



# Smyslové orgány

Orgán zraku

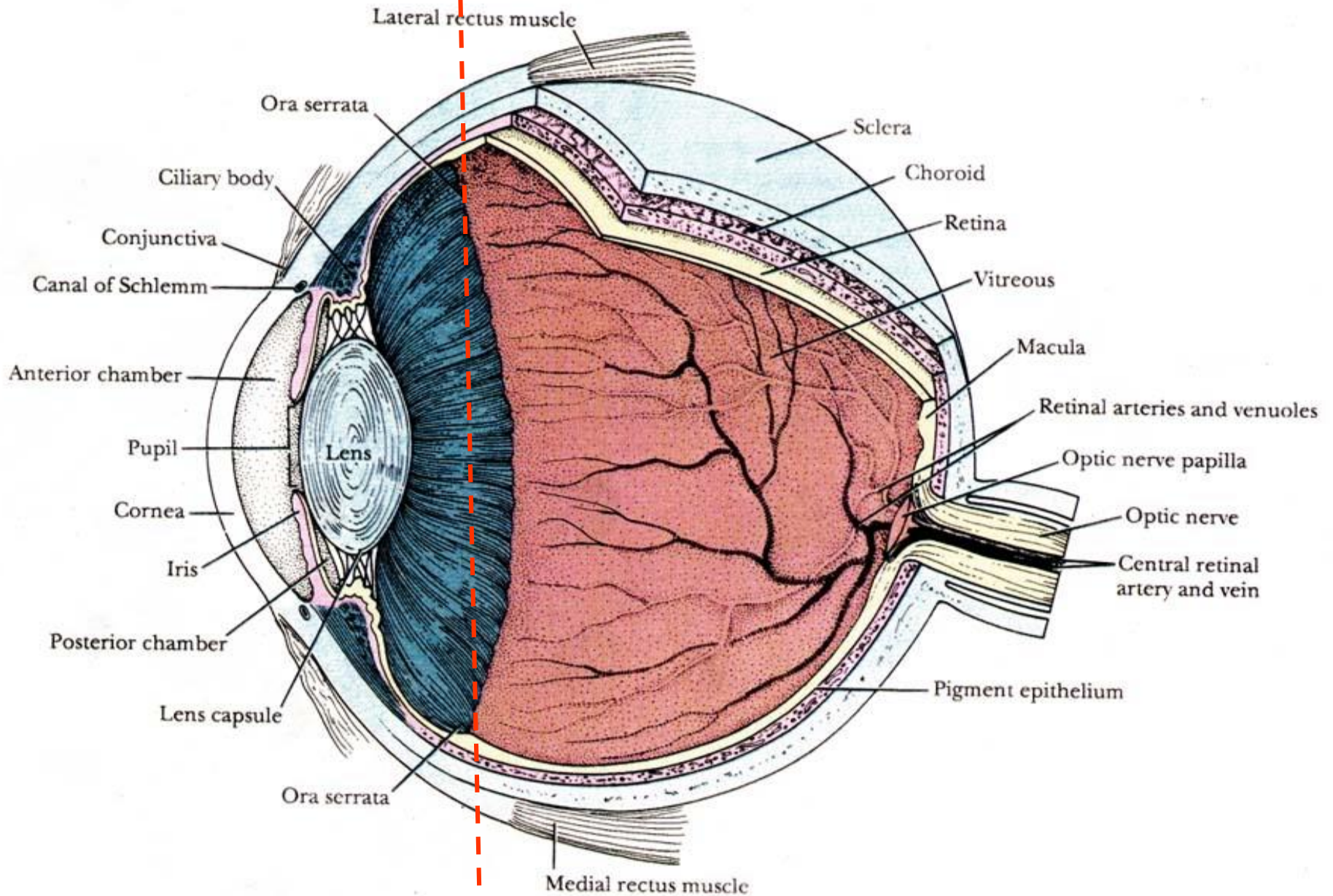
Orgán sluchu a rovnováhy  
a přídatné orgány

# Orgán zraku

- Oční koule (*bulbus oculi*)
  - přední segment oční
  - zadní segment oční
- *Fasciculus opticus*
- Víčko (*palpebra*)
- Slzná žláza (*gl. lacrimalis*)

# Přední segment

# Zadní segment



# Stěna oční koule

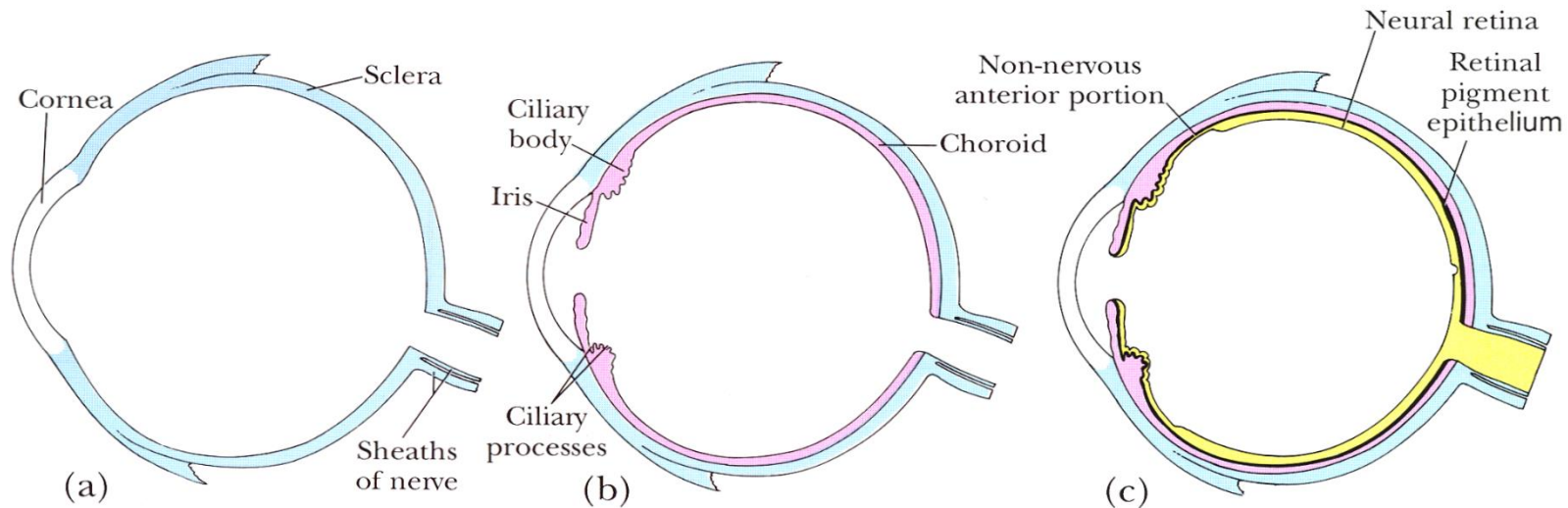


Figure 23.1. Schematic diagram of the layers of the eye. The layers are organized in three separate concentric layers: an outer supporting layer, the *corneoscleral*

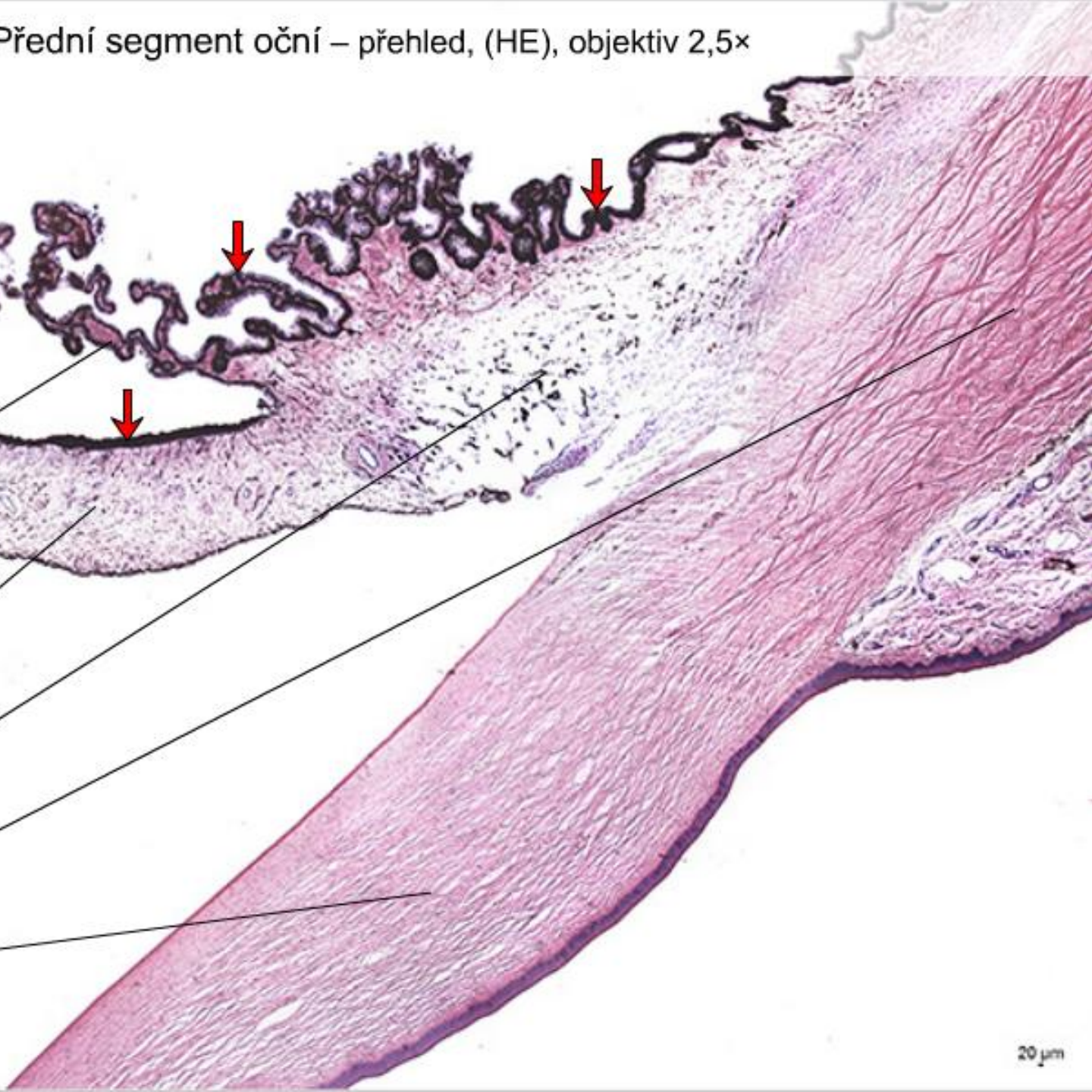
*coat* (a), a middle vascular coat, the *uvea* (b), and an inner photosensitive layer, the *retina* (c).

	Tunica externa (fibrosa)	Tunica media (vasculosa)	Tunica interna (nervosa)
<b>přední segment</b>	<i>cornea</i>	<i>iris</i> <i>corpus ciliare</i>	<i>pars caeca retinae</i>
<b>zadní segment</b>	<i>sclera</i>	<i>choroidea</i>	<i>pars optica retinae</i>



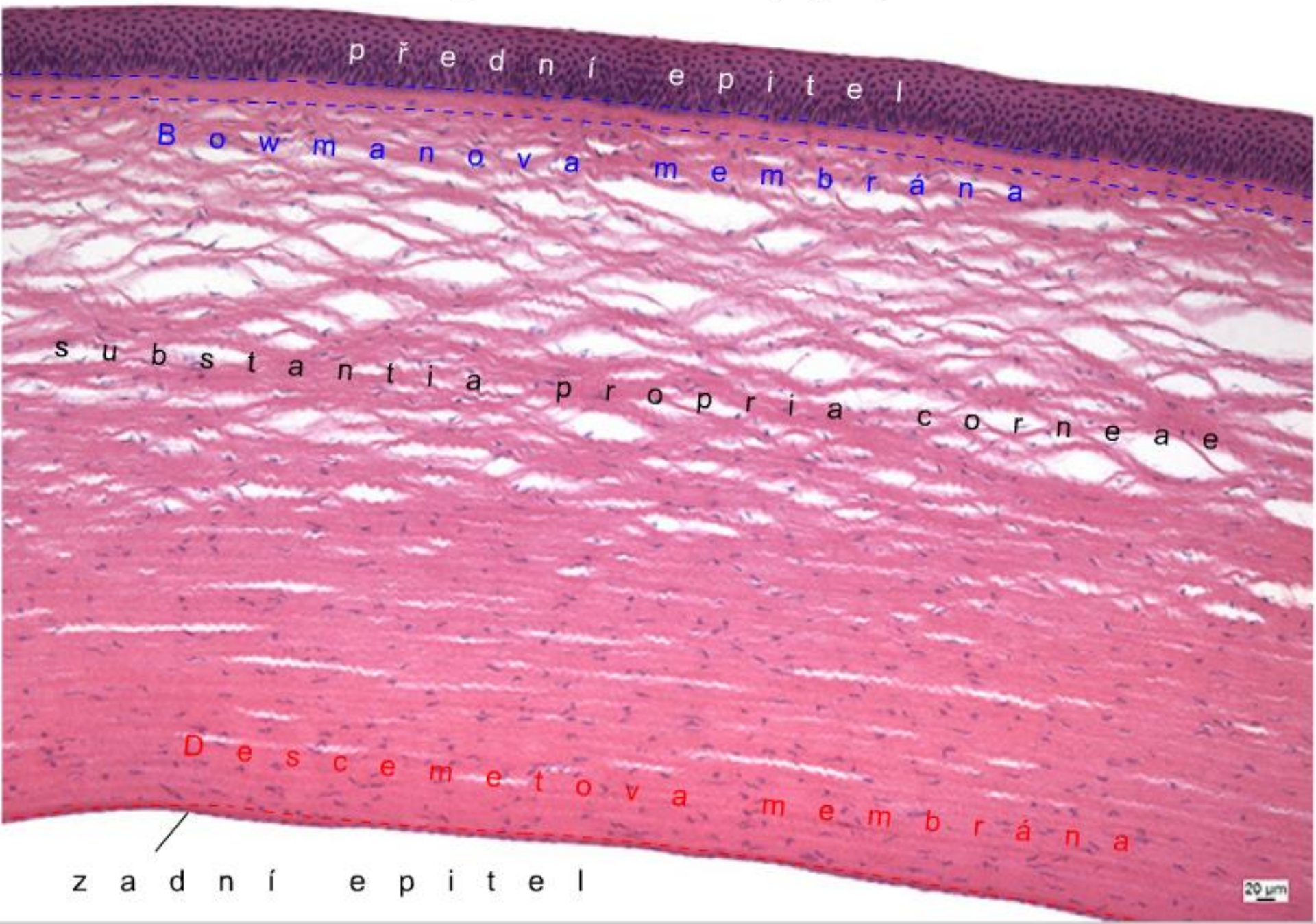
Přední segment oční – přehled, (HE), objektiv 2,5×

- processus ciliares
- duhovka (iris)
- řasnaté tělísko (corpus ciliare)
- bělima (sclera)
- rohovka (cornea)
- ↓ pars caeca retinae



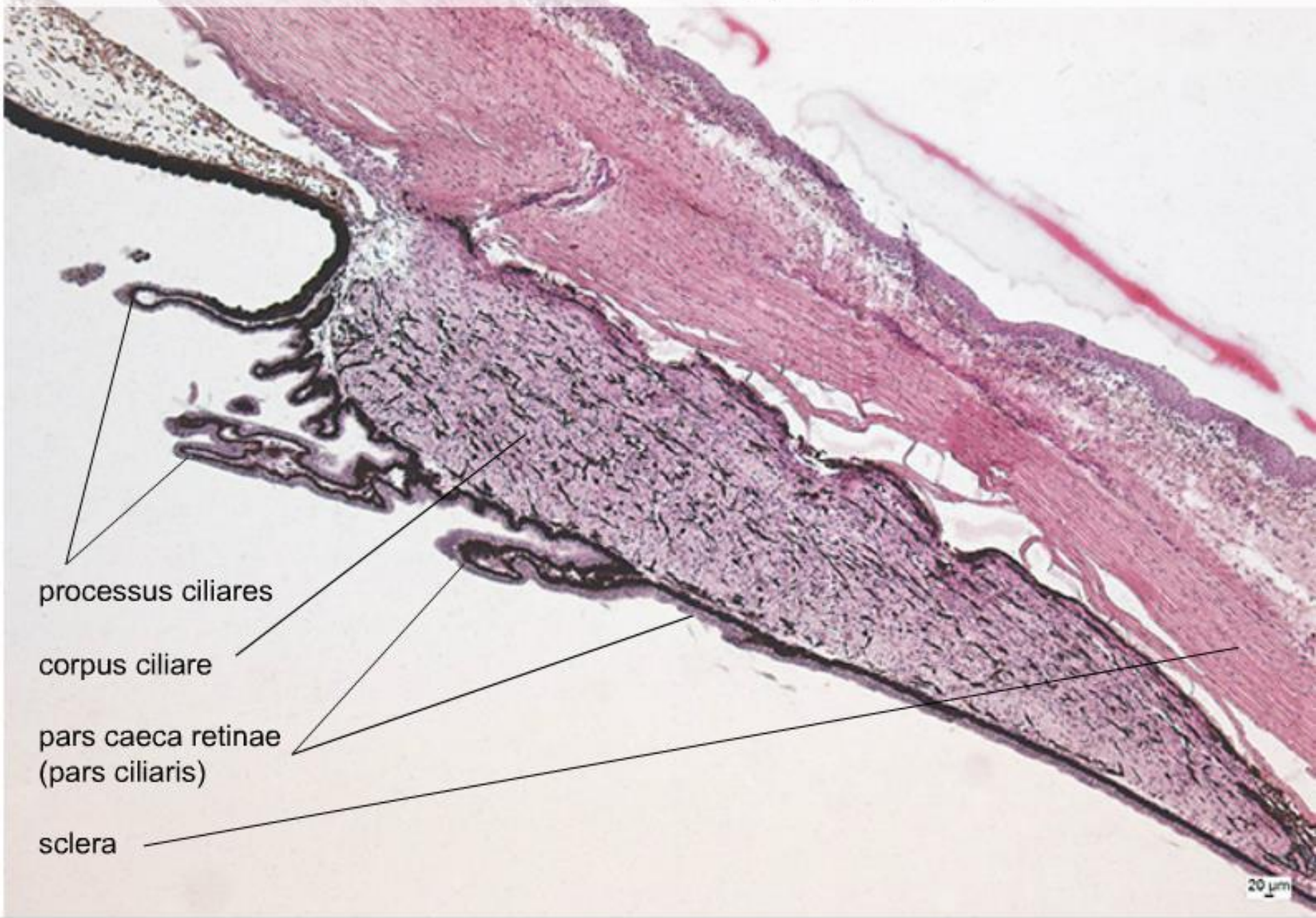


Přední segment oční – cornea, (HE), objektiv 10×





Přední segment oční – corpus ciliare, (impregnace), objektiv 5×



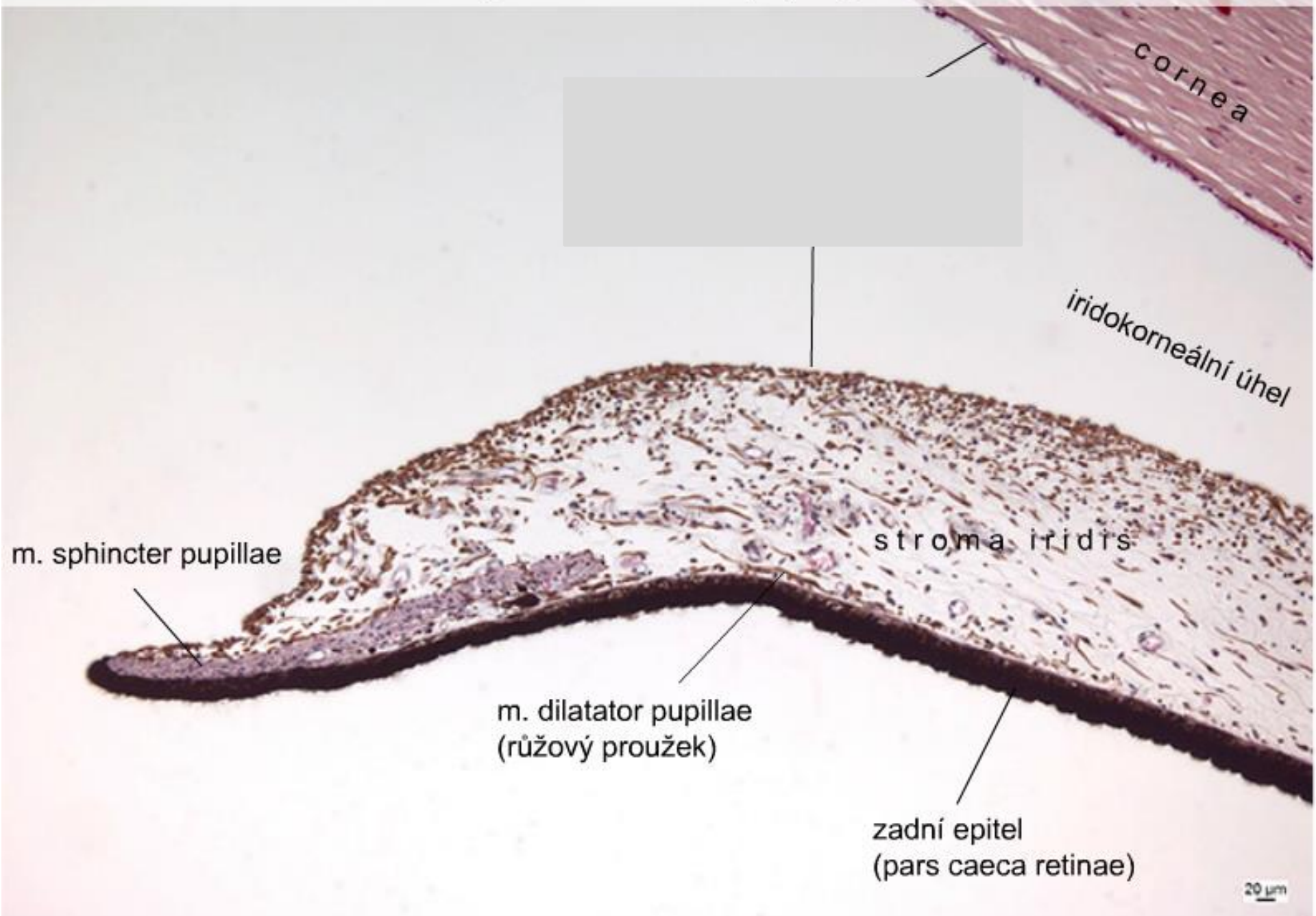
processus ciliares

corpus ciliare

pars caeca retinae  
(pars ciliaris)

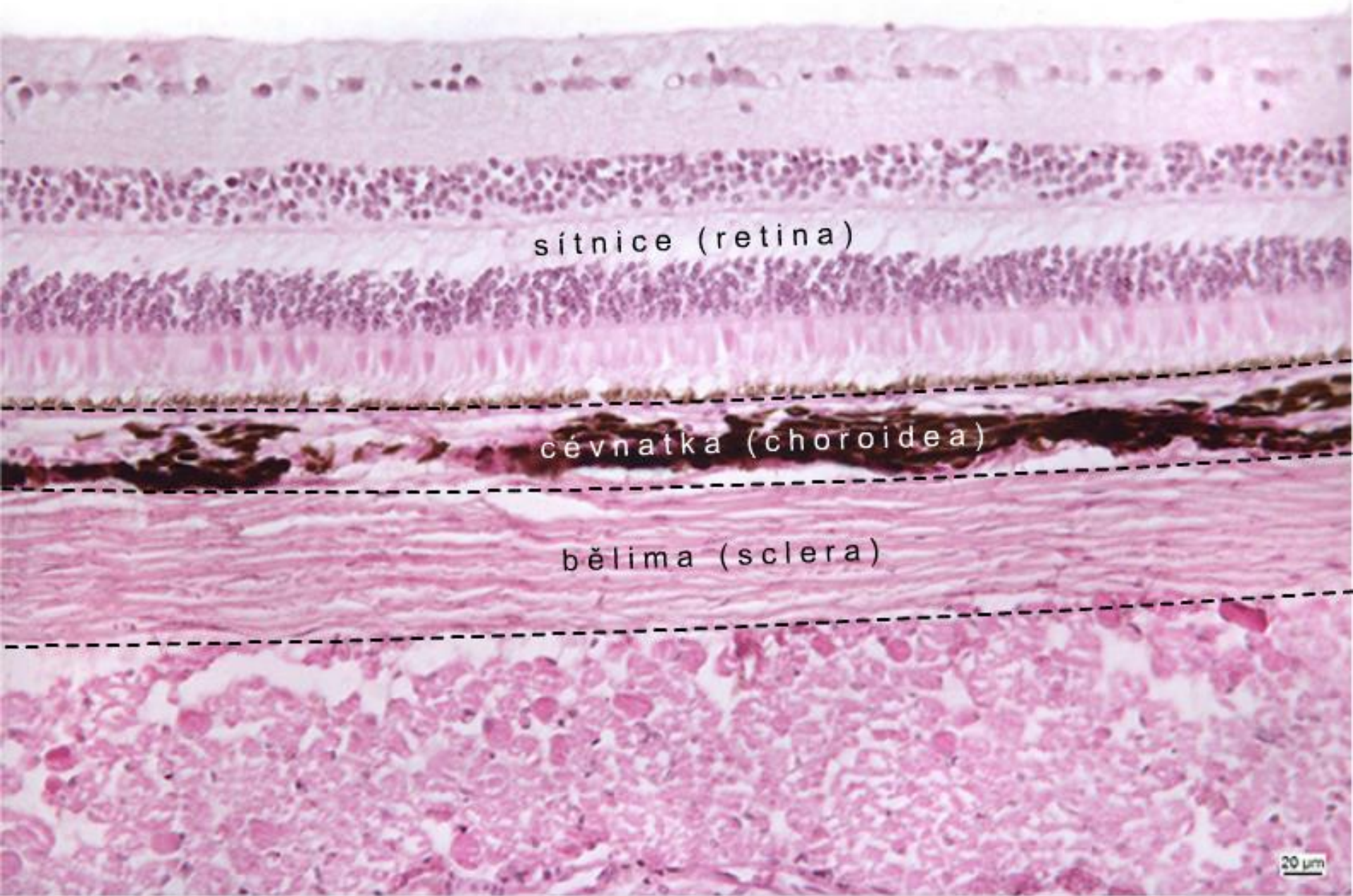
sclera

Přední segment oční – iris, (HE), objektiv 10×



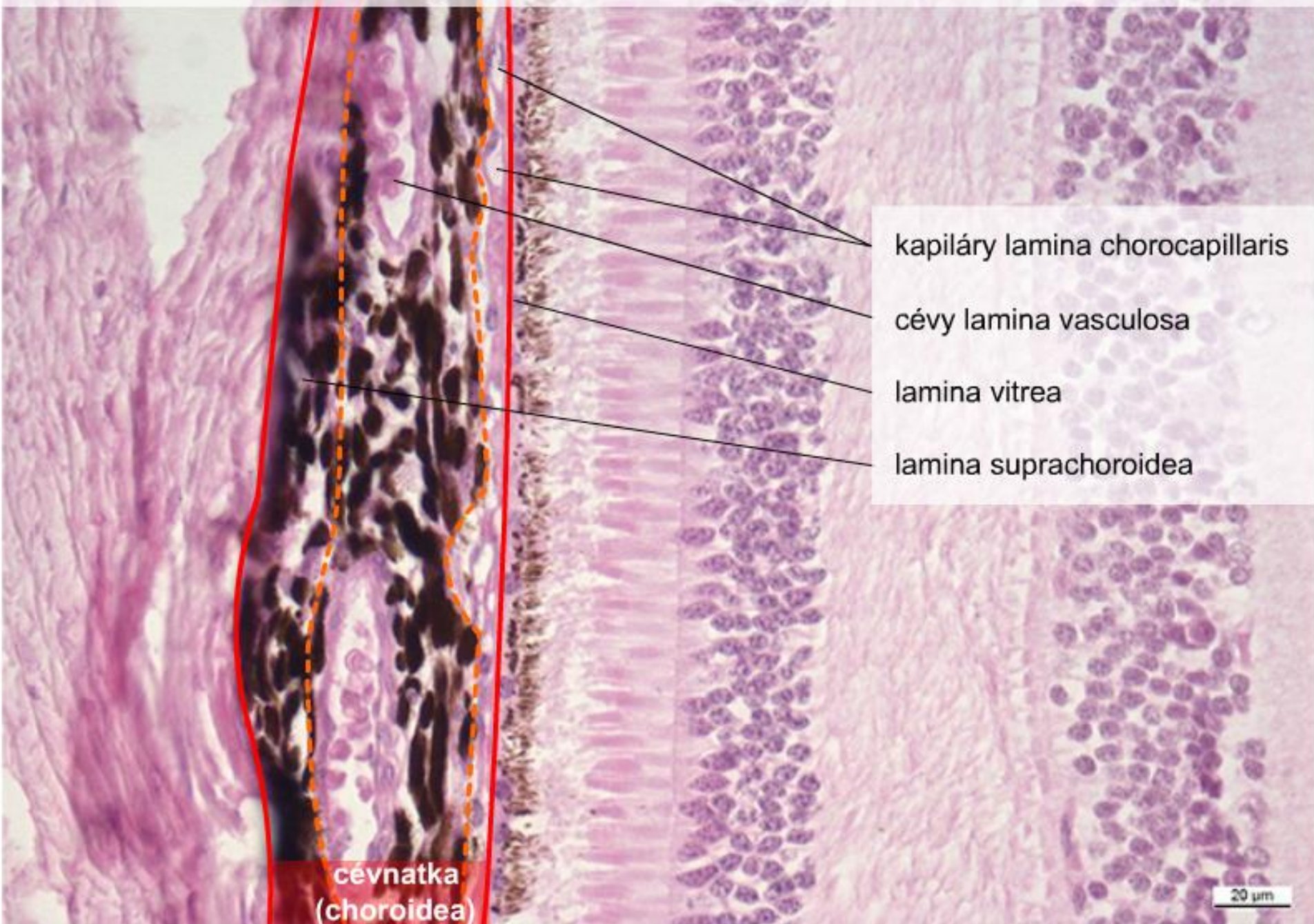


Zadní segment oční – přehled, (HE), objektiv 20×





Zadní segment oční – choroidea, (HE), objektiv 40×



kapiláry lamina chorocapillaris

cévy lamina vasculosa

lamina vitrea

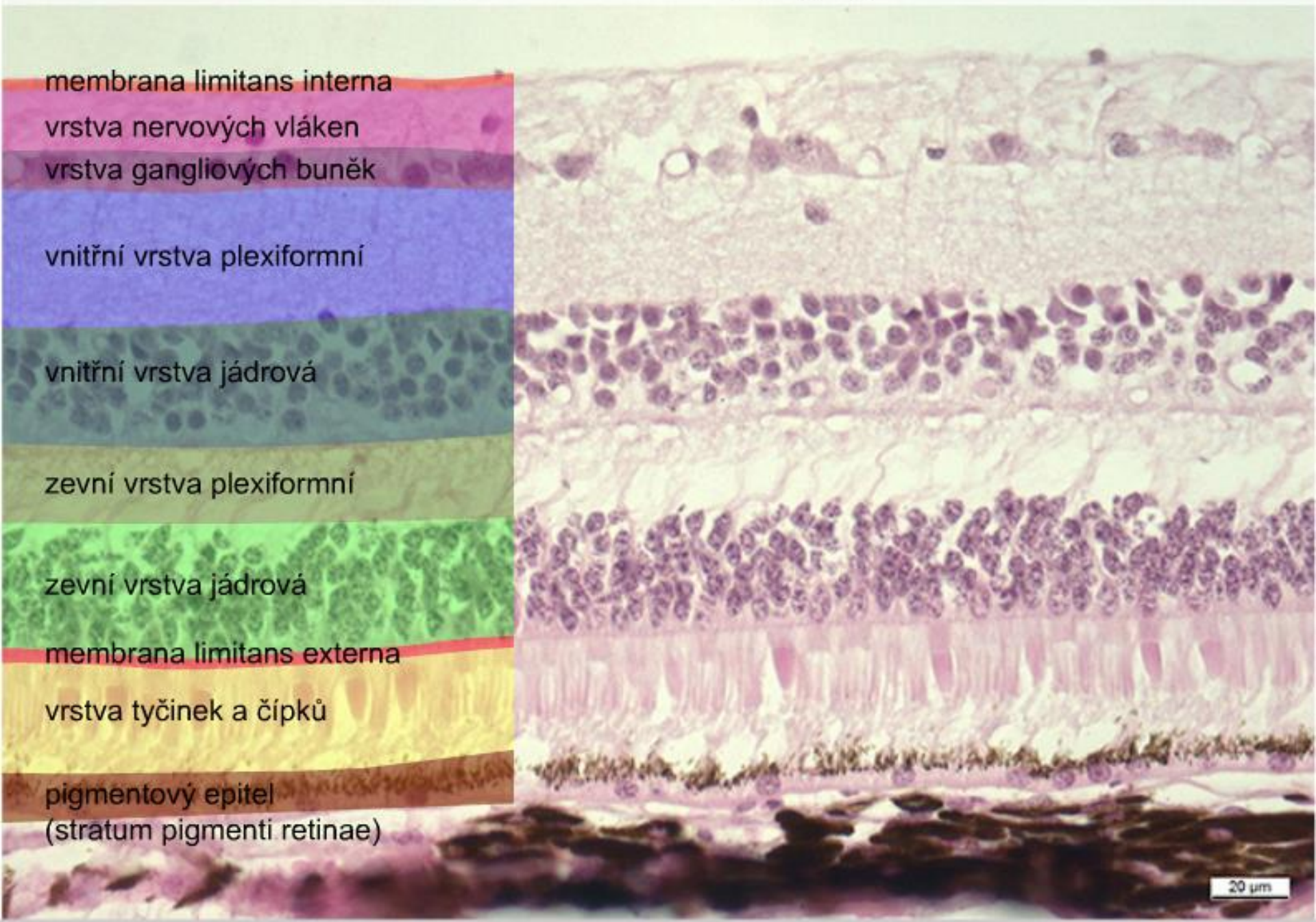
lamina suprachoroidea

cévnatka  
(choroidea)

20 μm

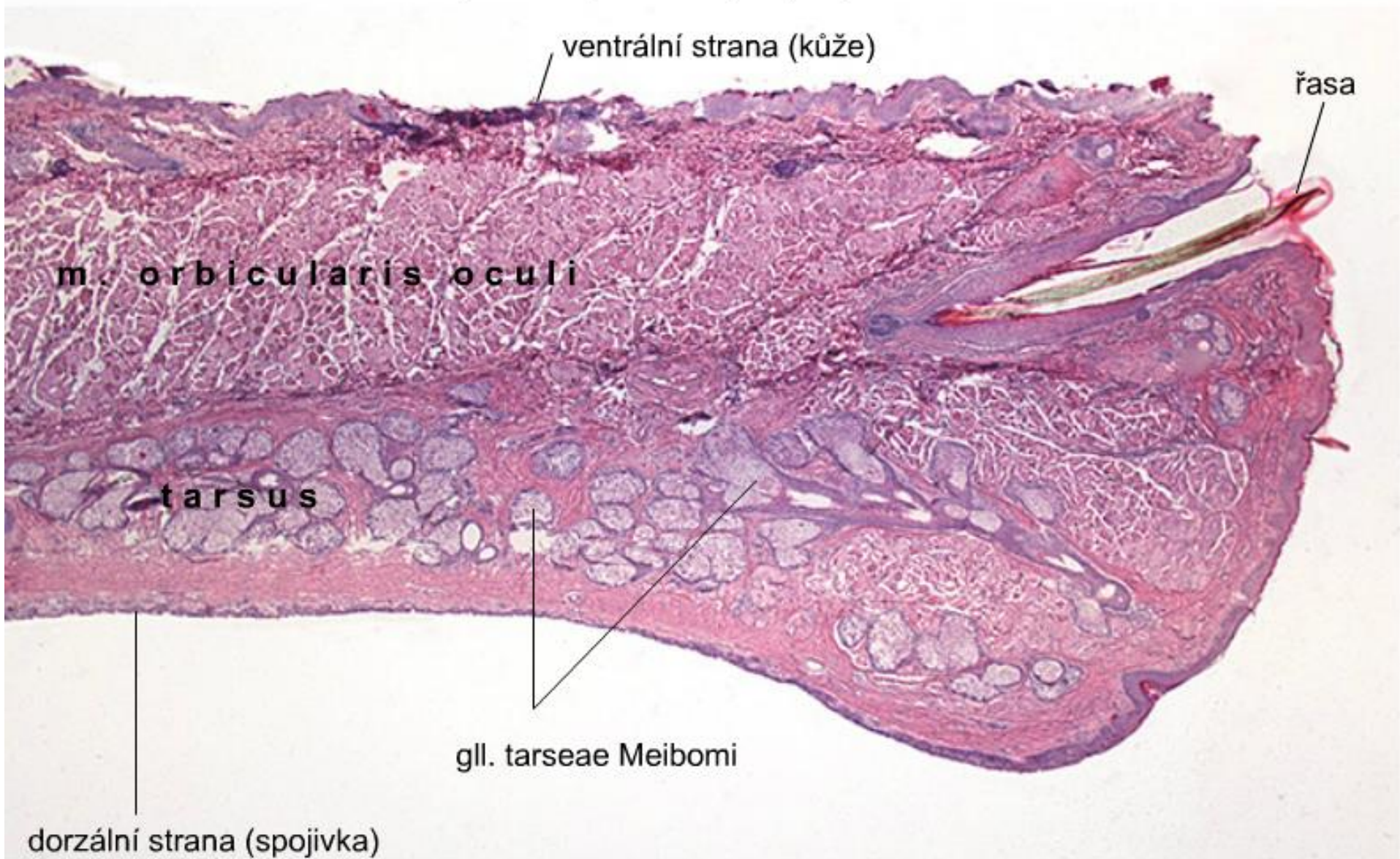


# Zadní segment oční – retina, (HE), objektiv 40×



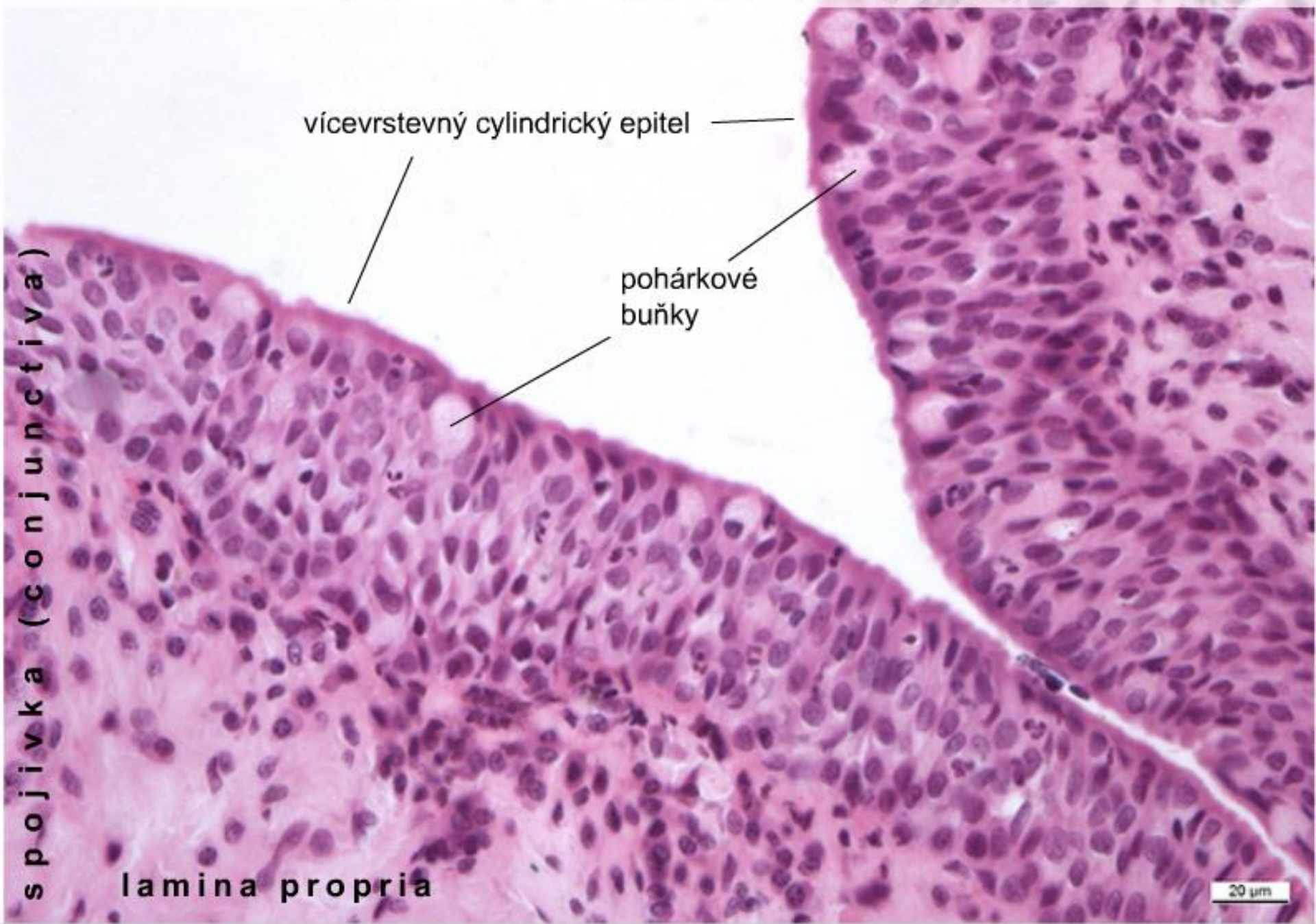


Palpebra – přehled, (HE), objektiv 2,5×





Vícevrstevný cylindrický epitel spojivky (Palpebra), (HE), objektiv 40×



vícevrstevný cylindrický epitel

pohárkové  
buňky

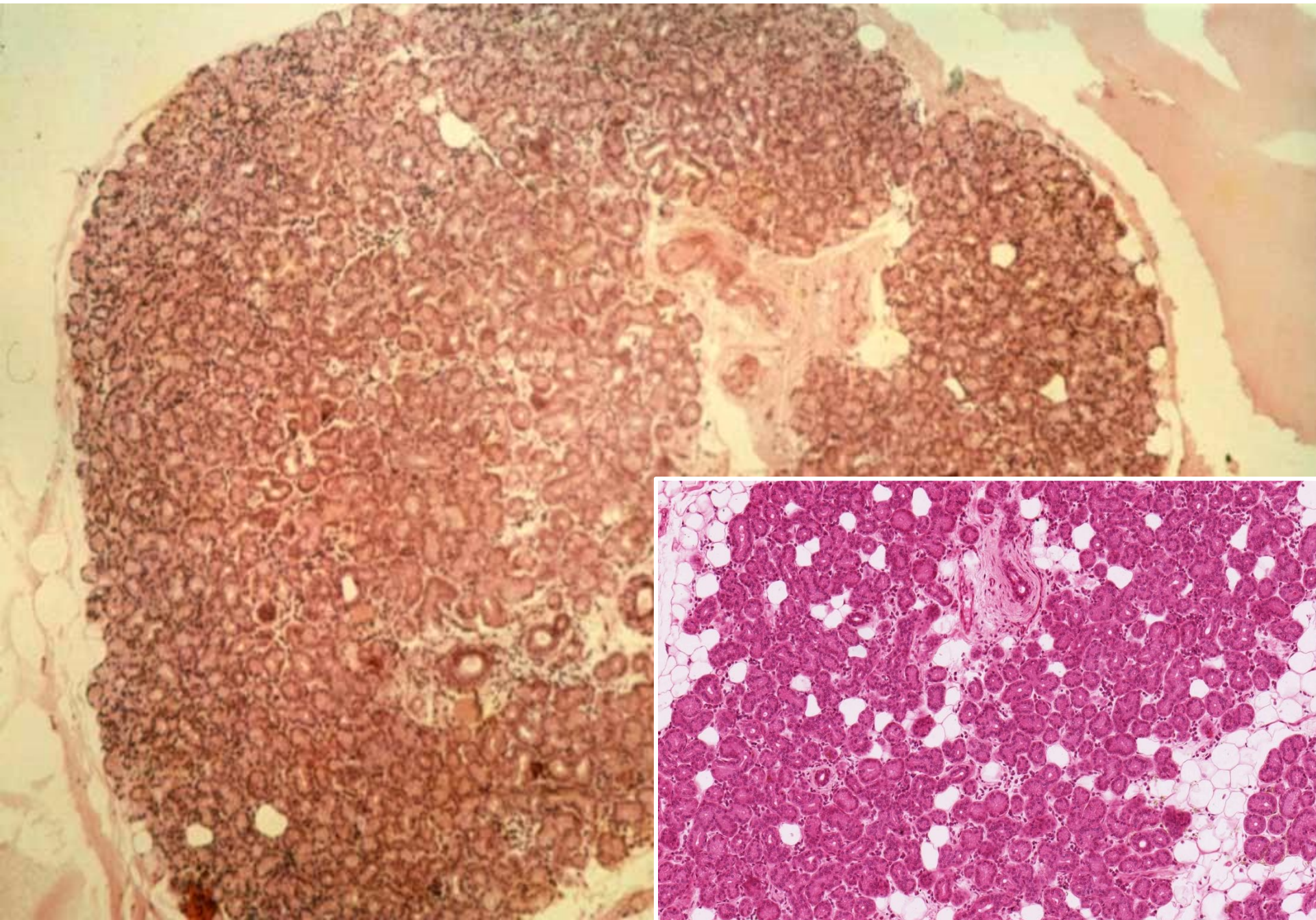
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lamina propria

20 μm



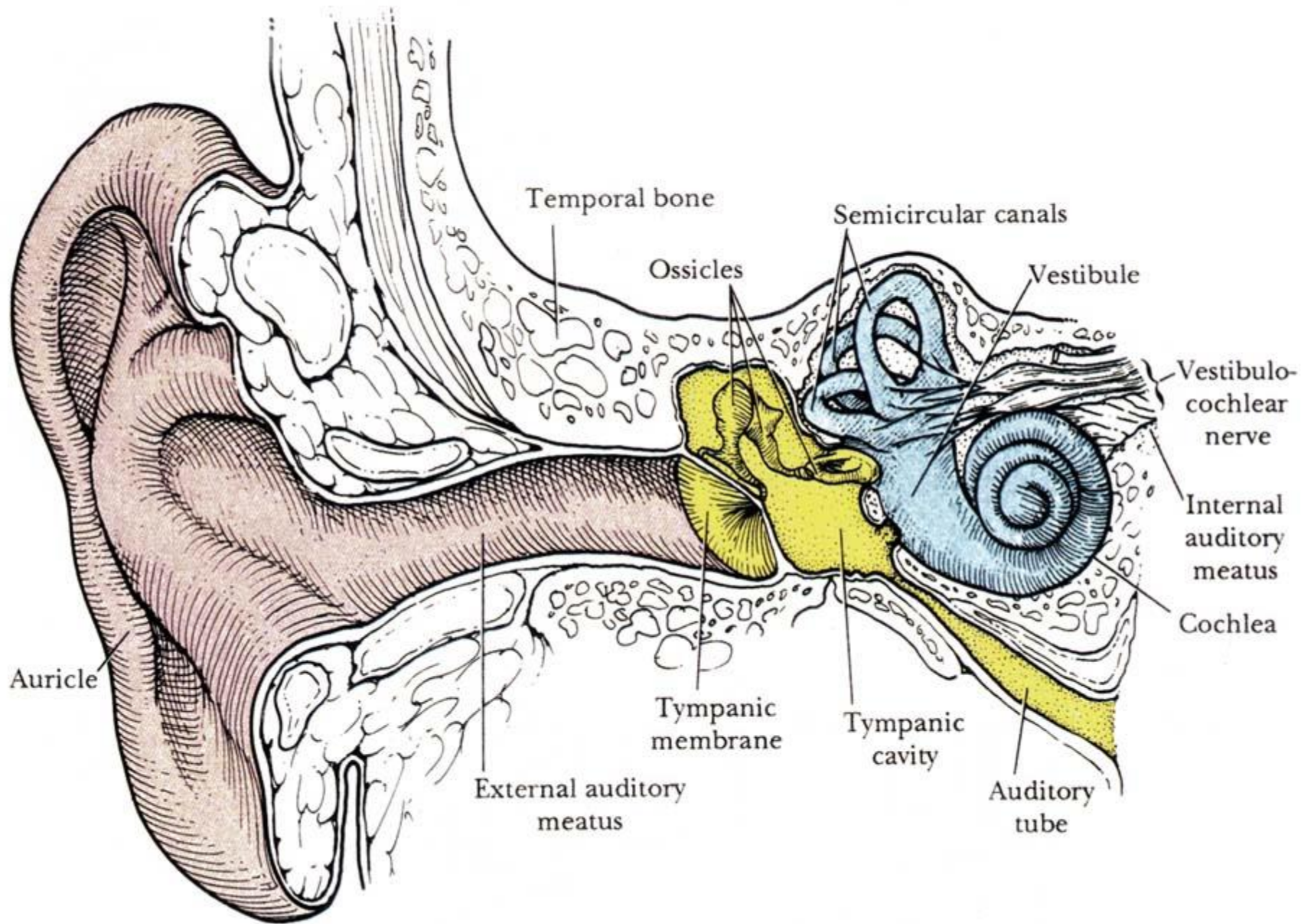
**Gl. lacrimalis**





# Orgán sluchu a rovnováhy

- Zevní ucho
  - boltec (*auricula*)
  - zevní zvukovod (*meatus acusticus ext.*)
  - bubínek (*membrana tympani*)
- Střední ucho — bubínková dutina (*cavum tympani*)
- Vnitřní ucho
  - sacculus – *macula sacculi*
  - utricleus – *macula utriculi*
  - ductus semicirculares – *cristae ampullares*
  - ductus cochlearis – *organon Corti*





# Vnitřní ucho

(v pyramidě ossis petrosus ossis temporalis)

## Kostěný labyrint

- 1) vestibulum
- 2) canales  
semicirculares
- 3) cochlea

## Blanitý labyrint

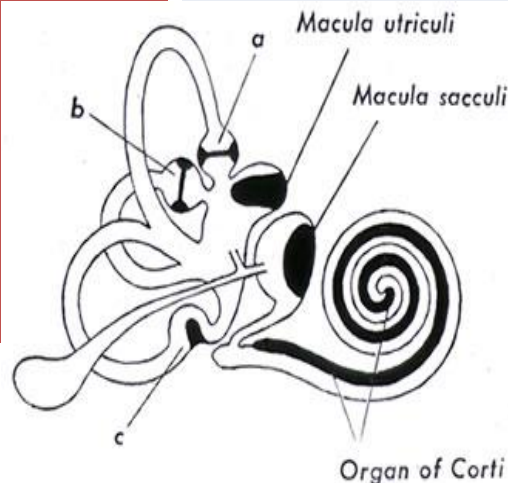
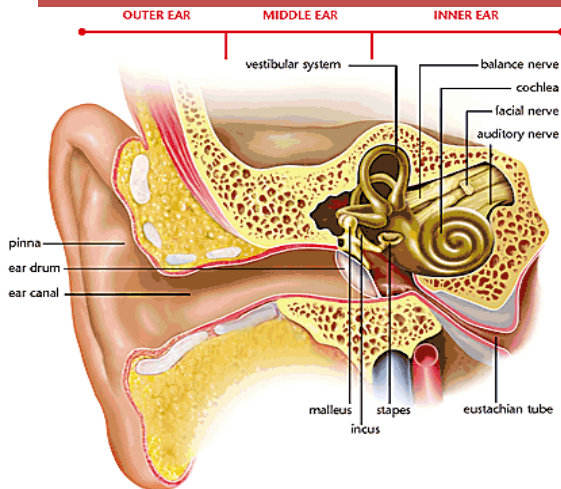
pars statica (1, 2)

pars akustica (3)

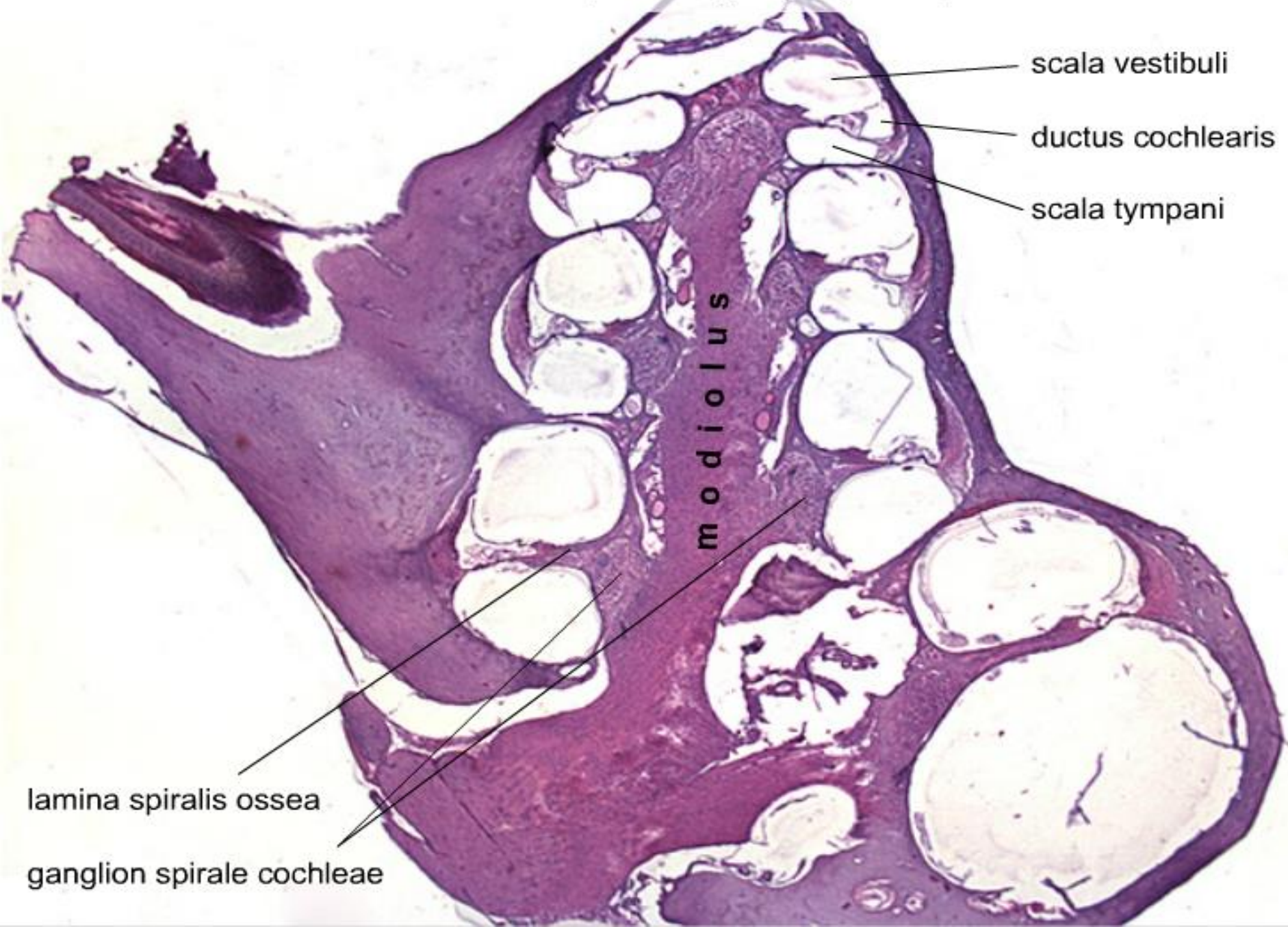
- 1) sacculus  
utriculus  
saccus endolymphaticus
- 2) ductus semicirculares
- 3) ductus cochlearis

endolymfa

perilymfatický  
prostor  
*spatium  
perilymphaceum*



Cochlea – přehled, (HE), objektiv 2,5×



scala vestibuli

ductus cochlearis

scala tympani

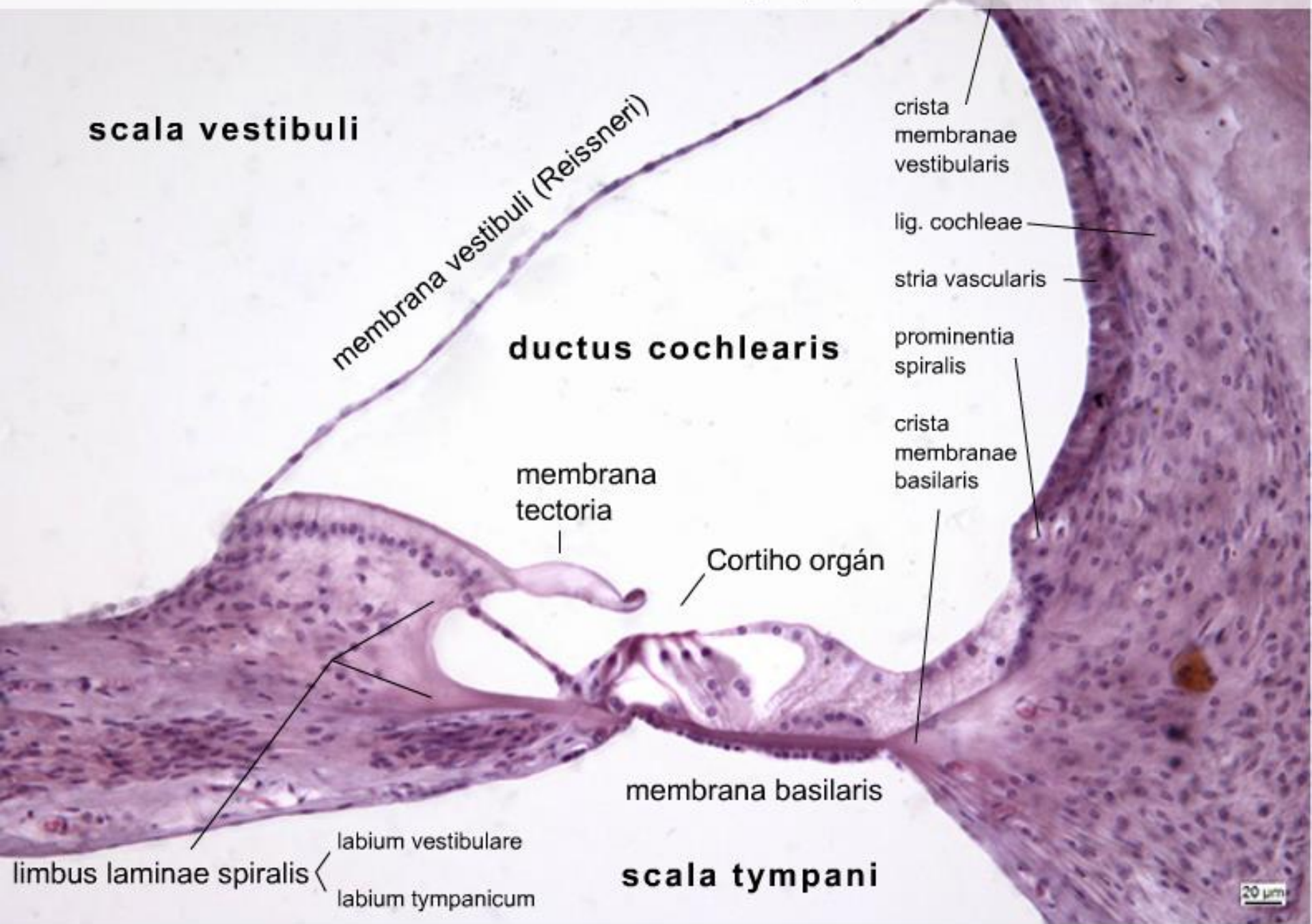
**m o d i o l u s**

lamina spiralis ossea

ganglion spirale cochleae



Cochlea – ductus cochlearis, (HE), objektiv 20×



**scala vestibuli**

membrana vestibuli (Reissneri)

**ductus cochlearis**

crista  
membranae  
vestibularis

lig. cochleae

stria vascularis

prominentia  
spiralis

crista  
membranae  
basilaris

membrana  
tectoria

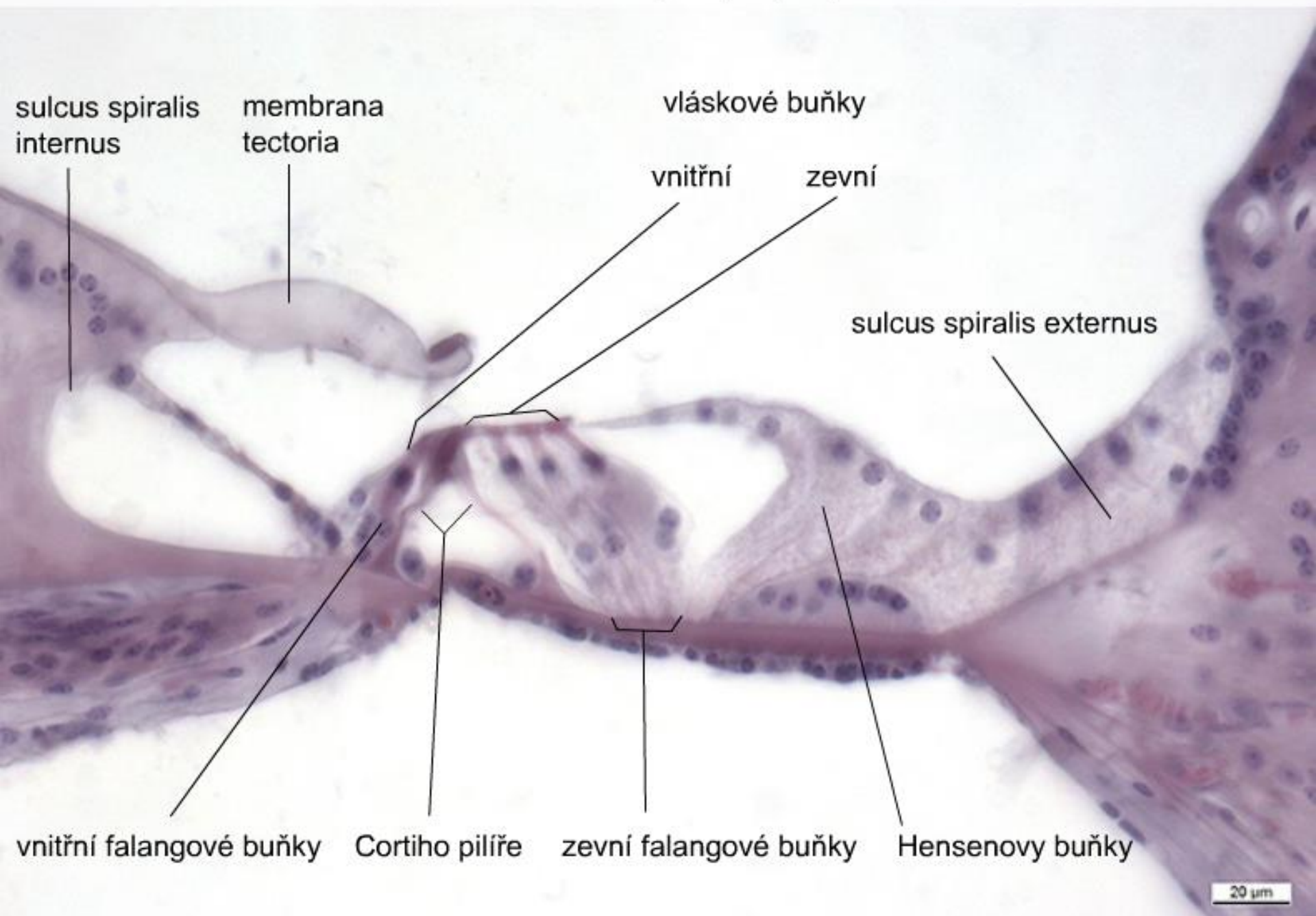
Cortiho orgán

membrana basilaris

**scala tympani**

limbus laminae spiralis  $\left\{ \begin{array}{l} \text{labium vestibulare} \\ \text{labium tympanicum} \end{array} \right.$

Cochlea – Cortiho orgán, (HE), objektiv 40×





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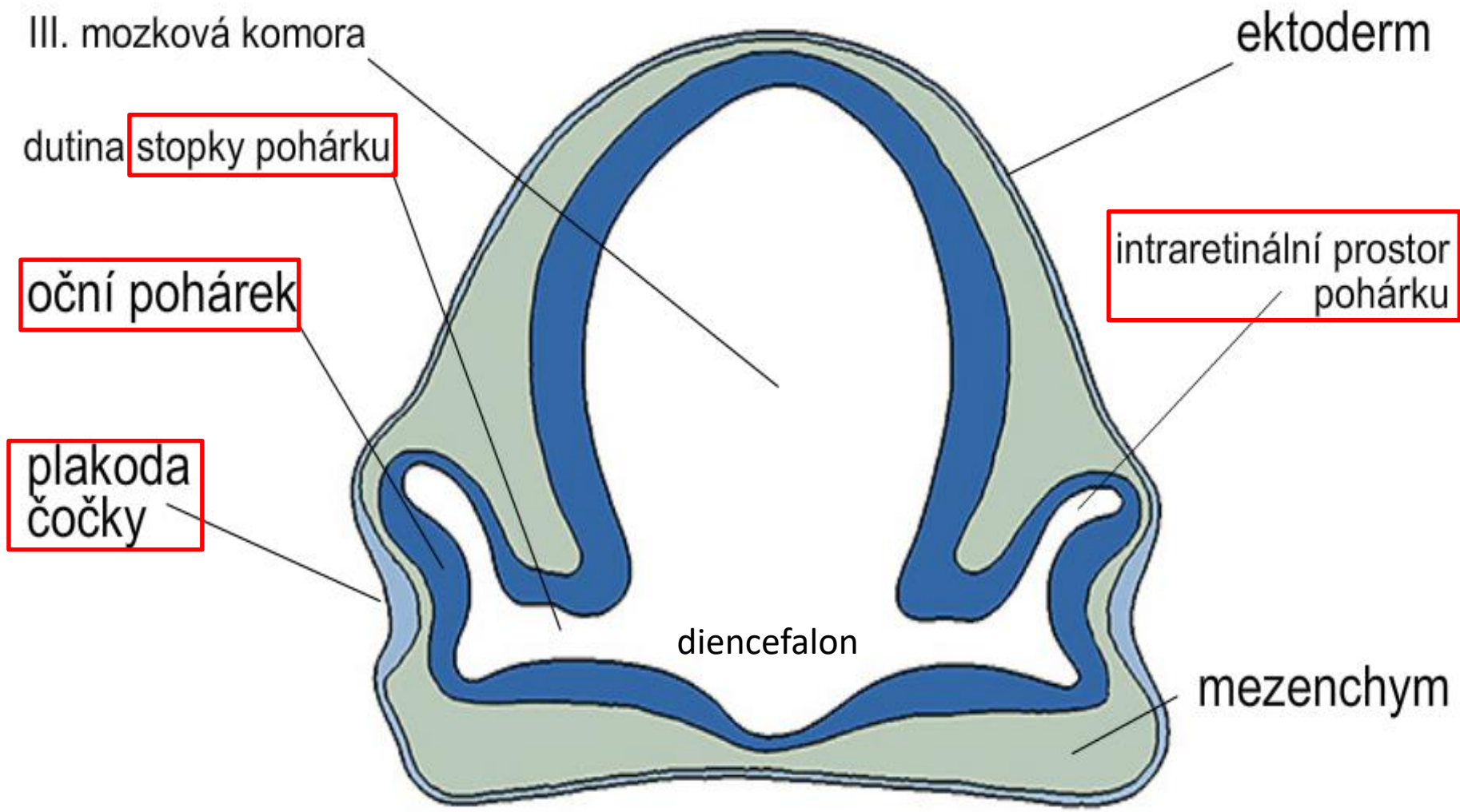
# SMYSLOVÉ ORGÁNY



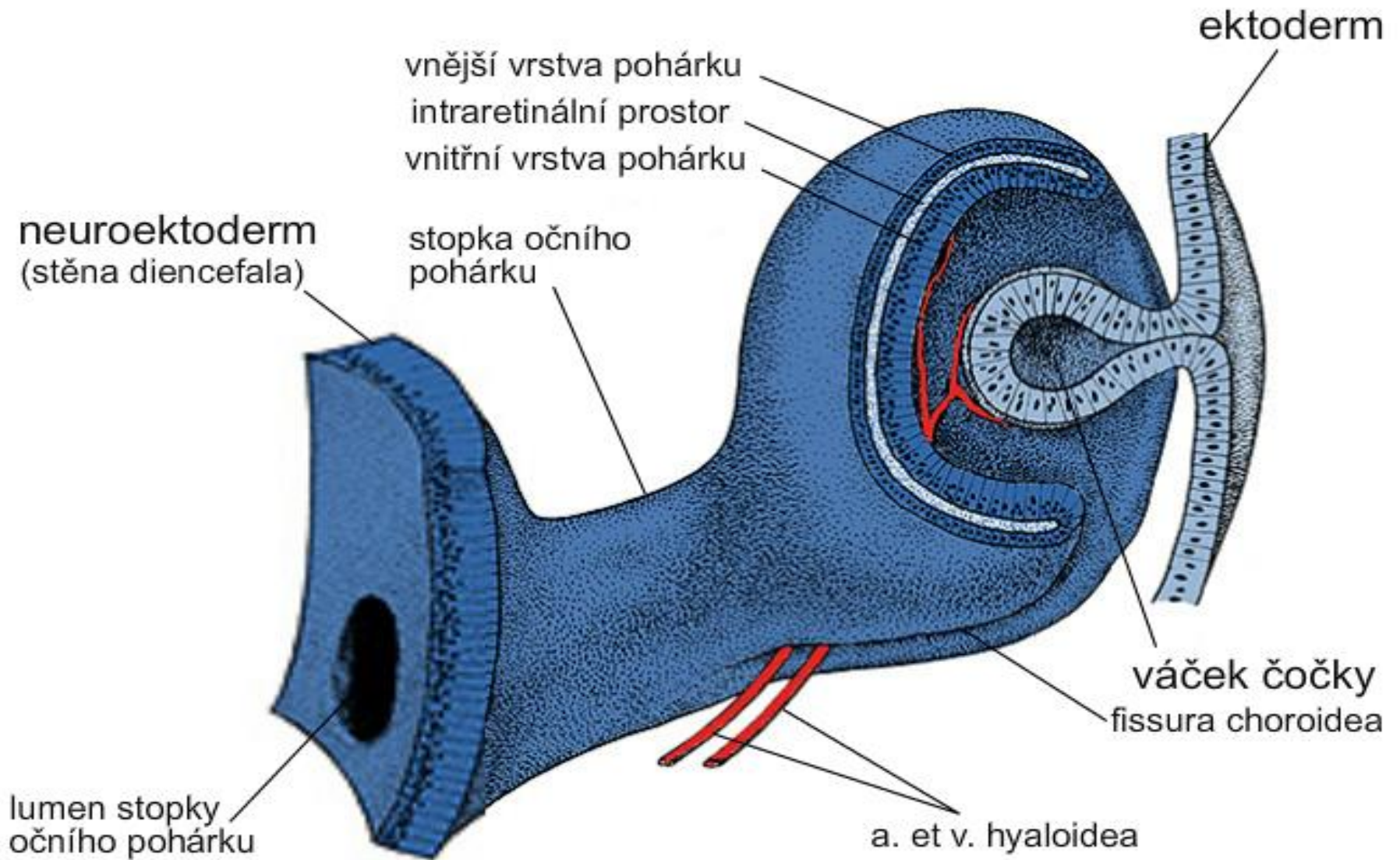
## Preparáty:

- 88. Přední segment oční
- 89. Zadní segment oční
- 90. Fasciculus opticus
- 91. Palpebra
- 92. Gl. lacrimalis
- 93. Ductus cochlearis
- 94. Auricula





# Vývoj očního pohárku a čočky





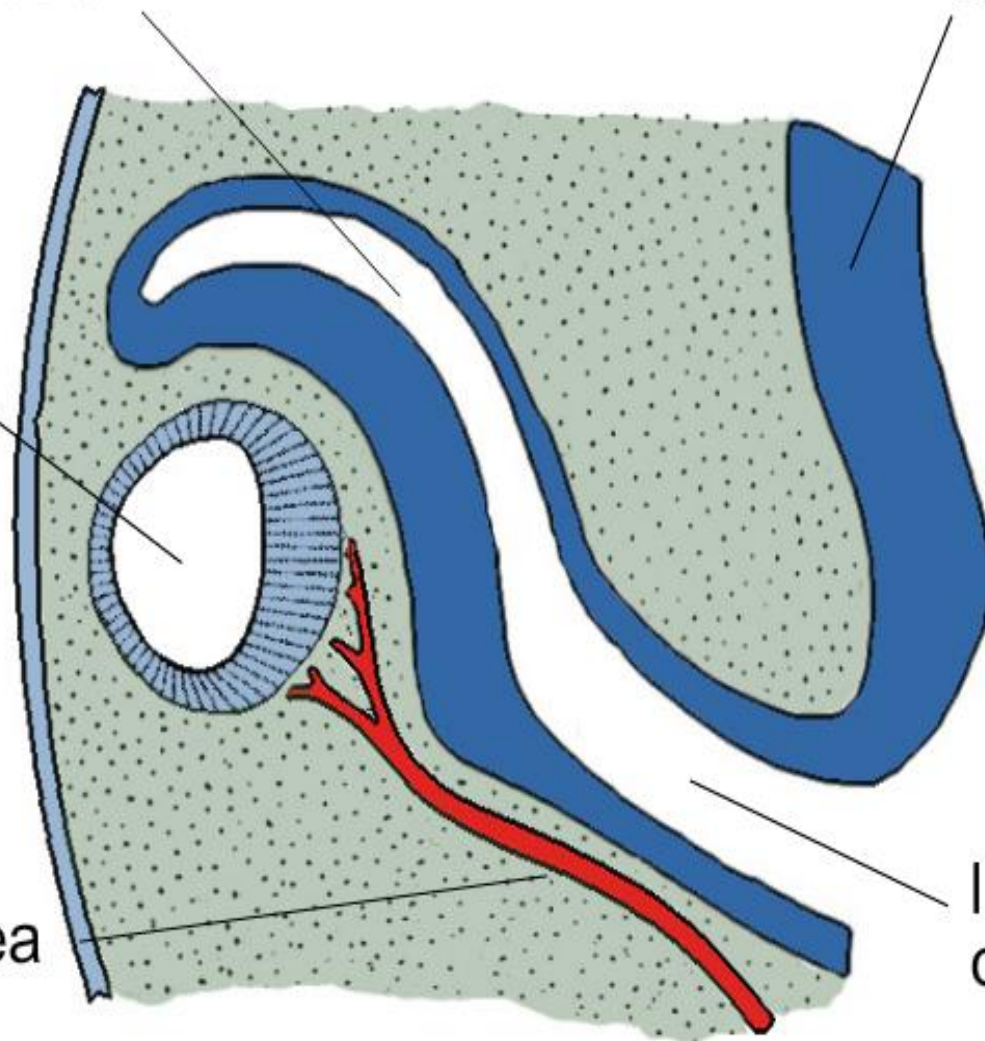
intraretinální prostor

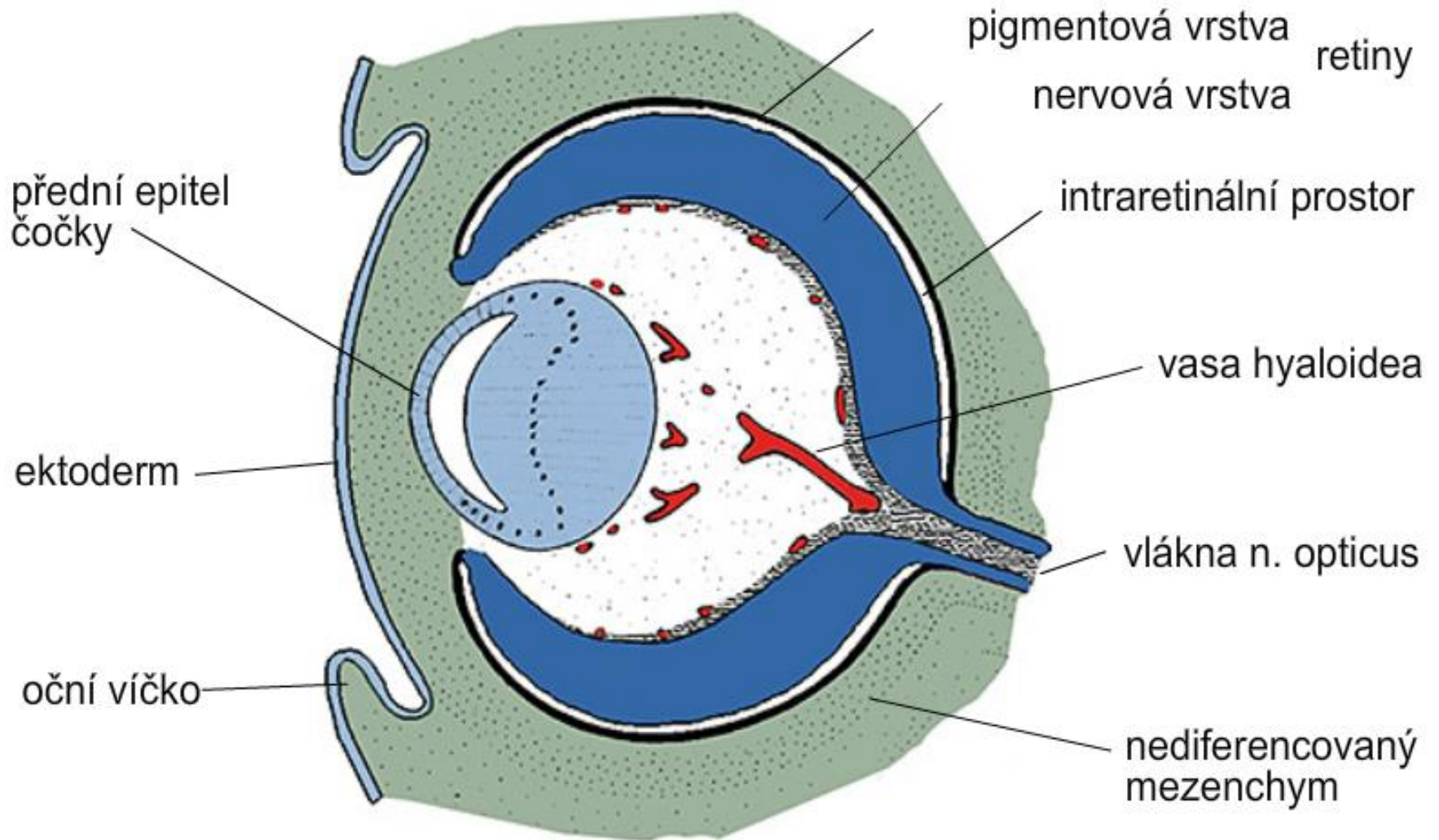
stěna diencefala

váček čočky

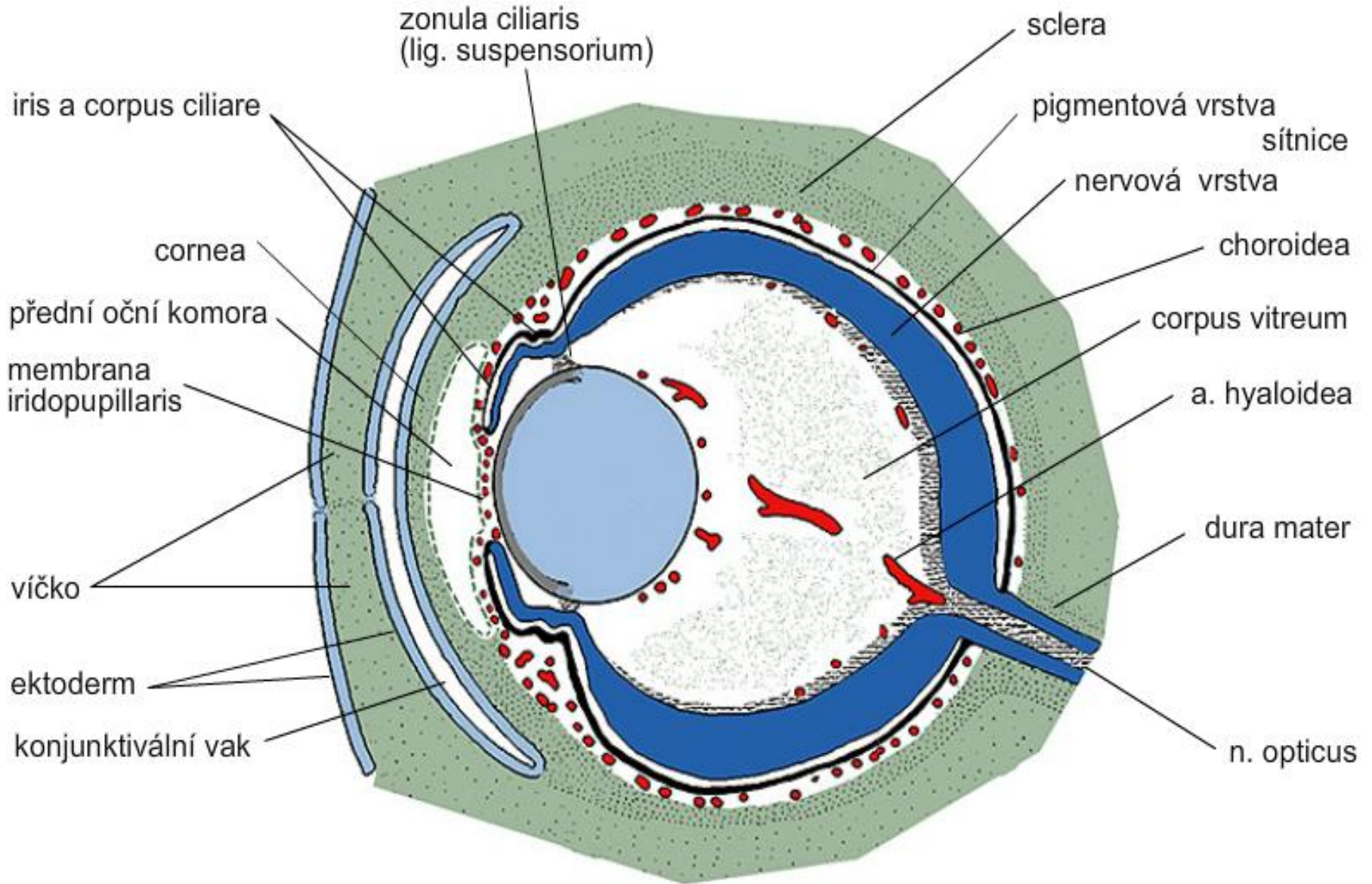
arteria hyaloidea

lumen stopky  
očního pohárku

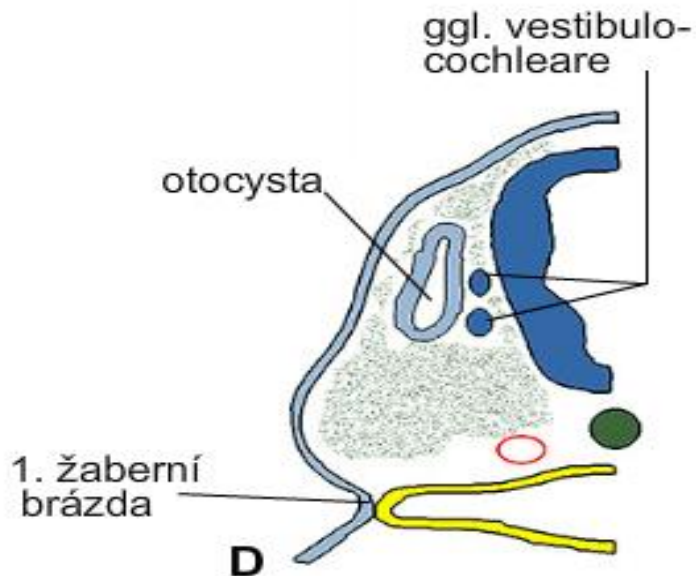
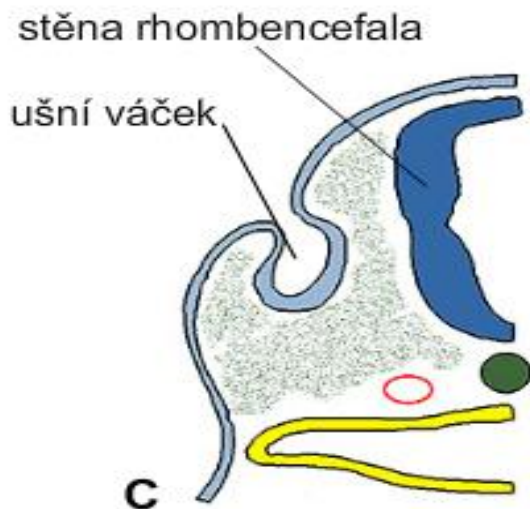
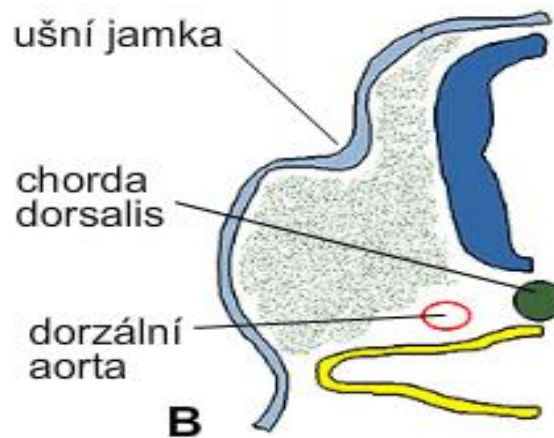
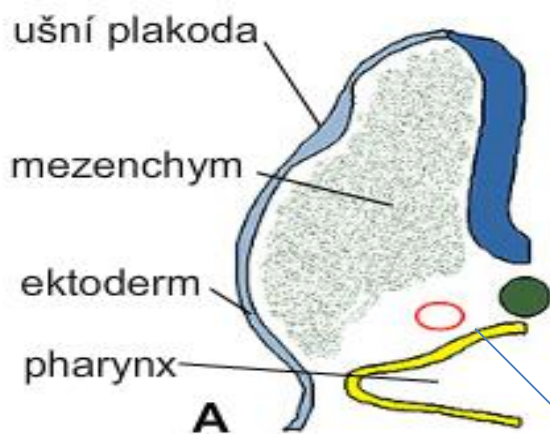






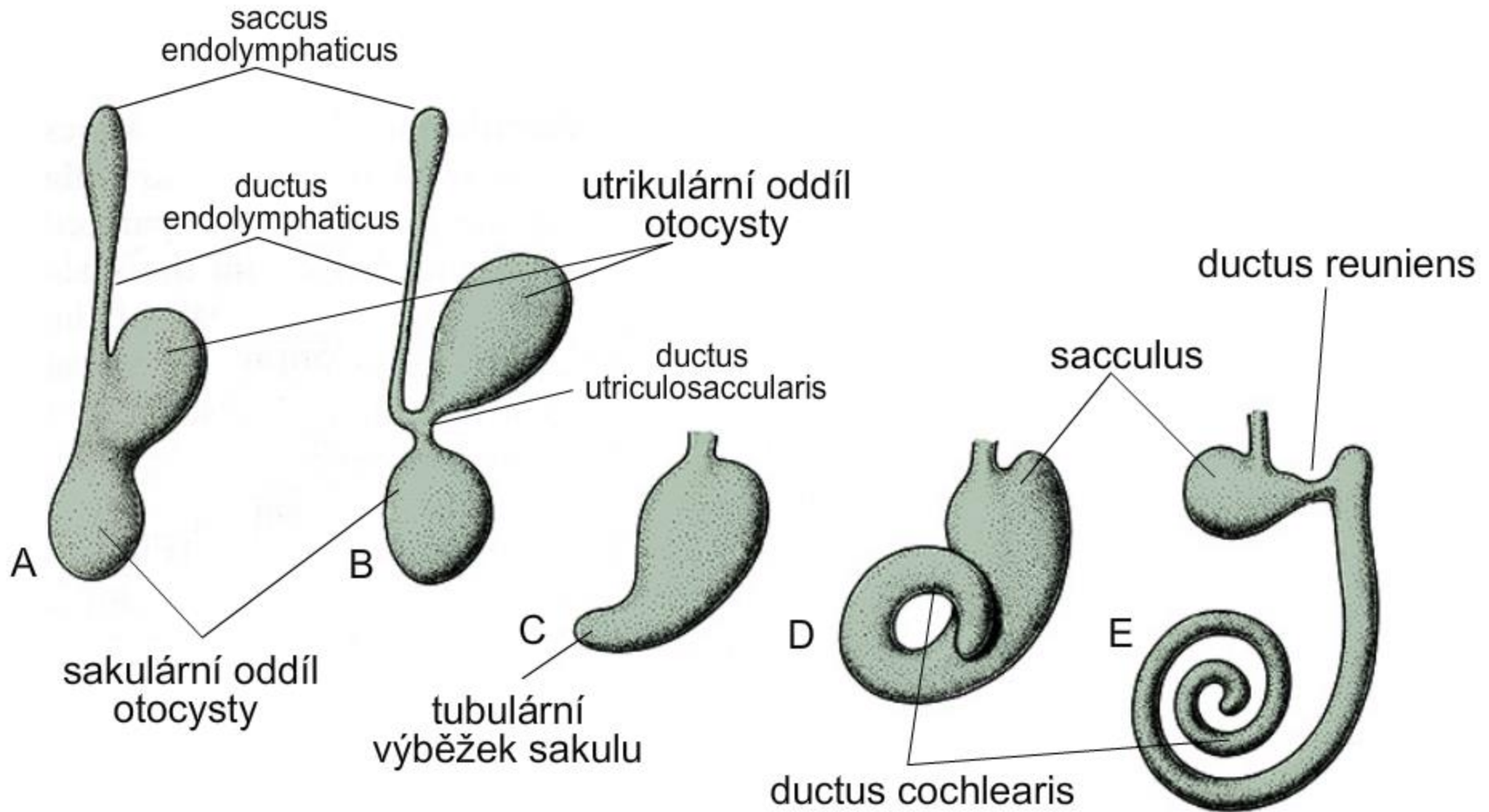


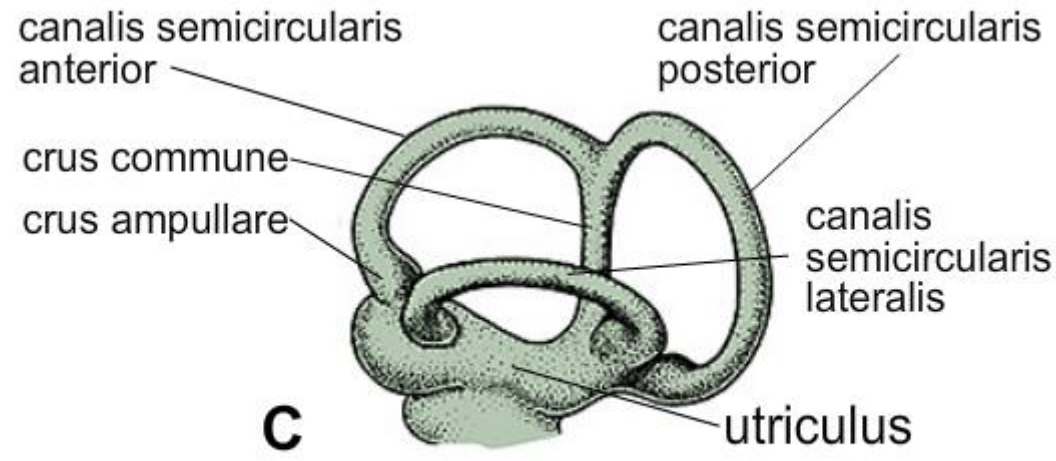
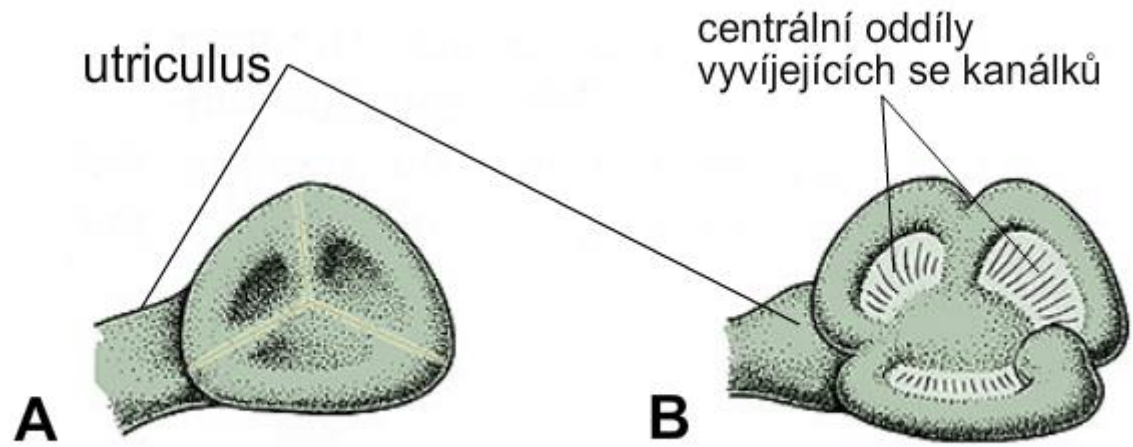
# Vývoj zevního, středního a vnitřního ucha



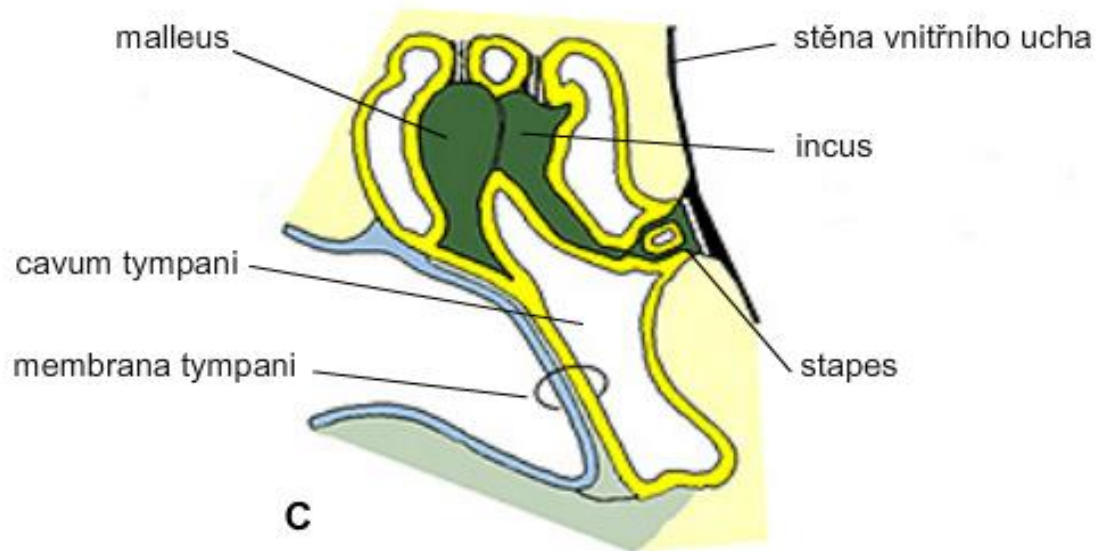
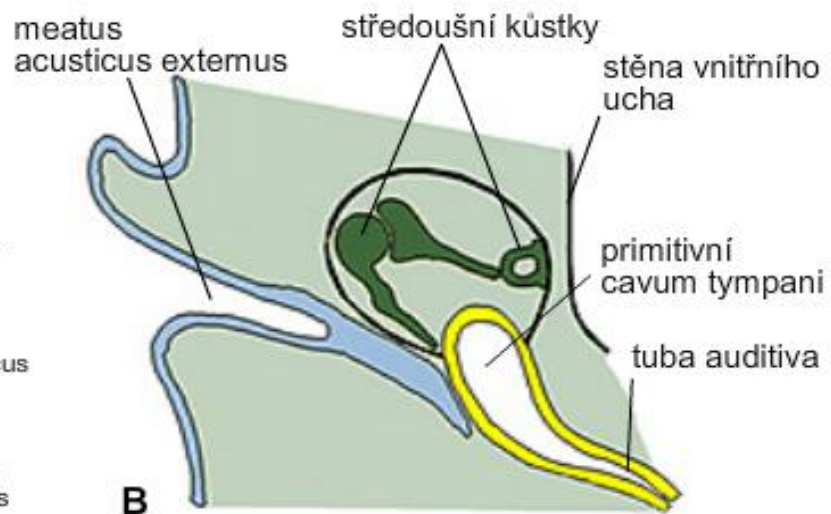
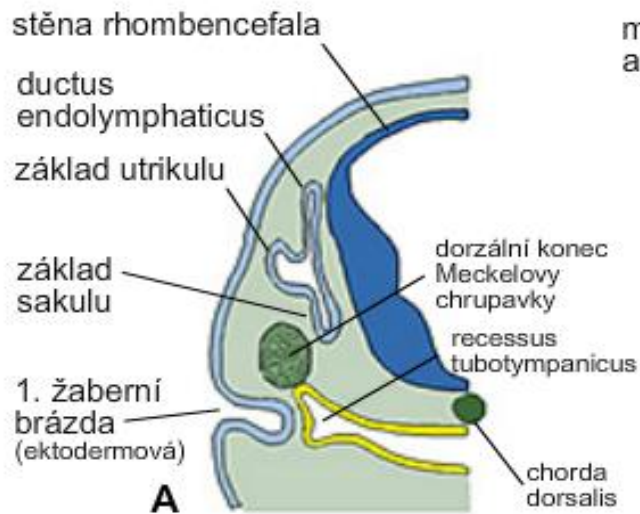


# Vývoj blanitého labyrintu









# Vývoj ušního boltce

