S. Chambers (1990)

C.R.P.B.

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ECSA WORKSHOP
FORT POPTON
1990

The British Species of Aphroditoidea

Superfamily Aphroditoidea

Family Aphroditidae

- Aphrodita aculeata Linnaeus, 1758
- Hermonia hystrix (Savigny in Lamarck, 1818)
- Laetmonice filicornis Kinberg, 1856

Family Polynoidae

- Acanthicolepis asperrima (Sars, 1835)
- Acholoe squamosa (Chiaje, 1827)
- Adyte assimilis (McIntosh, 1874)
- Adyte pellucida (Ehlers, 1864)
- Alentia gelatinosa (Sars, 1835)
- Antinoella finmarchica (Malmgren, 1867)
- Enipo elisabethae McIntosh, 1900
- Enipo kinbergi Malmgren, 1865
- Eunoe nodosa (Sars, 1861)
- Gattyana cirrhosa (Pallas, 1766)
- Harmothoe andreapolis (McIntosh, 1874)
- Harmothoe antilopes McIntosh, 1876
- Harmothoe areolata (Grube, 1860)
- Harmothoe castanea (McIntosh, 1876)
- Harmothoe extenuata (Grube, 1840)
- Harmothoe fragilis Moore, 1910
- Harmothoe fraserthomsoni McIntosh, 1897
- Harmothoe furcosetosa (Loshamn, 1981)
- Harmothoe glabra (Malmgren, 1865)
- Harmothoe imbricata (Linnaeus, 1767)
- Harmothoe impar (Johnston, 1839)
- Harmothoe ljungmani (Malmgren, 1867)
- Harmothoe lunulata (Chiaje, 1841)
- Harmothoe marphysae McIntosh, 1876
- Harmothoe mcintoshi Tebble & Chambers, 1982
- Harmothoe pagenstecheri Michaelsen, 1896
- Harmothoe spinifera (Ehlers, 1864)
- Lepidasthenia argus Hodgson, 1900
- Lepidonotus clava (Montagu, 1808)
- Lepidonotus squamatus (Linnaeus, 1758)
- Leucia nivea (Sars, 1863)
- Polynoe scolopendrina Savigny, 1822

Family Polyodontidae

- Panthalis oerstedi Kinberg, 1856

Family Sigalionidae

- Neoleanira tetragona (Orsted, 1845)
- Pholoe minuta Fabricius, 1760
- Pholoe pallida Chambers, 1985
- Pholoe synophthalmica Claparede, 1868
- Psammolyce arenosa (Chiaje, 1830)
- Psammolyce inclusa (Claparede, 1868)
- Sigalion mathildae Audouin & Edwards in Cuvier, 1830
- Sigalion squamosus Chiaje, 1830
- Sthenelais boa (Johnston, 1833)
- Sthenelais limicola (Ehlers, 1864)
- Sthenelais zetlandica McIntosh, 1876

KEY TO SPECIES OF POLYNOIDAE

1. Body with 12 pairs of scales. Lateral antennae with terminal insertion.....2

   Body with more than 12 pairs of scales. Lateral antennae with terminal, ventral or lateral antennae.....3

2. Scales with smooth margins.....**Lepidonotus clava**

   Scales with long fringe papillae.....**Lepidonotus squamatus**

3. Body with 15 pairs of scales.....4

   Body with more than 15 pairs of scales.....28

4. Neuropodial chaetae all with unidentate tips.....5

   Neuropodial chaetae with bidentate tips and a few unidentate tips present 7

5. Notopodia with stout and capillary chaetae; anterior pair of eyes near the front margin.....**Gattyana cirrhosa**

   Notopodia with stout chaetae all with blunt tips; anterior pair of eyes on the line of greatest width.....6

6. Scales with small surface tubercles and an outer row of very large tubercles.....**Eunoe nodosa**

   Scales with small surface tubercles and papillae .....

   .....**Antinoella finmarchica**

7. Notopodia with flat chaetae; neuropodial chaetae with cusp at base of spinous region 8

Notopodia with round chaetae; neuropodial chaetae without cusp at base of spinous region.....9

8. Anterior region only covered by scales; neuropodial chaetae with notched bidentate tips.....**Adyte assimilis**

Most of body covered by scales; neuropodial chaetae not notched at the tips.....**Adyte pellucida**

9. Lateral antennae with ventral insertion; prostomial peaks present.....10

Lateral antennae with lateral insertion; prostomial peaks absent.....21

10. Scales very small, do not cover the dorsal surface.....11

Scales large, cover the dorsal surface.....12

11. Neuropodial chaetae with bidentate tips present on anterior chaetigers.....**Enipo elisabethae**

Neuropodial chaetae with unidentate tips.....**Enipo kinbergi**

12. Body with approx. 100 segments; posterior region without scales; .....**Polynoe scolopendrina**

Body with approx. 40 segments; mostly covered with..... scales.....13

13. Anterior pair of eyes near the anterior margin.....14

Anterior pair of eyes on the line of greatest width.....17

14. Scales with large tubercles set in polygonal areas; dorsal cirri of two kinds, inflated and tapered. **Harmothoe areolata**
Scales with small tubercles; dorsal cirri of one kind tapered..... **15**

15. Scales with a distinct fringe of papillae on the outer margin..... **Harmothoe antilopes**
Scales with a short inconspicuous fringe of papillae or smoothmargin..... **16**

16. Scales with a small patch of tubercles and smooth margins; notopodial chaetae with cleft tips..... **Harmothoe spinifera**
Scales with tubercles covering the surface and short fringe of papillae; notopodial with blunt tips. **Harmothoe imbricata**

17. Scales with small surface tubercles and a row of enormous narrow-stalked tubercles near the poterior margin.....
..... **Harmothoe pagenstecheri**
Scales with small surface tubercles, sometimes in a patch; and a row of larger tubercles near the posterior margin.. **18**

18. Scales with a row of very flat disc-like tubercles and an obvious fringe of papillae for less than a 1/4 of the margin..... **Harmothoe fragilis**
Scales with conical/round tubercles; fringe papillae present or margins smooth..... **19**

19. Scales with a patch and a row of larger round tubercles; margins smooth.....**Harmothoe fraserthomsoni**
Scales with a row of larger tubercles; fringe papillae present.....**20**

20. Fringe papillae on about a 1/4 of the margin; posterior segments not covered by scales.....**Harmothoe extenuata**
Fringe papillae on at least 1/2 the margin; posterior segments covered by scales.....**Harmothoe impar**

21. Notopodial chaetae of two kinds; capillary and stout.....**22**
Notopodial chaetae all stout.....**23**

22. Notopodial chaetae capillaries with distinctly bifurcate tips.....**Harmothoe furcosetosa**
Notopodial chaetae capillaries with fine unidentate tips.. .....**Harmothoe marphysae**

23. All chaetae with knob-shaped tips.....**Harmothoe andreapolis**
All chaetae with fine or pointed.....**24**

24. Scales with smooth margins.....**25**
Scales with fringe of papillae on margins.....**26**

25. Neuropodial bidentate chaetae with very small spine-like secondary tooth.....**Harmothoe castanea**
Neuropodial bidentate chaetae with prominent secondary tooth.....**Harmothoe lunulata**

26. Scales with an anterior fold and obvious fringe of papillae.....**Harmothoe mcintoshi**

Scales without anterior fold, fringe papillae sparse.....**27**

27. Scale margins with a few well separated single papillae; lower neuropodial chaetae staight.....**Harmothoe ljungmani**

Scale margins with a few papillae on outer edge; lower neuropodial chaetae slightly bent.....**Harmothoe glabra**

28. Body long, up to 100 segments; more than 20 pairs of scales.....**29**

Body with 30-40 segments and 16 or 18 pairs of scales....**30**

29. Notopodia reduced, without branchiae but with capillary chaetae; neuropodial chaetae with bidentate tips; found on mud or in worm tubes.....**Lepidasthenia argus**

Notopodia well developed, with dorsal branchiae and stout chaetae; neuropodial chaetae with unidentate tips; found on starfish.....**Acholoe squamosa**

30 Body with 16 pairs of scales.....**Leucia nivea**

Body with 18 pairs of scales.....**31**

31. Scales soft with finely tuberculate surface; terminally inserted lateral antennae; flap covering posterior part of the prostomium.....**Alentia gelatinosa**

Scales hard with verrucose surface; ventrally inserted lateral antennae; posterior part of the prostomium not covered by a flap.....**Acanthicolepis asperrima**

KEY TO THE SPECIES OF SIGALIONIDAE

1. Peristomium without chaetae. Lateral antennae absent.....2

   Peristomium with conspicuous forwardly directed chaetae. Lateral antennae present.....4

2. Eyes present.....3

   Eyes absent .....**Pholoe pallida** (p.100)

3. Facial tubercle present .....**Pholoe minuta** (p.100)

   Facial tubercle absent .....**Pholoe synophthalmica** (p.100)

4. Median antenna very small, in a dorsal position (see fig. 00). Scales with bipinnate fringing papillae.....5

   Median antenna large, in an anterior position (see fig. 00). Scales with simple fringing papillae or smooth edges.....6

5. Branchial cirri present from the 6th segment then on parapodia with scales; dorsal surface of neuropodia smooth .....**Sigalion squamosus** (p.100)

   Branchial cirri present from the 4th segment then on all parapodia; dorsal tubercle present on neuropodia ....**Sigalion mathildae** (p.100)

6. Median antenna without auricles at base 7

   Median antenna with auricles at base 8

7. Scales with a posterior bulbous projection, outer margins without finger-like projections..... .....**Psammolyce arenosa** (p.100)

   Scales without a posterior bulbous projection, outer margins with finger-like projections..... .....**Psammolyce inclusa** (p.100)

8. Dorsal cirrus on second chaetiger very long ....**Neoleanira tetragona** (p.100)

   Dorsal cirrus on second chaetiger inconspicuous or a small mound is present.....9

9. Neuropodial unjointed unidentate chaetae with alternating rows of spines absent .....**Sthenelais zetlandica** (p.100)

   Neuropodial unjointed unidentate chaetae with alternating rows of spines present 10

10. Scales kidney shaped with fringe of papillae..... .....**Sthenelais boa** (p.100)

    Anterior scales with projections from outer margin, posterior scales notched in outer margin ....**Sthenelais limicola** (p.100)

KEY TO THE SPECIES OF APHRODITIDAE

1. Eyes sessile. Harpoon chaetae absent .....
.....**Aphrodita aculeata** (p.00)

   Eyes on large lobes. Harpoon chaetae present 2

2. Unidentate neuropodial chaetae with few large denticles beneath main tooth .....**Hermonia hystrix** (p.00)

   Unidentate neuropodial chaetae with row of filamentous hairs beneath main tooth .....**Laetmonice filicornis** (p.00)

Genus PHOLOE Johnston, 1839

Body with numerous pairs of scales. Prostomium with a median antenna and a pair of palps. Peristomium achaetous. Parapodia with ctenidial cushions, (observed under Electron microscope) notopodial chaetae simple, neuropodial chaetae compound with short unidentate blades.

Pholoe minuta (Fabricius, 1780)

(Fig: 00)

Aphrodita minuta Fabricius, 1780:314

Pholoe inornata Johnston, 1839:437

Pholoe minuta: McIntosh, 1900:437 (in part)

Pholoe tuberculata Southern, 1914:57

Pholoe minuta: Fauvel, 1923:120 (in part)

Pholoe minuta: Hartmann-Schroder, 1971:78

Pholoe inornata: Chambers, 1985:19

Body small, tapering posteriorly, length up to 8mm, width up to 2mm for 68 chaetigers. Dorsal surface smooth, ventral surface papillate in the anterior region. Nephridial papillae not seen. Prostomium triangular with a median antenna a pair of palps and a papilla-like facial tubercle, two pairs of eyes separated or just touching. Peristomium achaetous with a pair of papillate dorsal and ventral tentacular cirri in cirrophores which extend to ensheath the base of the palps. Scales overlap but do not cover the anterior dorsal surface when the proboscis is retracted. They occur on segments 1, 3, 4 and 6, then alternately to the 22nd and then on all segments. The first pair are round, the rest oval to kidney-shaped. All

scales have short moniliform papillae on the margins and surfaces smooth. Two cdenidial cushions attached to the dorsal surface of notopodia appear on the 2nd segment and three appear on all remaining segments. Notopodia are small mounds with chaetae arranged dorsally in a semi-circle. Notopodial chaetae of two kinds: (1) fine capillaries; (2) geniculate capillaries. Neuropodia projecting beyond notopodia with long papillae and chaetae in bundles. Neuropodial chaetae with stout blades, unidentate tips and shafts spinous or smooth. Pygidium with a terminal anus and a pair of anal cirri.

Colour:	Pale white/grey.
Habitat:	Littoral to shallow sublittoral.
Type locality:	Greenland.
Distribution:	Known throughout the area.
Notes:	On the Swedish west coast Pleijel 1982, has observed P. minuta attacking and feeding on Prionospio malmgreni He also analysed the gut contents and faecal pellets and found remains of Foraminifera, Kinorhyncha, Polychaeta, Crustacea, Bivalvia and Nematoda. Spawning takes place in April for offshore benthic populations and in July to August for littoral populations. Larvae have a planktotrophic development. (Christie 1982).

Pholoe pallida Chambers, 1985

(Fig. 00)

Pholoe pallida Chambers, 1985:21

Pholoe cf. anoculata: Christie, 1982:284

Body small, tapering posteriorly, length up to 15mm, width up to 2mm for 70 chaetigers. Dorsal surface smooth, ventral surface papillate. Nephridial papillae not seen. Prostomium rounded with a median antenna, a pair of palps and a facial tubercle with a wide papillate base. Eyes absent. Peristomium achaetous with a pair of dorsal and ventral tentacular cirri in cirrophores which extend to ensheath the base of the palps. Scales overlap but do not cover the anterior dorsal surface when the proboscis is retracted. They occur on segments 1, 3, 4 and 6 then alternately to the 22nd and then on all segments. The first pair are round the rest oval to kidney-shaped. All scales have outer margins and surfaces with papillae. Two ctenidial cushions attached to the dorsal surface of notopodia appear on the 2nd segment and three appear on all remaining segments without scales. Notopodia are small mounds with chaetae arranged dorsally in a semi-circle. Notopodial chaetae of two kinds: (1) fine capillaries; (2) geniculate capillaries. Neuropodia projecting beyond notopodia with short papillae and chaetae in a bundle. Neuropodial chaetae with thin blades, unidentate tips and shafts spinous or smooth. Pygidium with a terminal anus and a pair of anal cirri.

Colour:	Pale white/grey.
Habitat:	Sublittoral.
Type locality:	St Abbs, south east Scotland.
Distribution:	Known in the area from the North Sea. Not reported from outside the area.

Pholoe synophthalmica Claparede, 1868

(Fig. 00)

Pholoe synophthalmica Claparede, 1868:389

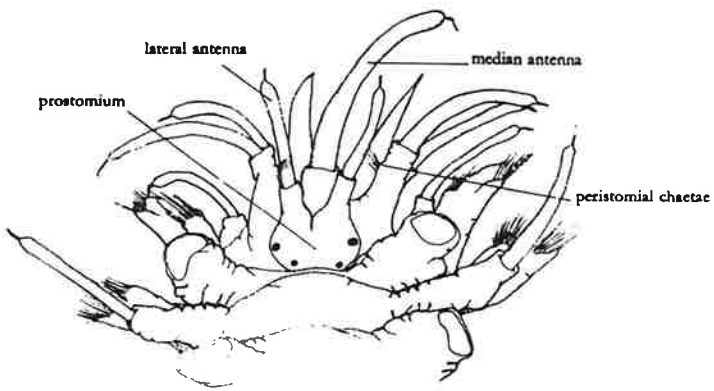
Pholoe synophthalmica var. dinardensis: St Joseph, 1882:92

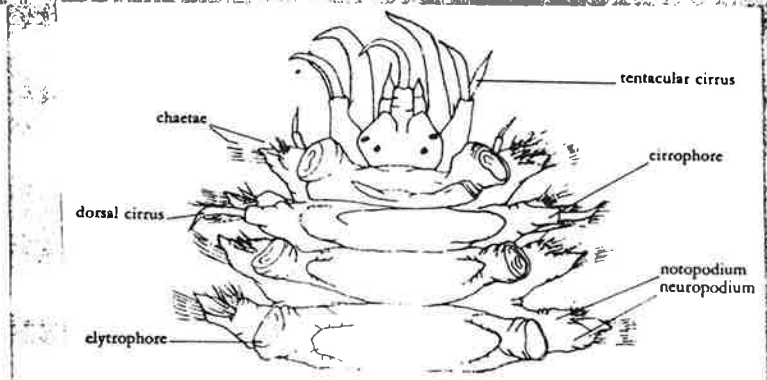
Pholoe synophthalmica:Fauvel, 1923:120 (in part)

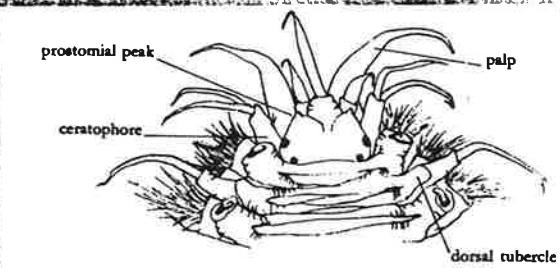
Body small tapering posteriorly, length up to 8mm, width up to 1mm for 50 chaetigers. Dorsal surface smooth, ventral surface papillate in the anterior region. Nephridial papillae not seen. Prostomium triangular with a median antenna, a pair of palps, two pairs of eyes touching coalesced or slightly separated Persitomium achaetous, with a pair of dorsal and ventral tentacular cirri, in cirrophores which extend to ensheath the base of the palps. Facial tubercle absent. Scales overlap but do not cover the anterior dorsal surface when the proboscis is retracted. They occur on segments 1, 3, 4 and 6 then alternately to the 22nd and then on all segments. The first pair are round, the rest oval to kidney-shaped. All scales have long filiform papillae on the outer margins and a few on the surfaces. Two ctenidial cushions attached to the dorsal surface of notopodia appear on the 2nd segment and three appear on all remaining segments. Notopodia are small mounds with chaetae arranged dorsally in a semi-circle. Notopodial chaetae of two kinds: (1) fine capillaries: (2) geniculate capillaries. Neuropodia, projecting beyond notopodia with only a few papillae and chaetae in a bundle. Neuropodial chaetae with stout blades, unidentate tips shafts spinous or smooth. Pygidium with a terminal anus and a pair of anal cirri.

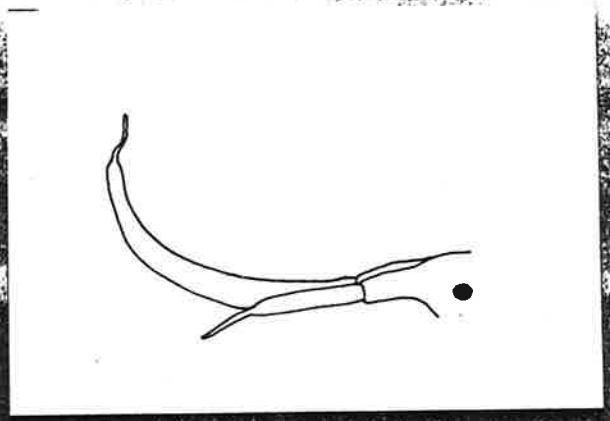
Colour	Pale white/grey.
Habitat:	Littoral to shallow sublittoral.
Type locality:	Bay of Naples.

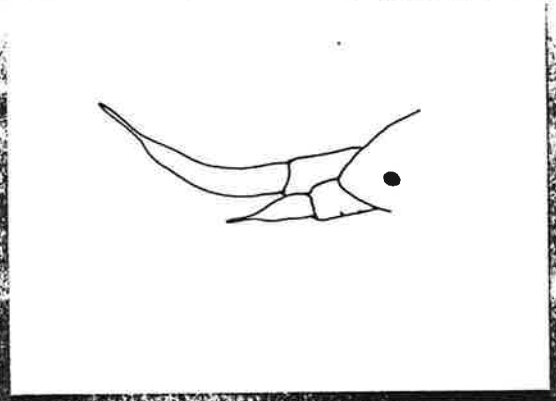
INSERTI N OF LATERAL ANTENNAE L POLYNOIDAE

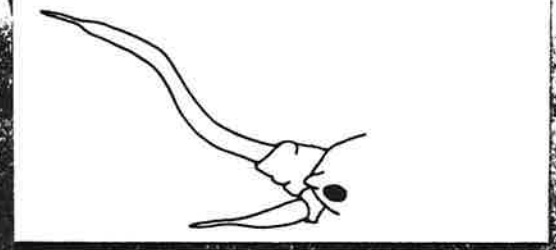












TERMINAL INSERTION

Lepidasthenia argus

Lepidonotus clava

Lepidonotus squamatus

LATERAL INSERTION

Acholoe squamosa

Harmothoe andreapolis

Harmothoe castanea

Harmothoe furcosetosa

Harmothoe ljungmani

Harmothoe lunulata

Harmothoe marphysae

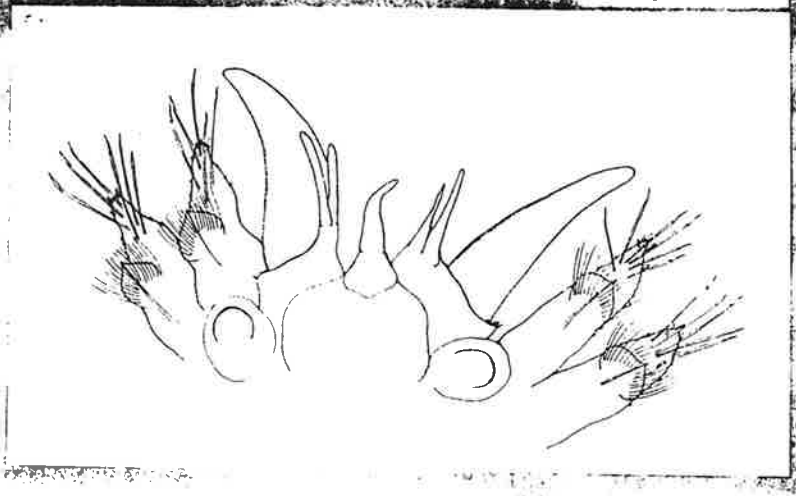
Harmothoe mcintoshi

VENTRAL INSERTION

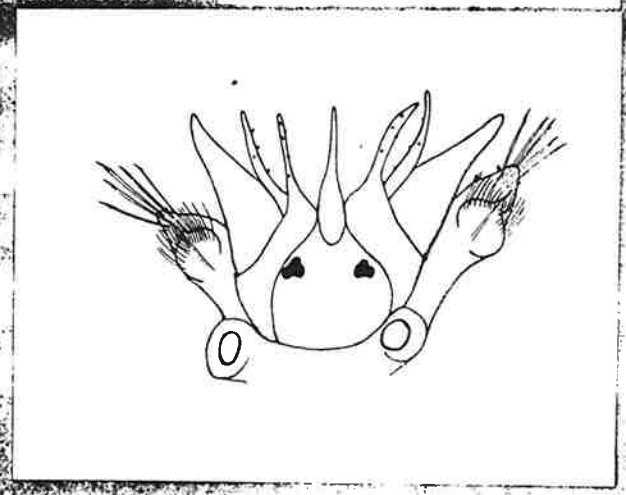
Acanthicolepis asperrima
Adyte assimilis
Adyte pellucida
Alentia gelatinosa
Enipo elisabethae
Enipo kinbergi
Eunoe nodosa
Gattyana cirrhosa
Harmothoe antilopes
Harmothoe areolata
Harmothoe extenuata
Harmothoe fragilis
Harmothoe fraserthomsoni
Harmothoe glabra
Harmothoe imbricata
Harmothoe impar
Harmothoe pagenstecheri
Harmothoe spinifera
Leucia nivea
Polynoe scolopendrina

PHOLOE

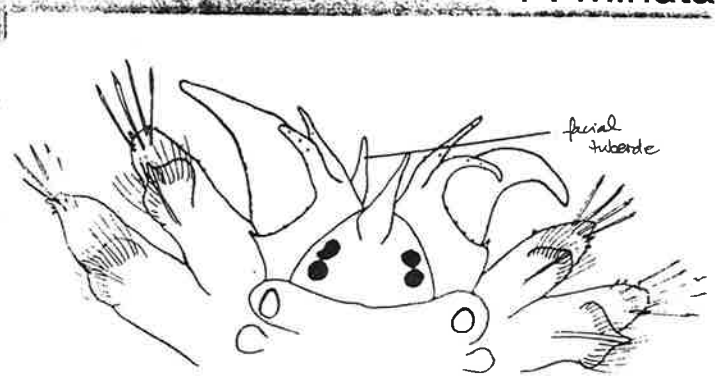
P. pallida

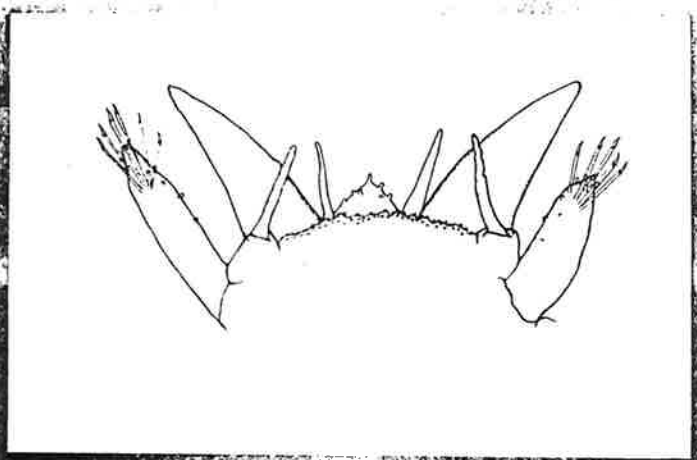


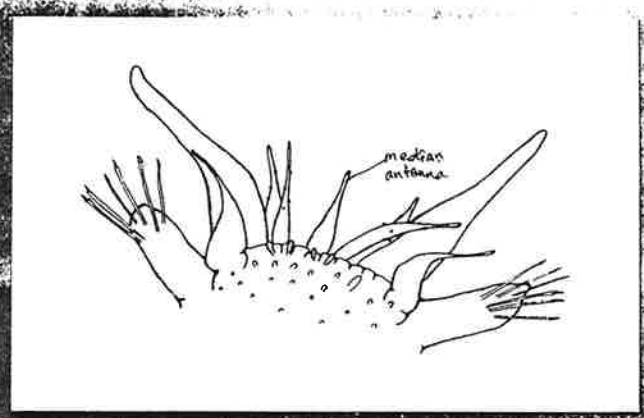
P. synophthalmica

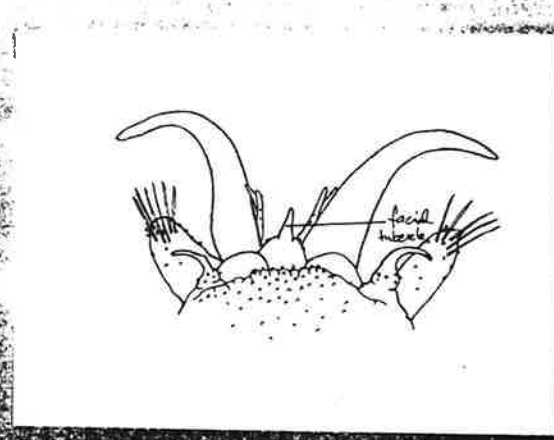


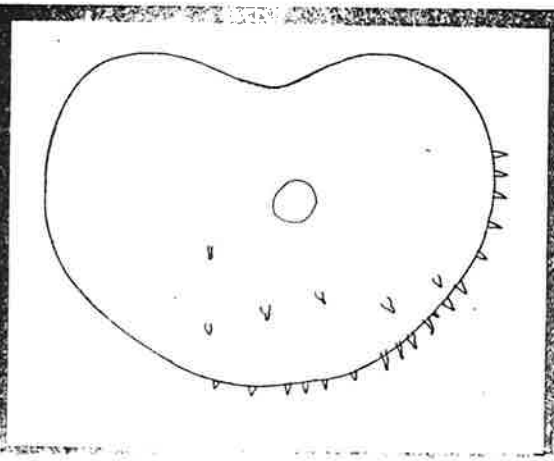
P. minuta

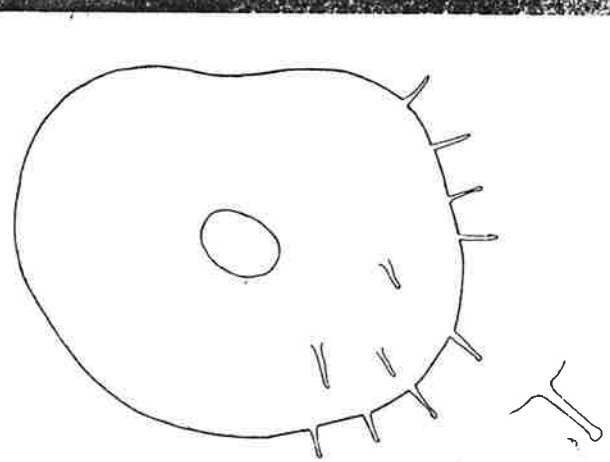


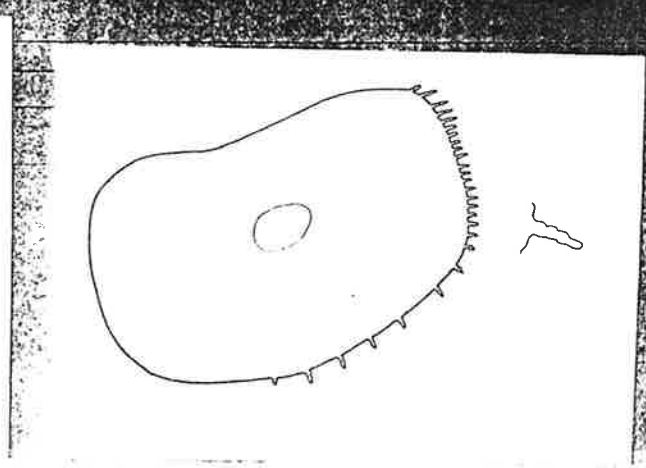












TYPE OF CHAETAE AND ELYTRA