# ACOELOMATES

PHYLUM

## PLATYHELMINTHES

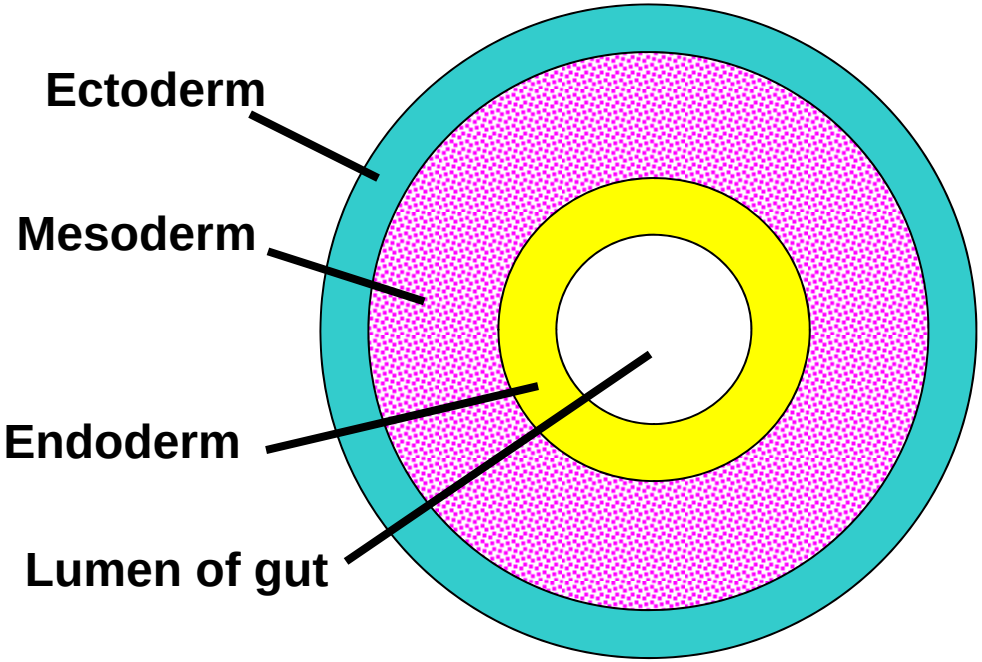
&

PHYLUM

## NEMERTINA

The

# ACOELOMATE Condition




Any triploblastic organism which lacks a body cavity is said to be an acoelomate...

# PLATYHELMINTHES

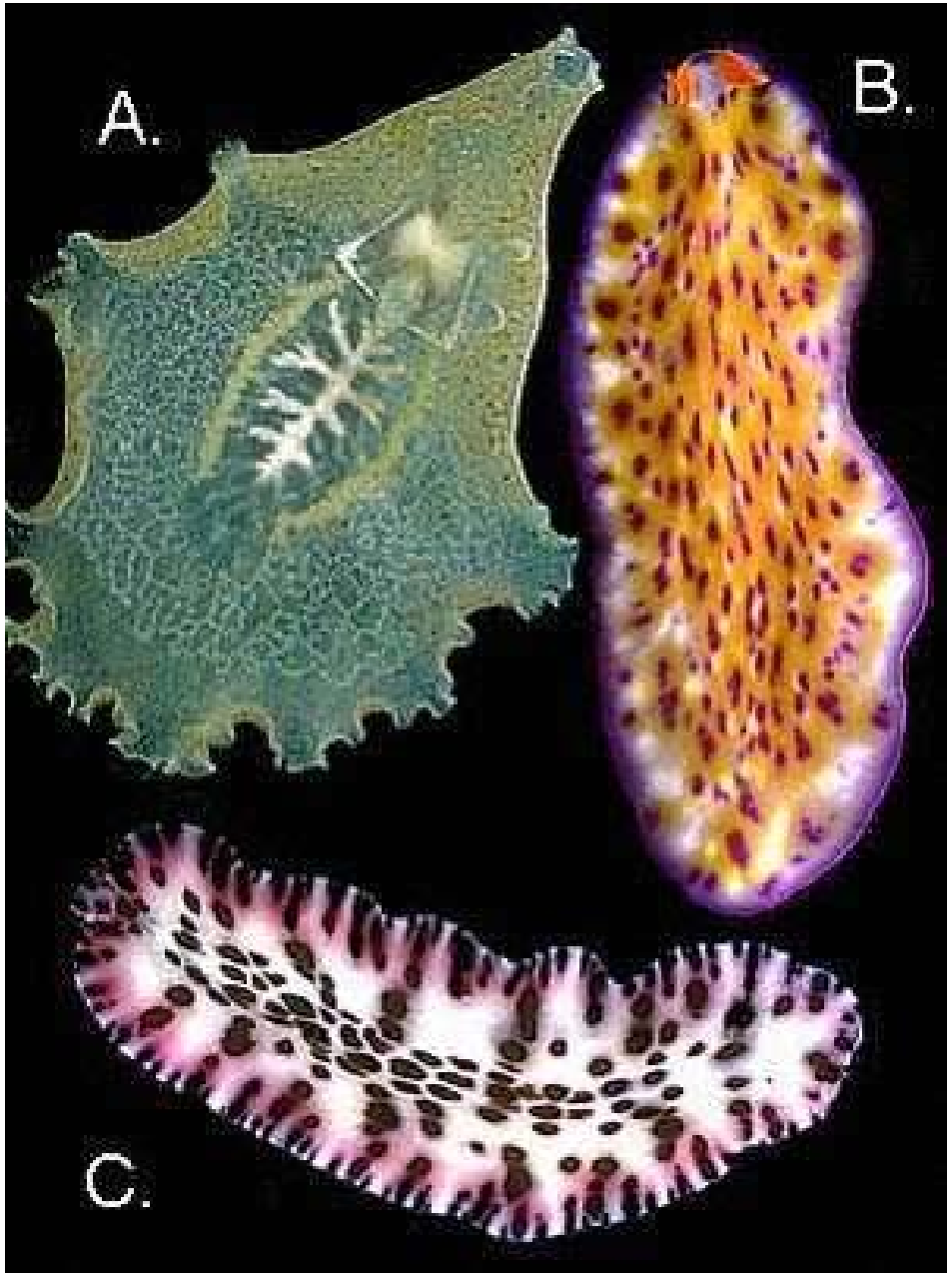
## ‘Flatworms’

- ORGAN grade of body organization
- TRIPLOBLASTIC
- MESENCHYME = Middle layer derived from mesoderm germ layer = space-filling packing tissue
- ACOELOMATE - Mesoderm obliterates the blastocoel in the embryo

# PLATYHELMINTHES

## 4 main classes

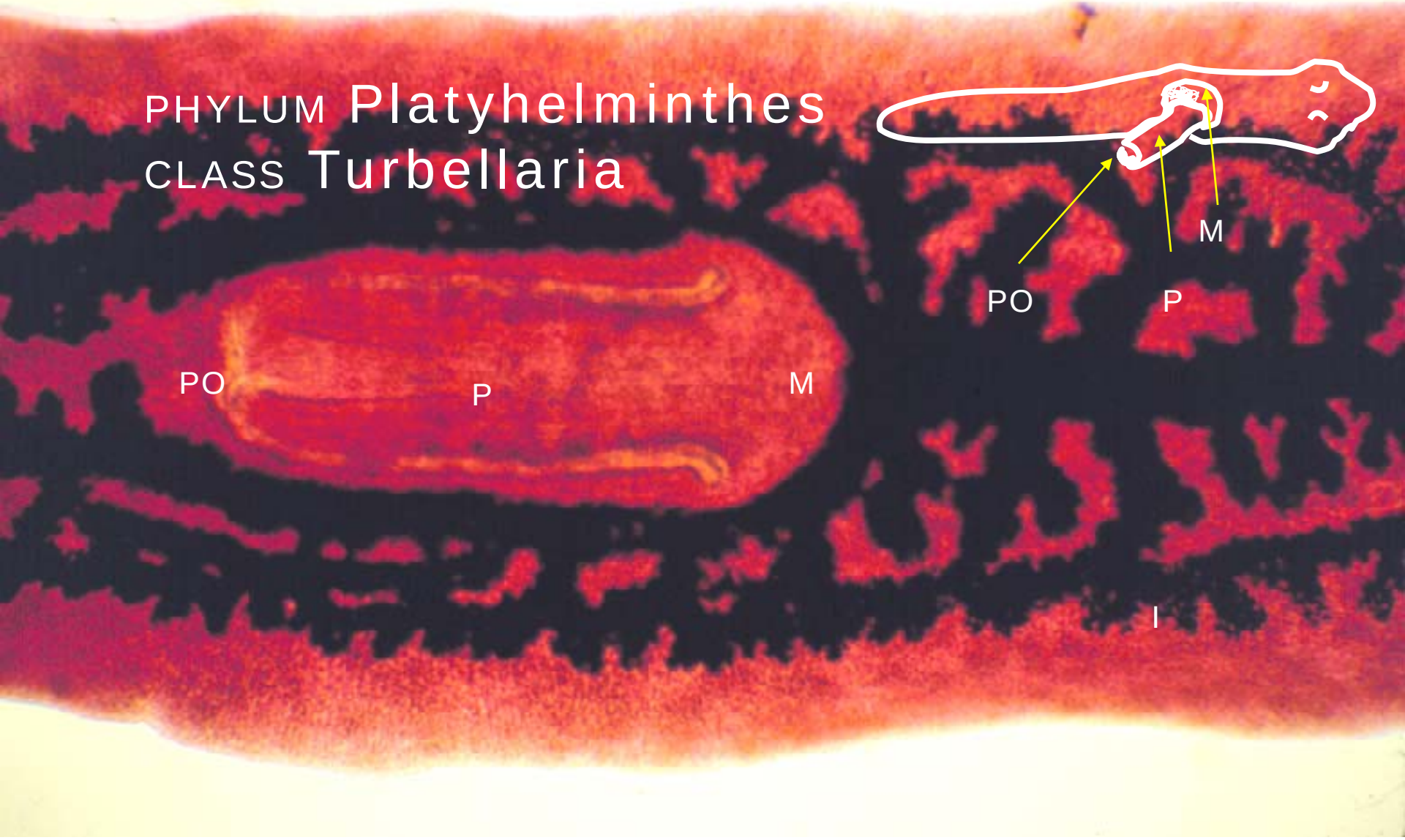
- CLASS Turbellaria - Free-living (Flatworms)
- CLASS Trematoda - Endoparasitic (Flukes)
- CLASS Cestoda - Endoparasitic (Tapeworms)
- CLASS Monogenea – Ectoparasitic on fish




Marine flatworms...

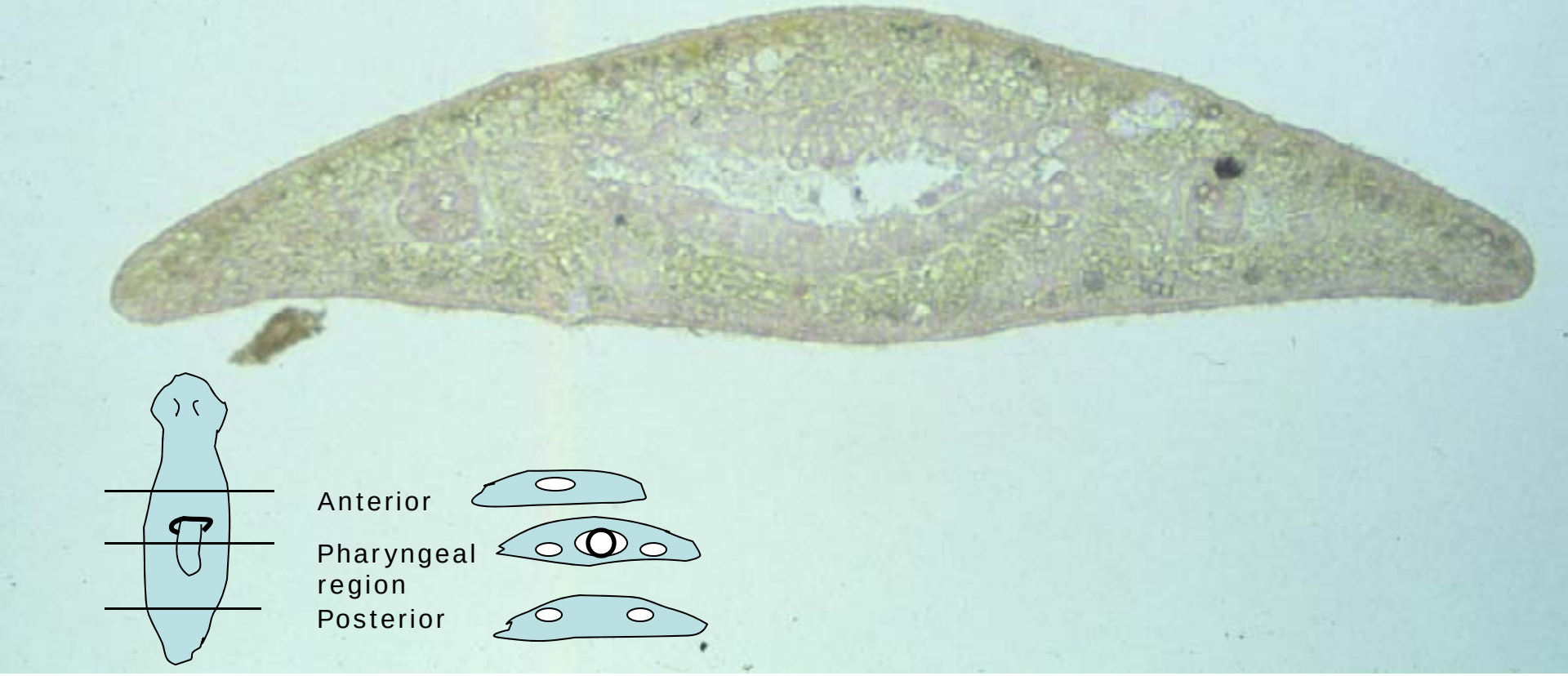
But what we saw in lab was a freshwater flatworm. It was brown and looked as if it were boss-eyed.

# PHYLUM Platyhelminthes
# CLASS Turbellaria




Note extensible pharynx (P), pharyngeal opening (PO), mouth (M) & intestine (I) [fig 3.2-A]

# PHYLUM Platyhelminthes
# CLASS Turbellaria



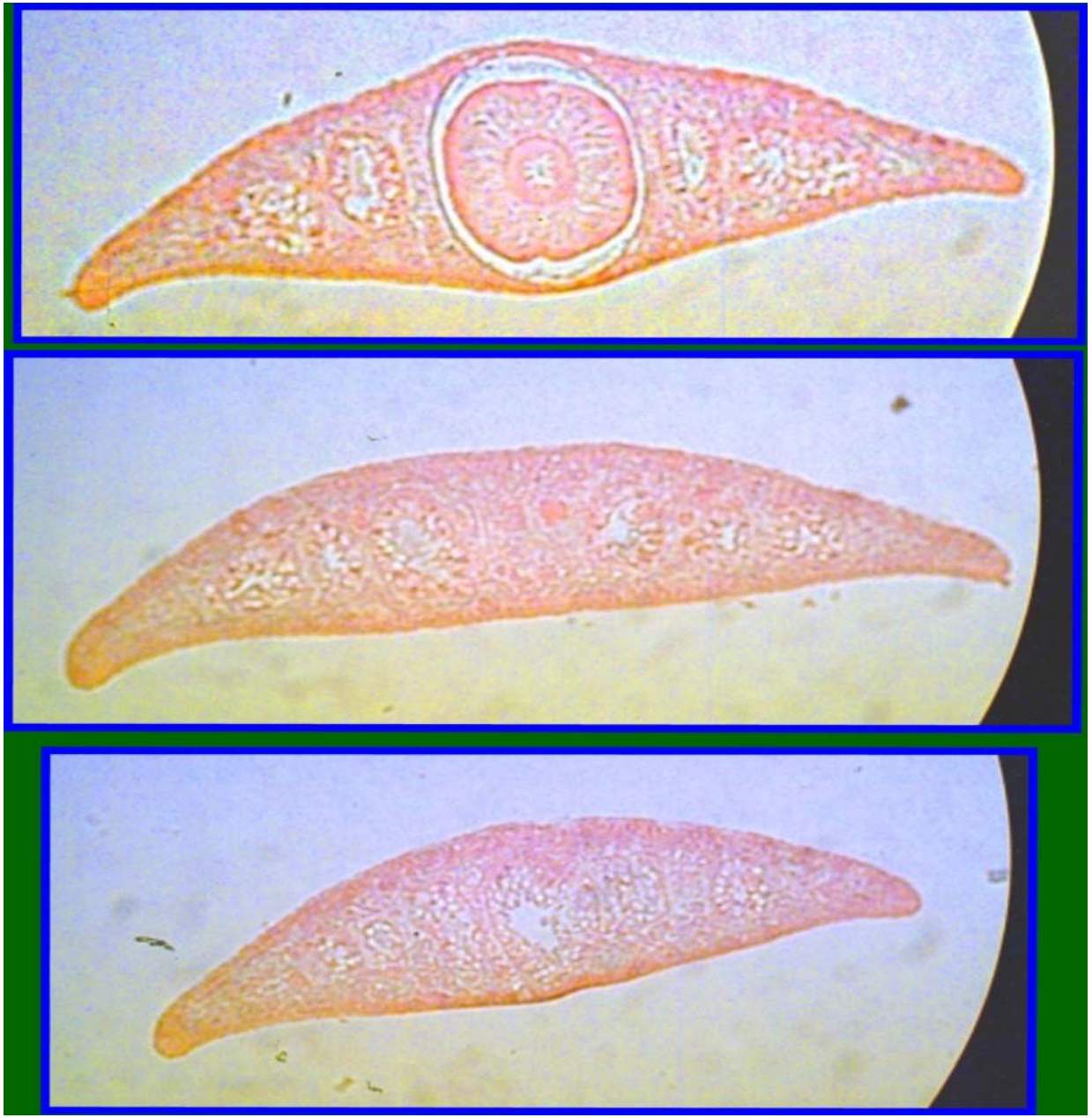



cs through anterior of organism [fig 3.4]
aka Batman's plane. Note No pharynx, only caeca

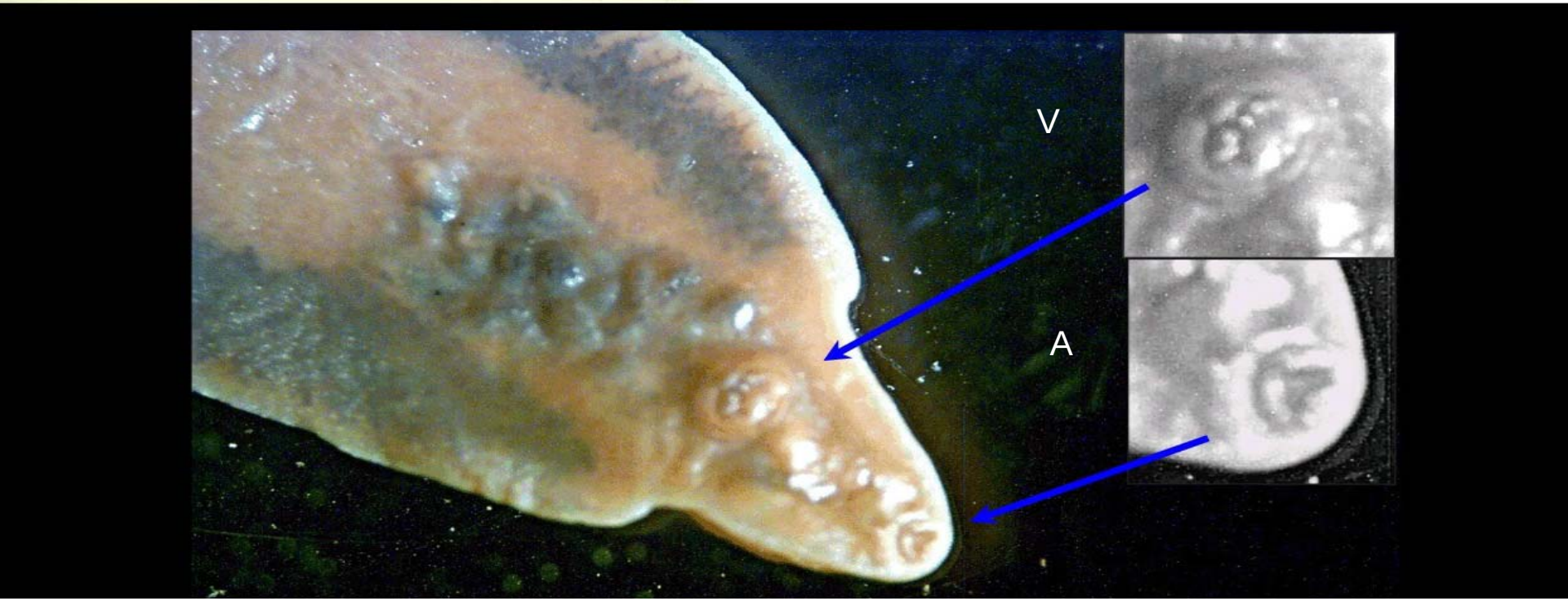
PHYLUM Platyhelminthes

CLASS Turbellaria

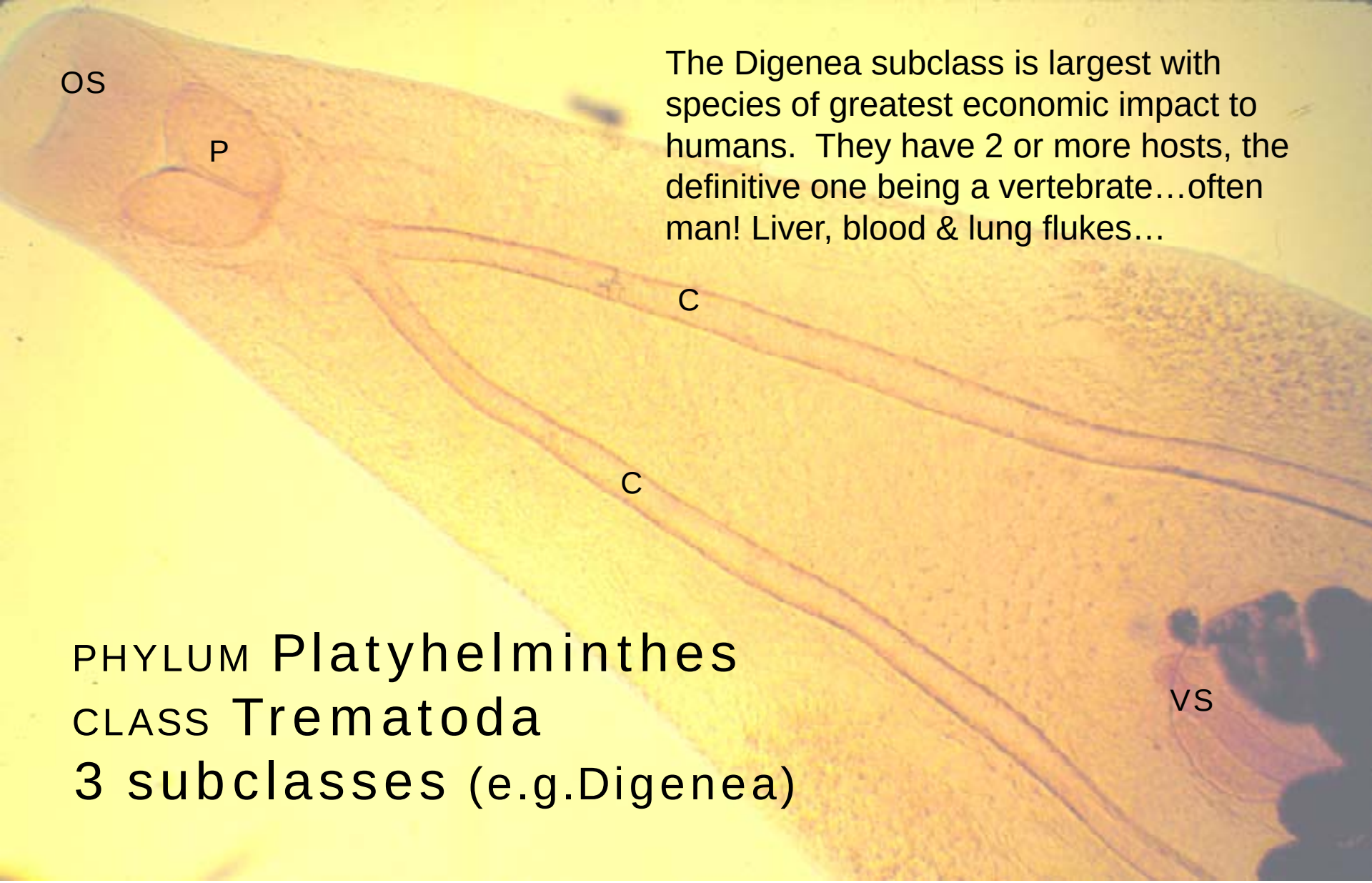
c.s. through pharyngeal region [fig 3.4] Note Pharynx, gastric caeca & Mesenchyme (Cilia!?) First of 2 Acoelomate c.s



PHYLUM
# Platyhelminthes
CLASS Trematoda



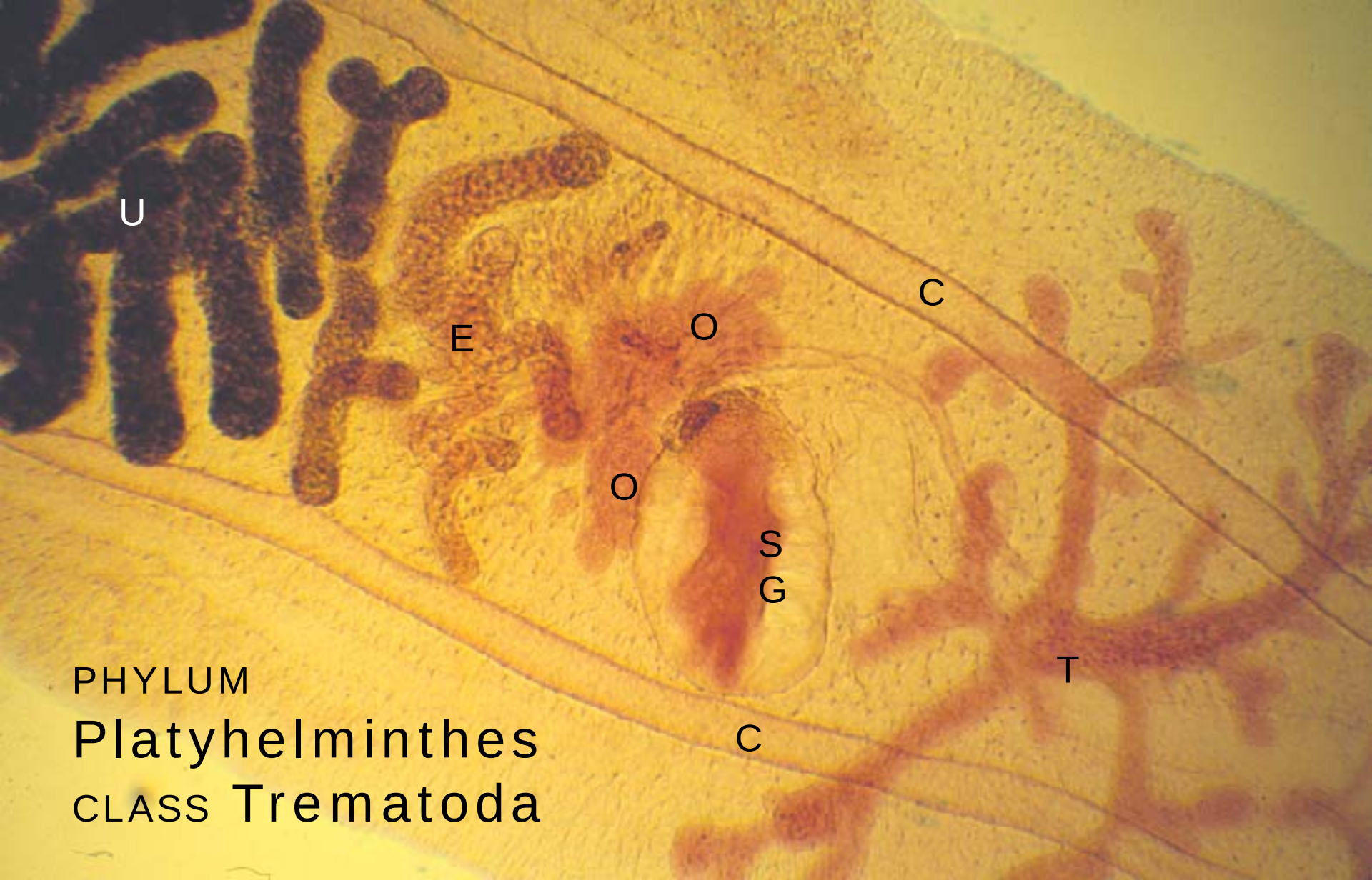

View of whole fluke organism. Note the two suckers. Anterior (A) one is for feeding, the ventral (V) one is for attachment




The Digenea subclass is largest with species of greatest economic impact to humans. They have 2 or more hosts, the definitive one being a vertebrate…often man! Liver, blood & lung flukes…

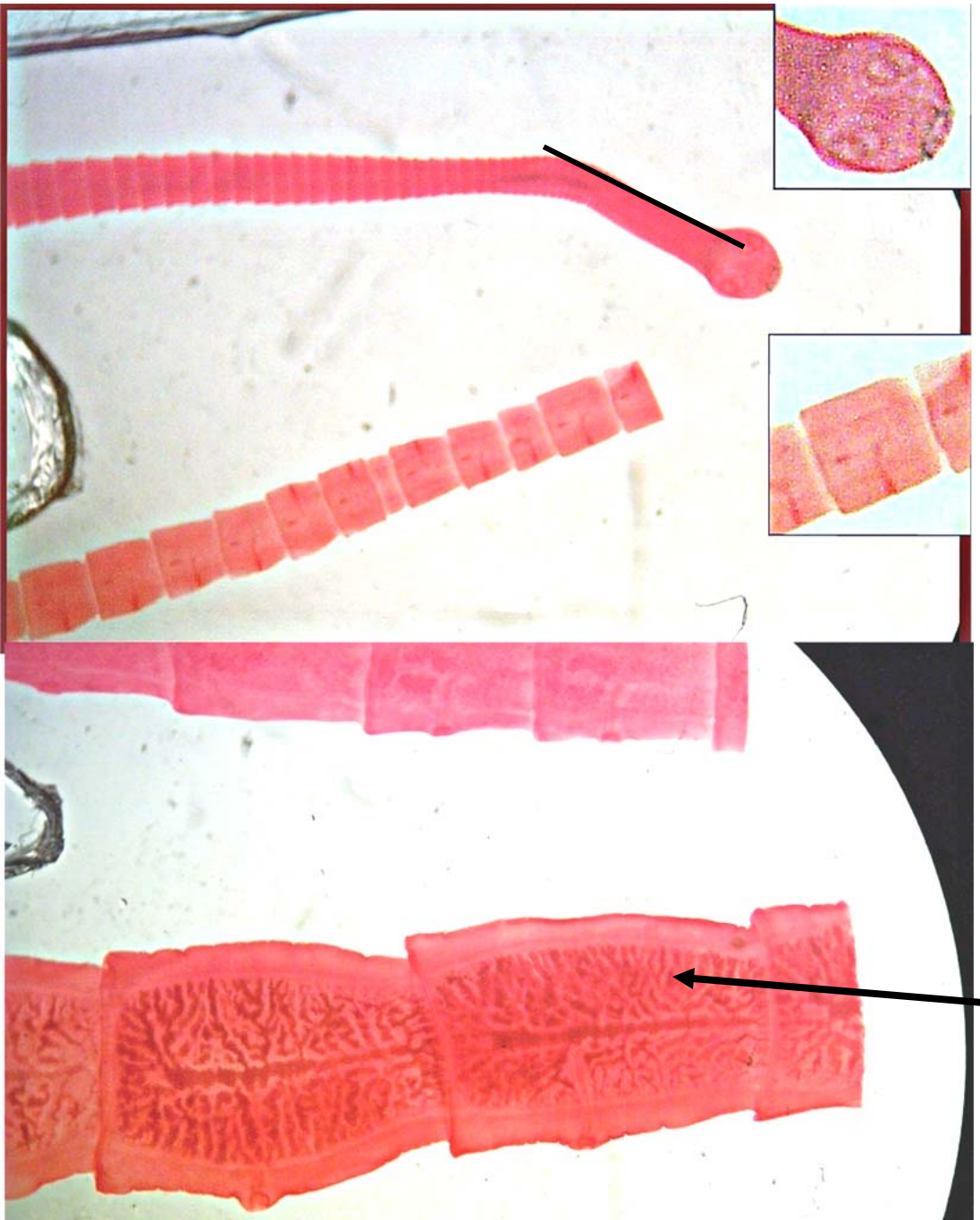
PHYLUM Platyhelminthes
CLASS Trematoda
3 subclasses (e.g.Digenea)

Anterior end of fluke. Note oral sucker (OS), pharynx (P), caeca (C) & ventral sucker (VS) (for attachment) [fig 3.5]




PHYLUM
# Platyhelminthes
CLASS Trematoda

Note eggs E, ovaries O, shell gland SG, caeca C, uterus U and testes T [fig 3.5]

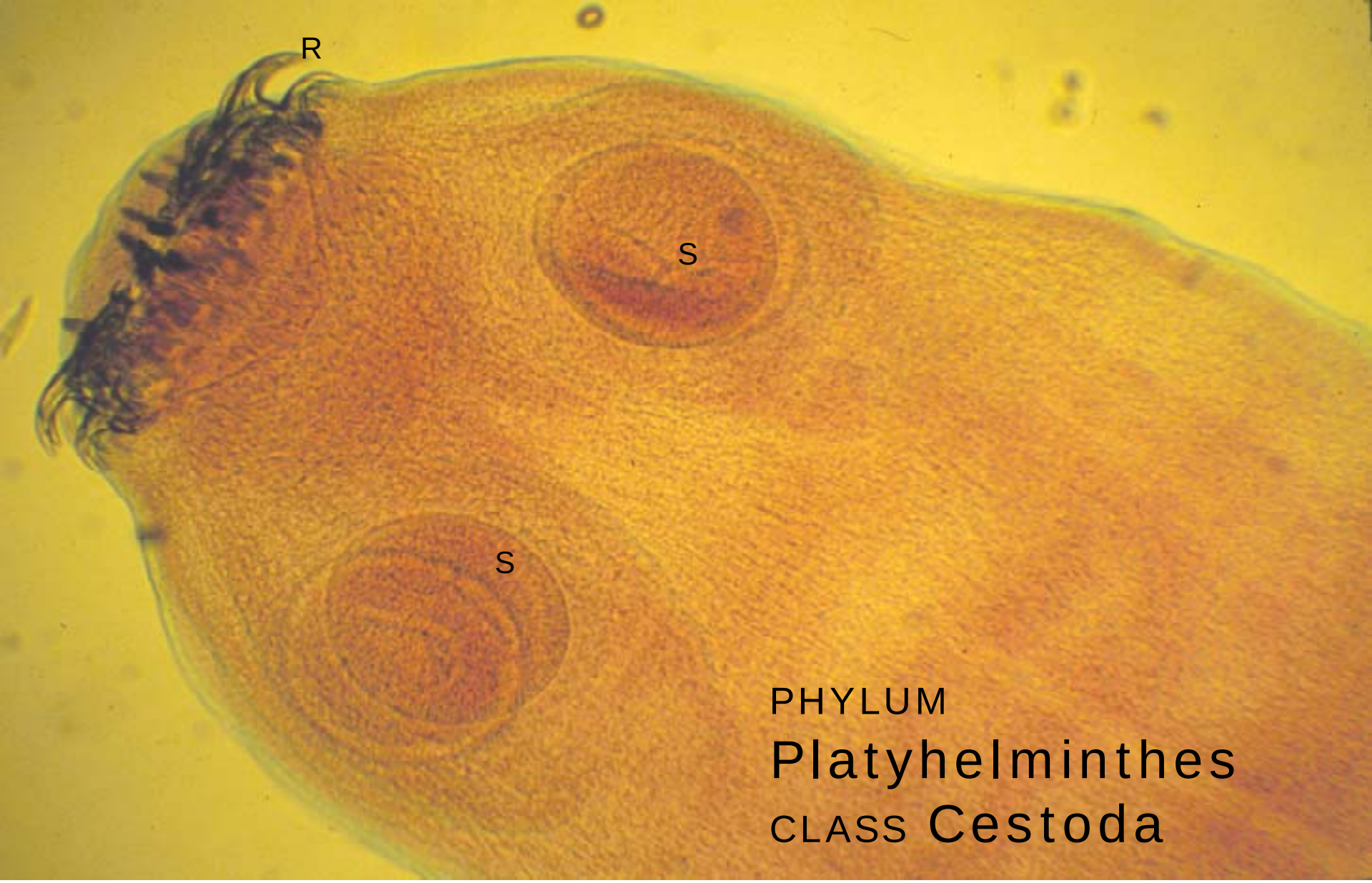


PHYLUM
# Platyhelminthes
CLASS Cestoda

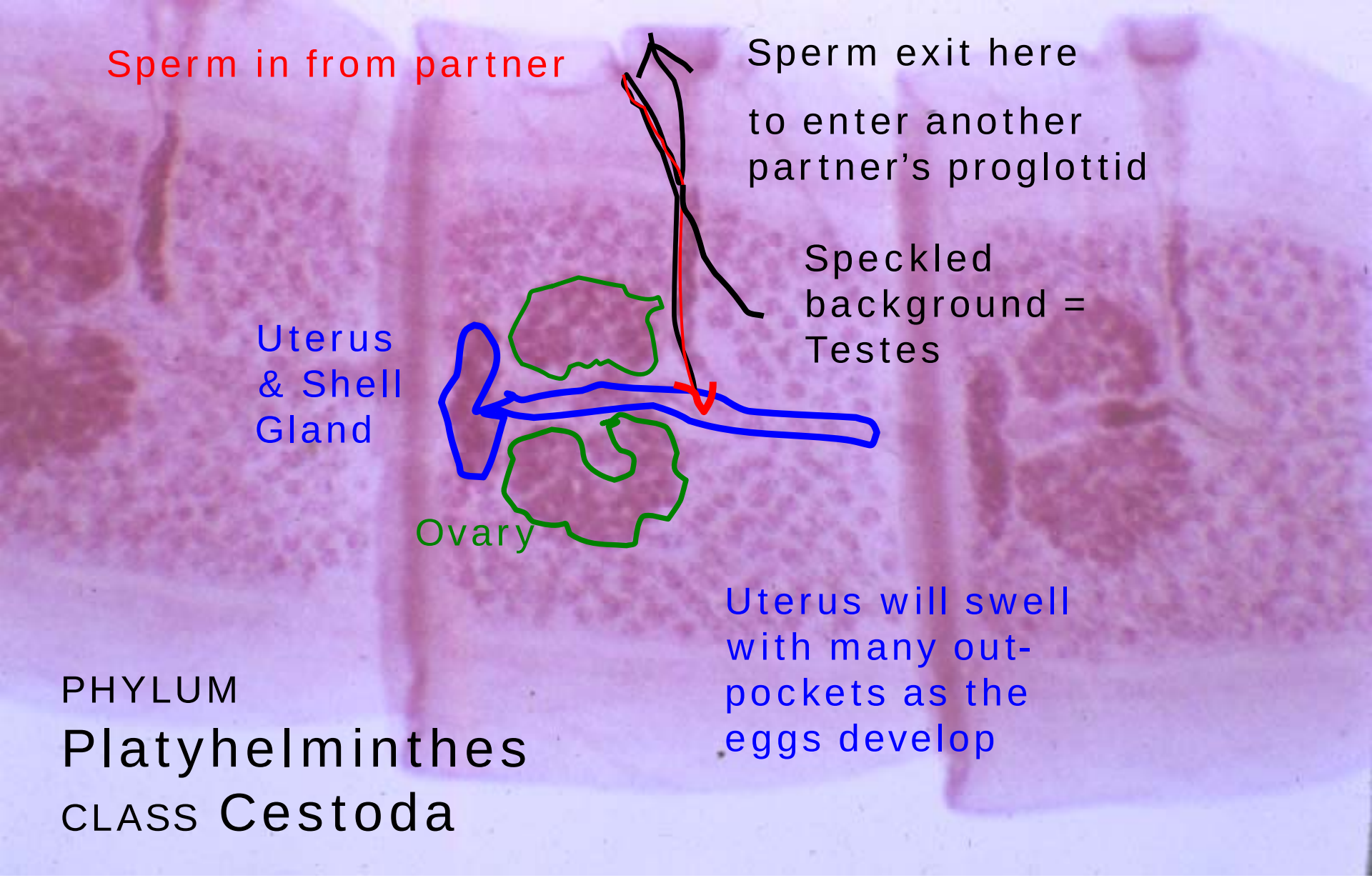
Scolex (I) and maturing proglottids.

The most reproductively mature sections are at the posterior end of the tapeworm.

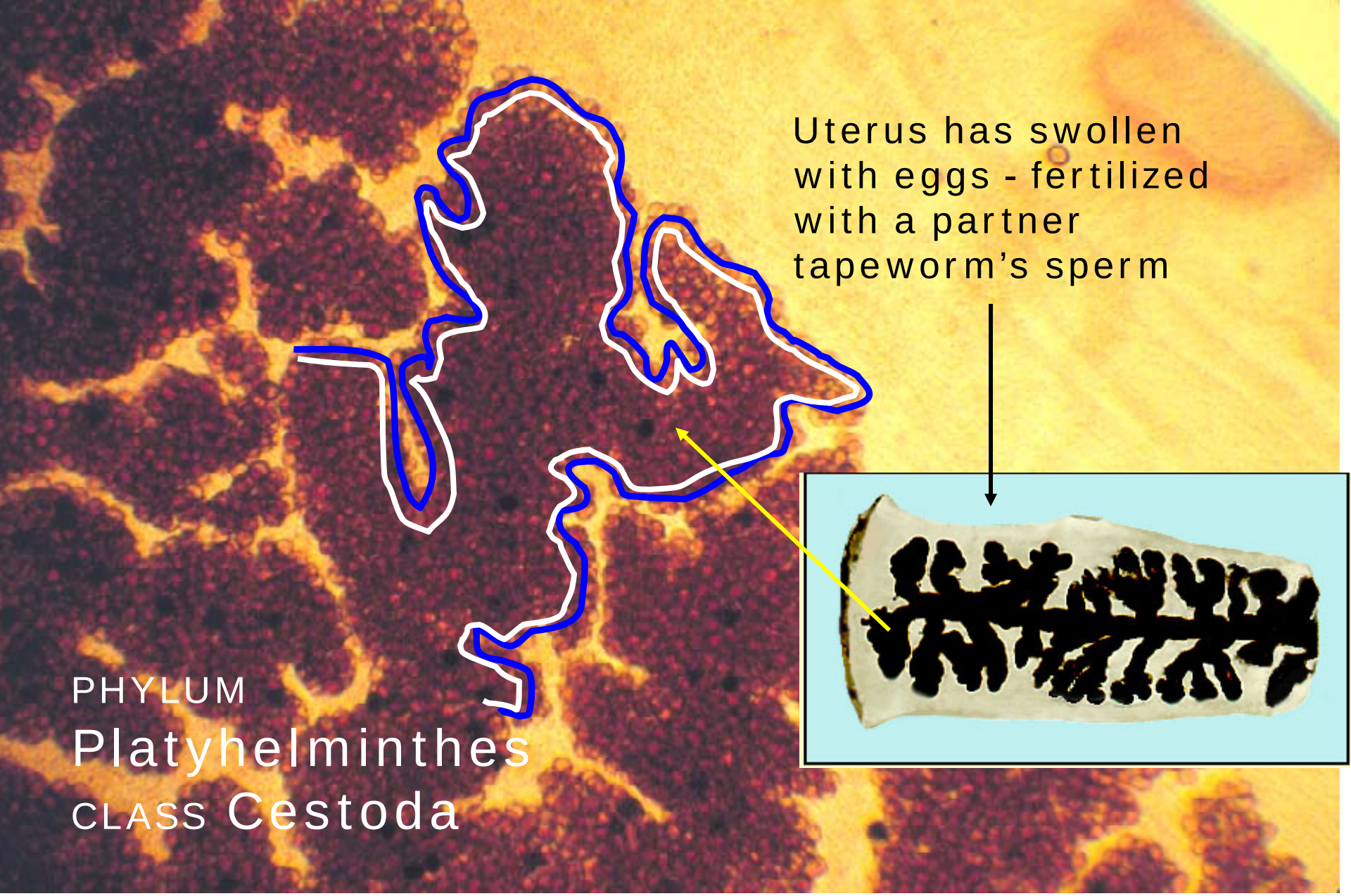
What are these sections called?




Scolex region. Note rostellum (R) (rings of hooks) & suckers (S) for attachment [fig 3.7-A]



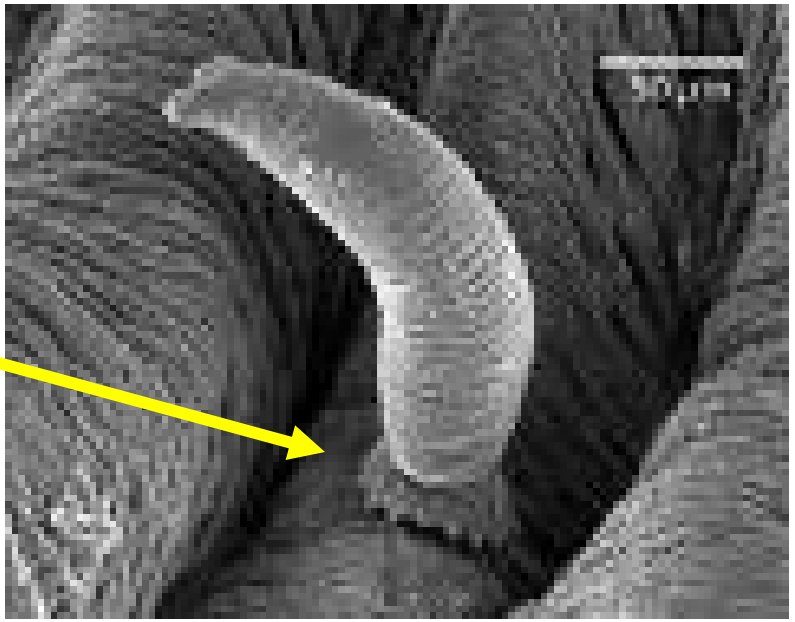

Mature proglottid w/ reproductive structures [fig 3.7-D]




Gravid proglottid chock full o' eggs [close-up of fig 3.7-E]

# PHYLUM Platyhelminthes
# CLASS Monogenea

- External parasite
- One host
- Attaches by sucker with hooks



# NEMERTINA

(2nd Acoelomate Phyla)


This is our 1st organism with a COMPLETE digestive tract -

(i.e. it has a what?)

You did not see this large specimen but had to fill out labels on a diagram in your lab manual showing a slide of a c.s.

= 2nd acoelomate c.s. Name the first acoelomate phylum


Note proboscis in the rhynchocoel & the flattened intestine [fig 4.3-B] Organism is bilateral, flattened dorsiventrally and cephalized. Proboscis has a stylet.