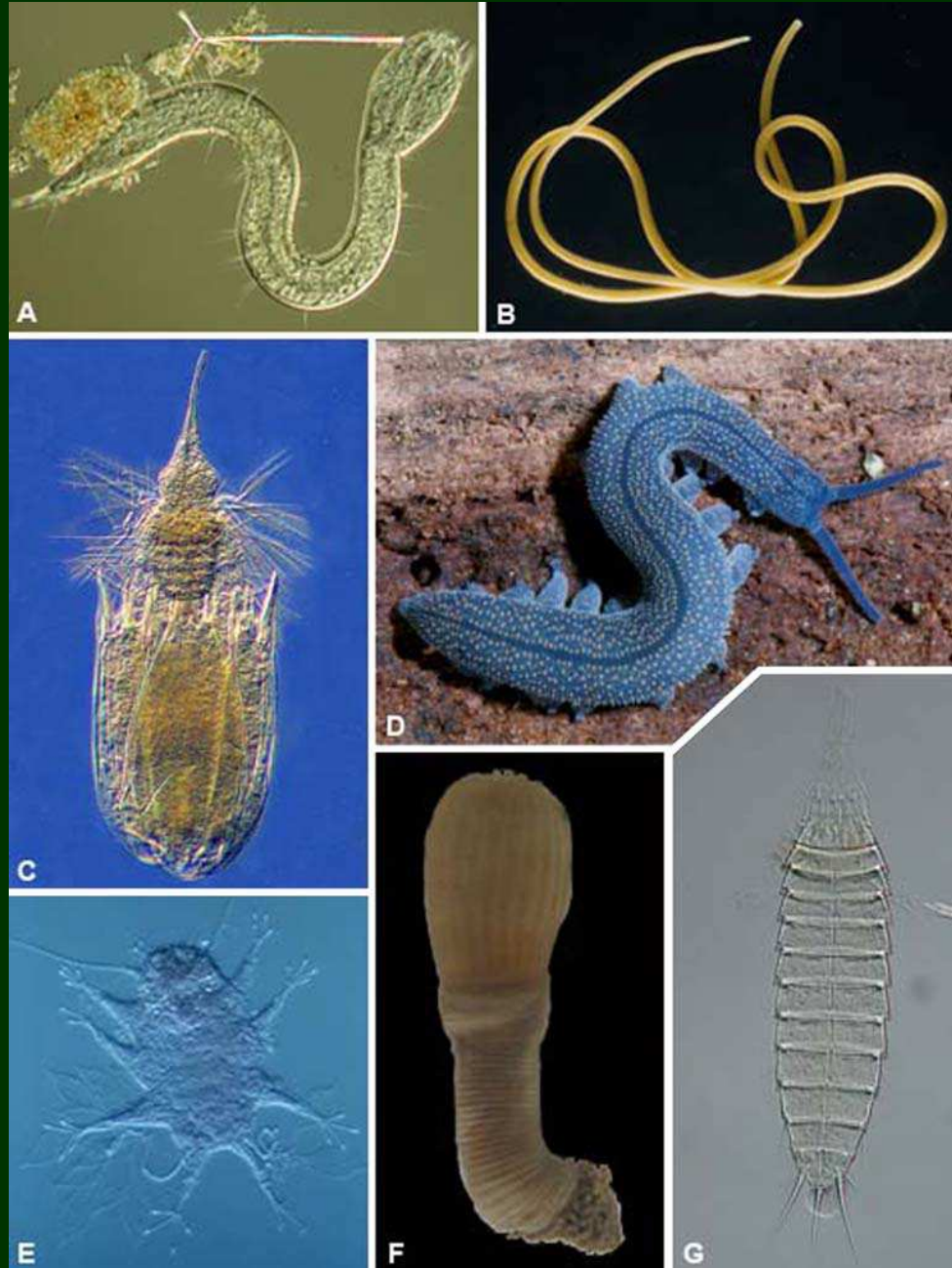


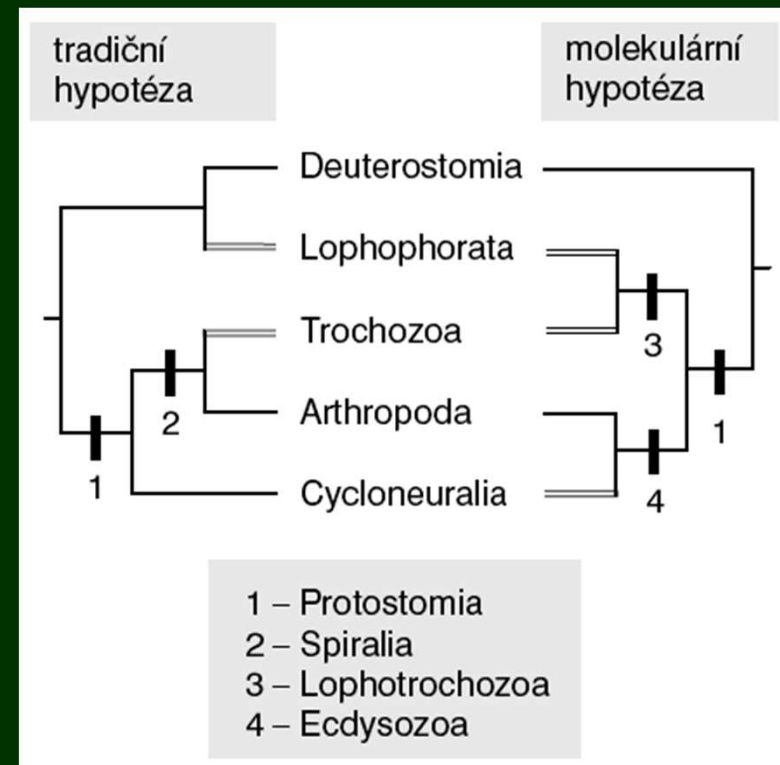
Ecdysozoa



Bilateria

Fylogeneze a systematika

- 1. Xenacoelomorpha
- 2. Protostomia
 - 2.1. Spiralia
 - 2.2. Ecdysozoa
 - 2.3. Chaetognatha
- 3. Deuterostomia
 - 3.1. Ambulacraria
 - 3.2. Chordata



LOPHOTROCHOZOA

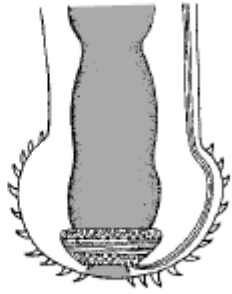


Gastrotricha

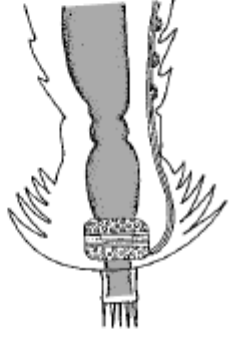
ECDYSOZOA



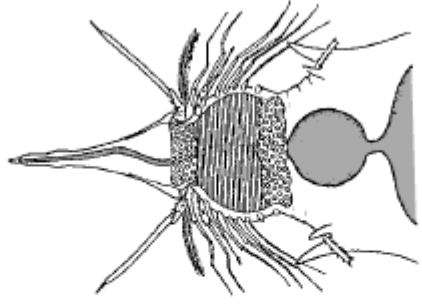
Nematoda



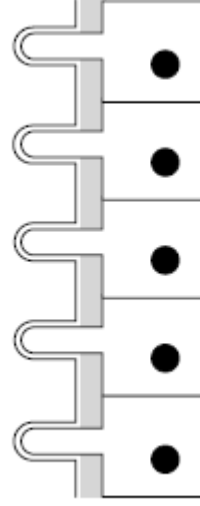
Priapula



Kinorhyncha

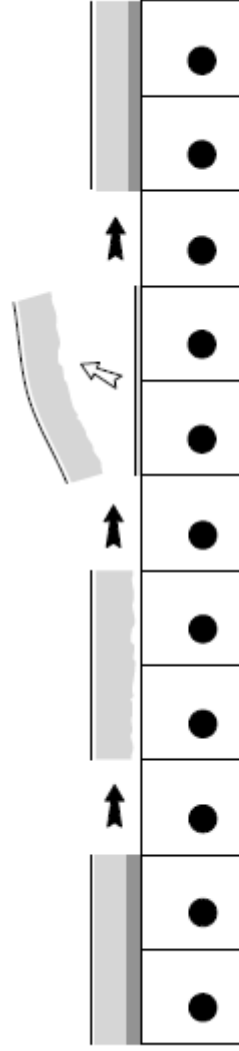


Loricifera



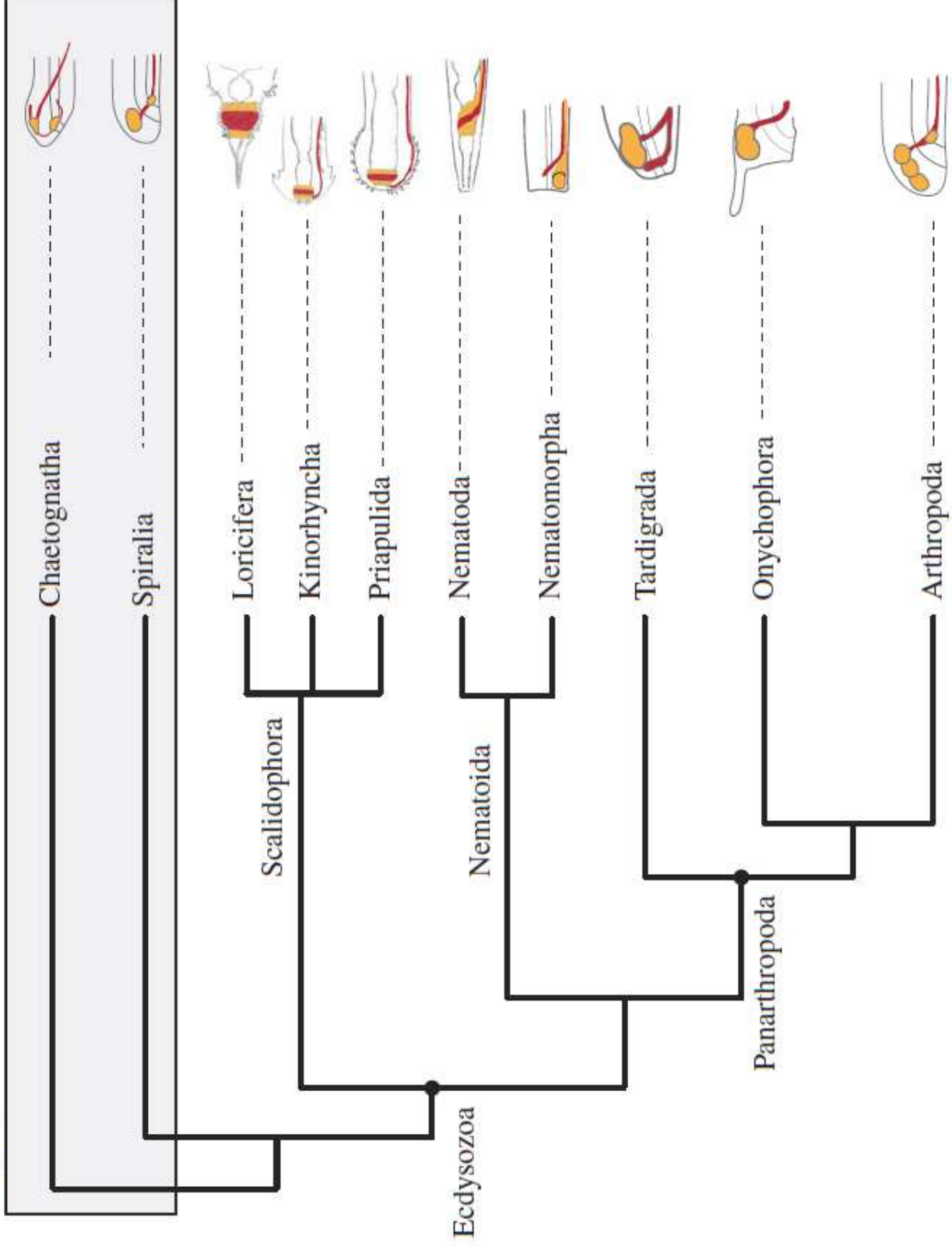
Gastrotricha

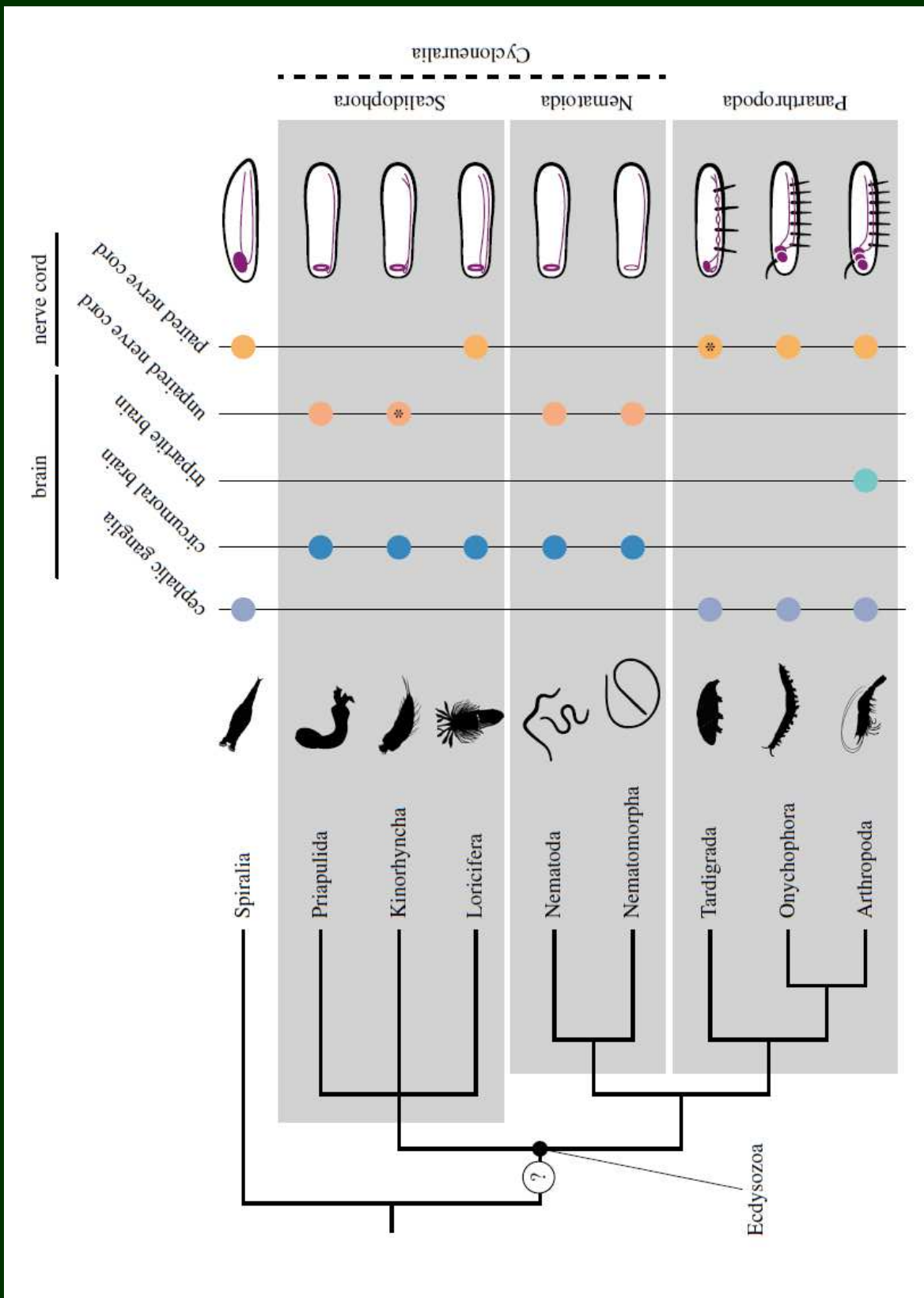
epikutikula
exokutikula
endokutikula



Ecdysozoa

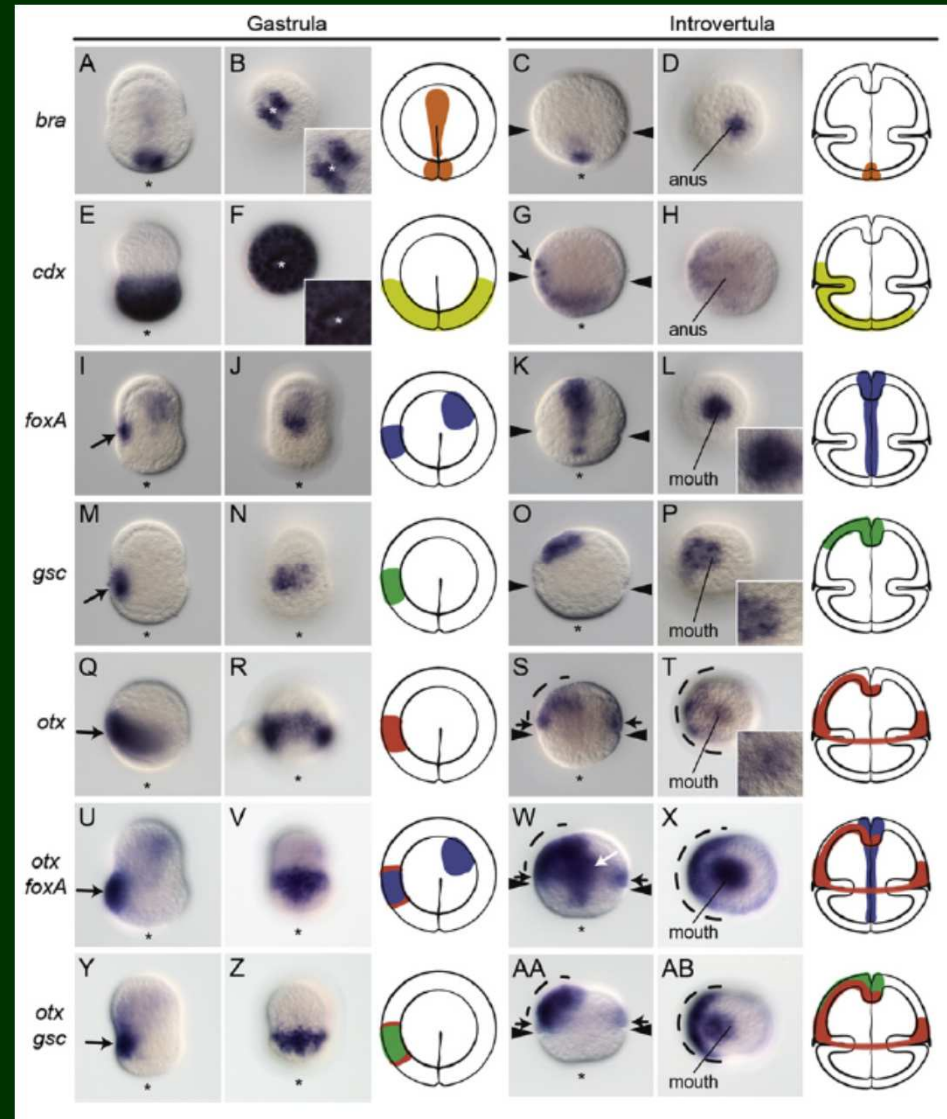
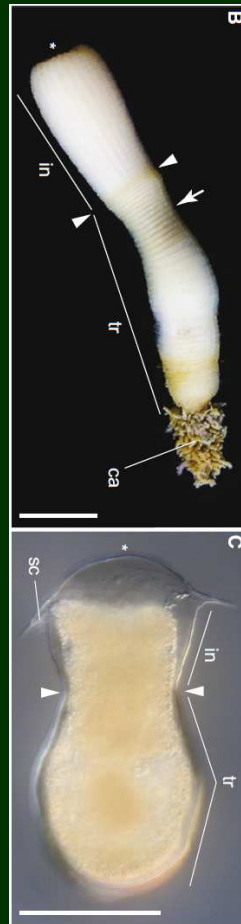
outgroup





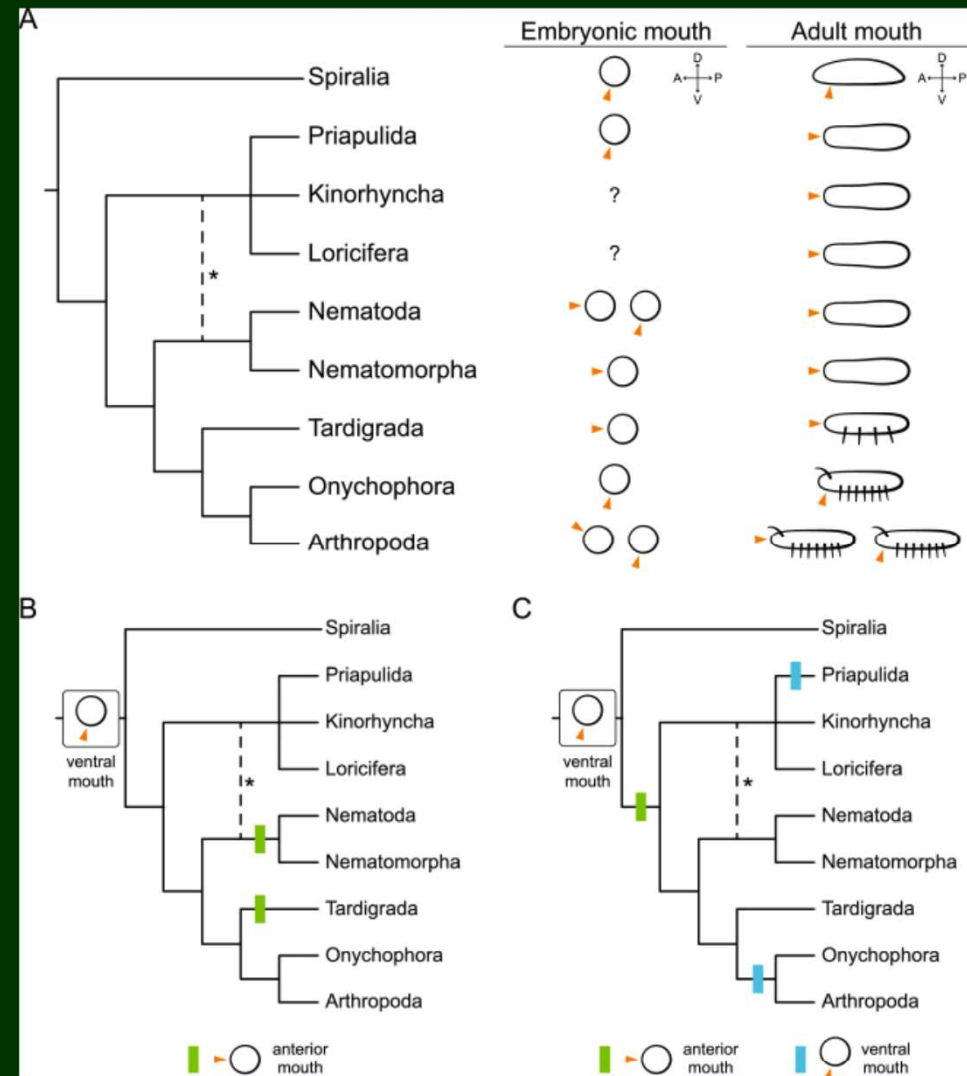
Embryonální vývoj: Priapula

Priapulus je deuterostomní!



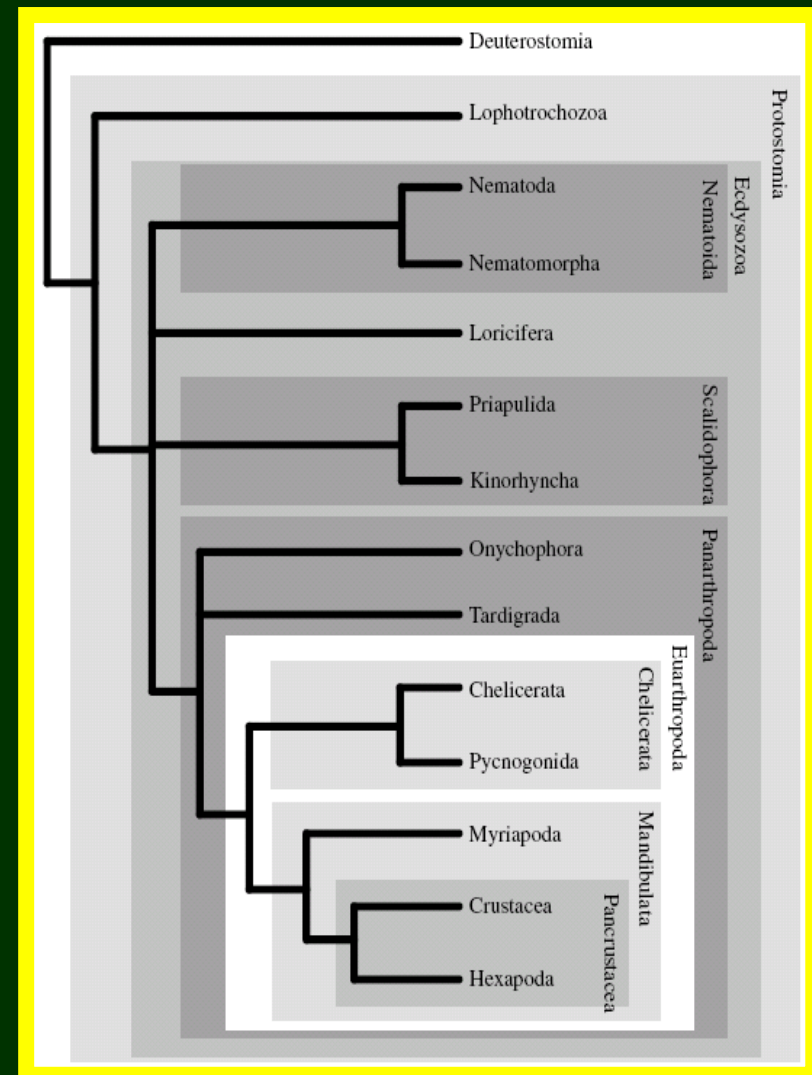
Ecdysozoa

- původně ventrální ústa
- (apikální u většiny dospělců kromě drápkovců a většiny členovců)
- (to, co je *před* ventrálními ústy, je *nad* apikálními)



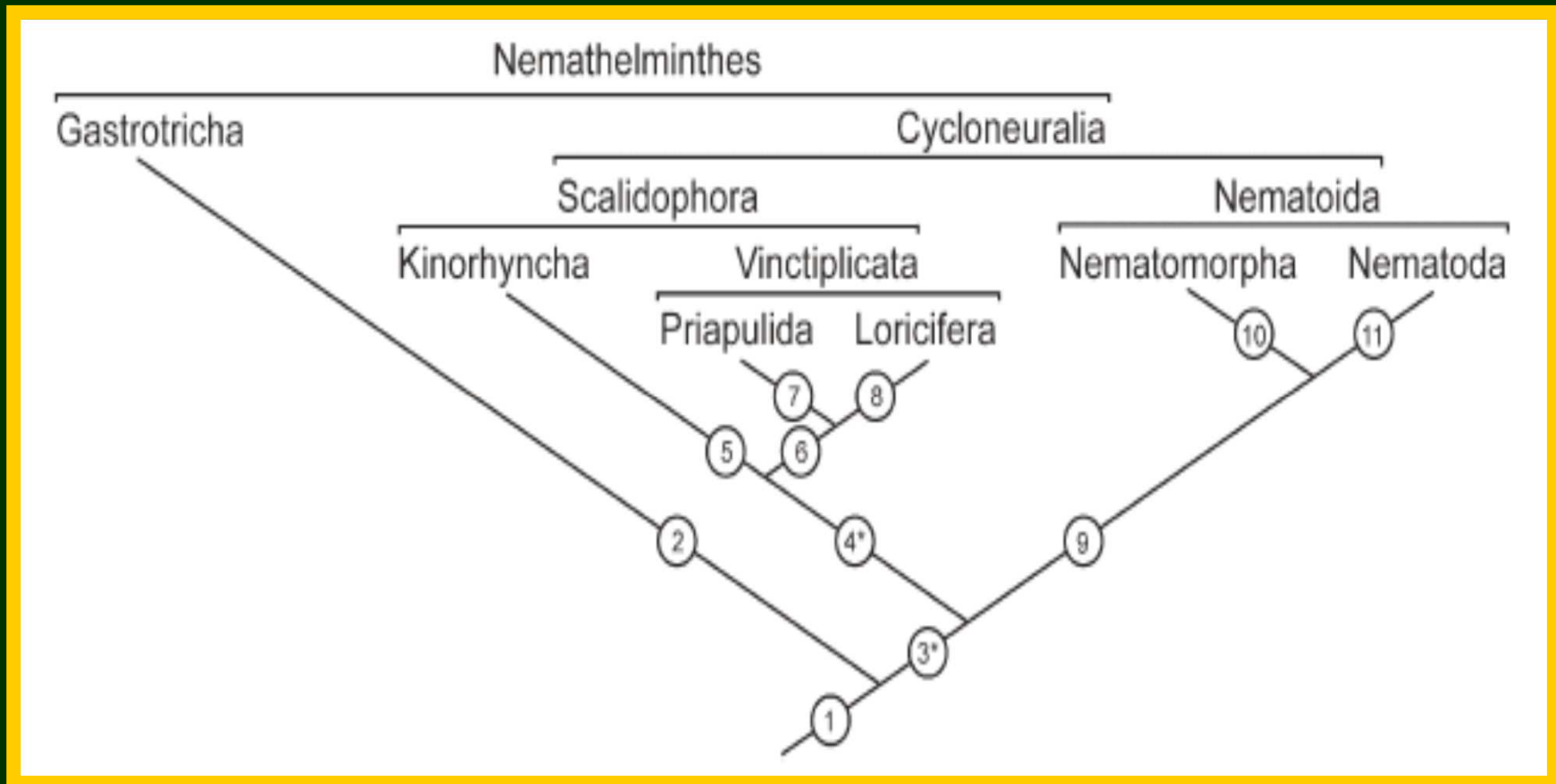
Ecdysozoa

- 2-3 linie
- Cycloneuralia (?)
 - Scalidophora
 - Nematoida
- Panarthropoda

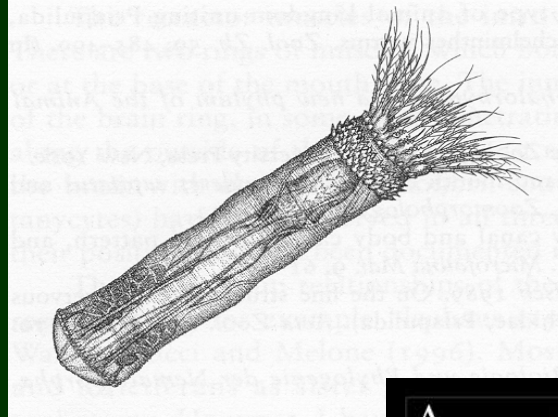
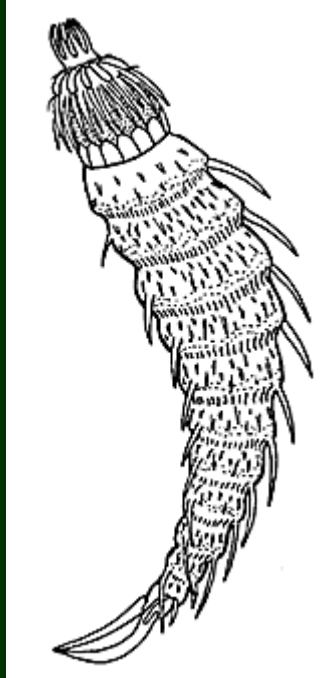


Cycloneuralia – fylogeneze

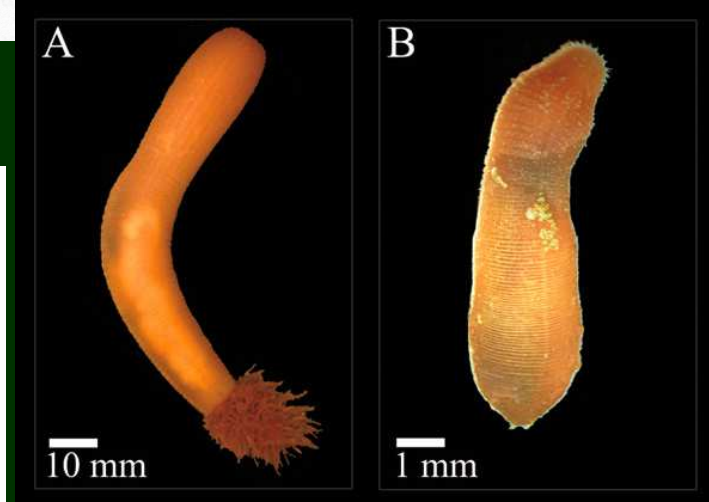
- klasická morfologická hypotéza



Scalidophora (= Cephalorhyncha)

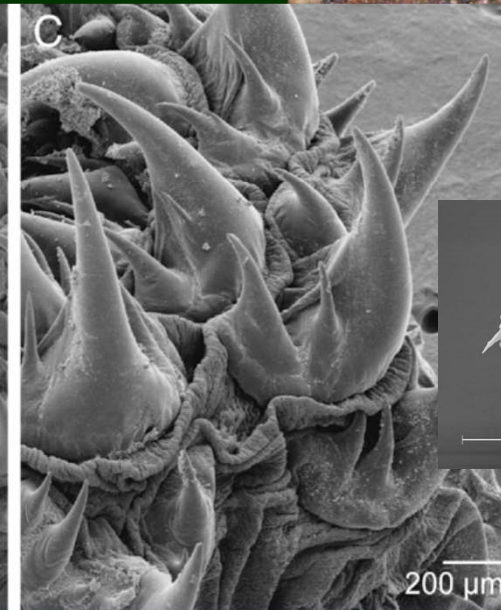
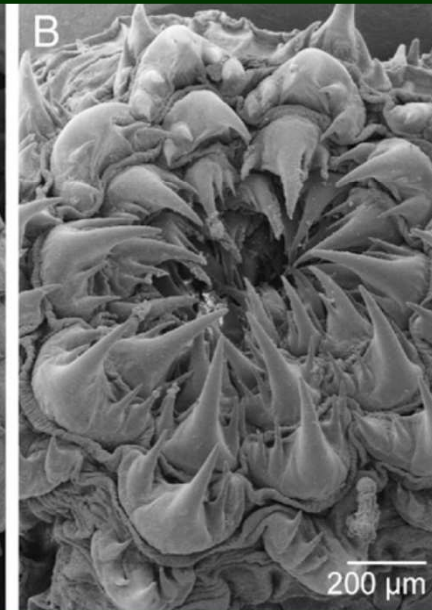
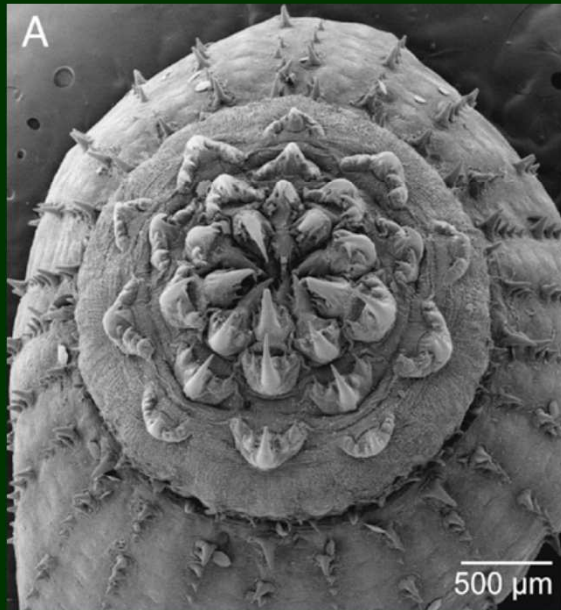


monofylie
nejasná:
postavení
Loricifera

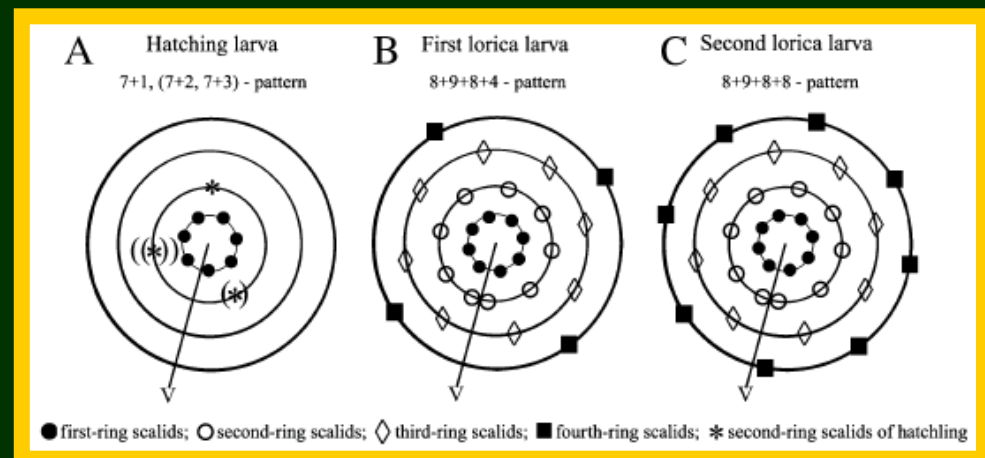
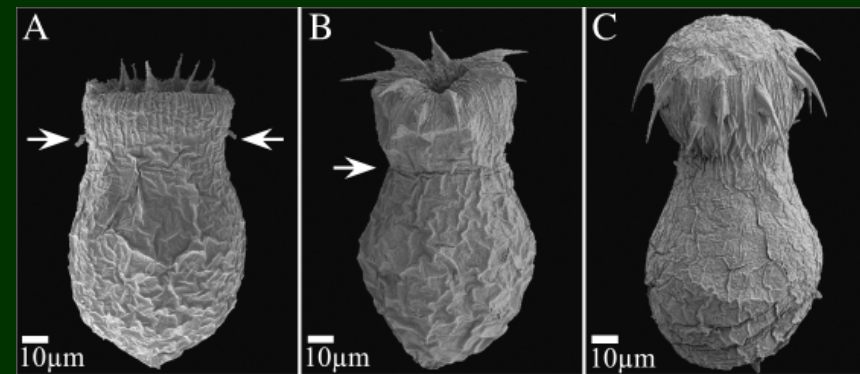
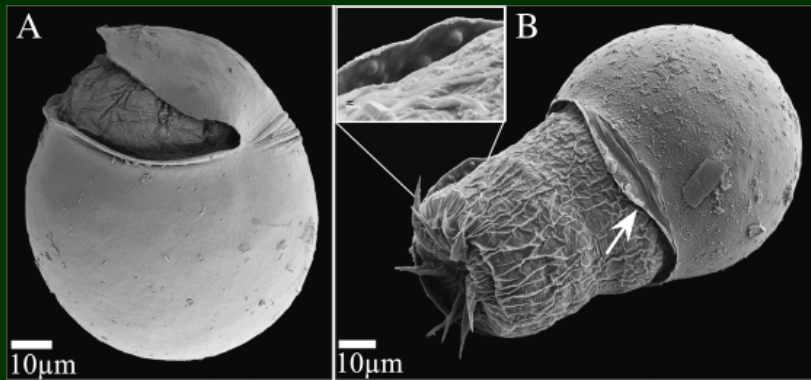


Priapula

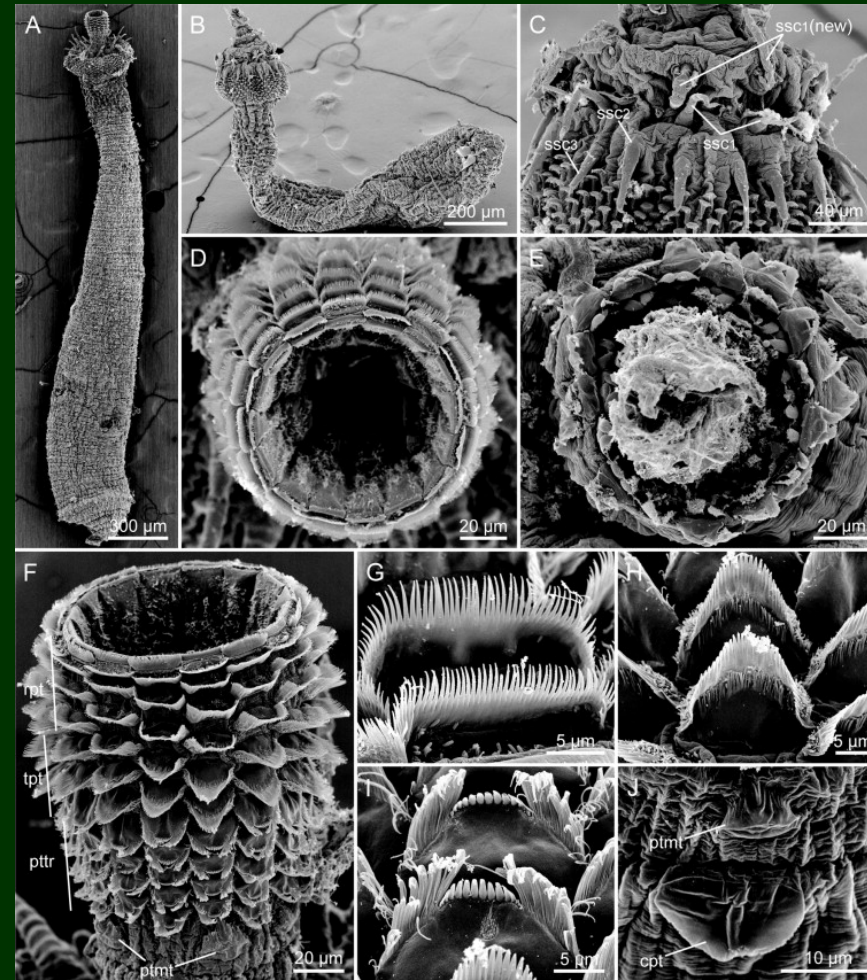
- monofylie nejasná:
- *Priapulid* + *Maccabeus* + *Tubiluchus* + *Halicryptus*
- x *Meiopriapulid*



Priapulus ontogeneze

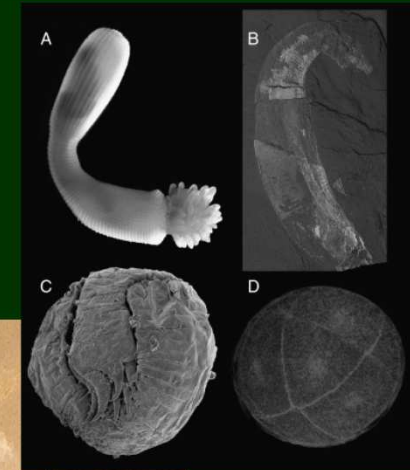
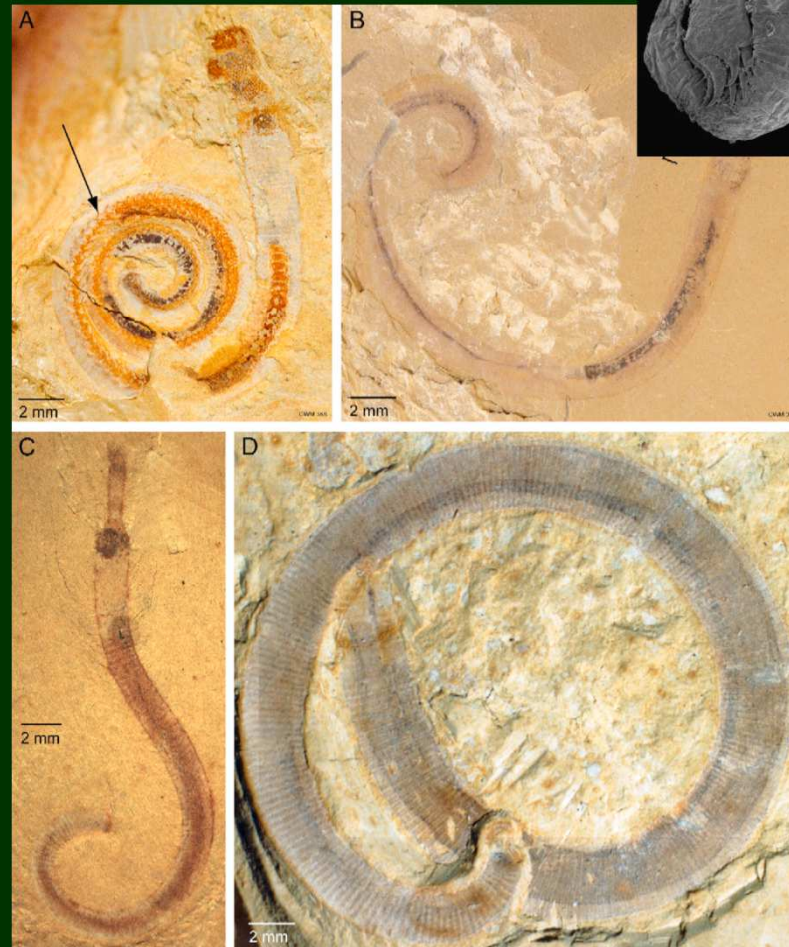
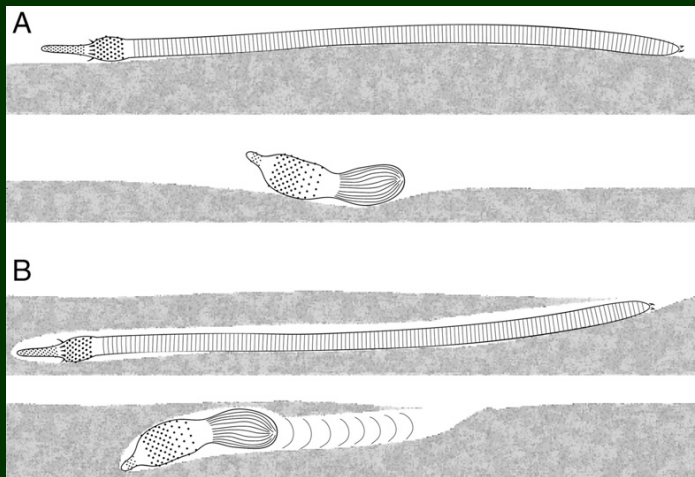


Meiopriapulus

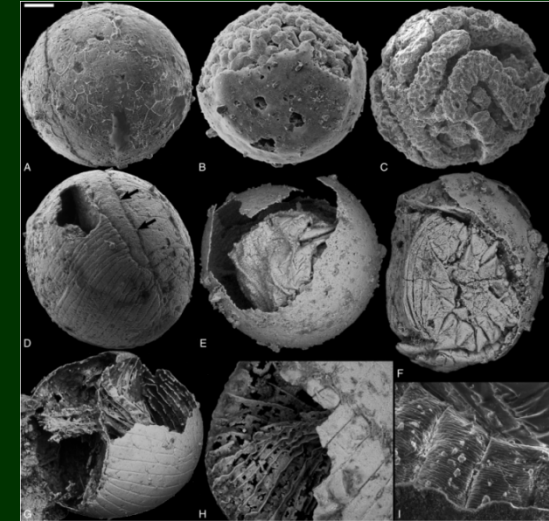
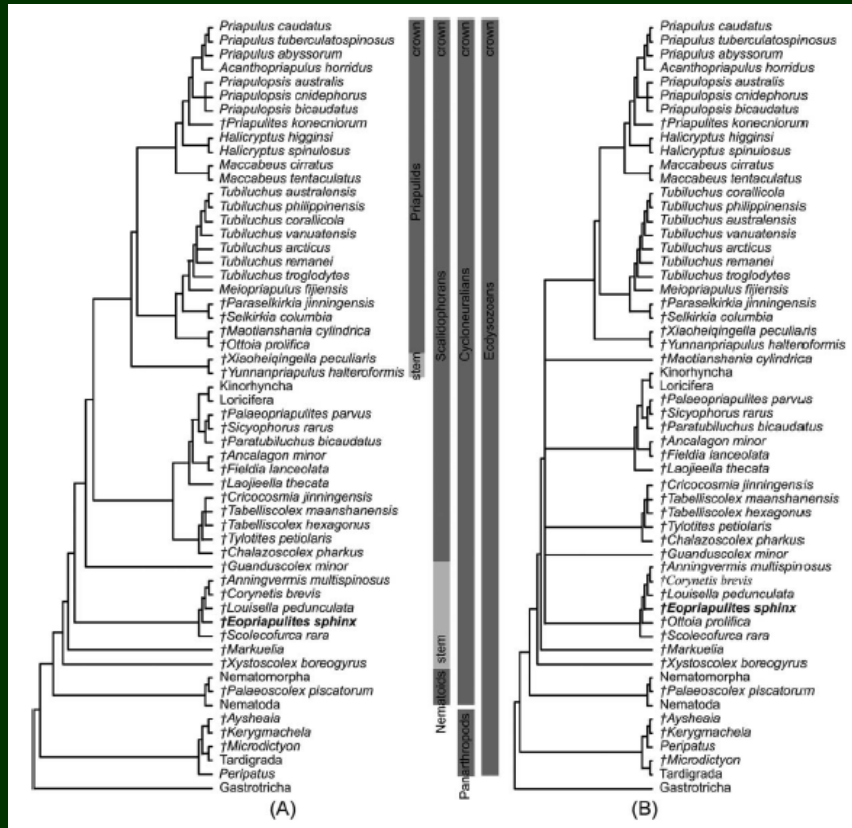


Priapula (???)

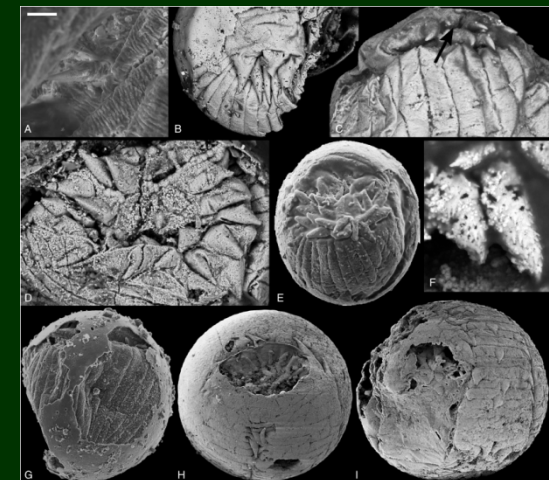
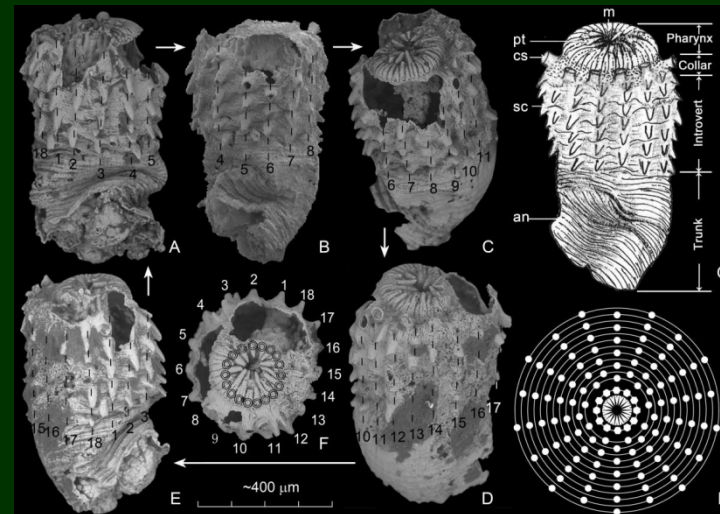
- dolní kambrium
- Maotianshanské břidlice (Chengjiang)



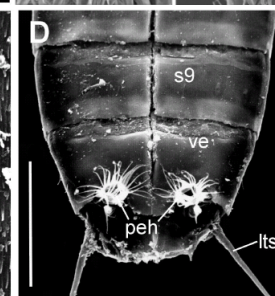
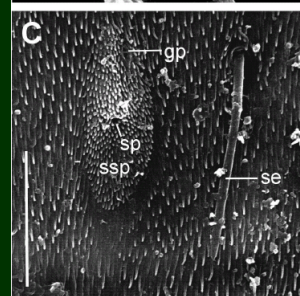
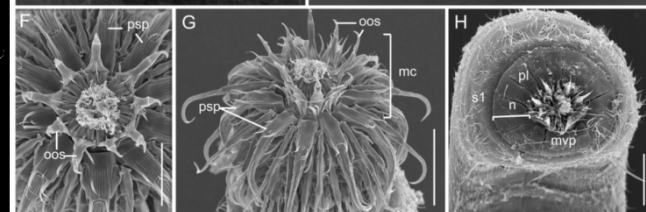
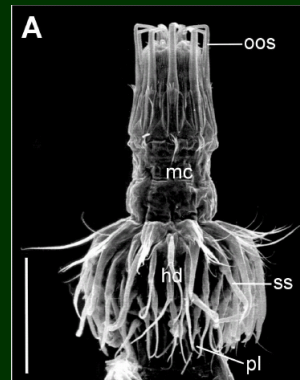
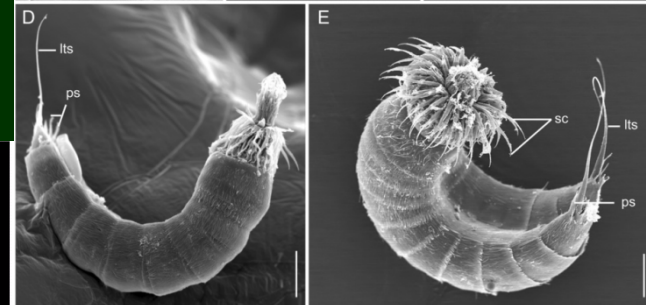
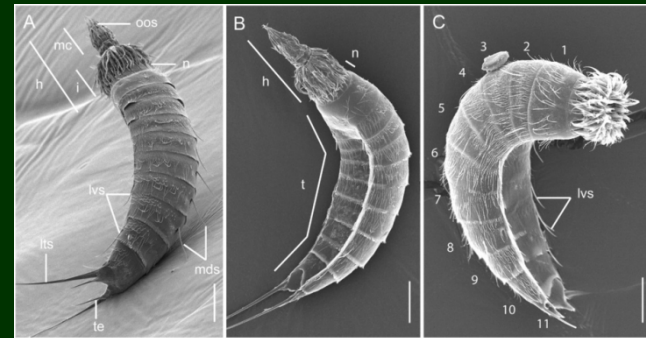
Eopriapulites a Markuelia



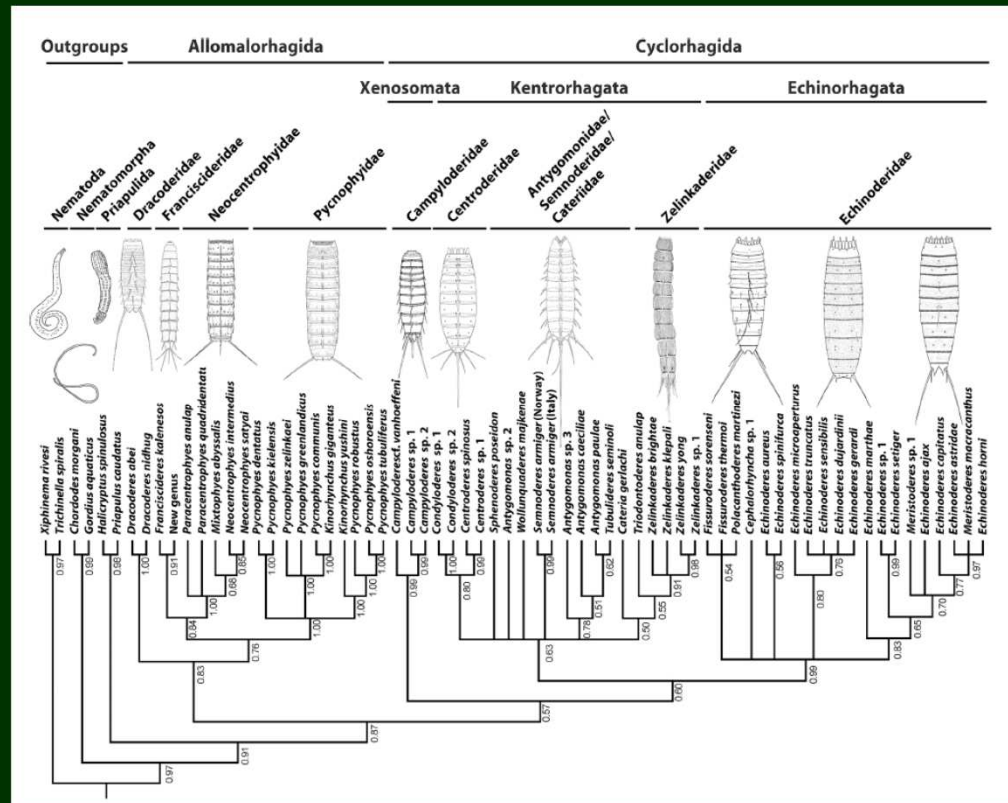
nejstarší
kambrijská
Scalidophora
(*Markuelia*:
pouze embrya)



Kinorhyncha

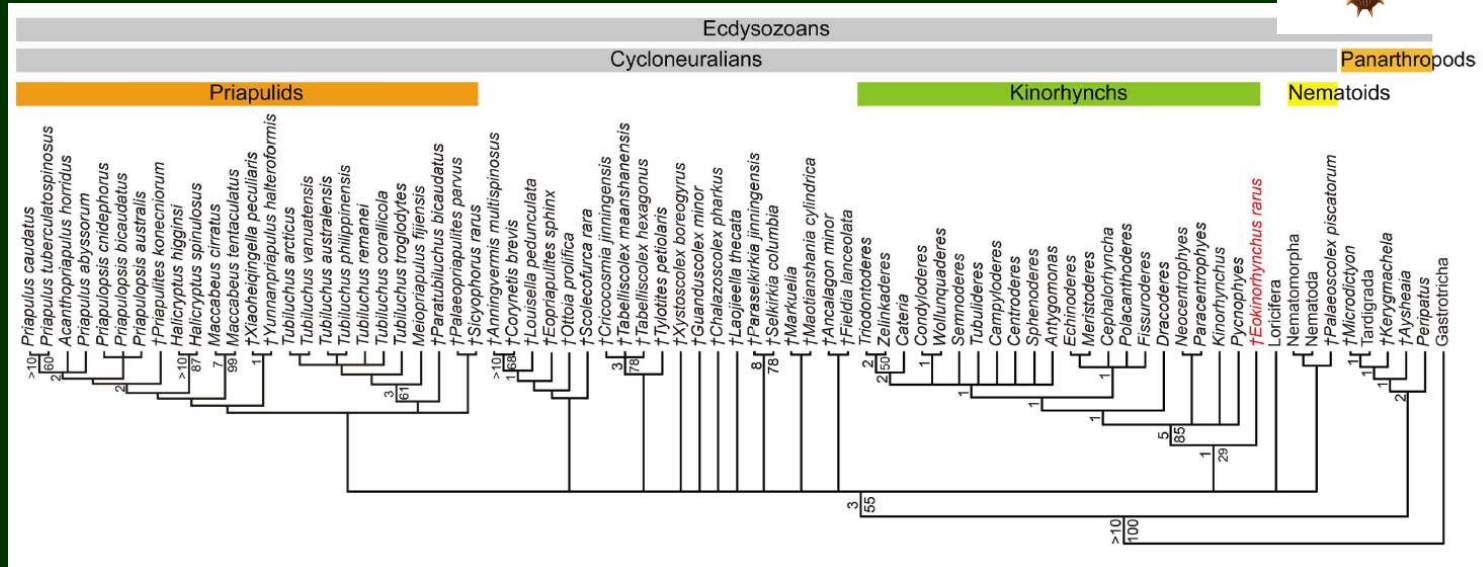
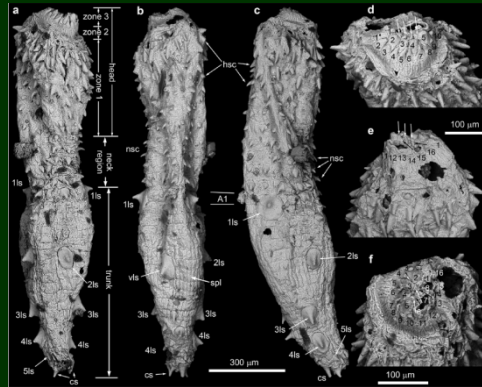


Fylogeneze kinorhynch

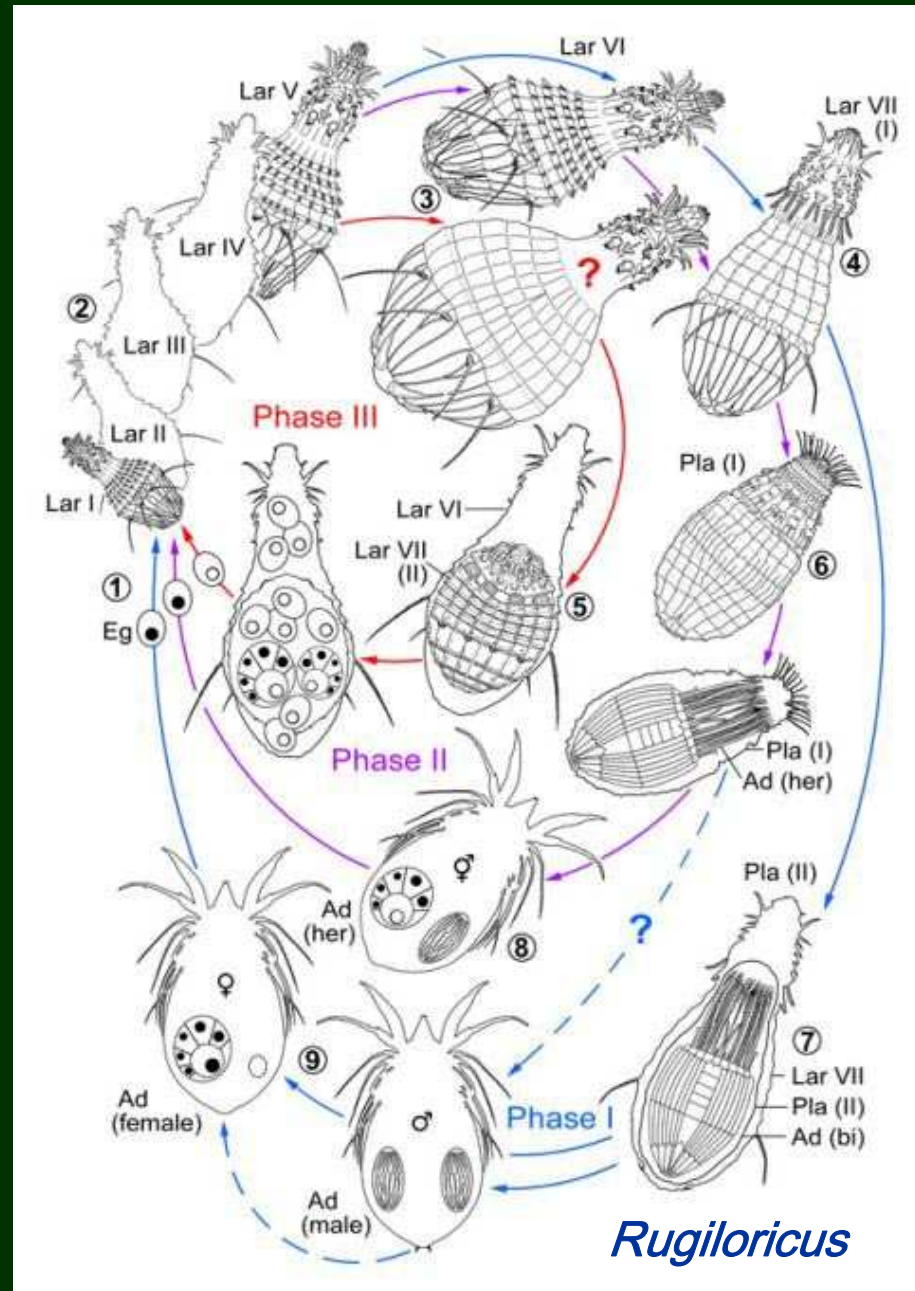
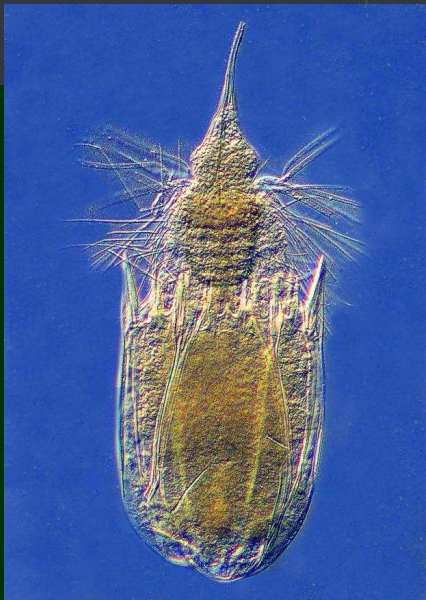


- 18S + 28S + MOR

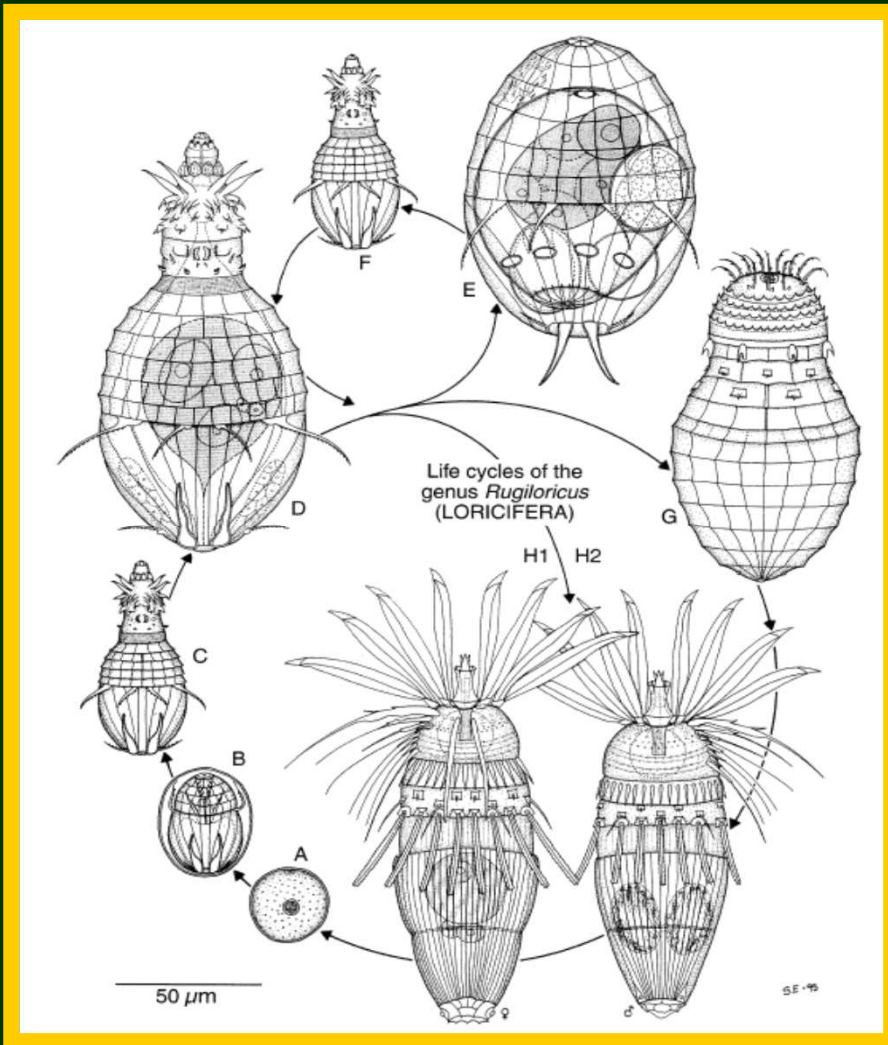
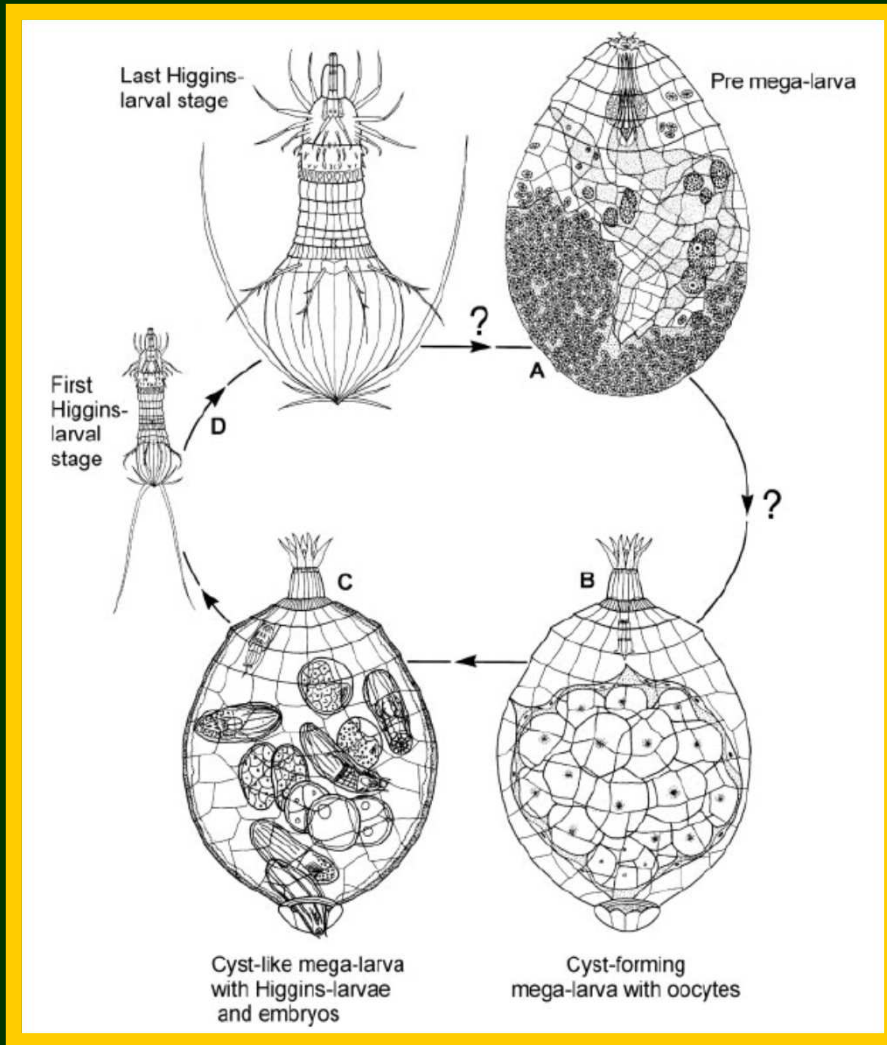
Eokinorhynchus (kambrium)



Loricifera



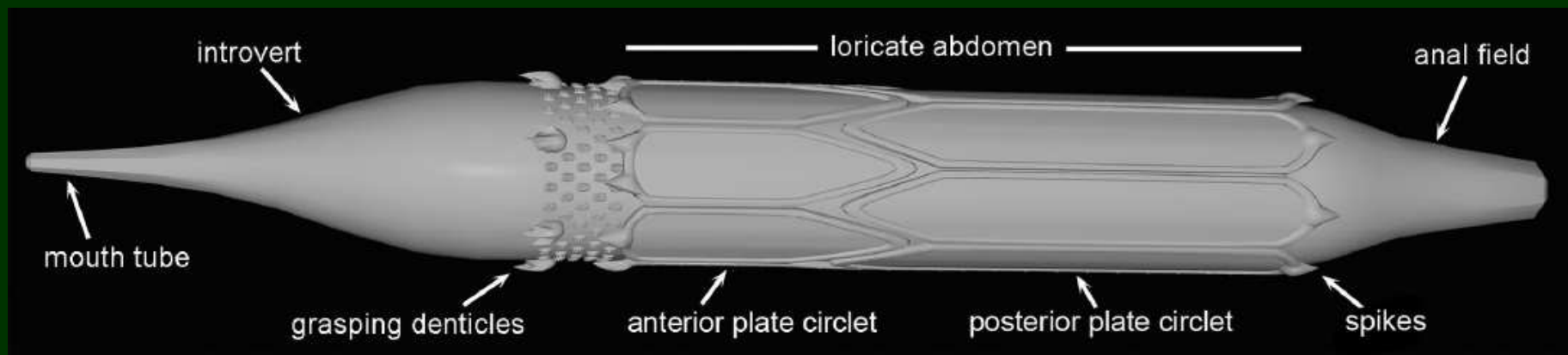
Loricifera



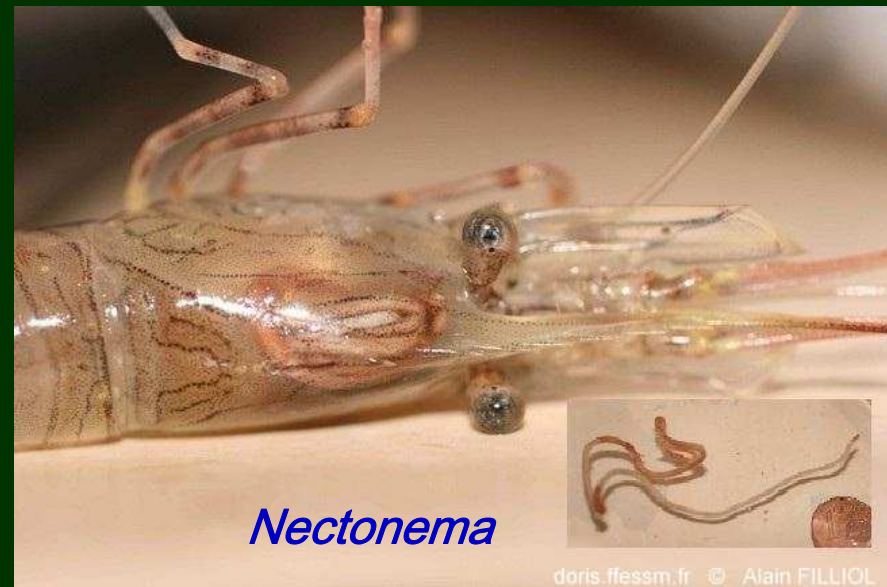
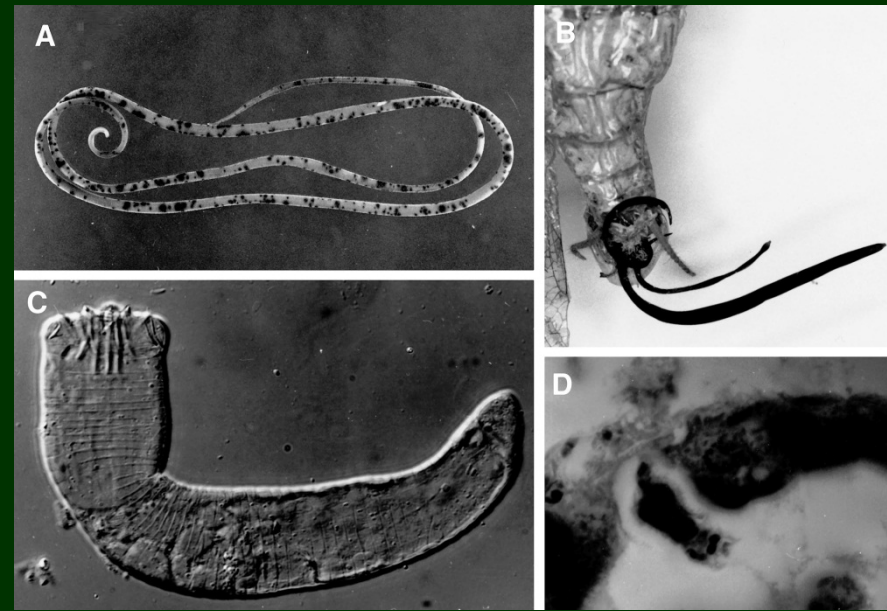
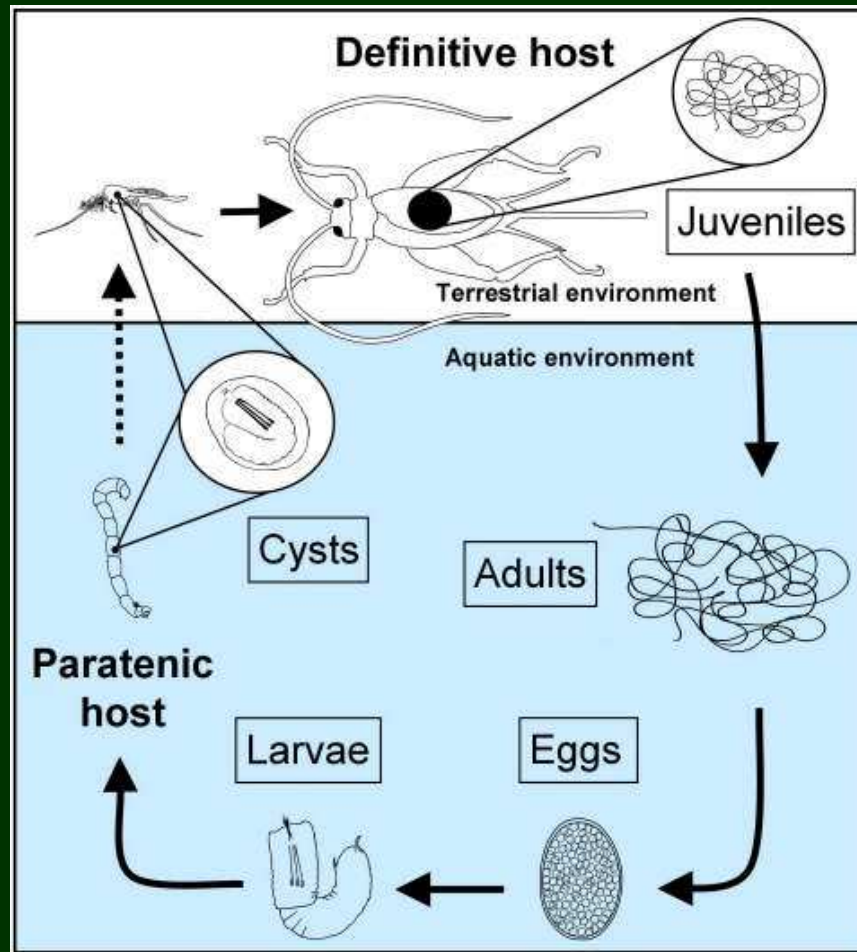
Urnaloricidae 2008

Loricifera: *Sirilorica*

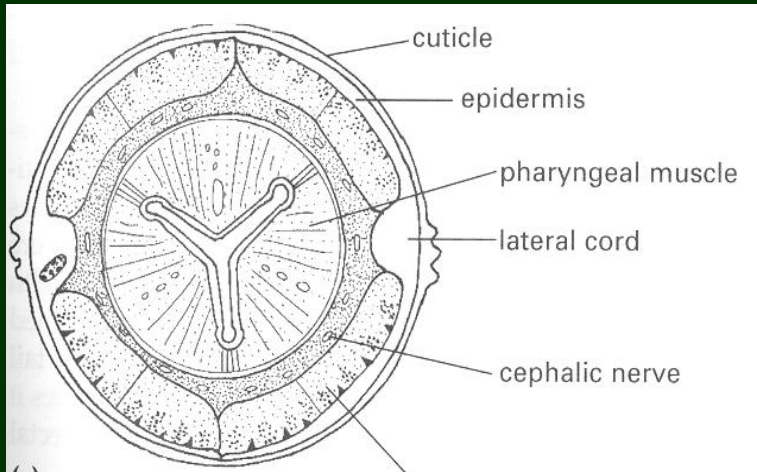
- kambrium
- 100krát větší než recentní druhy
- recent: druhotné zmenšení (při zachování strukturální složitosti)



Nematomorpha



Nematoda

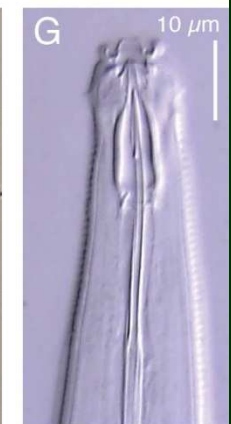
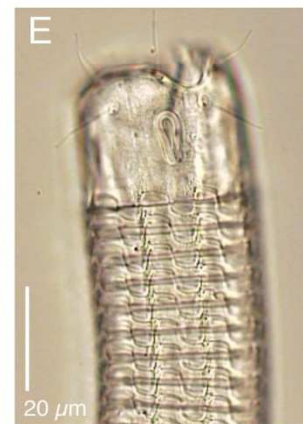
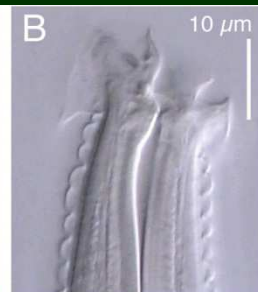
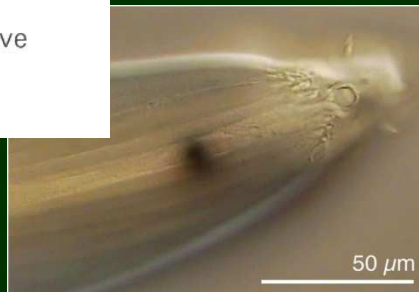


USNM 179995

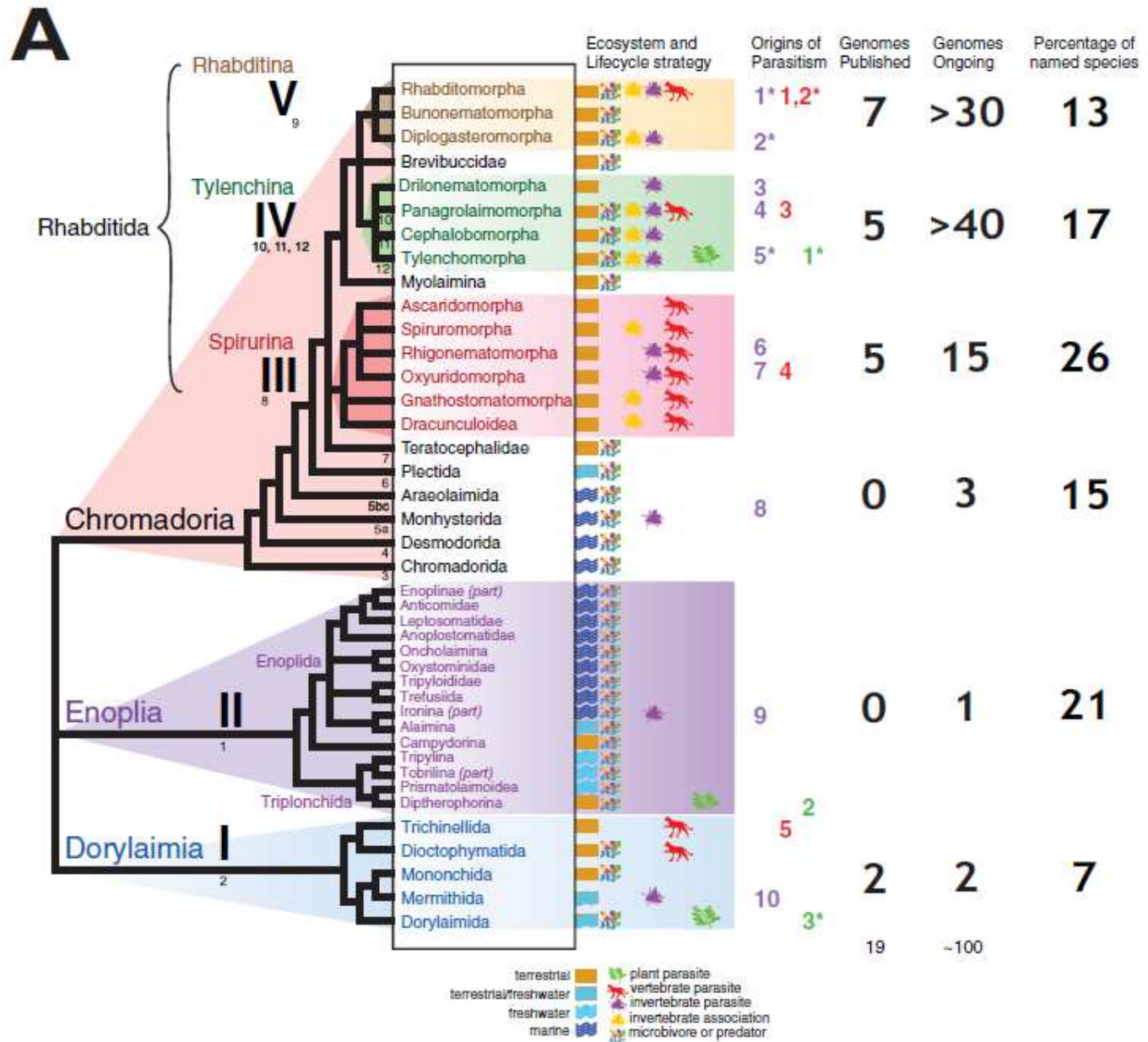


0.3mm

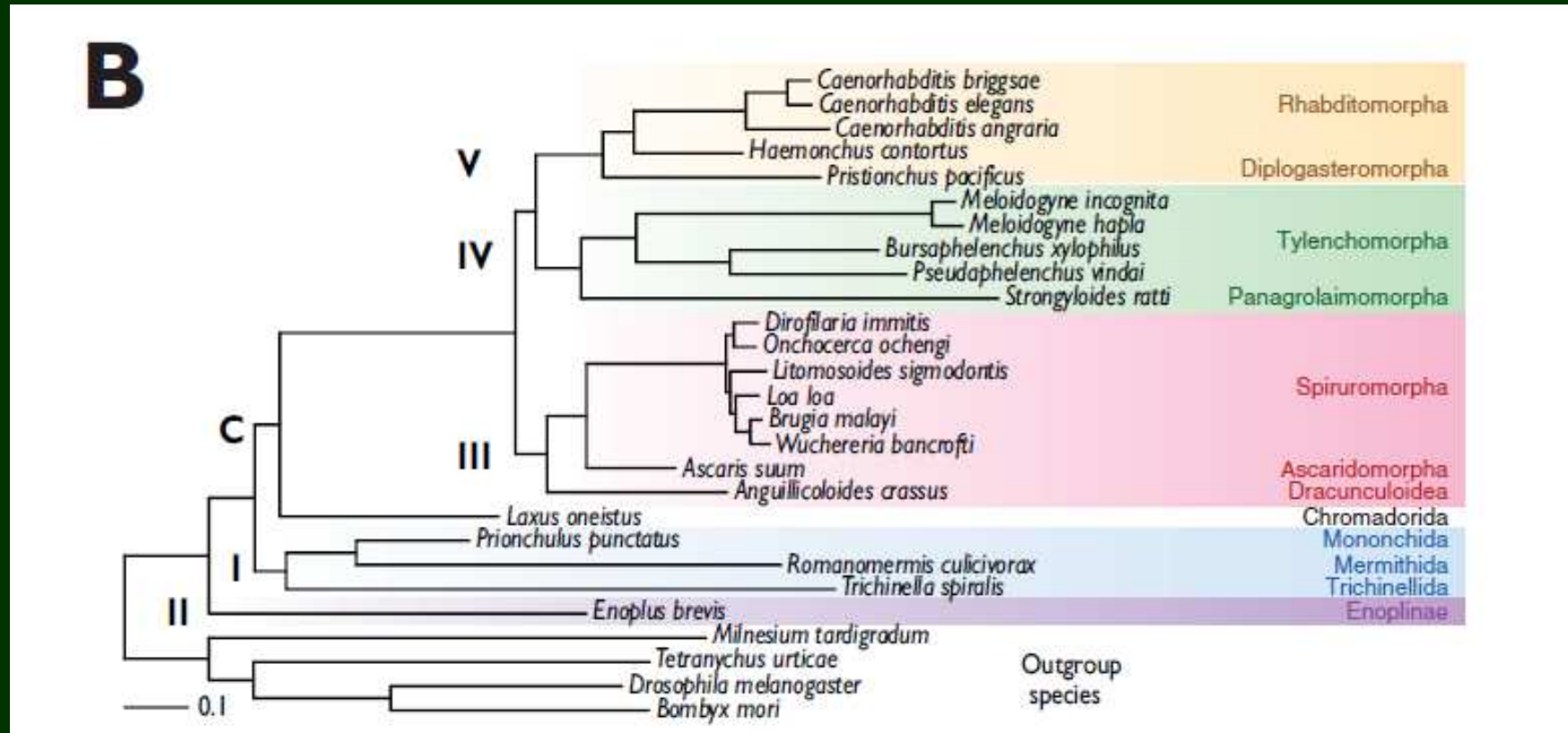
© WCS



18S rDNA

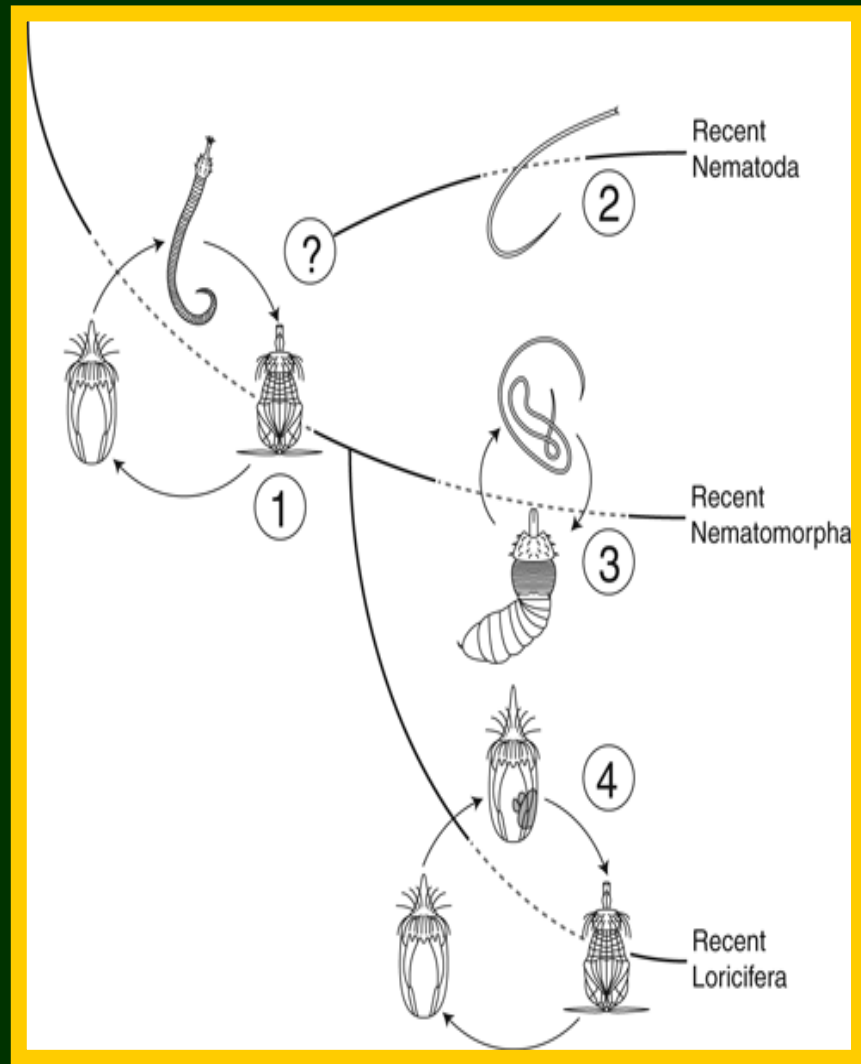
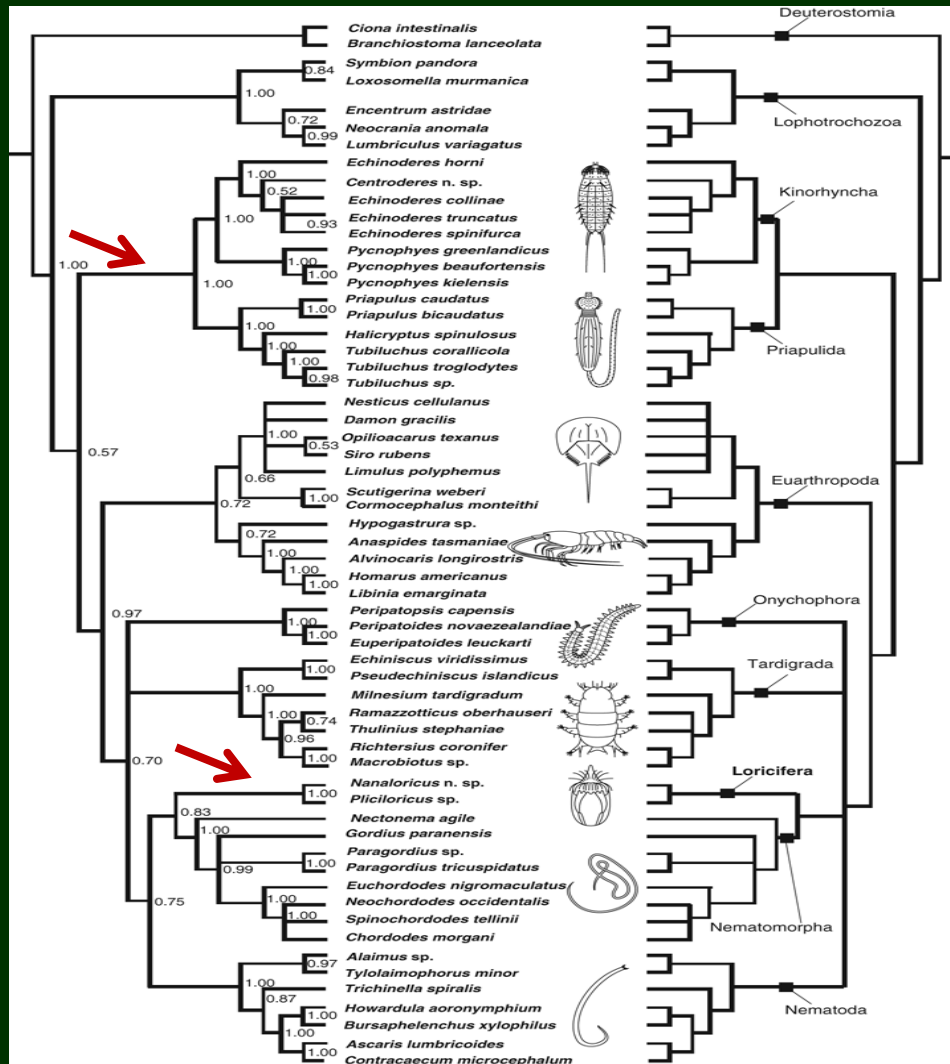


Fylogeneze hlístic

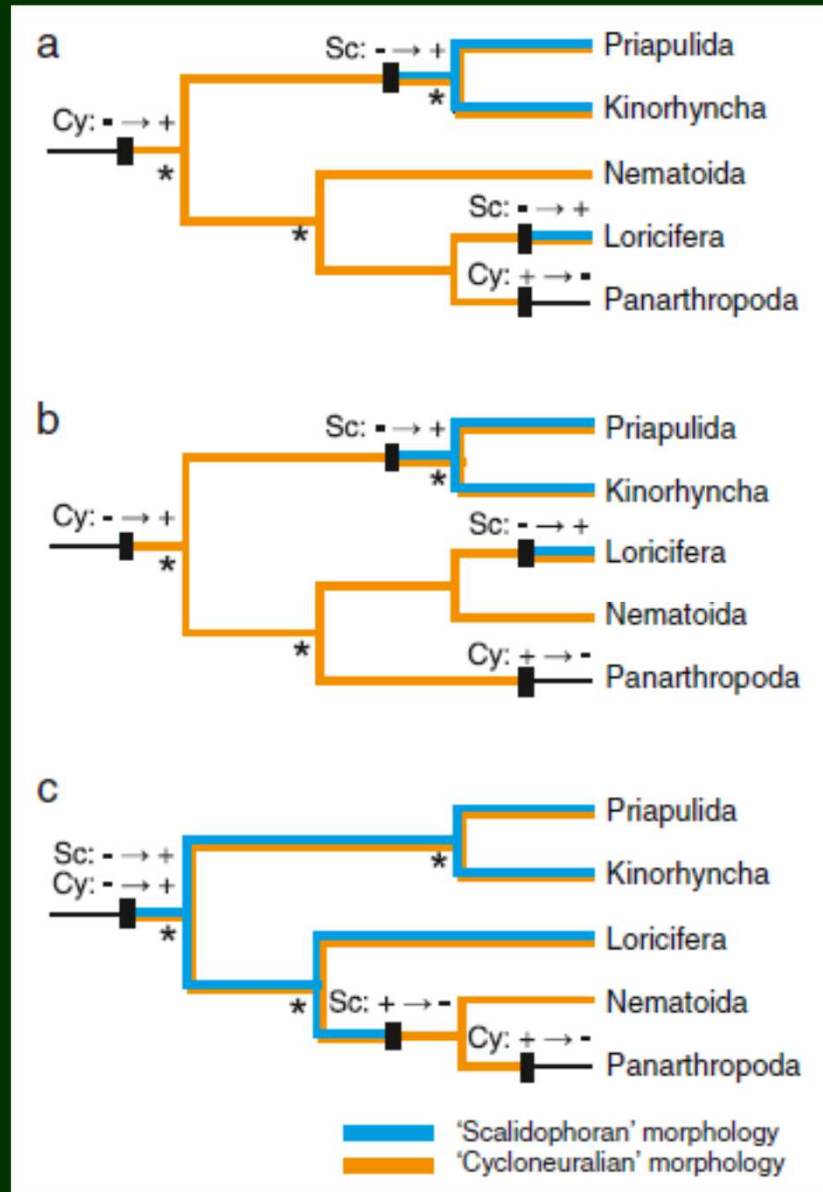
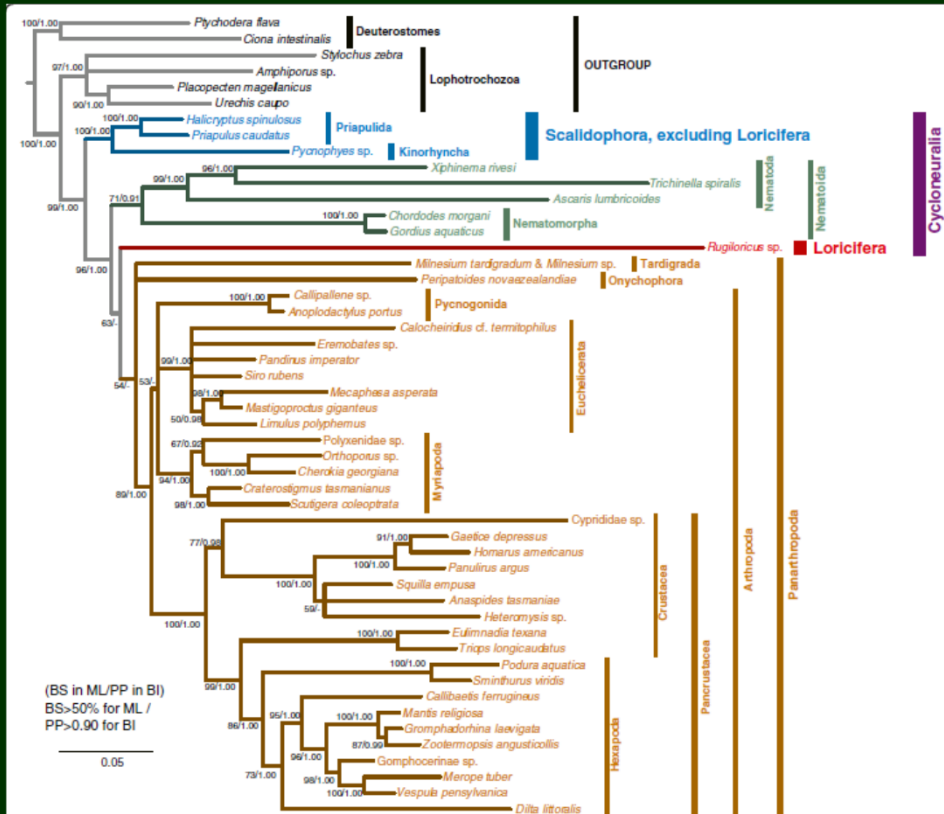


fylogenomika (181 genů)

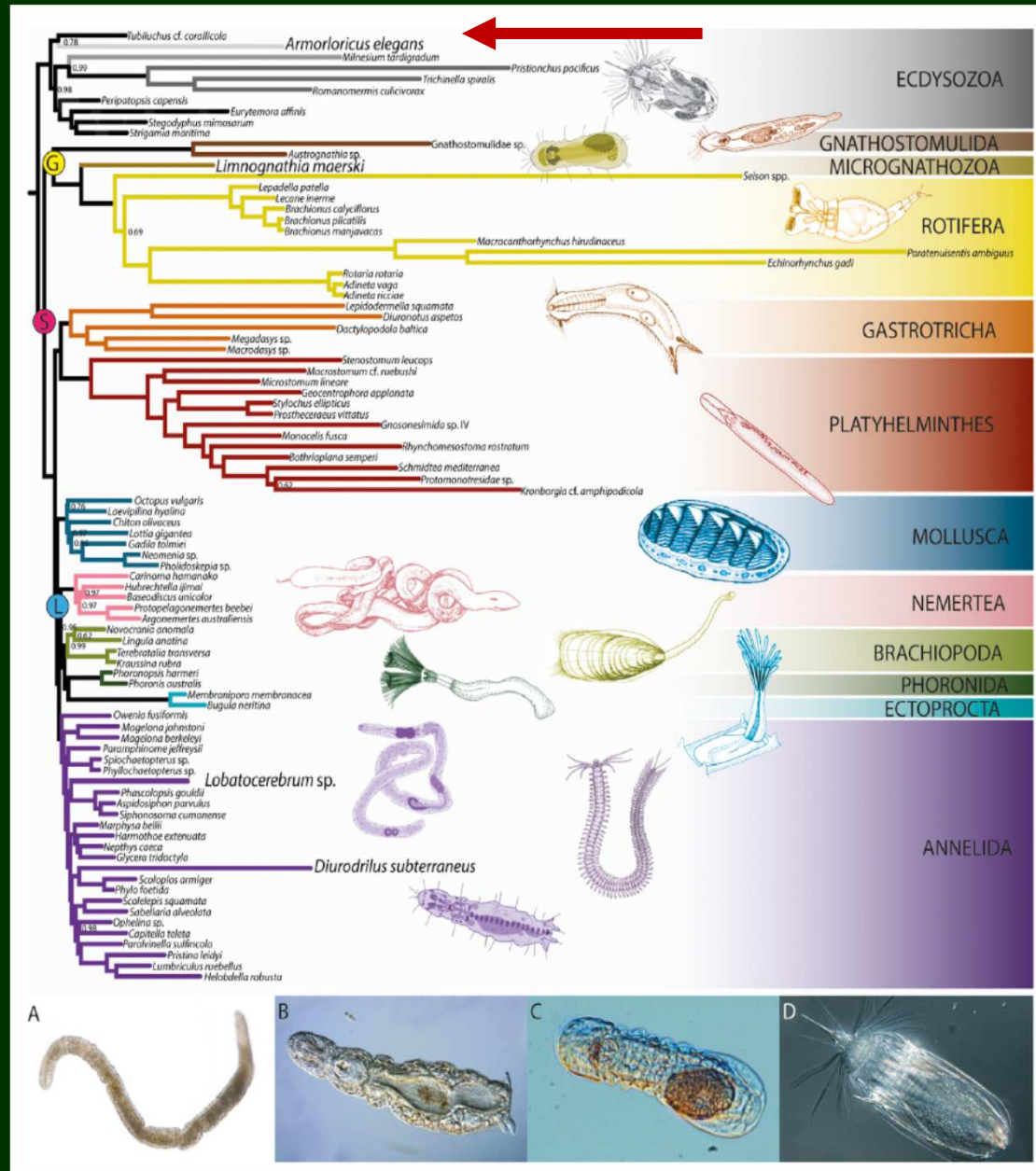
Fylogeneze ekdysozoí (18S)

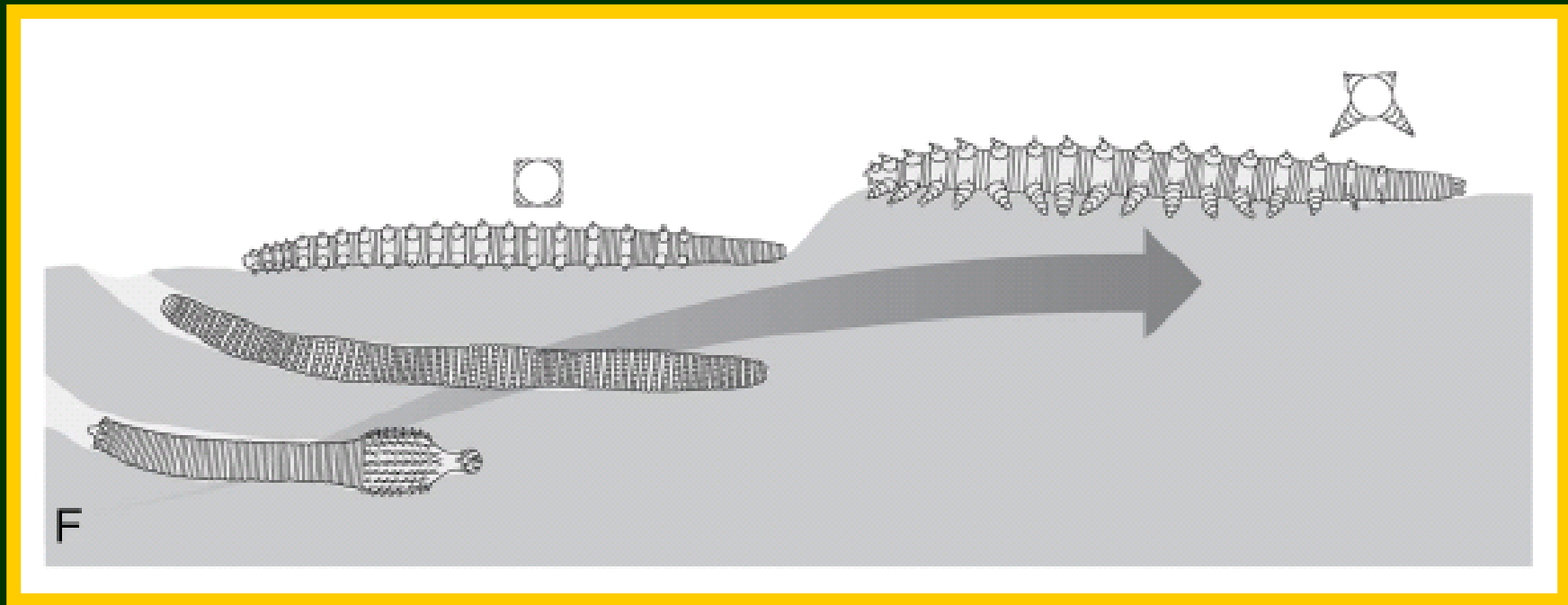


Fylogeneze ekdyszozi (18S + 28S)



Fylogeneze ekdyszoói (fylogenomika)





- skalidy → končetiny???
- tj. zbytek radiální symetrie u členovců???