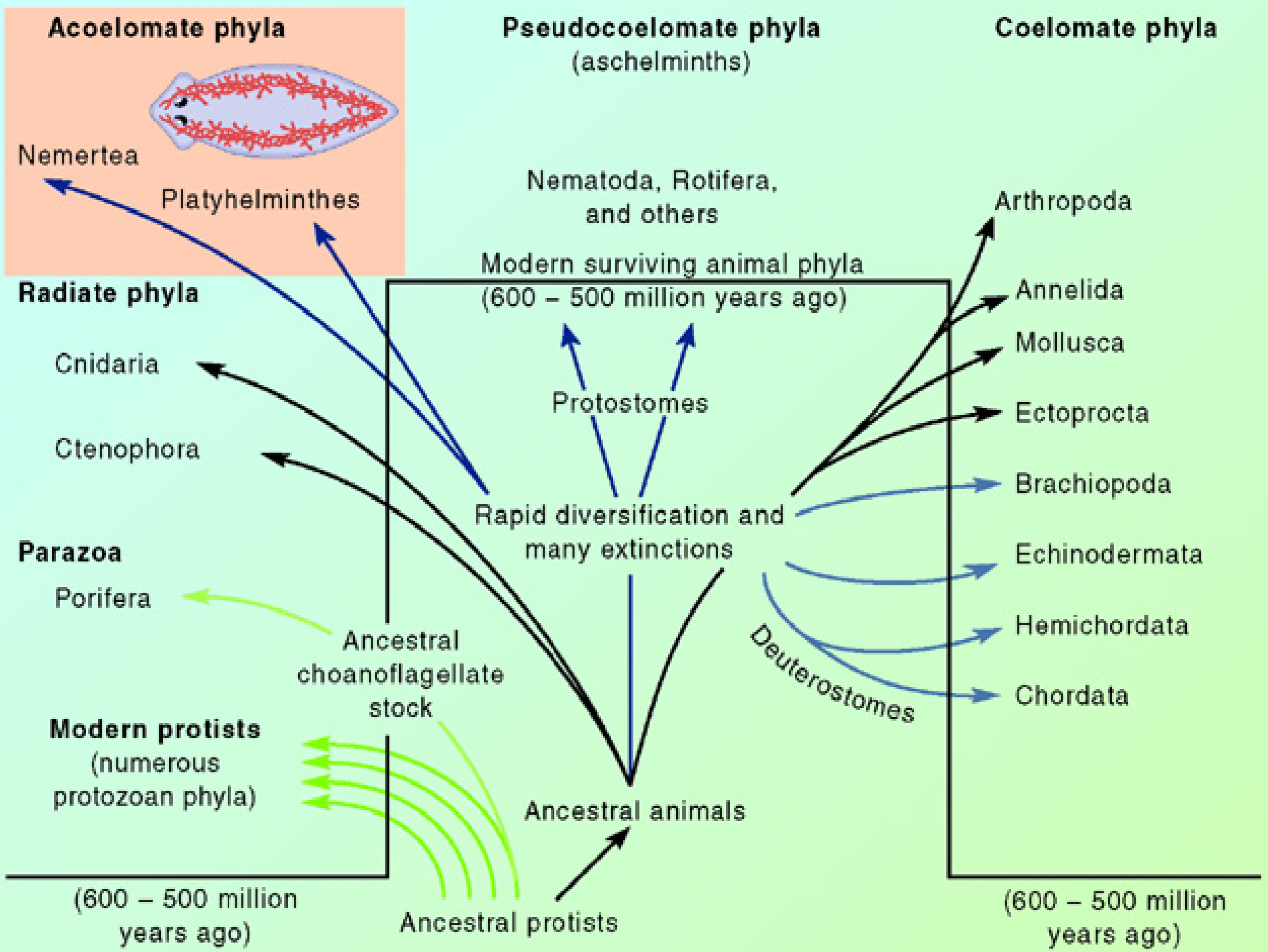


扁形动物门

Platyhelminthes



# 一、主要特征

两侧对称

三胚层

梯形神经系统

# 二、涡虫纲

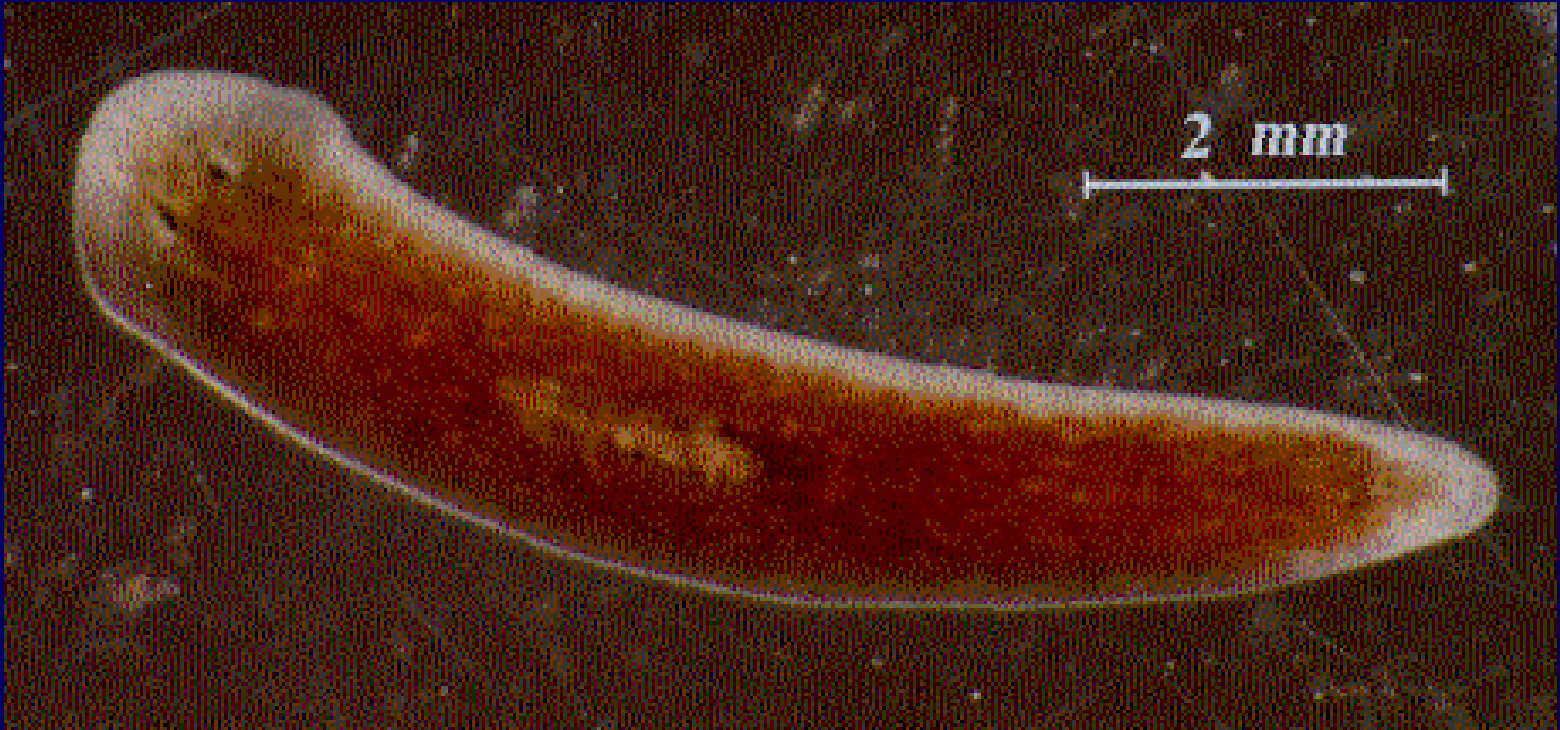
## Turbellaria

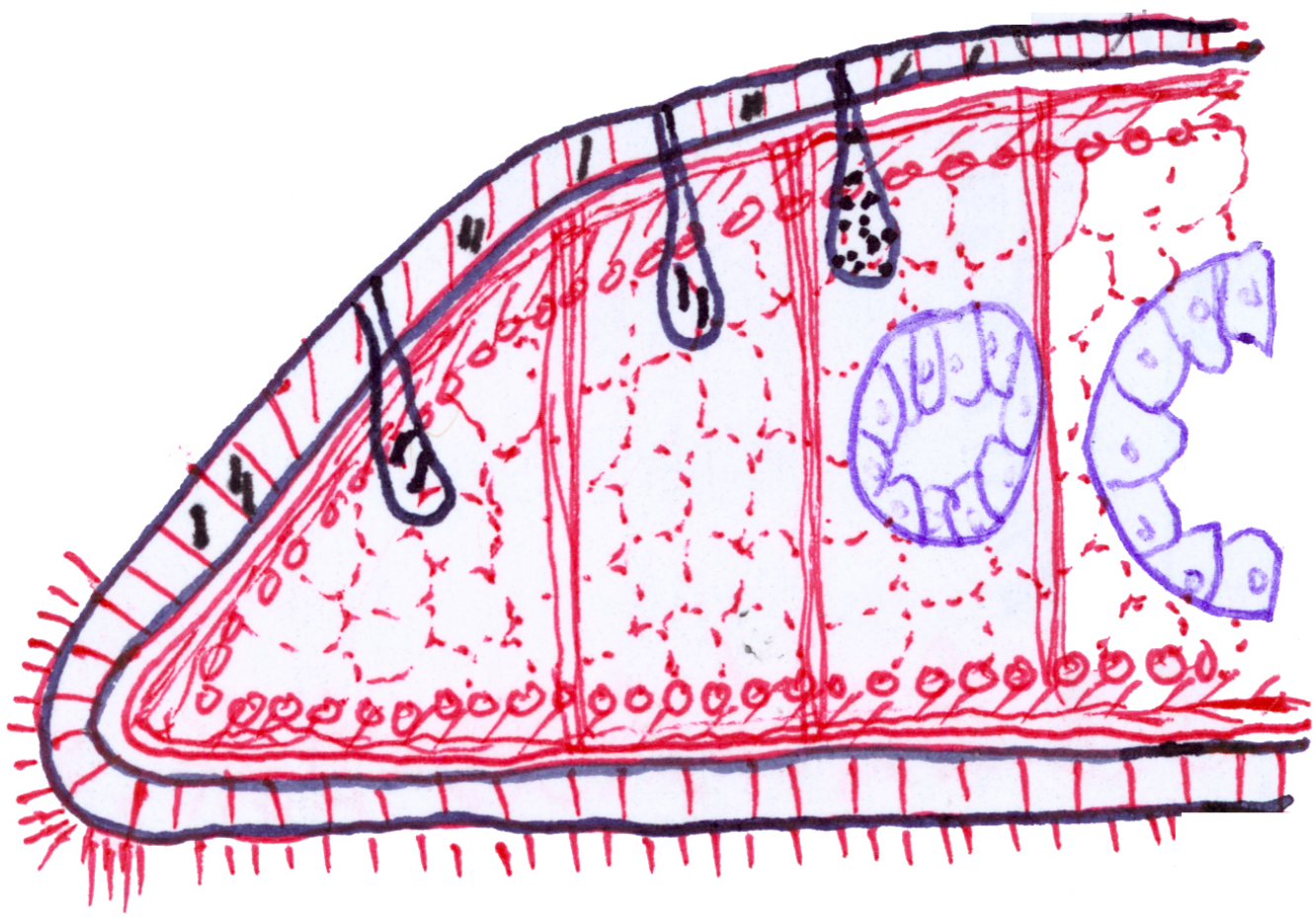


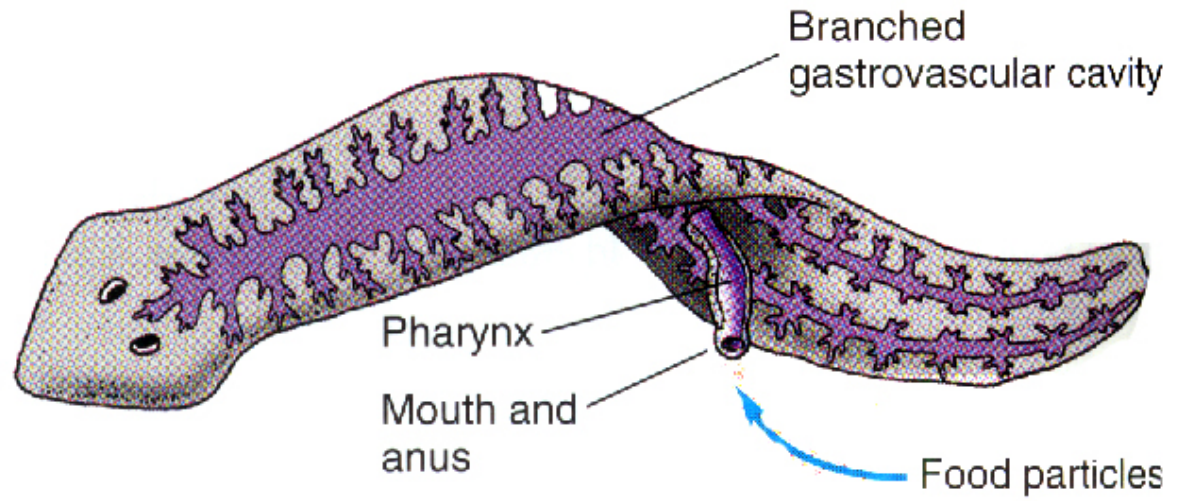
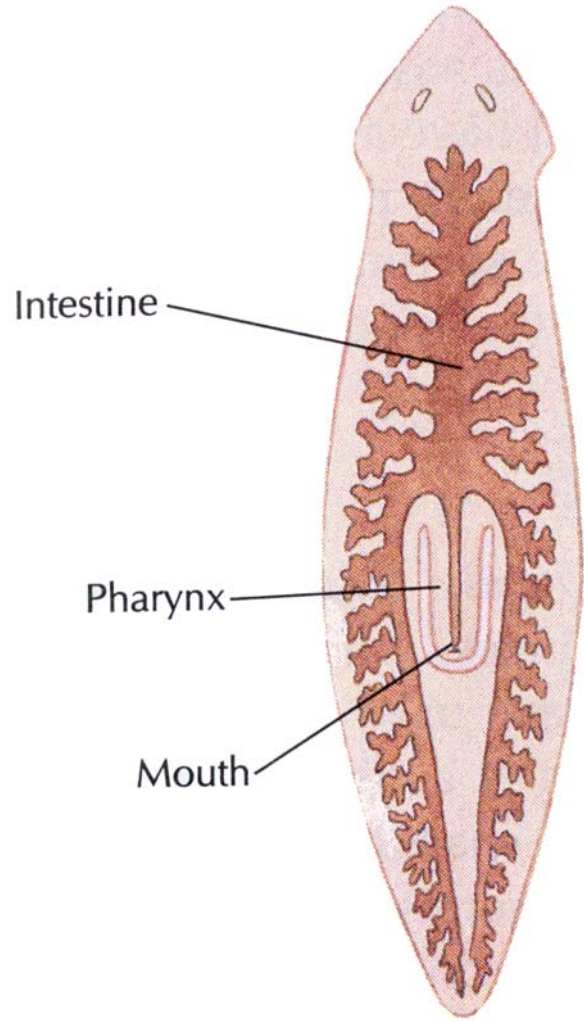
吸烟



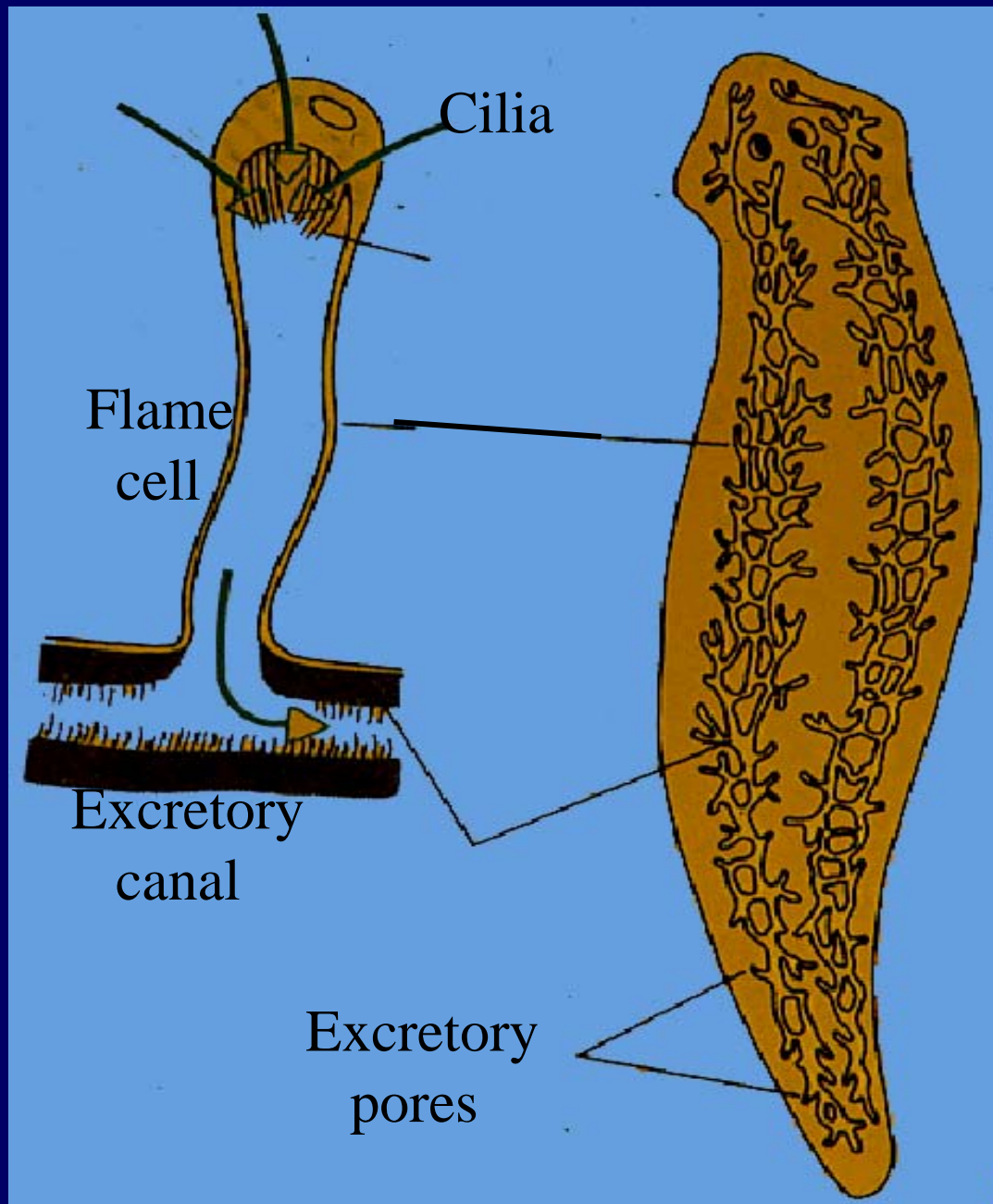
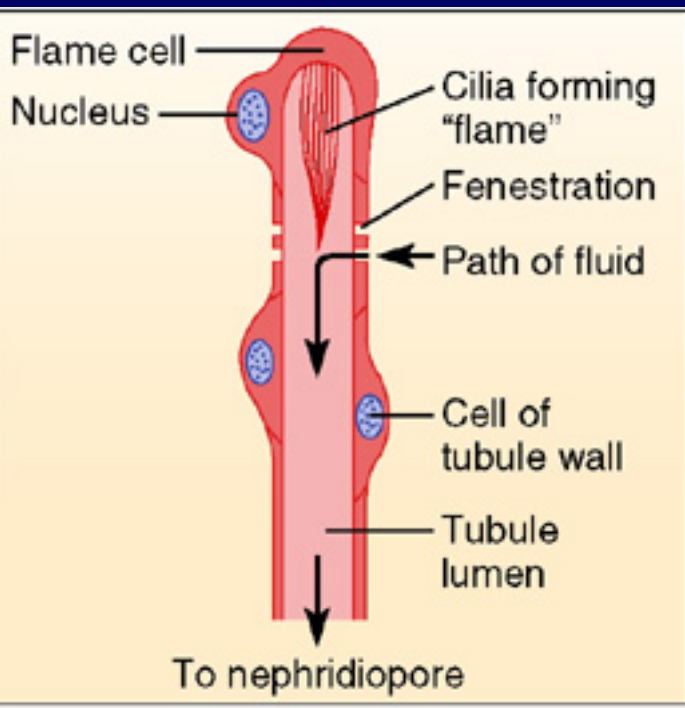
# 1、代表动物 —— 三角涡虫 (*Dugesia*)

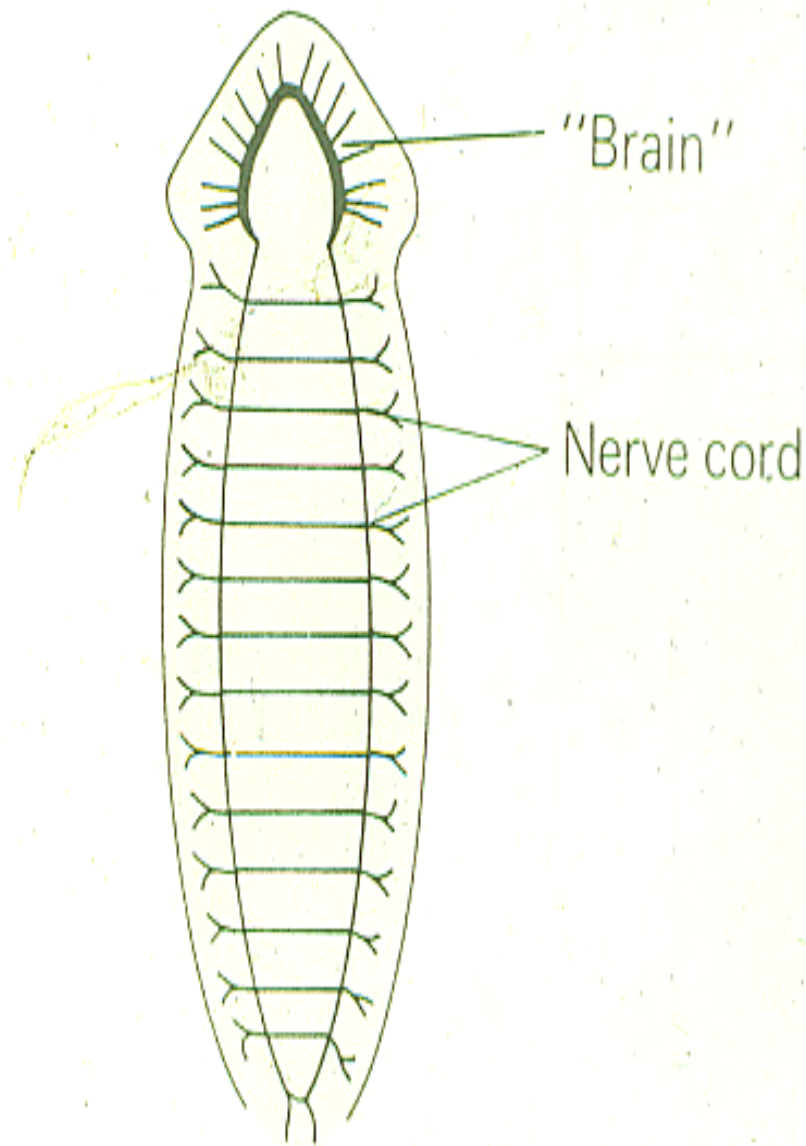




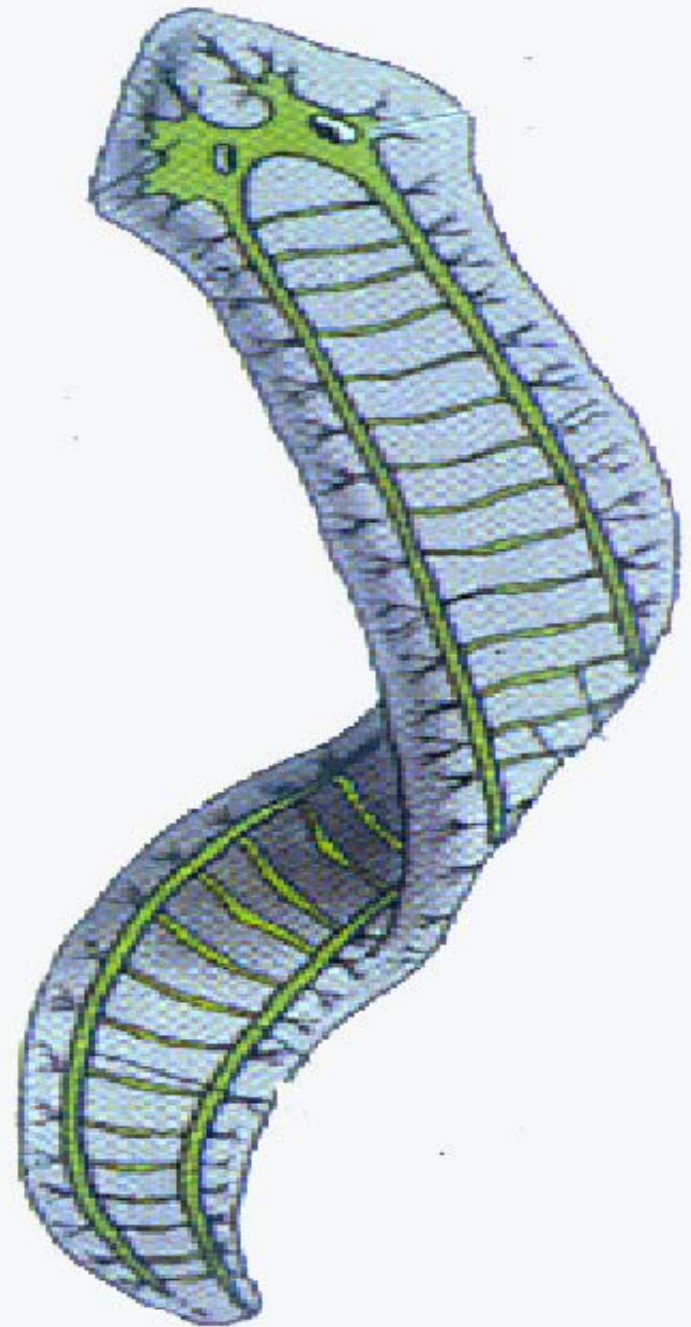


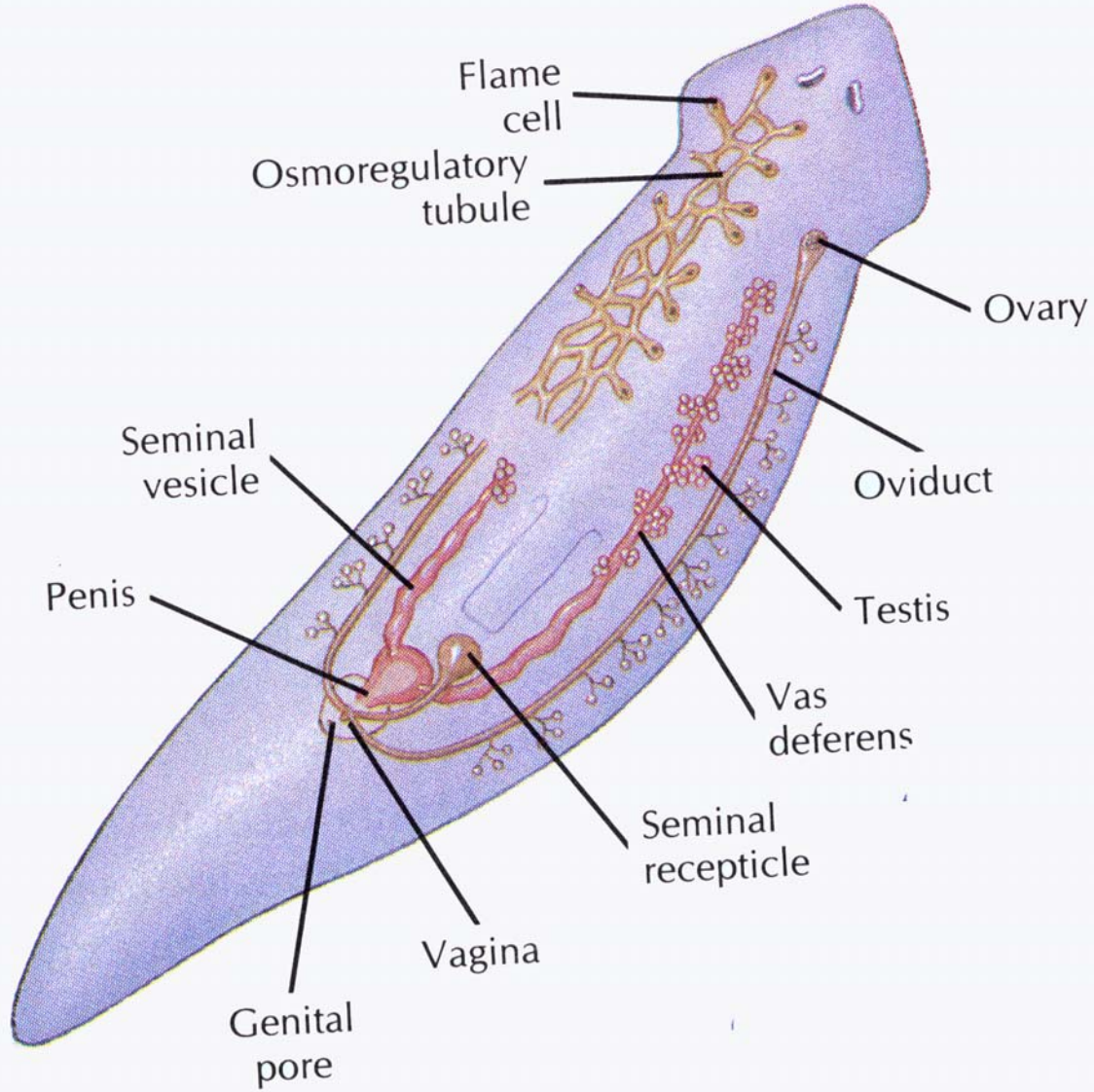






(b) Planarian (Platyhelminthes)





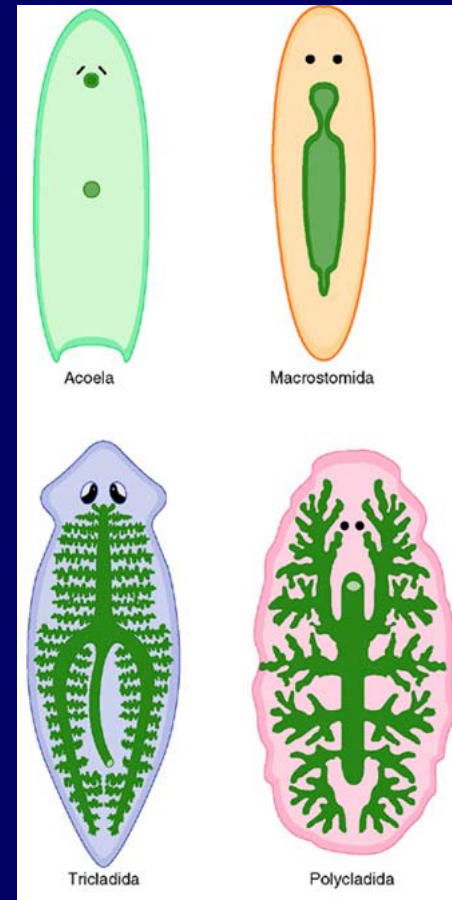
## 2、分类

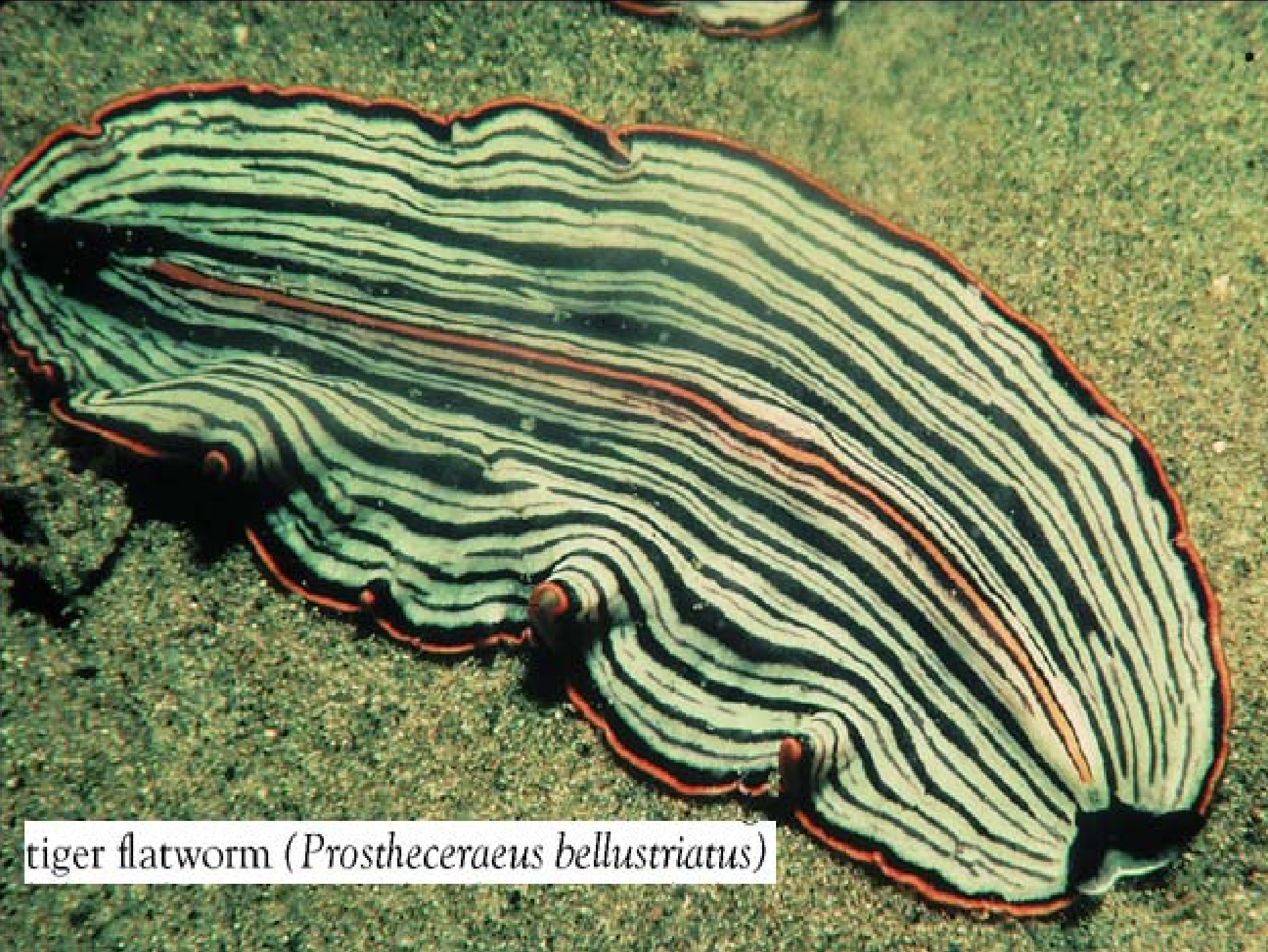
无肠目

单肠目

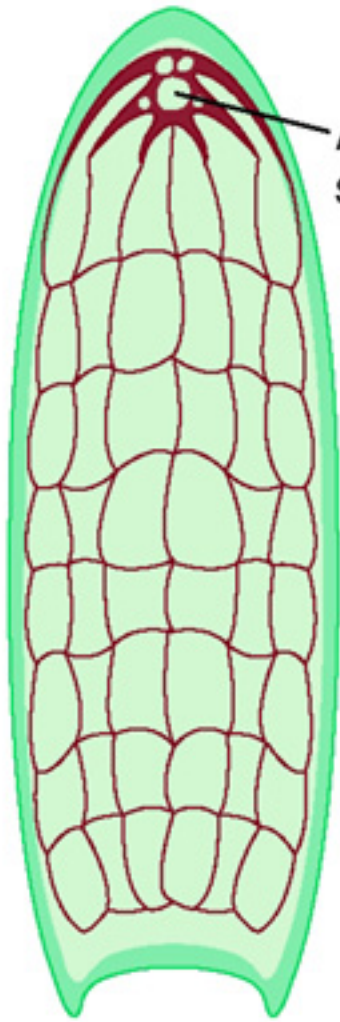
三肠目

多肠目



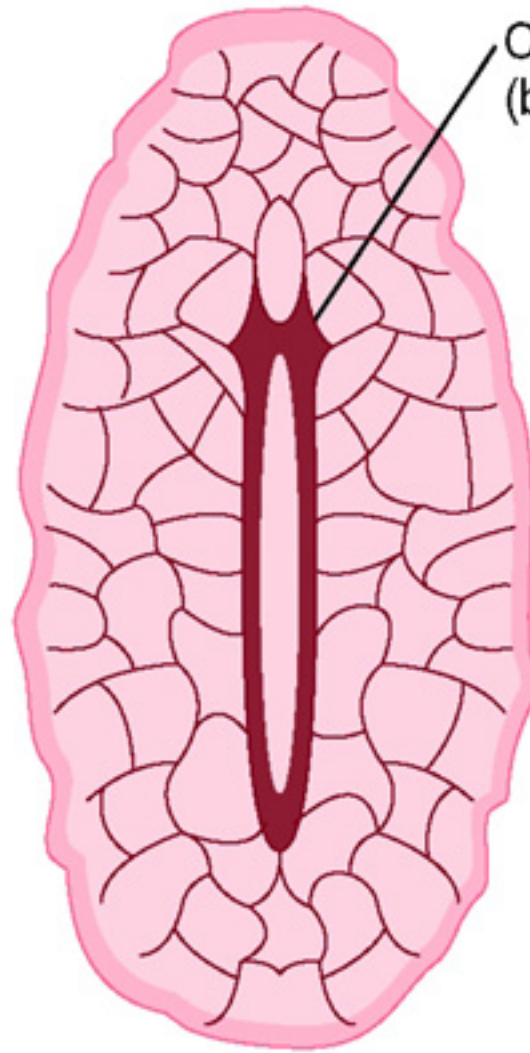


tiger flatworm (*Prostheceraeus bellistriatus*)



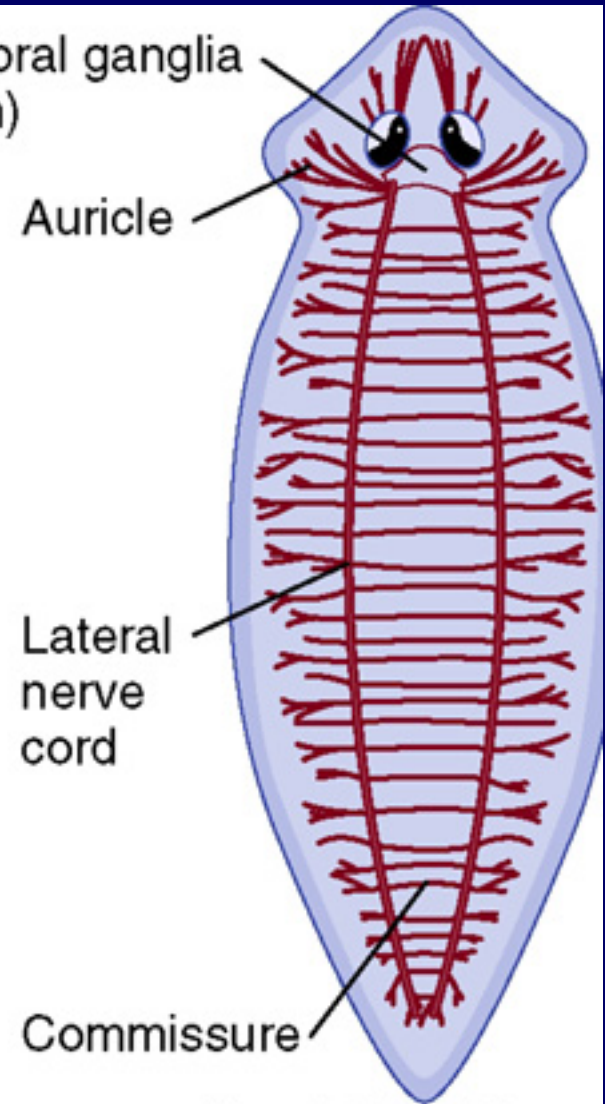
Anterior  
statocyst

(a) Acoela



Cerebral ganglia  
(brain)

(b) Polycladida



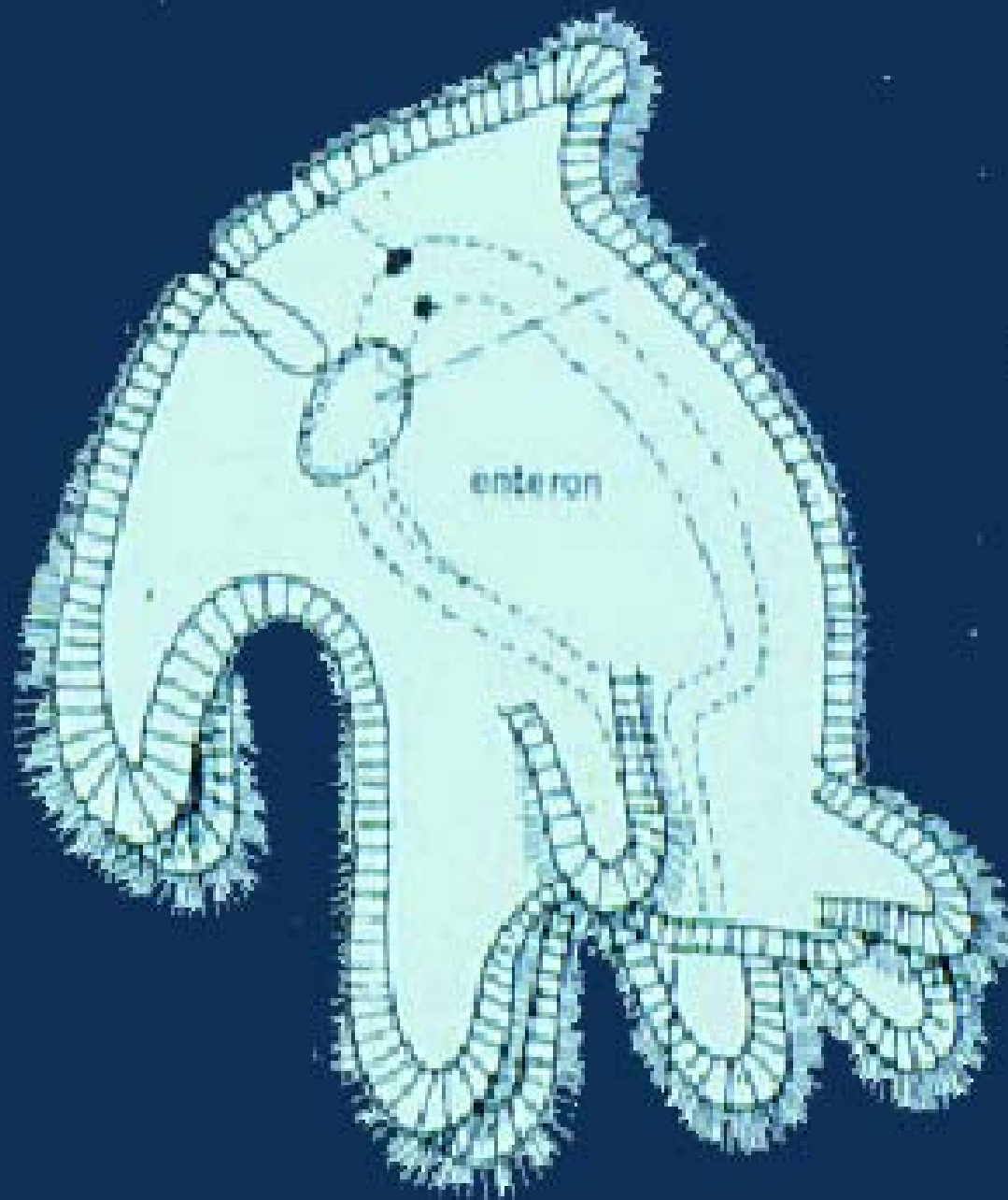
Auricle

Lateral  
nerve  
cord

Commissure

(c) Tricladida



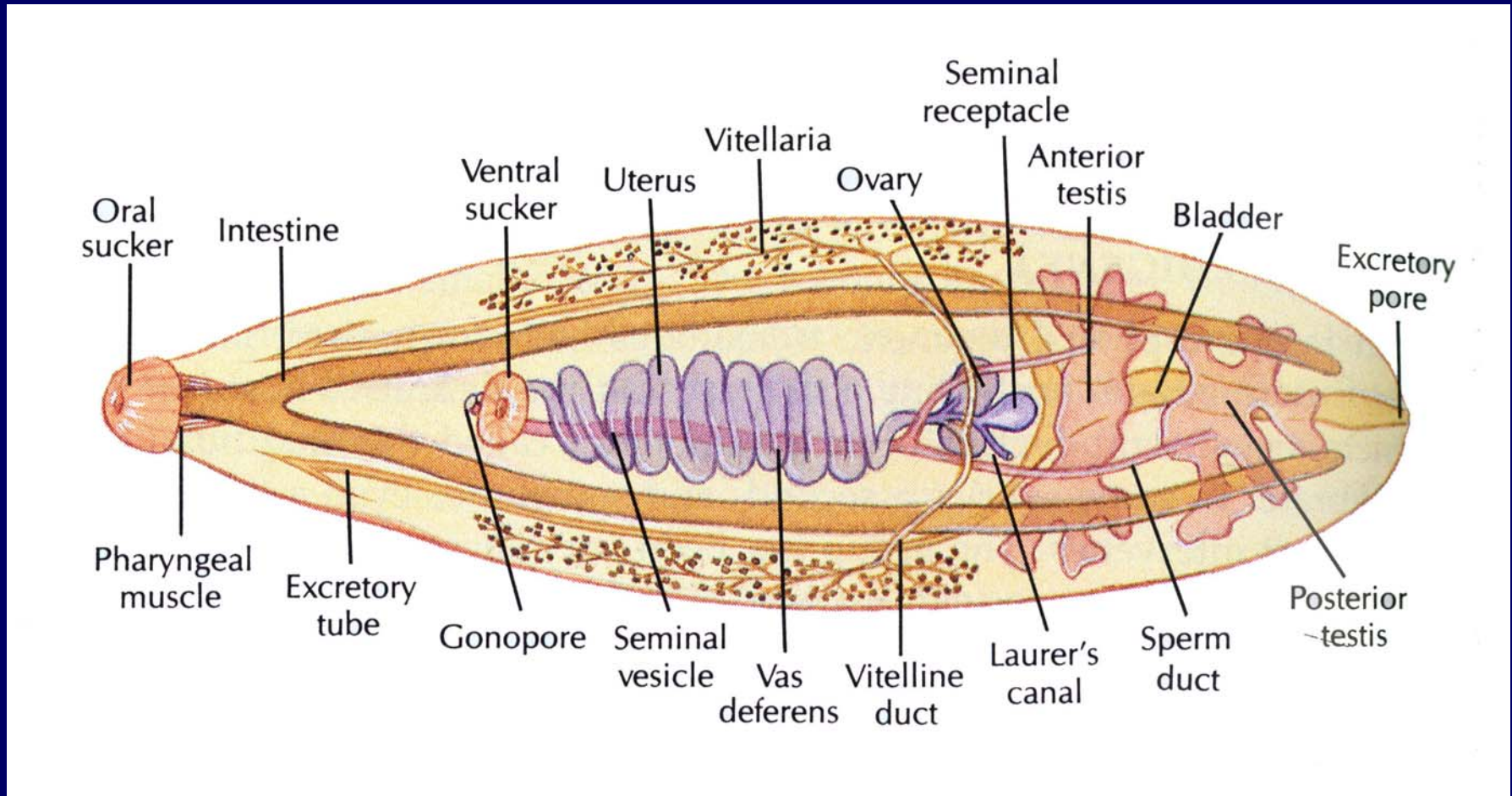




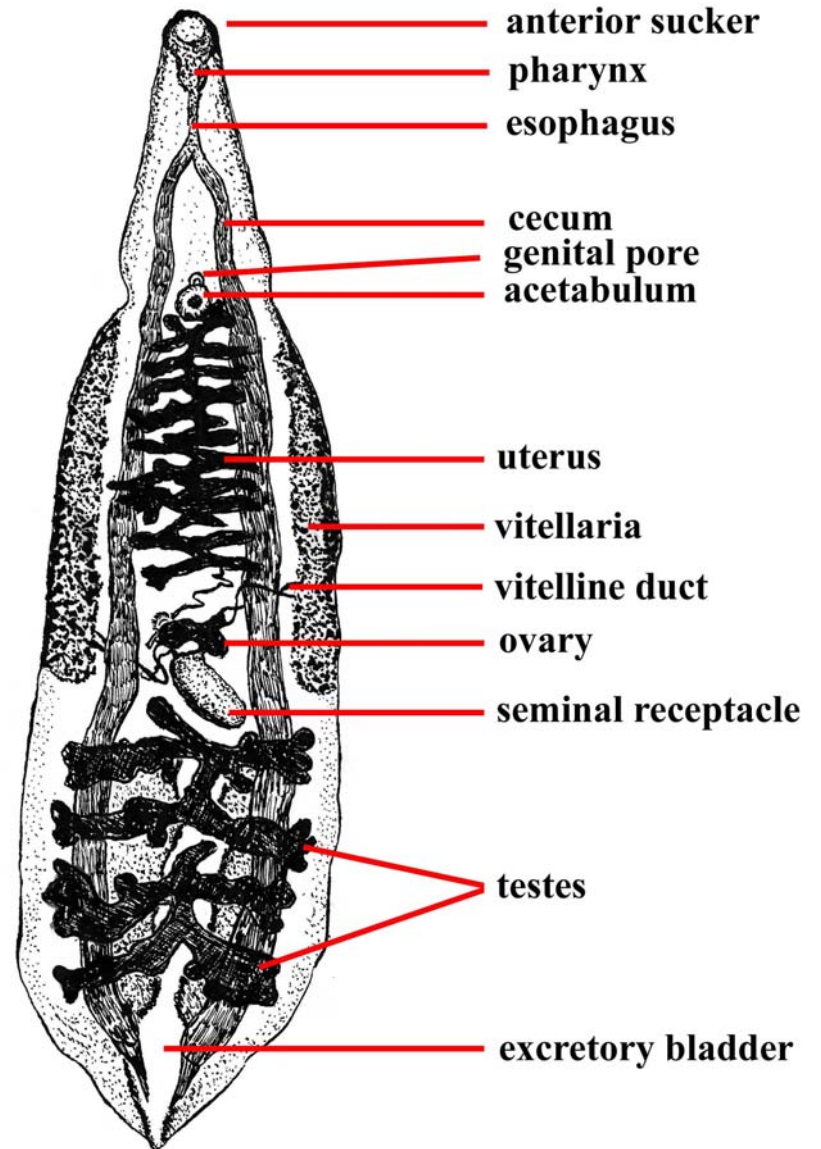
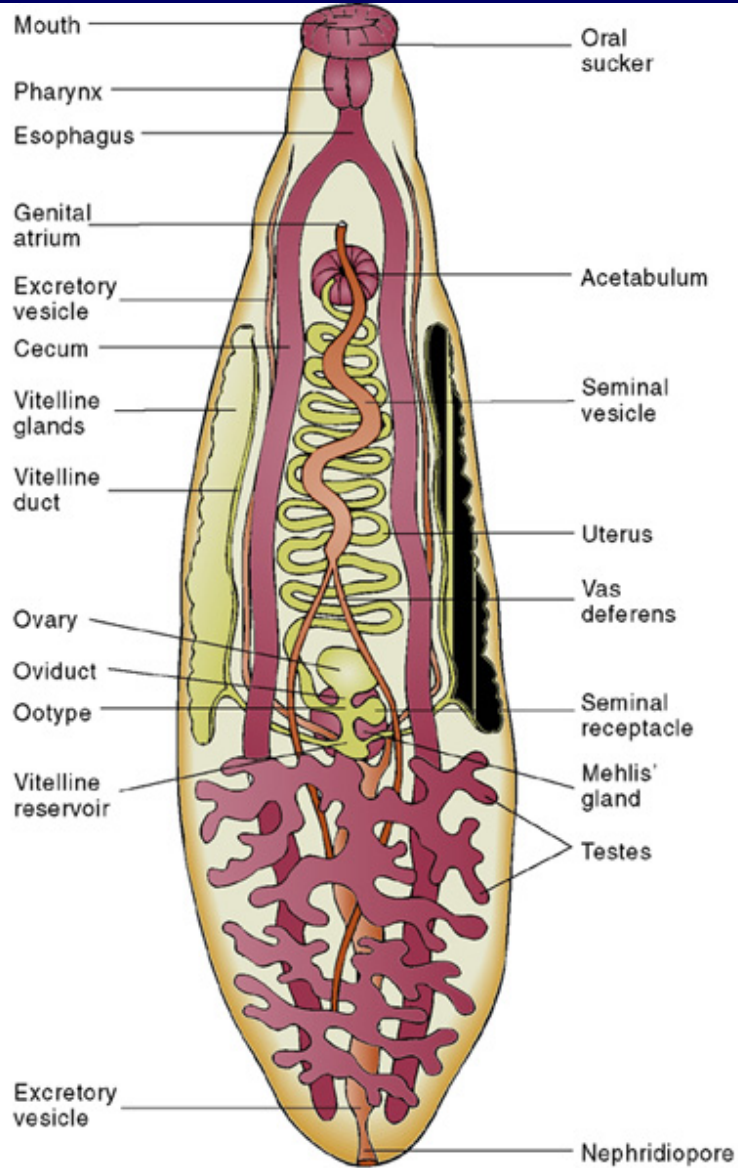
# 三、吸虫纲

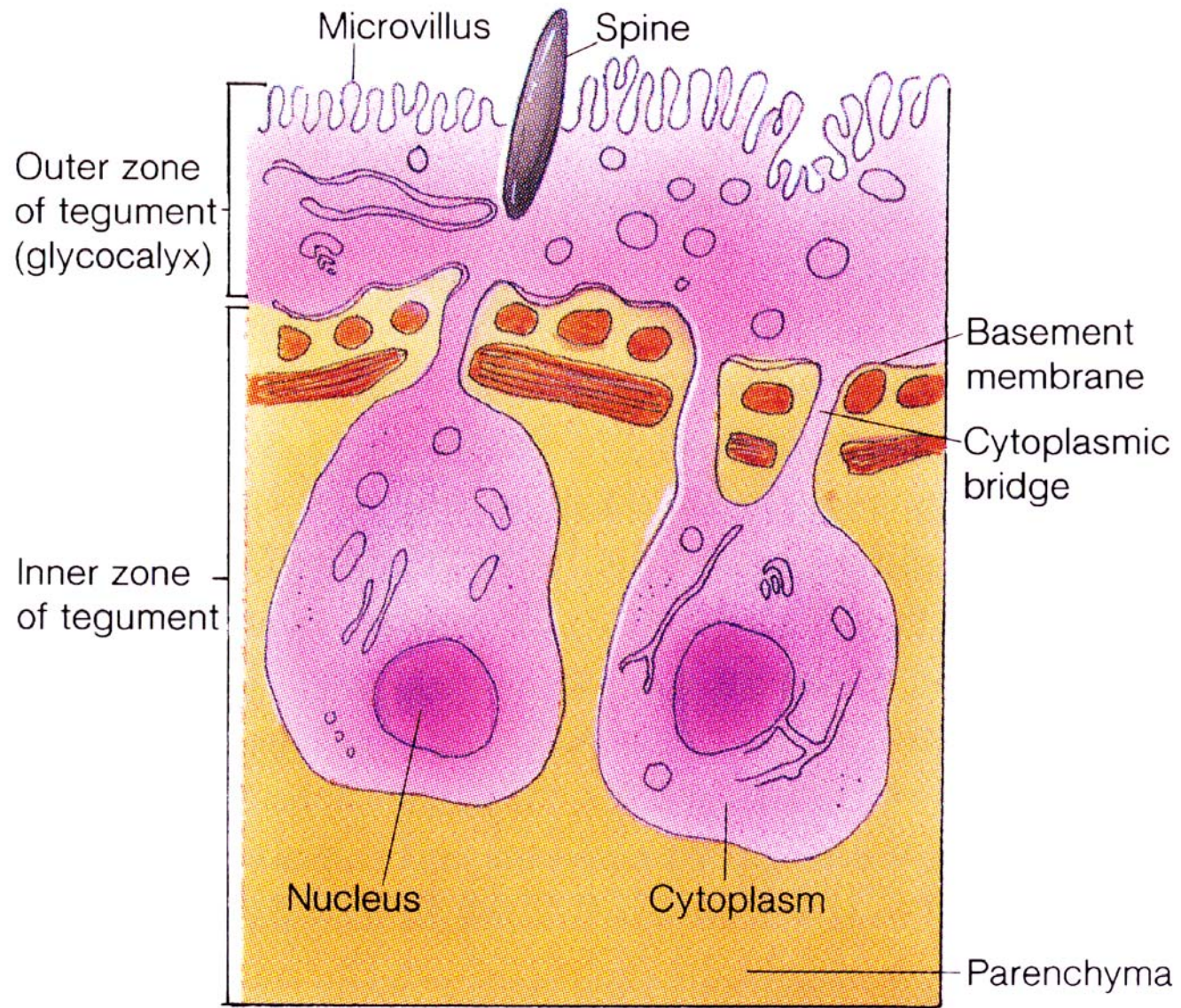
**Trematoda**

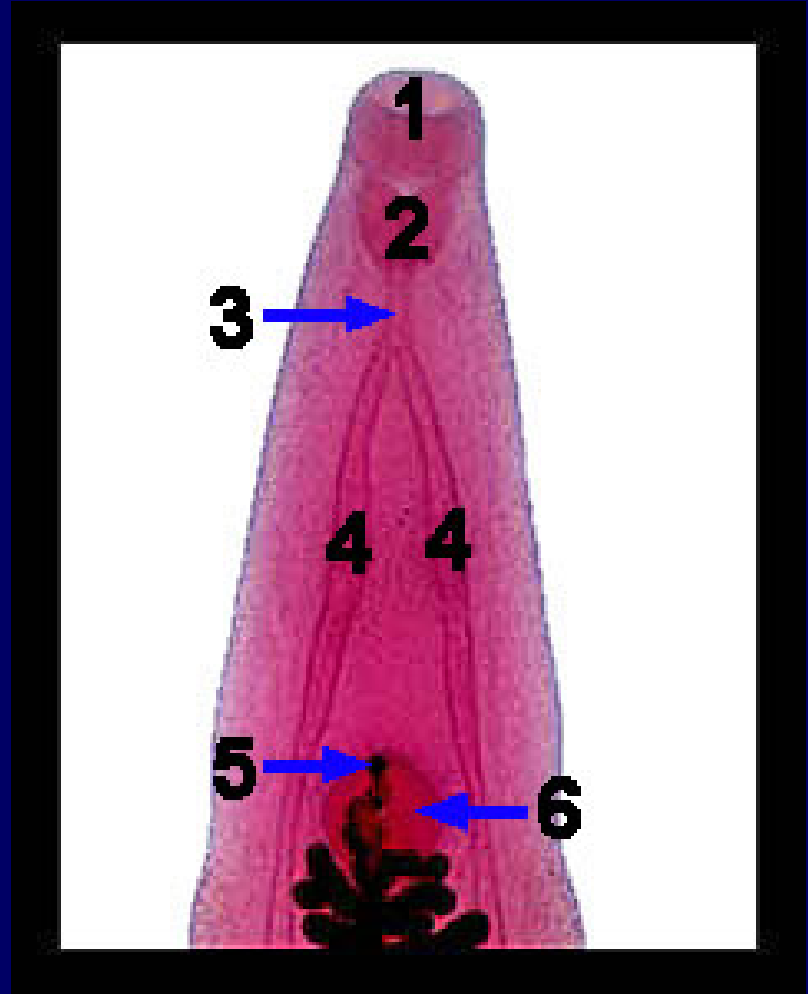
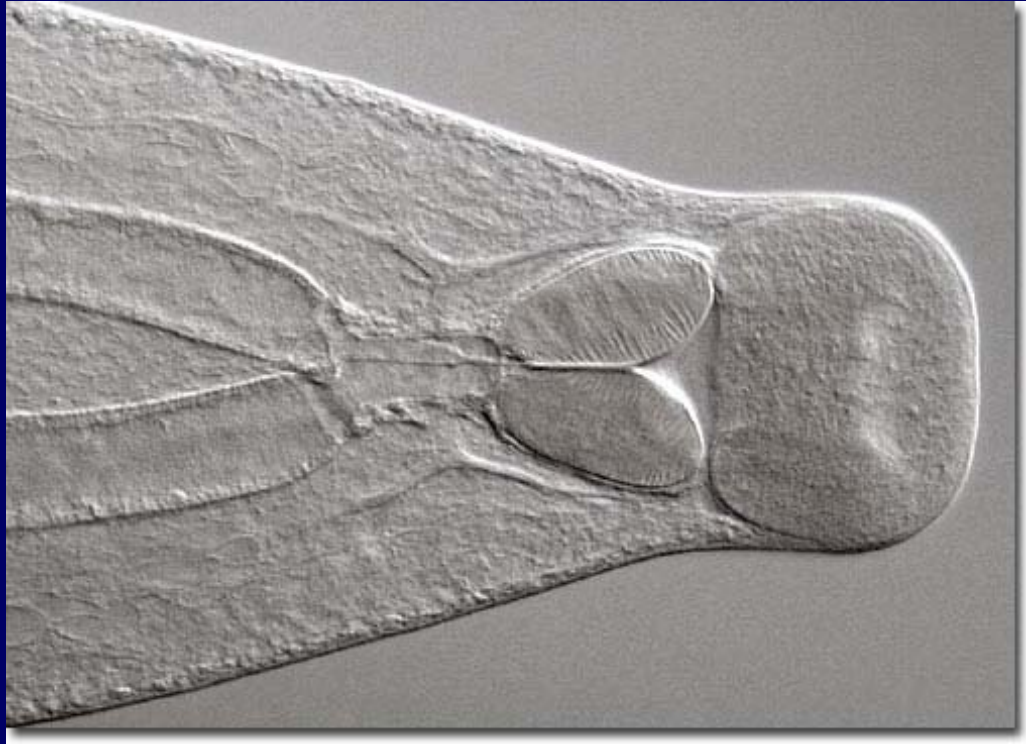
# 1、代表动物——华枝睾吸虫(*Clonorchis sinensis*)

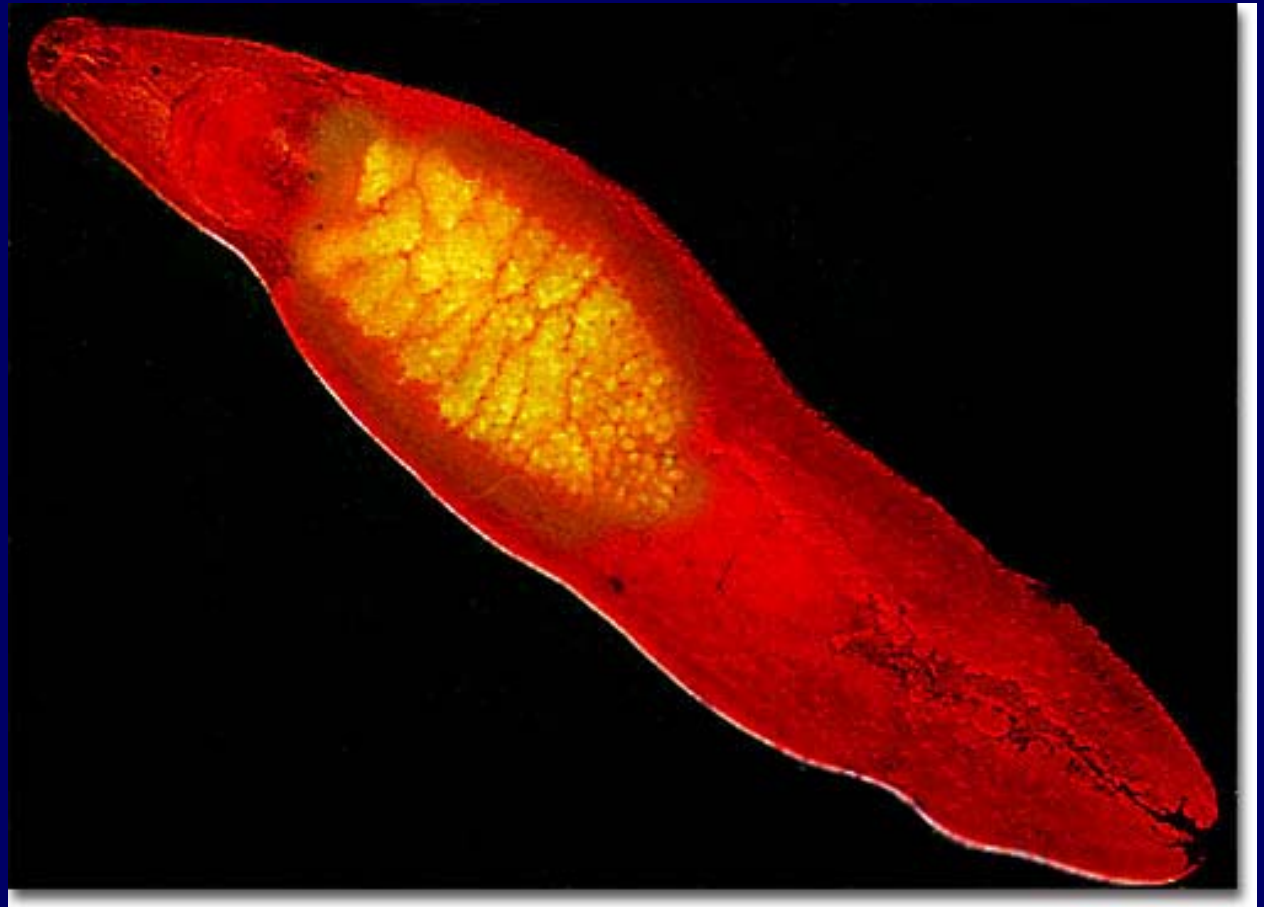
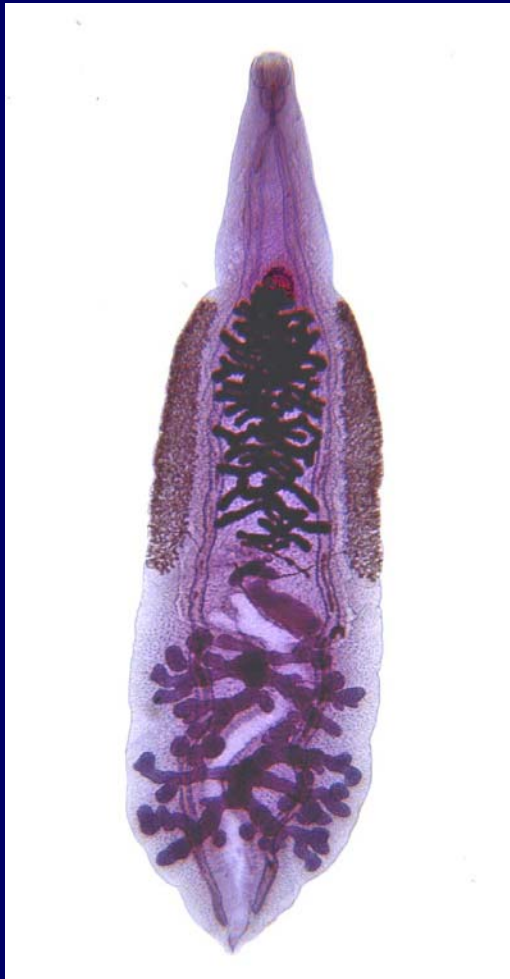


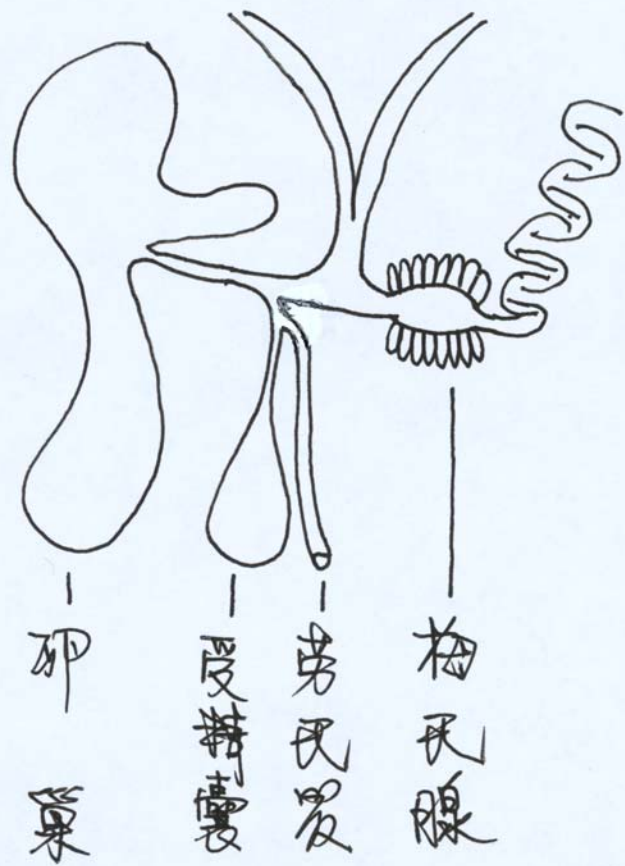
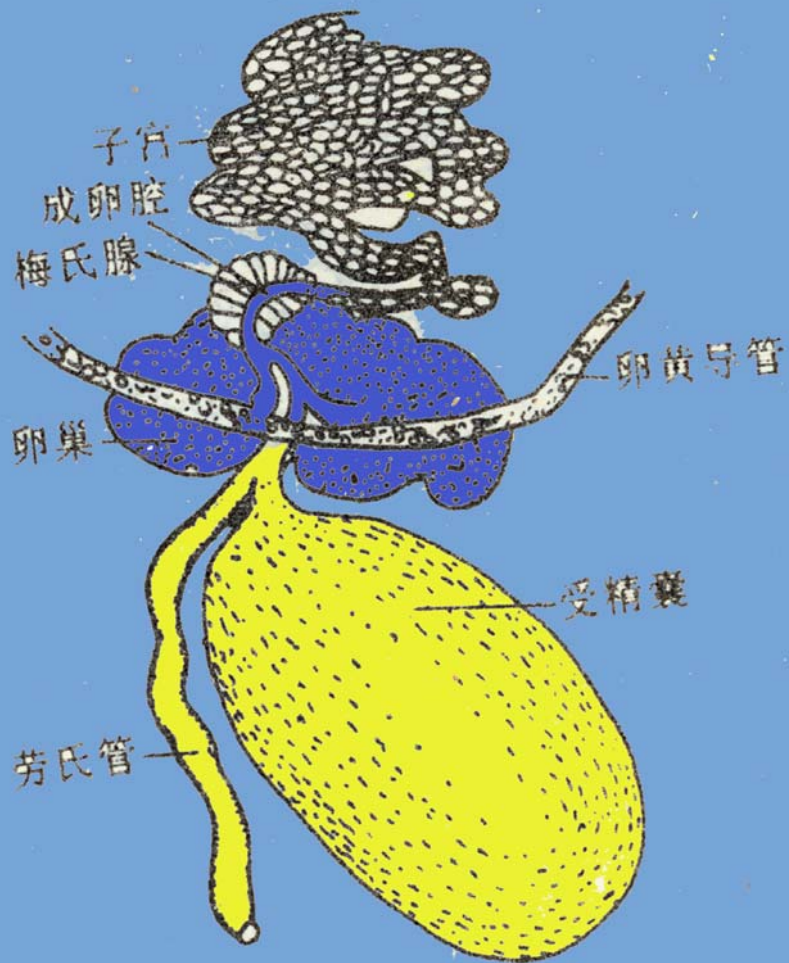




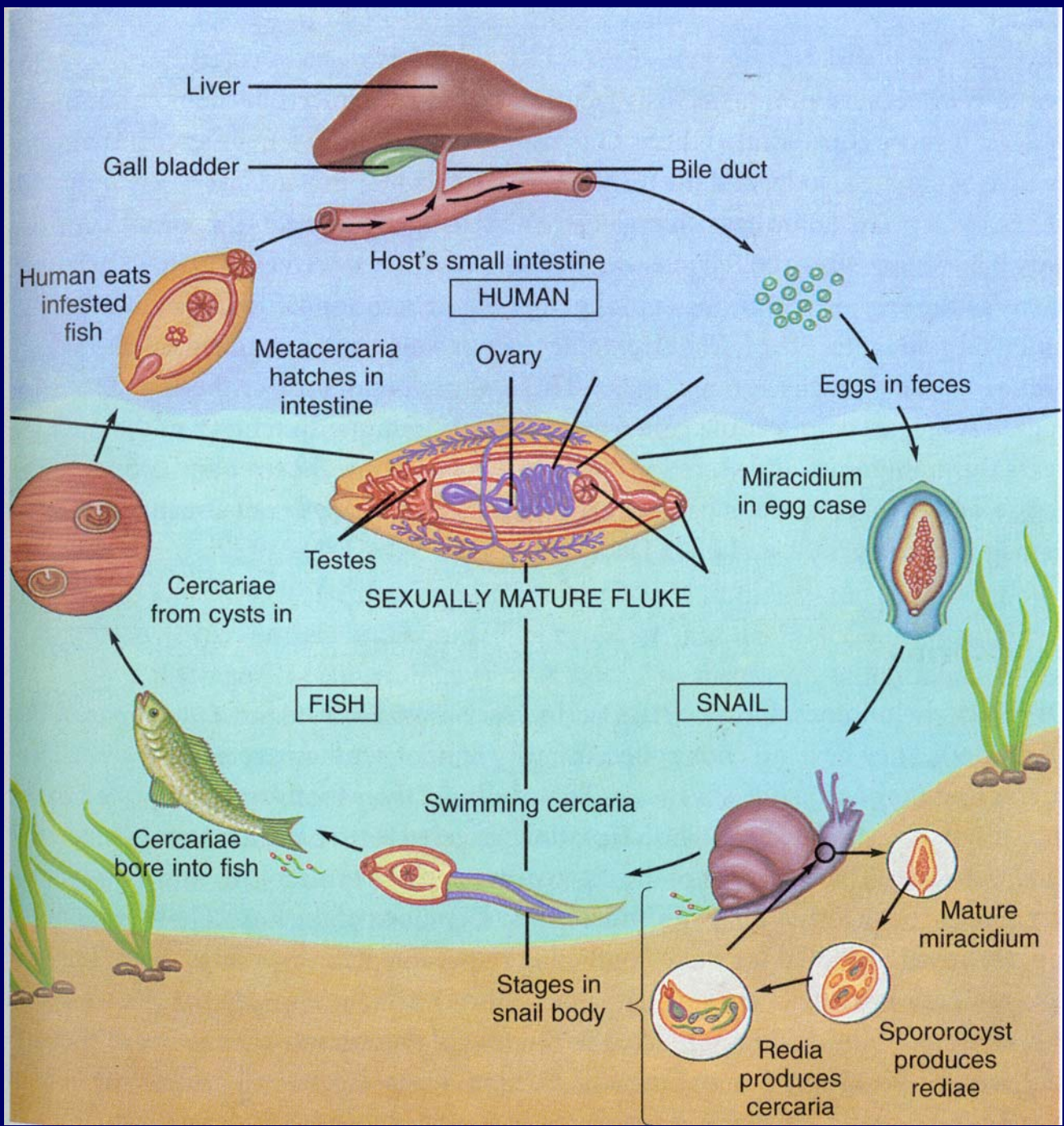


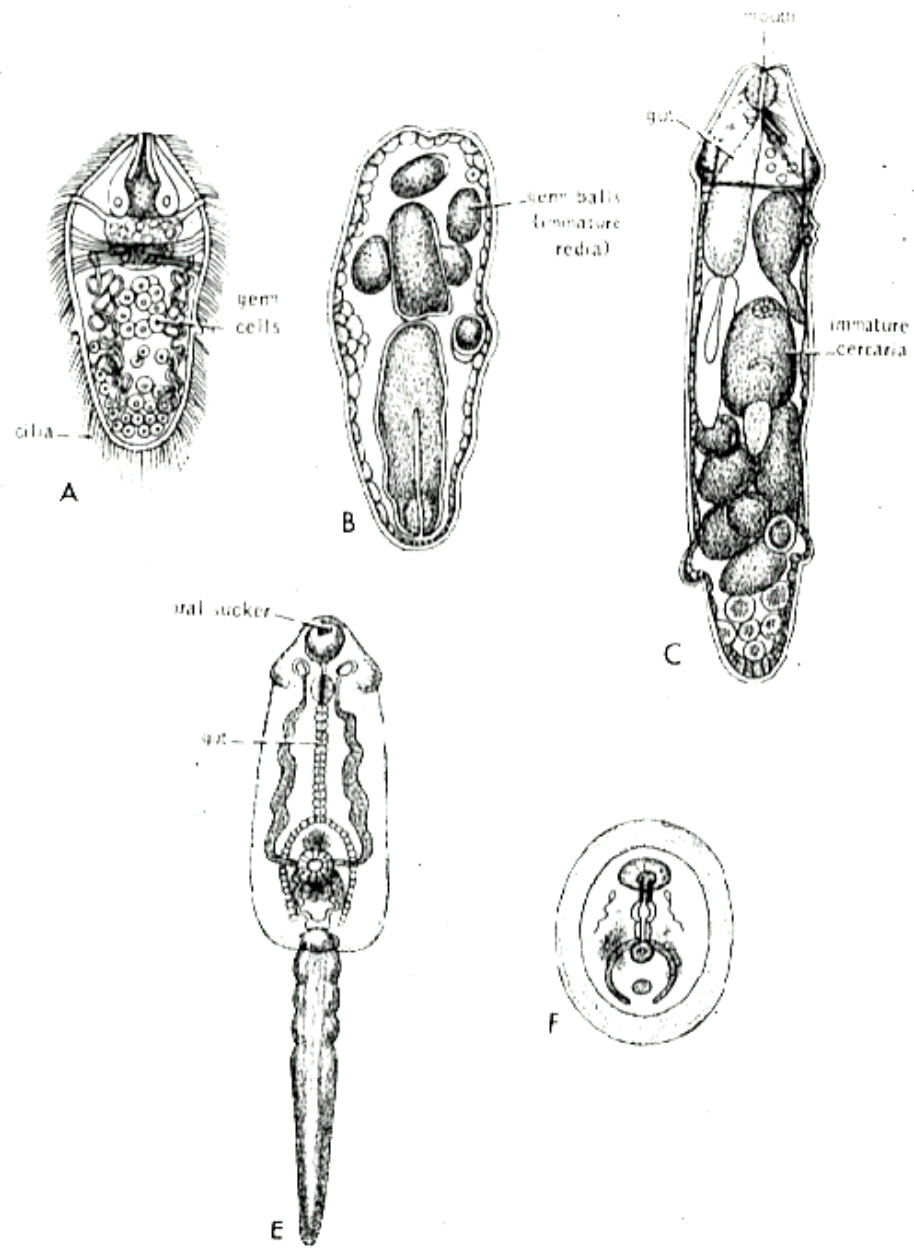


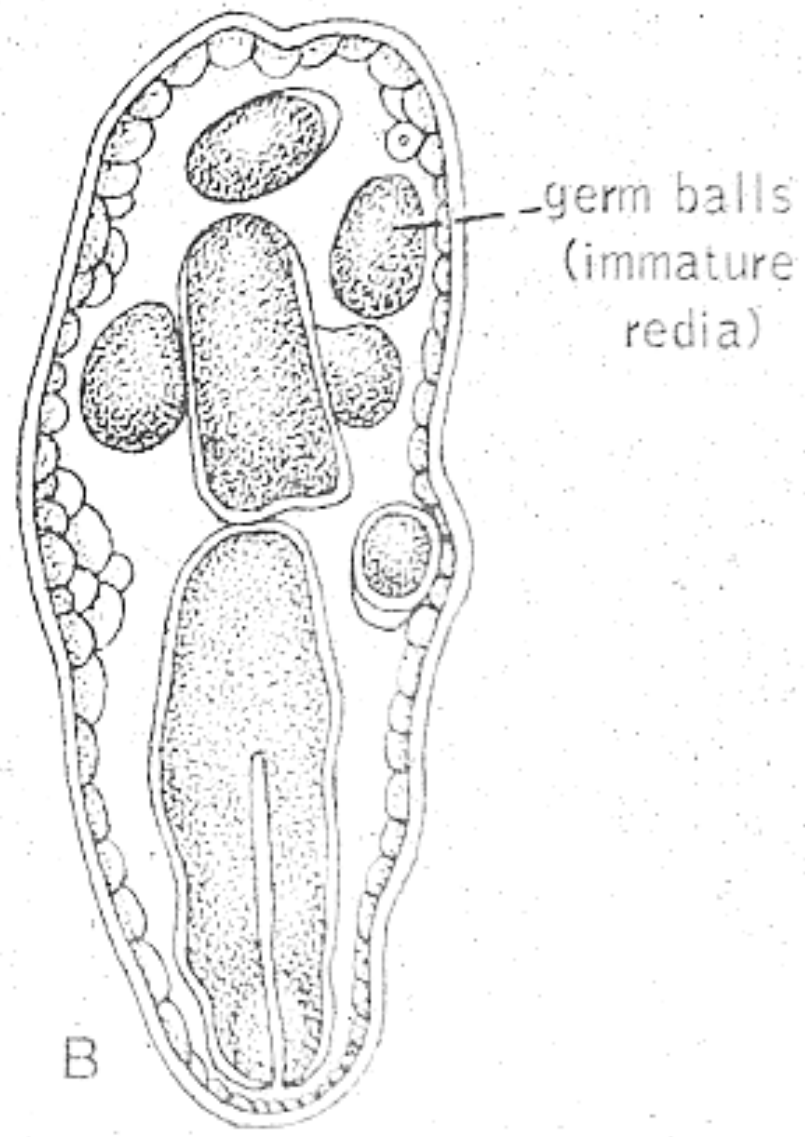
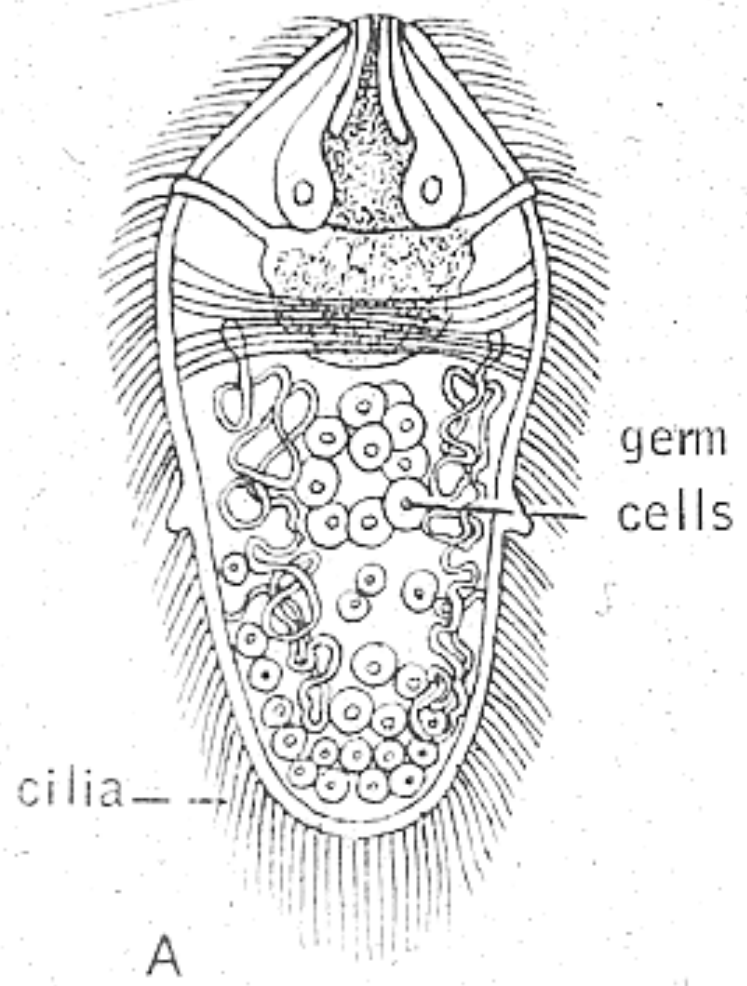


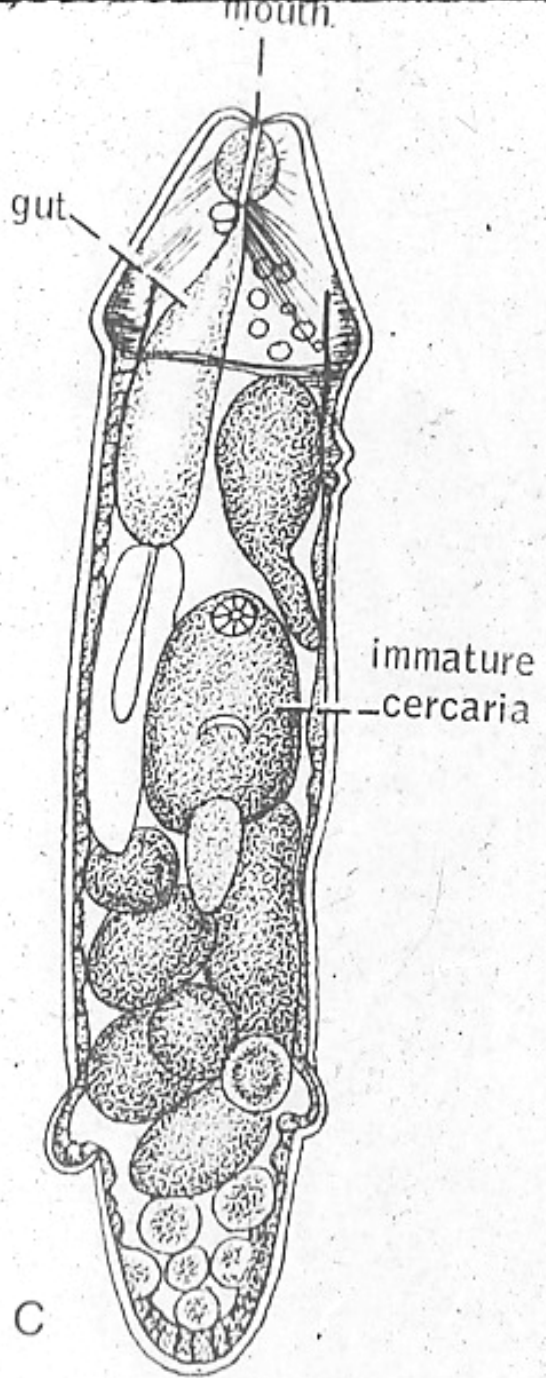












oral sucker

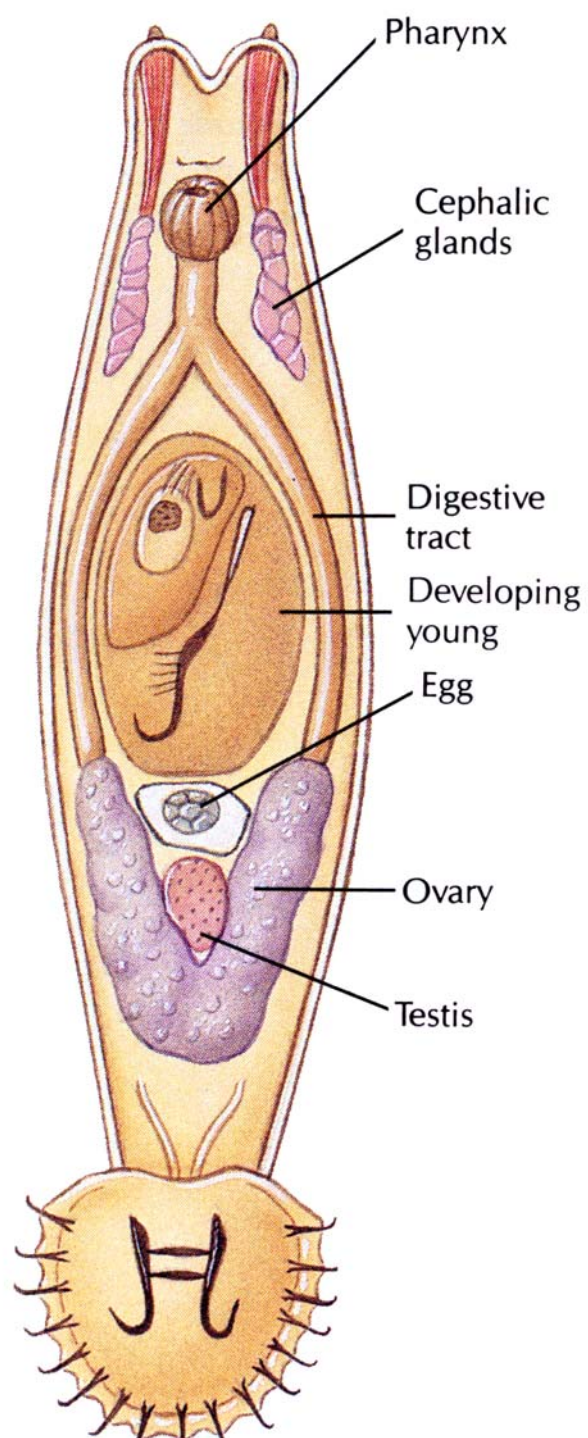
gut

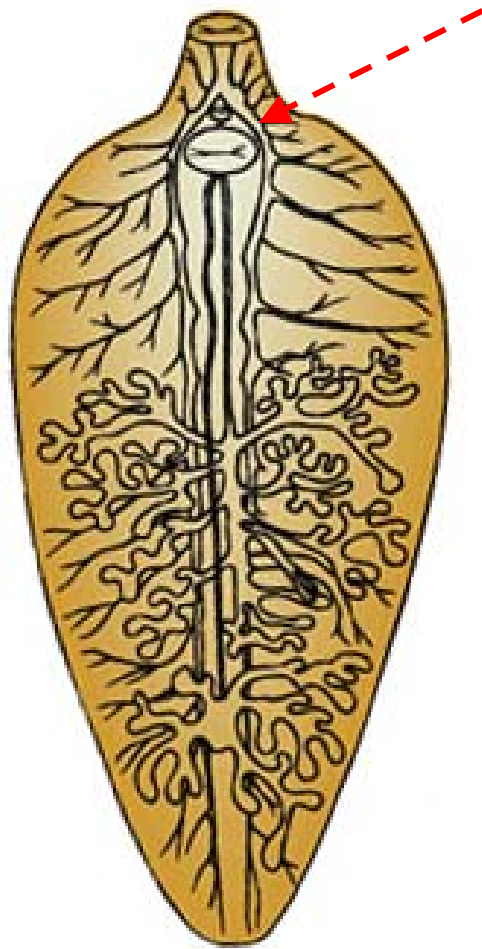


E

## 2、其他重要寄生吸虫

# 1) *Gyrodactylus*





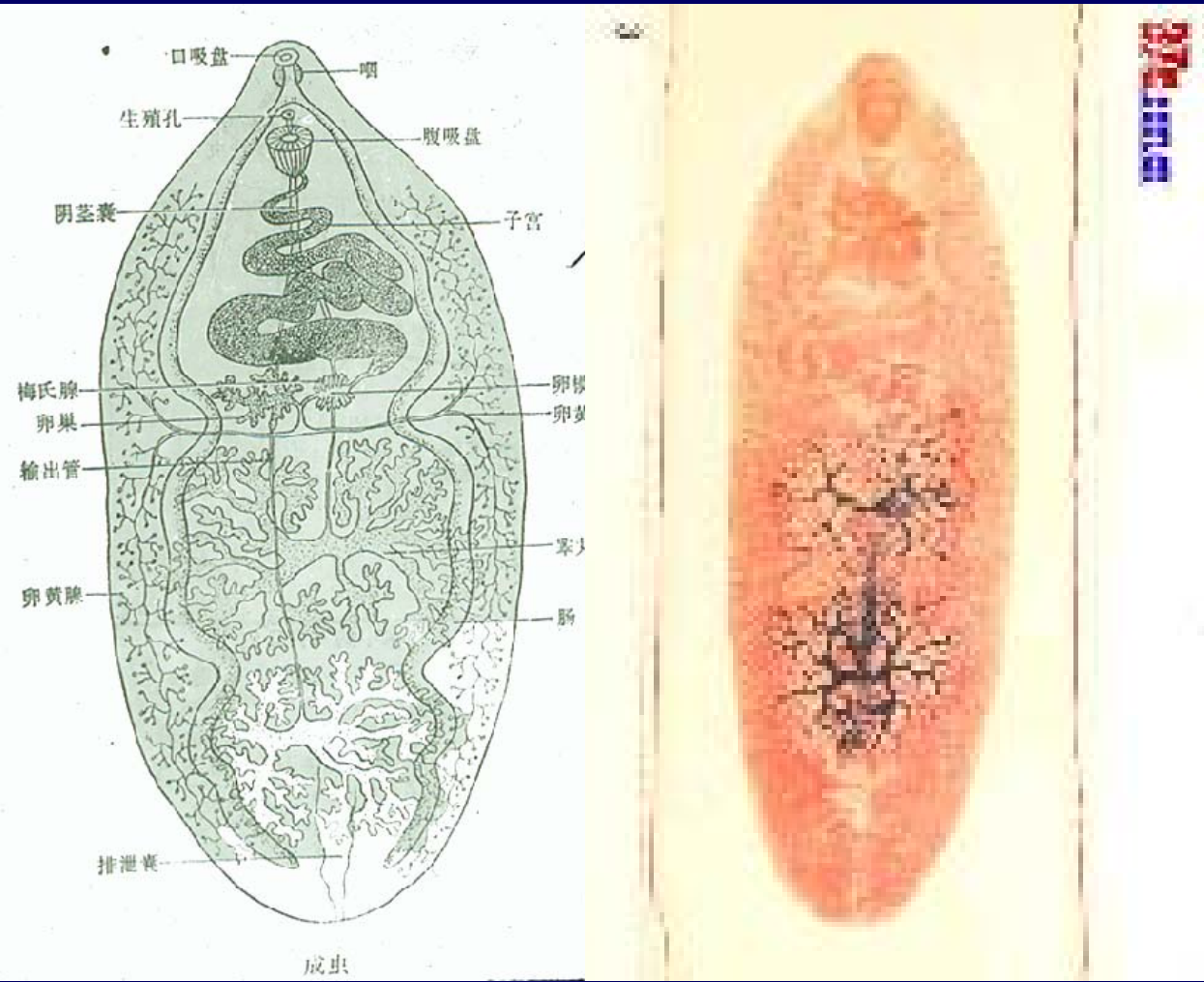
2) 肝片吸虫:

毛、胞、雷 (2)、尾、囊

水草

锥实螺





### 3) 布氏姜片虫

毛、胞、雷 (2)、尾、囊

荸荠、菱角

扁卷螺

#### 4) 血吸虫

血吸虫病是一种寄生虫病，可造成急性或慢性肠炎、肝硬化，并导致腹泻、消瘦、贫血与营养障碍等疾患，在我国主要分布于长江下游和洞庭湖、鄱阳湖、太湖流域。

**1949年**，患者达1200万人，疫区遍布长江以南各省

**1955年**，江西余江县消灭了血吸虫。

**1975年**，患病人数降为250万，钉螺30多亿平方米

**1988年**，患病人数降为40多万。

**1995年**，流行县市区391个；

**2001年**，流行县市区418个。

**2002年**，病人81万，钉螺面积35.2亿平方米。

## 卫生部制定血吸虫病疫情应急处理预案(全文)

<http://www.sina.com.cn> 2003年05月17日16:27 中国新闻网

中新网5月17日电 卫生部办公厅14日发出通知，印发《血吸虫病重大疫情应急处理预案(试行)》，规定凡发生血吸虫病暴发流行和重大突发疫情，即启动该应急处理预案。

目前血吸虫病在湖北、湖南、江西、安徽、江苏五省湖区及四川、云南两省部分山区流行较为严重。当自然环境因素突变，如特大洪水、干旱、地震后，可造成钉螺扩散、感染性钉螺密度升高、人群感染机会增加，血吸虫病急性感染人数剧增。

卫生部在2003年5月14日发布了《血吸虫病重大疫情应急处理预案》（试行）。该预案规定：在原无疫情或已达到血吸虫病传播阻断标准的地区，发现感染性钉螺、血吸虫病新感染或急性感染病例，或者在血吸虫病流行区2周内连续发生2批血吸虫病急性感染病例，每批5人以上；或在一处感染场所连续发生急性感染3人以上，即可认定为该地区血吸虫病疫情爆发。

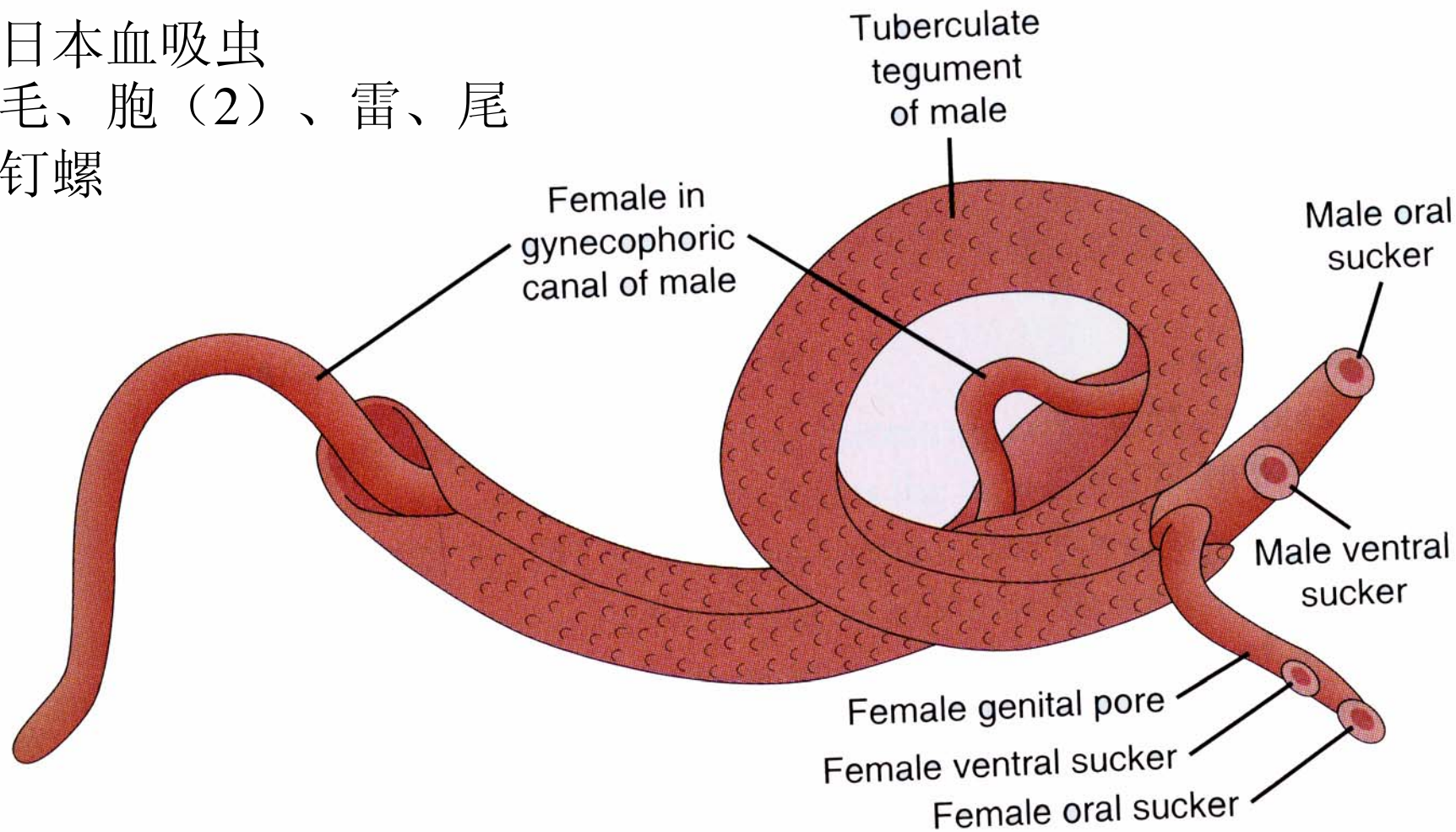
8月25日，卫生部常务副部长高强向全国人大常委会报告当前重大传染性疾病工作情况时说，目前全国有427万县（市、区）存在血吸虫病疫情，受威胁人口约6500万人，患者81万例。

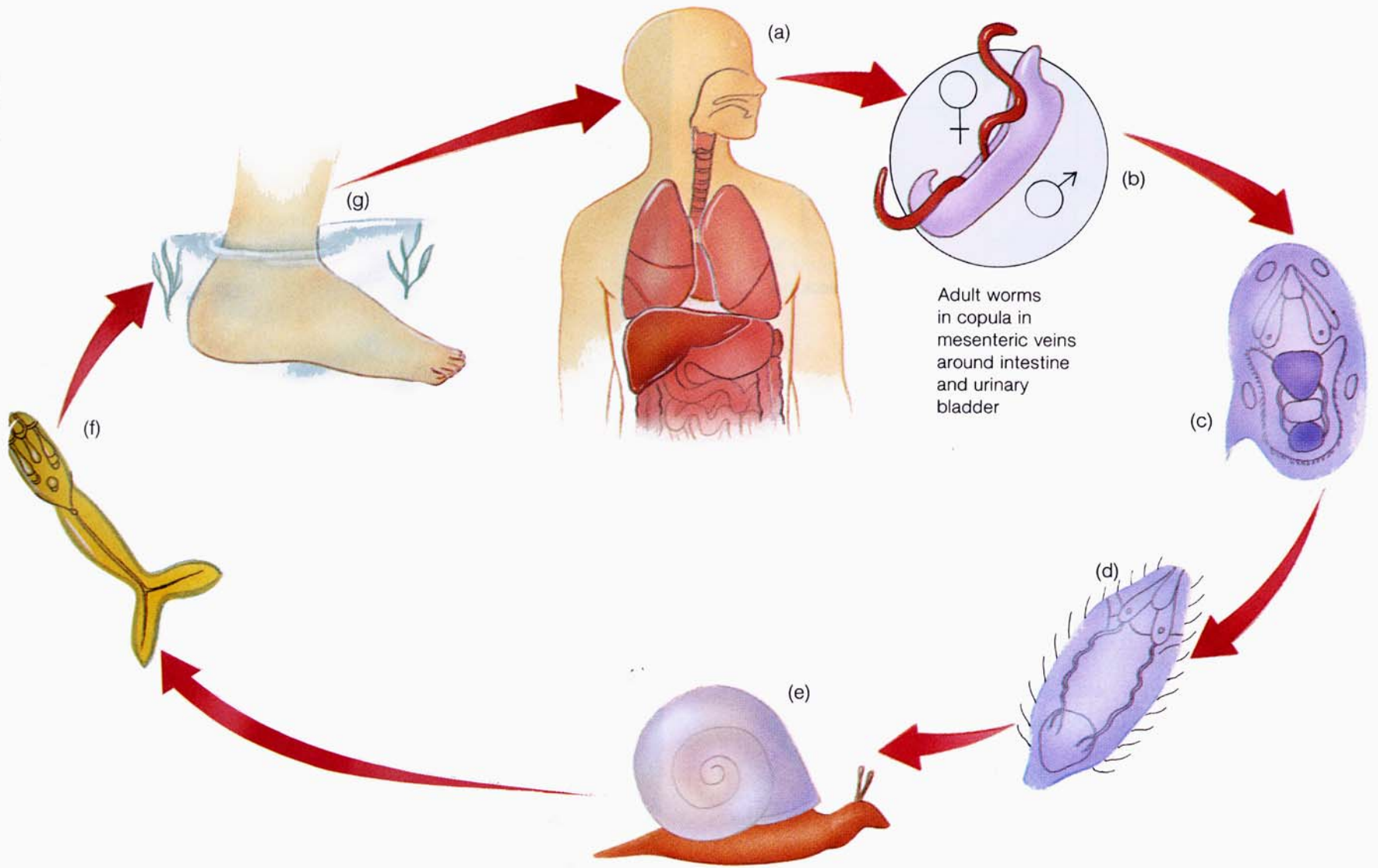
湖南、湖北、江西、安徽、江苏、四川、云南七省的110个县（市、区）为主要流行区。由于这些地区特殊的地理和气候环境适宜钉螺的生存和繁殖，加之近年来特大洪涝灾害频繁，导致钉螺繁衍面积不断扩大。

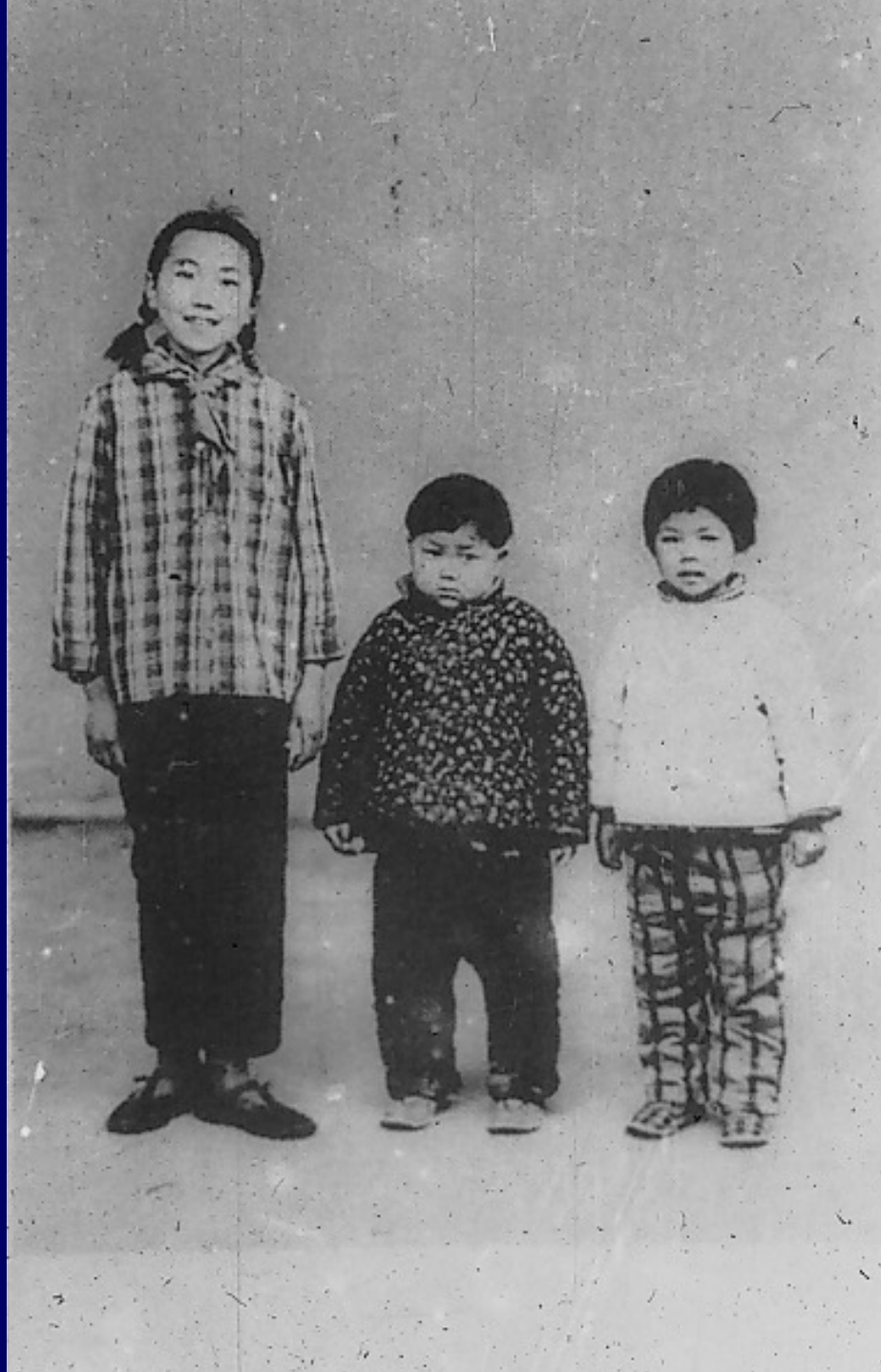
2003年国家科技进步奖二等奖：

青蒿琥酯预防日本血吸虫病优化方案及推广应用的研究

日本血吸虫  
毛、胞（2）、雷、尾  
钉螺











45岁的王曾坤是湖南沅江县双丰乡新民4组的村民，血吸虫病已成晚期。医生说这病能治好，但需治疗费约3万元。以种田为生、人均年收入300余元的王家无力担负。



医院拍的C T片显示，血吸虫已  
钻入患者的脑部。

## 七律二首·送瘟神

1958.07.01 读六月三十日《人民日报》，余江县消灭了血  
丝虫。浮想 联翩，夜不能寐。微风拂晓，旭日临窗，遥望南天，欣  
然命 笔。

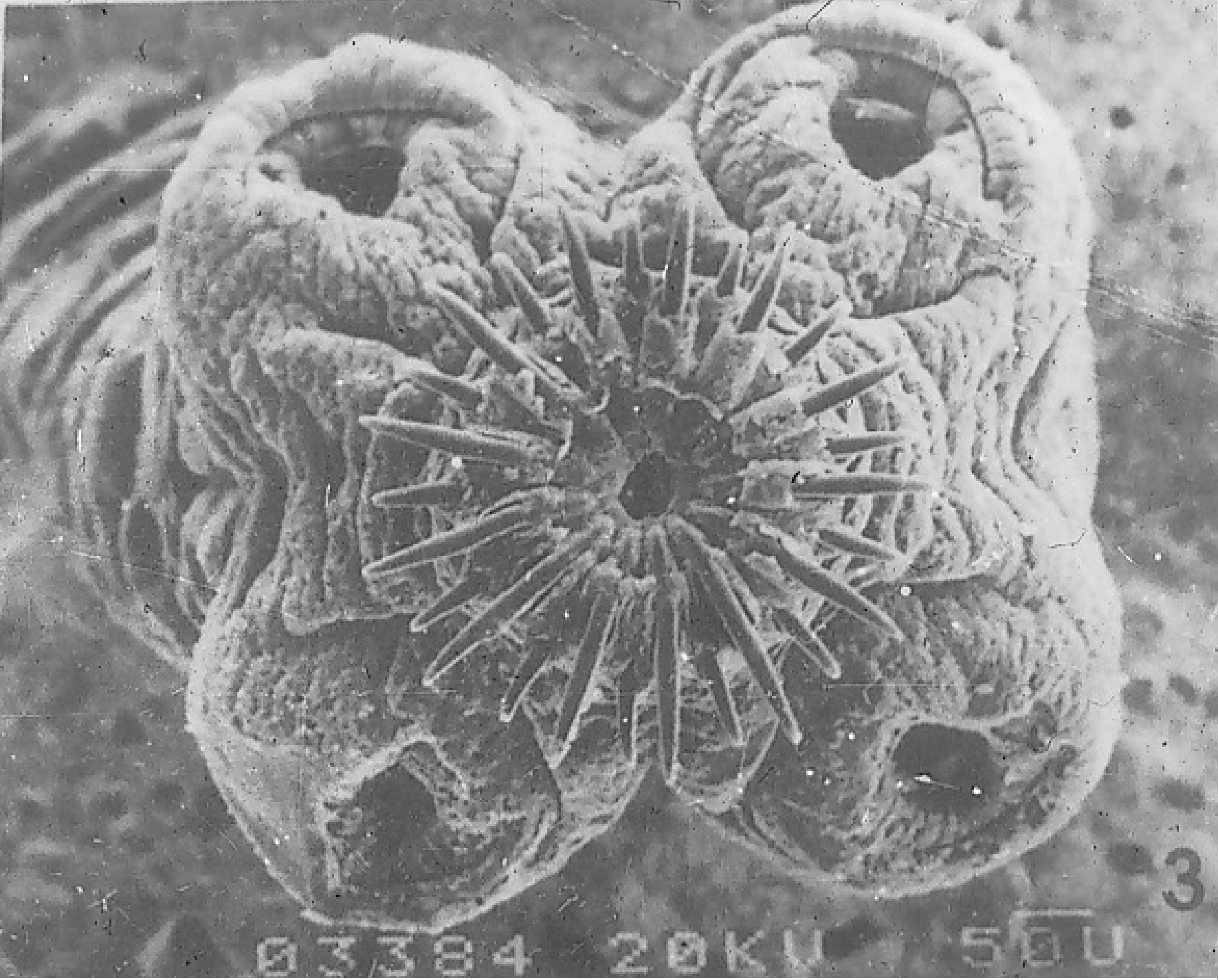
绿水青山枉自多，华佗无奈小虫何！  
千村薜荔人遗矢，万户萧疏鬼唱歌。  
坐地日行八万里，巡天遥看一千河。  
牛郎欲问瘟神事，一样悲欢逐逝波。  
春风杨柳万千条，六亿神州尽舜尧。  
红雨随心翻作浪，青山着意化为桥。  
天连五岭银锄落，地动三河铁臂摇。  
借问瘟君欲何往，纸船明烛照天烧。

# 四、绦虫纲

## Cestoidea

1、代表动物——猪绦虫

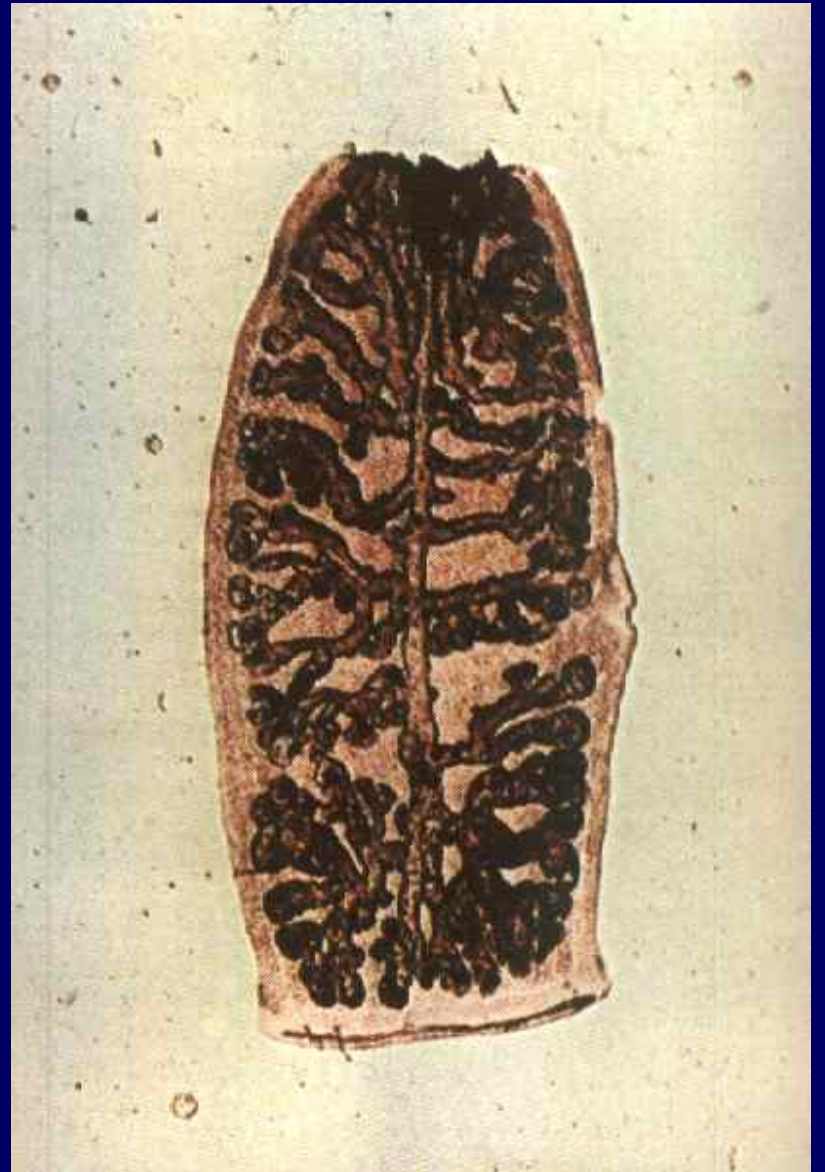
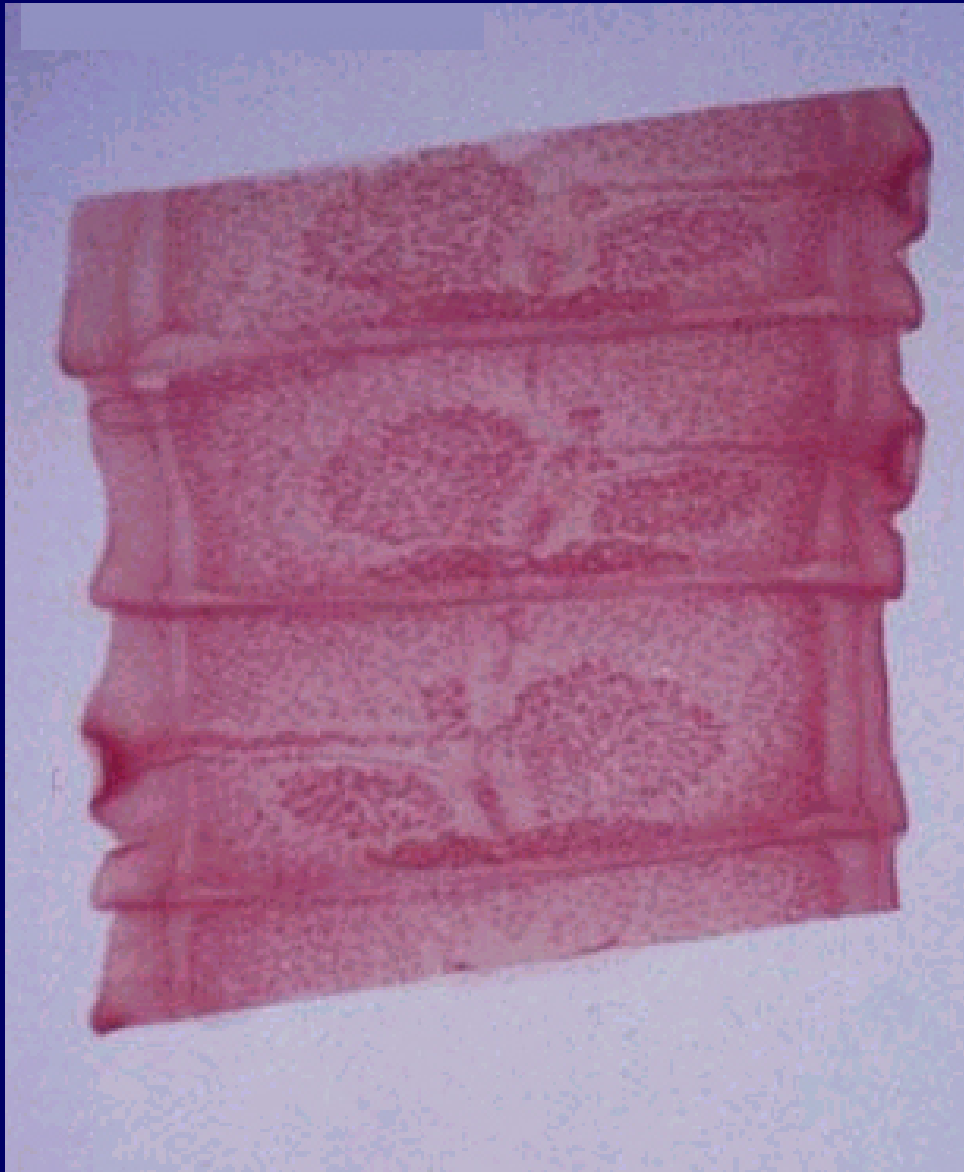




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3







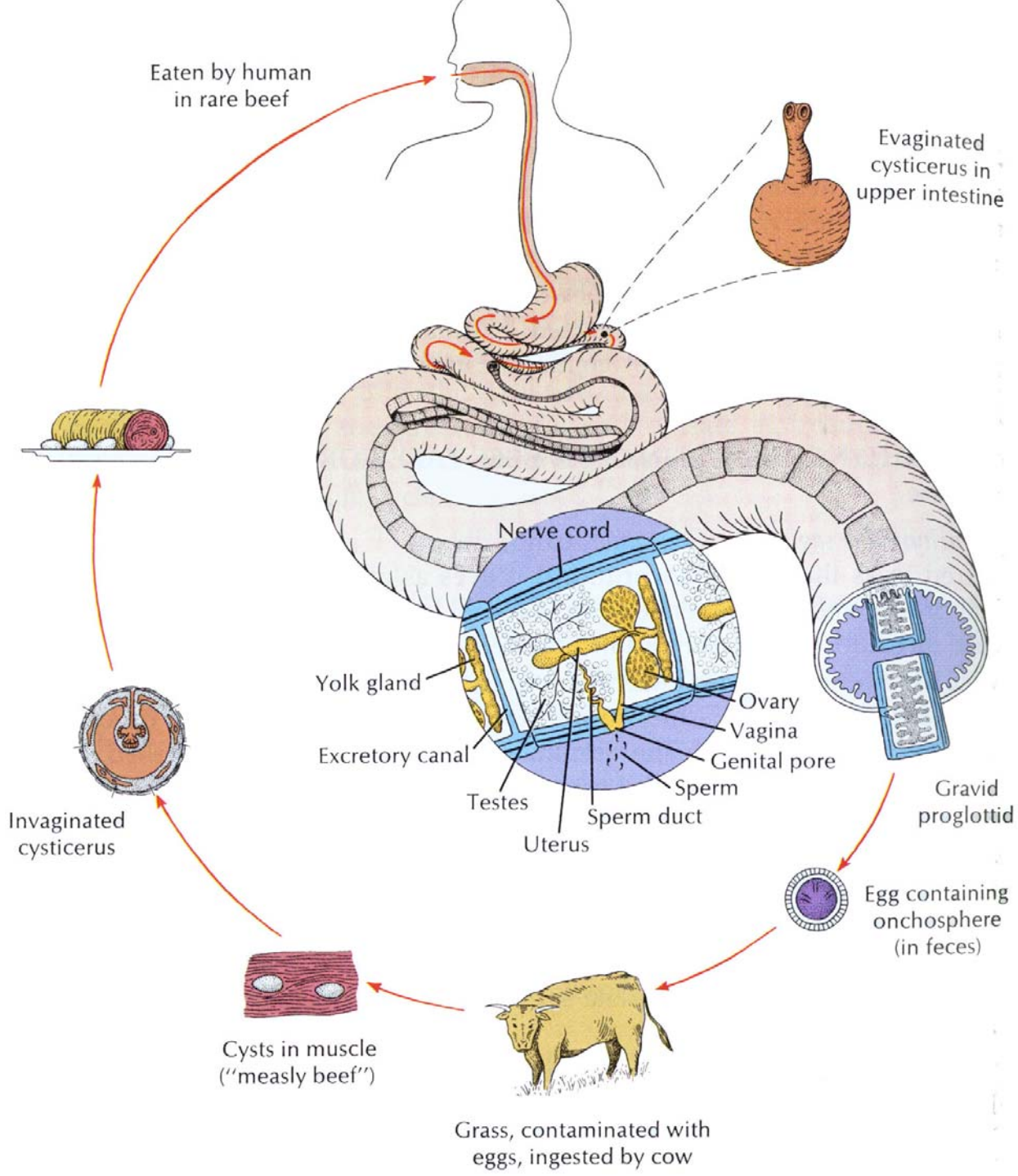


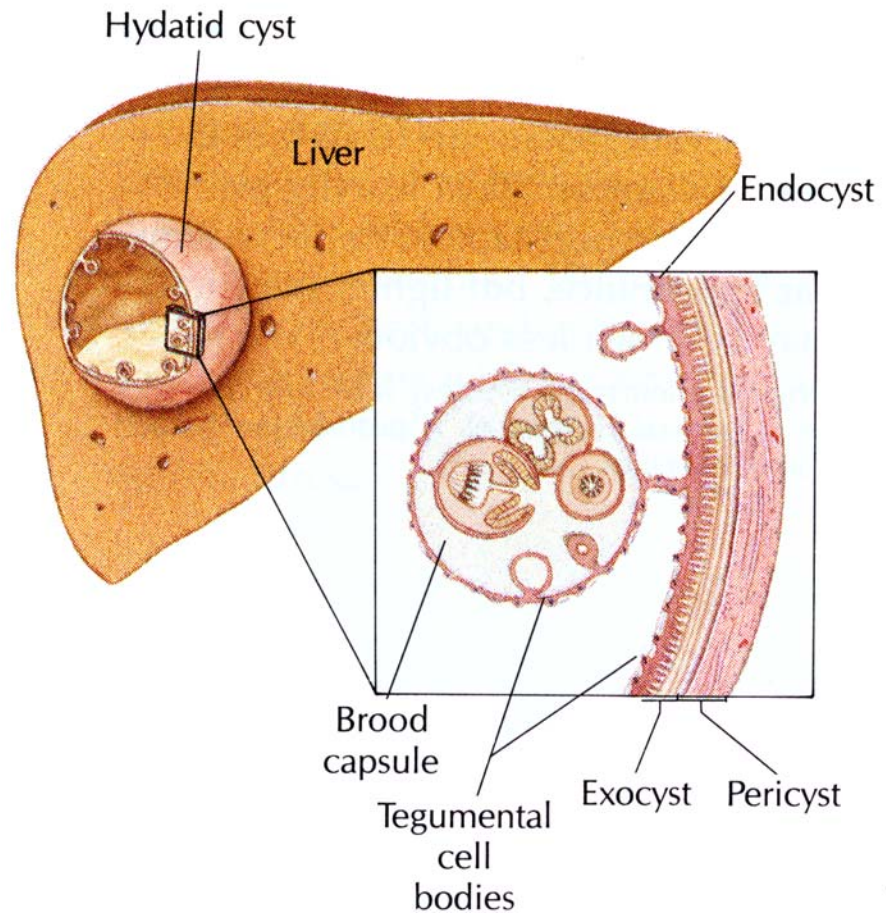
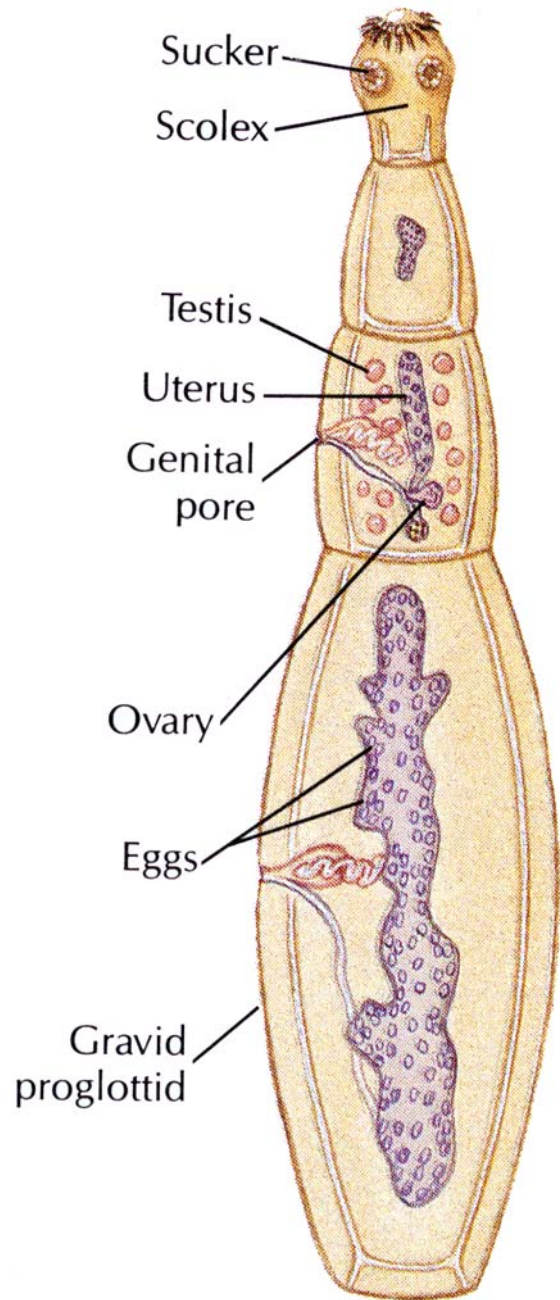


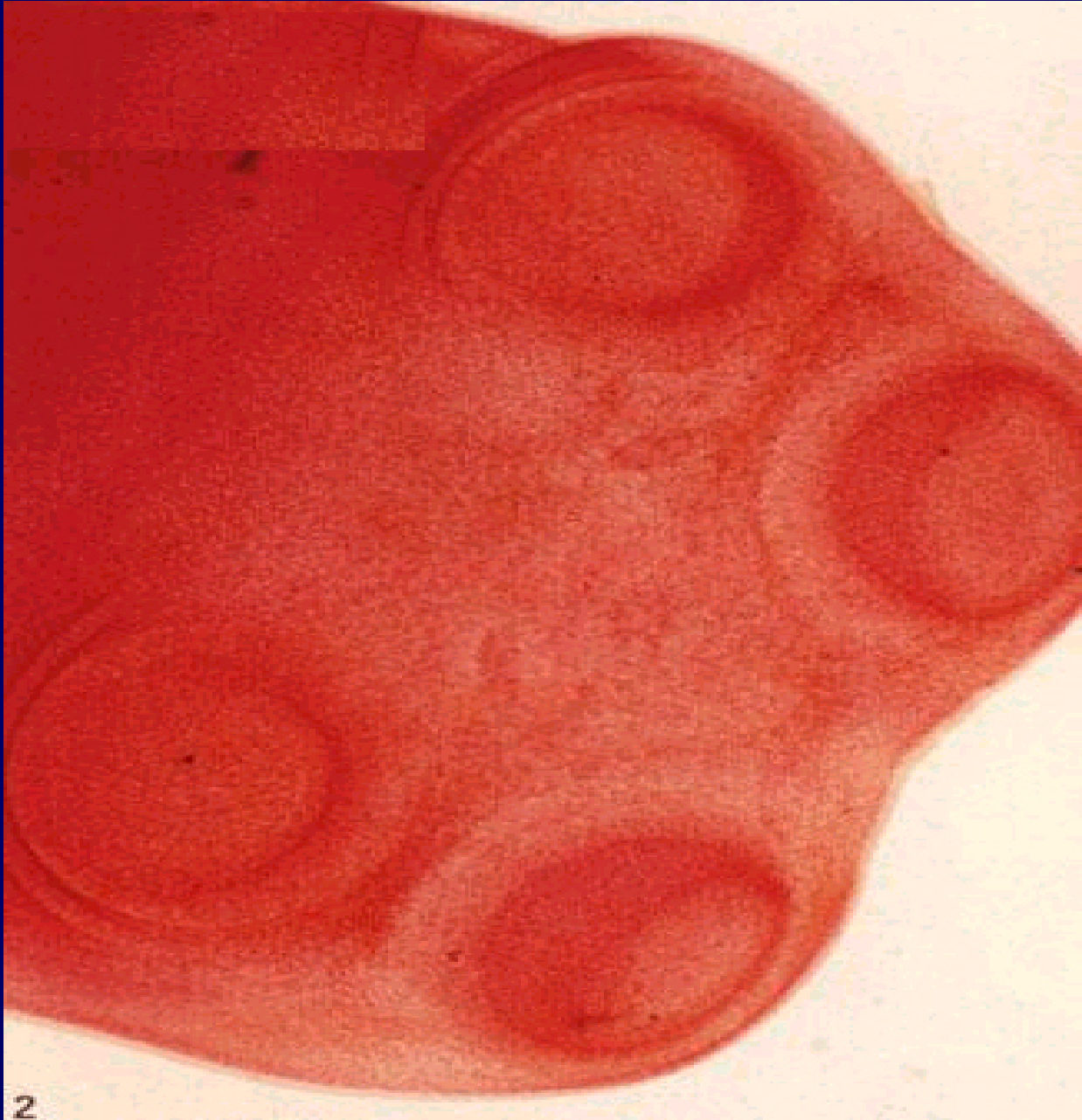
图296 囊虫病患者(2)



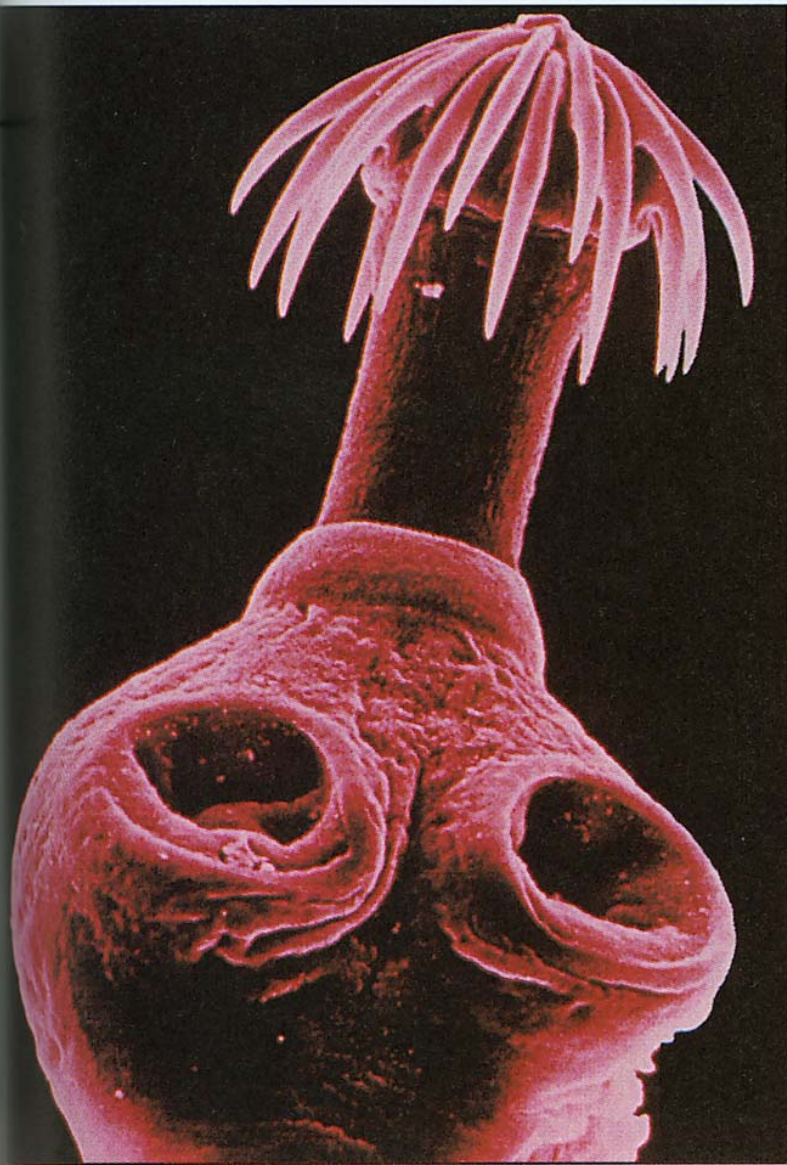


## 2、重要寄生绦虫

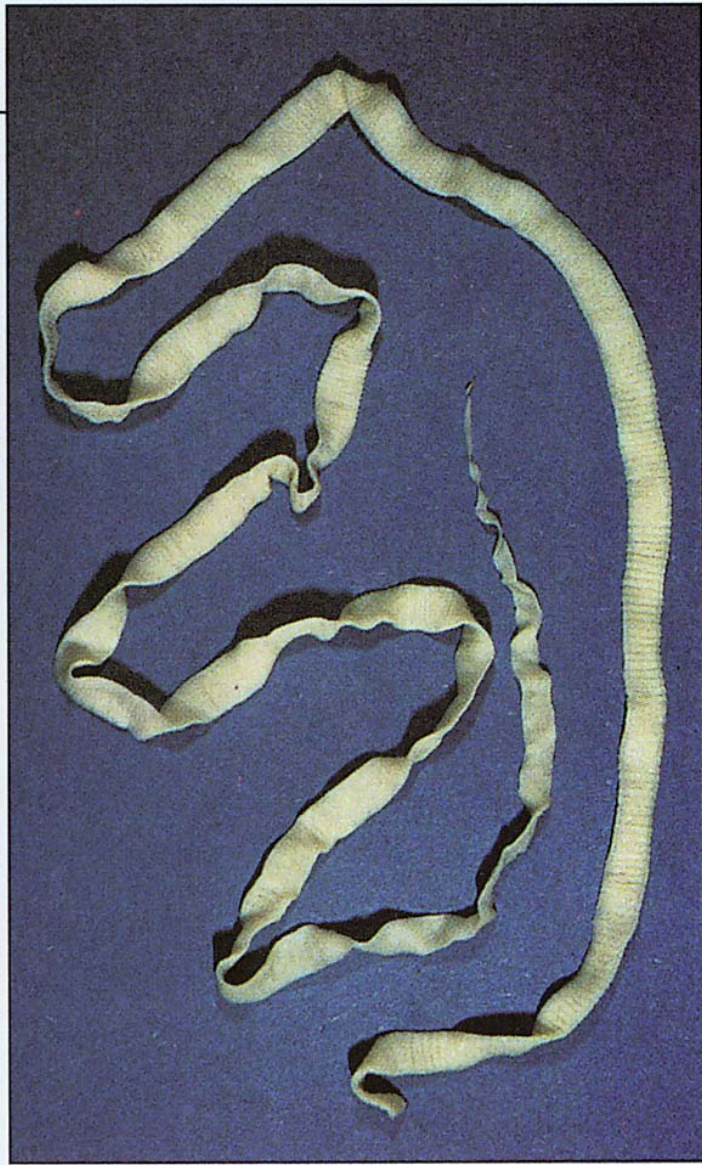




2



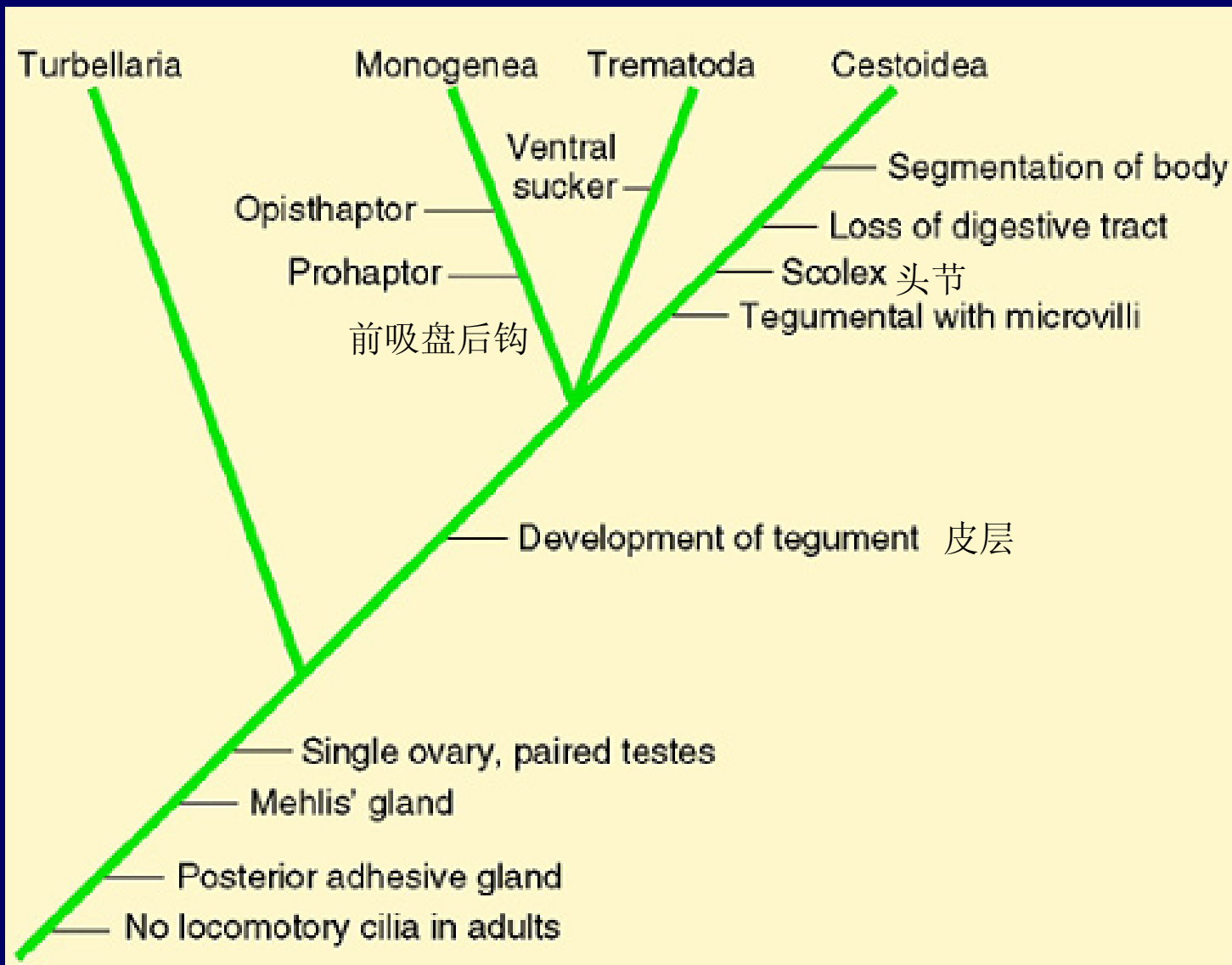
**a**



**b**

**Figure 20.10** (a) Tapeworm scolex. This one attaches to the gut lining of a shorebird, its primary host. (b) Sheep tapeworm.





From Miller & Harely, Zoology(2002) pp:154

*Nature* **429**, 654 - 657 (10 June 2004)

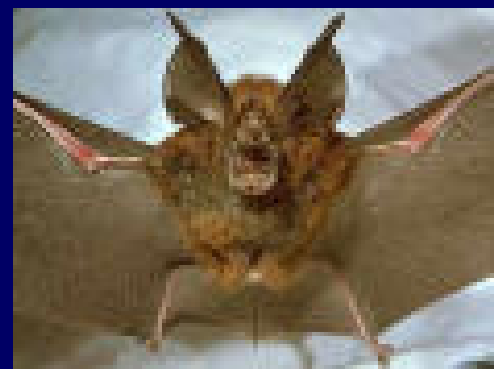
# Harmonic-hopping in Wallacea's bats

TIGGA KINGSTON<sup>1,\*</sup> AND STEPHEN J. ROSSITER<sup>2,3</sup>

<sup>1</sup> Department of Geography, Boston University, Massachusetts 02215, USA

<sup>2</sup> School of Biological Sciences, Queen Mary, University of London, London E1 4NS, UK

<sup>3</sup> School of Biological Sciences, University of Bristol, Bristol BS8 1UG, UK

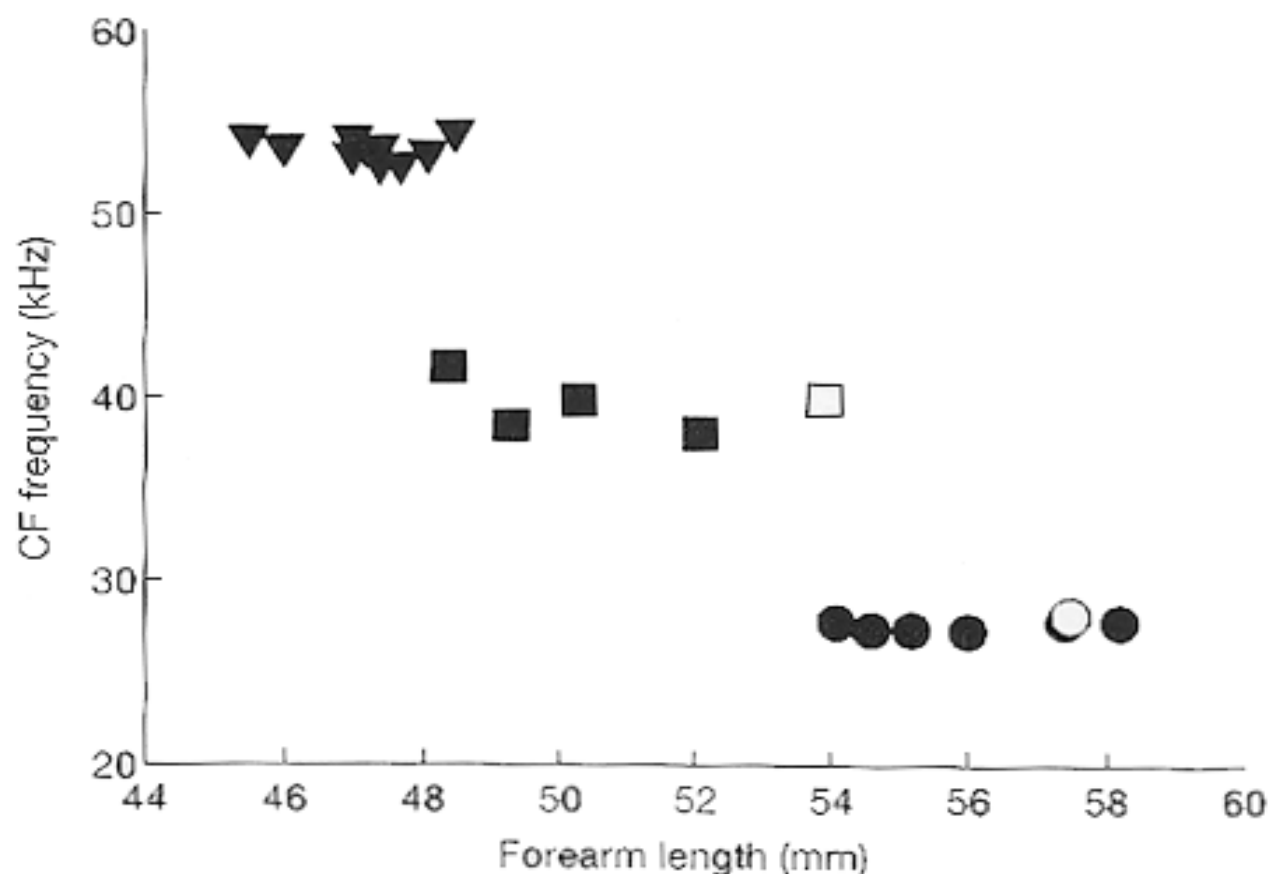


Horseshoe bats are a diverse Old World family (Rhinolophidae) that have undergone a rapid radiation in the past 5 million years.

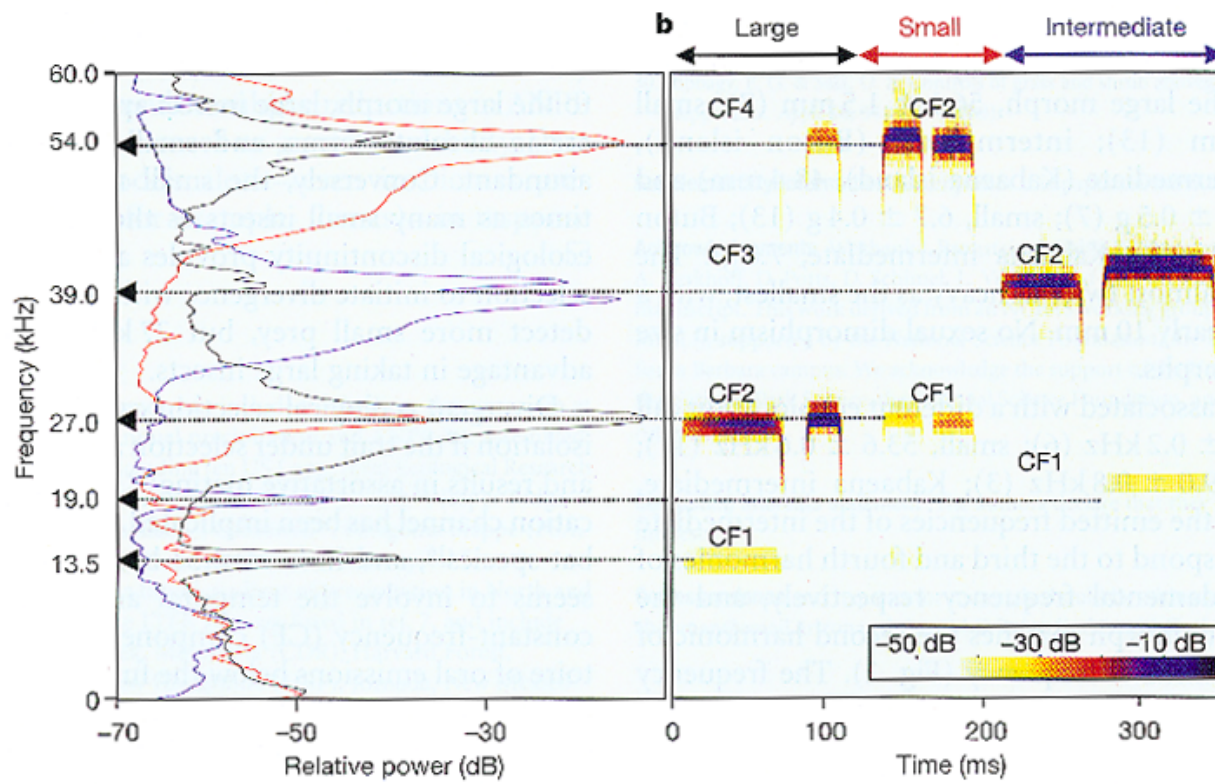
These insectivorous bats use a predominantly pure-tone echolocation call to detect insect.

Here show three distinct, sympatric size morphs of the large-eared horseshoe bat (*Rhinolophus philippinensis*)

Moreover, because call frequency in horseshoe bats has a dual function in resource acquisition and communication, ecological selection on frequency might lead to assortative mating and ultimately reproductive isolation and speciation, regardless of external barriers to gene flow

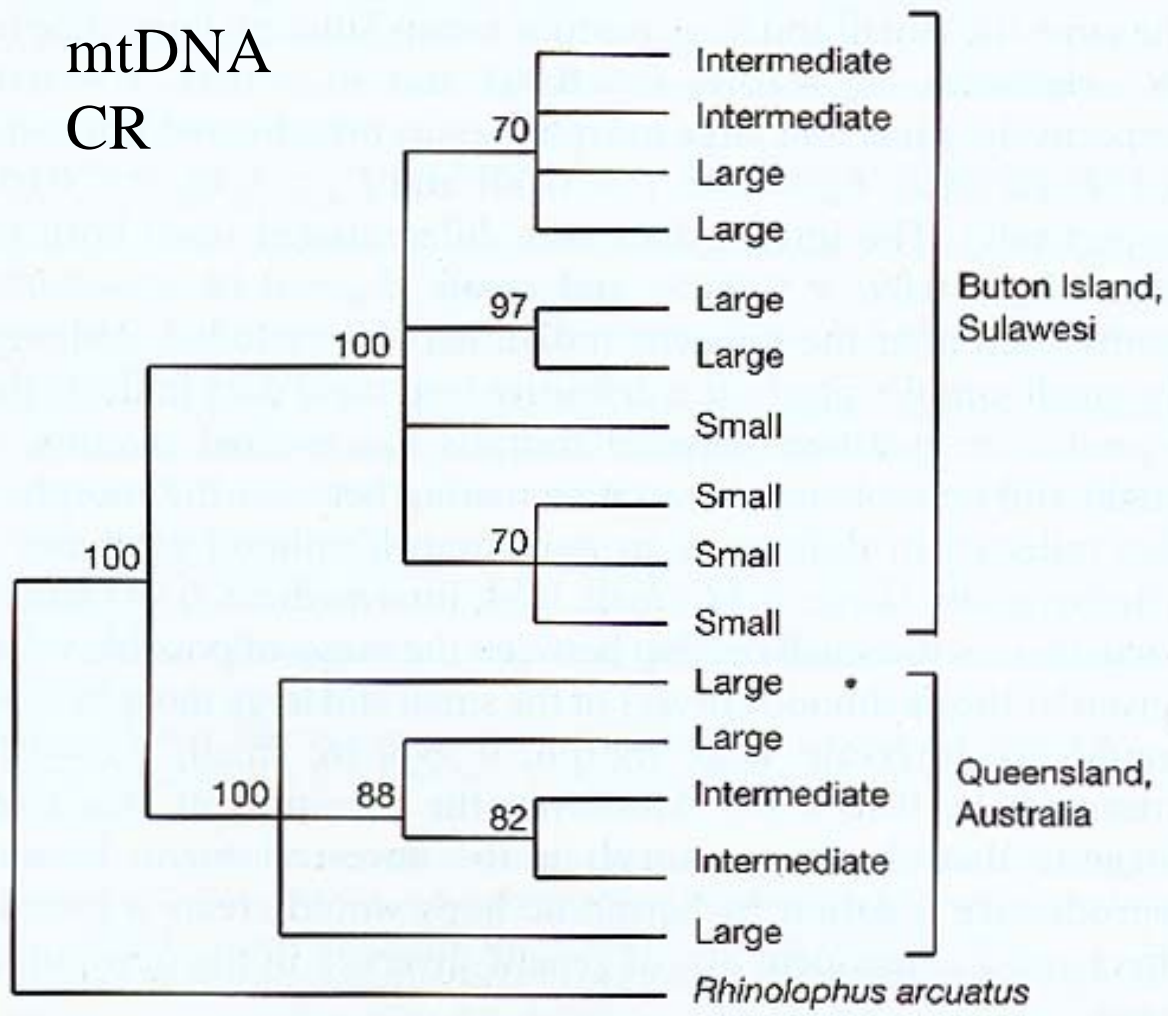


**Figure 1** Relationship between constant-frequency component of calls and forearm length for three sympatric morphs of the large-eared horseshoe bat. Circle, large morph; triangle, small morph; square, intermediate morph. Filled symbols are from Sulawesi and open symbols are based on average forearm lengths<sup>30</sup> and call frequencies<sup>11</sup> from the two morphs present in Australia.



**Figure 2** Echolocation calls of the three sympatric morphs of the large-eared horseshoe bat. **a**, Mean power spectra. Each includes three to eight calls per individual from 6 large morphs, 11 small morphs, and the 3 intermediate morphs from Buton. Black line, large morph; red line, small morph; blue line, Buton intermediate morph. **b**, Sonograms of two

calls from different individuals of each morph. The scale bar indicates relative power (dB). The constant-frequency harmonics of each morph are denoted by the prefix CF. CF1 is the fundamental and CF2 is the main frequency emitted. Dotted arrows indicate peak frequencies and corresponding harmonics.



Microsatellite  
loci also show  
the significant  
difference

**Figure 3** Consensus tree based on parsimony analysis of mtDNA haplotypes, showing phylogenetic relationships between large-eared horseshoe bat morphs sampled on Buton Island, Sulawesi, and Queensland, Australia. Bootstrap values (percentages from 1,000 replicates) are given on the nodes.

Call frequency effected:

Get resource, communication

Thus led to

Mating and reproductive isolation

Though without external barriers to gene flow.