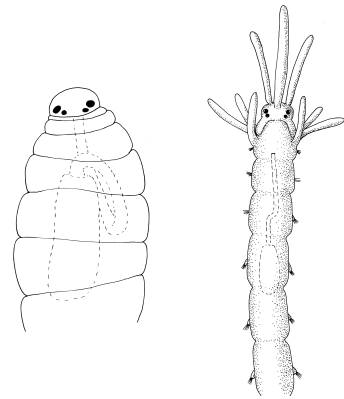


Key to autolytine syllids from Mediterranean waters and Madeira

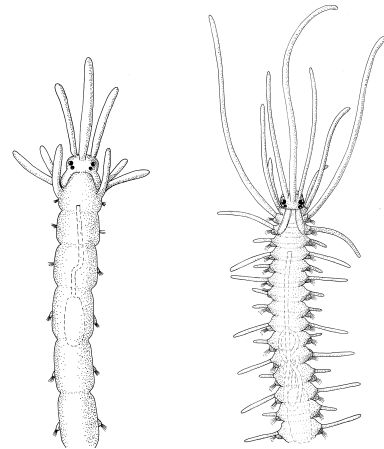
1. Without appendages *Levidorum pori* (Ben-Eliahu, 1977) [Western Mediterranean, in 2–47 m, among calcareous algae and *Cliona viridis*]

– With at least anterior appendages (antennae, tentacular cirri, and first dorsal cirri)..... 2



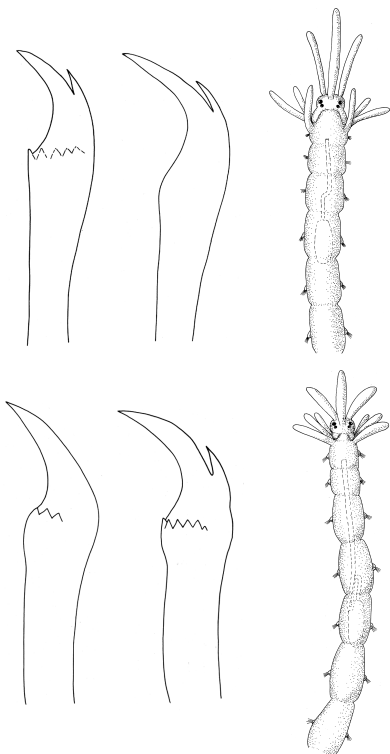
2. Dorsal cirri absent from chaetiger 2 on..... 3

– Dorsal cirri present on all chaetigers..... 4



3. Chaetiger 1–4 with bidentate chaetae only. Trepan with 6–10 teeth. Pharynx with indistinct sinuation *Procerastea nematodes* Langerhans, 1884 [Scandinavia – Madeira – Mediterranean in 40–50 m, among gravel and shells with hydroids, inside sponges]

– Chaetiger 1–4 with both unidentate and bidentate chaetae. Trepan with 16–28 teeth. Pharynx with distinct sinuation *Procerastea halleziana* Malaquin, 1893 [Scandinavia – Bay of Biscaya – Mediterranean, in 1–150 m, among algae, hydroids (e.g. *Tubularia* spp, *Syncoryne eximia*), bryozoans (e.g. *Flustra foliacea*), stones, shells, and gravel]



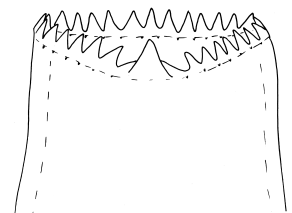
4. Cirri alternate in length with large clavate cirri and smaller, cylindrical or clavate cirri along the body..... 5

– Cirri may alternate or be equal in length along the body. Cirri may be flattened or cylindrical but not clavate..... 6

5. Pharynx with several sinuations. Nuchal epaulettes on outgrowths. Chaetal fascicle with compound chaetae only (except for simple bayonet chaeta). Trepan with equal teeth. ***Virchowia clavata*** Langerhans, 1879 [Madeira – Mediterranean, in 5–30 m, in coralligene, among sponges and hydroids, calcareous algae, and *Posidonia* rhizomes]



– Pharynx with single small sinuation. Nuchal epaulettes extends as ciliated ridges on anterior part of tentacular segment. Chaetal fascicle with 1–2 simple chaetae only (bayonet chaeta not known). Trepan with 1 large mid-dorsal tooth, and 25–28 smaller teeth ***Erseia oligochaeta*** Nygren, Sundkvist, Mikac & Pleijel, 2010 [Adriatic Sea, in 25 m, among sponges and hydroids]



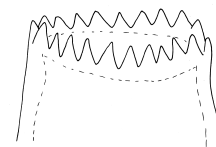
6. Cirrophores present on tentacular cirri and first dorsal cirri only. Bayonet chaeta thick, denticulate at distal end of shaft..... 7



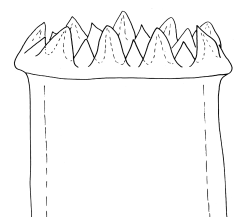
– Cirrophores present on tentacular cirri and all dorsal cirri. Bayonet chaeta thin, denticulate along distal part of shaft..... 19



7. Chaetal fascicle with only simple chaetae. Trepan with c. 20 equal teeth in one ring ***Paraprocerastea crocantinae*** San Martín & Alós, 1989 [Mediterranean, in 3–12 m, in calcareous concretions of *Mesophyllym* and *Lithophyllym*, and among *Posidonia* rhizomes]



– Except for bayonet chaeta, chaetal fascicle with only compound chaetae. Trepan with unequal teeth in two sizes, arranged in two rings..... 8



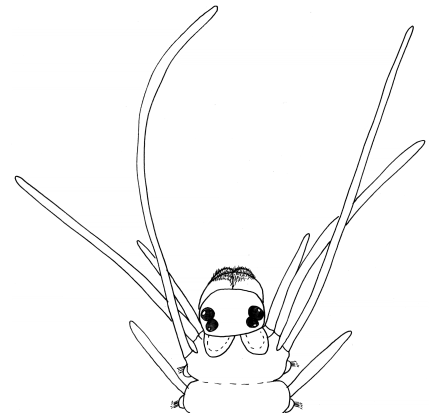
8. Continue here if you have a live specimen with or without colour pattern, or a preserved specimen with distinct colour pattern.....9

– Continue here if you have a preserved specimen without any colour pattern.....16

9. Without distinct colour pattern..... 10

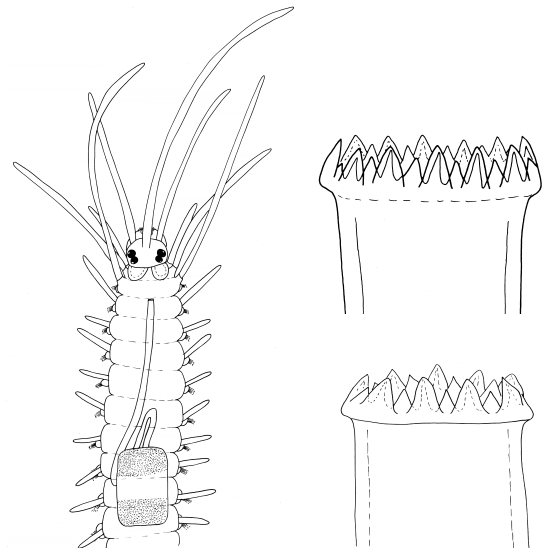
– With distinct colour pattern, or with a proventricle striped red.....11

10. Palps with ciliated ridge (antennae omitted in figure). Proventricle pale, yellowish ***Proceraea paraurantiaca*** Nygren, 2004 [Atlantic coast of southern Spain – Mediterranean, in 5–30 m, in coralligene, among hydroids, bryozoans, and algae]



– Palps without ciliated ridge. Proventricle brilliant orange ***Proceraea aurantiaca*** Claparède, 1868 [Madeira – Mediterranean, in 1–30 m, in coralligene, in gravel, among hydroids, bryozoans, and algae]

11. Anterior and posterior third of proventricle orange red. Trepan with 12 large and 12 small teeth ***Proceraea rubroproventriculata*** Nygren & Gidholm, 2001 [Madeira, in 5–30 m, rocks with *Lithothamnion* and epifauna, among balanids with hydroids. New record for the North East Atlantic]

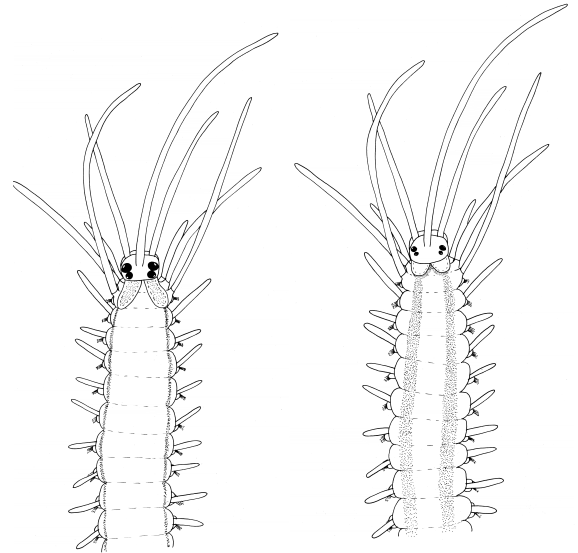


– Proventricle of one and the same colour. Trepan with 9 large and 9 small teeth.....12

12. Colour pattern on dorsum as black or brown longitudinal lines only..... 13

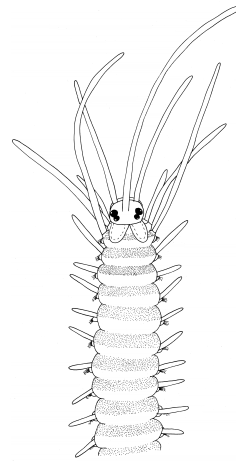
– Colour pattern on dorsum as black or brown longitudinal lines in combination with brown squares or transverse bands, or of transverse bands only..... 14

13. Nuchal epaulettes brown, extending to the end of chaetiger 1. Colour pattern as two distinct longitudinal lines far apart, just above parapodial lobes. Prostomium without mid-ventral white spot ***Proceraea scapularis*** (Claparède, 1864) [British Isles – Mediterranean, in 10–60 m, in coralligene, among hydroids, bryozoans, and algae]



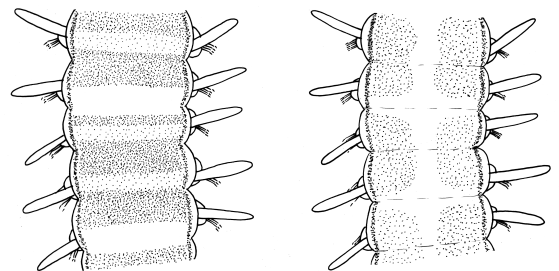
– Nuchal epaulettes with scattered black pigmentation, maximum extending to end of tentacular segment. Colour pattern as two faint longitudinal lines far apart, just above parapodial lobes, and two distinct longitudinal lines, well above parapodial lobes. Prostomium with mid-ventral white spot ***Proceraea albocephala*** Nygren, Sundkvist, Mikac & Pleijel, 2010 [Madeira, in 5–15 m, among balanids with hydroids]

14. Colour pattern as broad brown transverse bands only ***Proceraea madeirensis*** Nygren, 2004 [Madeira, in 5–15 m, rocks with *Lithothamnion* and epifauna, among balanids with hydroids]



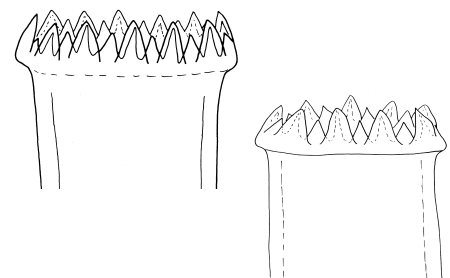
– Colour pattern as dark brown/black longitudinal lines in combination with brown squares or transverse bands of orange and brown..... 15

15. Colour pattern as dark brown/black longitudinal lines and transverse bands of orange and brown interspersed with unpigmented areas ***Proceraea pleijeli*** Nygren, 2004 [Atlantic coast of southern Spain in 1 m, among tunicates with hydroids]



– Colour pattern as dark brown/black longitudinal lines and brown squares ***Proceraea picta*** Ehlers, 1864 [British Isles – Mediterranean in 5–30 m, shells and gravel with epifauna, in coralligene, among hydroids and algae]

16. Trepan with 12 large and 12 small teeth ***Proceraea rubroproventriculata*** [Madeira, in 5–30 m, rocks with *Lithothamnion* and epifauna, among balanids with hydroids]



– Trepan with 9 large and 9 small teeth..... 17

17. Nuchal epaulettes extending to between median and end of tentacular segment. Compound chaetae with distal tooth smaller than subdistal tooth in median and posterior chaetigers ***Proceraea***

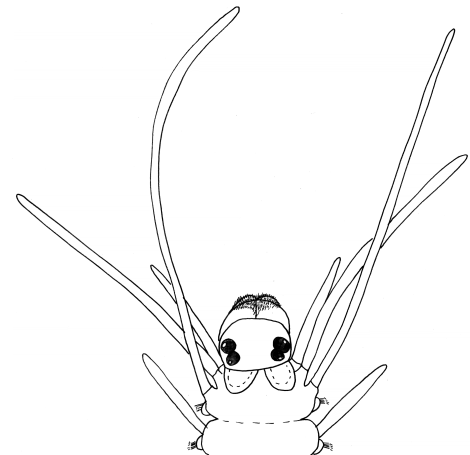
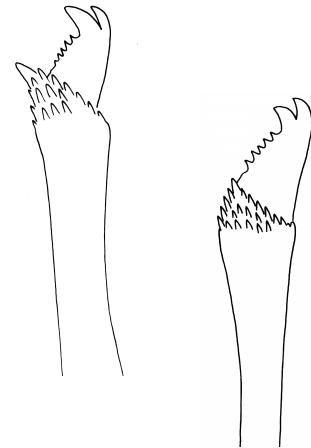
albocephala [Madeira, in 5–15 m, among balanids with hydroids]

– Nuchal epaulettes extending to between beginning and end of chaetiger 1. Compound chaetae with distal and subdistal tooth of nearly equal size in median and posterior chaetigers..... 18

18. Palps with a well-developed ciliated ridge (antenna omitted in figure) ***Proceraea paraurantiaca***

[Atlantic coast of southern Spain – Mediterranean, in 5–30 m, in coralligene, among hydroids, bryozoans, and algae]

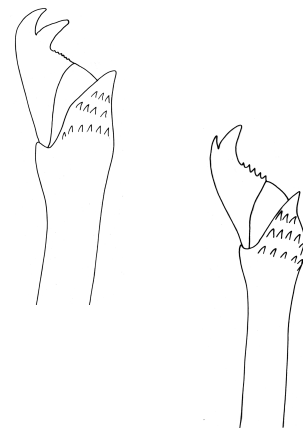
– Palps without a well-developed ciliated ridge ***Proceraea aurantiaca*** [Madeira – Mediterranean, in 1–30 m, in coralligene, in gravel, among hydroids, bryozoans, and algae], or ***Proceraea madeirensis*** [Madeira, in 5–15 m, rocks with *Lithothamnion* and epifauna, among balanids with hydroids], or ***Proceraea picta*** [British Isles – Mediterranean in 5–30 m, shells and gravel with epifauna, in coralligene, among hydroids and algae], or ***Proceraea pleijeli*** [Atlantic coast of southern Spain in 1 m, among tunicates with hydroids], or ***Proceraea scapularis*** [British Isles – Mediterranean, in 10–60 m, in coralligene, among hydroids, bryozoans, and algae]. Please see Nygren 2004 for characters that may help to separate these species, e.g. number of muscle rows in proventricle, but as intraspecific variation is not fully understood it might be somewhat risky to use for a certain identification.



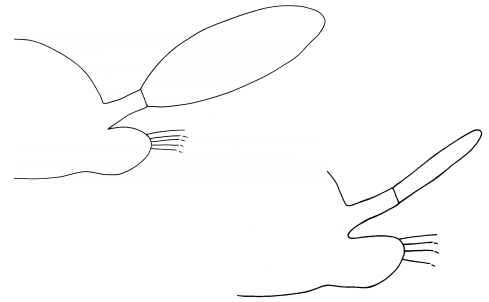
19. Compound chaetae in median chaetigers with distal and subdistal tooth of equal size. Live specimens with 4 red dorsal spots across each segment ***Myrianida rubropunctata*** (Grube, 1860)

[British Isles – Madeira – Mediterranean, in 10–40 m, among gravel with epifauna, in coralligene]

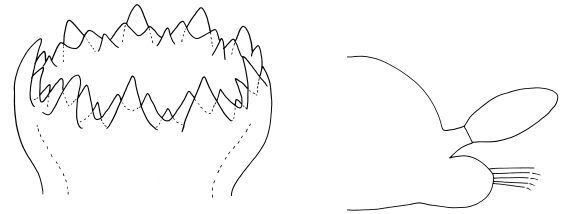
– Compound chaetae in median chaetigers with distal tooth smaller than subdistal tooth. Live specimens might have red pigmentation but never as 4 red dorsal spots across each segment..... 20



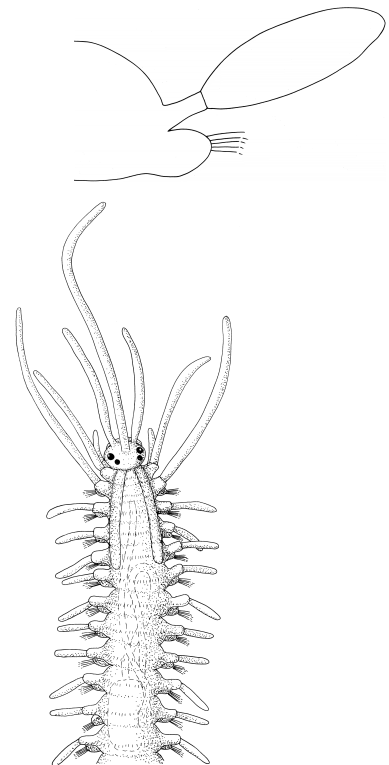
20. Cirrostyles flattened in cross section..... 21
- Cirrostyles cylindrical in cross section..... 22



21. Nuchal epualettes reaching chaetiger 1. Cirrophores equal in length, shorter than parapodial lobes. Trepan teeth in 3 rings. Dorsal cirri equal in length to 1/2 body width. Live specimens without distinct colour pattern *Epigamia macrophthalma* (Marenzeller, 1875) [Mediterranean, in 20–30 m, in coralligene]

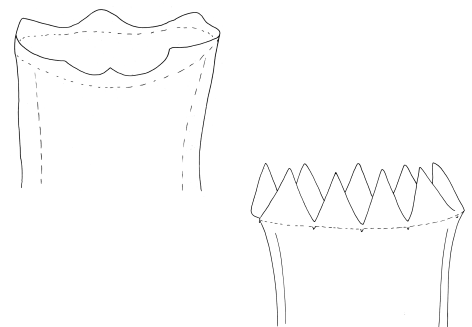


– Nuchal epualettes reaching between chaetiger 6 and chaetiger 12. Cirrophores alternate in length, cirrophores on long cirri longer than parapodial lobes. Trepan teeth in one ring. Dorsal cirri c. equal in length to body width (short cirri) or longer than body width (long cirri). Live specimens with orange to red patches on dorsum on every third or fourth segment *Myrianida pinnigera* (Montagu, 1808) [British Isles – Mediterranean, in 1–30 m, among algae, sponges, hydroids, tunicates, in coralligene]



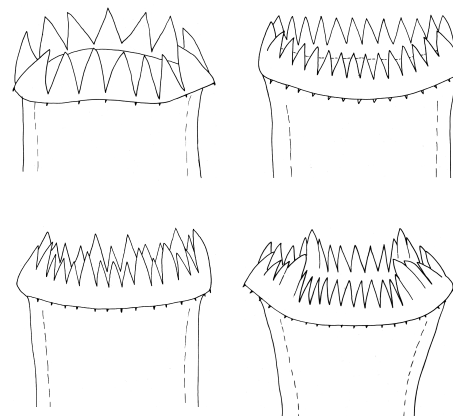
22. Pharynx with several sinuations..... 23
- Pharynx with single or two sinuations..... 24

23. Cirrophores inflated, equal in length to parapodial lobes. Trepan without distinct teeth *Myrianida inermis* (Saint-Joseph, 1887) [Scandinavia – Mediterranean, in 20–80 m, among hydroids, bryozoans, tunicates, in coralligene]

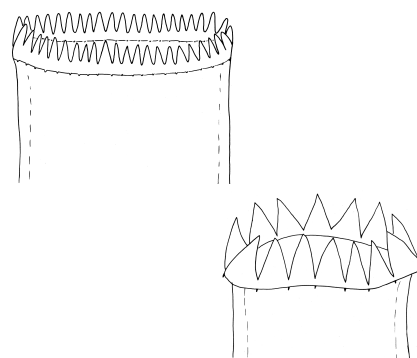


– Cirrophores not inflated, shorter than parapodial lobes. Trepan with 9 equal teeth *Myrianida convoluta* (Cognetti, 1953) [Northwest of Spain – Mediterranean in 0–10 m, among algae, hydroids, bryozoans, sponges, and tunicates]

24. Trepan with equal teeth.....25
- Trepan with unequal teeth.....28



25. Cirrophores alternate in length, equal or longer than parapodial lobes. Trepan with 33–45 teeth
Myrianida longoprimiterrata (López & San Martín, 1997) [Mediterranean, in 15–30 m, in *Cladocera caespitosa* blocks, among *Padina* and other algae, in coralligene]



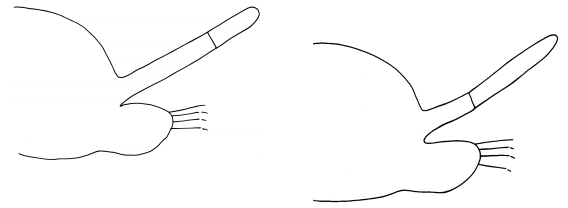
- Cirrophores do not alternate in length, shorter than parapodial lobes. Trepan with 10–24 teeth..... 26

26. Trepan with 10–11 teeth. Dorsal cirri with slight alternation in length. Live specimens without white appendages ***Myrianida tyrrhenica*** (Cognetti, 1953) [Tyrrhenian Sea, in 0–40 m, among algae, bryozoans, balanids]
- Trepan with 12 or more teeth. Dorsal cirri equal in length. Live specimens with or without white appendages..... 27

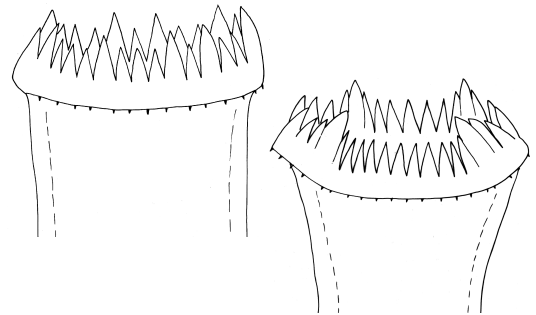
27. Trepan with 12–24 teeth. Live specimens with median antenna and pygidial cirri white ***Myrianida quindecimdentata*** (Langerhans, 1884) [Scandinavia – Madeira – Mediterranean, in 60–280 m, shells and gravel, dead *Lophelia*, in coralligene]

- Trepan with 12–13 teeth. Live specimens without white appendages ***Myrianida hesperidium*** (Claparède, 1868) [Madeira – Mediterranean, in 1–15 m, among *Mytilus* with epifauna, and rocks with *Lithothamnion* and epifauna]

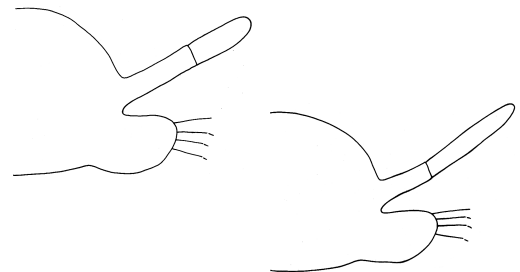
28. Cirrophores on both short and long cirri longer than cirrostyles in median chaetigers *Myrianida sanmartini* new species [North Sea – Portugal, from 1–40 m, among tunicates with hydroids, in mud, shells and detritus]
– Cirrophores on at least short cirri shorter than cirrostyles..... 29



29. Trepan with 8–10 large teeth and 14–21 smaller, 1 large alternating with 1–3 smaller. Large trepan teeth not fused to adjacent smaller teeth *Myrianida brachycephala* (Marenzeller, 1874) [Scandinavia – Mediterranean, in 1–80 m, among hydroids, bryozoans, tunicates, in coralligene]
– Trepan with 4–5 large teeth and 25–39 smaller, 1 large alternating with 4–13 smaller. Large trepan teeth fused to adjacent smaller teeth (unverified in *Myrianida cognetti* (Cinar & Gambi, 2005))..... 30



30. Cirrophores on long cirri longer than cirrostyles *Myrianida langerhansi* (Gidholm, 1967) [Scandinavia – Mediterranean, in 1–60 m, among hydroids, bryozoans, tunicates, in coralligene]
– Cirrophores on both short and long cirri shorter than cirrostyles *Myrianida cognetti* [Tyrrhenian Sea, in 0–1 m, among algae]



Illustrations of *Procerastea halleziana*, *P. nematodes*, and *M. inermis* modified from Gidholm L. 1967. A revision of Autolytinae (Syllidae, Polychaeta) with special reference to Scandinavian species, and with notes on external and internal morphology, reproduction and ecology. Arkiv för Zoologi 19:157–213. Illustration of *Levidorum pori* modified from San Martín G. 2003. Annelida, Polychaeta 2: Syllidae. In: Ramos, M.A. et al. (Eds) *Fauna Ibérica*, Museo Nacional de Ciencias Naturales, Madrid 21:1–554.