotus squamatus

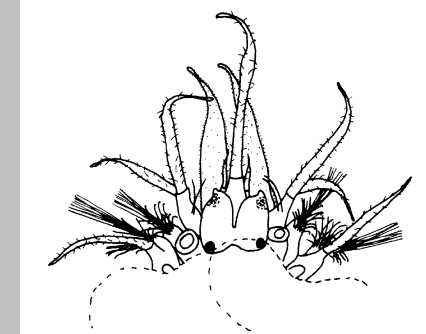


Key to Polynoinae

I. PROSTOMIUM WITH DISTINCT CEPHALIC PEAKS

A. At least some notochaetae with capillary tip

A.1. Anterior eyes anteroventral; up to 40 segments



A.1.a. Neurochaetae all stout with unidentate tip

Elytra with entire to bifid microtubercles and conical macrotubercles

=> *Gattyana nutti*

Elytra only with multifid microtubercles

A.1.b. Neurochaetae slender with sharp tip and stout with bidentate tip

=> *Arcteobia anticostiensis*

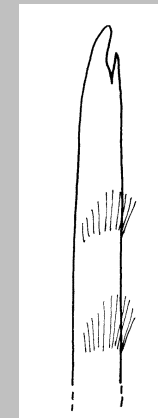
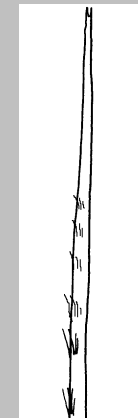
Lower neurochaetae with bare tip not longer than spinous region

=> *Gattyana cirrhosa*



Lower neurochaeta with bare tip as long as or longer than spinous region

=> *Gattyana amondseni*



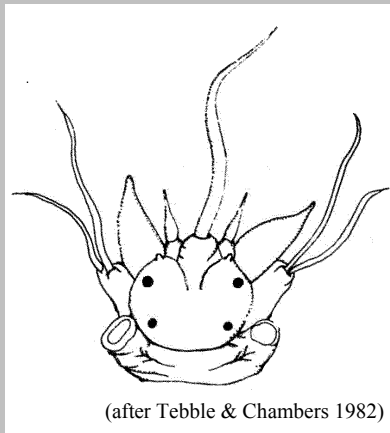
Polynoinae 2
+ cephalic peaks

A.2. Anterior eyes otherwise; more than 45 segments

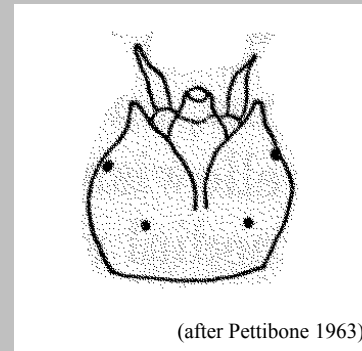
A.2.a. Neurochaetae in anterior segments **uni- and bidentate**;
cephalic peaks small; eyes distinct
=> *Enipo elisabethae*

A.2.b. Neurochaetae in all segments **unidentate**

Cephalic peaks small; eyes distinct
=> *Enipo kinbergi*



Cephalic peaks prominent; eyes rather small
=> *Enipo torelli*



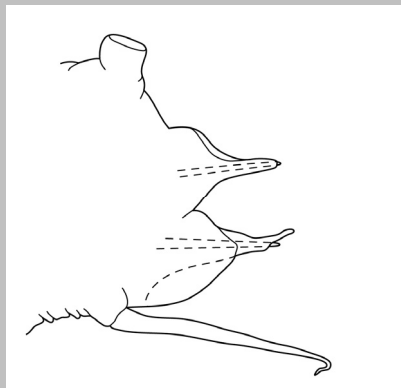
Polynoinae 3
+ cephalic peaks

B. Notochaetae with stout tip

B.1. More than 50 segments

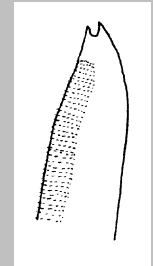
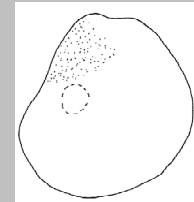
Ventral cirri short, not reaching tip of neuropodium;
antennae and cirri papillate;
elytral margin with numerous, long papillae
=> *Neopolynoe paradoxa*

Ventral cirri long, reaching beyond tip of neuropodium;
Antennae and cirri smooth;
elytral margin with few, short papillae
=> *Neopolynoe acanellae**

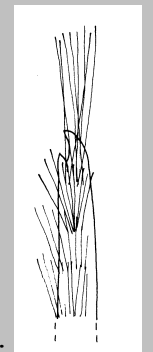
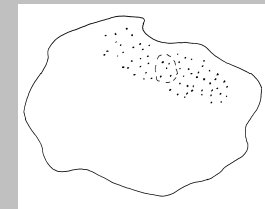


B.2. Up to 50 segments

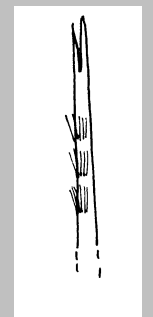
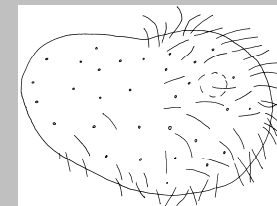
B.2.a. Neurochaetae distally bill-shaped
=> *Robertianella synophthalma*



B.2.b. Some neurochaetae bidentate with hairy, penicillate tip
=> *Austrolaenilla mollis*



B.2.c. Some neurochaetae slender with furcate tip
=> *Eucranta villosa*



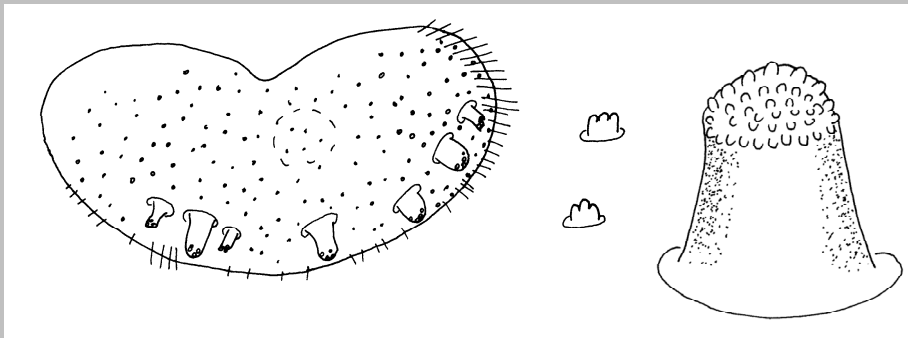
B.2.d+ e Neurochaetae otherwise ...

Polynoinae 4
+ cephalic peaks

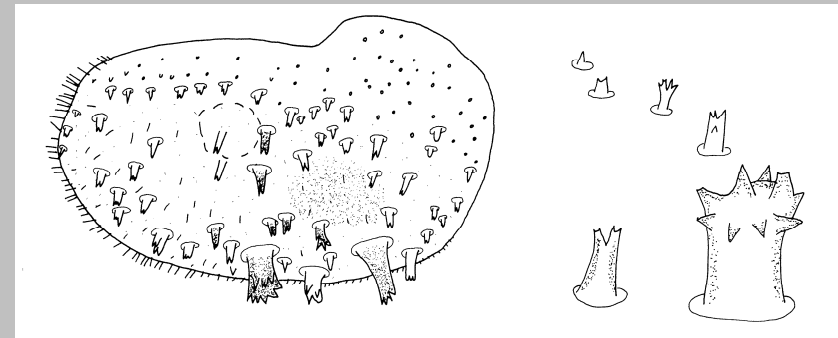
B.2. Up to 50 segments;
B.2.d. Neurochaetae unidentate

Neurochaetae stout, tips falcate

Larger micro- and macrotubercles
distally nodular
=> *Eunoe nodosa*



Larger microtubercles distally bi-or multifid,
macrotubercles distally branched, multifid, or spiny
=> *Eunoe oerstedii*



Polynoinae 5
+ cephalic peaks

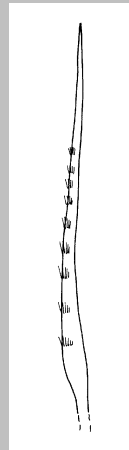
B.2. Up to 50 segments;
B.2.d. Neurochaetae unidentate

At least some neurochaetae with slender or capillary tip

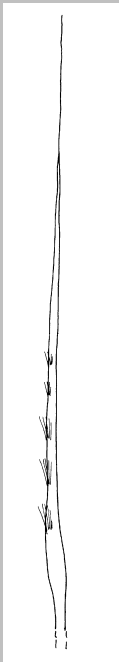
Neurochaetae all with slender or capillary tip

Some neurochaetae with stout, others with capillary tip

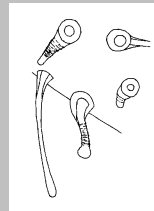
Tip slender, rather short; eyes large
=> *Bylgides acutisetis*



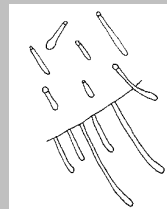
Tip long, capillary;
eyes relatively small



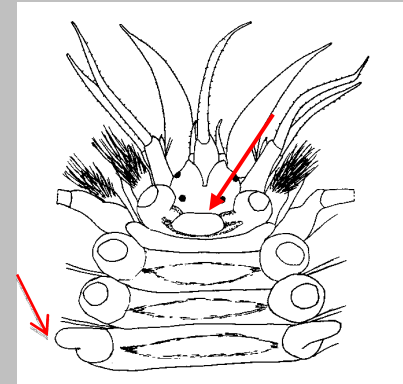
Elytral papillae heavily chitinized,
with bulbous tip
=> *Bylgides promamme*



Elytral papillae cylindrical,
not chitinized
=> *Bylgides groenlandicus*



Nuchal lobe inflated;
dorsal tubercles with lateral processes
=> *Bylgides annenkovae**

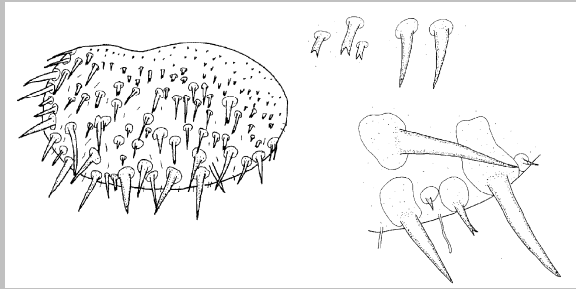


Nuchal lobe absent;
dorsal tubercles without lateral processes
=> *Bylgides elegans*

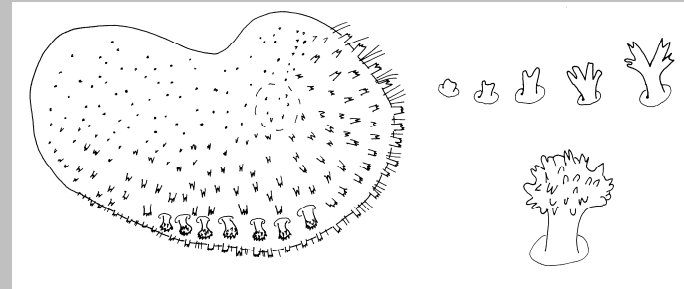
Polynoinae 6
+ cephalic peaks

B.2. Up to 50 segments;
B.2.e. Neurochaetae bi- and unidentate

Elytra 18 pairs

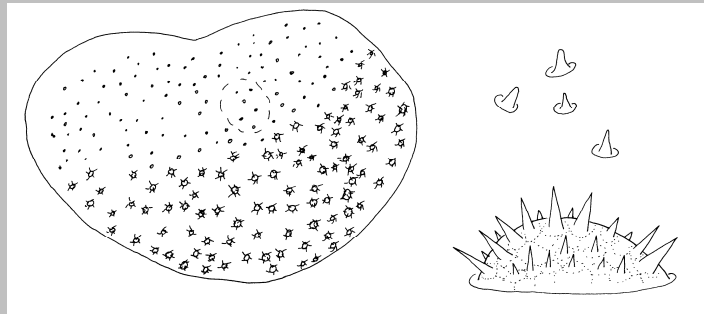


Acanthicolepis asperrima

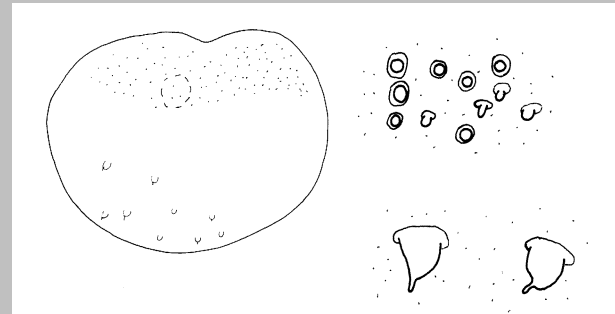


*Acanthicolepis zibrowii**

Elytra 16 pairs



Leucia nivea

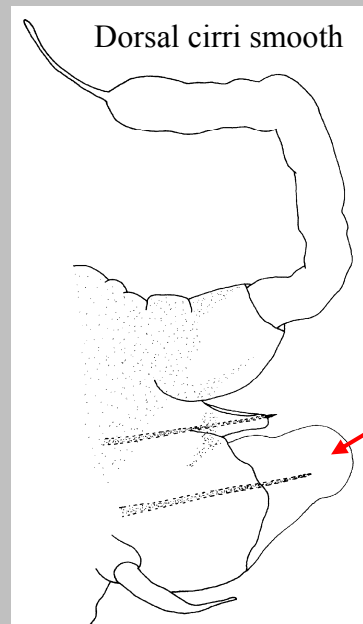
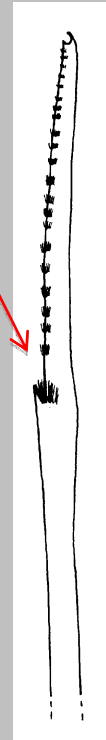


*Leucia violacea**

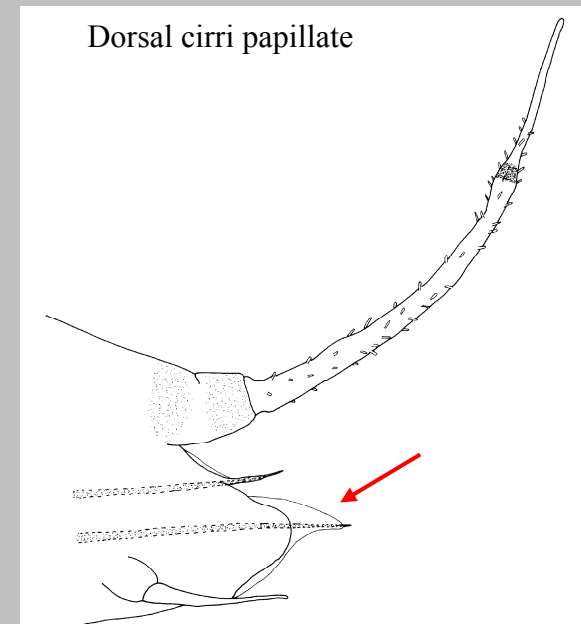
Elytra 15 pairs: => *Harmothoe* (see separate key)

II. PROSTOMIUM WITHOUT OR WITH RATHER INDISTINCT CEPHALIC PEAKS

A. Neurochaetae with semilunar pockets



Adyte hyalina

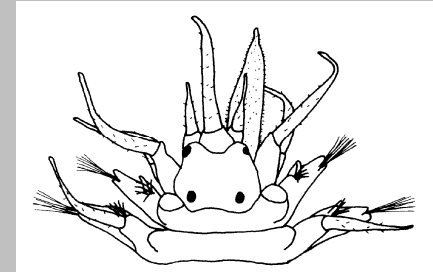


Subadyte pellucida

Polynoinae 8
- cephalic peaks

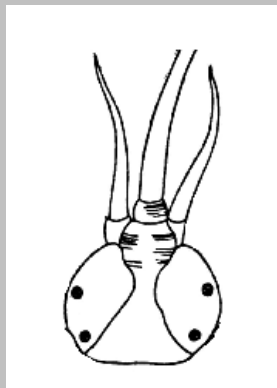
B. Neurochaetae without semilunar pockets

B.1. More than 50 segments;
anterior eyes lateral, near anterior corners of prostomium;
(lateral antennae ventral)
=> *Polynoe scolopendrina*

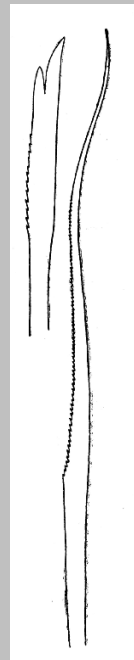


B.2. Less than 50 segments; anterior eyes otherwise

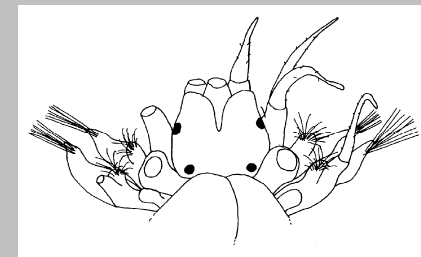
B.2.a. Lateral antennae ventral;
most neurochaetae tapering to capillary tip,
some stout, bidentate with very stout secondary tooth
=> *Melaenis loveni*



(after Uschakov 1982)

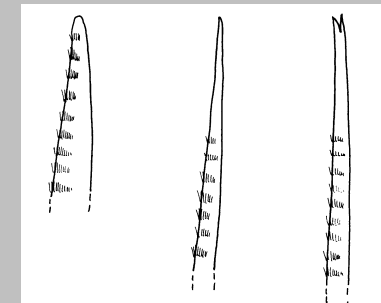


B.2.b. Lateral antennae terminoventral;
neurochaetae all stout



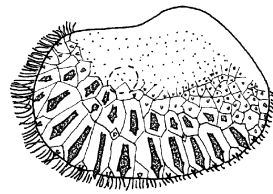
Notochaetae with entire tip
=> *Malmgrenia* (see separate key)

Notochaetae with entire and furcate tip
=> *Pettibonesia furcosetosa*

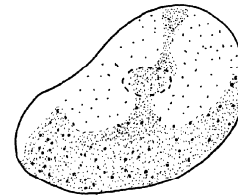
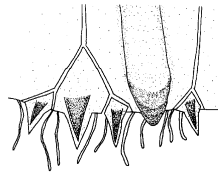


Key to *Harmothoe* species

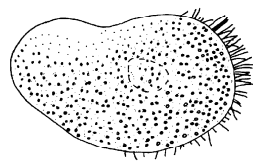
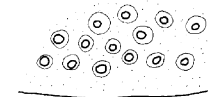
I. ANTERIOR EYES ANTEROVENTRAL



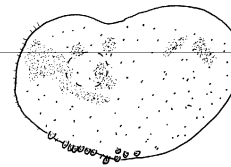
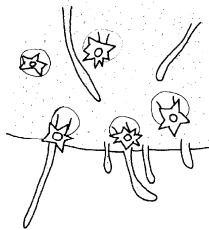
H. areolata



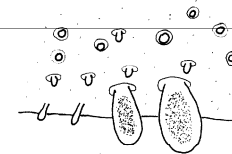
H. spinifera



H. antilopes



H. imbricata

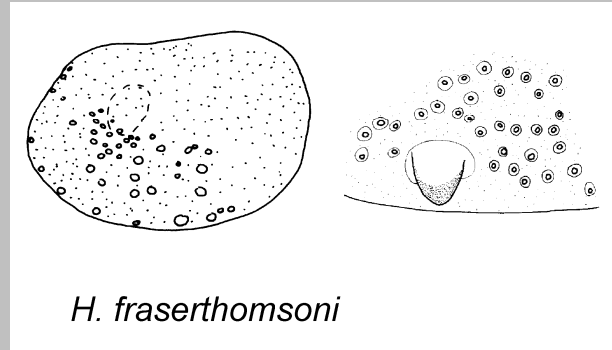


with or without
macrotubercles !

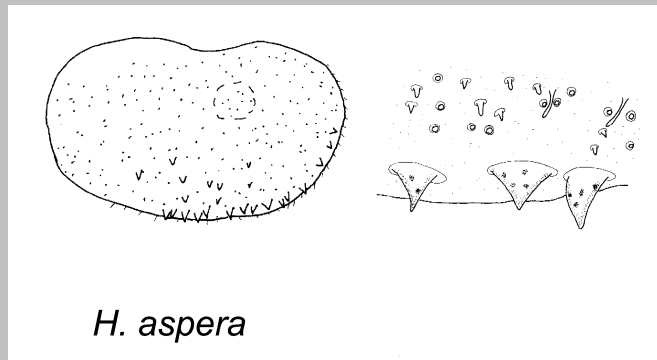
II. ANTERIOR EYES DORSOLATERAL

A. With macrotubercles

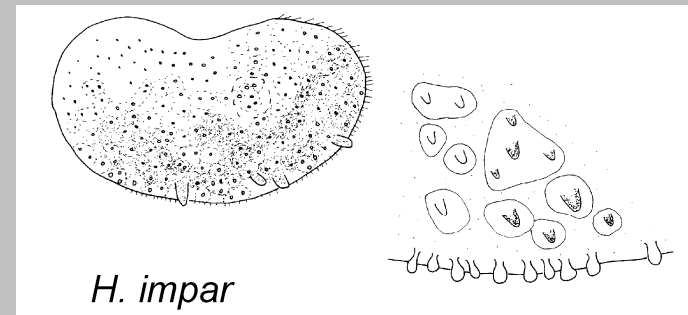
Margin without papillae



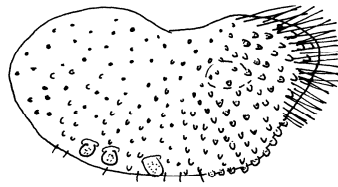
Margin papillate, macrotubercles pointed



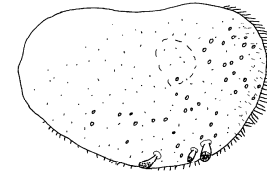
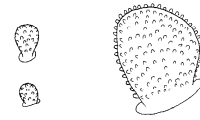
Margin papillate, macrotubercles rounded, some tubercles grouped



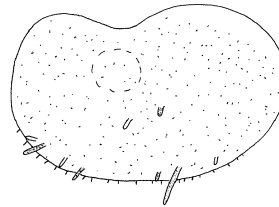
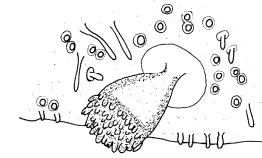
Margin papillate,
macrotubercles rounded,
all tubercles isolated



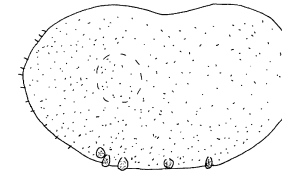
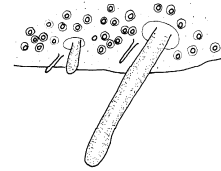
H. globifera



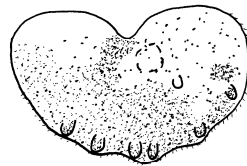
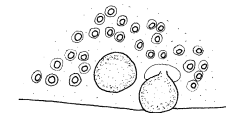
H. clavigera



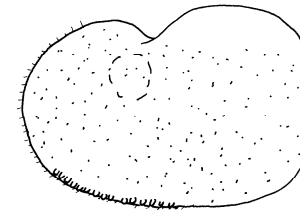
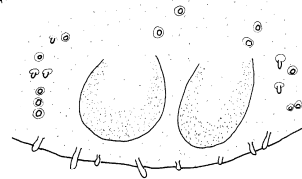
H. rarispina



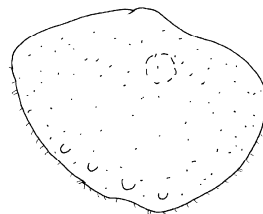
H. extenuata



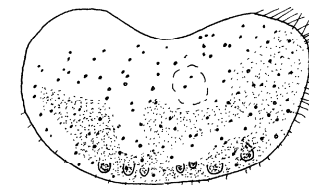
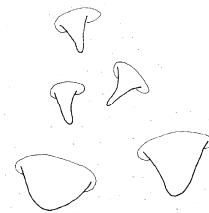
H. fragilis



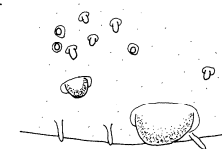
H. vesiculosa



H. abyssicola

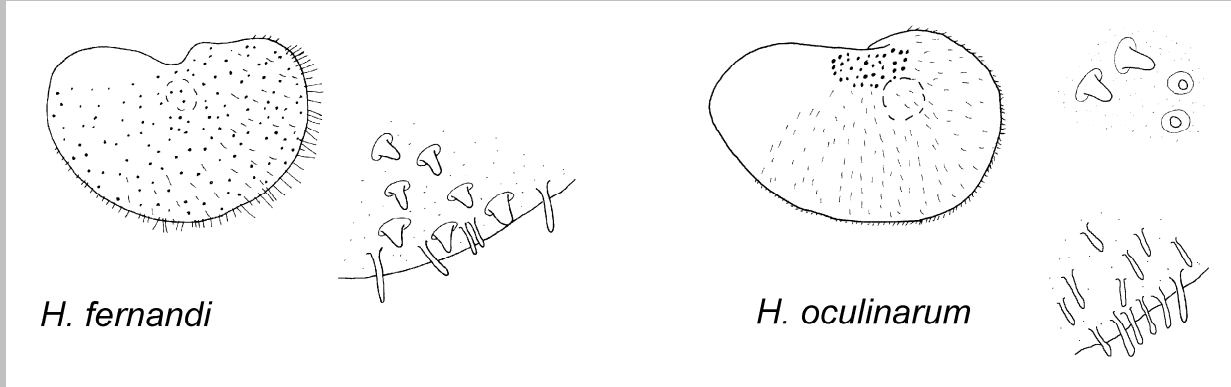


H. mariannae

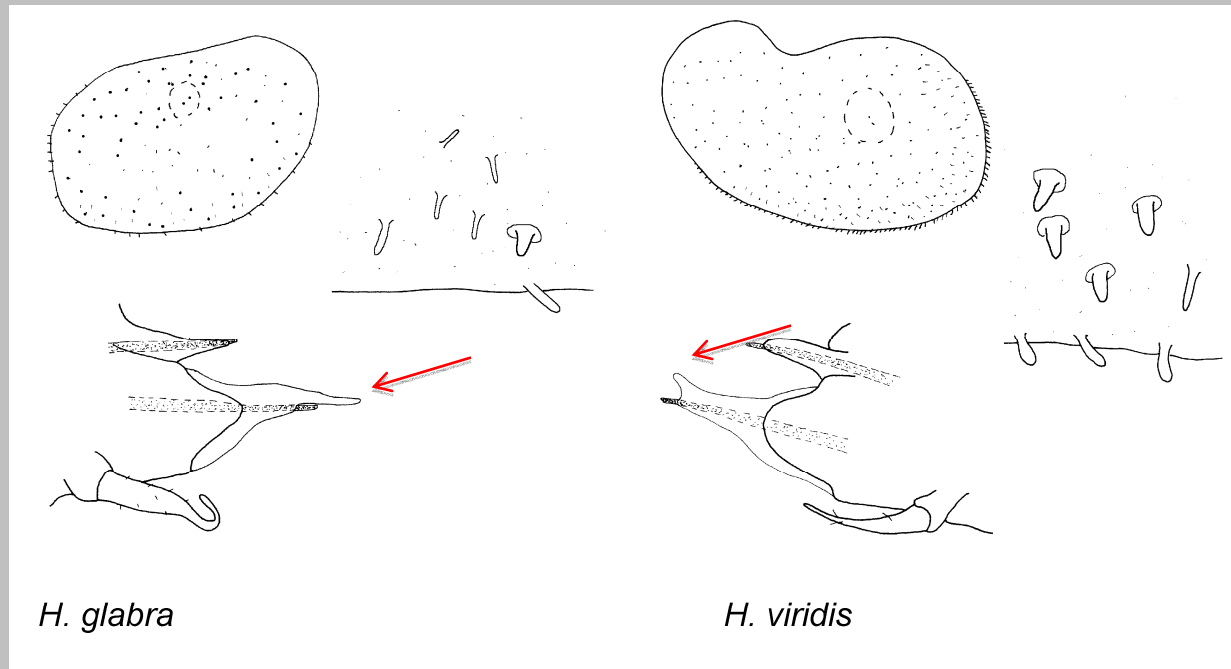


B. Without macrotubercles

Elytral margin and surface densely papillate



Elytral margin and surface with scattered papillae

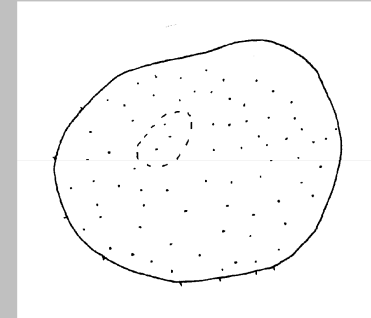


Microtubercles
mainly
in anterior half

Microtubercles
scattered on
surface

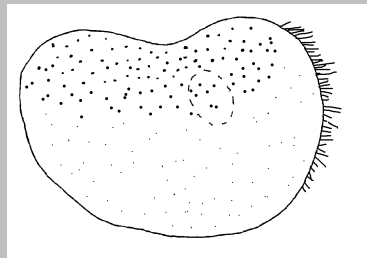
Key to *Malmgrenia* species (revised)

I. MICROTUBERCLES COVERING SURFACE;
margin with few short, scattered papillae

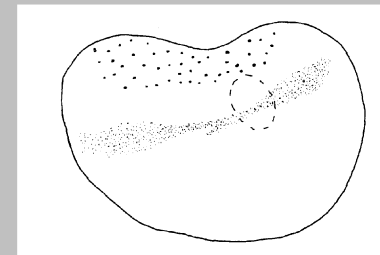


Malmgrenia ljungmani

II. MICROTUBERCLES ONLY AS PATCH IN ANTERIOR PART;
margin otherwise



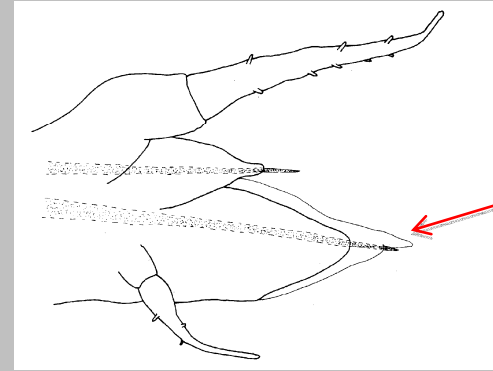
Malmgrenia mcintoshi



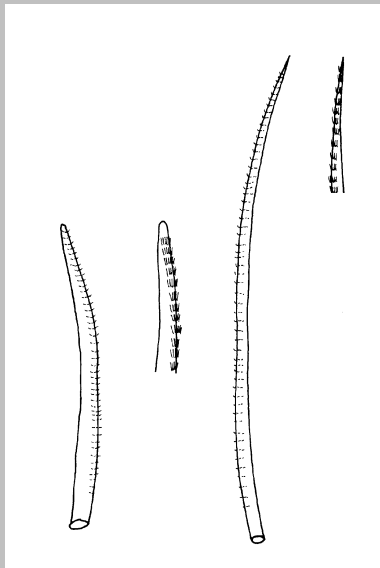
A. Neuropodia without supra-acicular process
=> *Malmgrenia marphysae*

B. Neuropodia with supra-acicular process ...

B. Neuropodia with supra-acicular process



B.1. Short notochaetae stout with blunt tip
and some long ones slender with pointed tip
=> *Malmgrenia darbouxi*



B.2. All notochaetae stout with blunt or pointed tip

B.2.a. Antennae and cirri smooth (rather short and thick)
=> *Malmgrenia castanea*

B.2.b. Antennae and cirri papillate

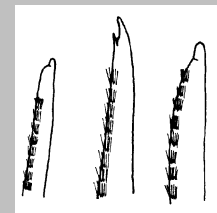
Supra-acicular process small, digitiform (see fig. above)
=> *Malmgrenia lunulata**

Supra-acicular process wide bulbous or subconical



Neurochaetae usually all bidentate, tips pointed
=> *Malmgrenia arenicolae*

Neurochaetae bi- and unidentate, tips often knob-like
=> *Malmgrenia andreapolis*



Key to Acoetidae

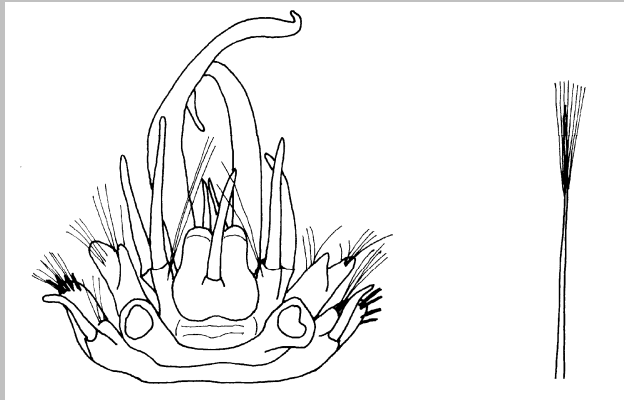
I. EYES SESSILE

With median antenna;
2nd segment with numerous notochaetae
=> *Euarche tubifex**

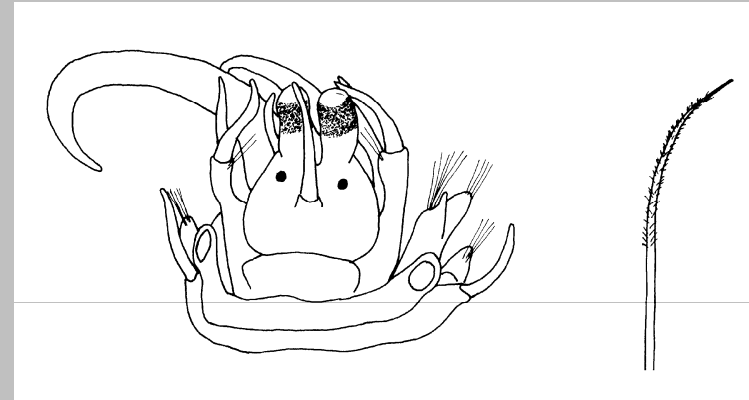
Without median antenna;
2nd segment achaetous or with few notochaetae
=> *Eupanthalis kinbergi**

II. EYES STALKED

A. Lateral antennae ventral to ommatophores, median antenna large



Ommatophores colorless,
tip of type a notochaetae brush-shaped
=> *Panthalis oerstedii*

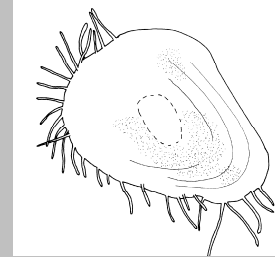


Ommatophores colored,
tip of type a notochaetae thickly spinous
=> *Polyodontes maxillosus*

B. Lateral antennae medial to ommatophores, median antenna small => *Eupolyodontes gulo**

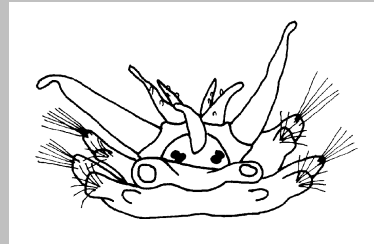
Key to Phloidae

I. MIDDORSUM WITH ADHESIVE TUBERCLES;
ELYTRA WITH CONCENTRIC RINGS
=> *Phloides dorsipapillatus**

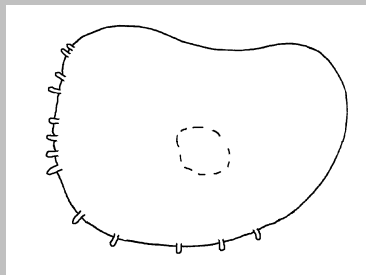


II. MIDDORSUM SMOOTH;
ELYTRA WITHOUT CONCENTRIC RINGS

A. Eyes present



A.1. Facial tubercle prominent,
often as large as median antenna;
elytral papillae marginal
=> *Phloe baltica*

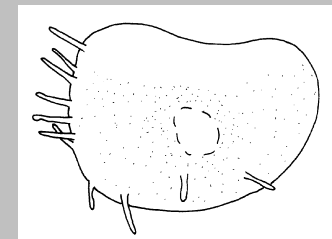


B. Eyes absent; facial tubercle prominent
=> *Phloe pallida*

A.2. Facial tubercle inconspicuous

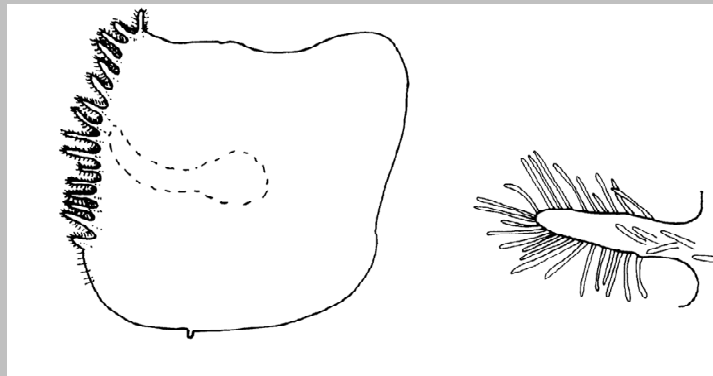
Elytral papillae marginal laterally,
becoming submarginal towards middorsum
=> *Phloe inornata*

Elytral papillae marginal
=> *Phloe assimilis*



Key to Sigalionidae

I. MEDIAN ANTENNA ABSENT OR VERY SMALL



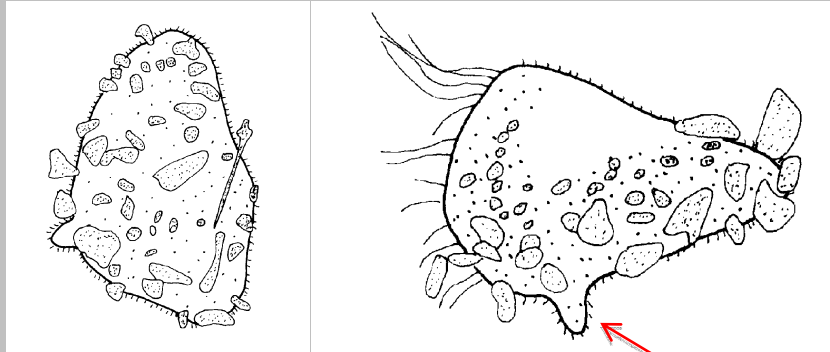
Elytral papillae with about 20 lateral pinnules
=> *Sigalion mathildae*



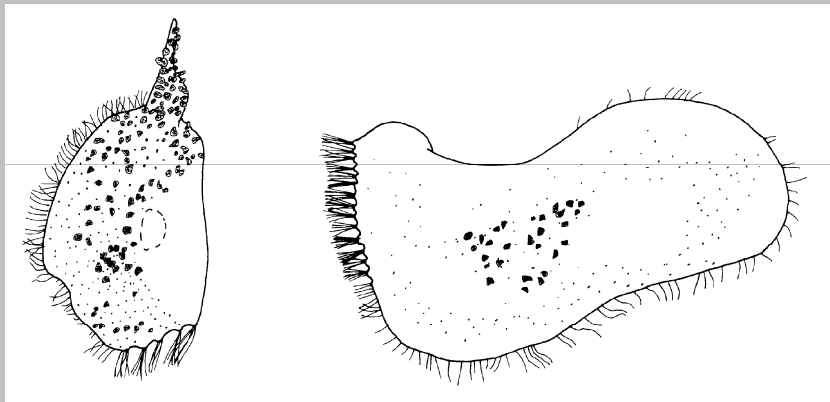
Elytral papillae with about 10 lateral pinnules
=> *Sigalion squamosus*

II. MEDIAN ANTENNA DISTINCT

A. Dorsum and elytra sand-incrusted



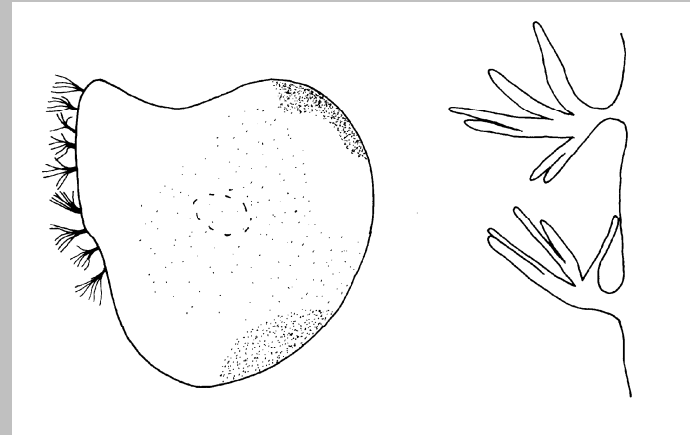
1st elytra oval; all elytra with leaf-like processes
=> *Pelogenia arenosa*



1st elytra with elongate, medial process anteriorly;
no leaf-like processes
=> *Claparedepelogenia inclusa*

B. Dorsum and elytra not sand-incrusted

B.1. Median antenna without auricles

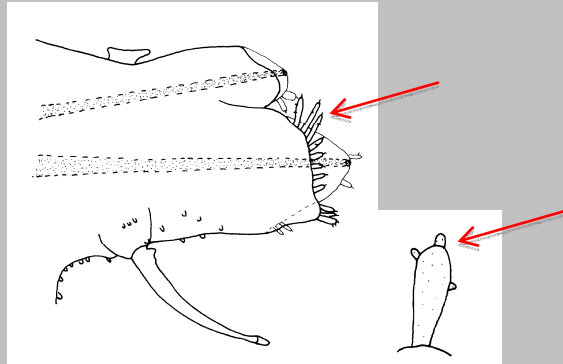


Elytral margin with branched papillae
=> *Euthalenessa oculata*

Elytral margin smooth
=> *Leanira hystericis*

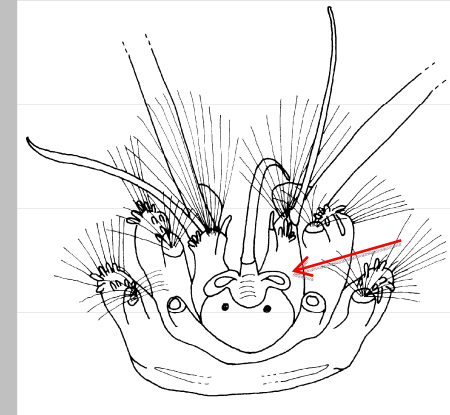
B.2. Median antenna with auricles

B.2.a. Parapodial stylodes papillate



Ventral surface smooth;
elytral surface with few scattered microtubercles
=> *Fimbriostenelais minor*

Ventral surface thickly papillate;
elytral surface with numerous microtubercles
=> *Fimbriostenelais zetlandica*



B.2.b. Parapodial stylodes smooth

Dorsal cirri present

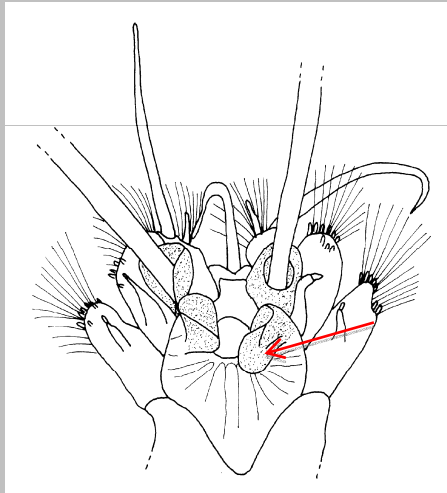
All neurochaetae spinigers
=> *Neoleanira tetragona*

Neurochaetae falcigers and spinigers
=> *Parasthenelais hibernica*

B.2.b. Parapodial stylodes smooth

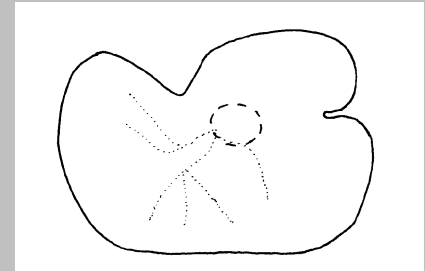
Dorsal cirri absent

Mouth **with labial lobes**;
neurochaetae only spinigers
=> *Labioleanira yhleni*

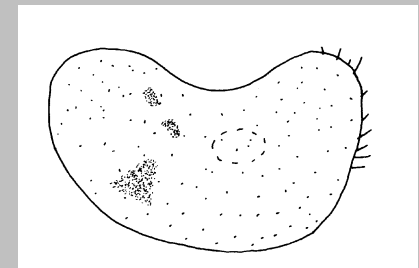


Mouth **without labial lobes**;
neurochaetae mostly falcigers

Elytral margin smooth
=> *Sthenelais limicola*



Elytral margin with short papillae,
elytral surface with microtubercles
=> *Sthenelais boa*



Elytral margin with long papillae,
elytral surface smooth
=> *Sthenelais jeffreysi*

Part of the figures and keys in this presentation have been modified from:

- Barnich, R. & Fiege, D., 2003. The Aphroditoidea (Annelida: Polychaeta) of the Mediterranean Sea. *Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft Frankfurt am Main*, 559, 1-170.
- Barnich, R. & Fiege, D., 2009. Revision of the genus *Harmothoe* Kinberg, 1856 (Polychaeta: Polynoidae) in the Northeast Atlantic. *Zootaxa*, 2104, 1-76.
- Barnich, R. & Fiege, D., 2010. On the distinction of *Harmothoe globifera* (G.O. Sars, 1873) and some other easily confused polynoids in the NE Atlantic, with the description of a new species of *Acanthicolepis* Norman in McIntosh, 1900 (Polychaeta, Polynoidae). *Zootaxa*, 2525, 1-18.
- Bock, G., Fiege, D. & Barnich, R., 2010. Revision of *Hermadion* Kinberg, 1856, with a redescription of *Hermadion magalhaensi* Kinberg, 1856, *Adyte hyalina* (G.O. Sars, 1873) n. comb. and *Neopolynoe acanellae* (Verrill, 1881) n. comb. (Polychaeta: Polynoidae). *Zootaxa*, 2554: 45-61.
- Fiege, D. & Barnich, R., 2009. Polynoidae (Annelida: Polychaeta) associated with cold water coral-reefs of the northeast Atlantic and the Mediterranean Sea. In: Maciolek, N.J. & Blake, J.A. (Eds.), Proceedings of the Ninth International Polychaete Conference. *Zoosymposia*, 2: 149-164.

**Identification of scale worms
in British and Irish waters**

October 2010 + January 2011 *Malmgrenia* species revision

RUTH BARNICH

Senckenberg - Forschungsinstitut und Naturmuseum Frankfurt

* = presence not confirmed for British and Irish waters

Key to the scale worm families (Aphroditoidea)

1. Neuroacicula distally hammer-shaped..... **Eulepethidae***
Neuroacicula distally blunt, pointed, or otherwise 2.
2. Most neurochaetae compound 3.
All neurochaetae simple 4.
3. Prostomium with one antenna; neurochaeta falcigers with short, sickle shaped blade.....
..... **Pholoidae**
Prostomium with two or three antennae; neurochaetae spinigers, falcigers or otherwise.....
..... **Sigalionidae**
4. Prostomium with one antenna; with or without felt-forming notochaetae covering elytra;
beginning with segment 25 elytra on every third segment..... **Aphroditidae**
Prostomium without or with one to three antennae; no felt-forming notochaetae covering
elytra; elytral arrangement in posterior body region different 5.
5. Segmental spinning glands present, apart from anteriormost segments, producing fibres for
tube; eyes stalked, sessile, or absent..... **Acoetidae**
Segmental spinning glands absent; eyes sessile or absent..... **Polynoidae**

Key to the Aphroditidae

1. Elytra covered by dense felt of notochaetae; eyes sessile, on ocular mounds..... 2.
Elytra not covered by felt or by very thin layer of felt; eyes stalked 4.
2. Lateral capillary notochaetae iridescent; acicular neurochaetae smooth or pilose, without
lateral spine subdistally; felt covering elytra, but their silhouette still visible; acicular
notochaetae dark, very stout, usually projecting from felt (large specimens).....
..... ***Aphrodita aculeata***
Lateral capillary notochaetae not iridescent 3.
3. Acicular neurochaetae usually pilose, without lateral spine subdistally; felt covering elytra
very dense, silhouette of elytra not visible; acicular notochaetae tapering to fine hook-
shaped tip, entangled in felt..... ***Aphrodita alta****
Acicular neurochaetae not pilose, but with lateral spine subdistally; felt covering elytra, but
their silhouette still visible; acicular notochaetae tapering to acute tip, projecting from felt..
..... ***Aphrodita perarmata****
4. Neurochaetae with unidentate tip, with lateral spine subdistally and with or without
denticles on the terminal recurved surface; elytra 15 pairs ***Laetmonice hystrix***
Neurochaetae with unidentate tip, with lateral spine subdistally and a filamentous row of
hairs on the terminal recurved surface..... 5.
5. Felt covering elytra absent; up to 47 segments; 18-20 pairs of elytra.....
..... ***Laetmonice producta britannica***
Thin layer of felt covering elytra..... 6.

6. Up to 42 segments, 17-18 pairs of elytra..... *Laetmonice uschakovi*
 Up to 36 segments, 15 pairs of elytra..... *Laetmonice filicornis*

Key to the Polynoidae

1. Prostomium without antennae; cirriferous segment 6 with pair of flattened scale-like structures 2.
 Prostomium with one or more antennae..... 3.
2. Elytra 11 pairs; 21-28 segments; posterodorsal side of neuropodia with bulbous papilla....
 *Diplaconotum paucidentatum**
 Elytra 9 pairs; 21-25 segments; posterodorsal side of neuropodia without bulbous papilla.
 *Polaruschakov polaris**
3. Prostomium only with median antenna: MACELLICEPHALINAE..... 4.
 Prostomium with three antennae..... 8.
4. Dorsal tubercles on cirriferous segments forming cirriform ciliated branchial structures; 9
 pairs of elytra; 19 - 21 segments, tentacular segment with few chaetae
 *Bathyfauvelia affinis*
 Dorsal tubercles on cirriferous segments indistinct or otherwise..... 5.
5. Elytra 9 pairs, 18 segments, tentacular segment achaetous 6.
 Elytra 8 pairs, tentacular segment with chaetae..... 7.
6. Dorsal tubercles distinct, digitiform to subconical; neurochaetae smooth or with faint
 rows of spines along one side..... *Macellicephala violacea*
 Dorsal tubercles small to absent; neurochaetae with faint to distinct rows of spines along
 lateral borders..... *Macellicephala longipalpa*
7. 17 segments; anterior prostomial filaments slender, filiform; notopodia of posterior
 segment (17th) shorter than neuropodia, as in preceding segments.....
 *Bathyeliasona kirkegaardi**
 18 segments; anterior prostomial filaments subulate (= sabre-like); notopodia of posterior
 2 segments (17th, 18th) nearly as long as neuropodia, differing from preceding segments.
 *Bathyeliasona abyssicola**
8. With accessory filamentous organs attached to dorsal cirrophores *Gesiella jameensis**
 No filamentous organs on dorsal cirrophores 9.
9. Lateral antennae inserted ventrally or terminoventrally: POLYNOINAE..... 10.
 Lateral antennae inserted terminally 40.
10. Lateral antennae inserted ventrally or terminoventrally; dorsal tubercles nodular..... 11.
 Lateral antennae inserted terminoventrally; dorsal tubercles t-shaped... *Acholoe astericola*
11. Prostomium with distinct cephalic peaks..... 12.
 Prostomium without or with small, rather indistinct cephalic peaks 35.

12. At least some notochaetae with capillary tip..... 13.
 Notochaetae with stout tip..... 19.
13. Anterior eyes anteroventral; up to 40 segments;..... 14.
 Anterior eyes otherwise; more than 45 segments; 17.
14. Upper neurochaetae slender with sharp bi- or unidentate tip, lower stout with bidentate tip
 *Arcteobia anticostiensis*
 All neurochaetae stout with unidentate tip..... 15.
15. Elytra with entire to bifid microtubercles and conical macrotubercles..... *Gattyana nutti*
 Elytra only with multifid microtubercles 16.
16. Lower neurochaetae with bare tip not longer than spinous region *Gattyana cirrhosa*
 Lower neurochaetae with bare tip as long or longer than the spinous region.....
 *Gattyana amondseni*
17. Neurochaetae in anterior segments uni- and bidentate.....*Enipo elisabethae*
 Neurochaetae in all segments unidentate 18.
18. Cephalic peaks prominent; eyes rather small; neuropodial supra-acicular process conical,
 triangular*Enipo torelli*
 Cephalic peaks small; eyes distinct; neuropodial supra-acicular process digitiform.....
*Enipo kinbergi*
19. More than 50 segments; long tail uncovered by elytra 20.
 Up to 50 segments; elytra covering all segments, or only short tail uncovered..... 21.
20. Antennae and cirri smooth; elytral margin with few scattered, short papillae; neuropodial
 supra-acicular process digitiform; ventral cirri long, reaching beyond tip of neuropodium.
 *Neopolynoe acanellae**
 Antennae and cirri distinctly papillate; elytral margin with numerous, long papillae;
 neuropodial supra-acicular process thick, stout; ventral cirri short, not reaching tip of
 neuropodium *Neopolynoe paradoxa*
21. Neurochaetae distally bill-shaped; neuropodia without supra-acicular process
*Robertianella synophthalma*
 Neurochaetae otherwise; neuropodia with supra-acicular process 22.
22. Neurochaetae slender usually bidentate with hairy, penicillate tip; 15 to 16 pairs of elytra
 with few scattered papillae and some conical microtubercles in anterior half.....
*Austrolaenilla mollis*
 Neurochaetae and elytra otherwise 23.
23. Neurochaetae of two kinds: slender with furcate tip and stouter with unidentate tip; 15
 pairs of densely papillate elytra, in anterior half microtubercles with blunt to multifid tip
 *Eucranta villosa*
 Neurochaetae and elytra otherwise 24.
24. Neurochaetae with unidentate tip..... 25.

- Neurochaetae with bi- and unidentate tip..... 31.
25. Neurochaetae stout, tips falcate..... 26.
At least some neurochaetae with slender or capillary tip..... 27.
26. Larger microtubercles and macrotubercles distally nodular ***Eunoe nodosa***
(Confusion possible with *Harmothoe globifera* ! here micro- and macrotubercles covered by nodular papillae; neurochaetae mainly unidentate, some upper minutely bidentate !)
Larger microtubercles distally bifid or multifid, macrotubercles distally branched, multifid, or spiny ***Eunoe oerstedii***
27. Neurochaetae all with slender or capillary tip..... 28.
Some neurochaetae with stout, others with capillary tip..... 30.
28. Neurochaetae with slender rather short tip; eyes large ***Bylgides acutisetis***
Neurochaetae with long capillary tip; eyes relatively small 29.
29. Elytral papillae widest basally, heavily chitinized and with bulbous tip; middle neurochaetae without extra large spines ***Bylgides promamme***
Elytral papillae cylindrical, not widest basally, not heavily chitinized; middle neurochaetae with extra large basal spines ***Bylgides groenlandicus***
30. Nuchal lobe inflated, rectangular; dorsal tubercles laterally with flattened, digitiform processes ***Bylgides annenkovae***
Nuchal lobe absent, dorsal tubercles without lateral processes ***Bylgides elegans***
31. Elytra 18 pairs, on segments 2, 4, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 26, 29, 32, 34, 35, and 38..... 32.
Elytra 15 or 16 pairs, on segments 2, 4, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 26, 29, 32 (15 p.) and 35 (16 p.)..... 33.
32. Elytra covered by conspicuous spines with simple, bifid, or multifid tip, becoming gradually larger towards posterior margin ***Acanthicolepis asperrima***
Elytra with rounded, bifid, or branched multifid microtubercles; macrotubercles in a row near posterior margin, cylindrical to club-shaped, distally nodular to spiny
..... ***Acanthicolepis zibrowii****
33. Elytra 15 pairs; anterior eyes beneath cephalic peaks or on widest part of prostomium
..... ***Harmothoe*** (see separate key)
Elytra 16 pairs; anterior pair of eyes on widest part of prostomium 34.
34. Elytral margin without papillae; anterior half of elytra covered by conical to spine-shaped microtubercles, posterior half by semi-globose, spiny macrotubercles ***Leucia nivea***
Elytral margin without or with few papillae; anterior half of elytra covered by conical microtubercles; posterior half by rather indistinct, scattered, soft conical to mamilliform macrotubercles (absent in middle and posterior elytra) ***Leucia violacea****
35. Neurochaetae with semilunar pockets..... 36.
Neurochaetae without semilunar pockets..... 37.

36. More than 50 segments; dorsal cirri smooth, abruptly tapering subdistally to slender tips; notoacicula penetrating, neuroacicula not penetrating epidermis, neuropodial acicular lobe rounded; notochaetae with few, scattered rows of spines and with tips slightly notched; neurochaetae all similar, with minutely bidentate tips *Adyte hyalina*
 Less than 50 segments; dorsal cirri papillate, slightly inflated subdistally; noto- and neuroacicula penetrating epidermis, neuropodial acicular lobe pointed; notochaetae with numerous rows of spines and slightly notched tips; neurochaetae all similar and with distinct bidentate tips..... *Subadyte pellucida*
37. More than 50 segments; anterior eyes lateral, near anterior corners of prostomium; lateral antennae ventral *Polynoe scolopendrina*
 Less than 50 segments; anterior eyes otherwise; lateral antennae ventral or terminoventral 38.
38. Lateral antennae ventral; most neurochaetae slender tapering to capillary tip, some stout, bidentate with very stout secondary tooth..... *Melaenis loveni*
 Lateral antennae terminoventral; neurochaetae all stout..... 39.
39. Notochaetae with entire tip *Malmgrenia* (see separate key)
 Notochaetae with entire and furcate tip *Pettibonesia furcosetosa*
40. Lateral antennae with ceratophores fused to prostomium; dorsal tubercles distinct; neuropodia not deeply incised dorsally and ventrally: LEPIDONOTINAE..... 41.
 Lateral antennae with ceratophores distinct; dorsal tubercles indistinct; neuropodia deeply incised dorsally and ventrally: LEPIDASTHENIINAE 43.
41. Elytra 18 pairs covered by cylindrical microtubercles with multifid tip
 *Alentia gelatinosa*
 Elytra 12 pairs; elytral surface with conical to hemispherical, rugose macro- and microtubercles..... 42.
42. Elytral margin without papillae..... *Lepidonotus clava*
 Elytral margin with fringing papillae..... *Lepidonotus squamatus*
43. Six to eight papillae on ventral side of parapodia *Lepidasthenia brunnea*
 Scattered papillae on dorsal and ventral side of parapodia *Lepidasthenia argus*

Key to *Harmothoe* species

1. Anterior pair of eyes anteroventral beneath cephalic peaks 2.
Anterior pair of eyes dorsolateral at widest part of prostomium 5.
2. Elytral surface with polygonal fields; tubercles conical in anterior part, becoming flattened thorn-shaped towards posterior margin, large and small thorns alternating
..... *Harmothoe areolata*
Elytral surface without polygonal fields 3.
3. Elytral margin without papillae; (except for very short ones on anteriormost elytra), surface covered by scattered, low, conical microtubercles *Harmothoe spinifera*
Elytral margin distinctly papillate 4.
4. Elytral margin with long fringing papillae; surface covered by cylindrical microtubercles with bifid to crown-like multifid tip and few scattered papillae; anterior elytra with or without conical to club-shaped macro-tubercles near posterior margin
..... *Harmothoe antilopes*
Elytral margin with short fringing papillae; surface covered by conical microtubercles and few scattered papillae, with or without row of conical to drop-like macro-tubercles near posterior margin *Harmothoe imbricata*
5. Elytra with macro- and microtubercles 6.
Elytra without macro-tubercles, only with microtubercles 16.
6. Elytral margin without papillae (occasionally few, scattered in anteriormost elytra present); elytral surface covered by conical microtubercles; conical macro-tubercles scattered on surface and near posterior margin *Harmothoe fraserthomsoni*
Elytral margin with distinct papillae 7.
7. Macro-tubercles pointed distally, large triangular or pyramid-shaped in a row near posterior margin *Harmothoe aspera*
Macro-tubercles rounded distally, blunt 8.
8. Elytral tubercles often grouped on mounds, others isolated, giving elytron reticulate appearance (visible on clean elytra !) *Harmothoe impar*
Elytral tubercles all isolated 9.
9. Macro-tubercles and microtubercles globose to club-shaped, covered by numerous nodular papillae; macro-tubercles few, in a row near posterior margin. *Harmothoe globifera*
Macro- and microtubercles otherwise 10.
10. Macro-tubercles large club-shaped and distally papillate in a row near posterior margin
..... *Harmothoe clavigera*
Macro-tubercles otherwise 11.
11. Macro-tubercles prominent, stick-shaped in a row near posterior margin and some scattered more centrally *Harmothoe rarispina*
Macro-tubercles otherwise 12.

12. Macrotubercles rounded, drop-shaped and often darkly pigmented in a row near posterior margin *Harmothoe extenuata*
 Macrotubercles otherwise 13.
13. Macrotubercles rounded, soft and flattened in a row near posterior margin, giving margin a scallop-shaped appearance *Harmothoe fragilis*
 Macrotubercles otherwise 14.
14. Macrotubercles conical, blunt, in a dense row near posterior margin; macrotubercles rather small, but still distinctly larger than largest microtubercles .. *Harmothoe vesiculosa*
 Macrotubercles conical to globose scattered near posterior margin 15.
15. Elytral margin with short scattered papillae; neurochaetae fragile, smooth or with reduced rows of spines, tips unidentate or minutely bidentate *Harmothoe abyssicola*
 Elytra with long papillae at outer lateral margin, becoming shorter towards posterior margin; neurochaetae stout with distinct rows of spines and bi- and unidentate tips
 *Harmothoe mariannae*
16. Elytral margin and adjacent surface densely papillate 17.
 Elytral margin and surface otherwise 18.
17. Microtubercles conical, covering surface, getting larger towards posterior margin. Neurochaetae very slender and, except for some uppermost neurochaetae, with reduced rows of spines *Harmothoe fernandi*
 Microtubercles conical, in a patch near anterior margin. Neurochaetae stout, with distinct rows of spines *Harmothoe ocularum*
18. Microtubercles mainly present in anterior half of elytron, posterior half covered by papillae and some scattered microtubercles. Neuropodia with remarkably long, digitiform supra-acicular process *Harmothoe glabra*
 Microtubercles covering surface evenly. Neuropodia with short, digitiform supra-acicular process *Harmothoe viridis*

Key to Northeast Atlantic *Malmgrenia* species (revised 01/2011)

1. Elytral surface covered more or less completely by microtubercles; elytral margin with few, short, scattered papillae *Malmgrenia ljunmani*
 Elytral surface with patch of microtubercles in anterior part; margin otherwise..... 2.
2. Elytral margin with distinct fringing papillae *Malmgrenia mcintoshi*
 Elytral margin smooth..... 3.
3. Neuropodia without supra-acicular process *Malmgrenia marphysae*
 Neuropodia with supra-acicular process 4.
4. Short notochaetae stout, with blunt tip; long notochaetae slender, with pointed tip; upper and middle neurochaetae bidentate, lower unidentate *Malmgrenia darbouxii*
 All notochaetae stout with blunt or pointed tip 5.
5. Antennae and cirri smooth (short and thick)..... *Malmgrenia castanea*
 Antennae and cirri papillate 6.
6. Supra-acicular process small, digitiform..... *Malmgrenia lunulata**
 Supra-acicular process wide bulbous or subconical..... 7.
7. Neurochaetae usually all bidentate, tips pointed..... *Malmgrenia arenicolae*
 Neurochaetae bi- and unidentate, tips often knob-like..... *Malmgrenia andreapolis*

Key to the Acoetidae

1. Eyes sessile 2.
Eyes stalked (= ommatophores) 3.
2. With median antenna; 2nd segment with numerous notochaetae.....*Euarche tubifex**
Without median antenna; 2nd segment achaetous or with few notochaetae
..... *Eupanthalis kinbergi**
3. Lateral antennae medial to ommatophores, median antenna small*Eupolyodontes gulo**
Lateral antennae ventral to ommatophores, median antenna large 4.
4. Ommatophores colorless; upper neurochaetae of type a from segment 9 onwards long, slender and with brush-shaped tips; type b neurochaetae short and hidden by notopodium...
.....*Panthalis oerstedii*
Ommatophores colored; a pair of sessile eyes dorsally on prostomium; upper neurochaetae of type a from segment 9 onwards long, tapering to fine tips, distally thickly spinous; type b neurochaetae shorter than type a, but not completely hidden.....*Polyodontes maxillosus*

Key to the Pholoidae

1. Middorsum with scattered adhesive tubercles; elytra with concentric rings
.....*Pholoides dorsipapillatus**
Middorsum without tubercles; elytra without concentric rings..... 2.
2. Eyes absent; facial tubercle prominent; elytra with flask-shaped papillae on margin and few scattered on surface; neuropodia without stylodes *Pholoe pallida*
Eyes present..... 3.
3. Facial tubercle prominent, often as large as median antenna; elytra with moniliform papillae near margin; neuropodia with stylodes distally*Pholoe baltica*
Facial tubercle inconspicuous..... 4.
4. Elytral papillae marginal at lateral margin, becoming submarginal towards middorsum on posterior margin, (papillae tapering evenly); dark pigment between eyes; (dorsal tentacular cirri with distinct papillae on inner side).....*Pholoe inornata*
Elytral papillae marginal at lateral and posterior margin, (papillae slender, short and slightly capitate on anterior segments, elongate and tapering on posterior ones); no pigment between eyes; (tentacular cirri smooth or irregular, never with distinct papillae)
.....*Pholoe assimilis*

Key to the Sigalionidae

1. Median antenna absent or very small; marginal papillae of elytra pinnate..... 2.
Median antenna distinct, with rather long style; marginal papillae of elytra not pinnate.. 3.
2. Elytral papillae with about 20 lateral pinnules; short tubercle on anterior side of superior margin of neuropodia; small species: length 1.25-120 mm; width 0.1-5 mm
..... *Sigalion mathildae*
Elytral papillae with about 10 lateral pinnules; no tubercle on neuropodia; large species: length about 200 mm, width about 10 mm *Sigalion squamosus*
3. Dorsum and elytra sand-incrusted..... 4.
Dorsum and elytra not sand-incrusted..... 5.
4. First pair of elytra oval, without elongate medial process anteriorly; all elytra with lateral leaf-like processes; neuropodia of segment 2 without long appendages; dorsal cirri on segment 3 with cirrophores about equal in length to styles *Pelogenia arenosa*
First pair of elytra large, with elongate medial process anteriorly, the processes of both first elytra meeting to form "bivalved" rostrum covering prostomium and tentaculophores; neuropodia of segment 2 with long filiform appendages; dorsal cirri on segment 3 with style longer than cirrophore *Claparedepelogenia inclusa*
5. Median ceratophore without auricles 6.
Median ceratophore with auricles 7.
6. Elytral margin with irregularly dichotomously branched papillae, elytral surface smooth .
..... *Euthalenessa oculata*
Elytral margin and surface smooth *Leanira hystricis*
7. Parapodial stylodes papillate..... 8.
Parapodial stylodes smooth..... 9.
8. Ventral surface smooth; neuropodial posterior bracts bilobed, with or without single papillate stylode; elytral surface with few, scattered microtubercles
..... *Fimbriosthenelais minor*
Ventral surface thickly papillate; neuropodial posterior bracts truncate, with many papillate stylodes; elytral surface with numerous microtubercles
..... *Fimbriosthenelais zetlandica*
9. Dorsal cirri present; elytra with marginal papillae 10.
Dorsal cirri absent 11.
10. All neurochaetae spinigers *Neoleanira tetragona*
Neurochaetae falcigers and spinigers..... *Parasthenelais hibernica*
11. Lateral lips of mouth with labial lobes; neurochaetae only spinigers; elytra smooth.....
..... *Labioleanira yhleni*
Mouth without labial lobes; neurochaetae only falcigers or falcigers and spinigers, sometimes few simple, spinous neurochaetae present 12.

12. Elytral margin smooth, bifurcate or notched, surface smooth, except for some microtubercles near place of attachment of elythrofore *Sthenelais limicola*
Elytral margin papillate 13.
13. Elytral margin with short papillae, surface with microtubercles *Sthenelais boa*
Elytral margin with long papillae, surface smooth *Sthenelais jeffreysi*