



Univerzitet u Beogradu
Fakultet veterinarske medicine

Katedra za biologiju

Predmet:
ZOOLOGIJA
2024/2025

Acoelomata. Plathyhelminthes and Nemertina
Pseudocoelomata. Nematoda
Coelomata. Mollusca, Annelida

BILATERIA

gde spadaju svi filumi složeniji od
Coelenterata (**više EUMETAZOA**)

dele se na:

ACELOMATA

- Platyhelminthes
- Nemertina

PSEUDOCOELOMATA

- Nematoda
- Rotatoria
- Acanthocephala
- Gastrotricha
- Kinorhyncha
- Nematomorpha
- Entoprocta

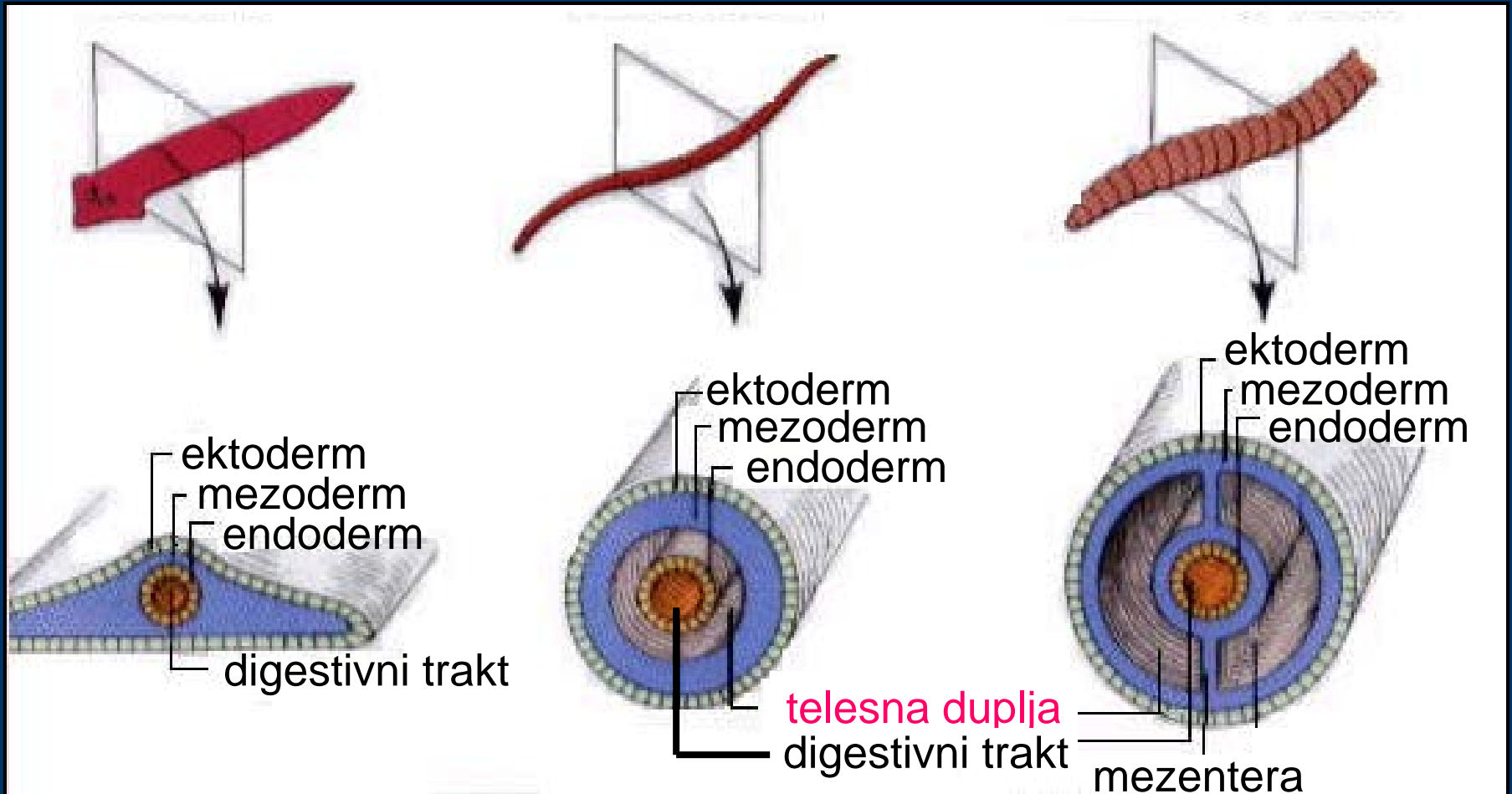
COELOMATA

- Mollusca
- Annelida
- Arthropoda
- Echinodermata
- Chordata

ACELOMATA

PSEUDOCOELOMATA

COELOMATA



Phylum: Plathelminthes

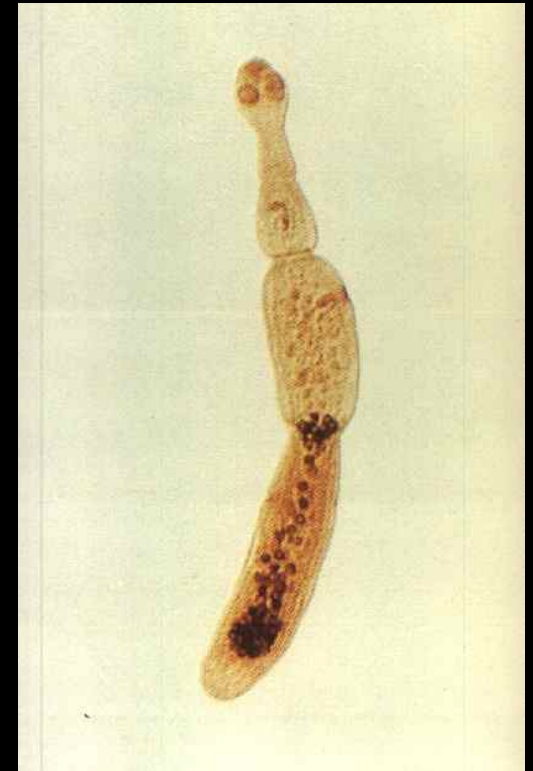
Classis:
Turbellaria



Classis:
Trematoda



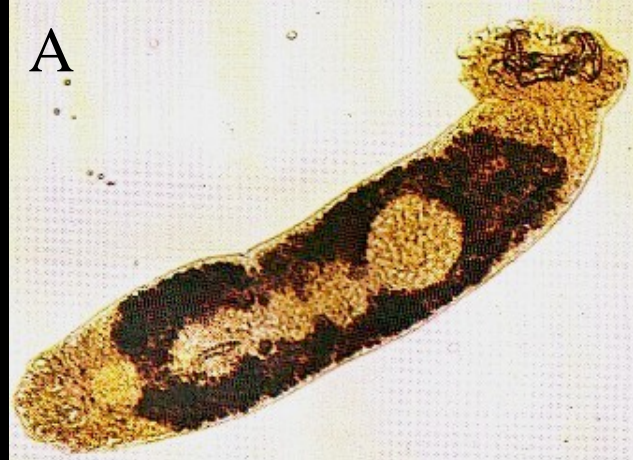
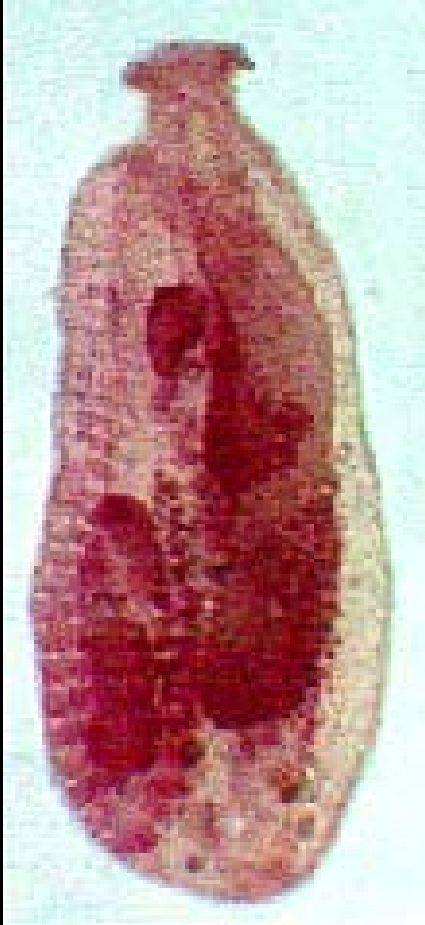
Classis:
Cestoda



classis: Trematoda

Ordo: Aspidobothria

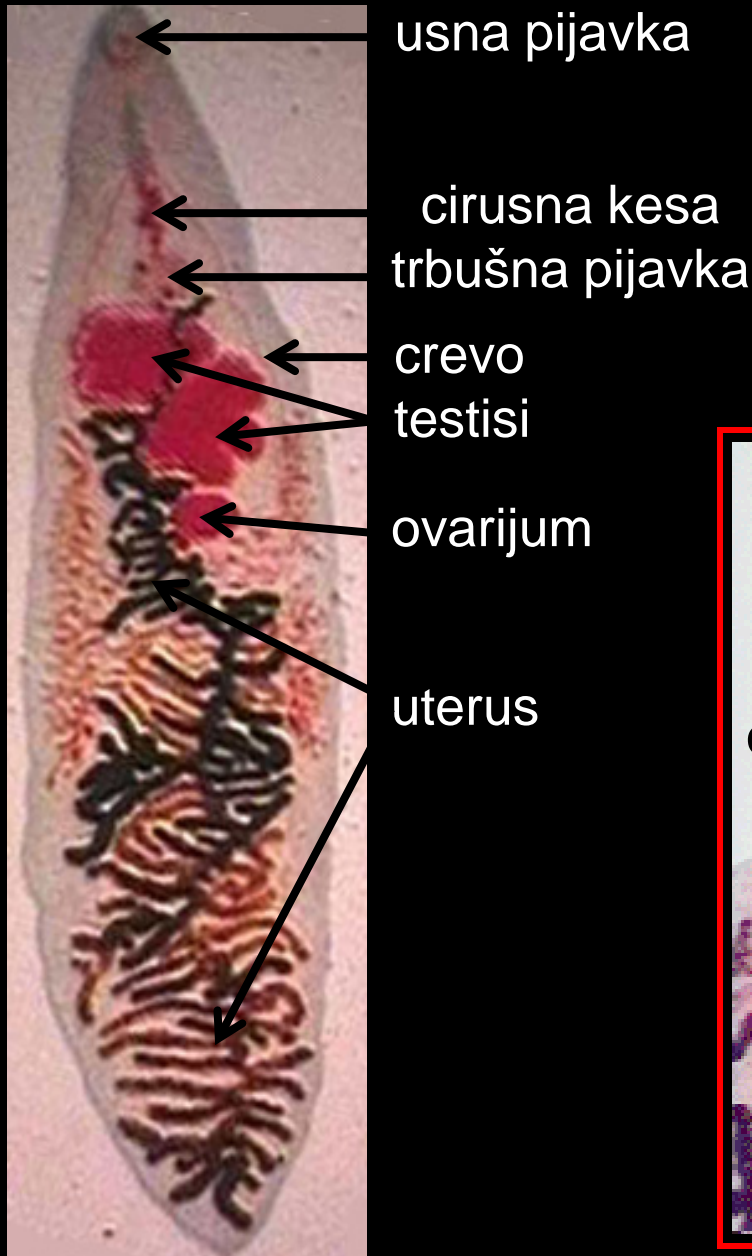
Ordo: Monogenea



- A. *Dactylogyrus vastator*
- B. *Gyrodactylus elegans*
- C. *Diplozoon paradoxum*

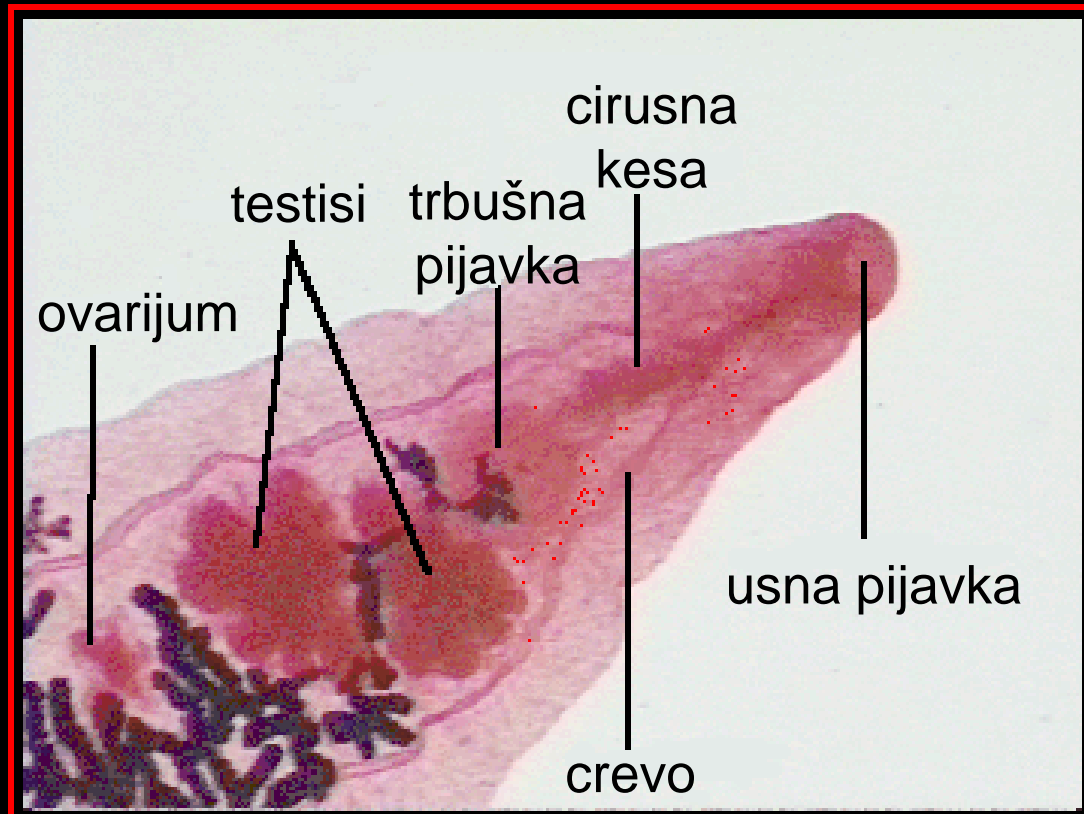
Aspidogaster conchicola

classis: Trematoda
Ordo: Digenea



Mali metilj

Dicrocoelium lanceolatum

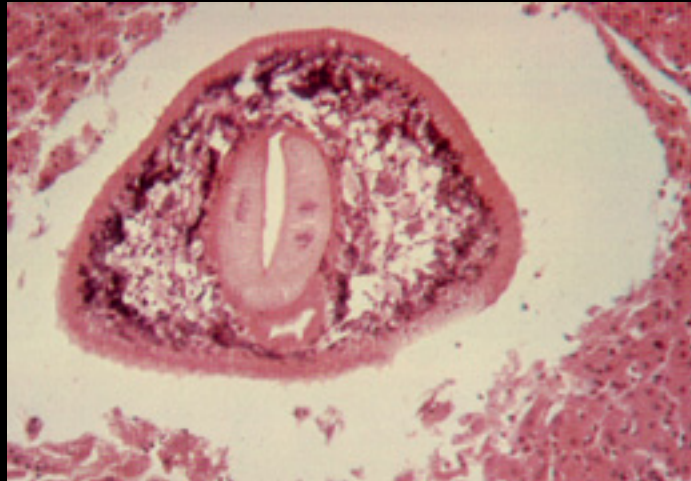


classis: Trematoda

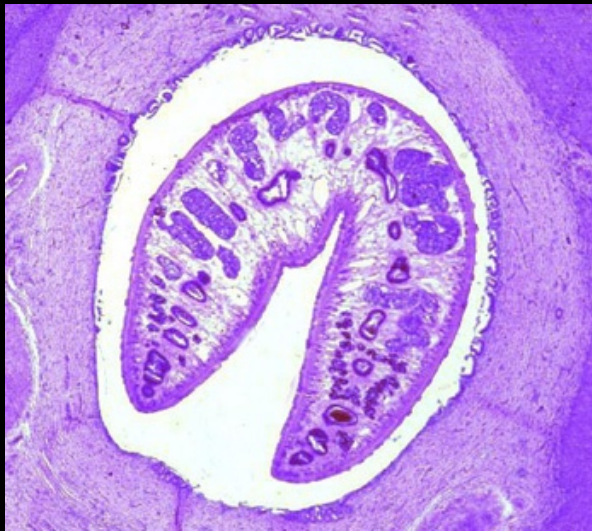
Ordo: Digenea

1. Adult u žučnom kanalu i
2. u jetri (savijena "U" forma)

1



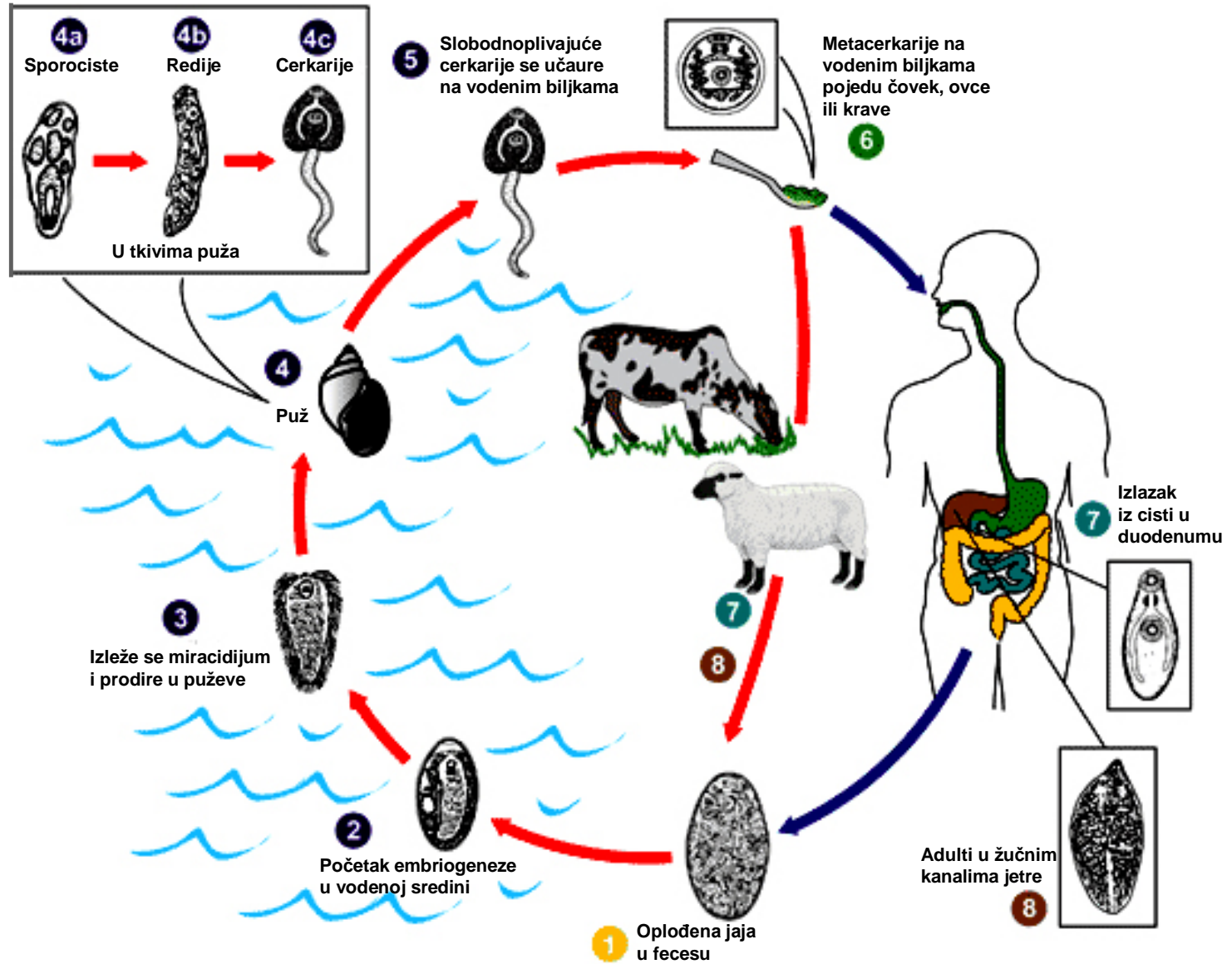
2

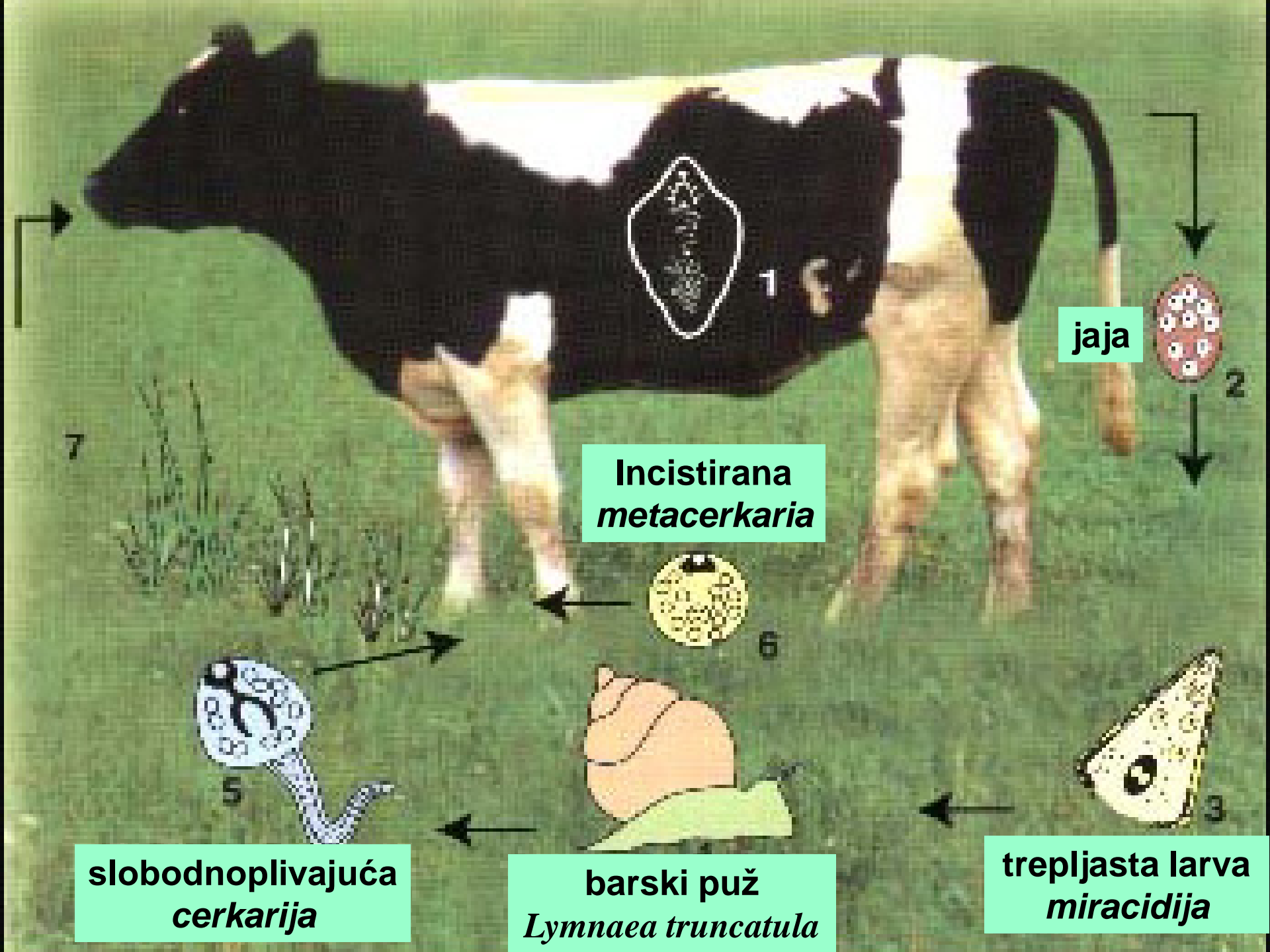


Veliki metilj
Fasciola hepatica



Fasciola hepatica





Incistirana metacerkaria

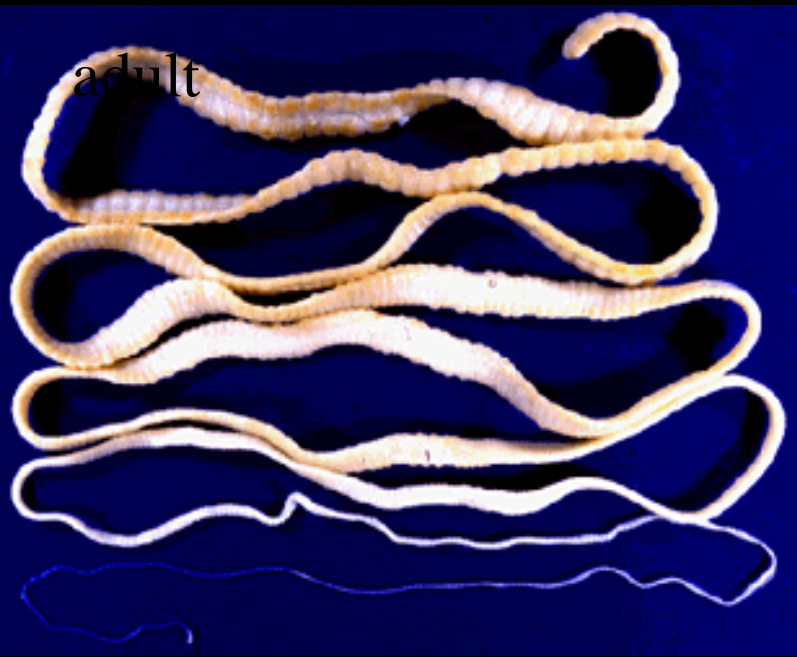
jaja

trepljasta larva miracidija

barski puž *Lymnaea truncatula*

slobodnoplivajuća cercarija

classis: **Cestoda**

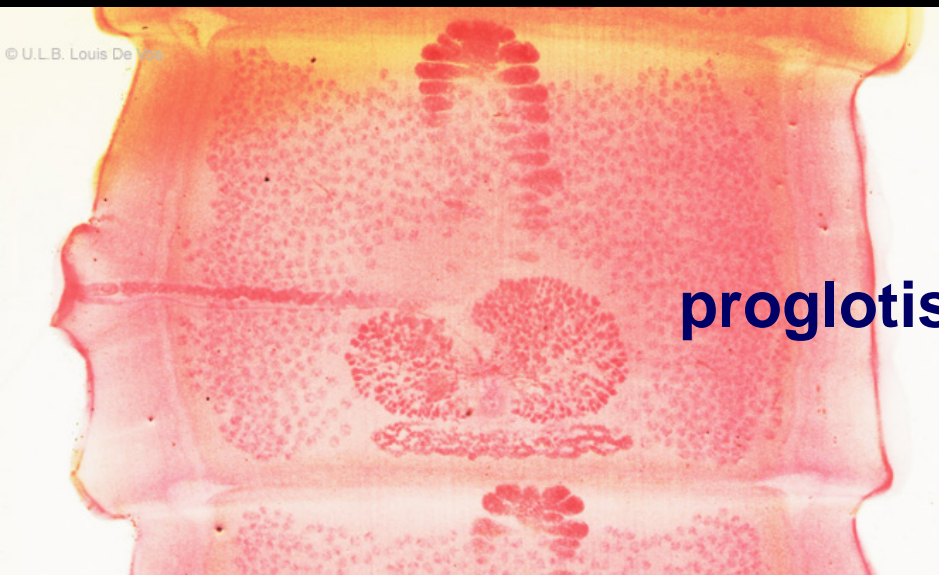


adult



scolex

Svinjska pantljičara
Taenia solium



proglottis

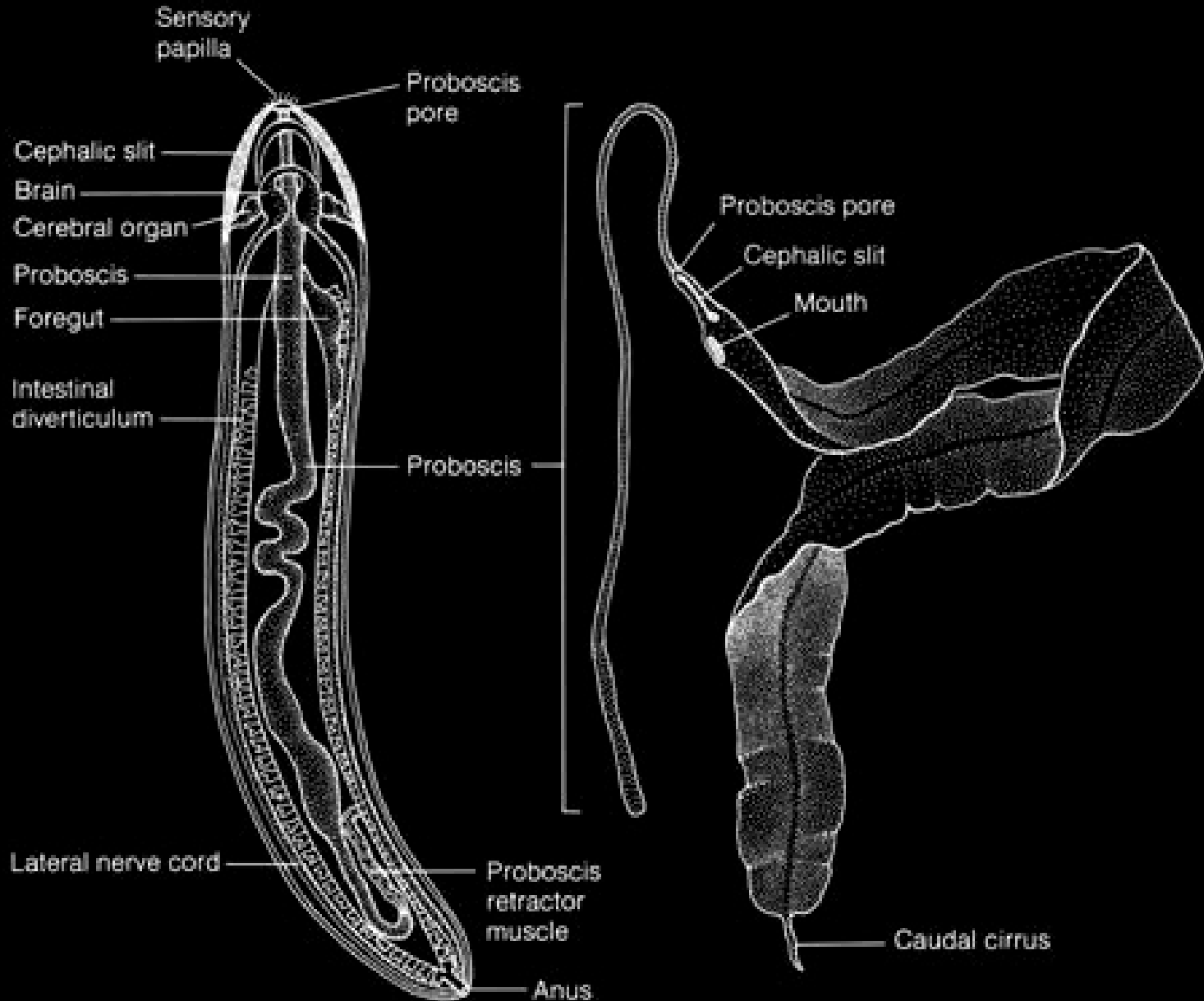


classis: **Cestoda**

Echinococcus granulosus
adult



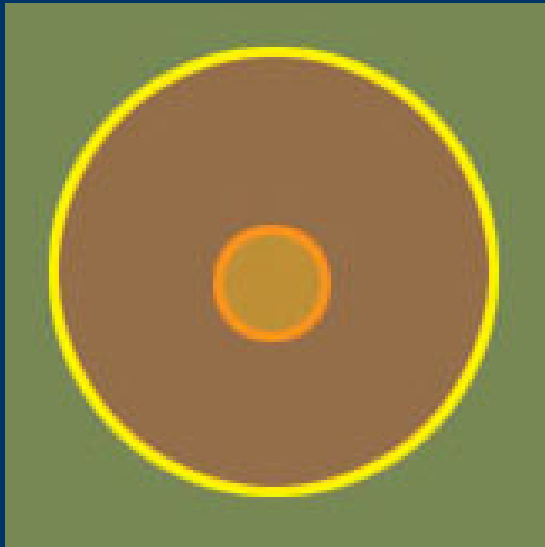
Phylum: Nemertina



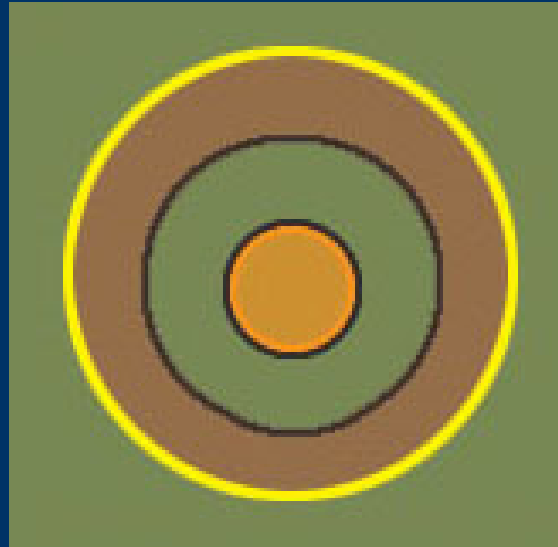
Phylum: Nemertina



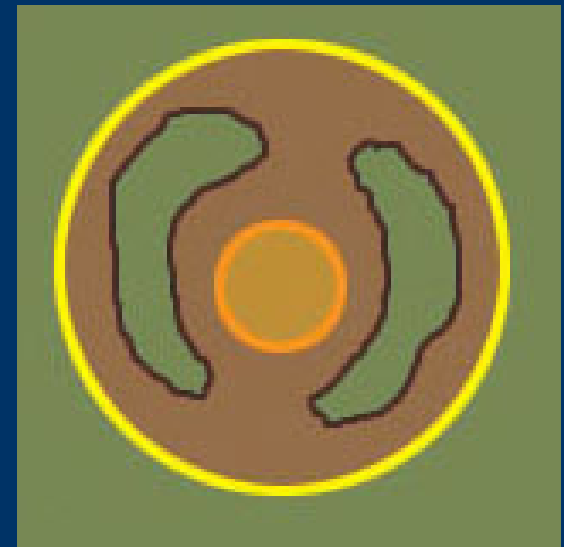
BIOLOŠKI ZNAČAJ POJAVE TELESNIH DUPLJI – PSEUDOCELOMA I CELOMA



Acelomata
-nema telesne duplje



Pseudocelomata
- prisutna lažna
(pseudo) telesna duplja
- *pseudocoelom*



Celomata
- prisutna prava
telesna duplja
- *coelom*

TELESNE DUPLJE ŽIVOTINJA

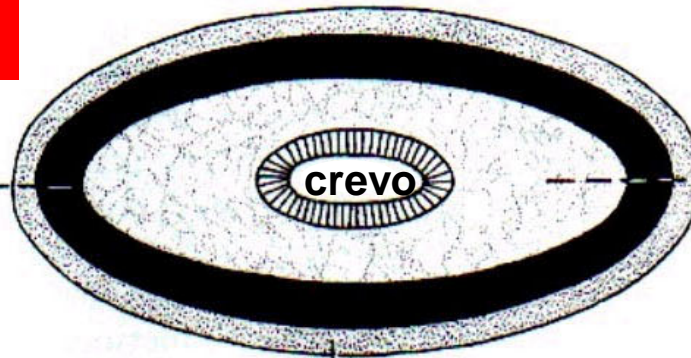
A – Acelomata

B – Pseudocelomata

C – Celomata

A

mišićni sloj



parenhim

mezodermalni organ

pseudocoelom

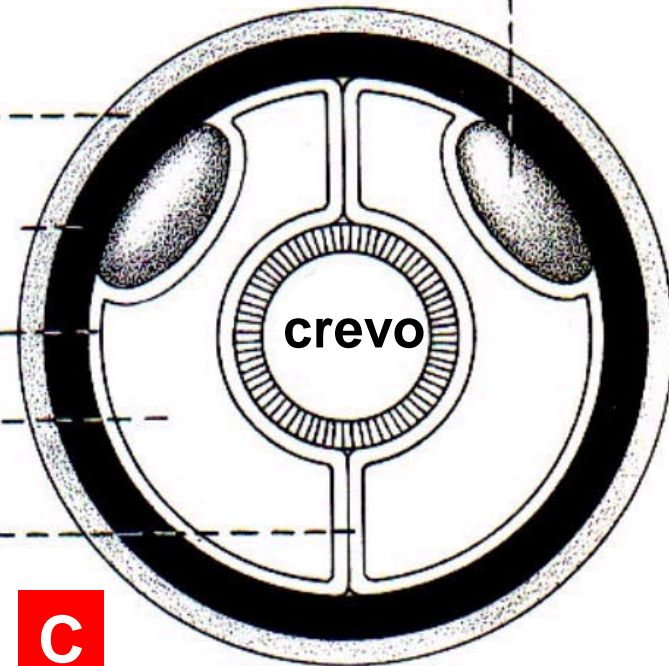
epidermis

mišićni sloj

peritoneum

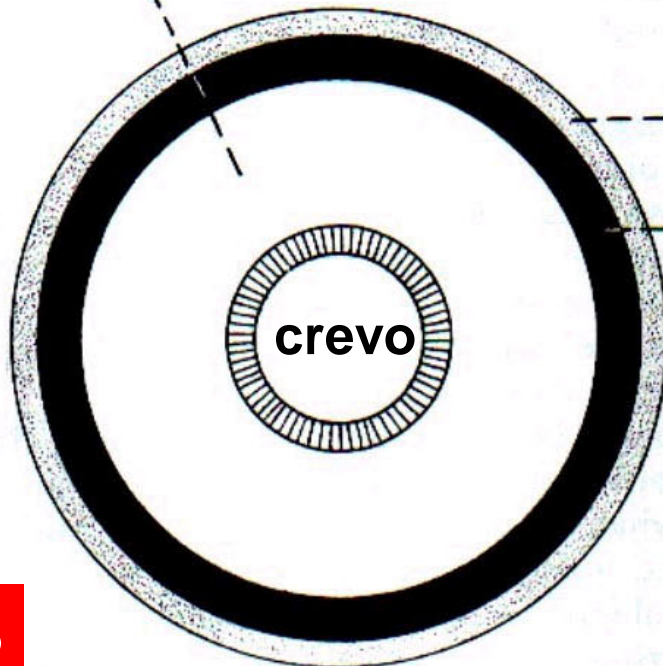
coelom

mezentera



crevo

B



crevo

C

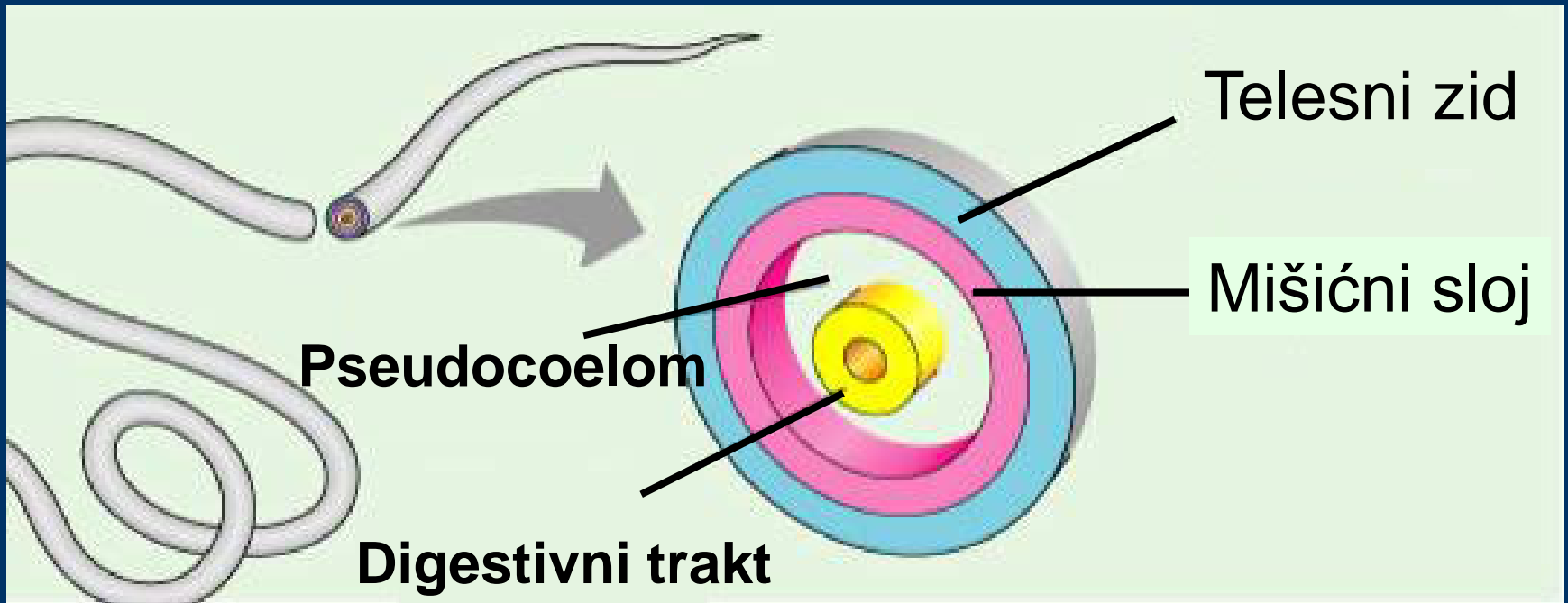
PSEUDOCOELOMATA

- pseudocoelom
- pseudosegmentacija
- odsustvo krvnog sistema

Filumi:

- Nematoda
- Rotatoria
- Acanthocephala
- Gastrotricha
- Kinorhyncha
- Nematomorpha
- Entoprocta

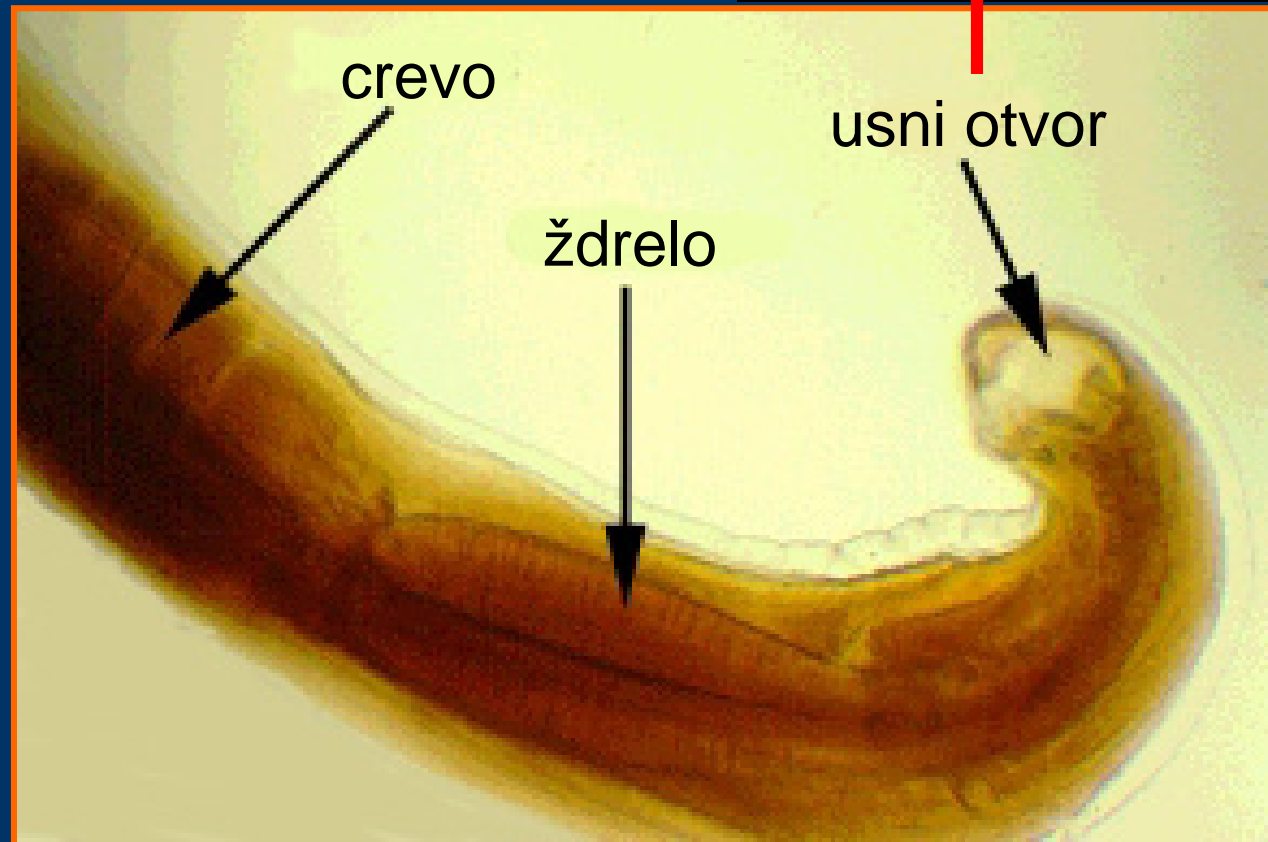
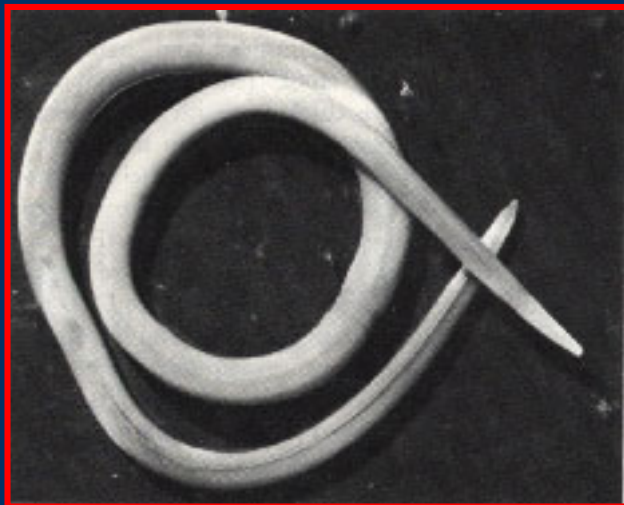
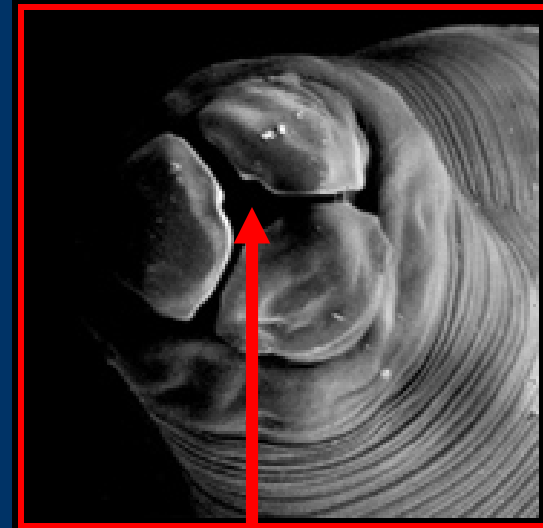
PSEUDOCELOM



Phylum: Nematoda

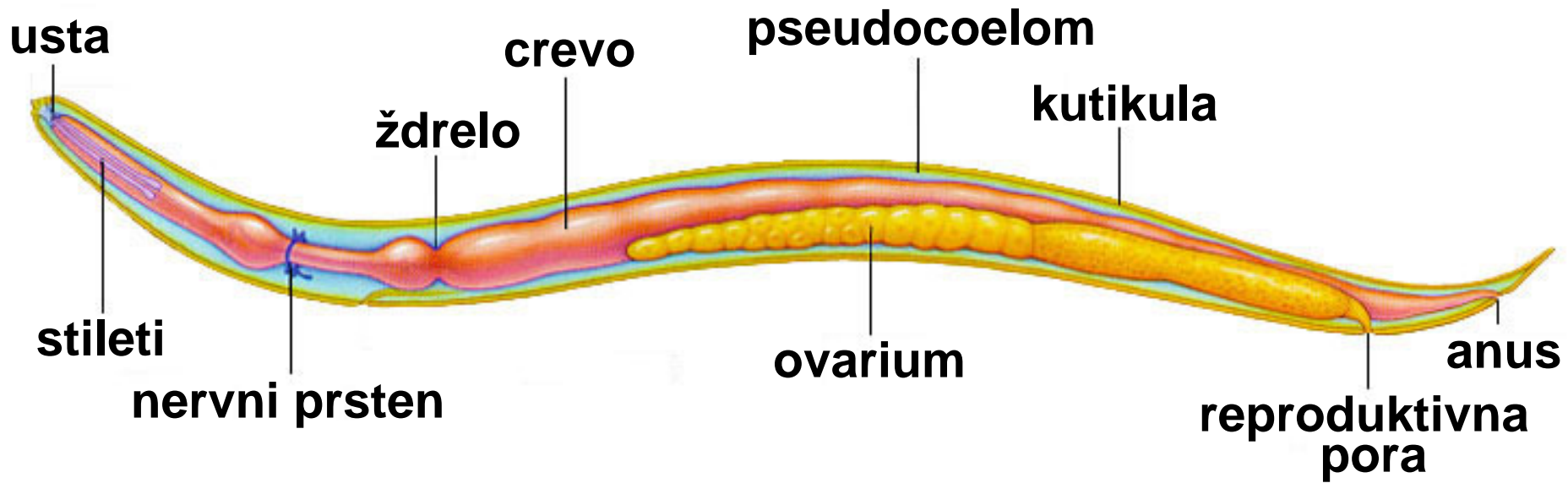
Ordo: Ascaridida

Ascaris suum



Phylum: Nematoda

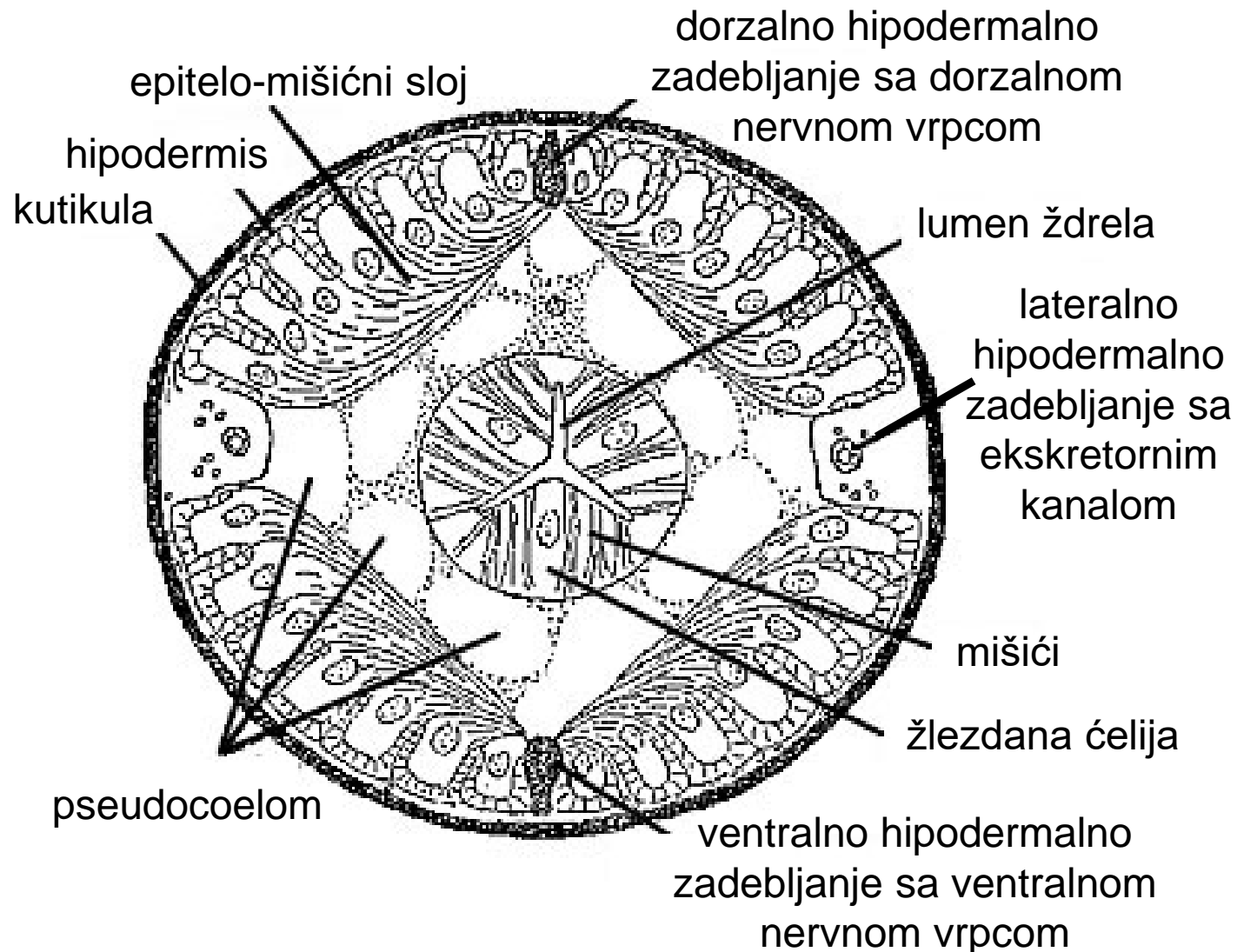
Opšta šema građe tela



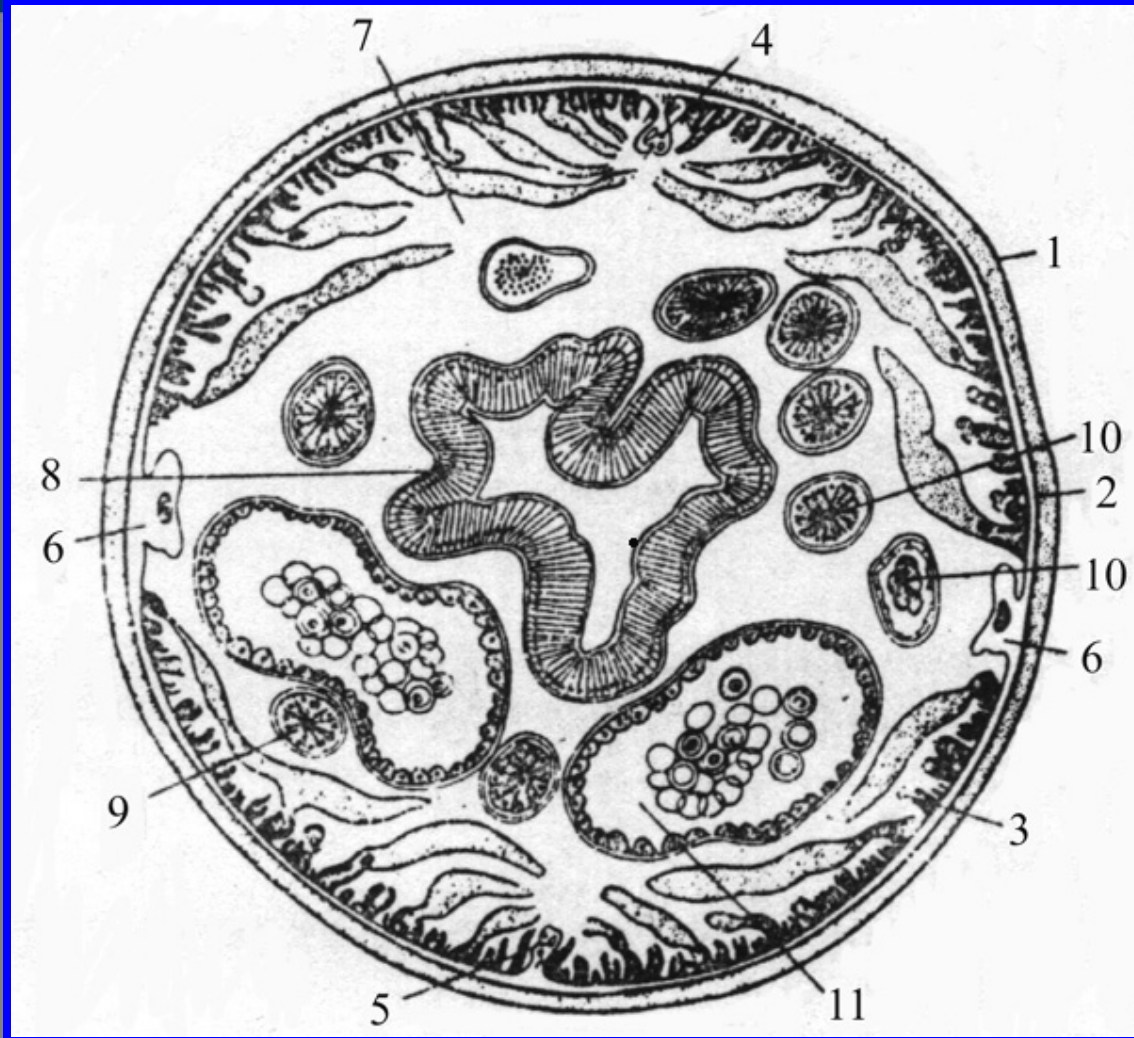
Phylum: Nematoda

Ordo: Ascaridida

Ascaris sp.
poprečni
presek u
nivou ždrela



Phylum: Nematoda



Ascaris sp.

poprečni presek
kroz srednji deo tela
ženke

1. Kutikula; 2. Hipodermis;
3. Epitelo-mišićna ćelija;
4. Dorzalno hipodermalno zadebljanje sa dorzalnom nervnom vrpcom;
5. Ventralno hipodermalno zadebljanje sa ventralnom nervnom vrpcom;
6. Lateralno hipodermalno zadebljanje sa ekskretornim kanalom; 7. Pseudocelom;
8. Crevo; 9 i 10. Ovarijum;
11. Uterus

Phylum: **Nematoda**

Ordo: **Ascaridida**

Parascaris equorum

Parascaris equorum



Toxocara canis

Toxocara canis

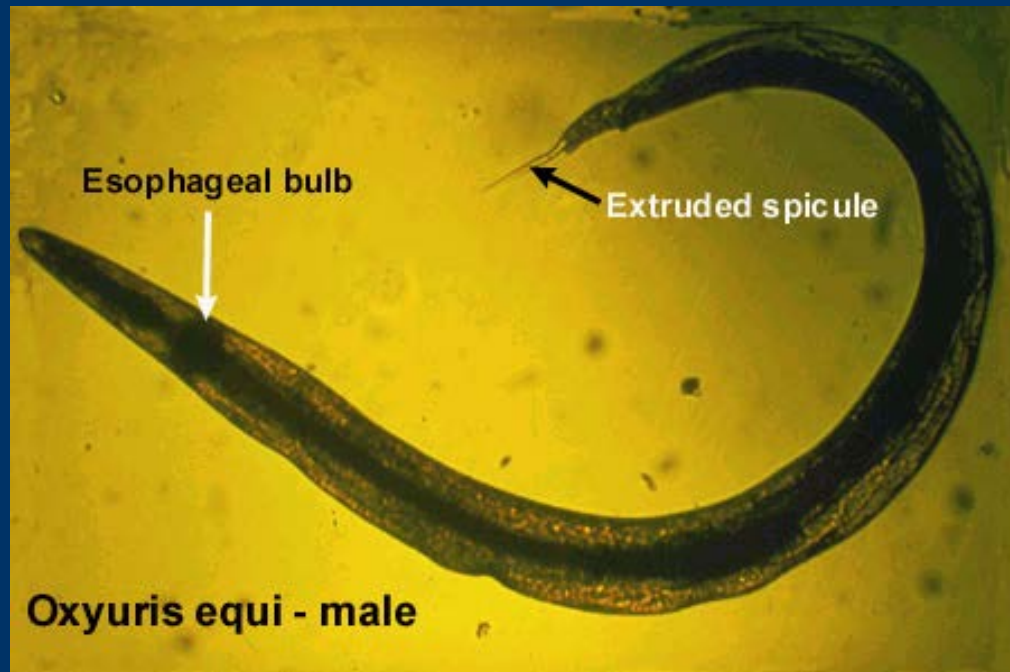


Phylum: Nematoda

Ordo: Oxiuroidea

Oxyuris equi

Enterobius vermicularis





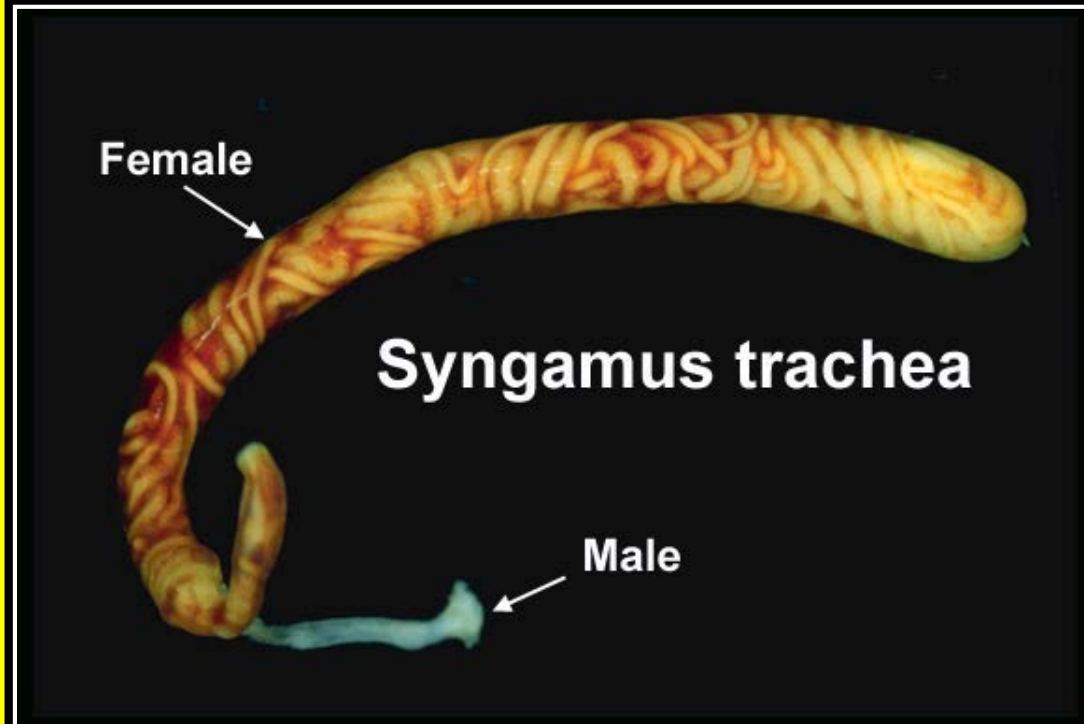
Strongylus equinus

Phylum: **Nematoda**

Ordo: **Strongylida**

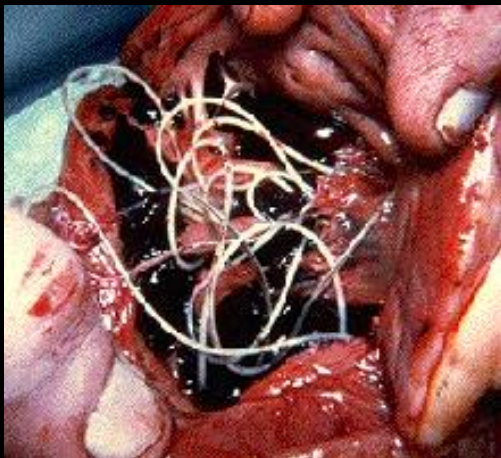
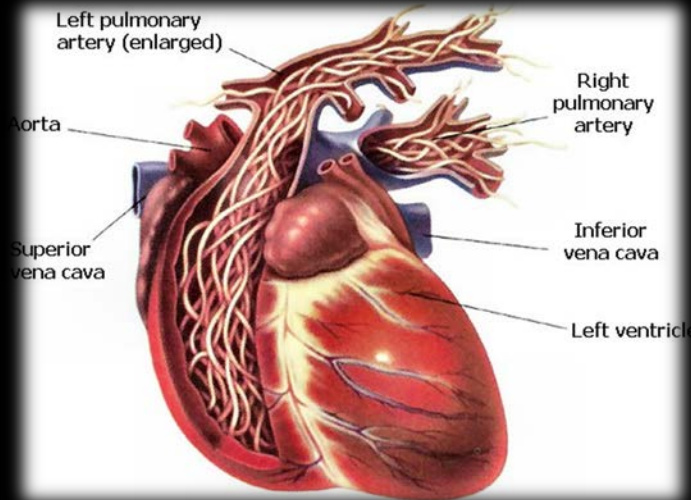


Abdominal surgery in a horse with chronic colic showing hemorrhagic nodules and swollen blood vessels (arrows) due to migrating larvae of *Strongylus equinus*



Phylum: Nematoda

Dirofilaria immitis srčani crv



Ordo: Spirurida

Dirofilaria repens subkutana infekcija

Dirofilarioza
pasa predstavlja
veoma ozbiljno i
potencijalno
fatalno oboljenje
koje izazivaju
paraziti



Dirofilaria immitis i *D. repens*.

Najčešći vektori ovog oboljenja su komarci iz
rodova *Anopheles*, *Aedes* i *Culex*

Phylum: Nematoda

Ordo: Spirurida

Wuchereria bancrofti (*syn. Filaria bancrofti*)



Izaziva
“slonovsku bolest”
(*elephantiasis*)



Prenose je hematofagni insekti, najčešće komarci *Culex* sp. *Aedes* sp. i *Anopheles* sp.

Phylum: **Nematoda**

Ordo: **Trichocephalida**

Trichinella spiralis



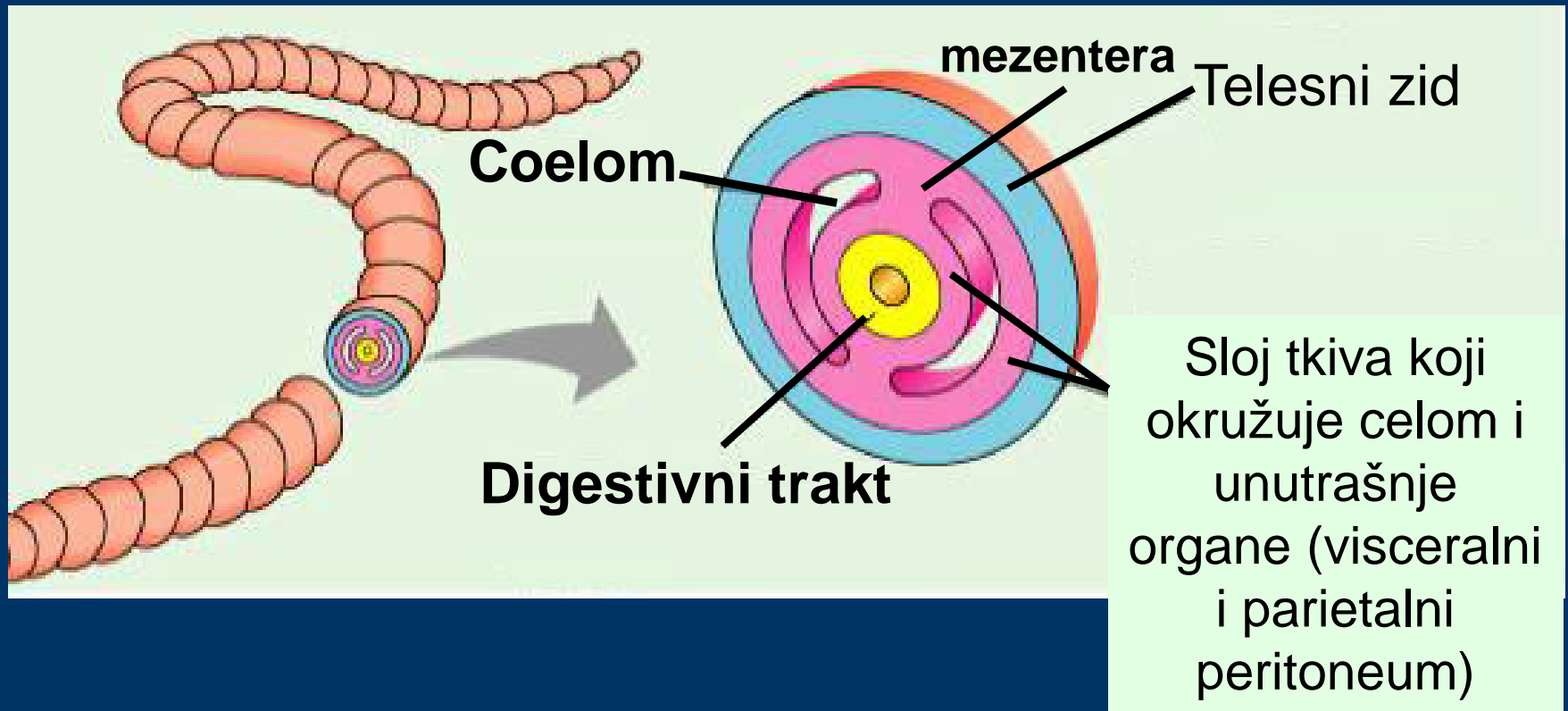
COELOMATA

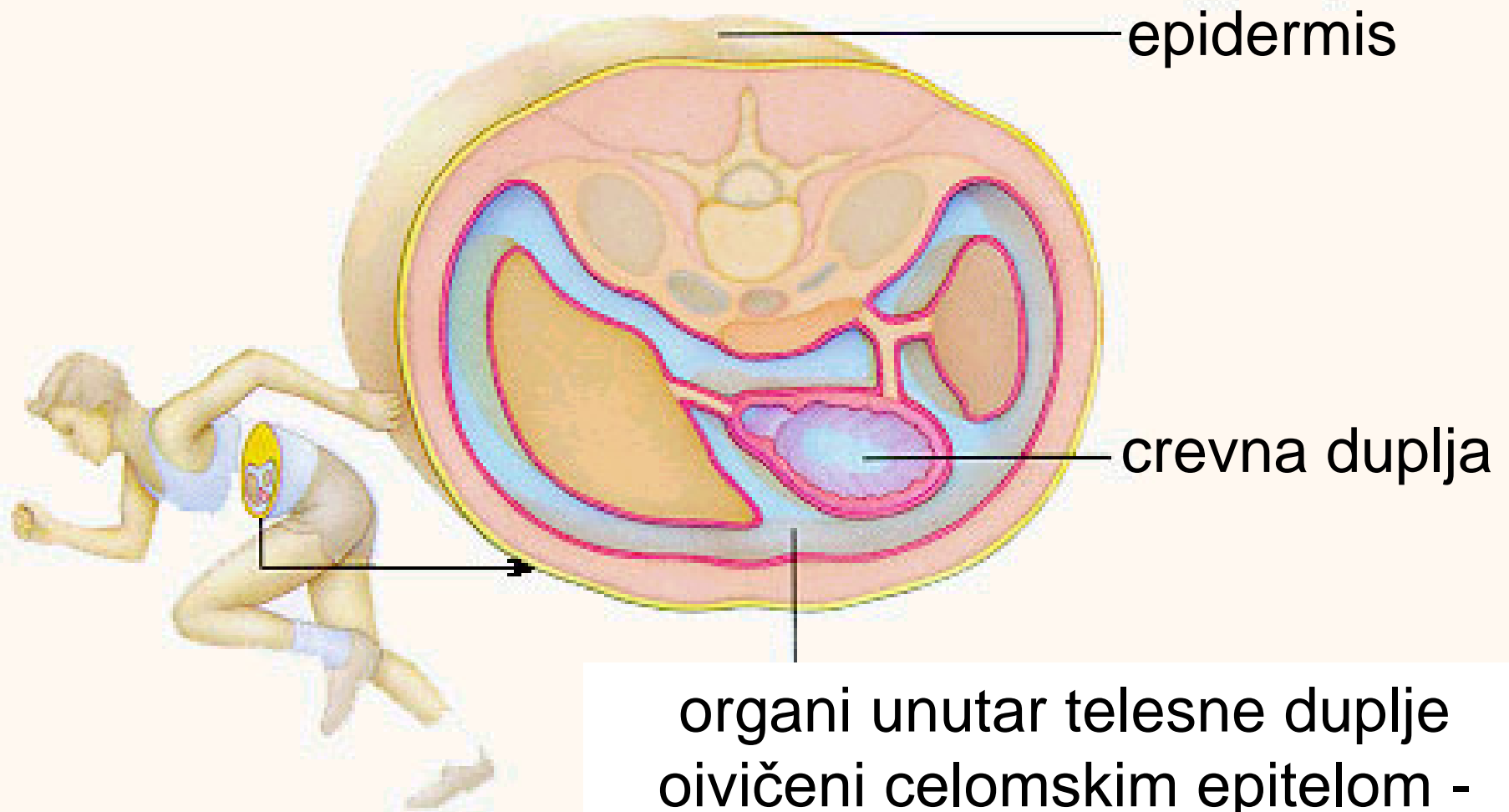
- Grupa organizama koje poseduju pravu telesnu duplju - ***celom***, koja, za razliku od pseudoceloma ima svoj epitel - ***peritoneum***.

Filumi:

- **Mollusca**
- **Annelida**
- **Arthropoda**
- **Echinodermata**
- **Chordata**

CELOM





epidermis

crevna duplja

organi unutar telesne duplje
oivičeni celomskim epitelom -
peritoneumom

Phylum: Mollusca

obuhvata 8 klasa:

Gastropoda



Bivalvia



Polyplacophora



Scaphopoda



Amphyneura



Monoplacophora

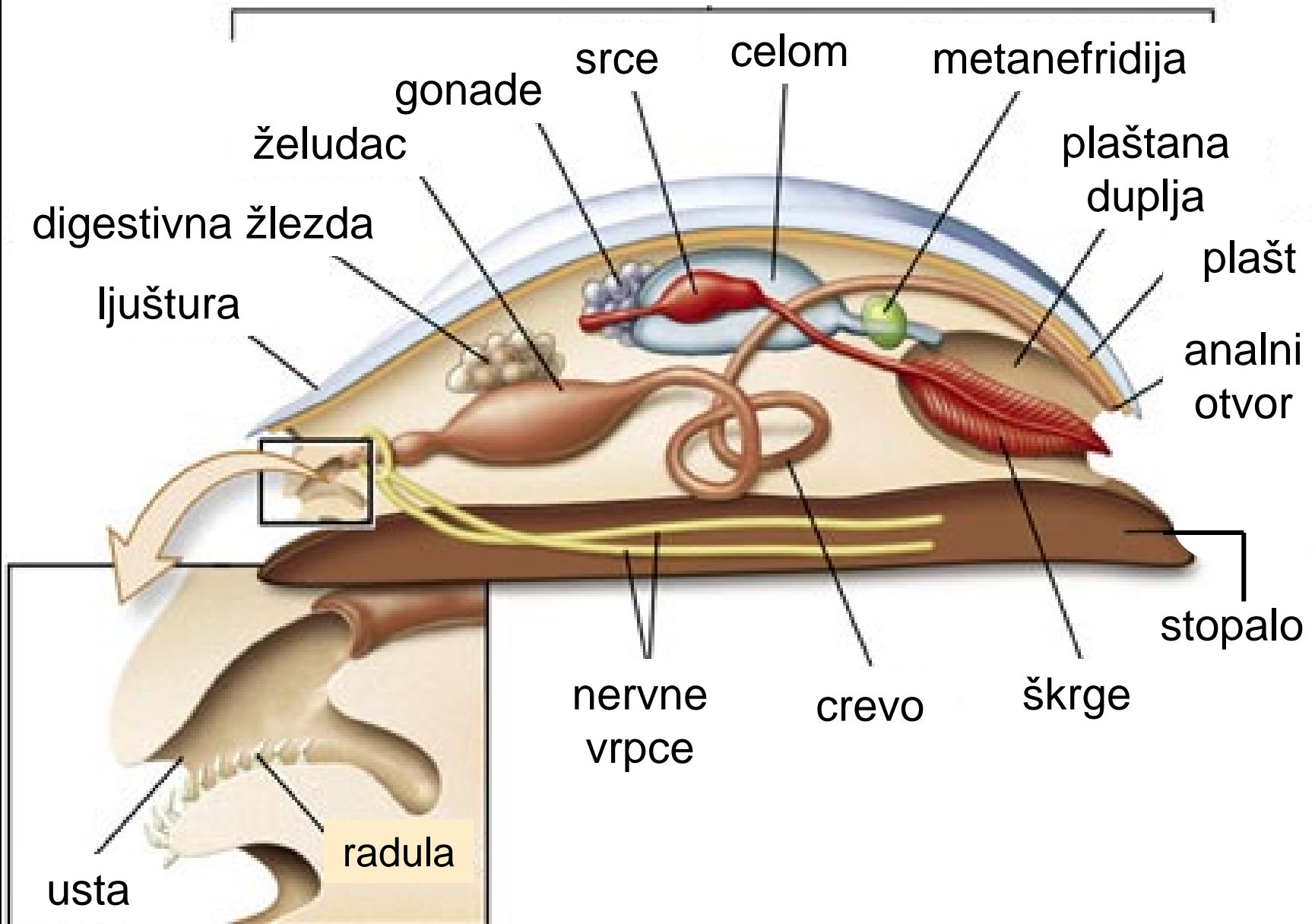
Aplacophora

Cephalopoda

Phylum: Mollusca

Šema građe hipotetičkog pretka

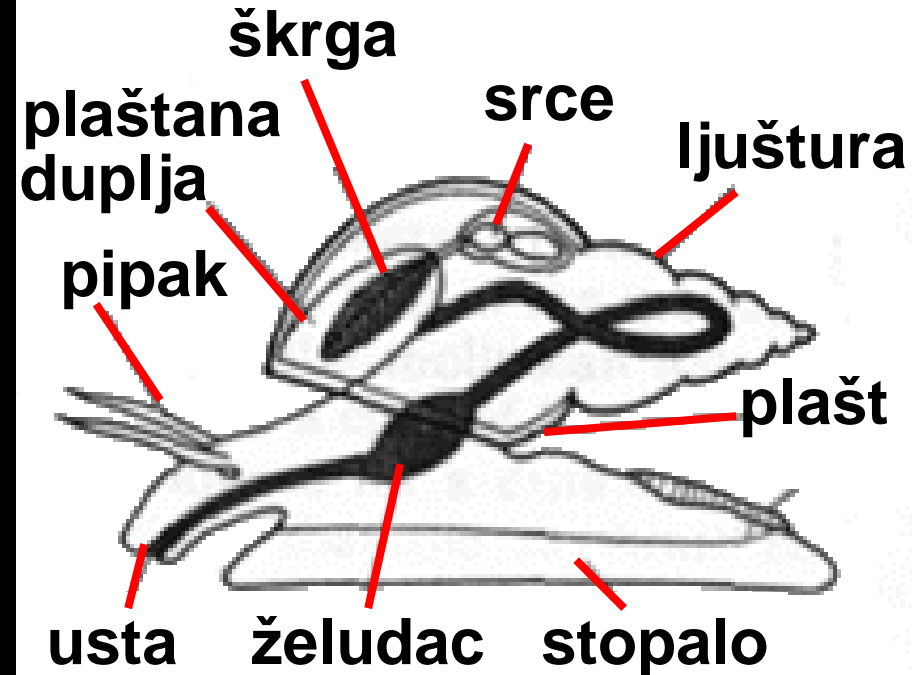
utrobna kesa



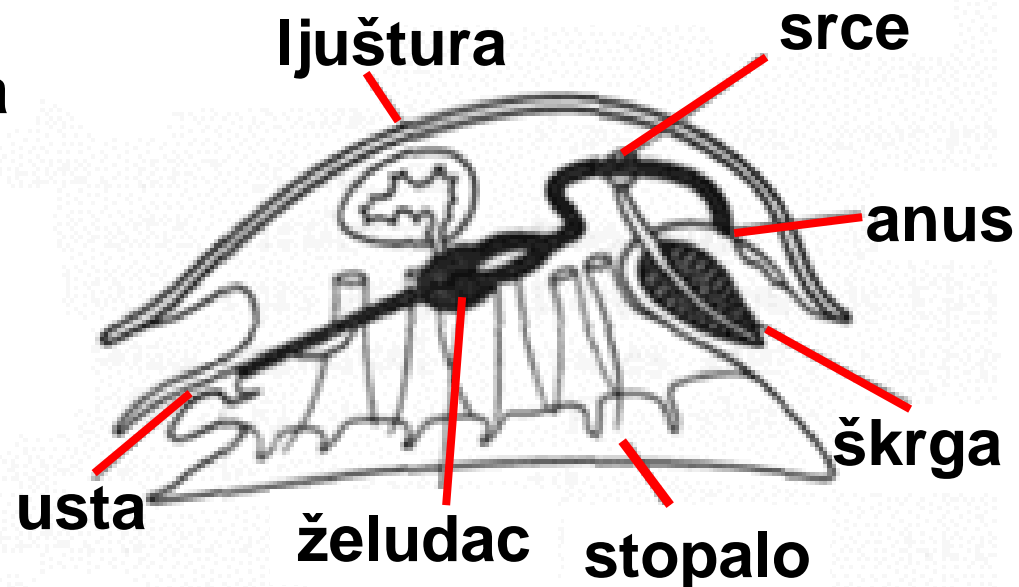
Phylum: Mollusca

Kod **puževa (Gastropoda)** građa tela je modifikovana u odnosu na prethodno opisani hipotetički model. Najvažnija modifikacija je **TORZIJA UTROBNE KESE I PLAŠTANOG KOMPLEKSA**.

Gastropoda



Predak



Phylum: **Mollusca**

Classis: **Gastropoda**

Helix
pomatia

vinogradski
puž



Phylum: Mollusca

Classis: Gastropoda

Helix aspersa

**baštenski (šareni)
puž**



Phylum: **Mollusca**

Classis: **Gastropoda**

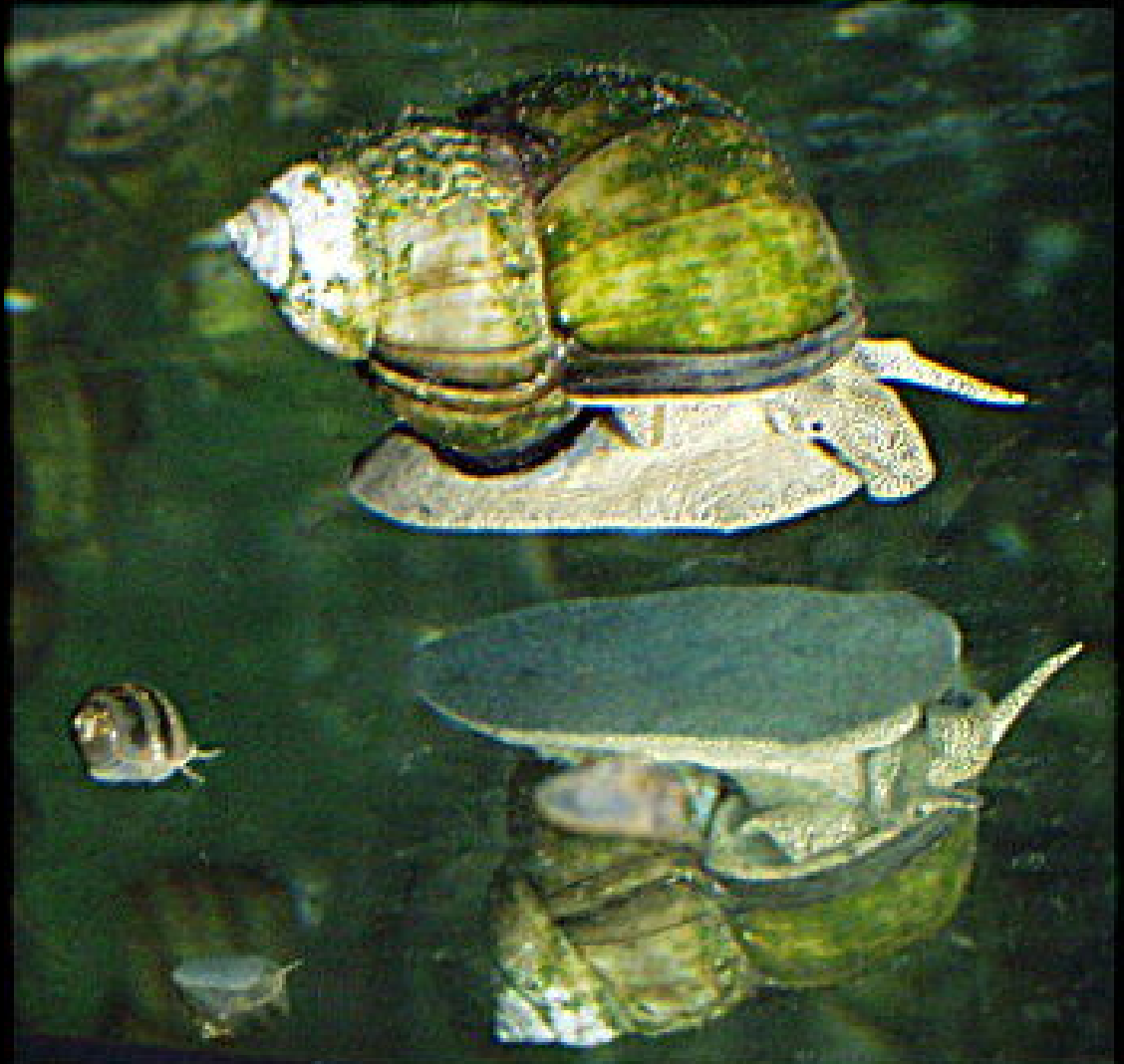
Limax
maximus

puž golać



Phylum: Mollusca

Classis: Gastropoda



*Viviparus
viviparus*

Phylum: Mollusca

Classis: Gastropoda

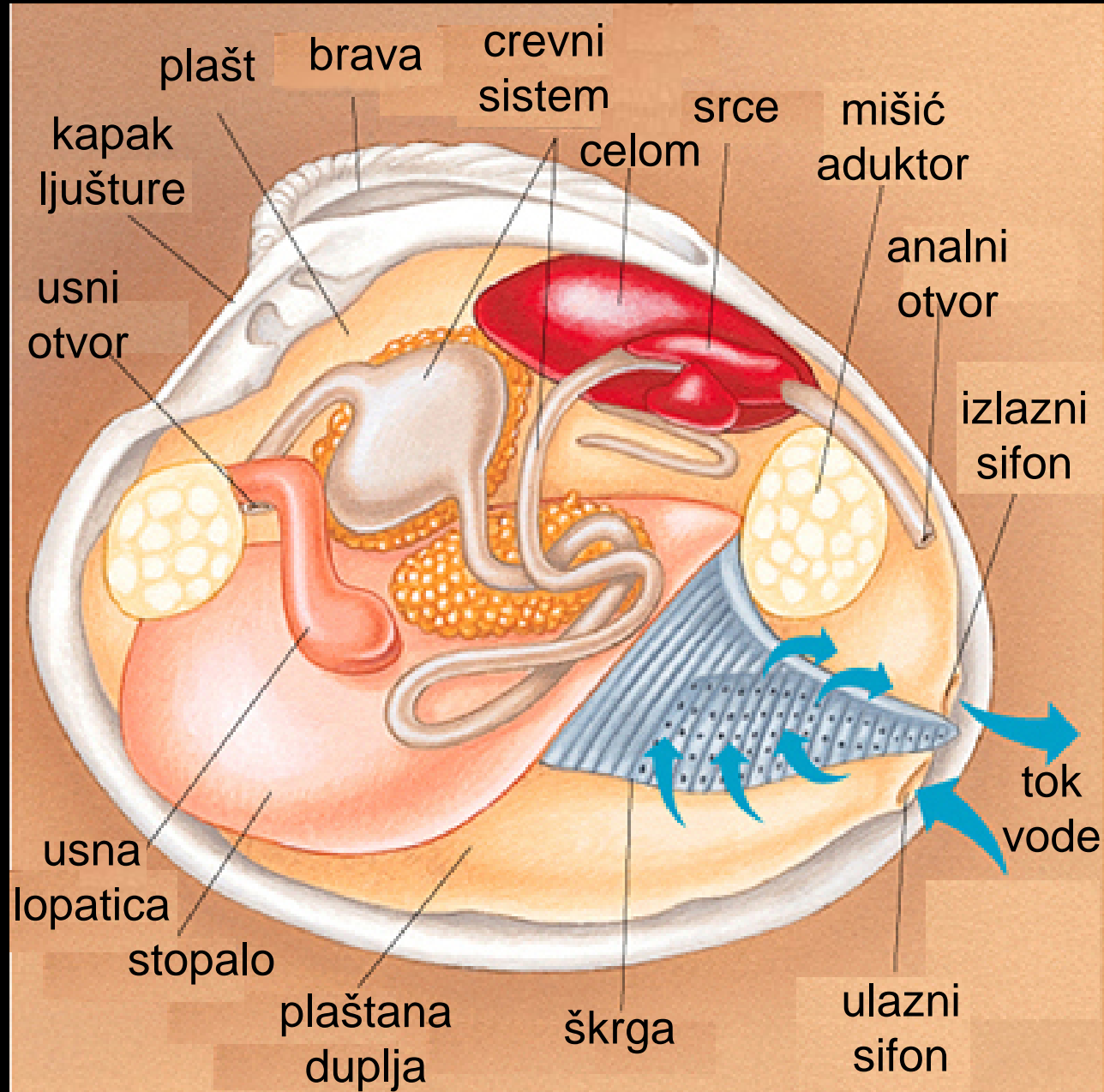


***Murex
nigrispinosus***

Phylum: Mollusca

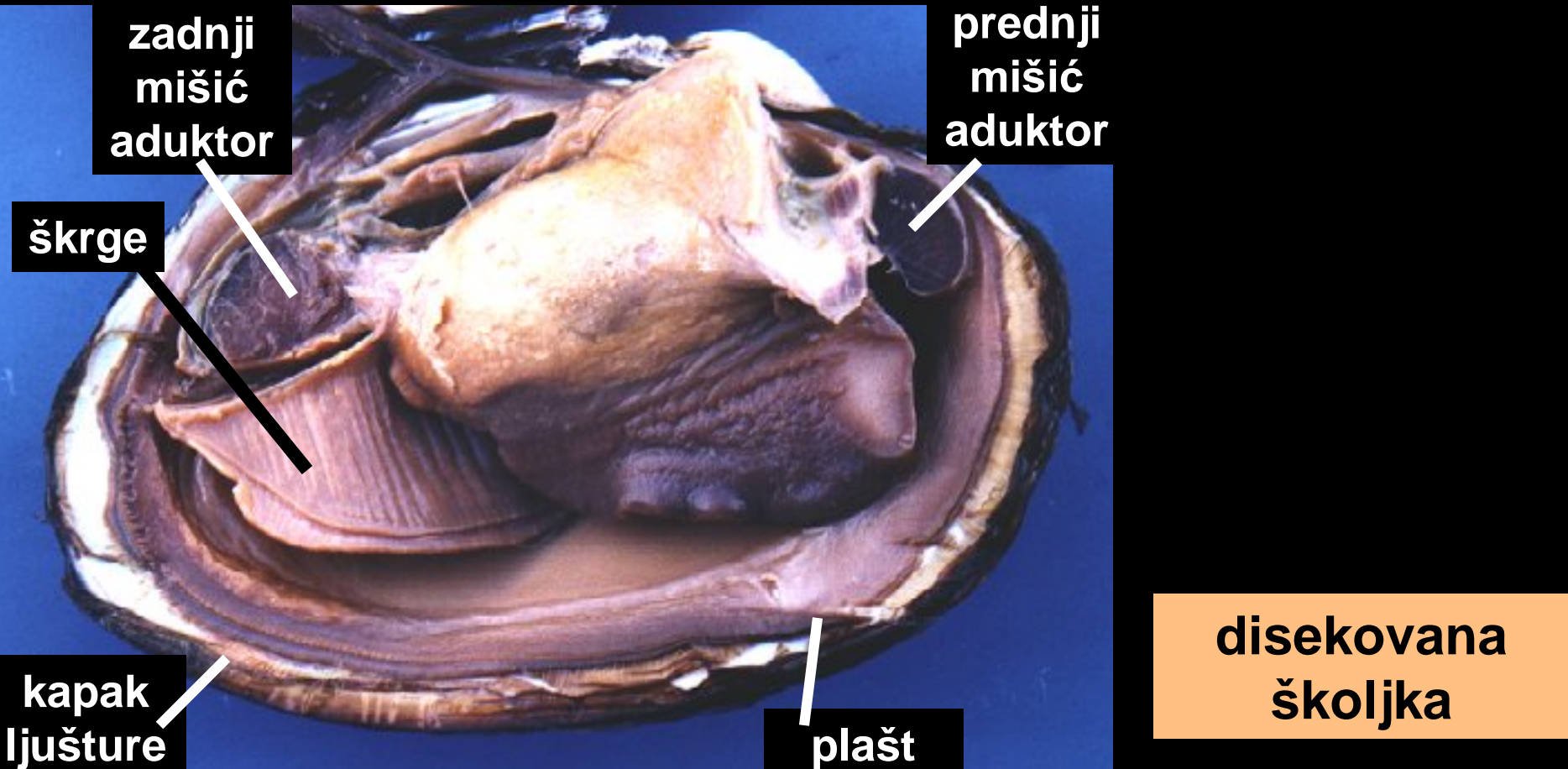
Classis: Bivalvia

Šematski prikaz građe



Phylum: Mollusca

Classis: Bivalvia



Phylum: Mollusca

Classis: Bivalvia



***Ostrea
edulis***

kamenica

Phylum: Mollusca

Classis: Bivalvia

*Pina
nobilis*



Phylum: Mollusca

Classis: Bivalvia

*Pinctada
margaritifera*

Biserna školjka

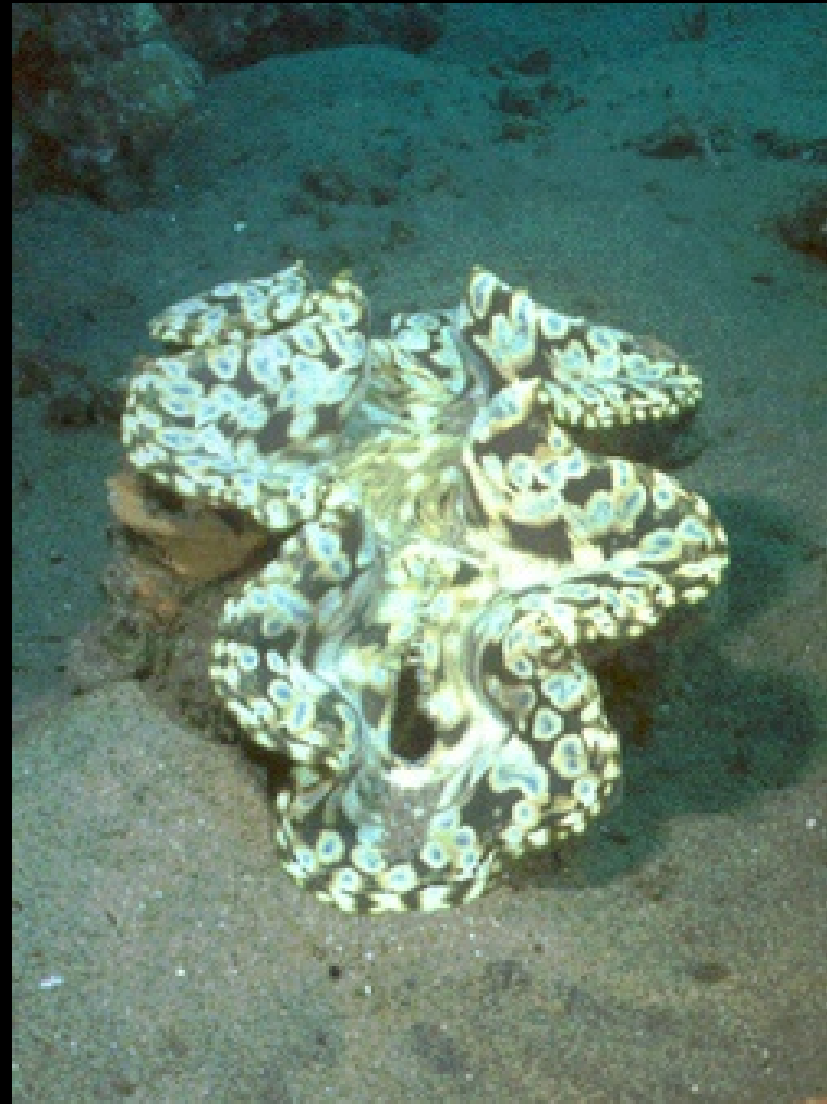


Phylum: Mollusca

Classis: Bivalvia

Tridacna gigas

gigantska školjka



Phylum: Mollusca

Classis: Bivalvia



***Unio
pictorum***

rečna školjka

Phylum: Mollusca

Classis: Bivalvia

*Lithodomus
lithophagus*

prstac, datulja



Phylum: **Mollusca**

Classis: **Bivalvia**

*Mytilus
galloprovincialis*

dagnja



Phylum: Mollusca

Classis: Bivalvia

Cardium edule

srčanka



Phylum: Mollusca

Classis: Bivalvia



Meretrix chione

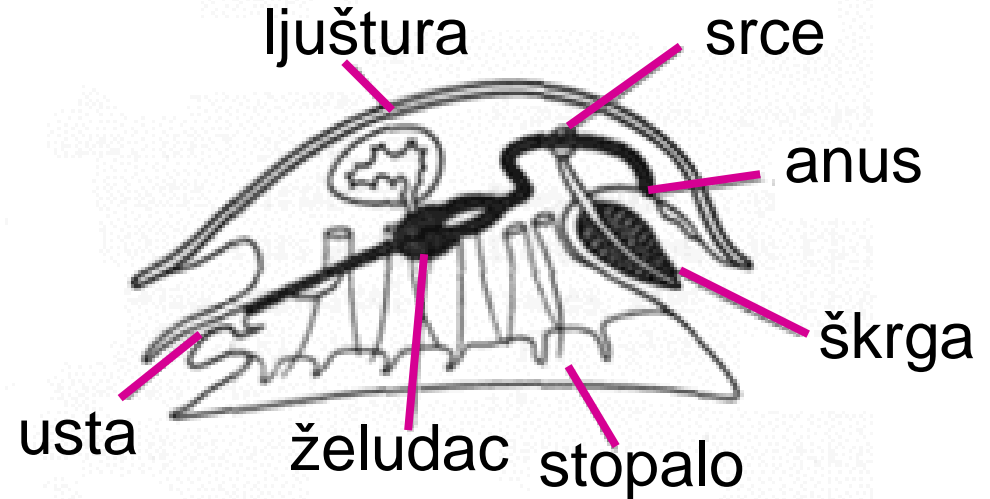
rumenka

Phylum: Mollusca

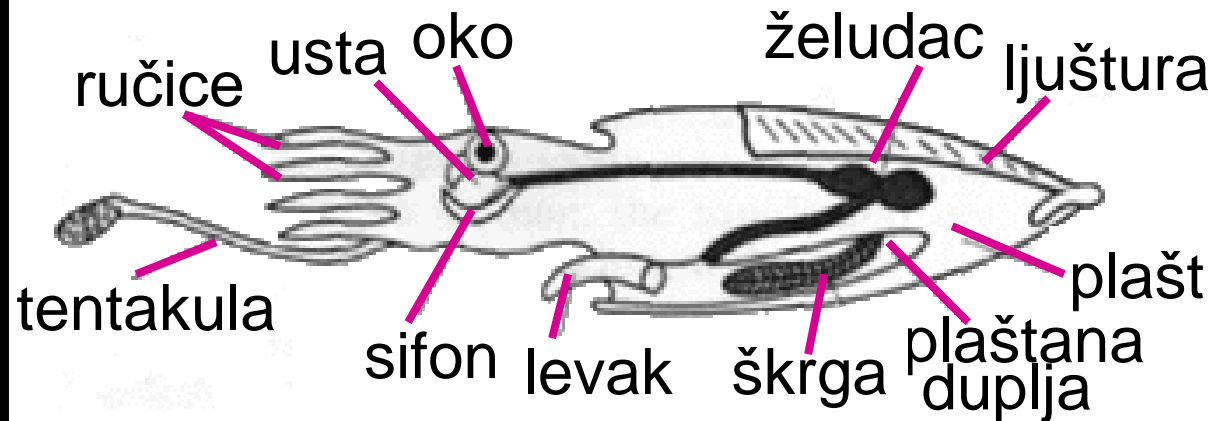
Classis: Cephalopoda

promene u građi
Cephalopoda
u odnosu na
hipotetičkog pretka

Predak



Cephalopoda



Phylum: Mollusca

Classis: Cephalopoda

Ekonomski značajni predstavnici



Loligo sp.



Sepia sp.



Octopus sp.

Phylum: Mollusca

Classis: Cephalopoda



Nautilus sp.



***Ozaena moschata* -
muzgavac**

Phylum: Annelida

Homonomna segmentacija



Klase:

- Polychaeta
- ← • Oligochaeta
- Hirudinea →



A



Phylum: **Annelida**

Classis **Polychaeta**

Nereis sp.

A – spoljašnja morfologija

B – prednji kraj tela

B

palp

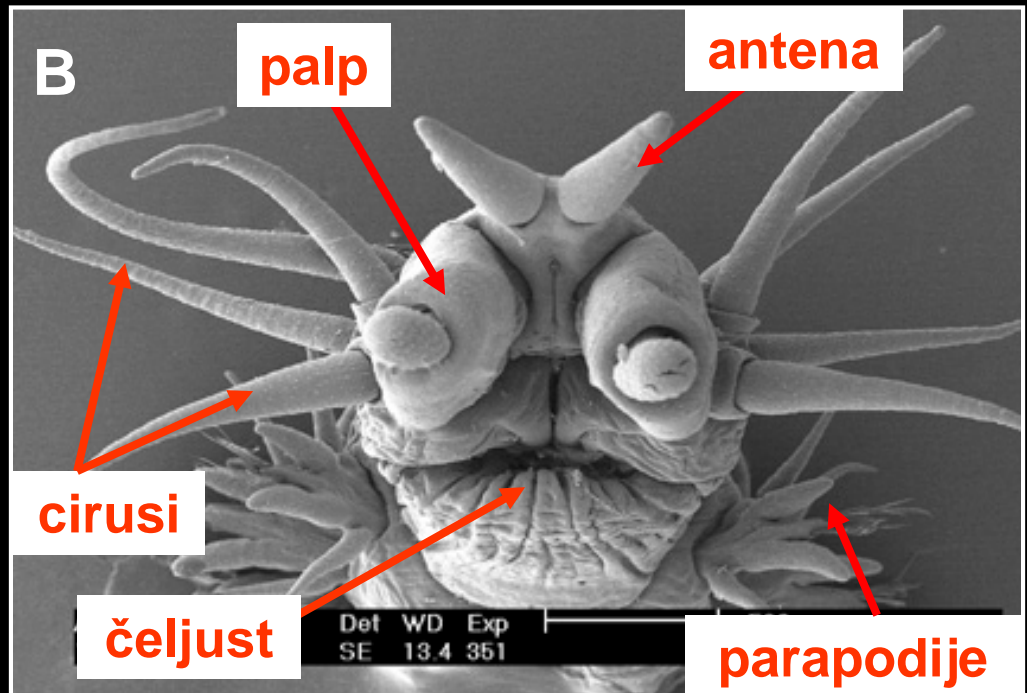
antena

cirusi

čeljust

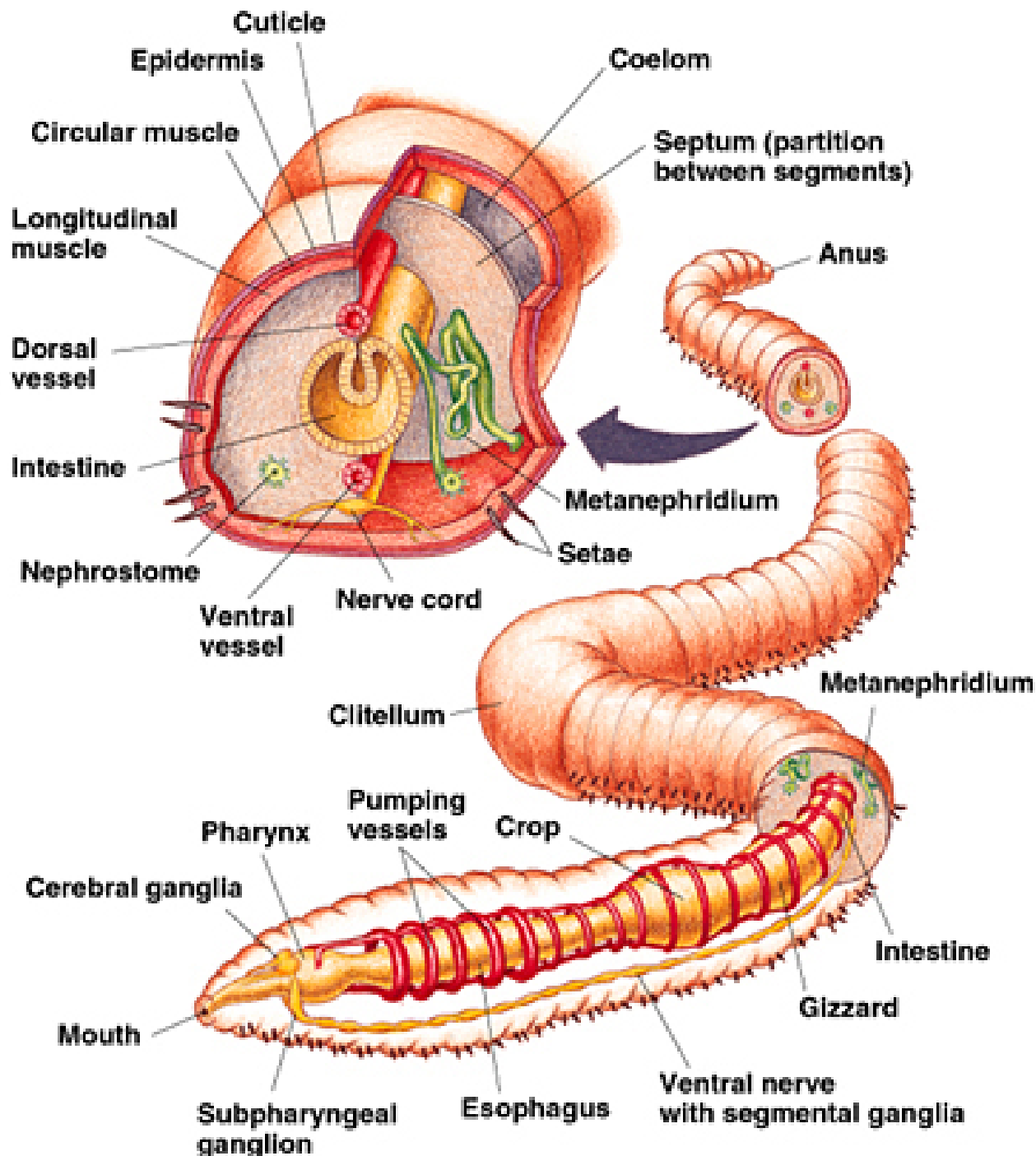
parapodije

Det WD Exp
SE 13.4 351



Phylum: Annelida

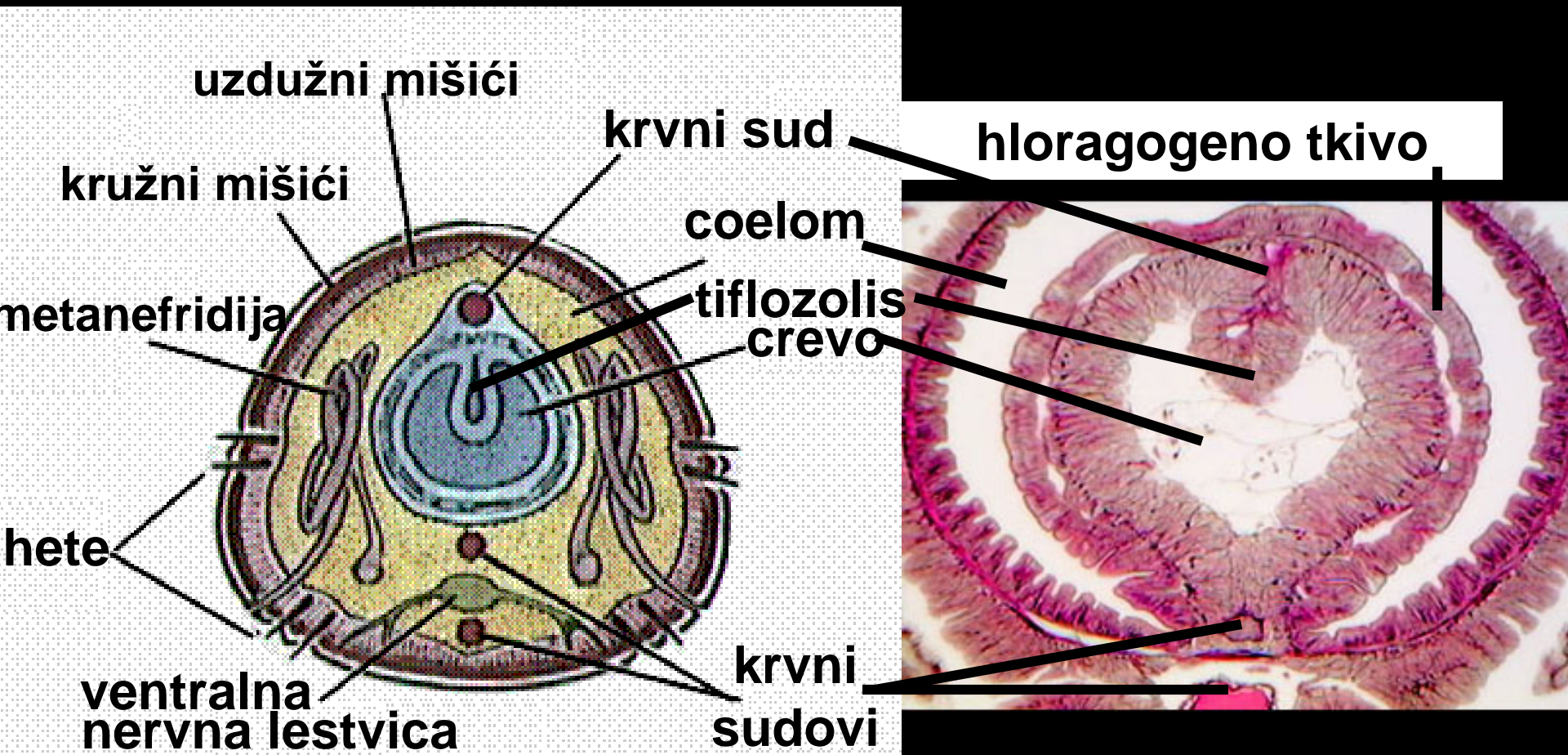
Classis Oligochaeta



Phylum: Annelida

Classis Oligochaeta

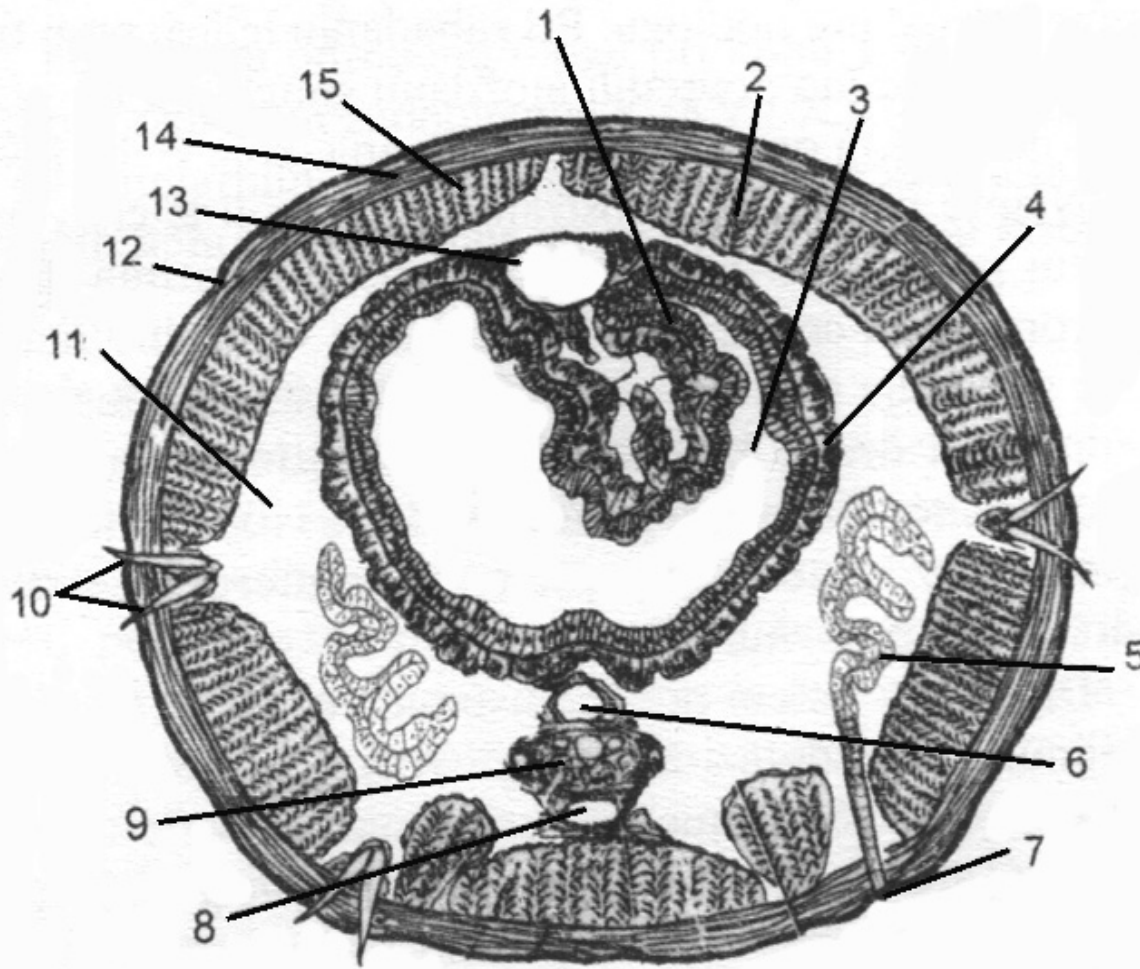
Lumbricus terrestris - poprečni presek



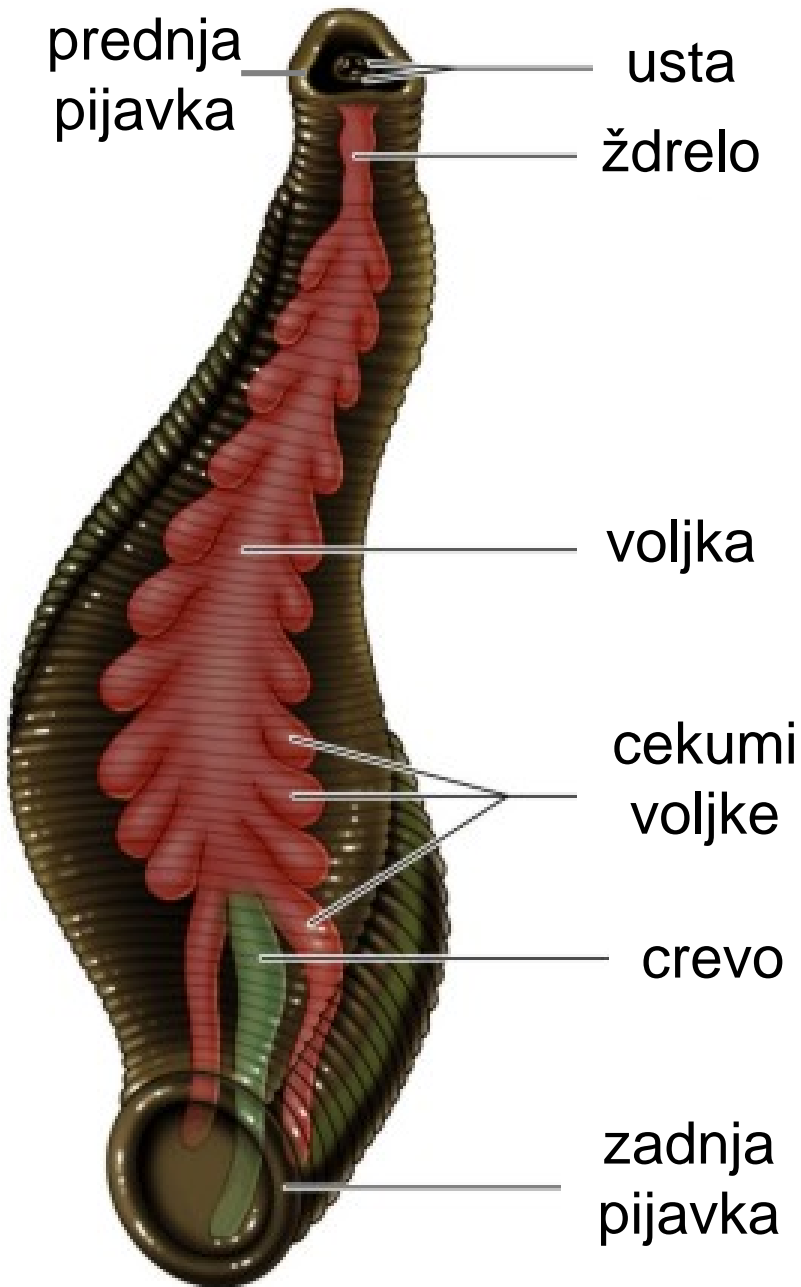
Phylum:
Annelida

Classis
Oligochaeta

*Lumbricus
terrestris*



1. Tiflozolis, 2. Parietalni peritoneum, 3. Crevo, 4. Hloragogeno tkivo,
5. Metanefridija, 6. Ventralni krvni sud, 7. Nefridiopora, 8. Subneuralni krvni sud,
9. Ventralna nervna lestvica, 10. Hete, 11. Celom, 12. Epidermis,
13. Dorzalni krvni sud, 14. Kružni mišići, 15. Uzdužni mišići.



Phylum: Annelida

Classis: Hirudinea

Hirudo officinalis

medicinska pijavica