Mini but Mighty

Why paraonid polychaetes rule

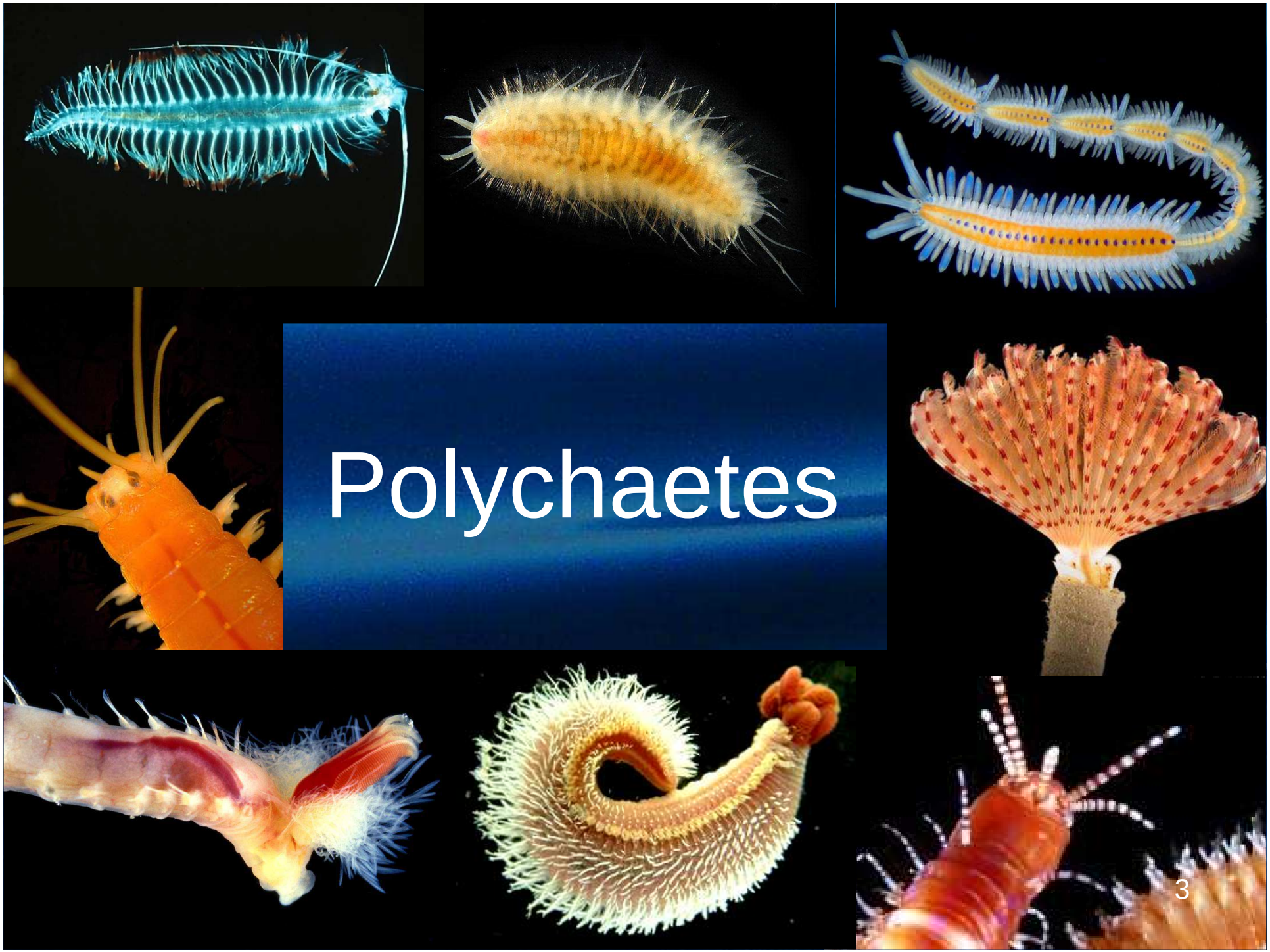
Michael Reuscher

12 December, 2011

HARTE RESEARCH INSTITUTE

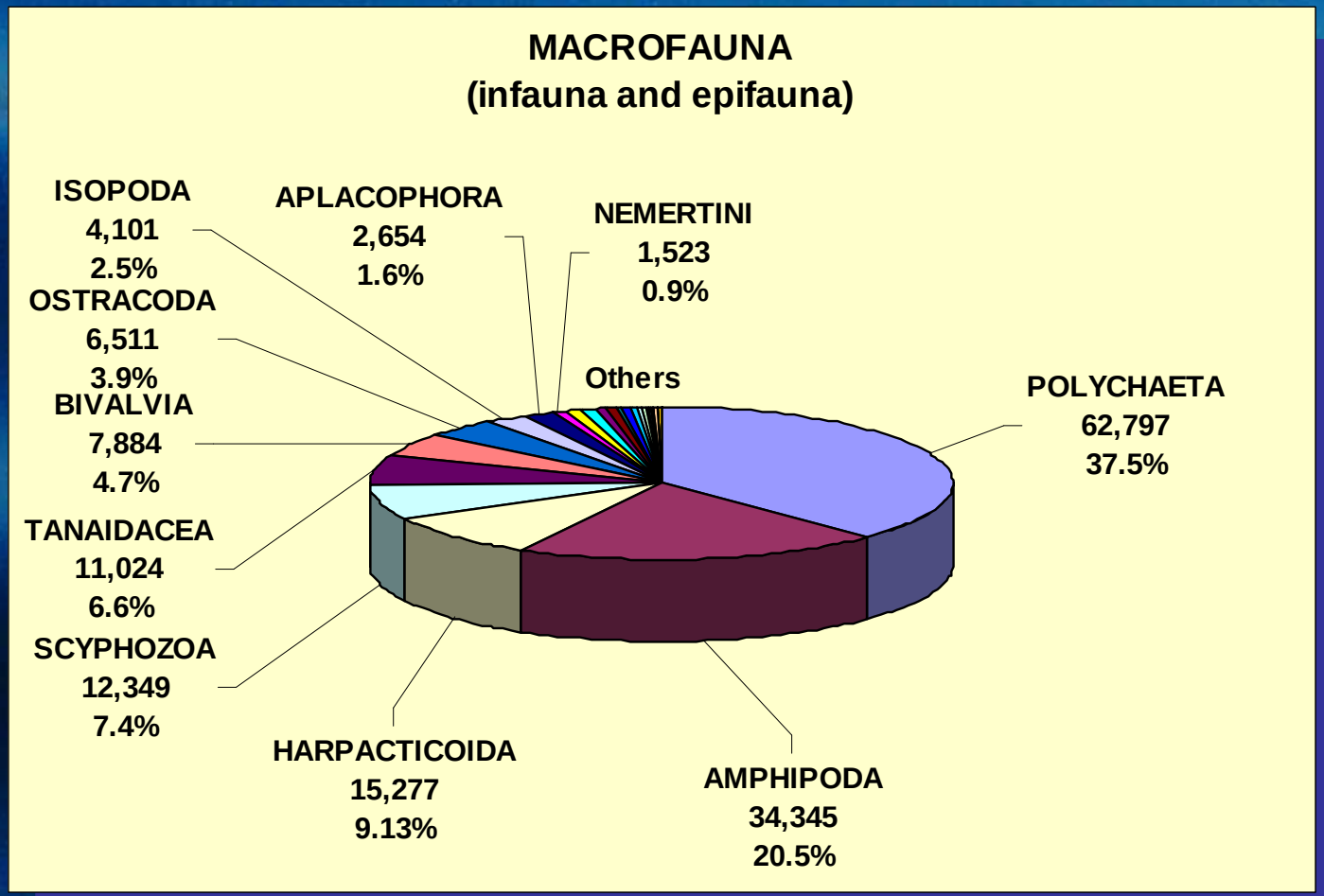
SOUTHERN CALIFORNIA ASSOCIATION OF MARINE INVERTEBRATE TAXONOMISTS

TEXAS A&M UNIVERSITY CORPUS CHRISTI


Polychaetes

The importance of polychaetes [and paraonids]

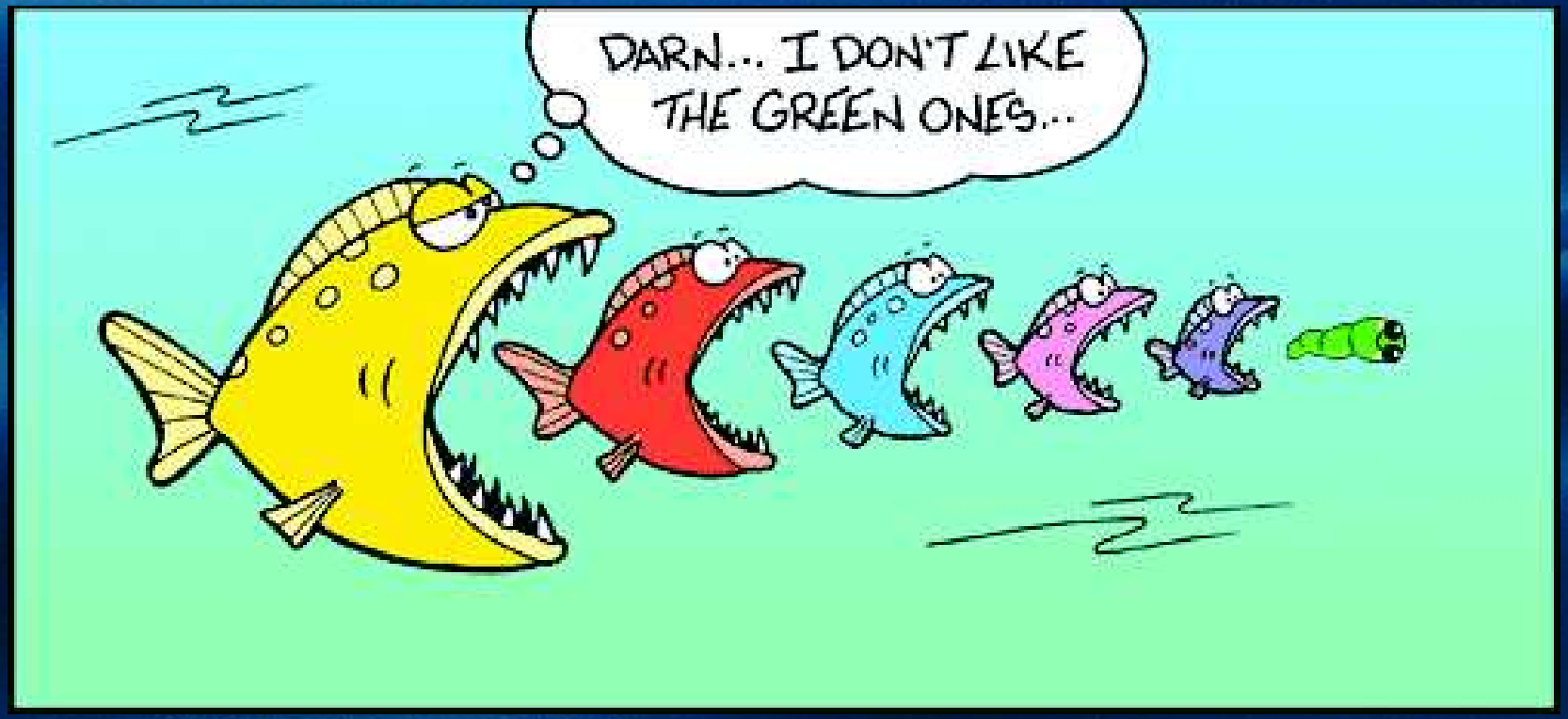
The importance of polychaetes



From Rowe & Kennicutt (2009)

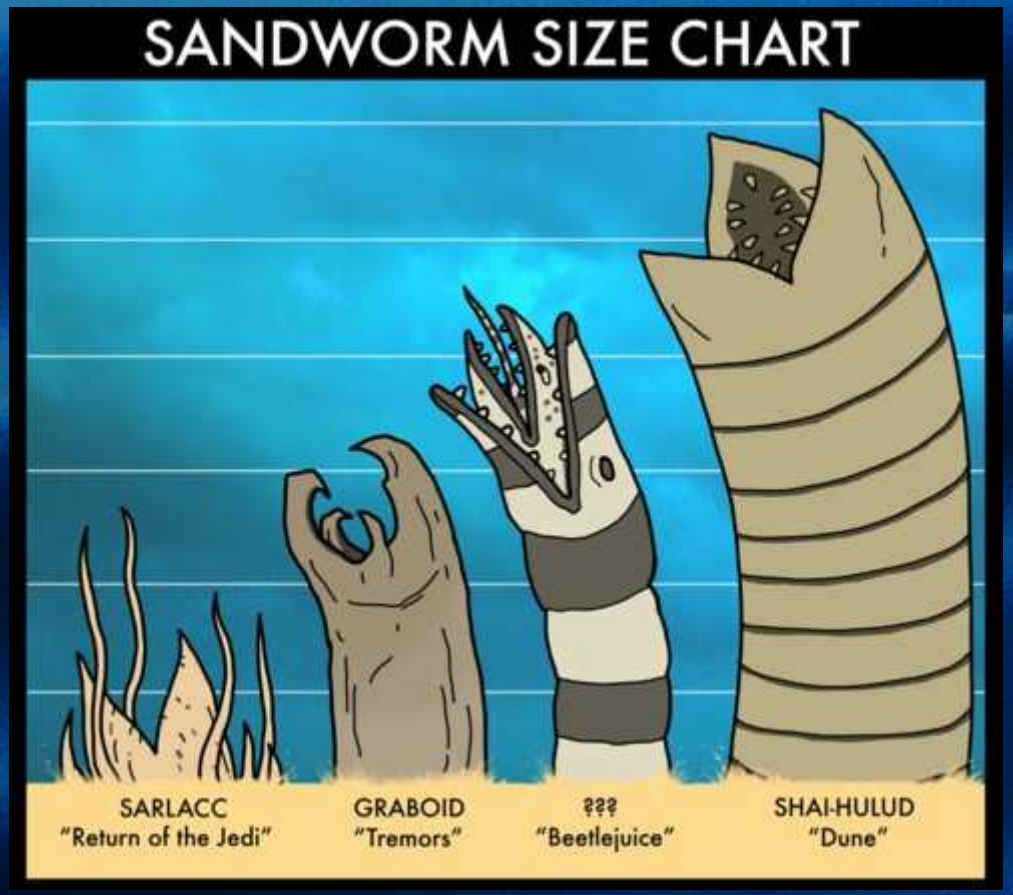
The importance of polychaetes

Food web



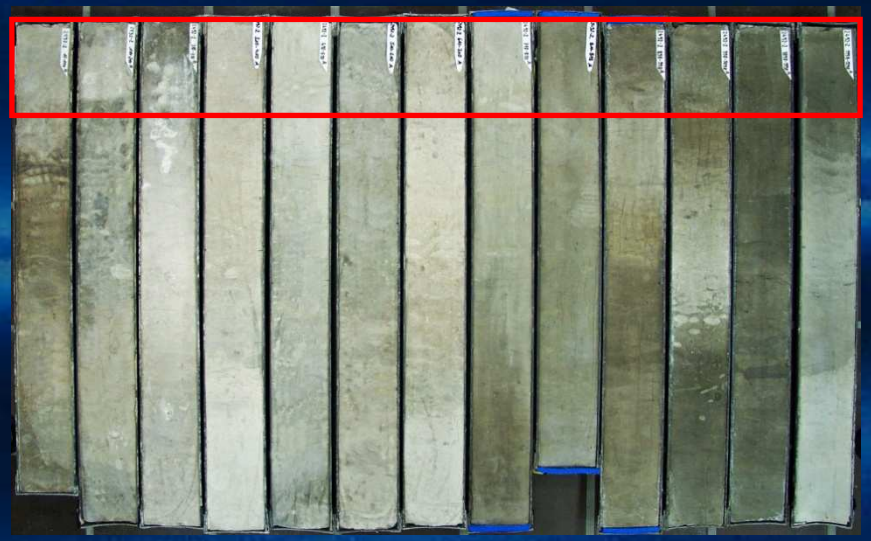
Facts about Paraonidae

- Small (2-40 mm)



Facts about Paraonidae

- Small (2-40 mm)
- Live in upper few cm of sediment



Facts about Paraonidae

- Small (2-40 mm)
- Live in upper few cm of sediment
- High densities (up to 10,000 m^{-1})

Facts about Paraonidae

- Small (2-40 mm)
- Live in upper few cm of sediment
- High densities (up to 10,000 m^{-1})
- Motile or semi-sedentary

Facts about Paraonidae

- Small (2-40 mm)
- Live in upper few cm of sediment
- High densities (up to 10,000 m^{-1})
- Motile or semi-sedentary
- Separate sexes

Paraonid genera

- *Aricidea* (*Aricidea, Acmira, Allia, Aedicira*)
- *Cirrophorus*
- *Paradoneis* [*Cirrophorus*???]
- *Paraonides*
- *Levinsenia*
- *Paraonis* [valid?]
- *Sabidius*
- *Aparaonis* [not a paraonid]

Invalid genera

- *Paraonella [=Paraonides]*
- *Tauberia [=Levinsenia]*
- *Acesta [=Acmira]*

General Morphology of Paraonidae

P+P= Prostomium + Peristomium

NO = Nuchal organ

MA = Median antenna

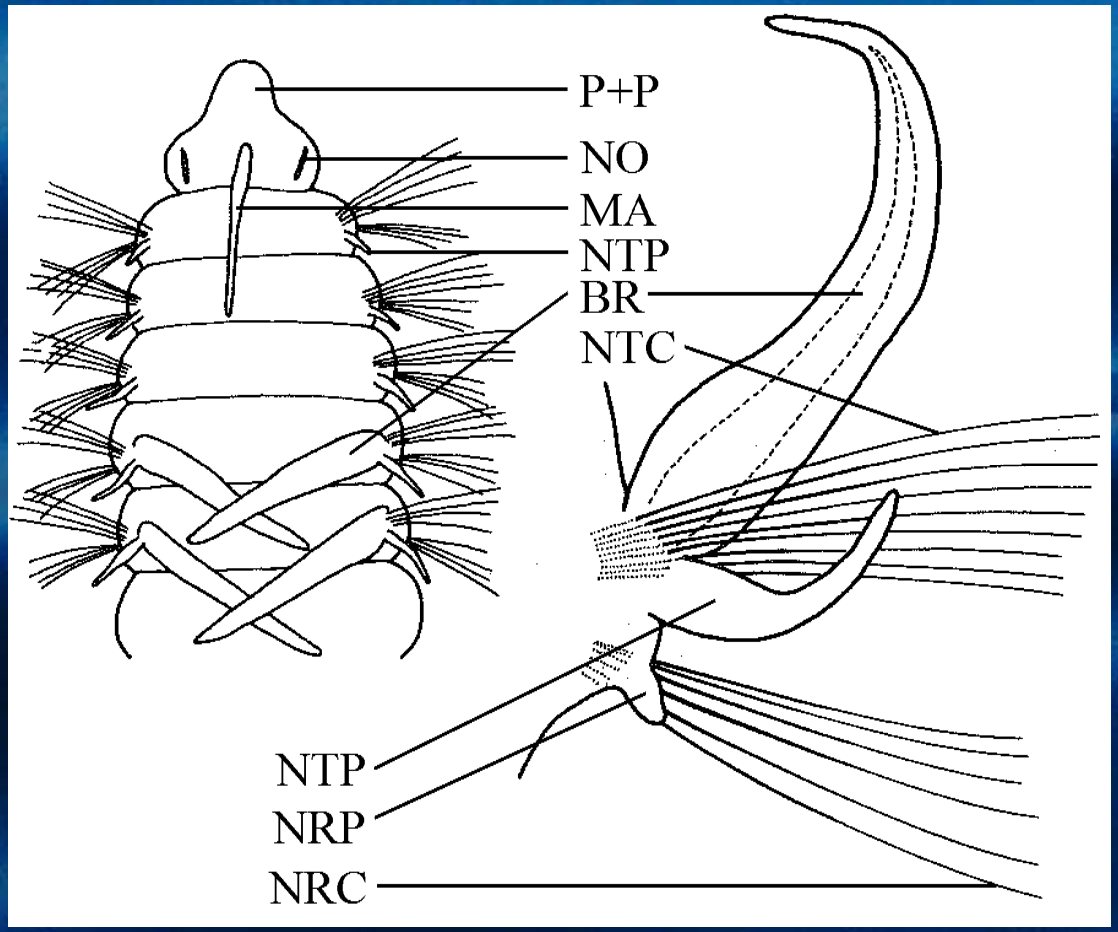
NTP = Notopodial lobe

NTC = Notochaeta

BR= Branchia

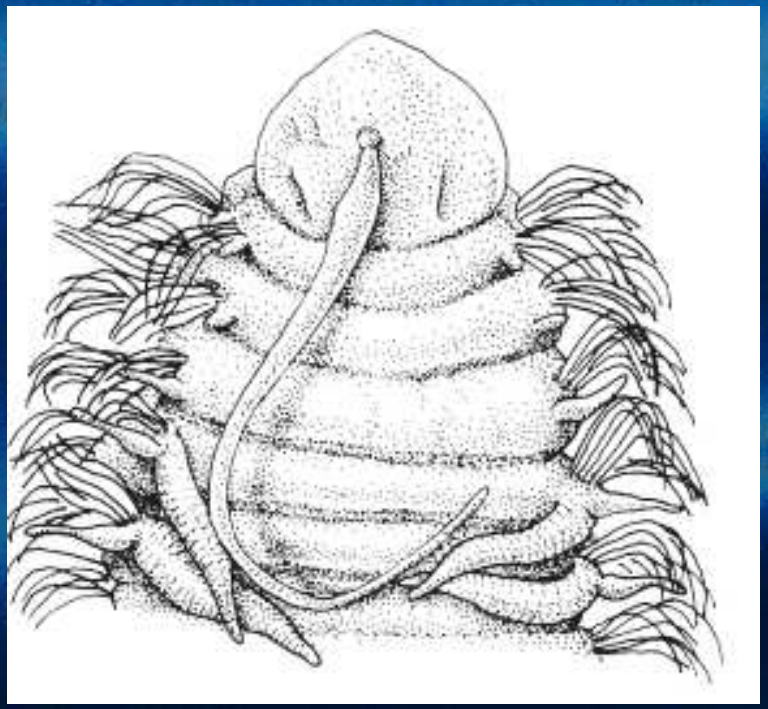
NRP = Neuropodial lobe

NRC = Neurochaeta

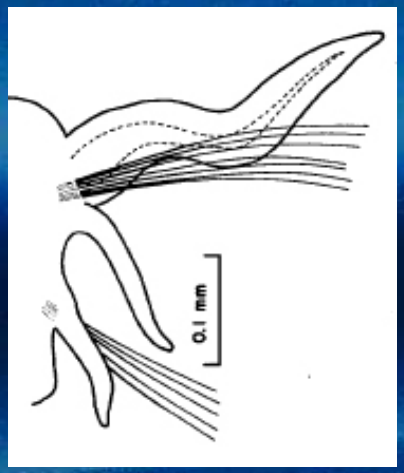


From Strelzov (1973)

Aricidea (sensu lato)



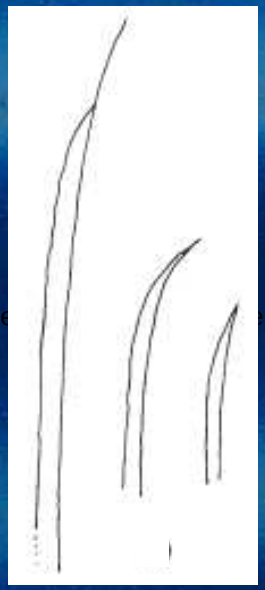
From Aguirrezabalaga & Gil (2009)

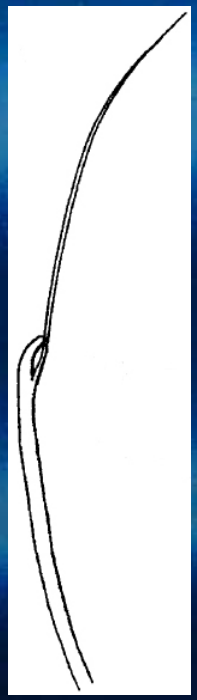


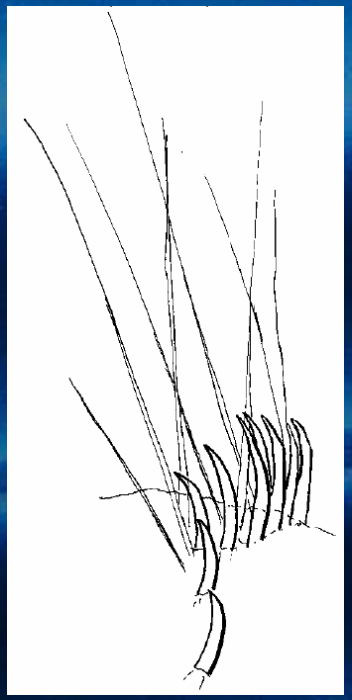
From Strelzov (1973)

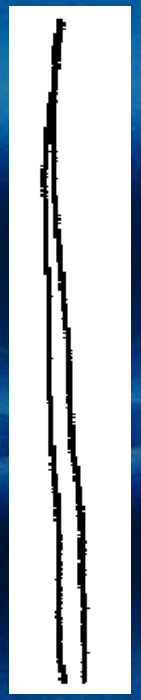
The genus *Aricidea* (sensu lato)

are nee e.





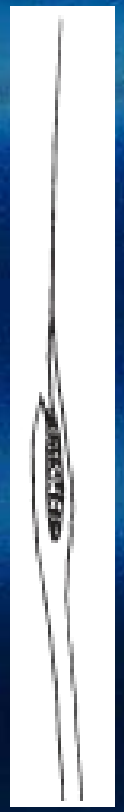


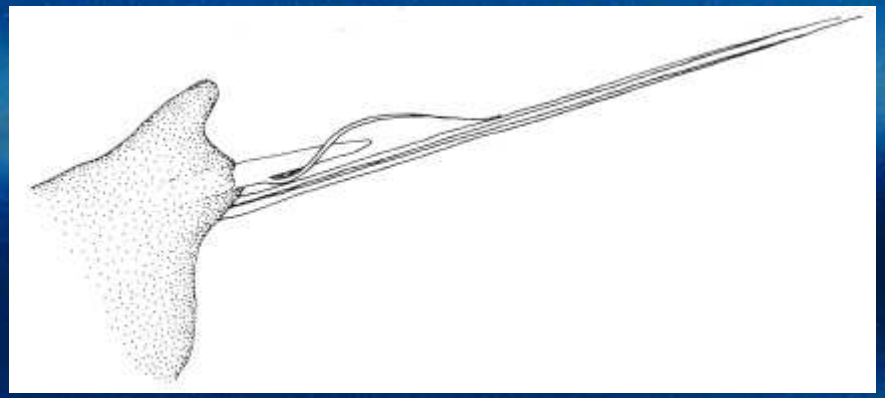


Allia *Aricidea* *Acmira* *Aedicira*

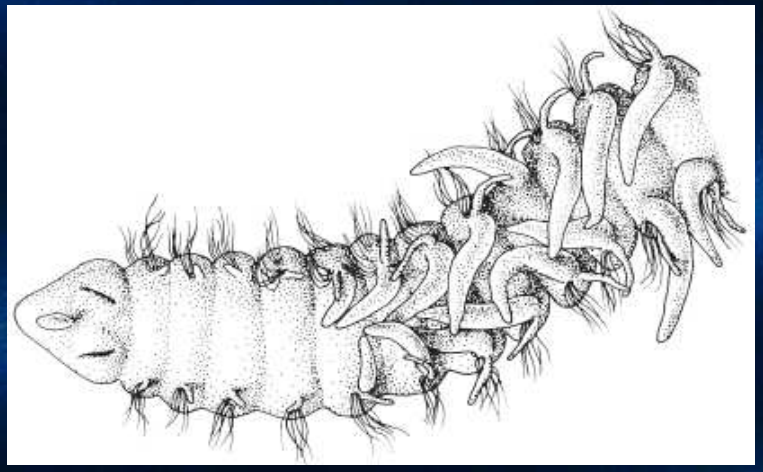
Subgenera ? Genera?

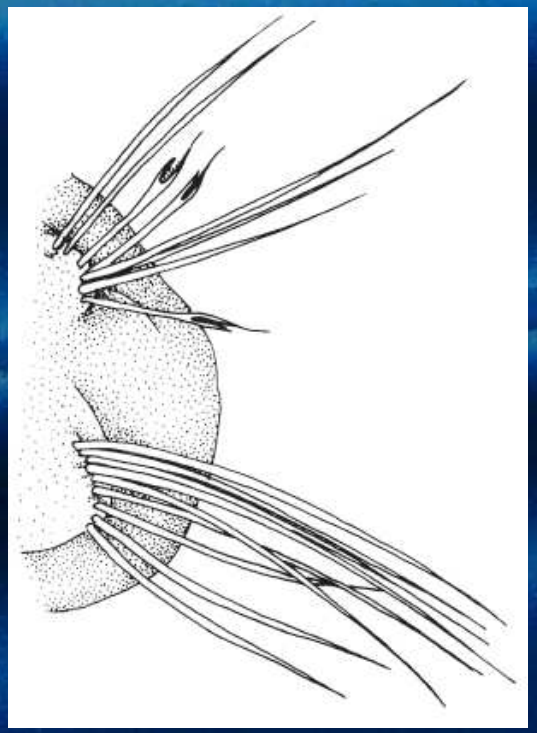
Cirrophorus / Paradoneis



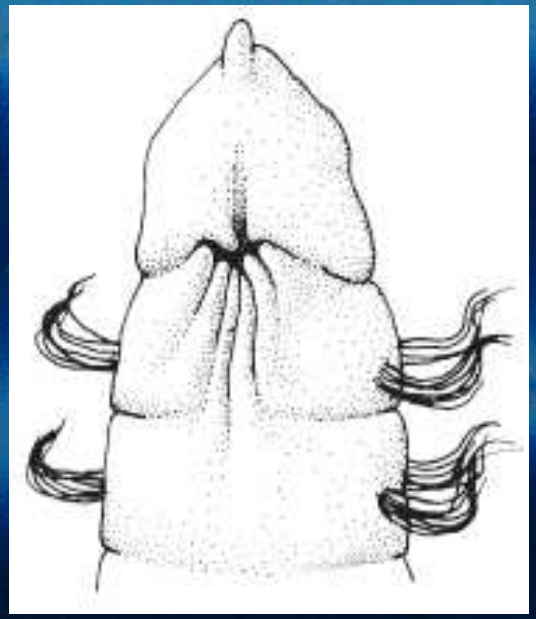


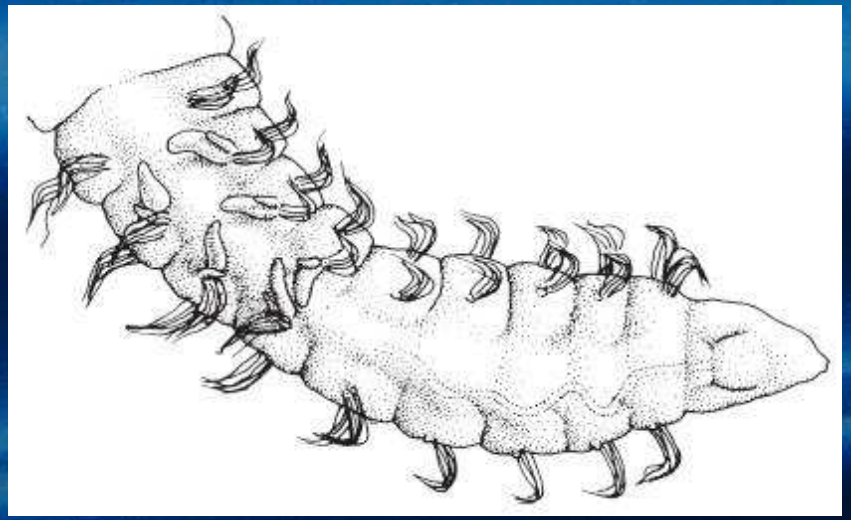
From Aguirrezabalaga & Gil (2009)

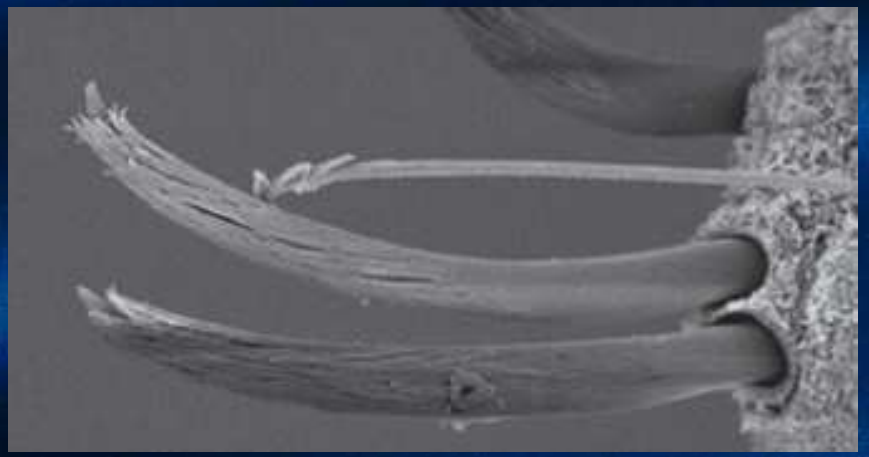




Levinsenia

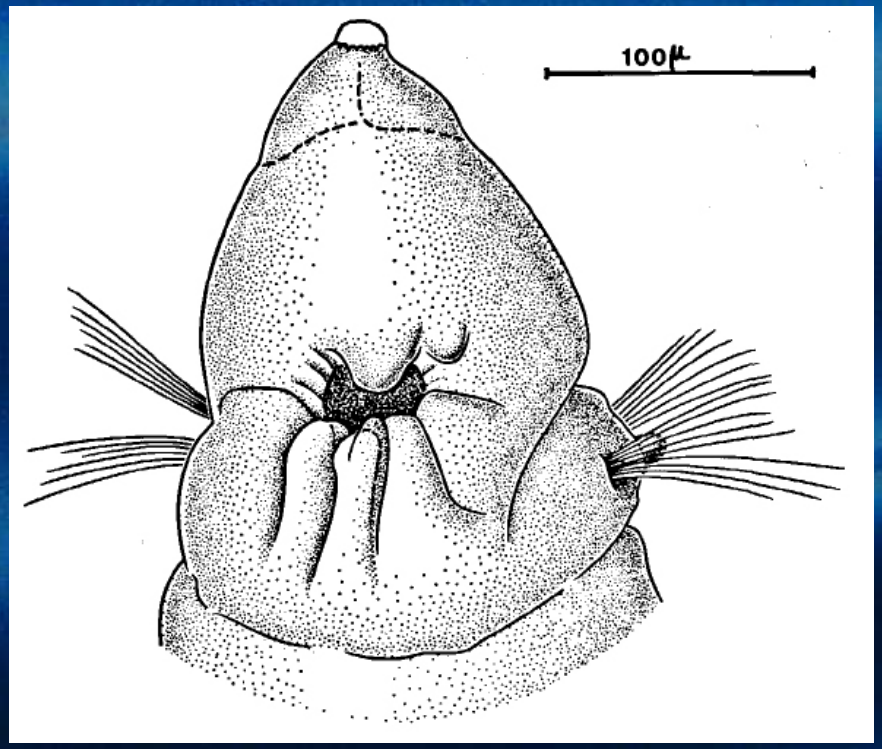


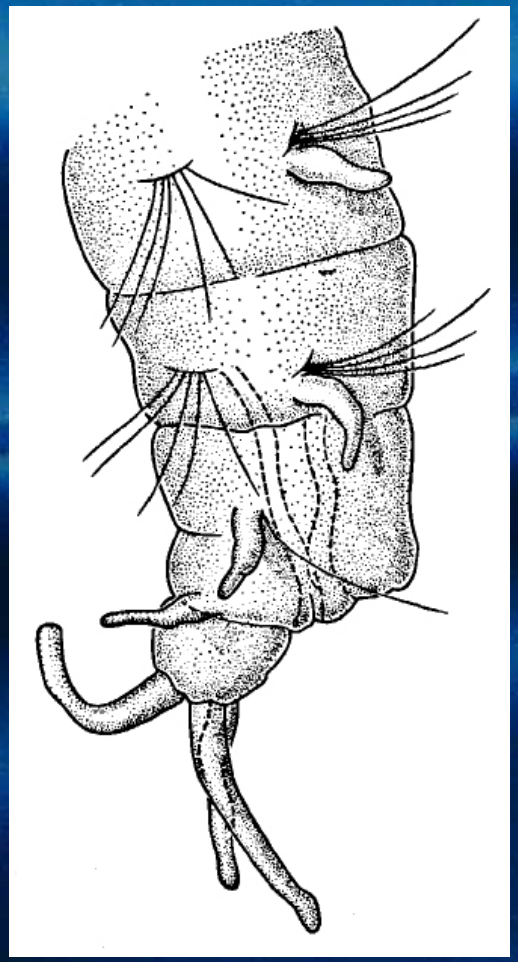




From Aguirrezabalaga & Gil (2009)

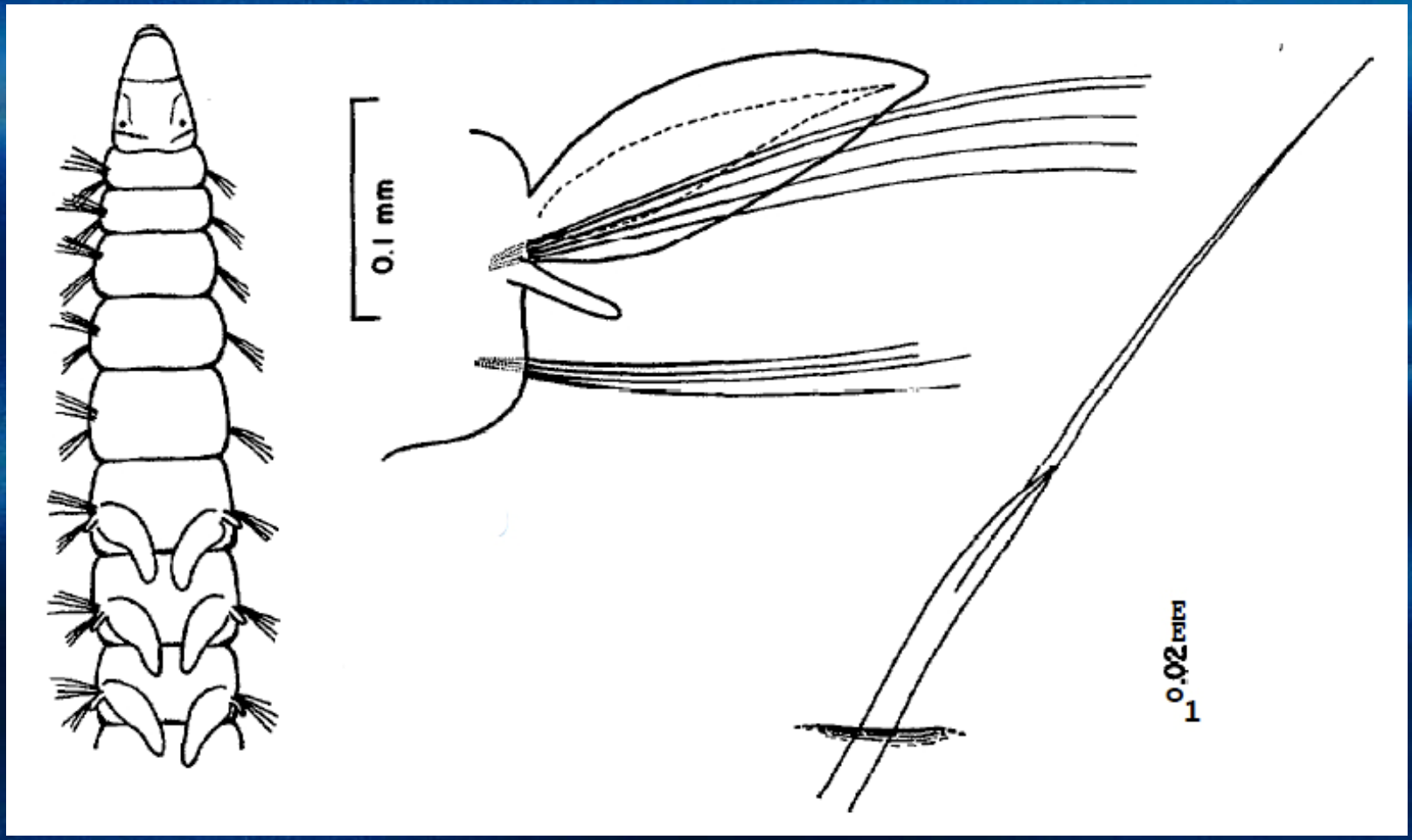
Paraonides





From Katzmann & Laubier (1975)

Paraonis



From Gaston (1983)

Sabidius

- Prostomium with lobes
- Characteristic branchiae
- Everted proboscis
- Acicular chaetae

Useful characters for generic diagnoses

- Presence of apical sensory organ
- Presence of antenna
- Development of notopodial lobes
- Presence of modified notochaetae
- Presence and type of modified neurochaetae

Useful characters within *Aricidea*

- Length and shape of antenna
- # of pre-branchial segments
- Development of notopodial lobes (pre-br.)
- Development of neuropodial lobes
- Type and # of modified neurochaetae
- Accessory lobes in different positions
- # of branchiae
- First segment with modified neurochaetae

Useful characters within *Cirrophorus / Paradoneis*

- # of pre-branchial segments
- Type of modified dorsal chaetae
- Starting segment of mod.dorsal chaetae
- Presence of acicular ventral chaetae
- # of branchiae
- # of long pre-anal notopodial lobes

Useful characters within *Levinsenia*

- # of prebranchial segments
- # of branchiae
- # of modified neurochaetae
- First segment of modified neurochaetae

Useful characters within *Paraonides*

- # of pre-branchial segments
- # of branchiae
- # of long pre-anal notopodial lobes
- Presence of long capillaries

Other characters

- Lower lip
- Eyes
- Anal cirri
- # of rows of chaetae in branchial segments

References

- Aguirrezabalaga, F. & Gil, J. (2009) Scienta Marina 73(4): 631-666.
- Gaston, G. (1983) In: Uebelacker, J.M. & Johnson, P.G. (eds.) Taxonomic Guide to the Polychaetes of the Northern Gulf of Mexico. Volume I.
- Katzmann, W. & Laubier, L. (1975) Annalen des Naturhistorischen Museums Wien 79: 567-588.
- Rowe, G.T. & Kennicutt II, M.C. (2009) OCS Study MMS 2009-039. 456 pp.
- Strelzov, V.E. (1973) Polychaete worms of the family Paraonidae Cerruti, 1909. 170 pp.

Confused?
Puzzled?
Startled?

Ask the worm scientist !!!