

Glossary

for **Glyceridae** and **Goniadidae**



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PREFACE

This predominantly illustrated glossary standardise the mainly morphological terminology used for the species identification of *Glyceridae* GRUBE, 1850 and *Goniadidae* KINBERG, 1865. It is adapted from different authors.



A

achaetous, a- (*gr.*) without chaetae.

acicula (pl. **aciculae**), stout supportive chaeta found internally in projecting parapodial rami (fig. 9).

acicular chaeta, straight or bent thicker chaeta of the notopodium in some Goniadidae, sometimes with curved tip (fig. 9).

adult, adult specimen, individual organism that is full grown, sexually mature.

aileron (pl. **ailerons**), accessory jaw plate in the Glyceridae; can consist of an outer ramus, an inner ramus and an interramal plate; they become hardened and darker during ontogeny (fig. 4).

anal cirri, usually one pair of elongated projections from the pygidium, which break off very easily (fig. 11).

annulate, annulated, annulation, having sequential constrictions giving a beaded appearance.

anterior, describes what is in front (fig. 1).

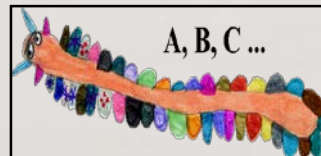
anus, opening at the end of the digestive tract, located dorsal on the pygidium (fig. 11).

apical, the end furthest from the attachment (fig. 1).

apodous, a- (*gr.*) without parapodia.

articulate, jointed, as in terminal appendages.

atoke, an individual not in a reproductive stage; see epitoke.



B

basal, the attachment side (fig. 1).

biannulate, segment which is secondary ringed into two parts, but not truly segmented (fig. 7).

biarticulated, with two joints; pertaining to terminal appendages (fig. 2).

bidentate chaeta, chaeta with two teeth distally (fig. 9).

bifid, distally split in two; pertaining to micrognaths (fig. 5) or proboscidal papillae (fig. 6b).

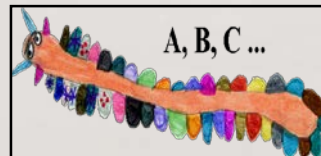
biram, **biramous**, parapodium with two branches, a notopodium and a neuropodium (fig. 8).

blade, distal, flattened portion of a compound chaeta (fig. 9).

blister-like, branchia type which looks like a small pocket (fig. 10).

branchia (pl. branchiae), respiratory organ in some Glyceridae; several types, slightly or completely retractable, located on different places at the parapodium; with thin integument and well developed circulatory system, even if most of the blood-vessels are reduced (fig. 10).

bush-like, branchia type with multiple stems (fig. 10).



C

capillary, capillaries, capillary chaeta, long, slender chaeta tapering to a fine point (fig. 9).

chaeta (pl. **chaetae**), chitinous bristle protruding from an epidermal pocket in the body wall (fig. 9).

chaetigers, segments bearing chaetae (fig. 7).

chevrons, additional jaw pieces in some Goniadidae; laterally arranged series of V-shaped structures in a more posterior position of the proboscis (fig. 3).

ciliary rootlets (cr), striated filamentous intracellular structures in the proboscidial papillae of Glyceridae that might serve as cytoskeletal elements, in addition to their sensory function (fig. 6a).

ciliation pattern, Glyceridae carry more or less distinct dorsal and ventral ciliated rows on each side of the prostomium, whereas in Goniadidae the cilia are concentrated in latero-dorsal and latero-ventral depressions on each side (fig. 2).

cirriform, slender and cylindrical.

cirrus (pl. **cirri**), sensory appendage; usually slender and cylindrical.

compound chaeta, jointed chaeta, consisting of a basal shaft and a distal portion (fig. 9).

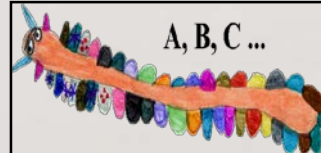
compound micrognaths, see micrognaths (fig. 5).

converging plates, see proboscidial papillae (fig. 6b).

cordate, heart-shaped; pertaining to parapodial lobes.

crown-shaped, shaped like a royal, imperial or princely headdress (diadem); see micrognaths (fig. 5) or proboscidial papillae (fig. 6b).

cuticle (cu), non-cellular protective layer produced by and overlying the epidermis; consists mainly of scleroprotein (not chitin); pertaining to proboscidial papillae (fig. 6b).



D

deeply incised base; see aileron (fig. 4).

dentate, with teeth; pertaining to chaetae, macro-/micrognaths or proboscidal papillae.

digitate distal process, detached finger-shaped extension on a parapodial lobe (fig. 8).

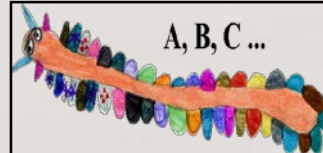
digitiform, finger-shaped.

distal, that part of a structure towards the end (fig. 1).

dorsal, dorsum, refers to the back or upper side (fig. 1).

dorsal cirrus, cirrus situated on or above the noto-/neuropodium (fig. 8).

duckfood-shaped, see proboscidal papillae (fig. 6b).

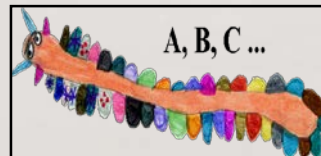


E

epidermal, epidermis, outer layer of the skin; derived from ectoderm.

epitoke, morphologically modified reproductive stage, with completely or partly enlarged parapodia (fig. 8) and in Glyceridae sometimes atrophied musculature and digestive tract; often swarming with additional natatory chaeta (fig. 9).

eyes, light receptive organs which occurs as a pair of subdistal and/or basal subdermal structures on the prostomium in some Goniadidae (fig. 2).



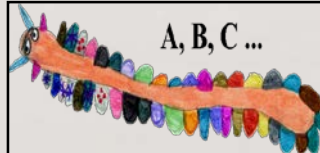
F

falciger, falcigerous, compound chaeta with a stout, hooked appendage or blade (fig. 9).

fang-shaped, see proboscidal papillae (fig. 6b).

fingernail(-like) structure, see proboscidal papillae (figs. 6a, 6b).

foliaceous, thin and leaf-like; pertaining to parapodial lobes.



G

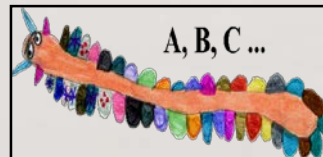
globular, see proboscoidal papillae (fig. 6a).

Glycerea, original name given by Grube (1850) for species of Glyceridae and Goniadidae, used by Hartman (1950) for the superfamily including both separated families.

Glyceridae, a family of polychaete worms described by Grube (1850) for the first time.

Goniadidae, a family of polychaete worms described by Kinberg (1865) for the first time.

guarded hook, type of a acicular chaeta, which is terminally covered with more or less distinctly hair-like spines (fig. 9).



H

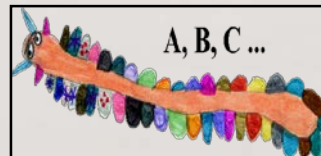
head, collective term used for a structure formed by the fusion of prostomium and peristomium; in Glycerea with four cirriform terminal appendages that arise from the tip of the usually conical prostomium and a basal pair of nuchal organs (fig. 2).

heart-shaped, see proboscidal papillae.

hood, delicate chitinous envelope with a single opening, covering the apex of hooks (fig. 9).

Hook, stout-shafted, unjointed, distally curved chaeta (fig. 9).

H-shaped, see micrognaths (fig. 5).



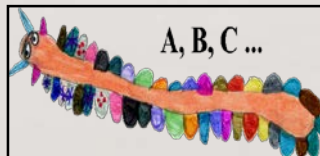
I

inferior, the more ventral of two structures (fig. 1).

inner ramus, shorter branch of an aileron (fig. 4).

integument, natural covering of an organism or external skin, consists of a single layered epidermis from which arises the cuticle.

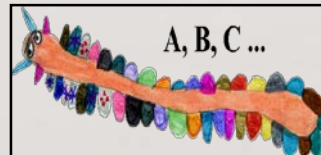
interramal plate, connection between the outer ramus and the inner ramus of an aileron (fig. 4).



J

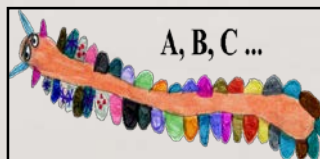
jaw (pl. **jaws**), hardened feeding or grasping apparatus with opposable units situated in the proboscis; Glyceridae carry four hook-shaped jaws arranged in a cross, with accessory jaw plates (ailerons), furthermore they are associated through special ducts with venom glands ending at the tip and additionally connected with a series of pores on the ventral side; Goniadidae have a ring of usually two macrognaths and a variable number of ventral and/or dorsal micrognaths, additional jaw pieces (chevrons) might be present in a more posterior position (fig. 3).

juvenile, juvenile specimen, individual organism that has not yet reached its adult form, sexual maturity or size.



K

keratinised, hardened by keratine; pertaining to the terminal fingernail structures of some proboscoidal papillae.



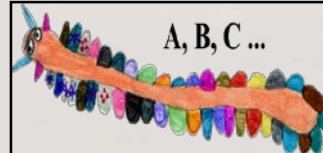
L

lateral, located on the side (fig. 1).

lateral cirri, first segment behind the head sometimes with a pair of small sideways cirri instead of more or less developed parapodia (fig. 7).

lobe, conical fleshy projection of a parapodium.

lyrate chaeta, special compound chaeta shaped like a lyre, with branches of different lengths and small inwardly directed teeth (fig. 9).



M

macrognaths, paired lateral jaw pieces on the opening of the proboscis in the Goniadidae, with inwardly directed teeth (fig. 3).

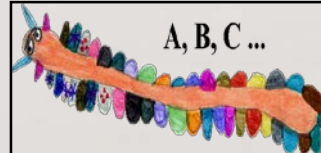
medial, near or toward the median or mid-line of the body (fig. 1).

median, in the mid-line (fig. 1).

micrognaths, small jaw pieces typically arranged on the opening of the proboscis in a ventral and/or dorsal arc between the macrognaths of Goniadidae; each one consists of one (simple) or two pieces (compound), which are disposed in one or several rows; simple ones are crown-, H-shaped, rod-like, X-, Y-shaped, or inverted Y-shaped, whereas compound ones have a larger piece with two (H-shaped), three (W-shaped) or four distal cuspids (VV-shaped) and a jointed smaller piece with two (v-shaped), three (w-shaped) or four distal cuspids (vv-shaped) (figs. 3, 5).

mid-body, the middle body region (fig. 1).

mouth, anterior morphological opening of the digestive tract, located ventral to the prostomium (fig. 2).



N

natatory chaeta, very slender simple or compound chaeta with elongated blades (fig. 9), which may be used for purposes of swimming by epitokes for spawning or by atokes for migration.

neuroacicula, acicula of a neuropodium (fig. 9).

neurochaeta, chaeta arising from a neuropodium (fig. 9).

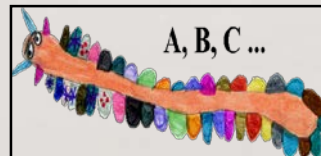
neuropodium (pl. **neuropodia**), lower or ventral branch or ramus of a parapodium; divided into prechaetal and postchaetal lobe(s) of different shape (fig. 8).

notoacicula, acicula of a notopodium (fig. 9).

notochaeta, chaeta arising from a notopodium (fig. 9).

notopodium (pl. **notopodia**), upper or dorsal branch or ramus of a sub- or biramous parapodium; one lobe or divided into a prechaetal and postchaetal lobe of different shape in biramous parapodia (fig. 8).

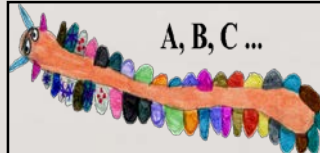
nuchal organs, paired ciliated sensory organs located dorso-laterally in the posterior region of the prostomium, which can be retracted (fig. 2).



O

ontogeny, development of an organism usually from the zygote to adult, but also used for the whole lifespan.

outer ramus, longer branch of an aileron (fig. 4).



P

parapodium (pl. **parapodia**), fleshy lateral foot-like projection from a segment, bearing chaetae; might be divided into an upper notopodium and a lower neuropodium, which are indistinctly (Glyceridae, right side) or distinctly separated (Goniadidae, left side) (figs. 7, 8).

peristomium, presegmental region of the body that lies between the prostomium and the first segment; for Glycerea interpreted as being limited to the lips.

pharynx, anterior muscular part of the digestive tract.

postchaetal lobe, posterior to the chaetae; used in relation to parapodial lobes (fig. 8).

posterior, describes what is to the back (fig. 1).

prechaetal lobe, anterior to the chaetae, used in relation to parapodial lobes (fig. 8).

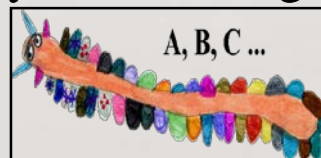
proboscidal papillae, multiform structures on the proboscis surface; Glyceridae with soft, sometimes partly keratinised papillae with prominent intracellular ciliary rootlets, usually one predominant and 1-2 additional types with differently designed sides (figs. 3, 6a); Goniadidae with sclerotised papillae, either more uniform of small size or greatly diversified and arranged in distinct longitudinal rows or areas (figs. 3, 6b).

proboscis, eversible pharynx capable of being extended by turning the inner part outwards for feeding and burrowing; lies more or less free in the anterior body cavity, evaginated by coelomic pressure and retracted by muscular ligaments on the foregut; the terminal part forms the physiological/functional mouth opening (fig. 3).

prostomium, anterior presegmental part of the body, bearing sensory organs such as terminal appendages, nuchal organs and sometimes eyes (fig. 2).

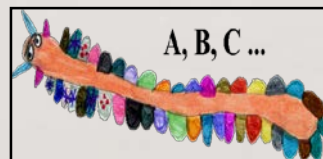
pygidial cirri, see anal cirri.

pygidium, terminal postsegmental part of the body surrounding the anus (fig. 11).



Q

quadriarticulated, with apparently four joints; pertaining to terminal appendages (fig. 2).

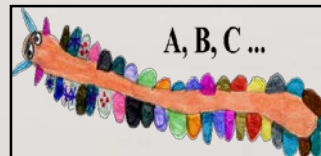


R

ramose, branched.

ramus (pl. **rami**), branch, in relation to the dorsal or ventral branch of a parapodium or the outer and inner branch of an aileron.

rod-like, only consist of one branch; pertaining to ailerons it is the outer ramus (fig. 4) and to mircoognaths a single jaw piece (fig. 5).



S

sclerotised, hardened by a scleroprotein; pertaining to the proboscidal papillae of the Goniadidae.

segment (pl. **segments**), one of the serially repeated units comprising the trunk, generally carrying paired parapodia and sometimes secondary ringed (fig. 7); most of the segmental septa and mesenteries are strongly reduced in the Glycerea.

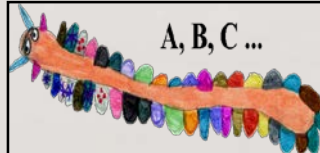
shaft, proximal part of a compound chaeta (fig. 9).

simple, unjointed, consisting of one piece, see chaeta (fig. 9), micrognaths (fig. 5) or terminal appendages (fig. 2).

spiniger, spinigerous, compound chaeta tapering distally to a fine point (fig. 9).

subbiram, subbiramous, parapodium with a well-developed neuropodium and reduced notopodium, limited to acicula and chaetae (fig. 8).

superior, the more dorsal of two structures (fig. 1).



T

teapot-shaped, see proboscidial papillae (fig. 6b).

terminal, at the extremity of a usually projecting structure (fig. 1).

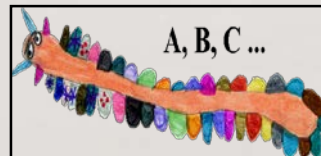
terminal appendages, two pairs of sensory projections arising termino- and dorso-laterally from the tip of the head; simple or more or less distinctly biarticulated and sometimes appear to be tri- or quadriarticulated due to secondary constrictions; according to Orrhage (1999), most of the prostomial rings are equivalent to fused palps and the terminal appendages are therefore structures without direct equivalents in other polychaete families (fig. 2).

tongue-shaped, enlarged notopodial lobes of huge specimens of *Goniada vorax*, which may function as a branchia (fig. 10).

triannulate, segment which is secondary ringed into three parts, but not truly segmented (fig. 7).

triarticulated, with apparently three joints; pertaining to terminal appendages (fig. 2).

tubercles, more or less distinct knob-like protruberances which might be present on some of the anterior segments; usually up to four tubercles occur on each side of the dorsum and sometimes additional ones can be found on the ventral side (fig. 7).



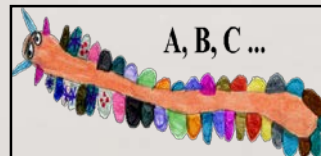
U

undulating ridge, special pattern on proboscidial papillae of some Glyceridae (fig. 6a).

uniram, **uniramous**, parapodium with a single branch, the neuropodium (fig. 8).

uniannulate, segment which consists of only one ring, however in some Goniadidae they appear to be biannulate in the median part of the dorsum (fig. 7).

U-shaped, see proboscidial papillae (fig. 6a).



V

venom glands, parts of the venom system in Glyceridae; reservoirs for the toxin, which is apparently produced by special pharyngeal lobes (fig. 3).

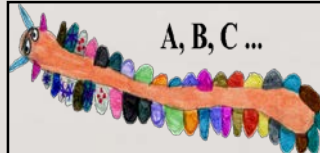
ventral, ventrum, refers to the lower or underside (fig. 1).

ventral cirrus, cirrus situated below the neuropodium (fig. 8).

vermiform, worm-like in form.

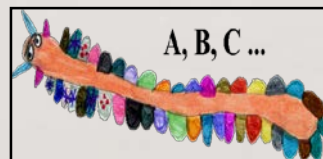
V-shaped, v-shaped, see chevrons (fig. 3), micrognaths (fig. 5) or proboscis papillae (fig. 6a).

VV-shaped, vv-shaped, see micrognaths (fig. 5).



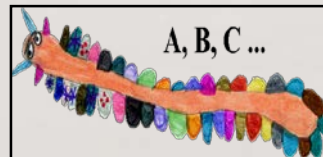
W

W-shaped, w-shaped, see micrognaths (fig. 5).



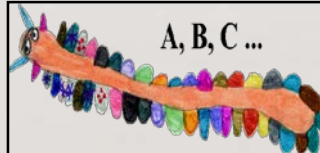
X

X-shaped, see micrognaths (fig. 5).



Y

Y-shaped, see micrognaths (fig. 5) or proboscoidal papillae (fig. 6a).



Z

zygote, product of an egg cell fertilized by a sperm cell, forming a diploid cell.

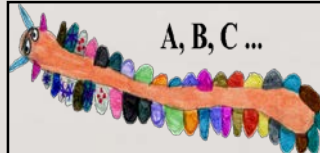


Fig. 1: Directions

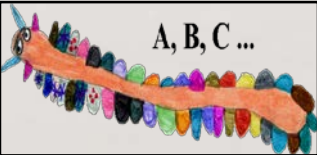
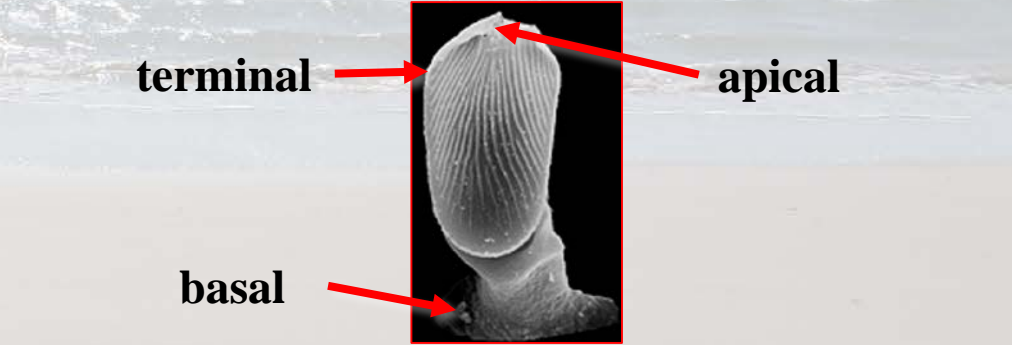
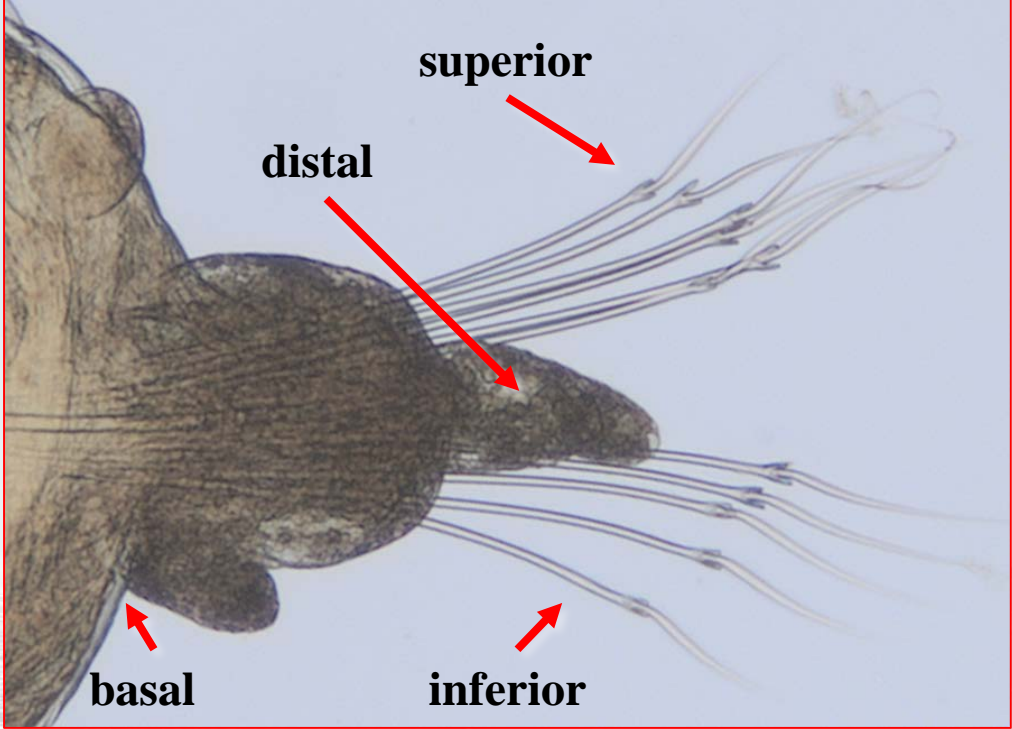
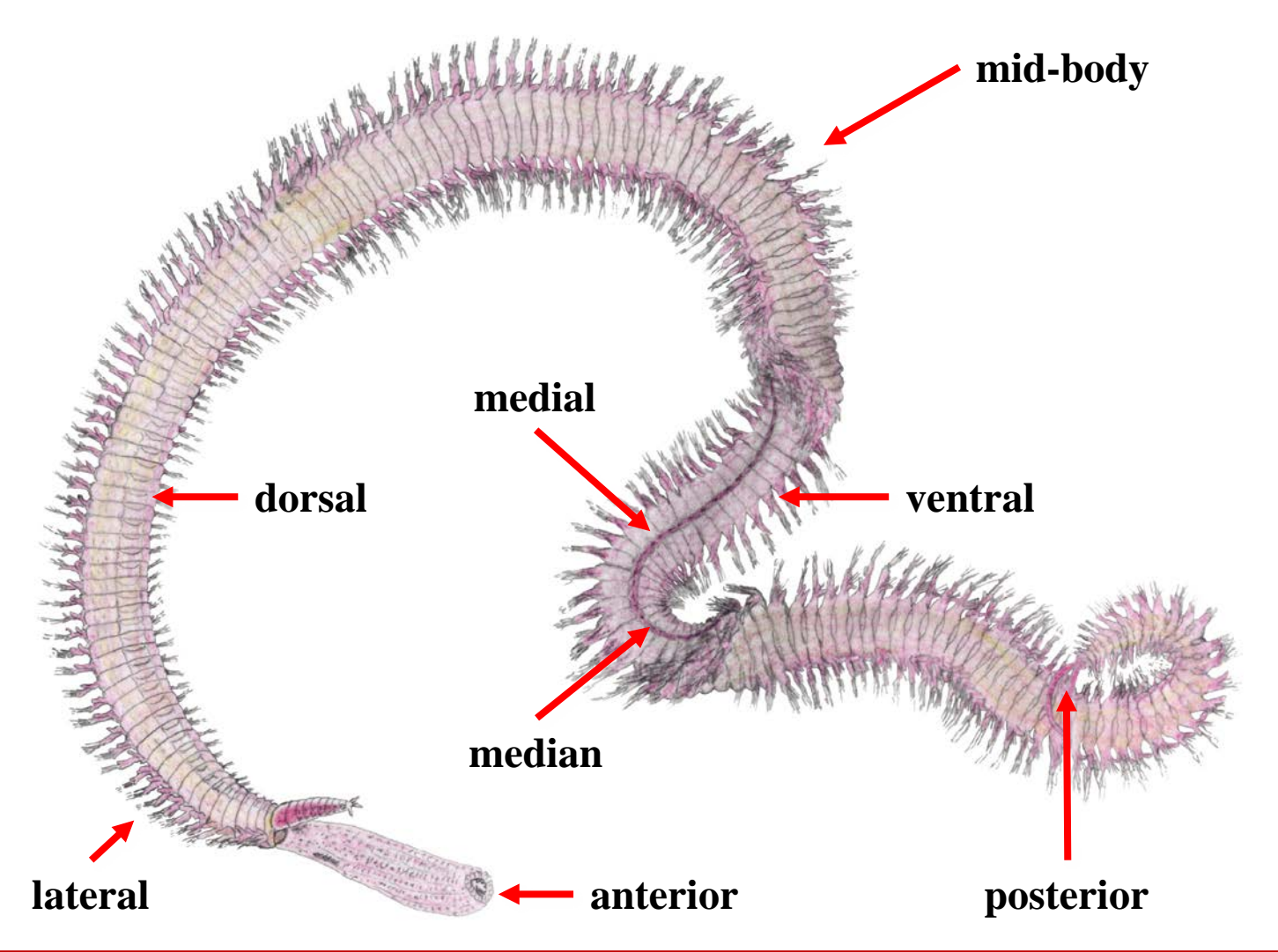


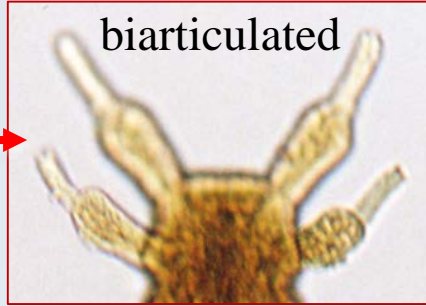
Fig. 2: Head

simple

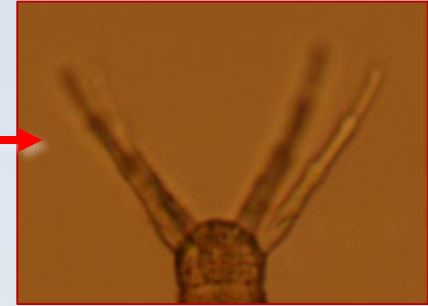


terminal appendages

biarticulated



tri- or quadri-articulated

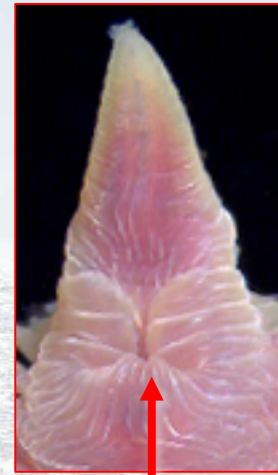


subdistal eyes

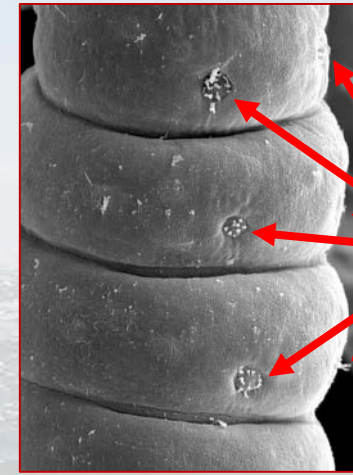


pro-stomium

basal eyes



mouth

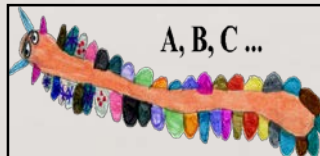
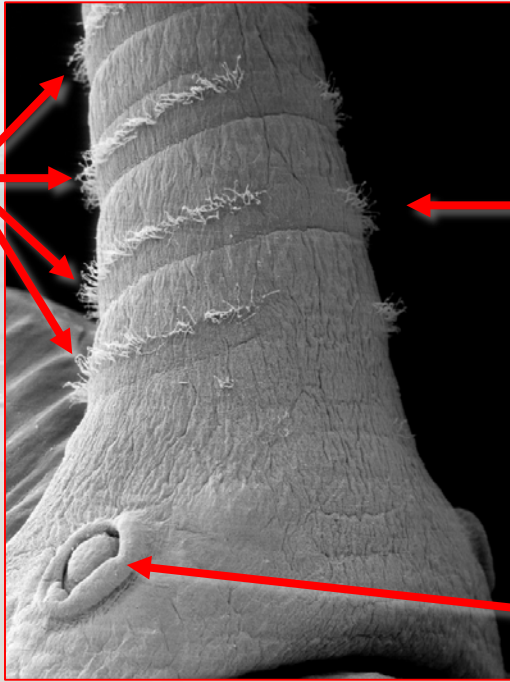


ciliated depressions



nuchal organs

ciliated rows



A, B, C ...



Fig. 3: Proboscis

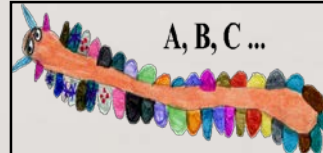
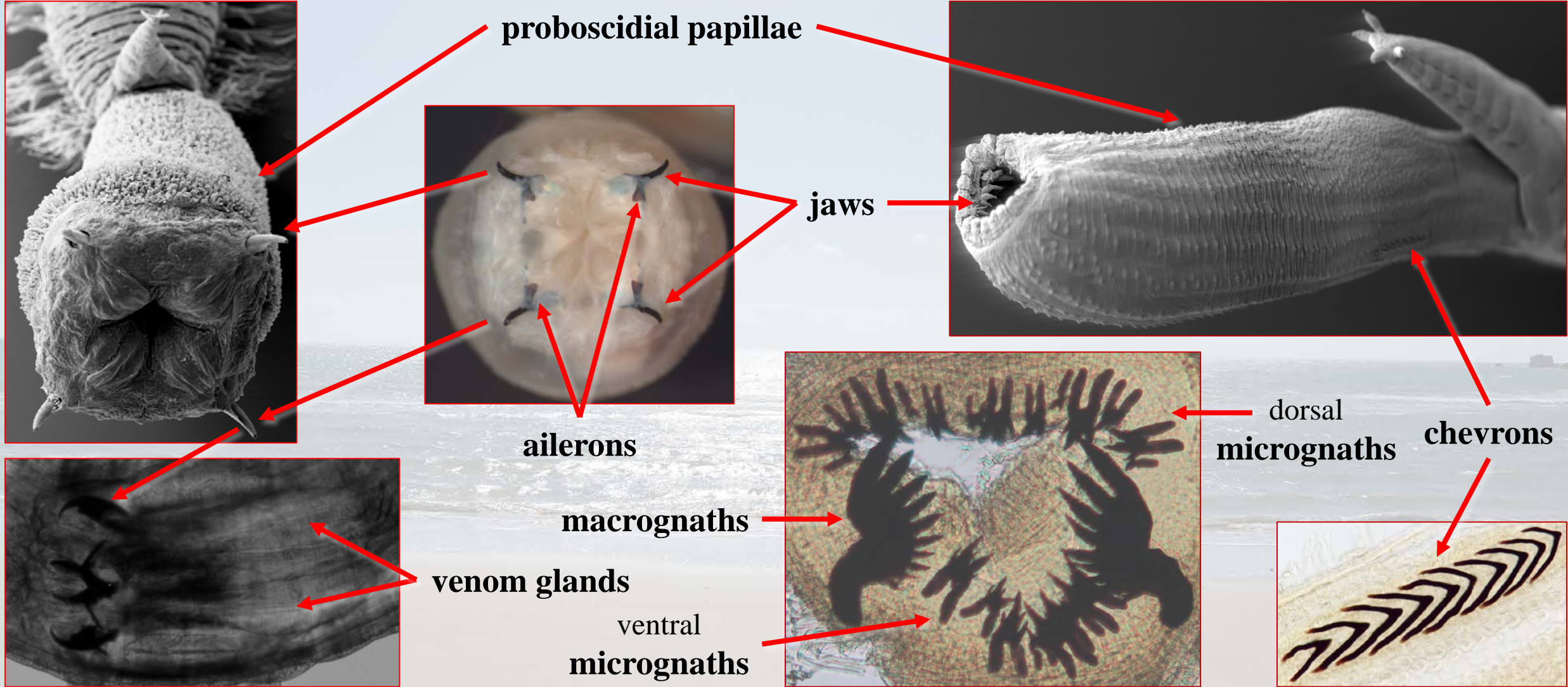


Fig. 4: Ailerons

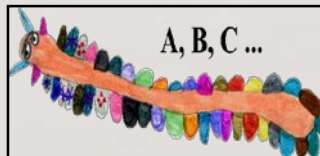
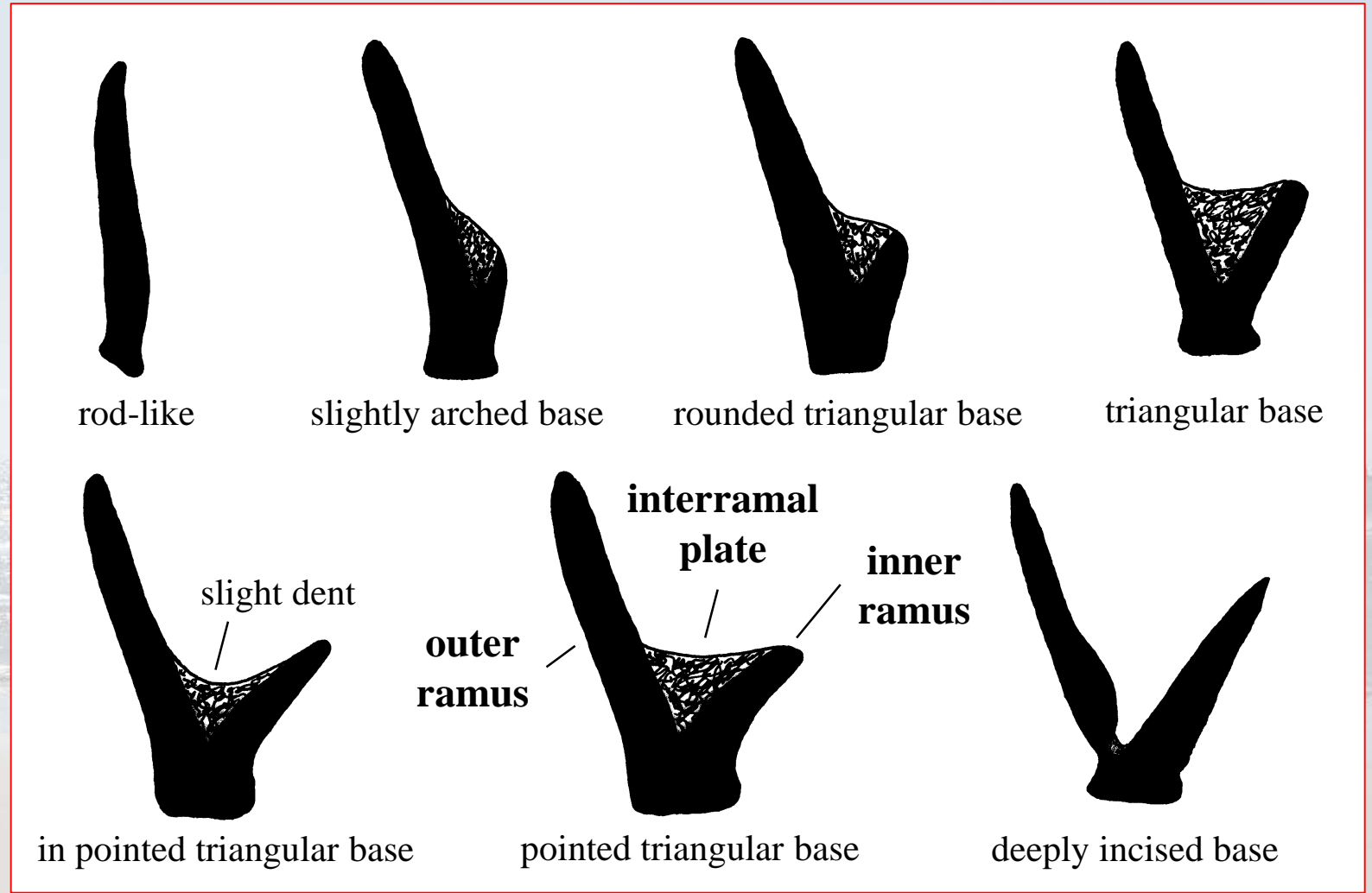
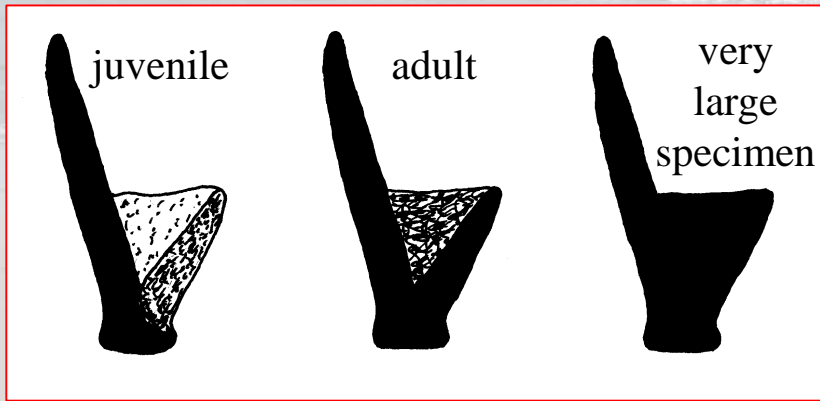
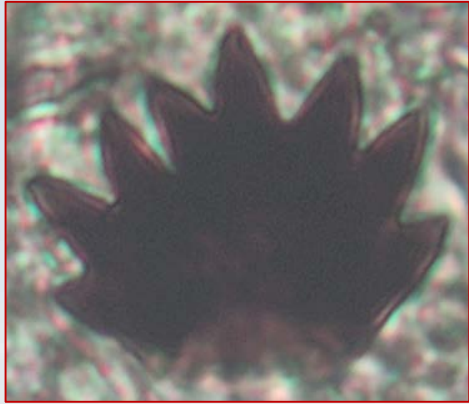
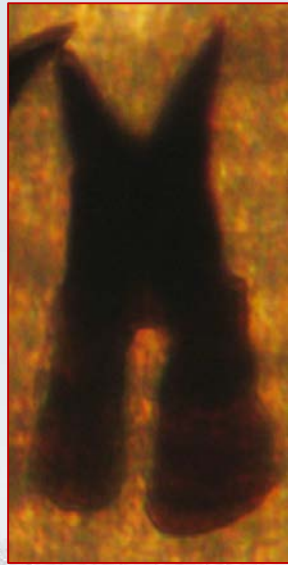


Fig. 5: Micrognathus

simple:



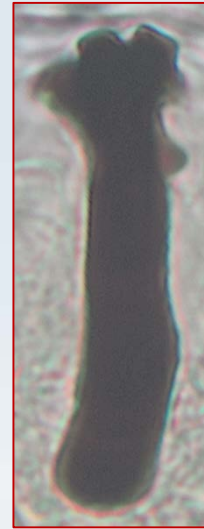
crown-shaped



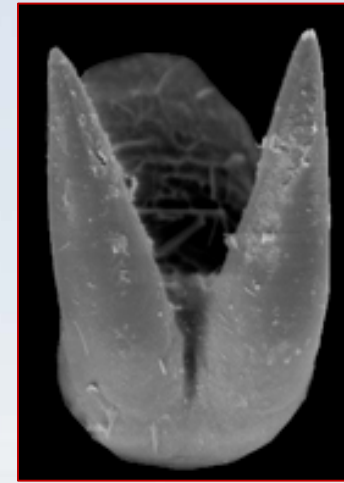
H-shaped



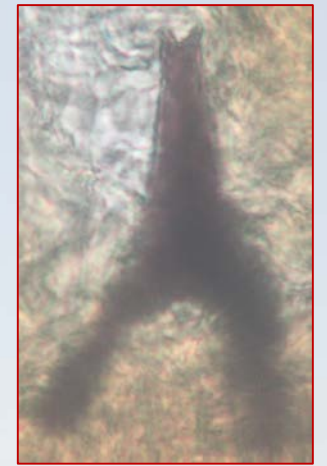
X-shaped



rod-like

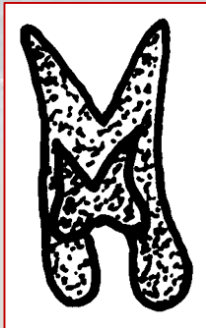


Y-shaped

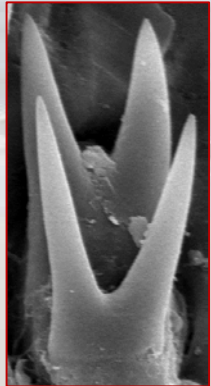


inverted Y-shaped with bifid tip

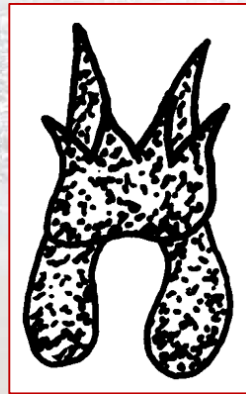
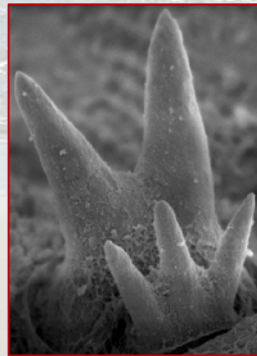
compound:



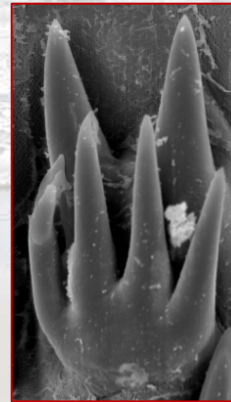
H+v-shaped



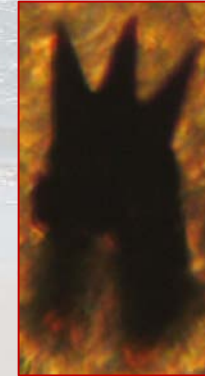
H+w-shaped



H+vv-shaped



W+v-shaped



W+w-shaped



W+vv-shaped

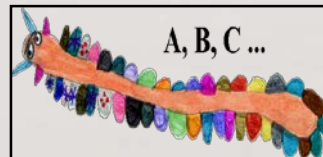
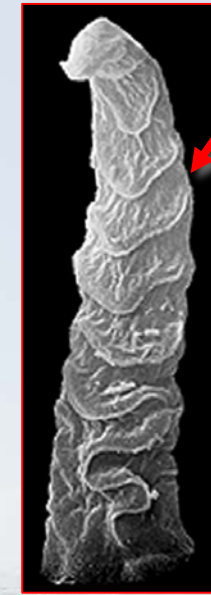
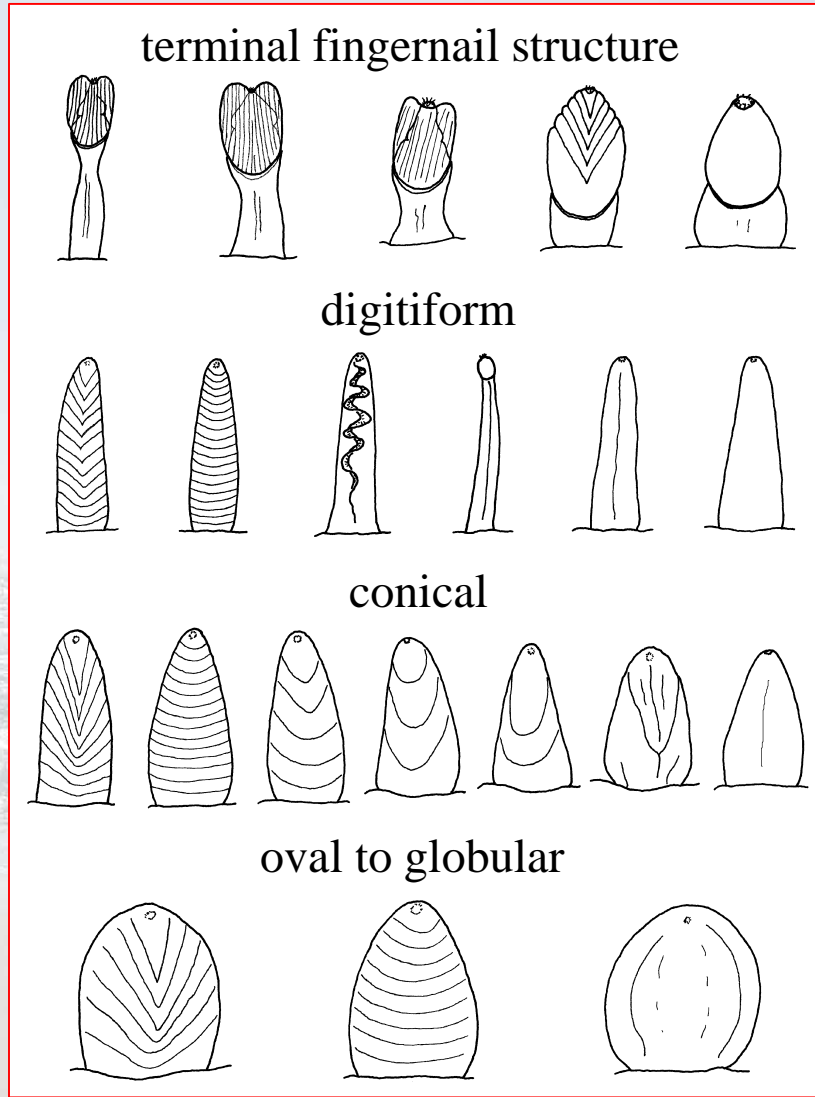
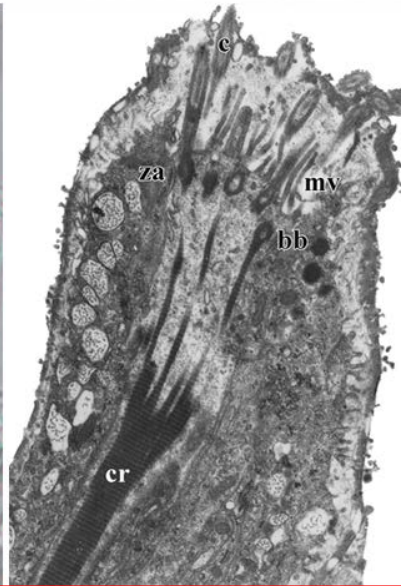
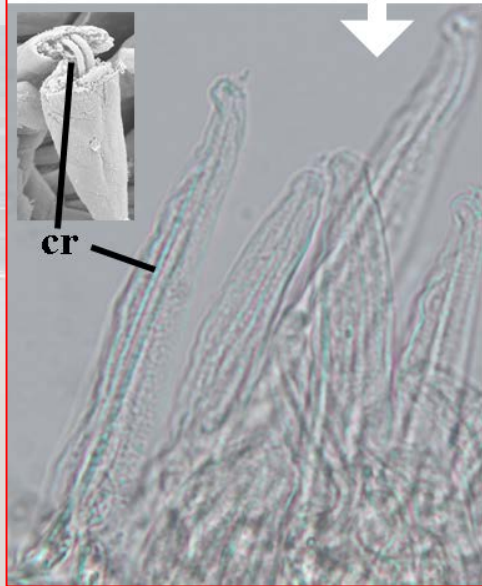
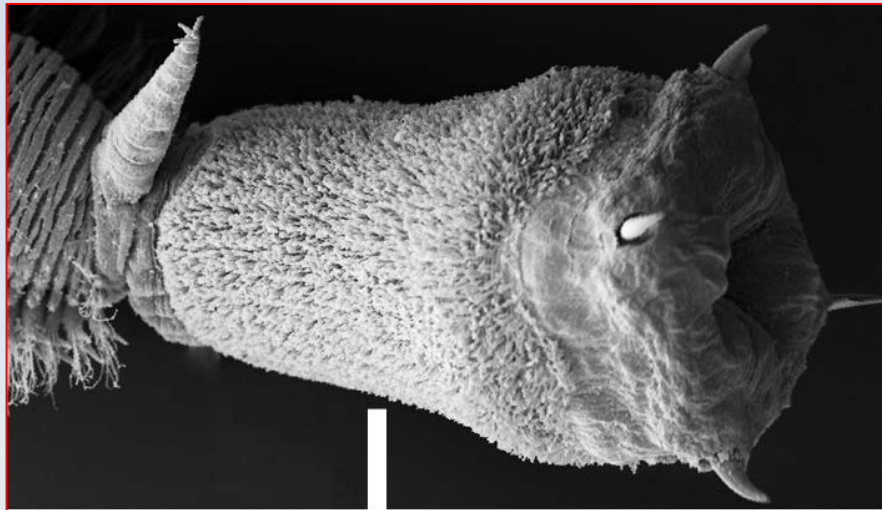


Fig. 6a: Proboscoidal Papillae (*Glyceridae*)



undulating ridge

V-shaped



U-shaped



Y-shaped

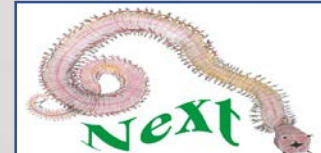
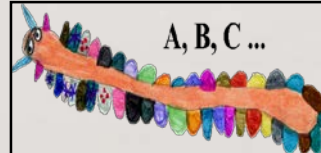
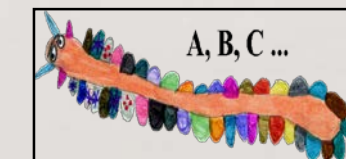
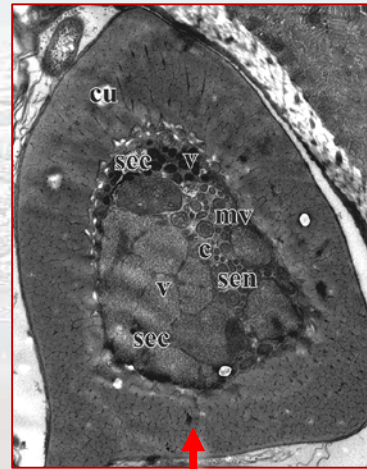
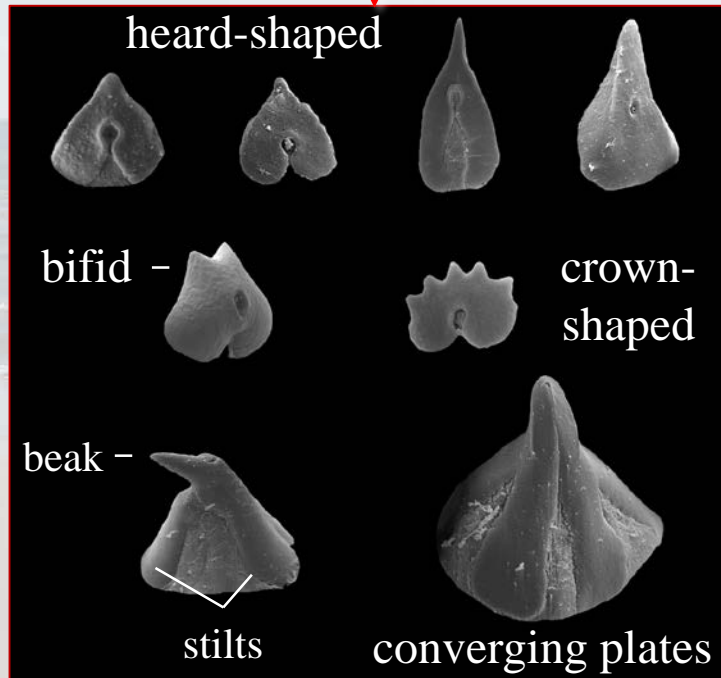
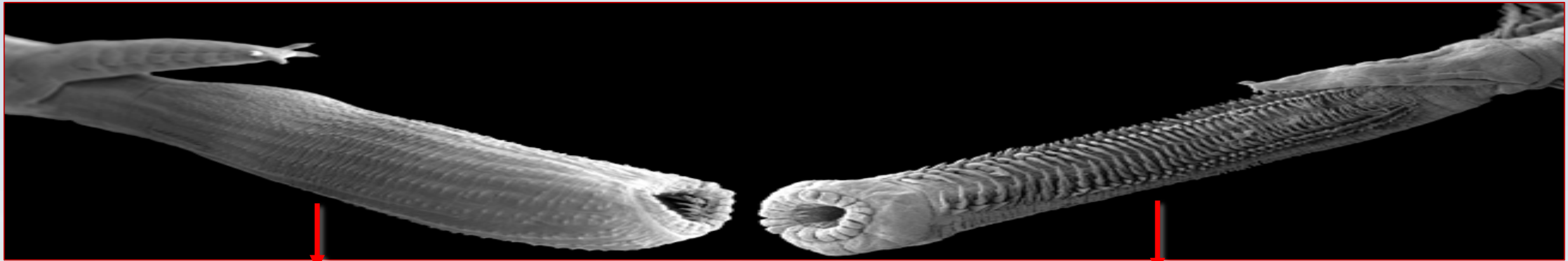
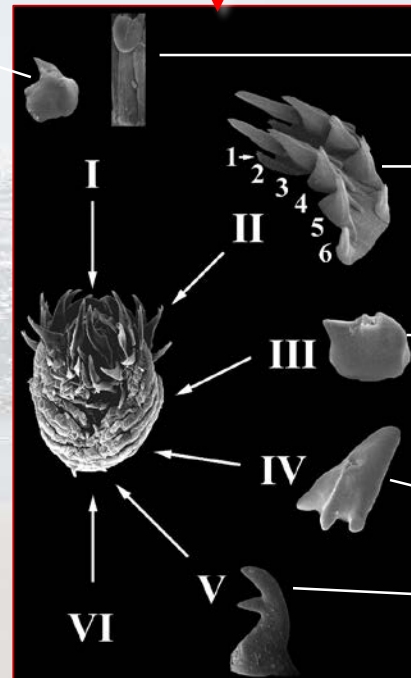


Fig. 6b: Proboscoidal Papillae (*Goniadidae*)



teapot-shaped



fingernail-like
fang-shaped
rectangular
dukefood-shaped
bifid



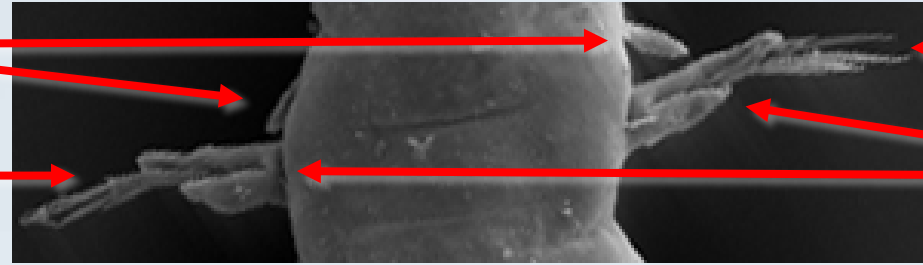
Fig. 7: Segments

lateral cirri

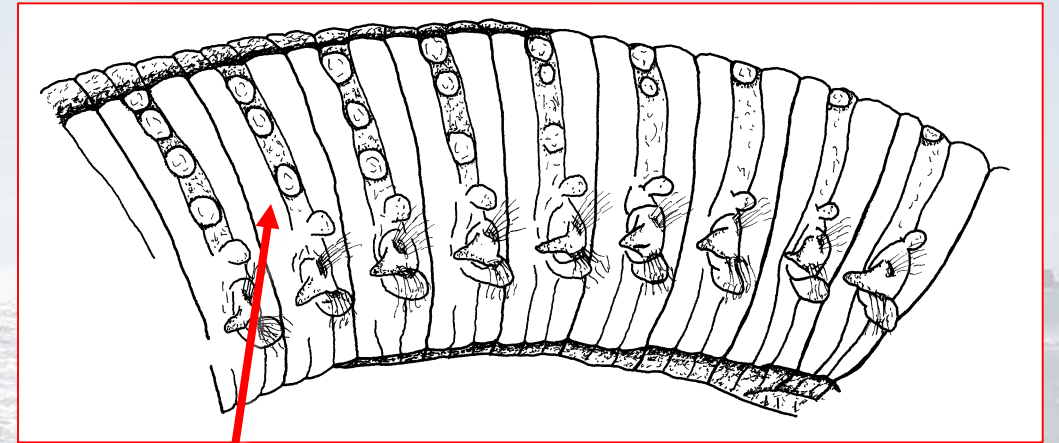
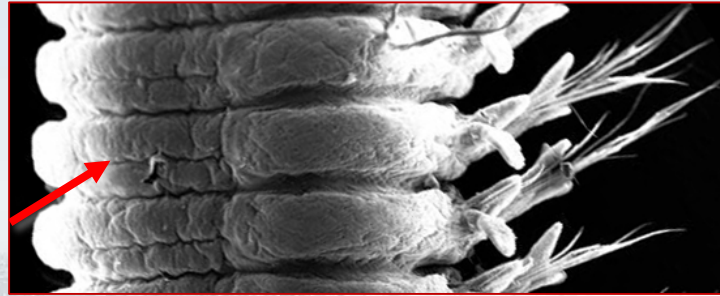
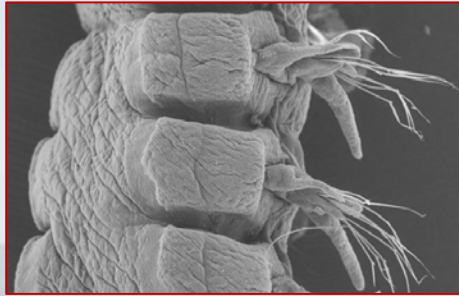
1. segment

2. segment (= 1. chaetiger)

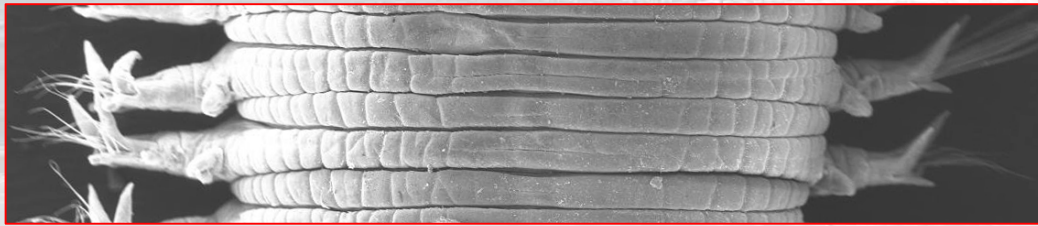
parapodia



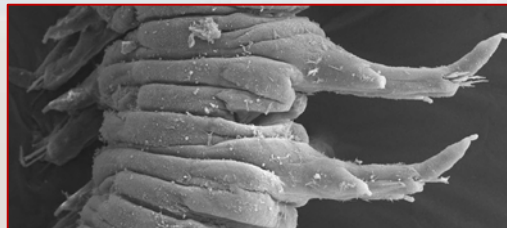
uni-



bi-



triannulate



tubercles

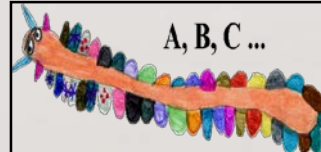
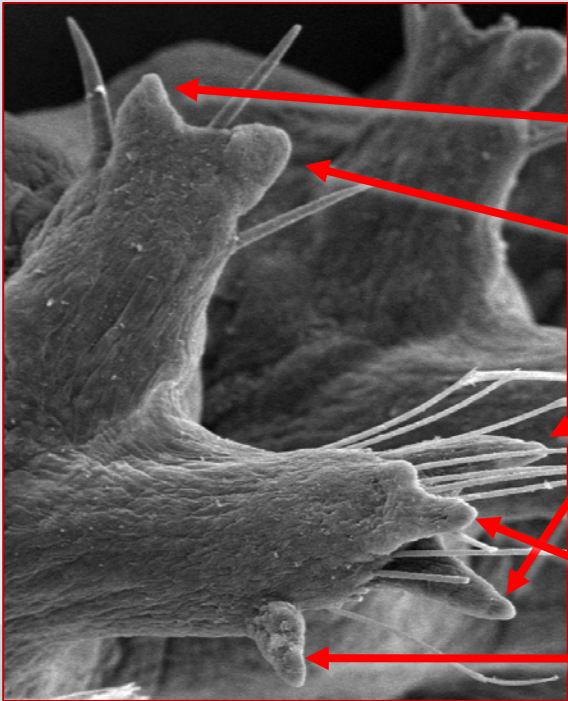
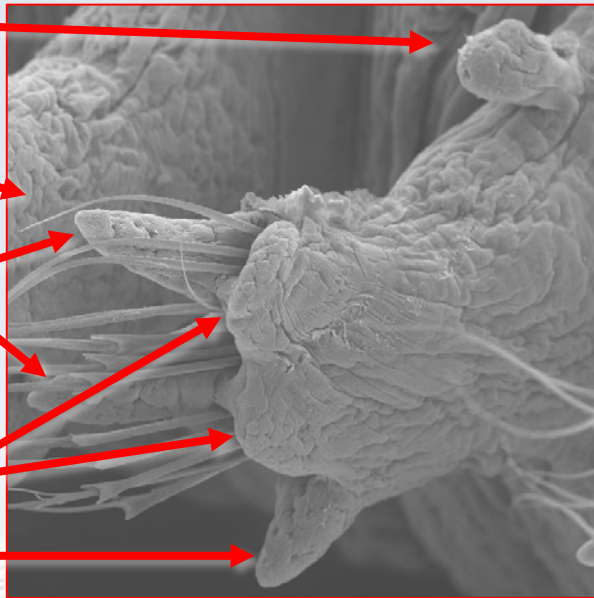


Fig. 8: Parapodia

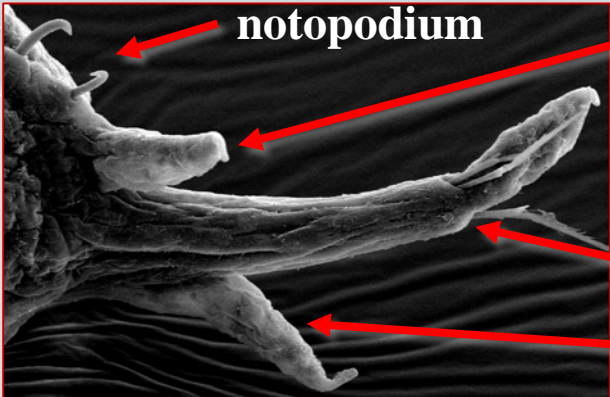


biram

dorsal cirri
notopodia
 prechaetal lobes
neuropodia
 postchaetal lobes
ventral cirri

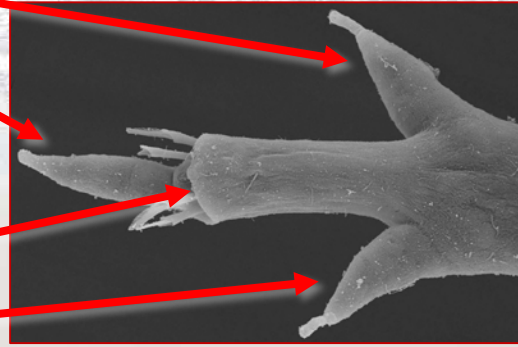


biram

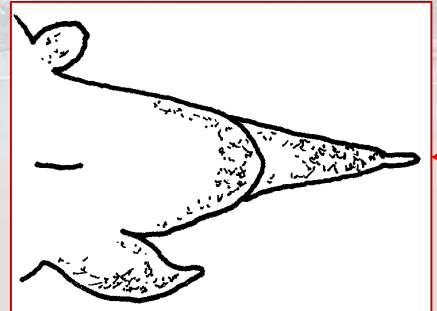
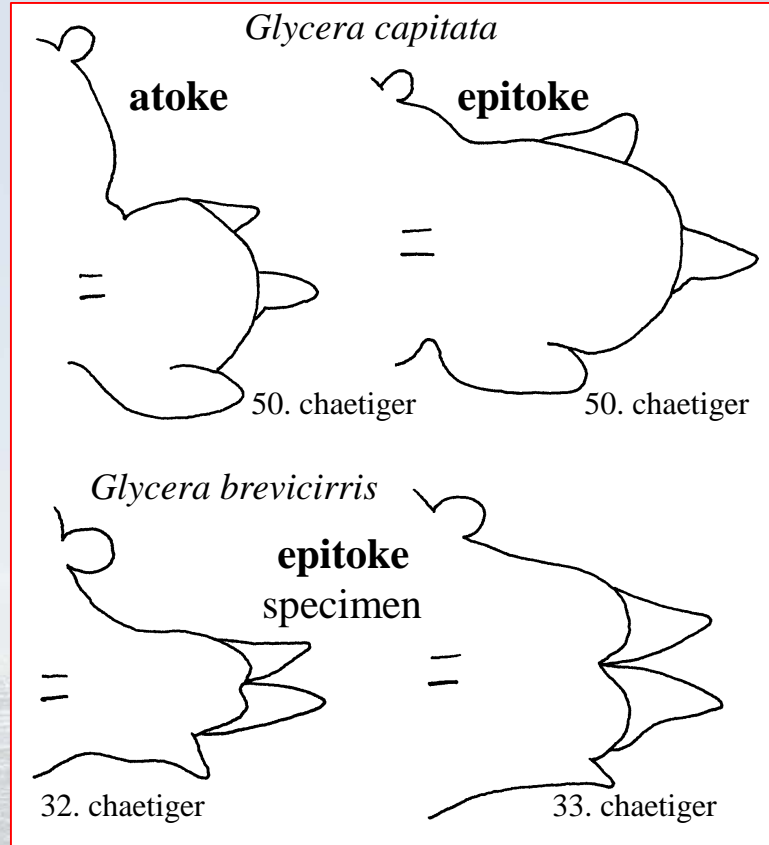


subbiram

dorsal cirri
 prechaetal lobes
neuropodia
 postchaetal lobes
ventral cirri



uniram



digitate distal process

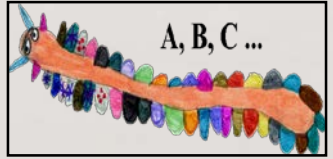


Fig. 9: Chaetae

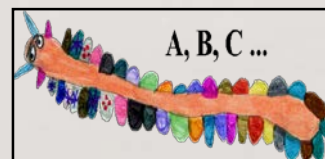
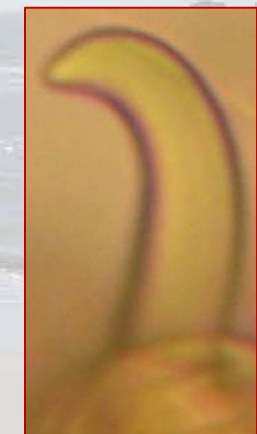
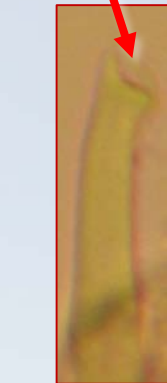
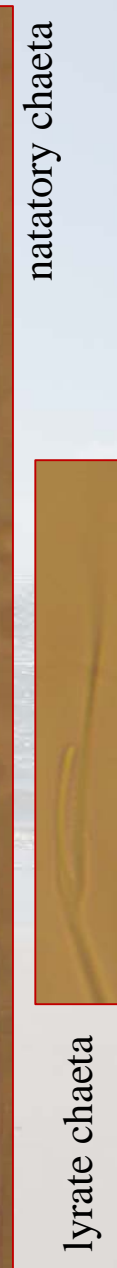
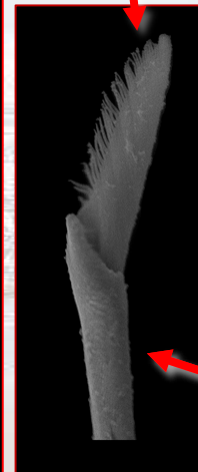
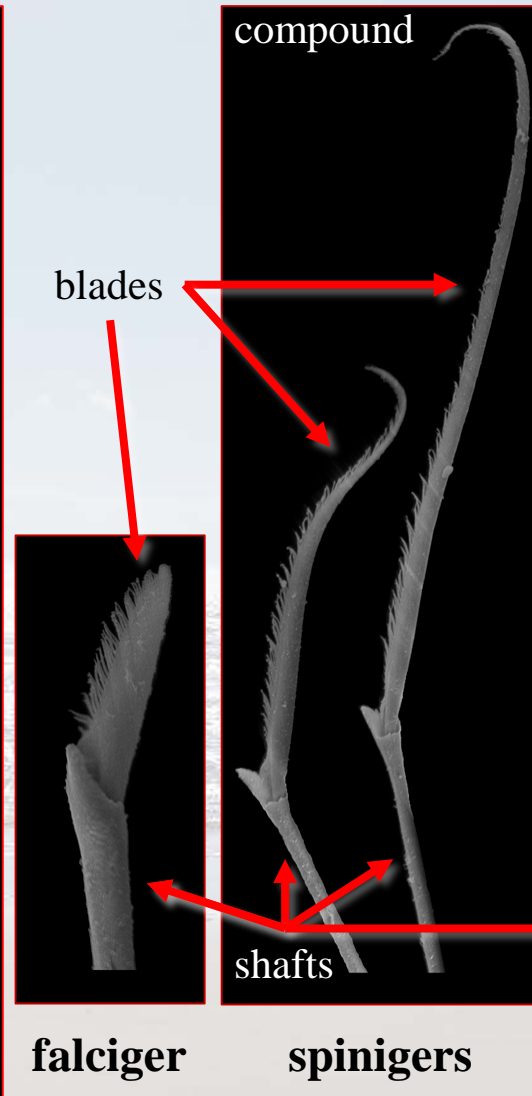
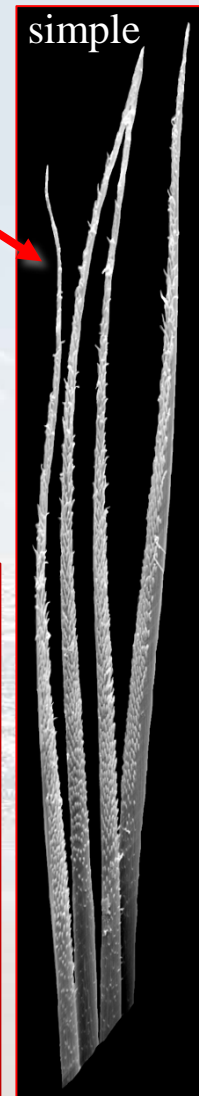
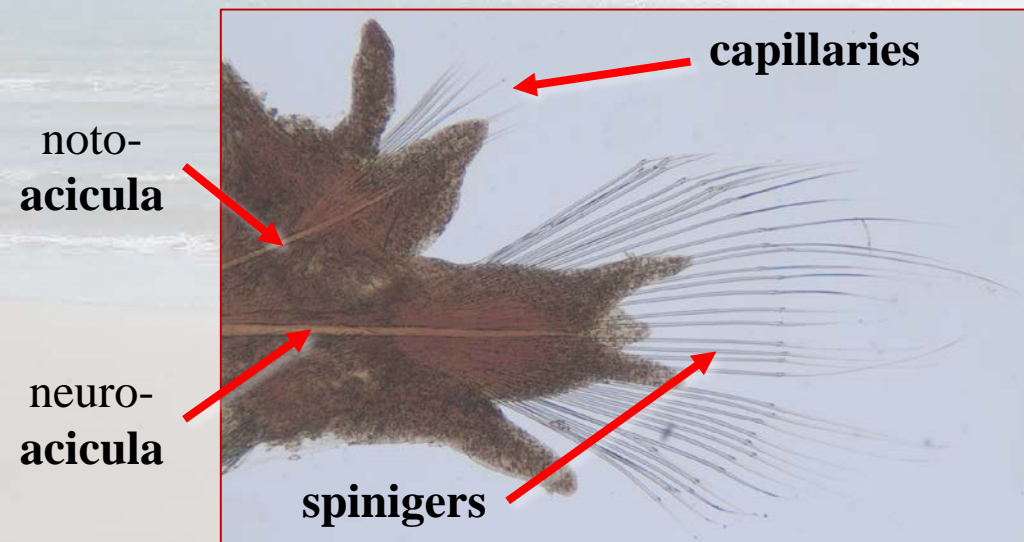
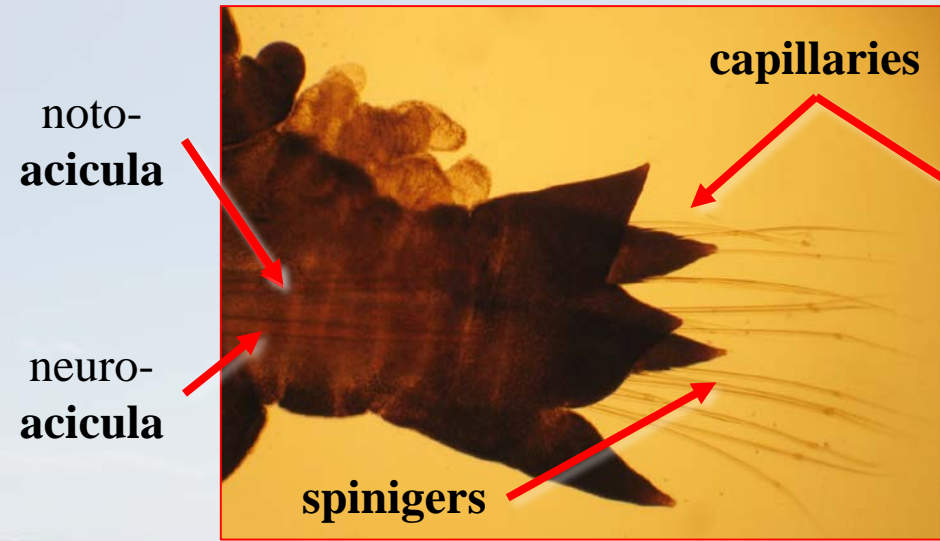


Fig. 10: Branchiae

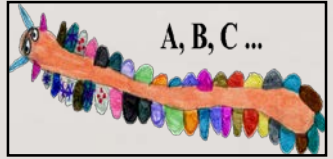
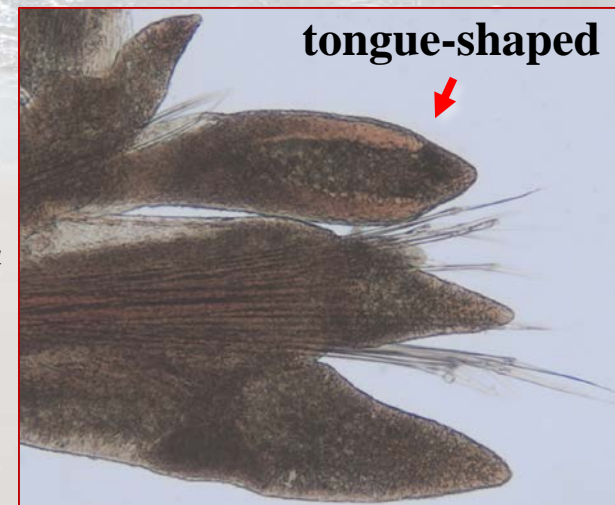
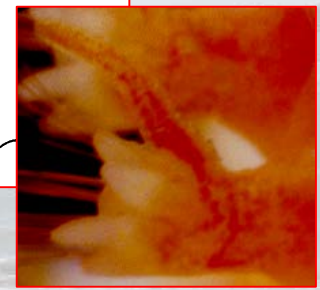
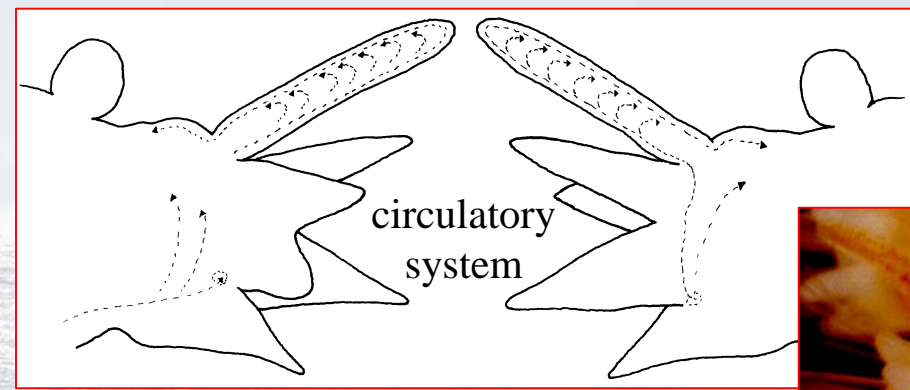
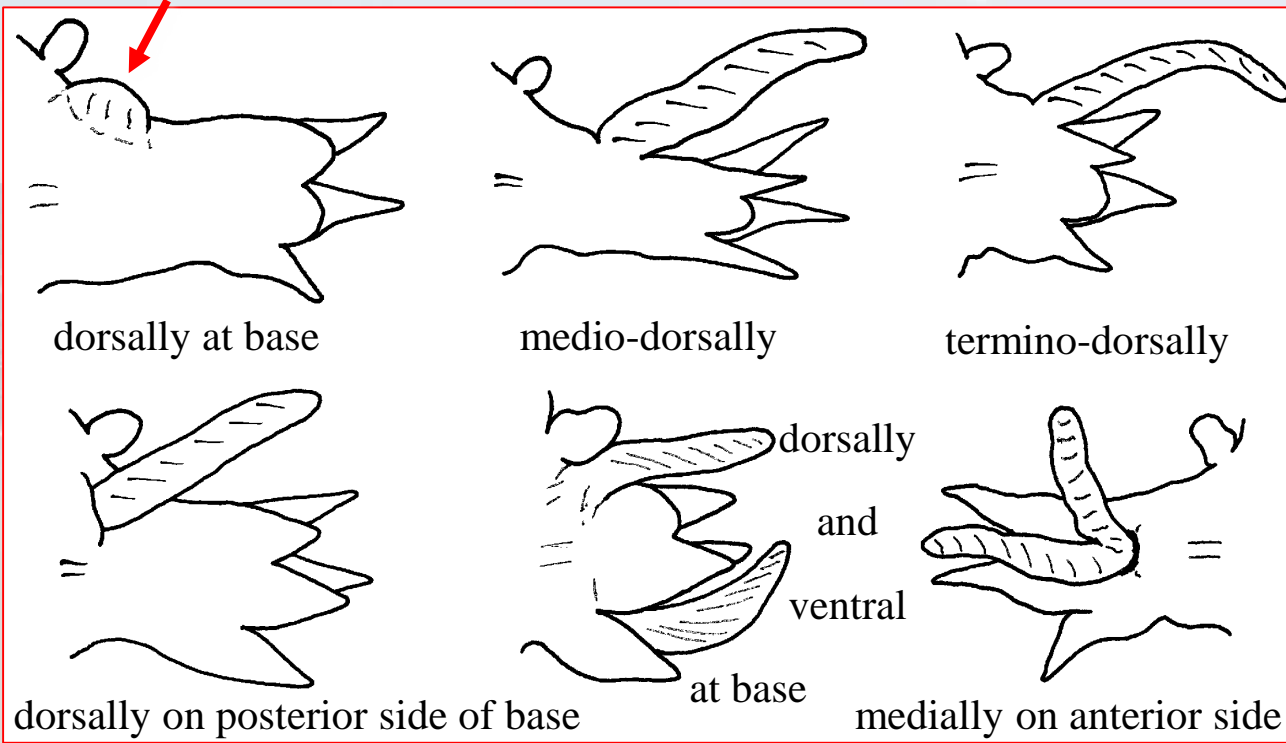
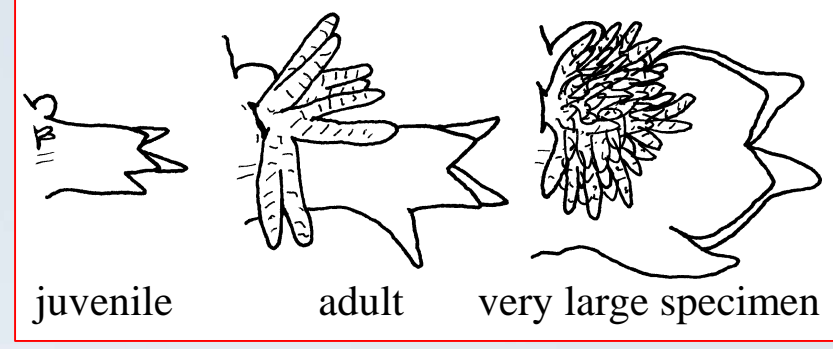
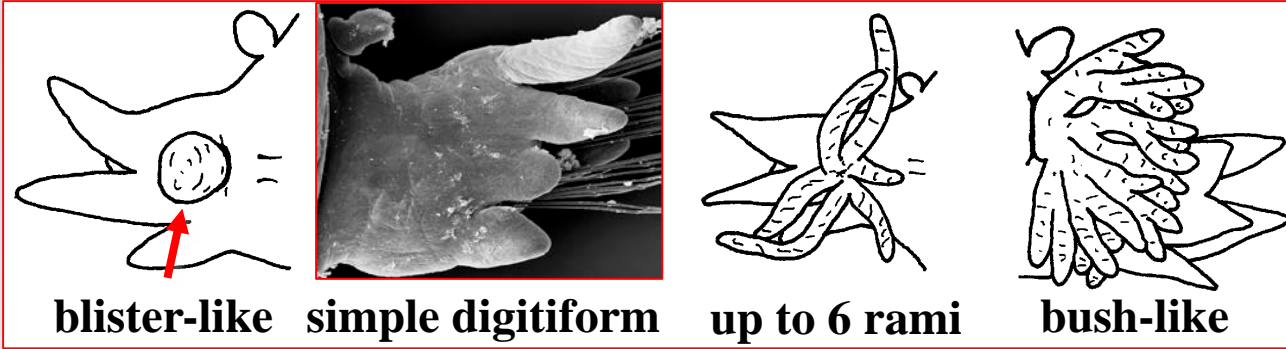


Fig. 11. Posterior End

