



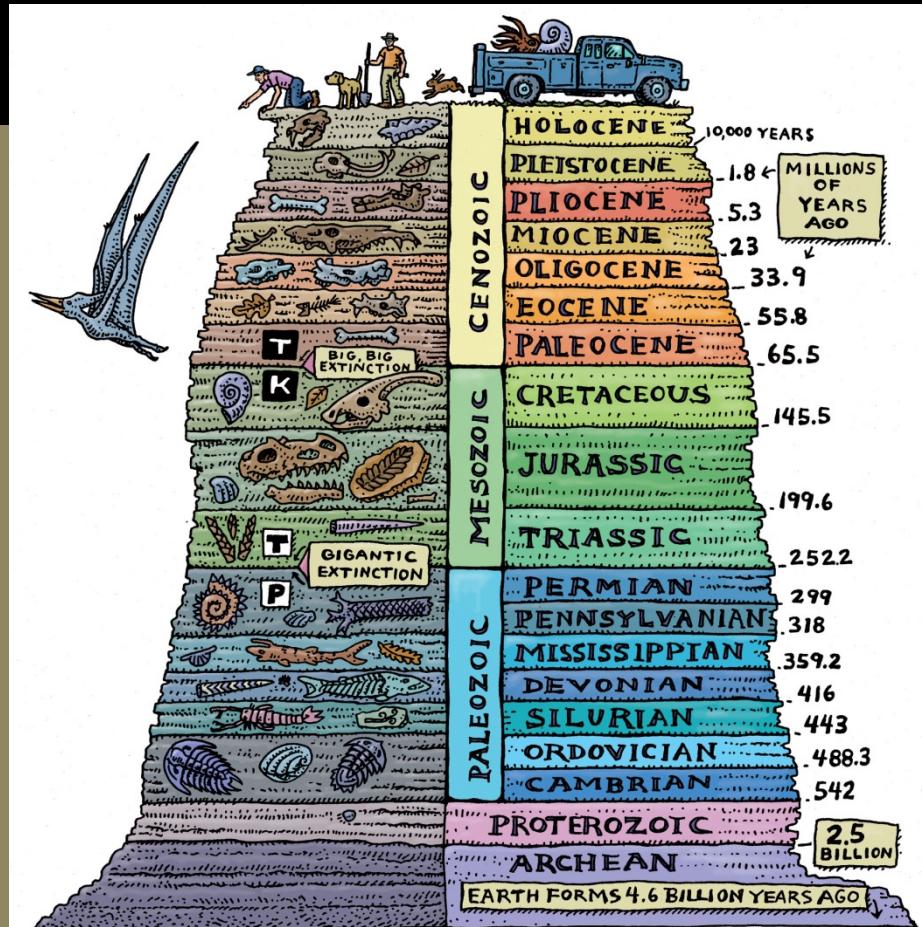
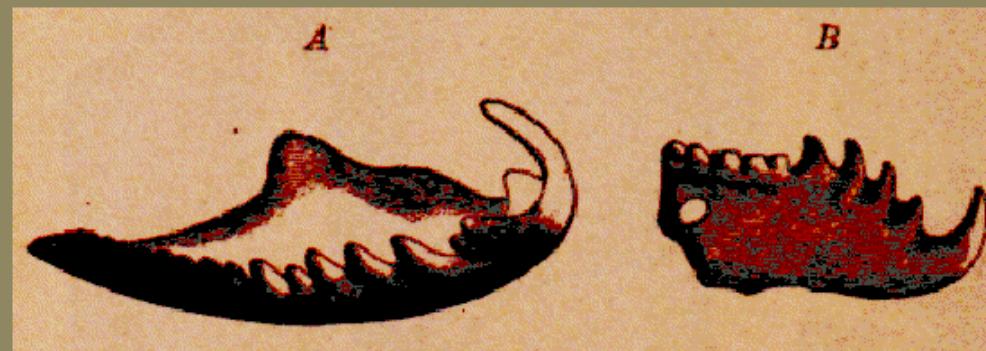
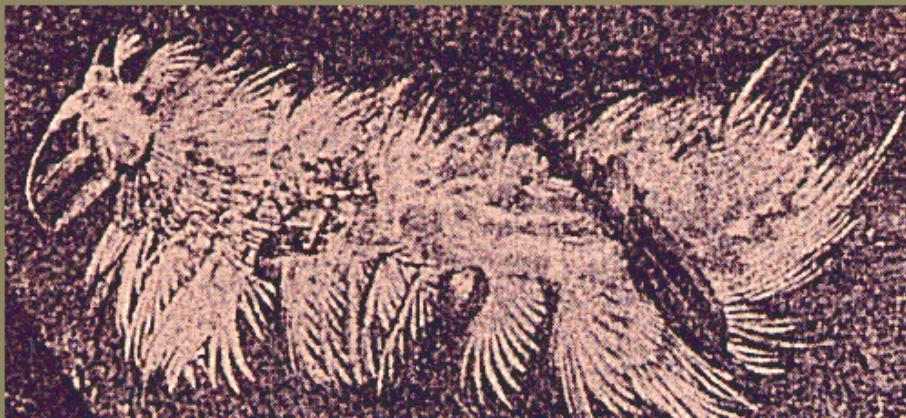
# Polychaeta

BITMaB-2 Workshop

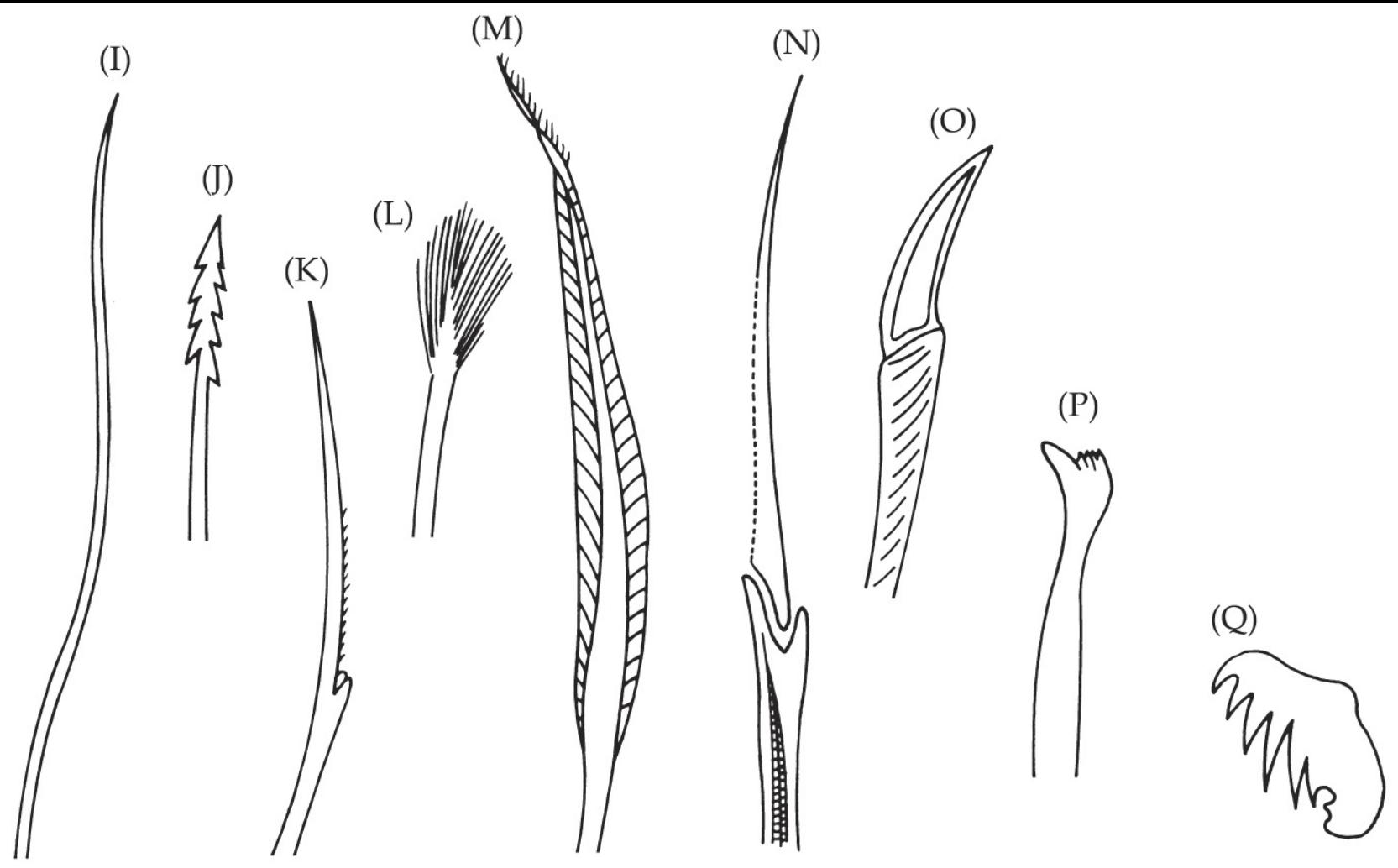
Michael Reuscher

January 18, 2018

# Polychaetes are more than 500 million years old!



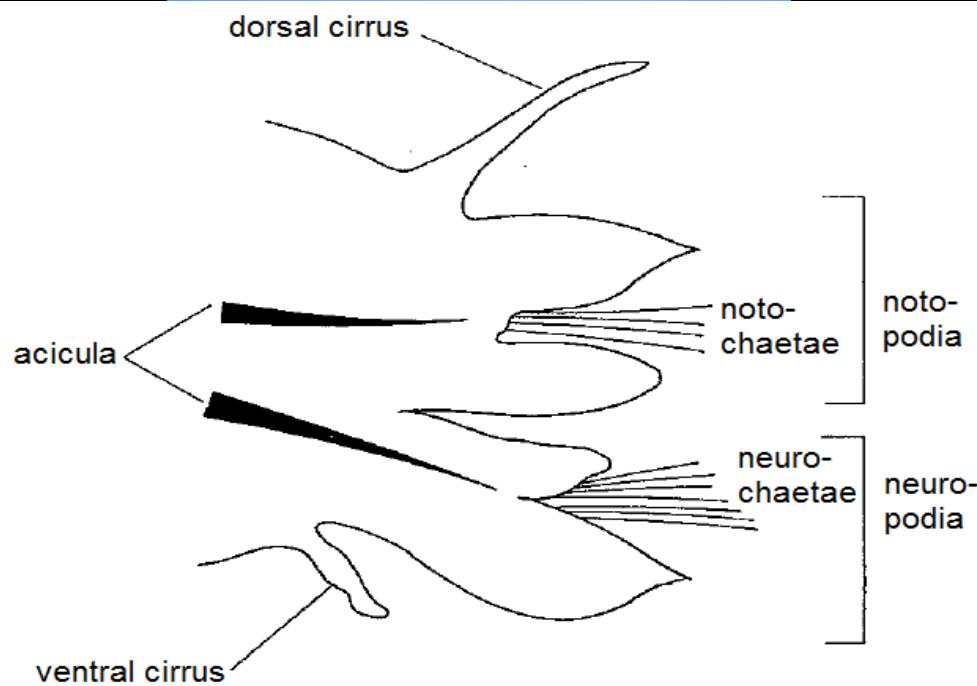
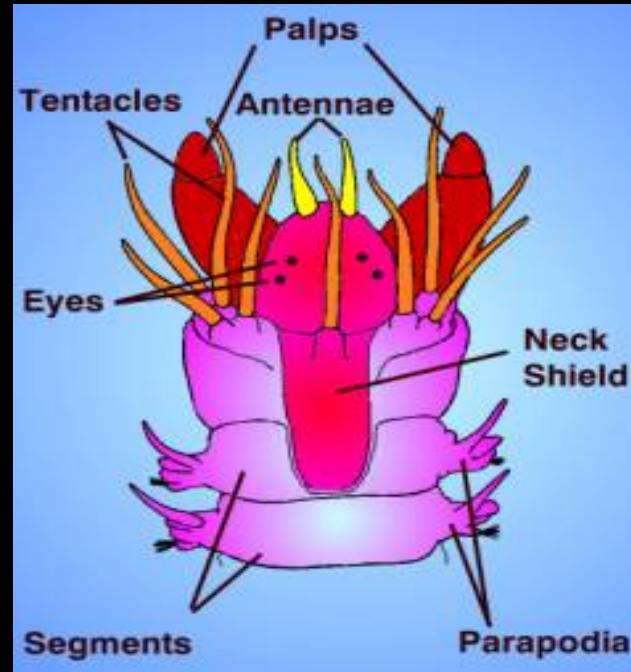
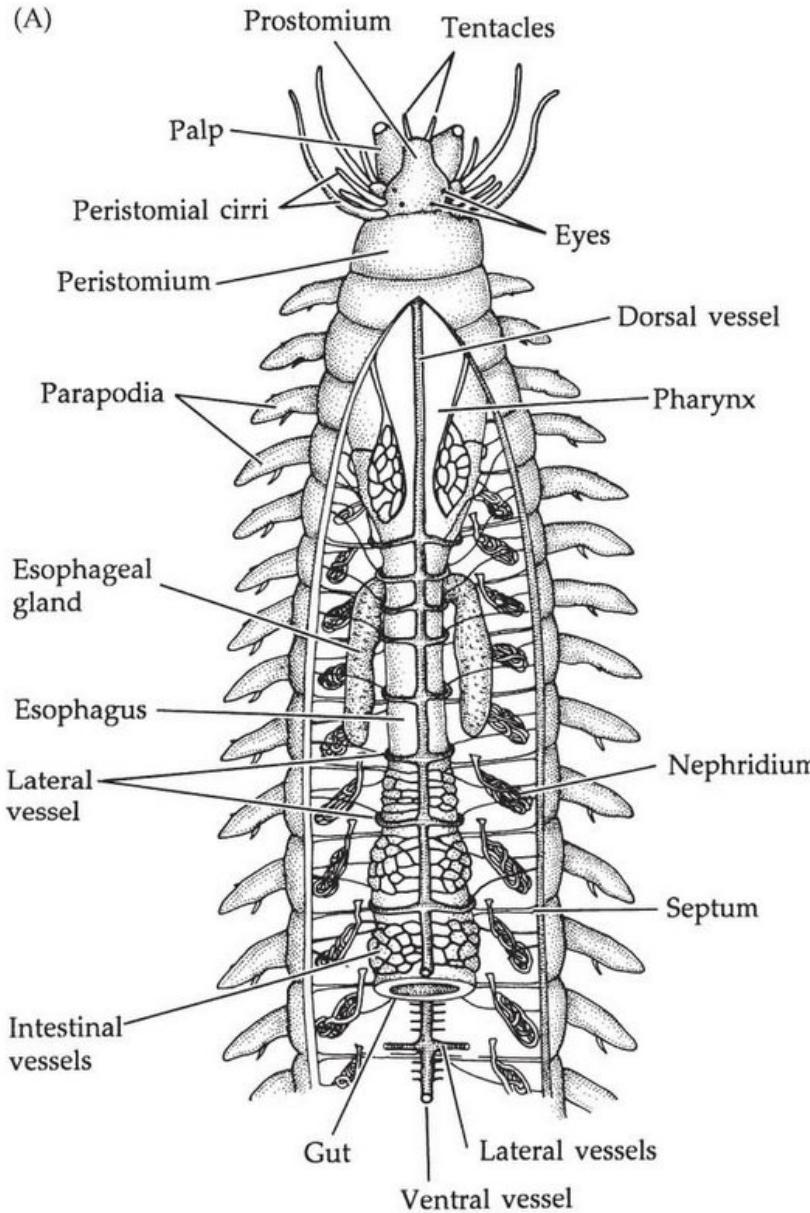
# Chaetae



*INVERTEBRATES 3e, Figure 14.5 (Part 4)*  
© 2016 Sinauer Associates, Inc.

# General morphology

(A)



# Polychaete Diversity and Adaptations

- Poly = Many; chaetae (or setae) = bristles
- ca. 14,000 species have been described (ca. 11,000 valid)
- Currently 85 families are considered valid
- Polychaetes live in every marine habitat from the intertidal to the deep-sea
- Mostly marine



# Polychaete Classification

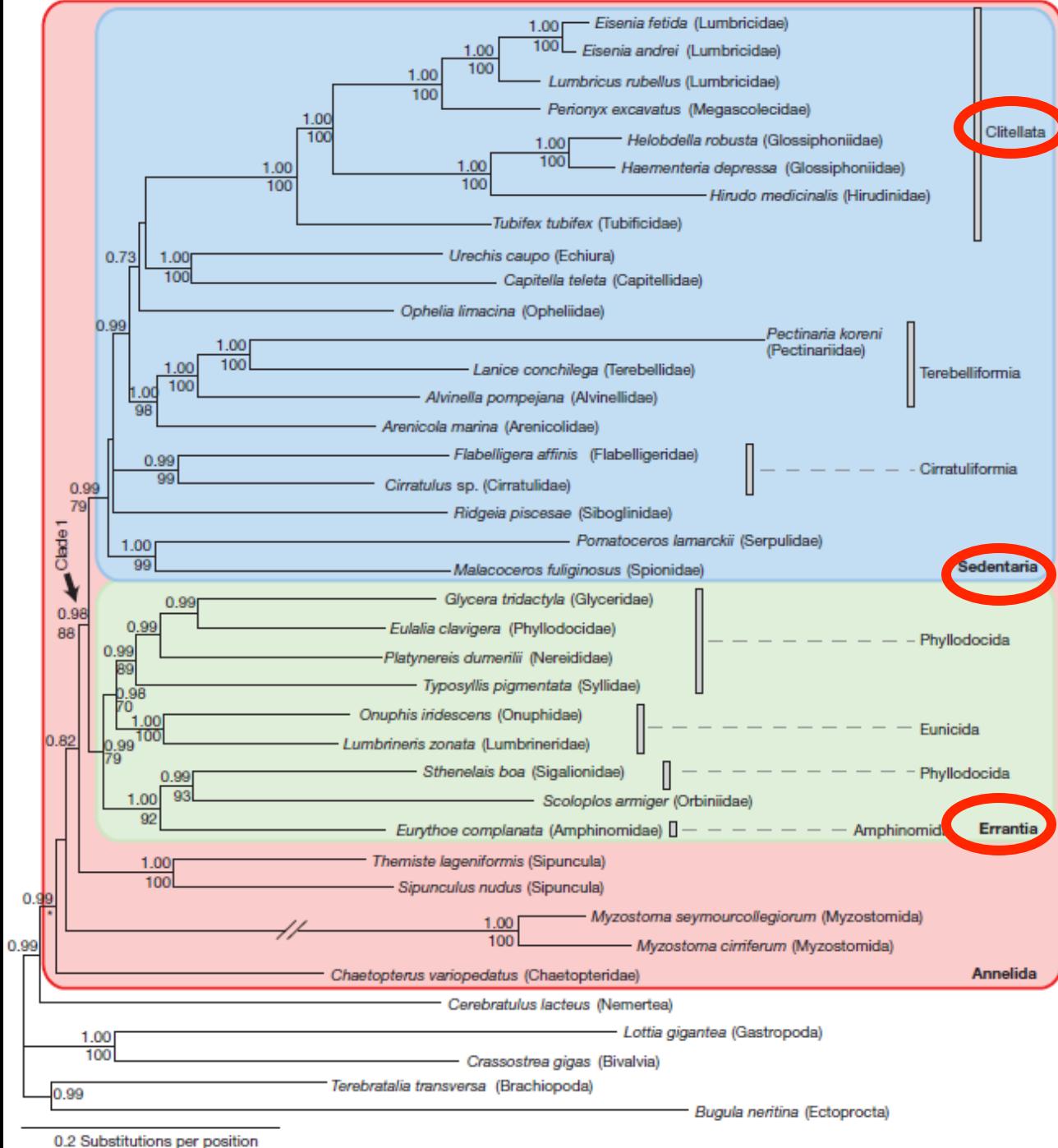
Original classification:

- Errantia
- Sedentaria

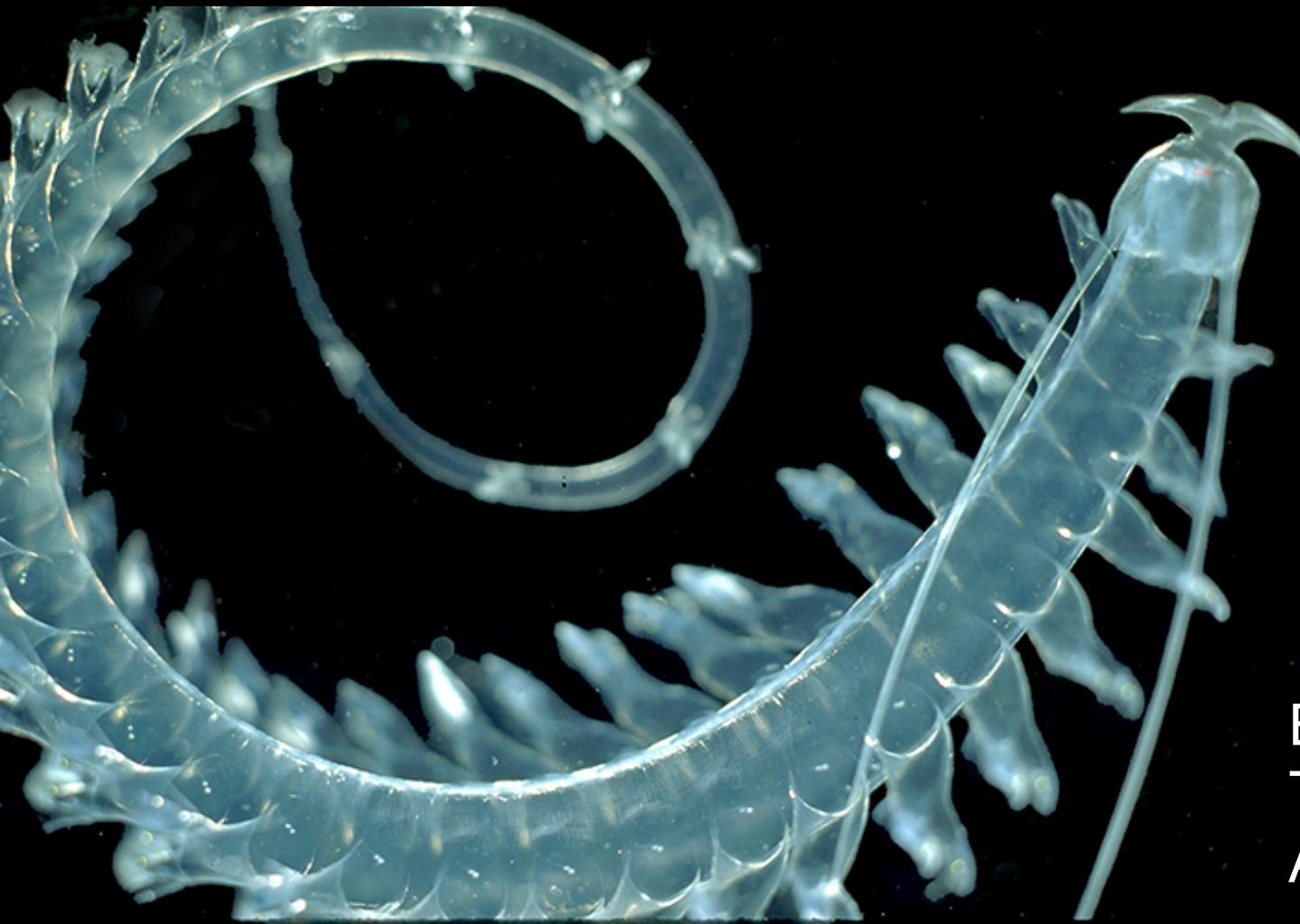
Rouse & Fauchald (1997):

- Aciculata
- Canalipalpata
- Scolecida

# Polychaete classification



# Pelagic polychaetes



Examples:  
Tomopteridae  
Alciopidae

# Suspension feeders



Examples:  
Sabellidae (feather duster worms)  
Serpulidae



# Carnivores (and omnivores)



Examples:

Sigalionidae (scale worms)  
Eunicidae (Bobbit worms)  
Nereididae (rag worms)

Onuphidae  
Glyceridae (blood worms)  
Goniadidae

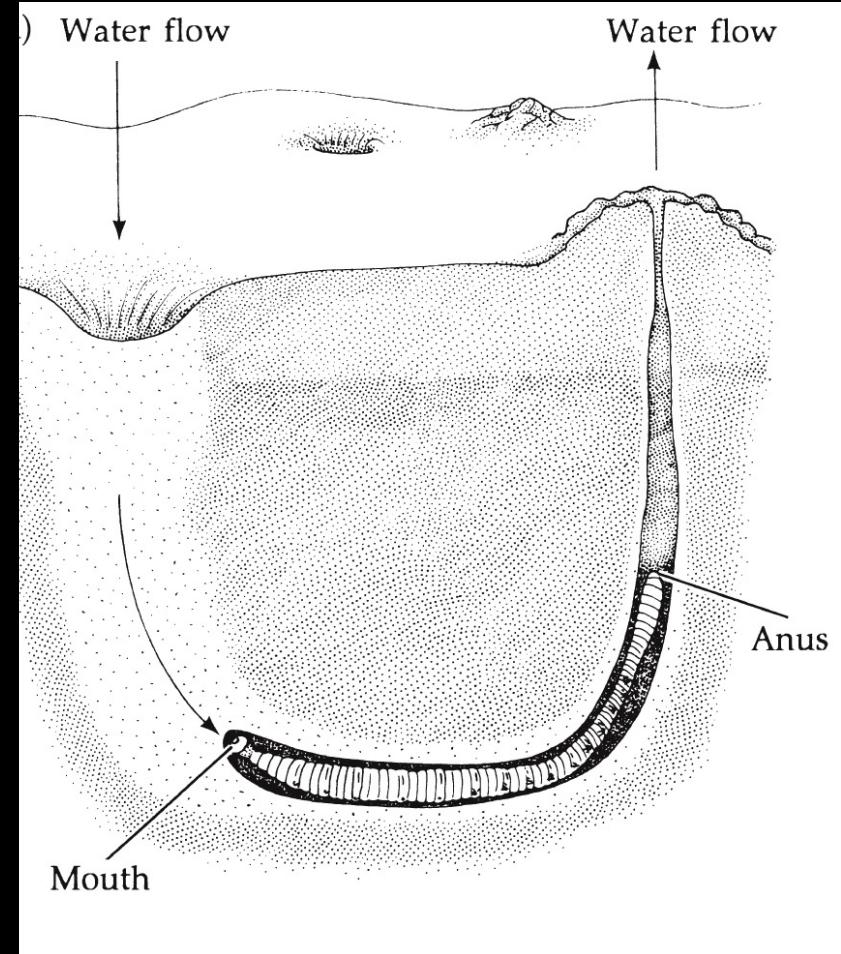
Polynoidae (scale worms)  
Lumbrineridae  
Dorvilleidae

# Surface deposit feeders



Examples:  
Terebellidae (Spaghetti worms)  
Ampharetidae  
Trichobranchidae

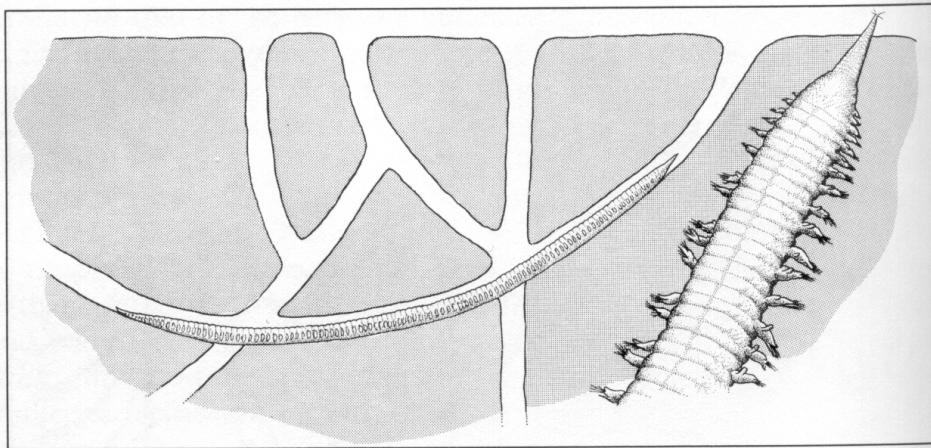
# Subsurface deposit feeders



Examples:  
Capitellidae  
Paraonidae  
Maldanidae (bamboo worms)

# Ambush predators

Bloodworm *Glycera dibranchiata*



Examples:

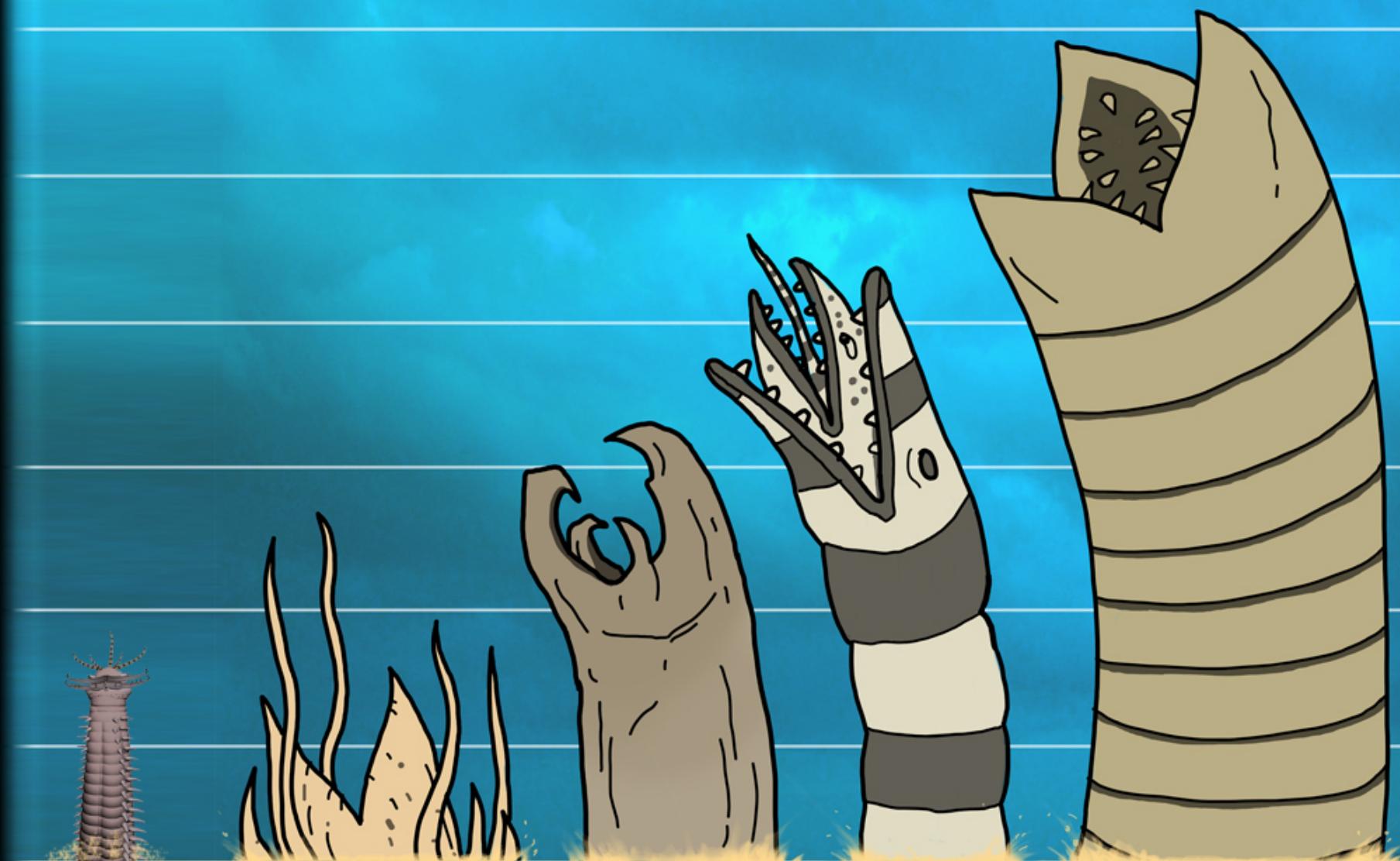
Eunicidae (Bobbit worms)

Glyceridae (blood worms)



Rokus Groeneveld ©

# SANDWORM SIZE CHART



BOBBIT WORM  
Oceans

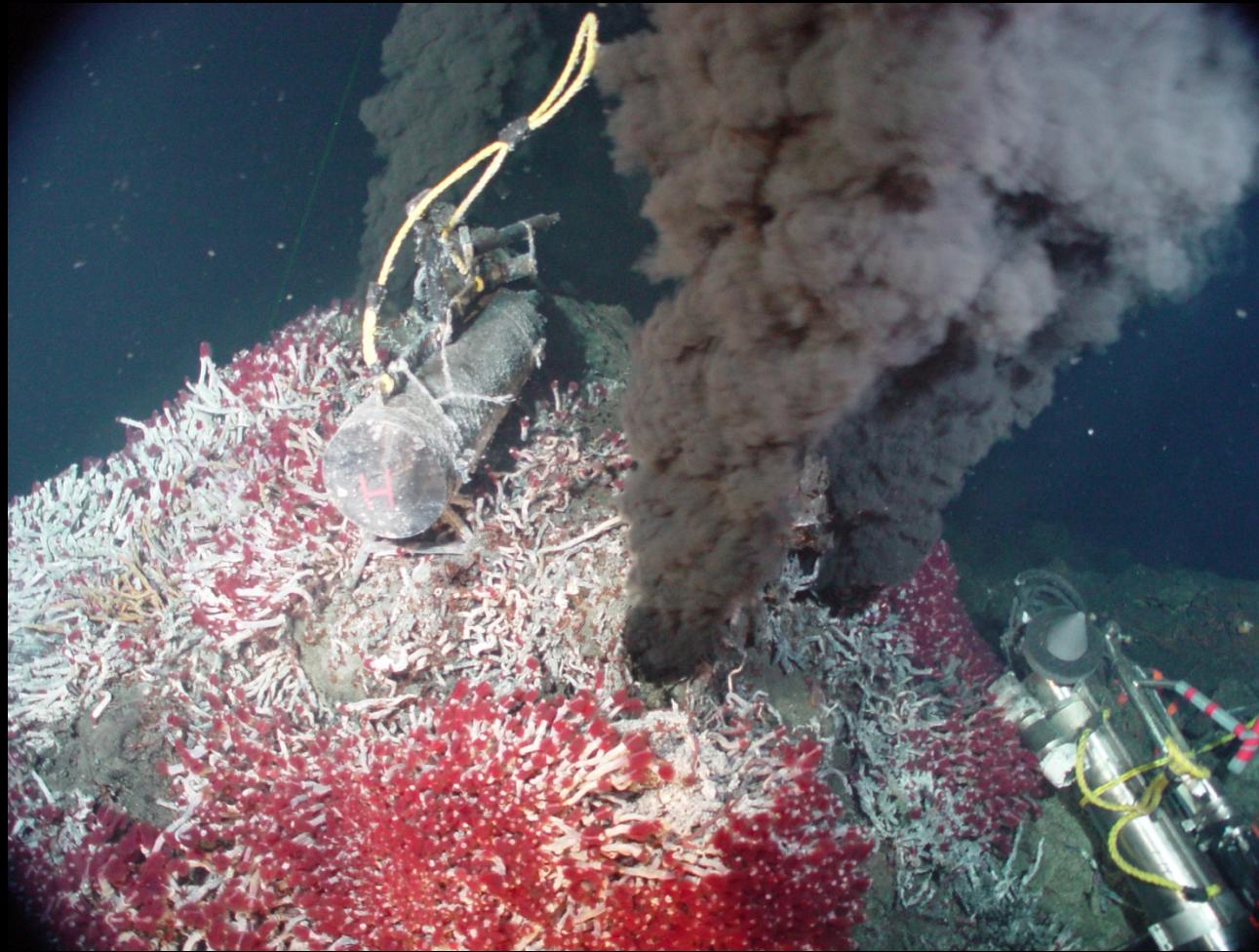
SARLACC  
"Return of the Jedi"

GRABOID  
"Tremors"

???  
"Beetlejuice"

SHAI-HULUD  
"Dune"

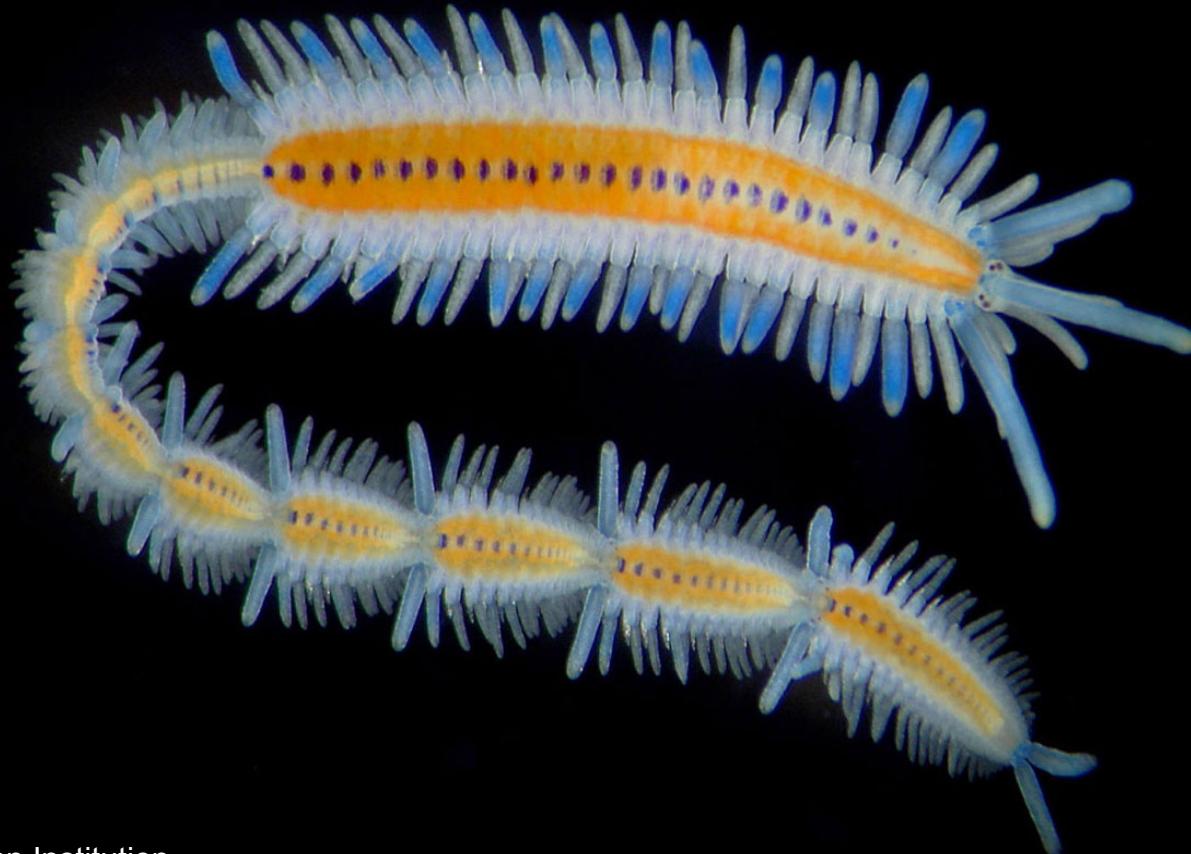
# Chemosynthetic symbiosis



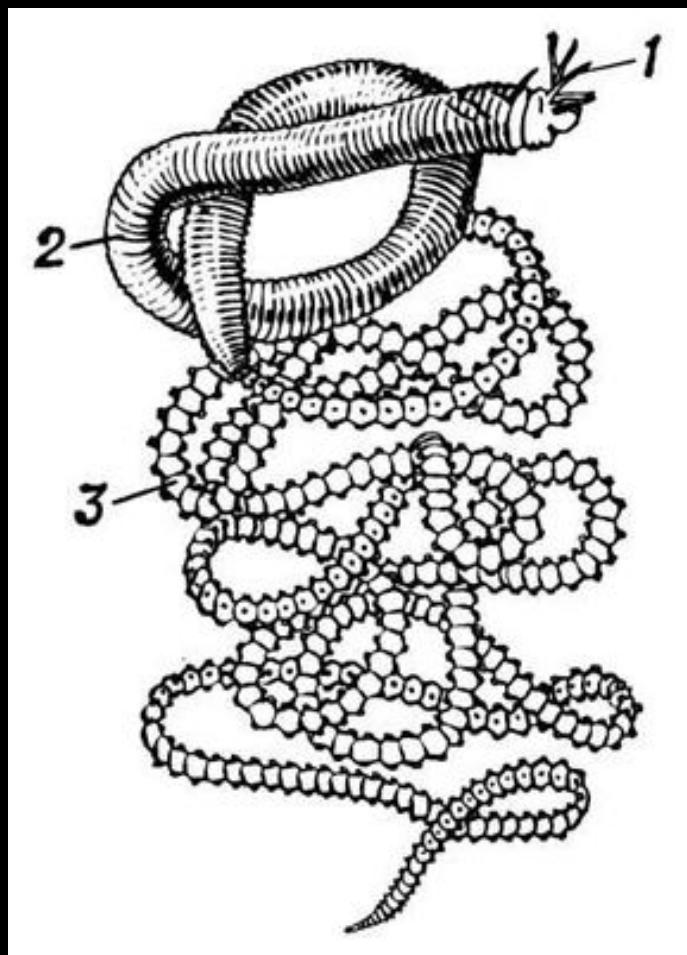
Siboglinidae (formerly Pogonophora)

# Reproduction modes

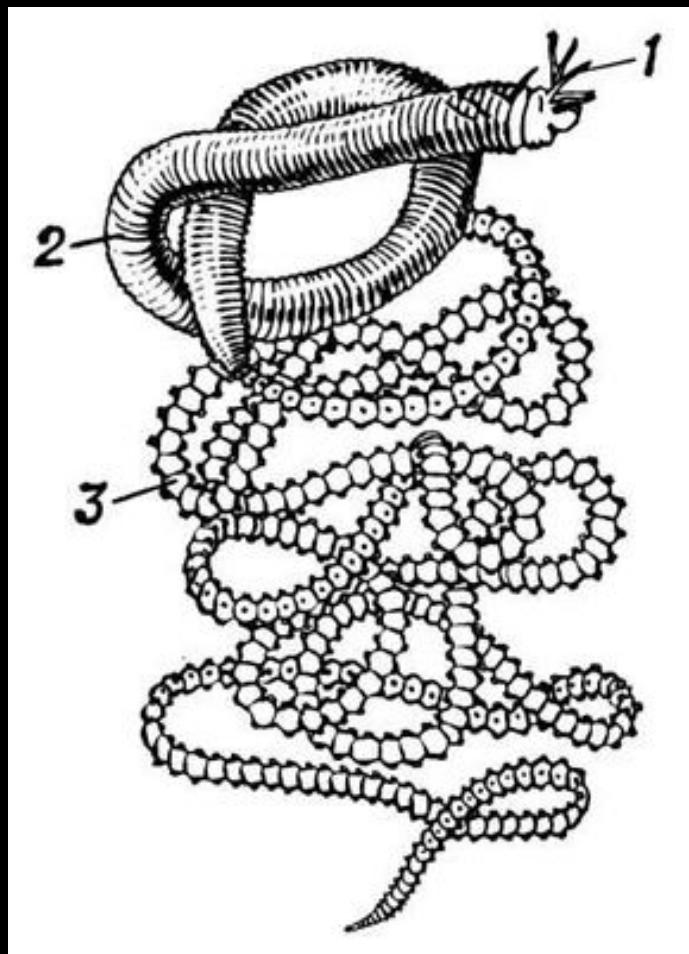
- Many different modes of reproduction
- Sexual and asexual reproduction
- Most species gonochoric, but hermaphroditic species also exist



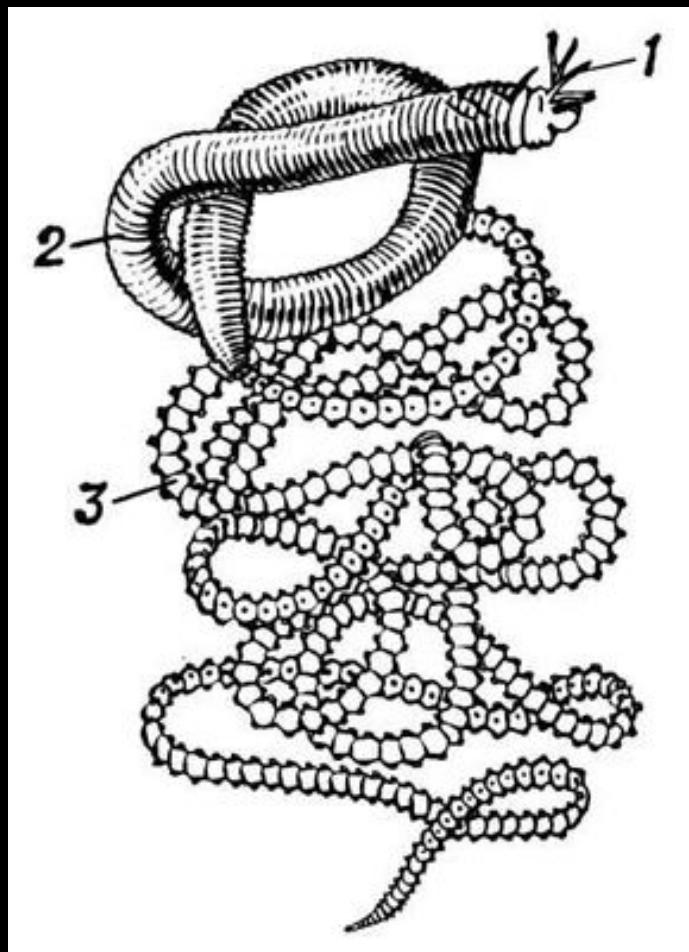
# Palolo Worms



# Palolo Worms



# Palolo Worms



# Fire Worms (Amphinomidae)



Courtesy National Oceanic and Atmospheric Administration/Department of Commerce



[www.seasky.org](http://www.seasky.org)

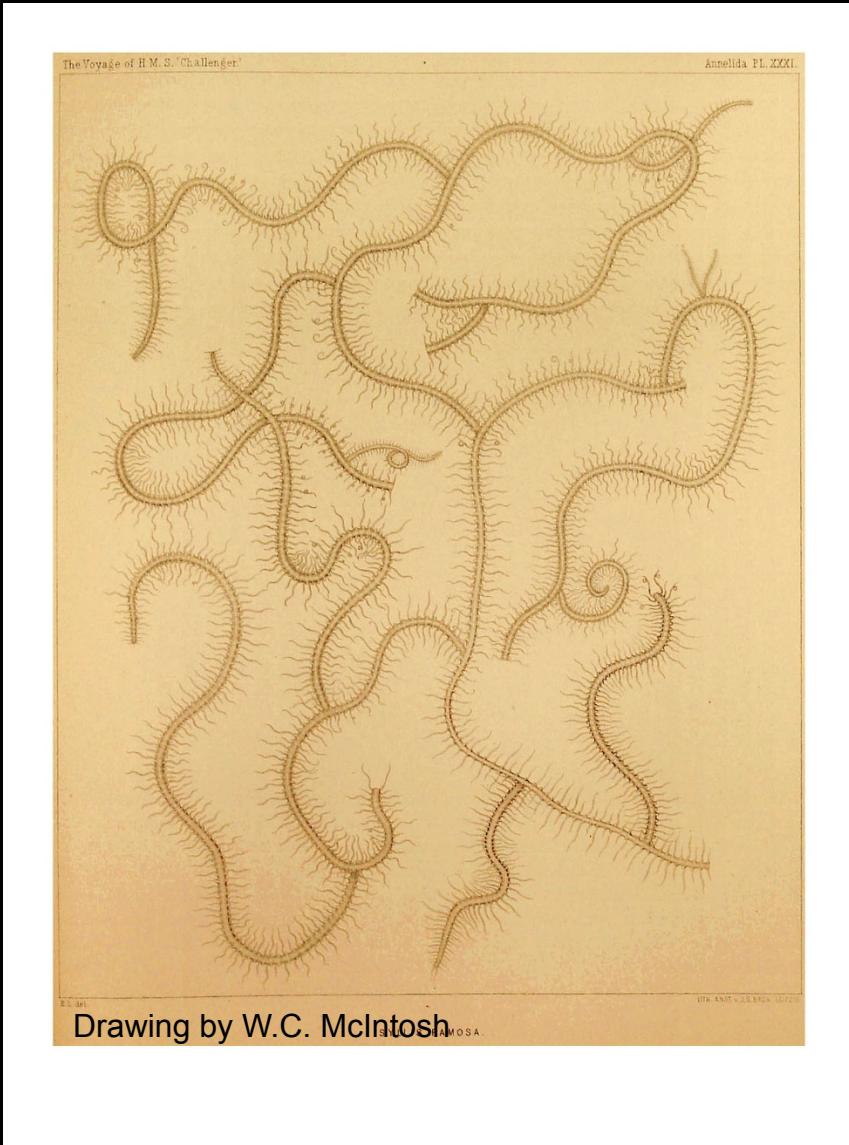
# Pompeji Worms (Alvinellidae)



# Thy “reverse hydra” worm (Syllidae)



Photo by Chris Glasby



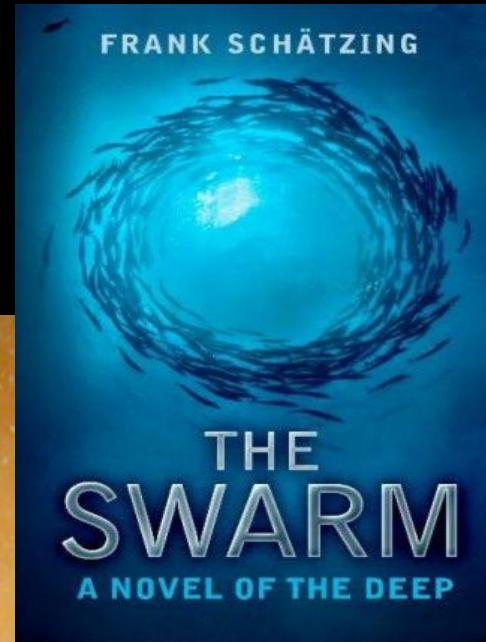
Drawing by W.C. McIntosh  
S. AMERICA.

# The Methane Ice Worm (Hesionidae)



Photo by Ian McDonald

# How worm scientists become famous (Part I)



Dr. Dieter Fiege



# The Bone Eater (Siboglinidae, genus: Osedax)



# How worm scientists become famous (Part II)



Dr. Greg Rouse

# Questions for the Worm Scientist?

