



SENSORY ORGANS

Organ of vision

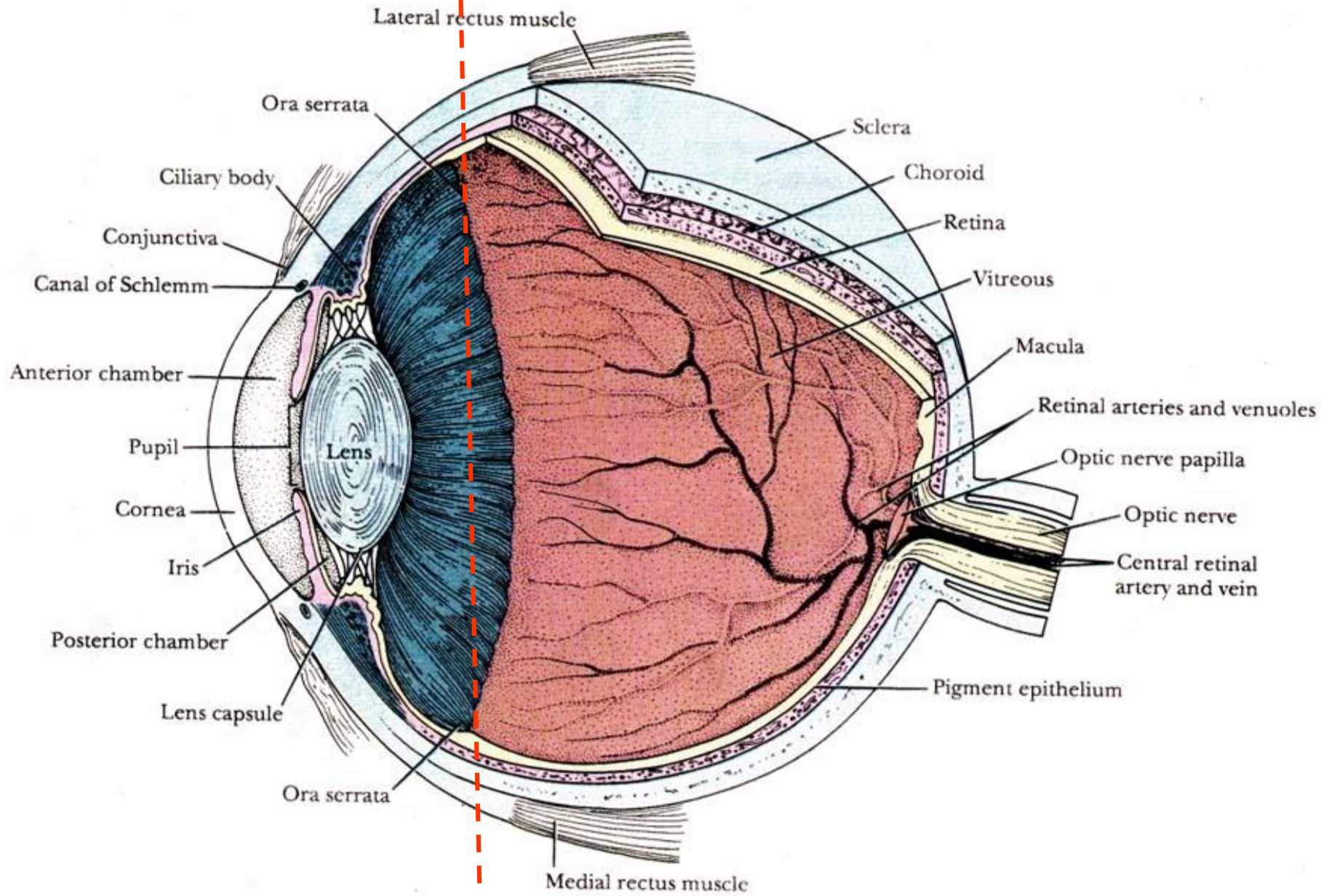
Organ of balance and hearing
and accessory organs

Organ of vision

- Eyeball (*bulbus oculi*)
 - anterior segment of eye
 - posterior segment of eye
- Eyelid (*palpebra*)
- Tear gland (*gl. lacrimalis*)

Anterior segment

Posterior segment



The wall of eyeball

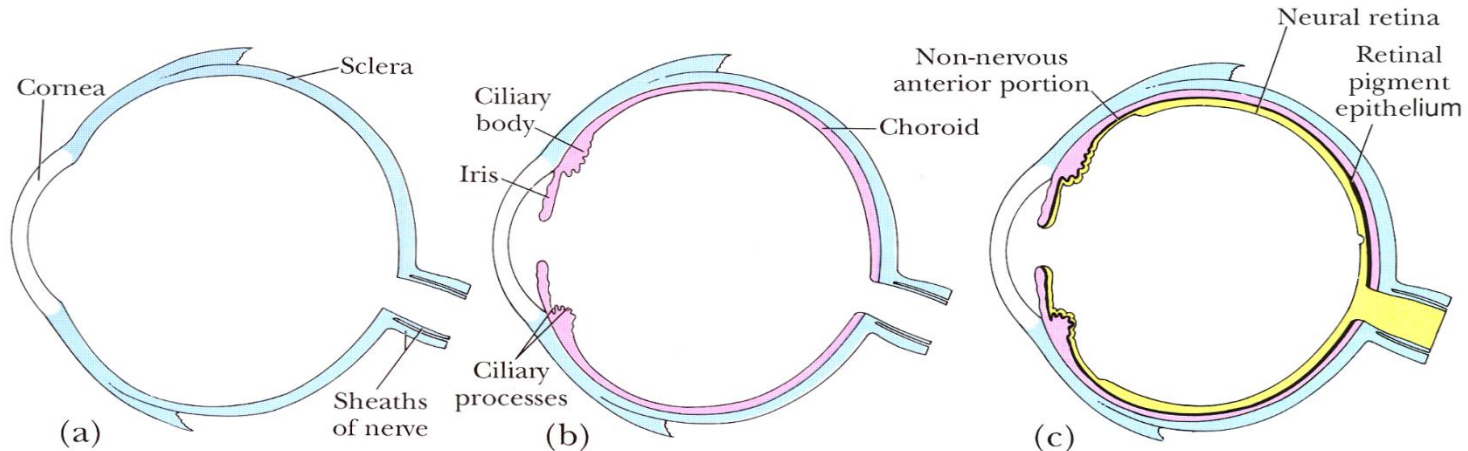
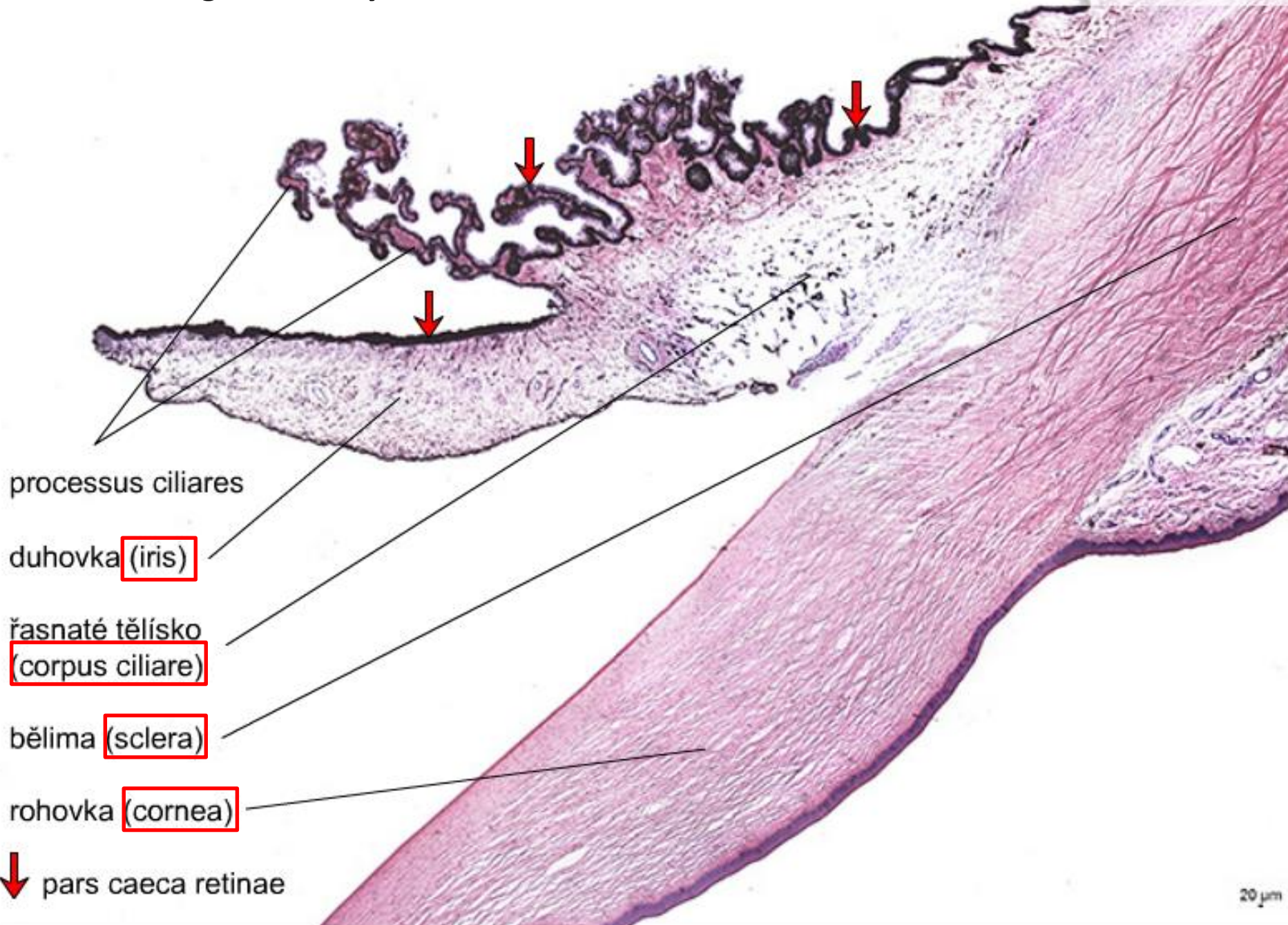


Figure 23.1. Schematic diagram of the layers of the eye. The layers are organized in three separate concentric layers: an outer supporting layer, the *corneoscleral*

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)
anterior segment	<i>cornea</i>	<i>iris</i> <i>corpus ciliare</i>	<i>pars caeca</i> <i>retinae</i>
posterior segment	<i>sclera</i>	<i>choroidea</i>	<i>pars optica</i> <i>retinae</i>

Anterior segment of eye



processus ciliares

duhovka (iris)

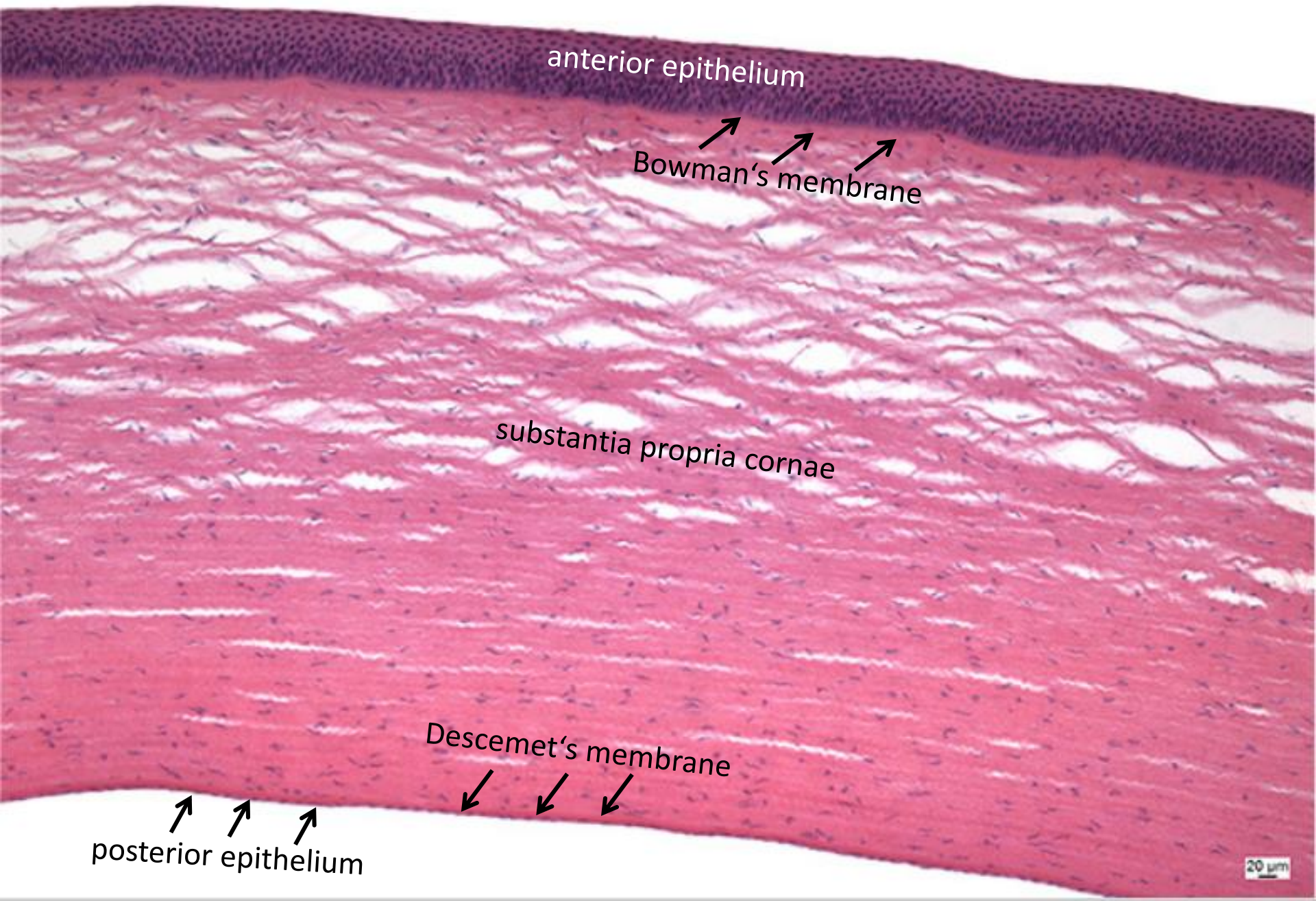
řasnaté tělísko
(corpus ciliare)

bělima (sclera)

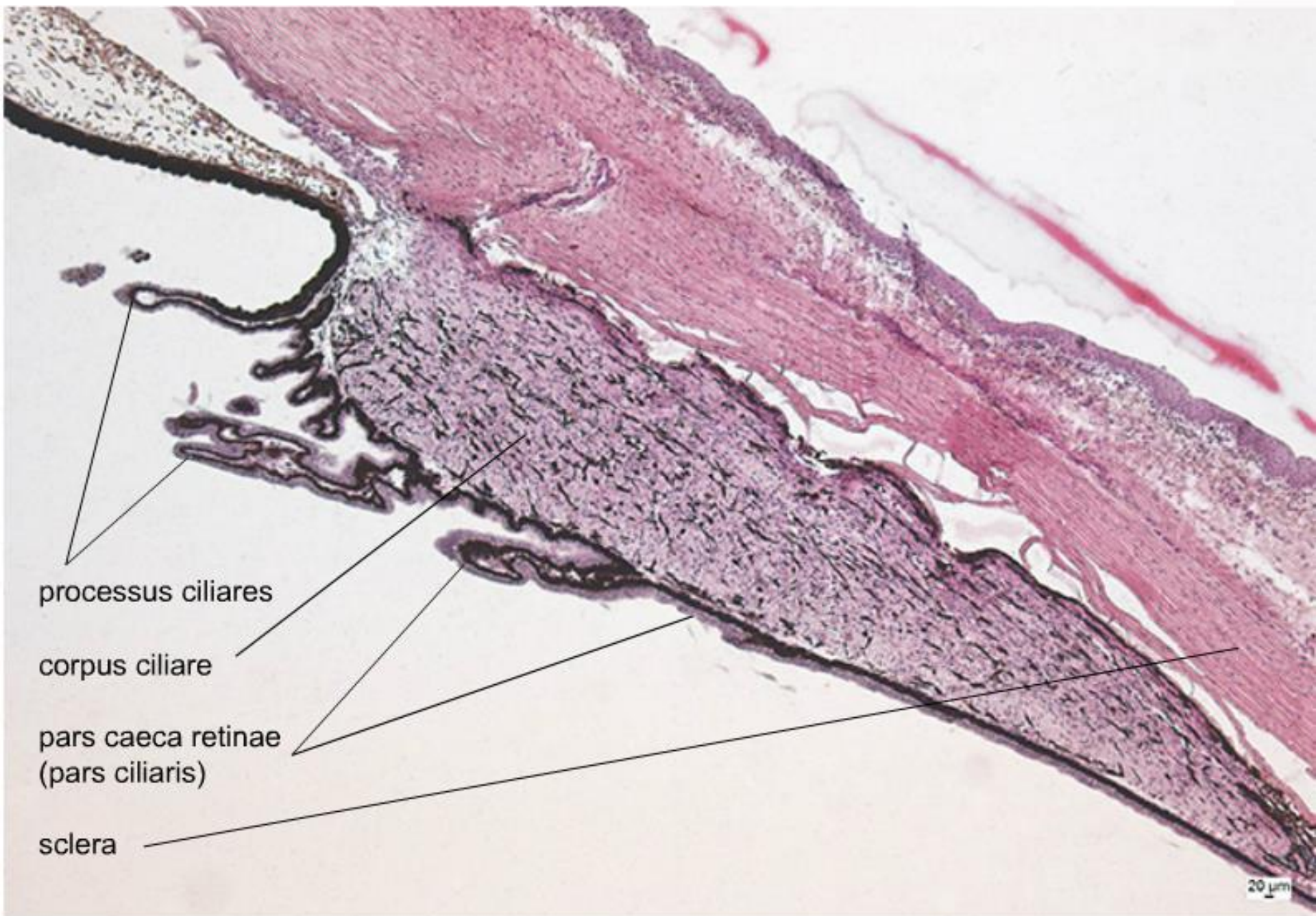
rohovka (cornea)

↓ pars caeca retinae

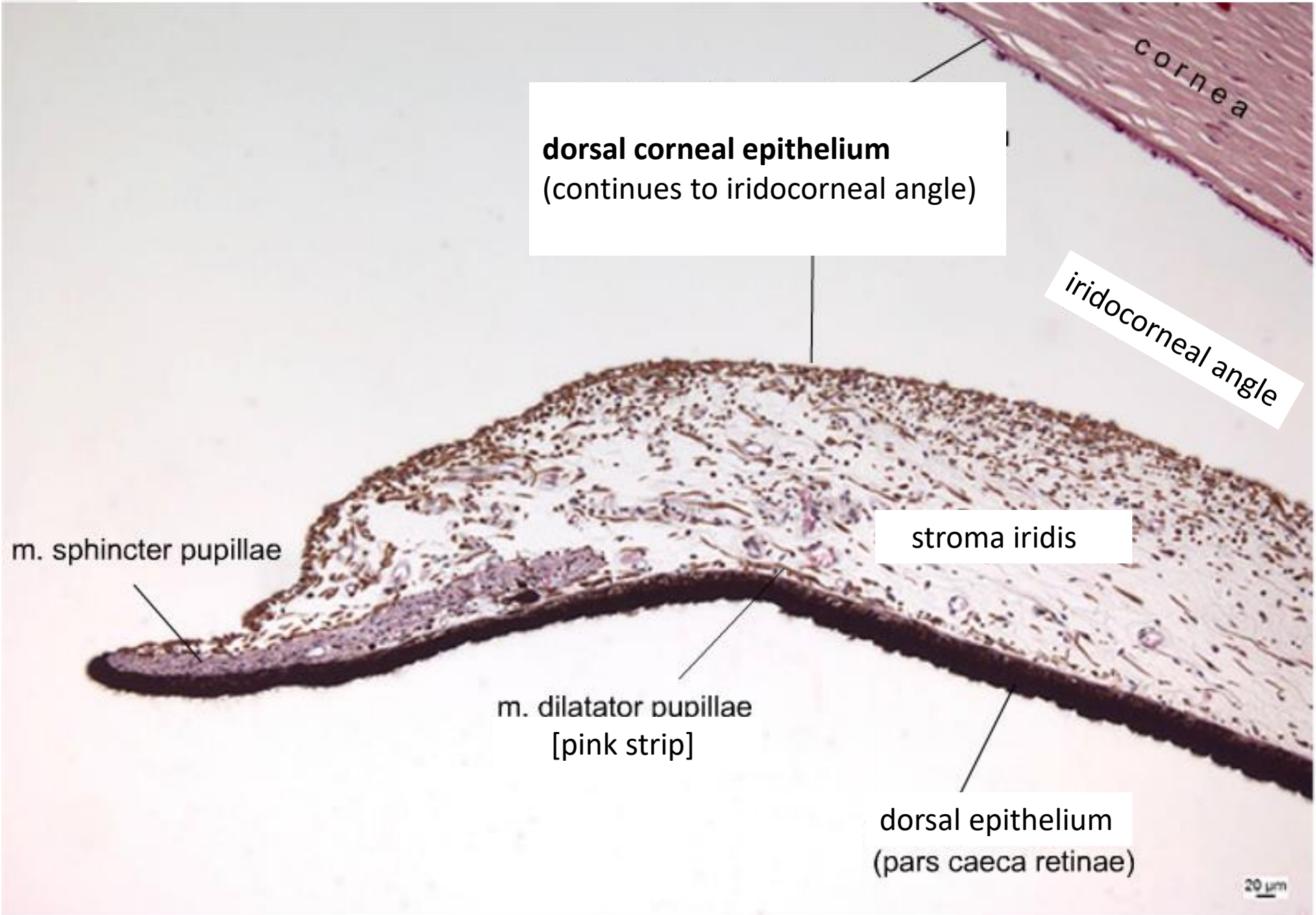
Anterior segment of eye – cornea



Anterior segment of eye – corpus ciliare



Anterior segment of eye – iris



dorsal corneal epithelium
(continues to iridocorneal angle)

iridocorneal angle

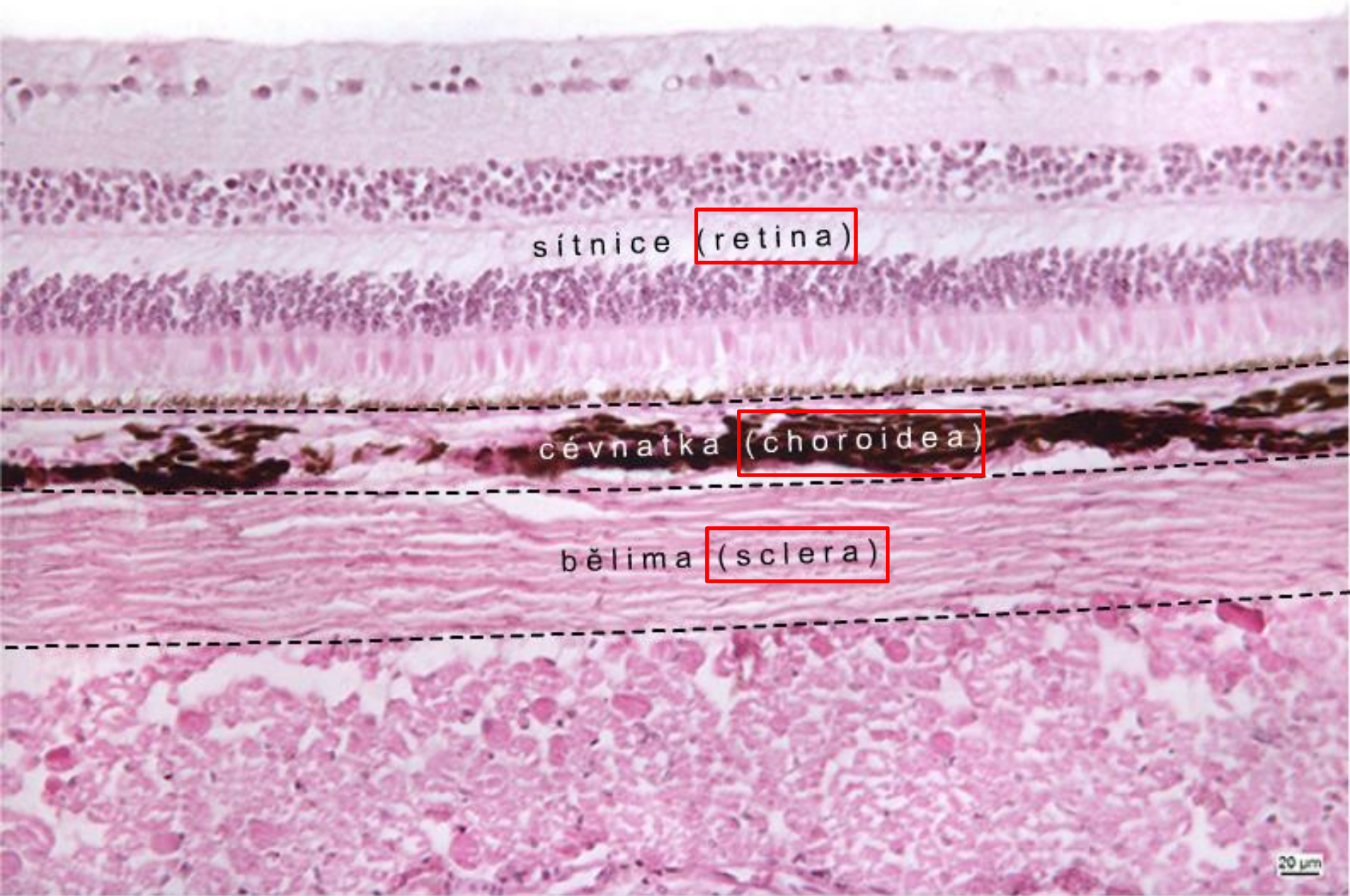
stroma iridis

dorsal epithelium
(pars caeca retinae)

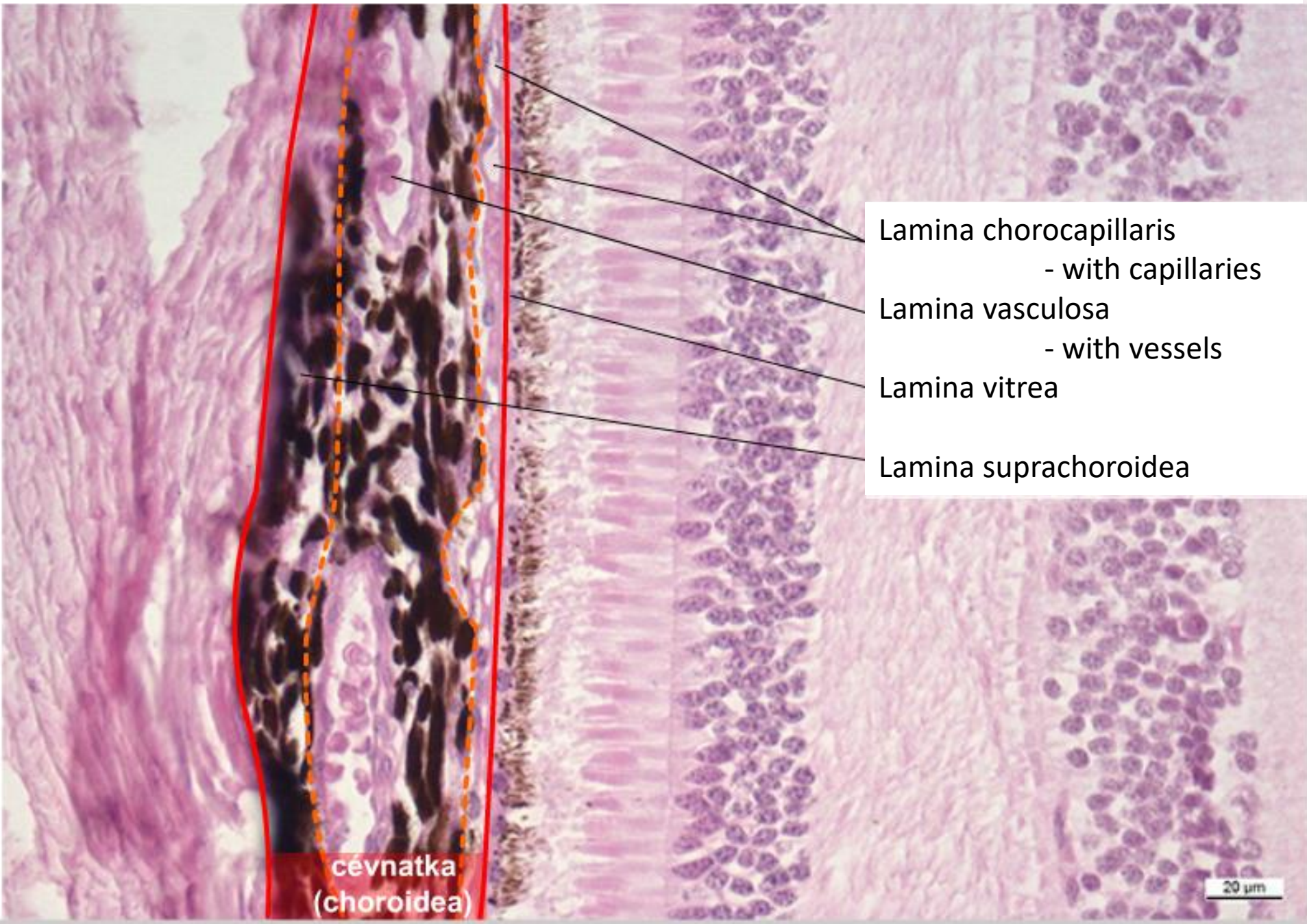
m. sphincter pupillae

m. dilatator pupillae
[pink strip]

Dorsal segment of eye



Posterior segment of eye – choroidea

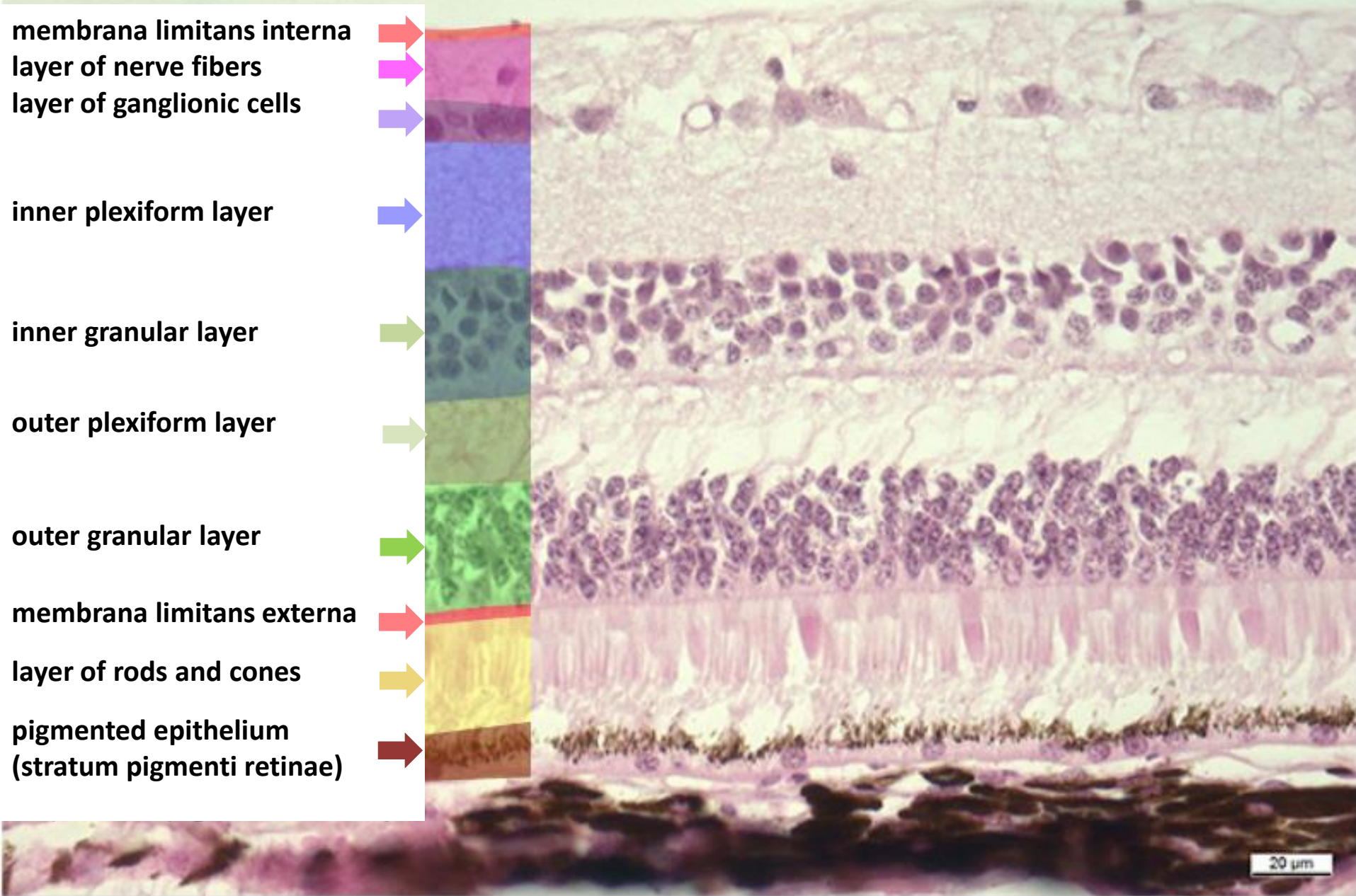


- Lamina chorocapillaris
- with capillaries
- Lamina vasculosa
- with vessels
- Lamina vitrea
- Lamina suprachoroidea

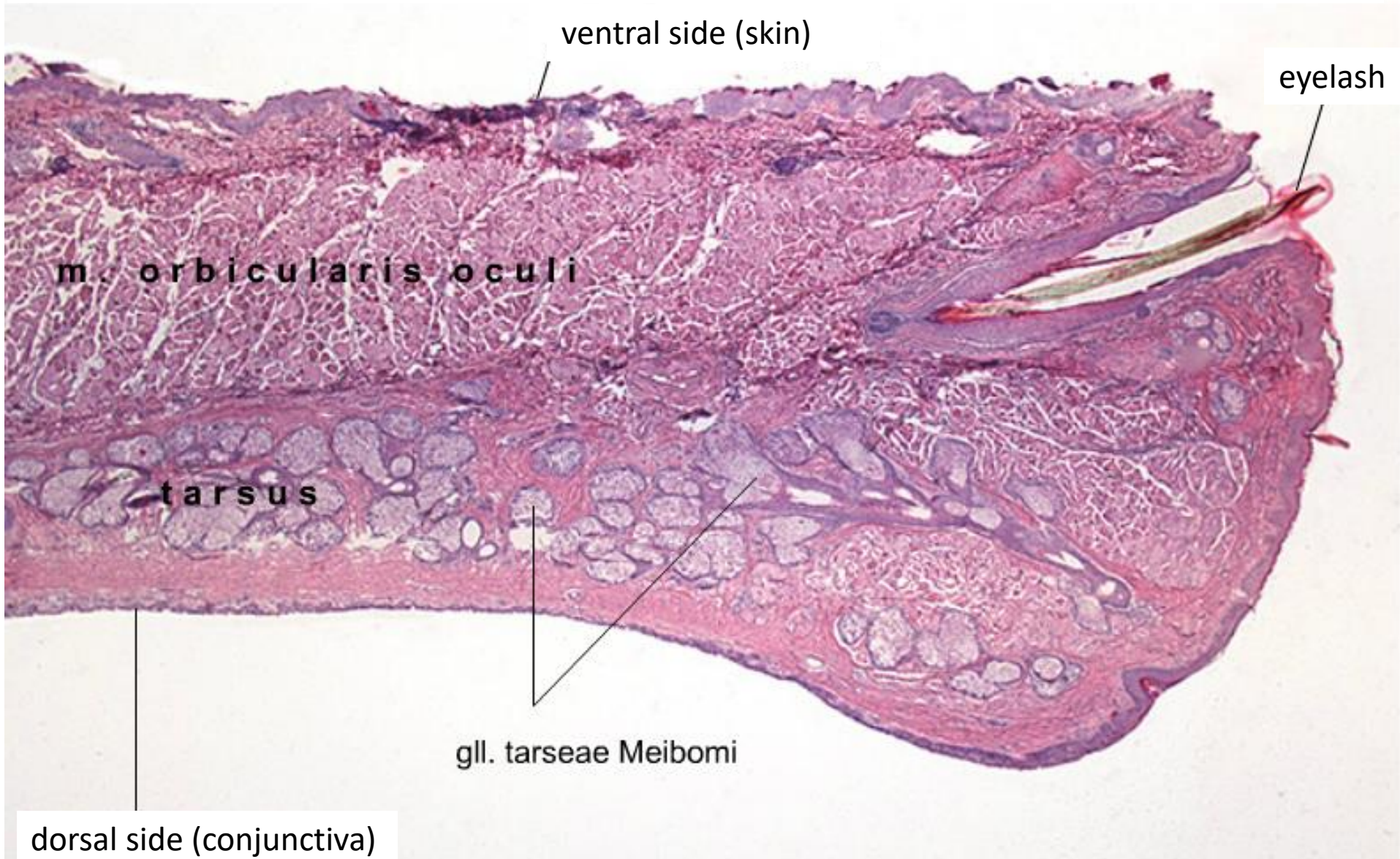
**cévnatka
(choroidea)**

20 μm

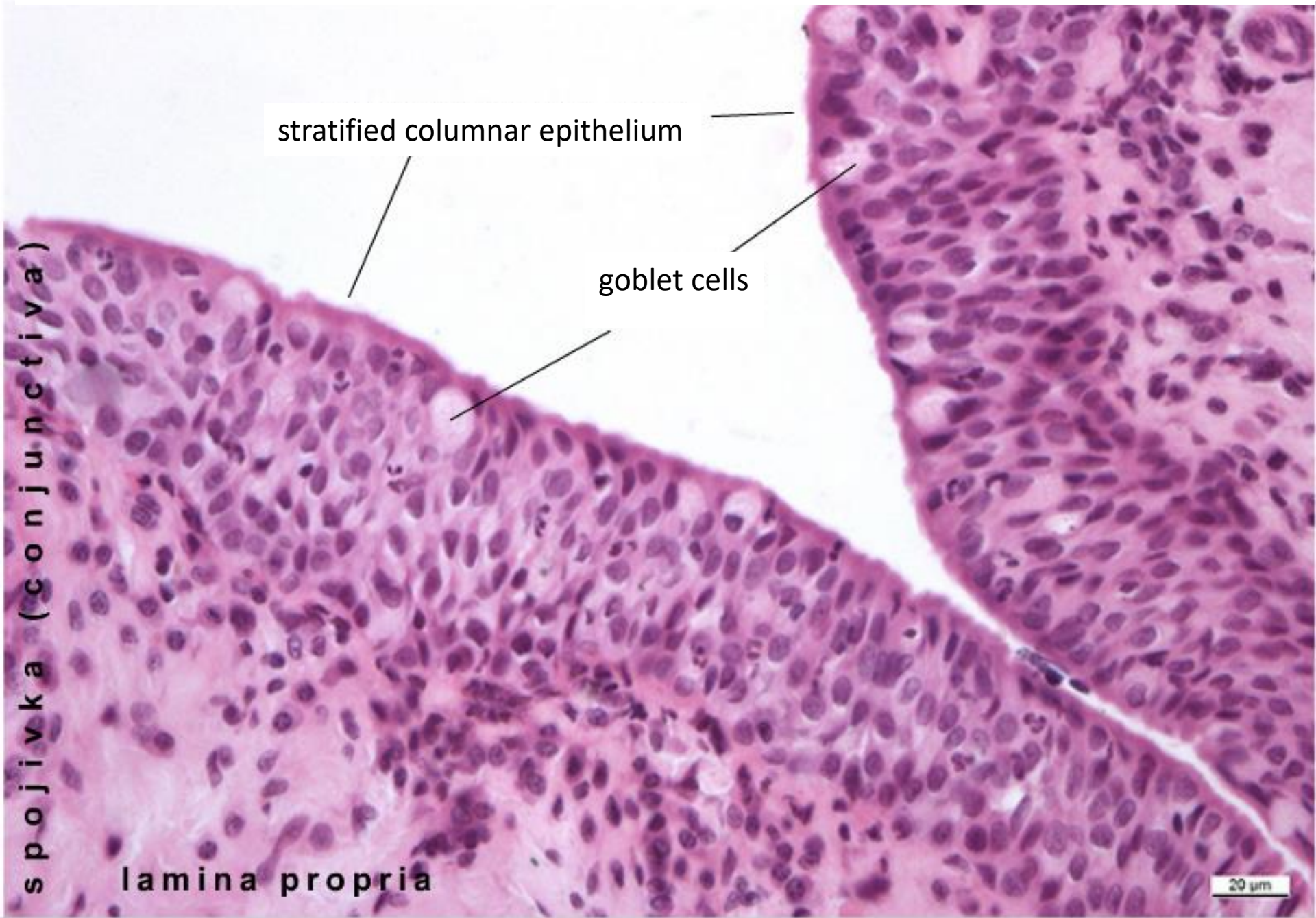
Posterior segment of eye – retina



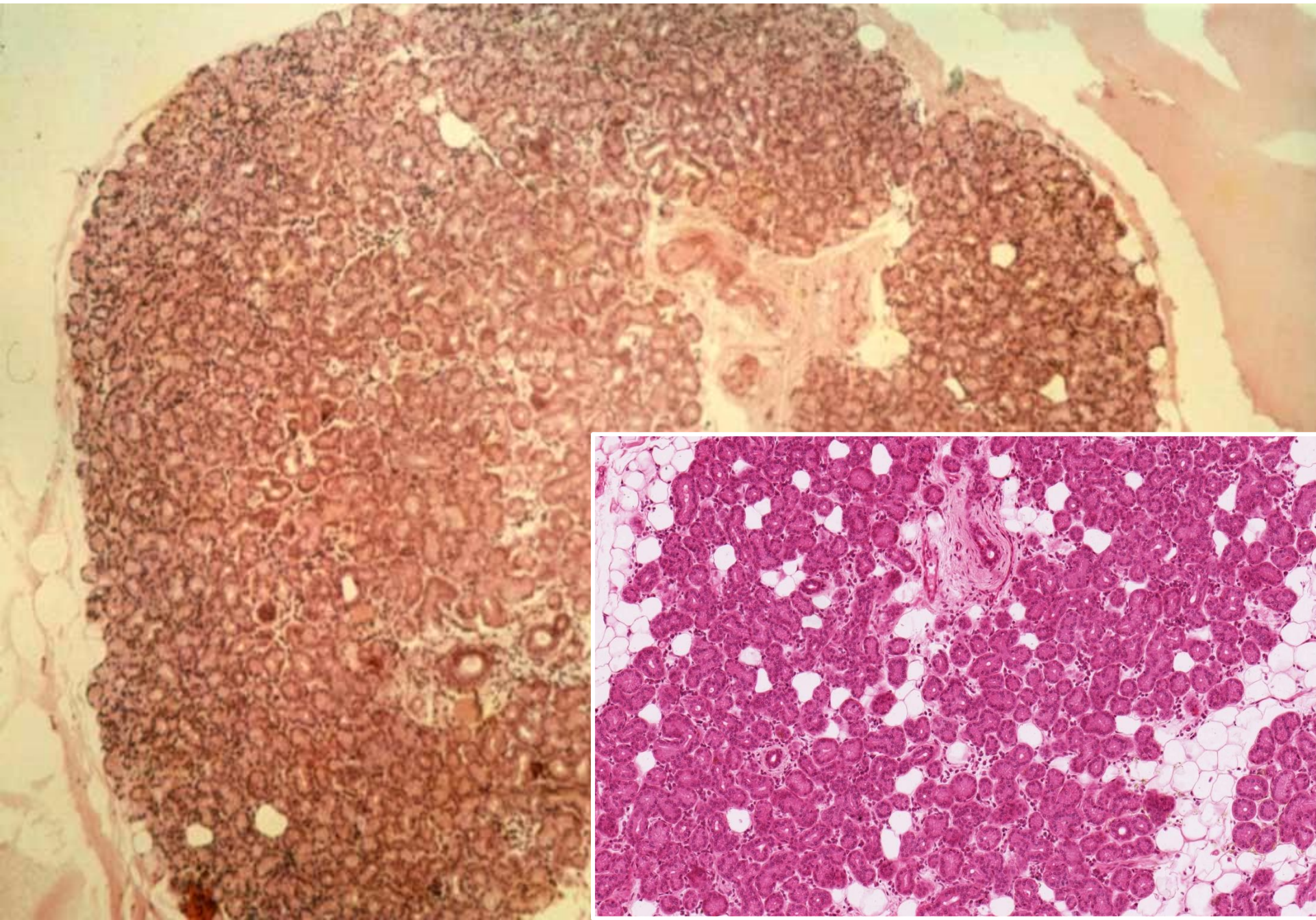
Palpebra



Palpebra – conjunctival side

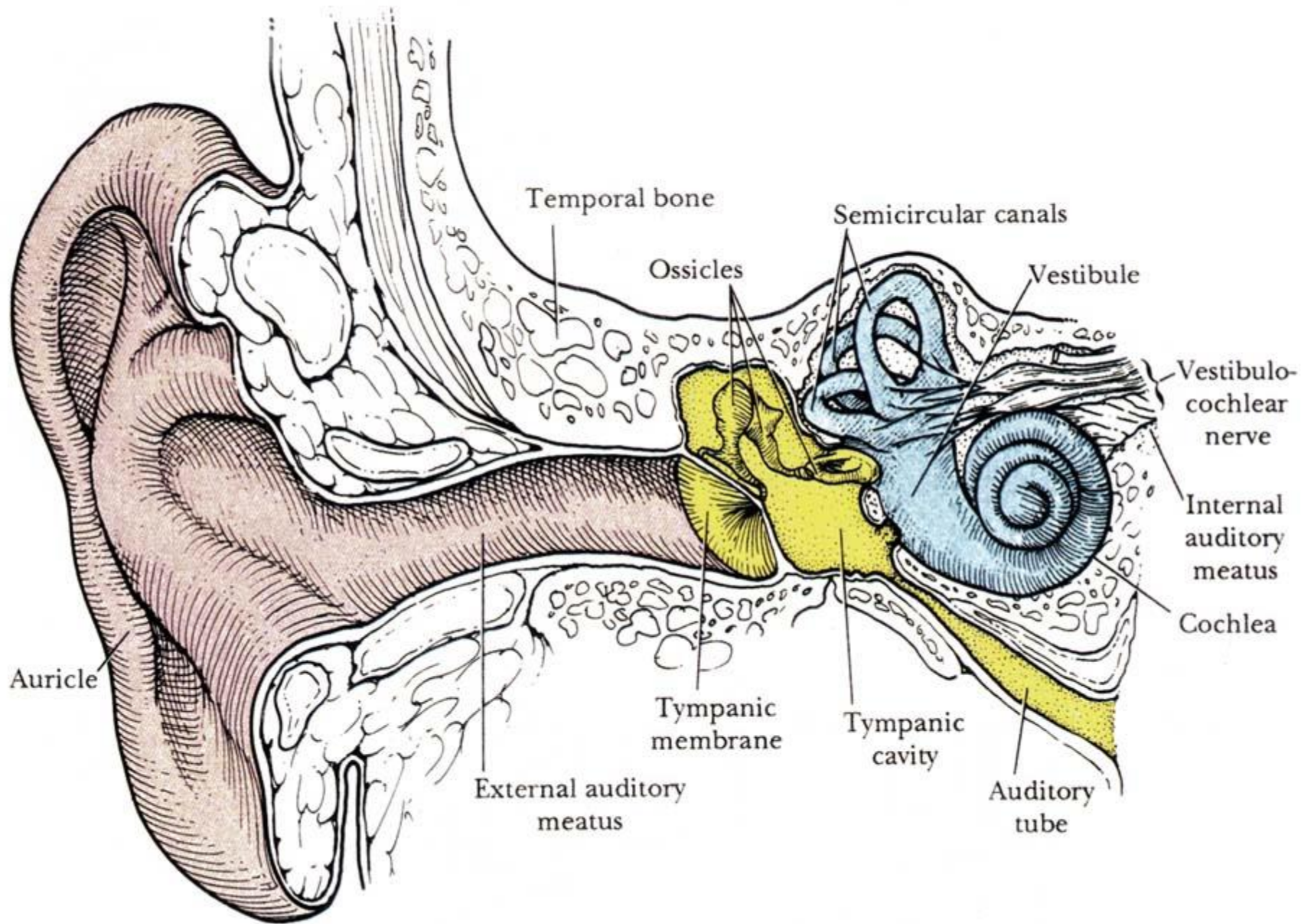


Gl. lacrimalis



Organ of balance and hearing

- Outer ear
 - auricle (*auricula*)
 - auditory meatus (*meatus acusticus ext.*)
 - ear drum (*membrana tympani*)
- Middle ear
 - tympanic cavity (*cavum tympani*)
- Inner ear
 - sacculus – *macula sacculi*
 - utriculus – *macula utriculi*
 - ductus semicirculares – *cristae ampullares*
 - ductus cochlearis – *organon Corti*

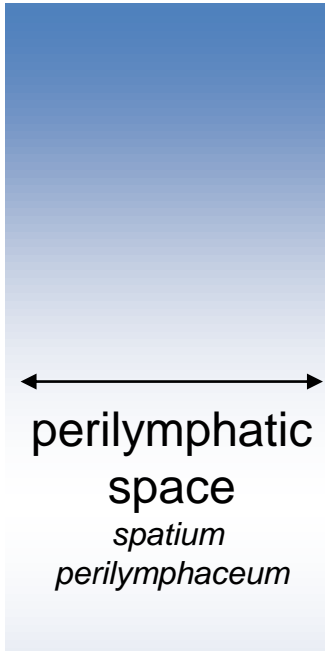


Inner ear

(in pyramid of *ossis petrosus* *ossis temporalis*)

Bony labyrinth

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



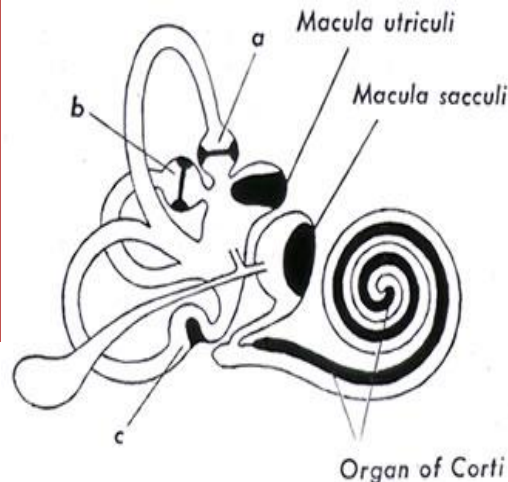
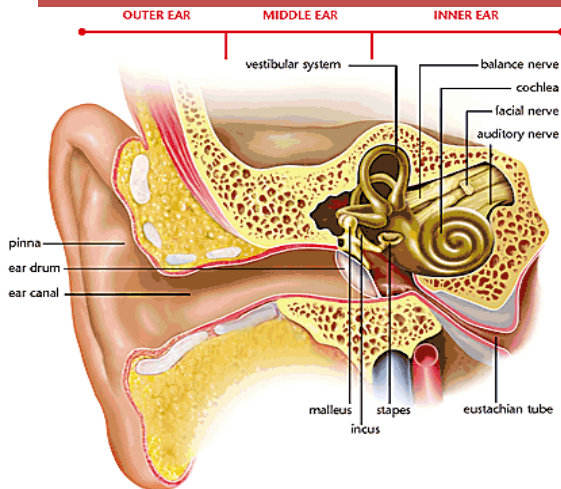
Membranous labyrinth

pars statica (1, 2)

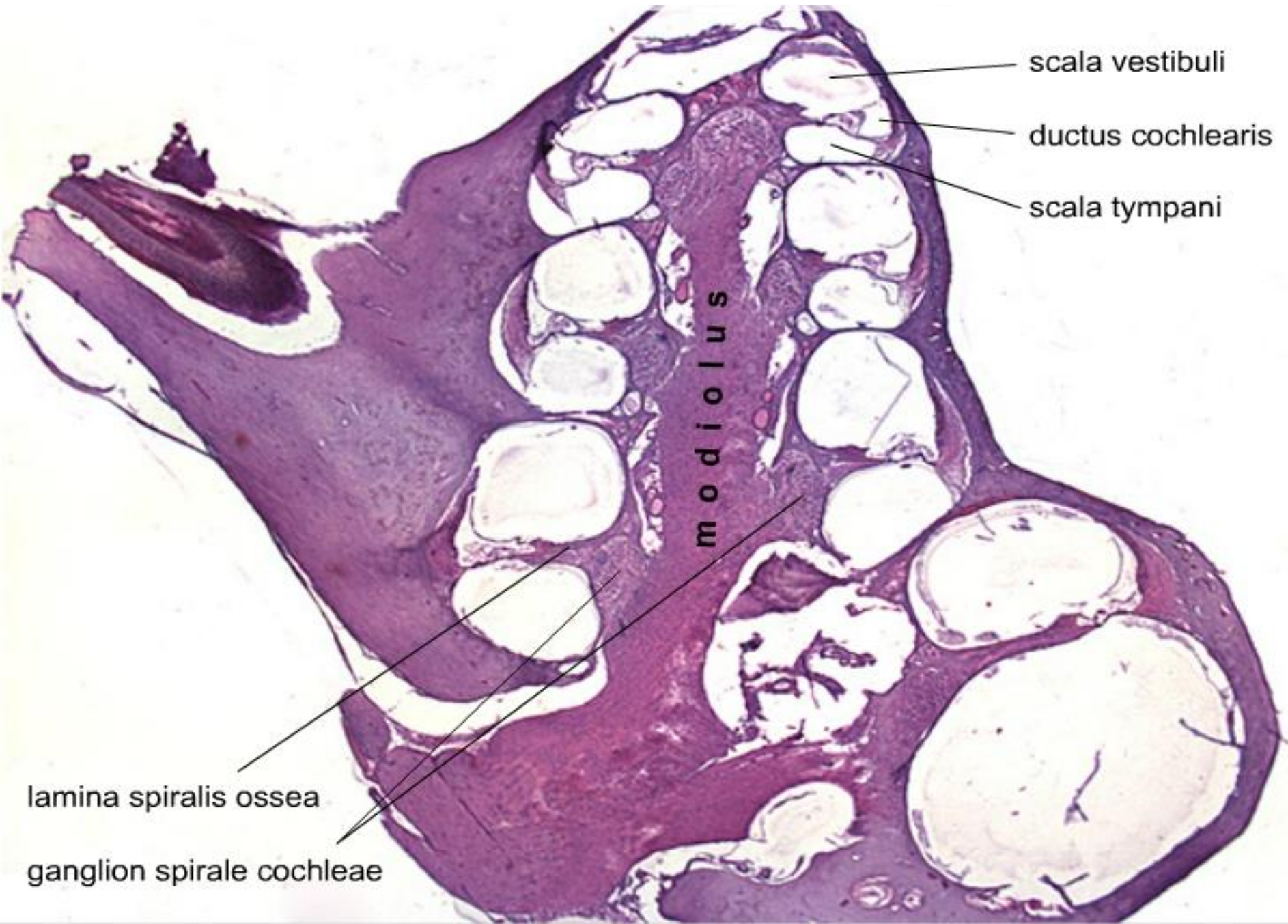
pars acustica (3)

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

endolymph



Cochlea



scala vestibuli

ductus cochlearis

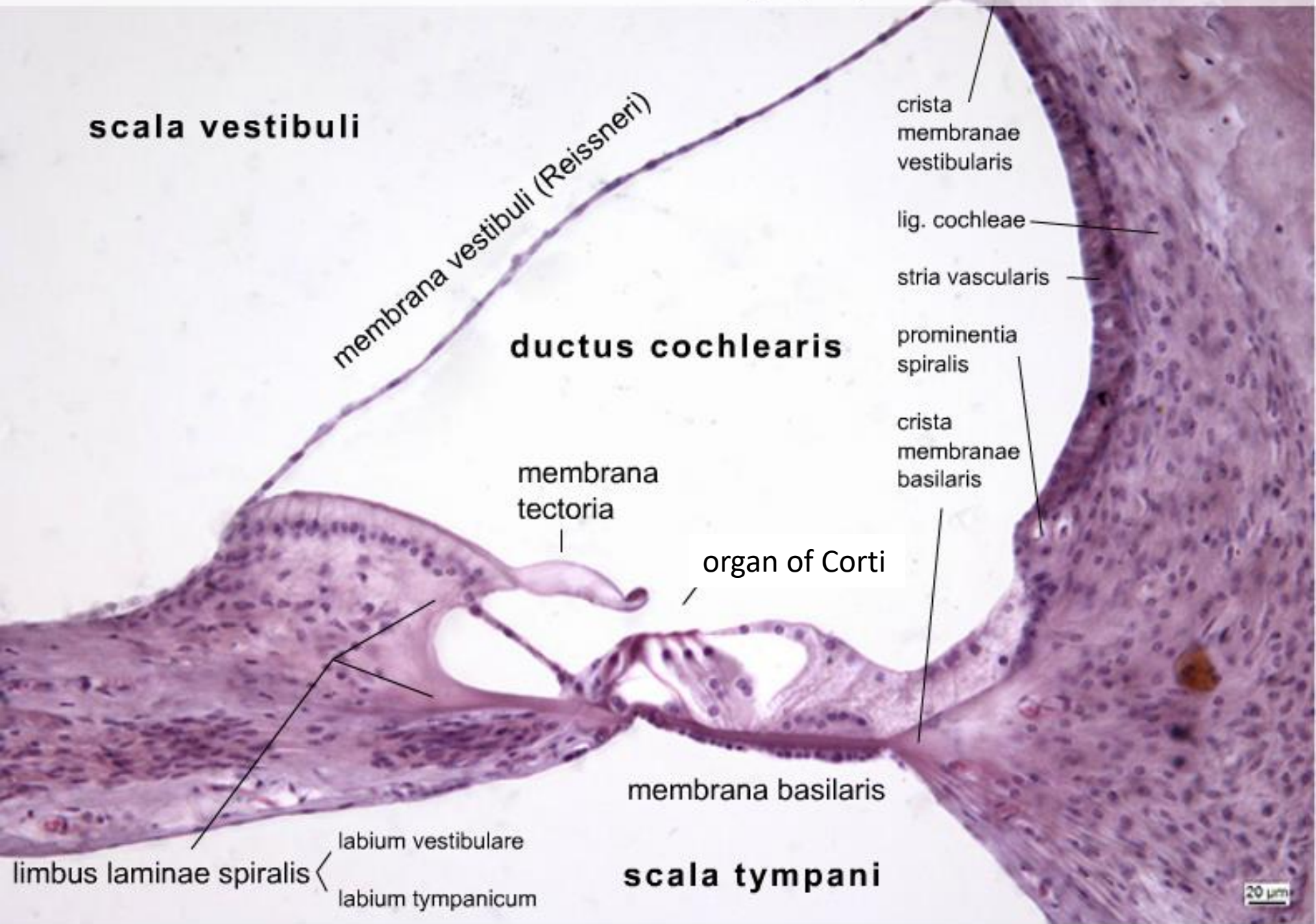
scala tympani

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

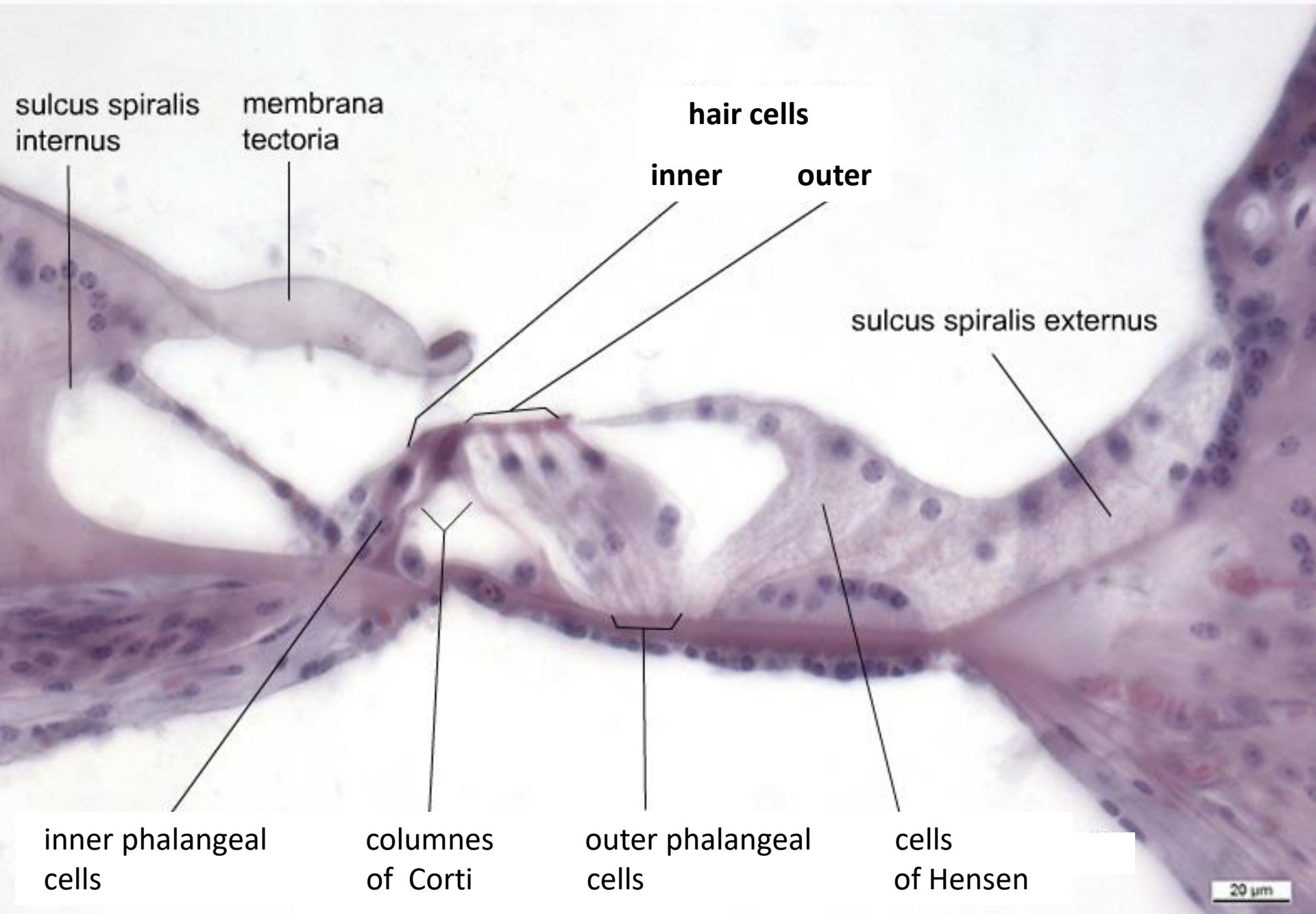
organ of Corti

membrana basilaris

scala tympani

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

Cochlea – organ of Corti

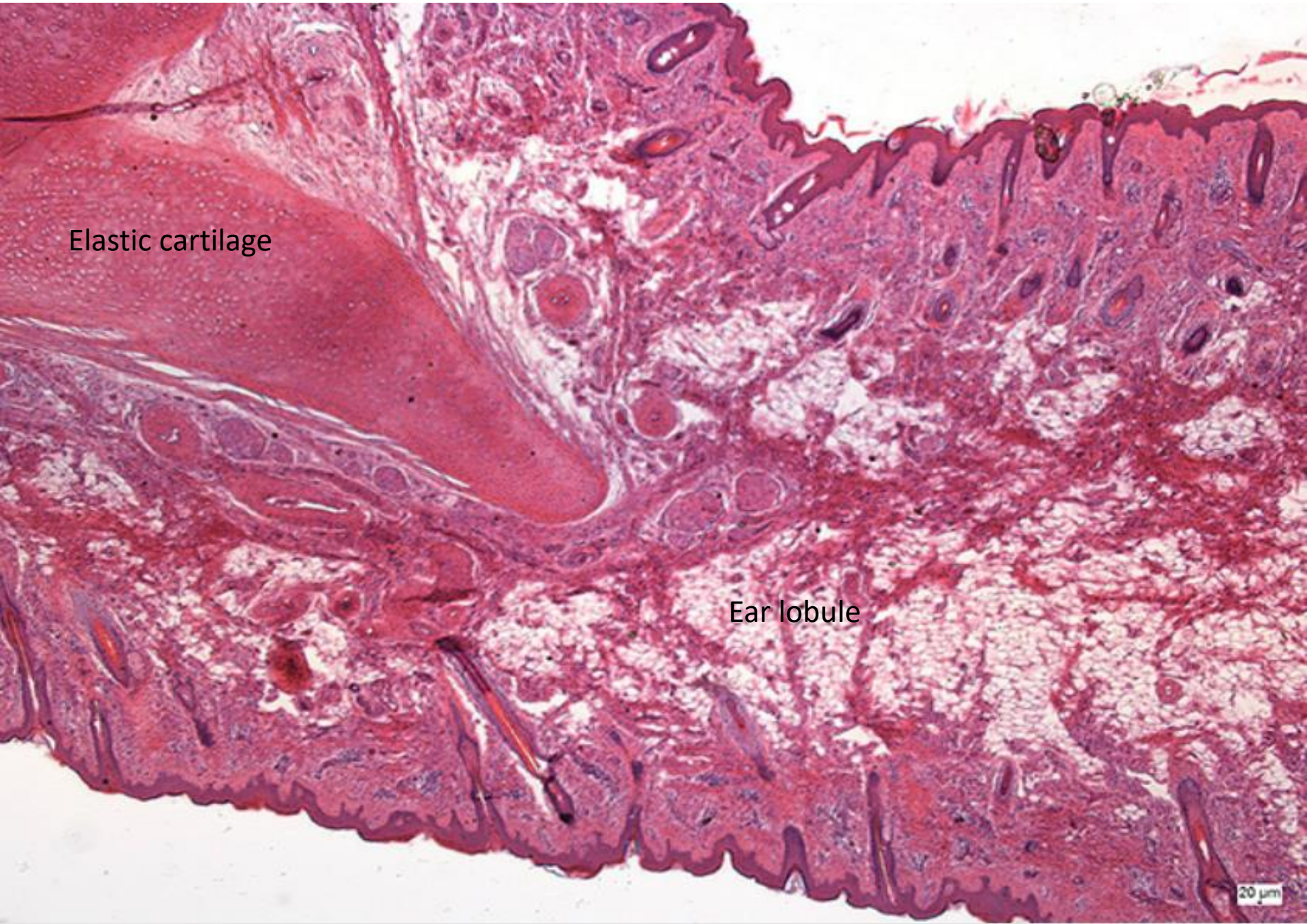


Auricle (auricula)

Elastic cartilage

Ear lobule

20 μ m





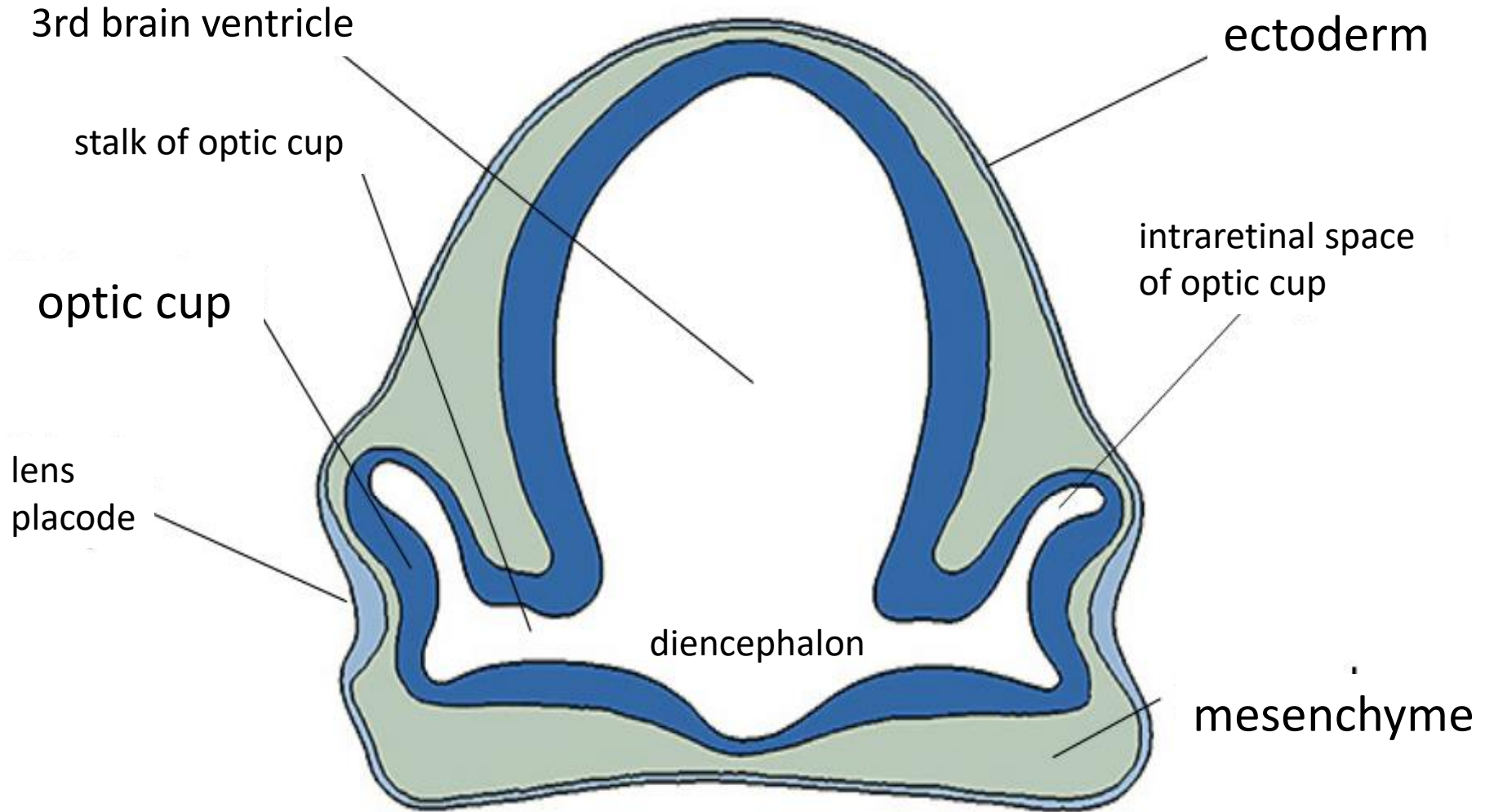
SENSORY ORGANS



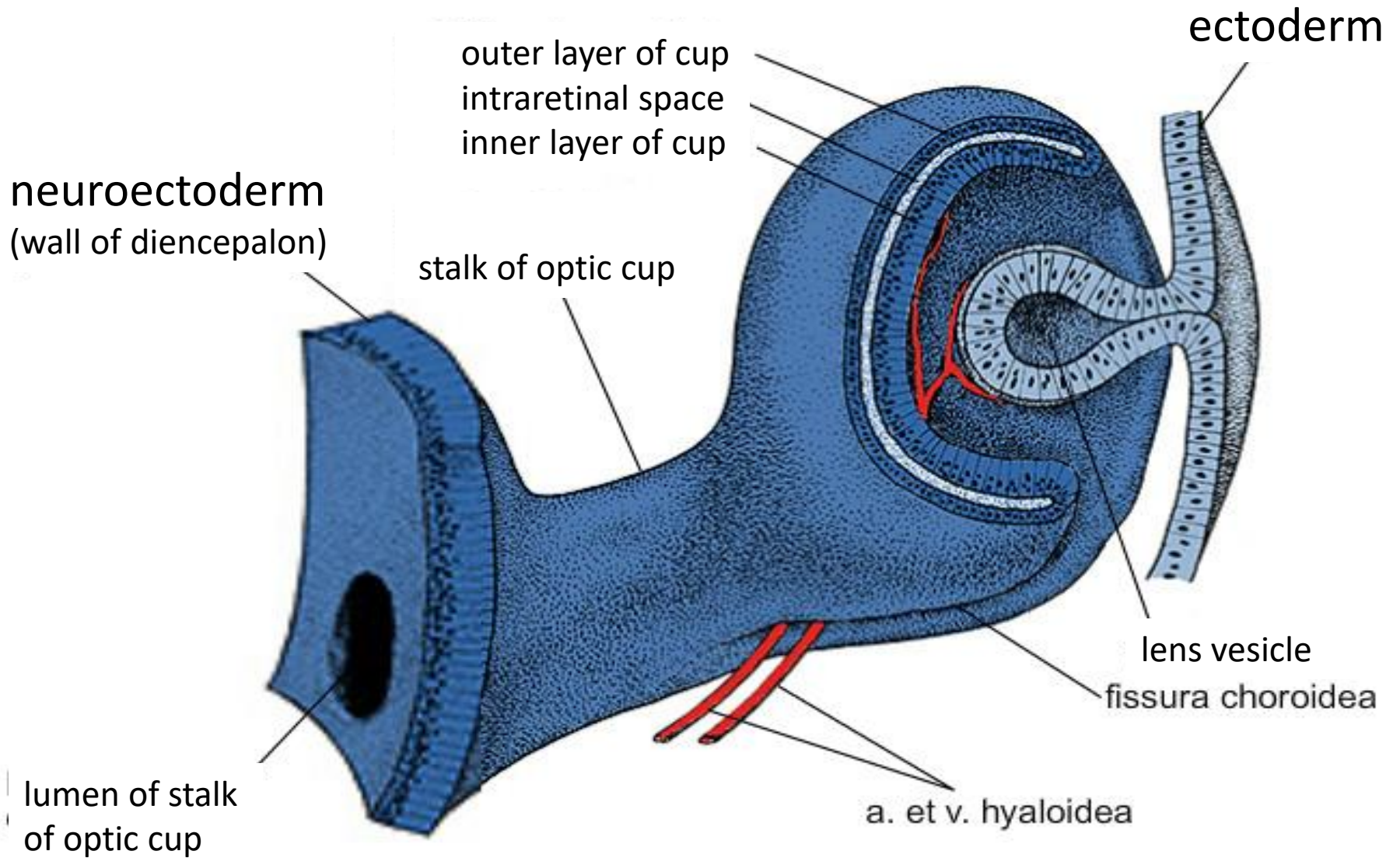
Slides:

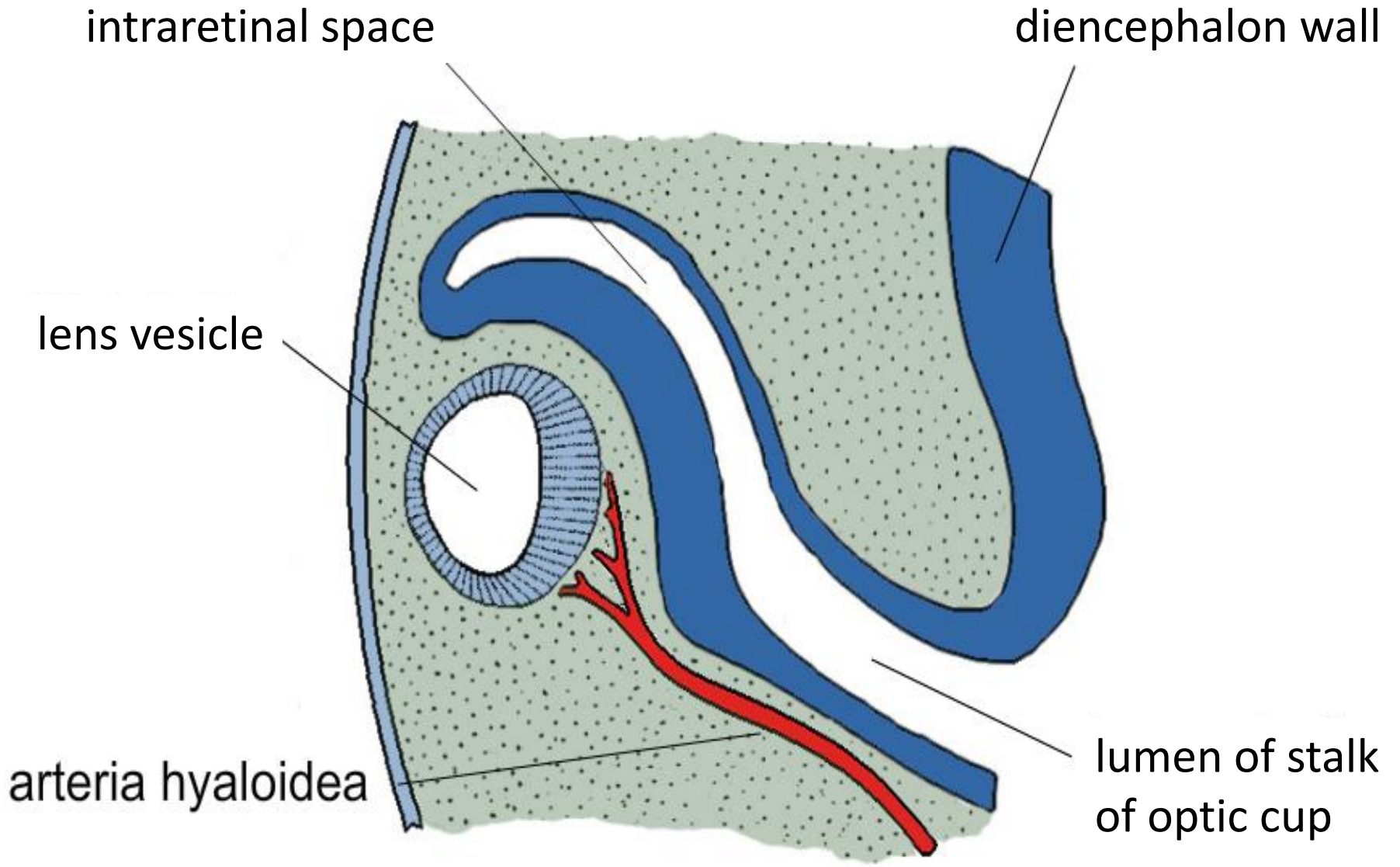
- 88. Anterior segment of the eye
- 89. Posterior segment of the eye
- 90. Fasciculus opticus
- 91. Palpebra
- 92. Gl. lacrimalis
- 93. Ductus cochlearis
- 94. Auricula

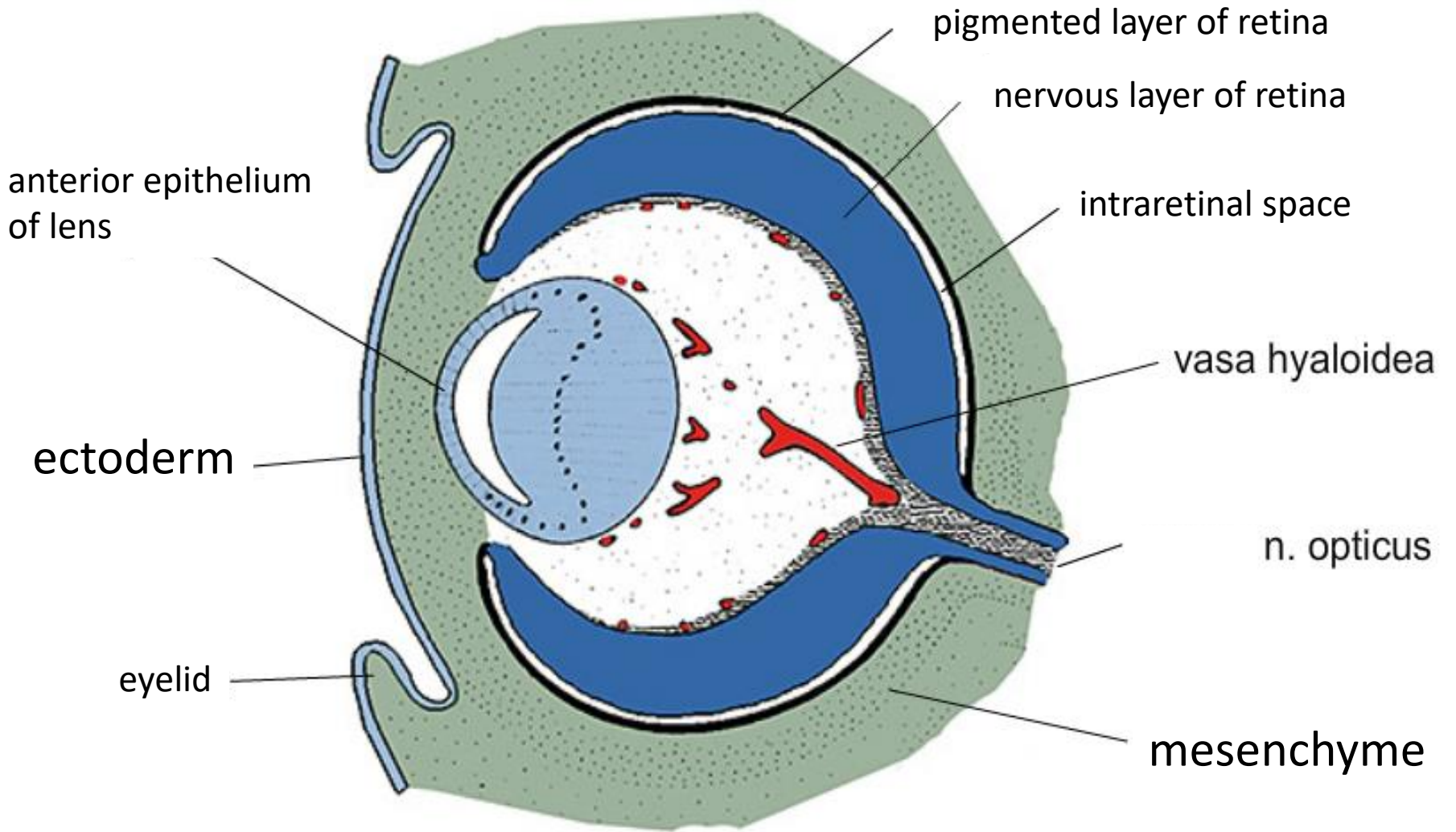
Development of eye

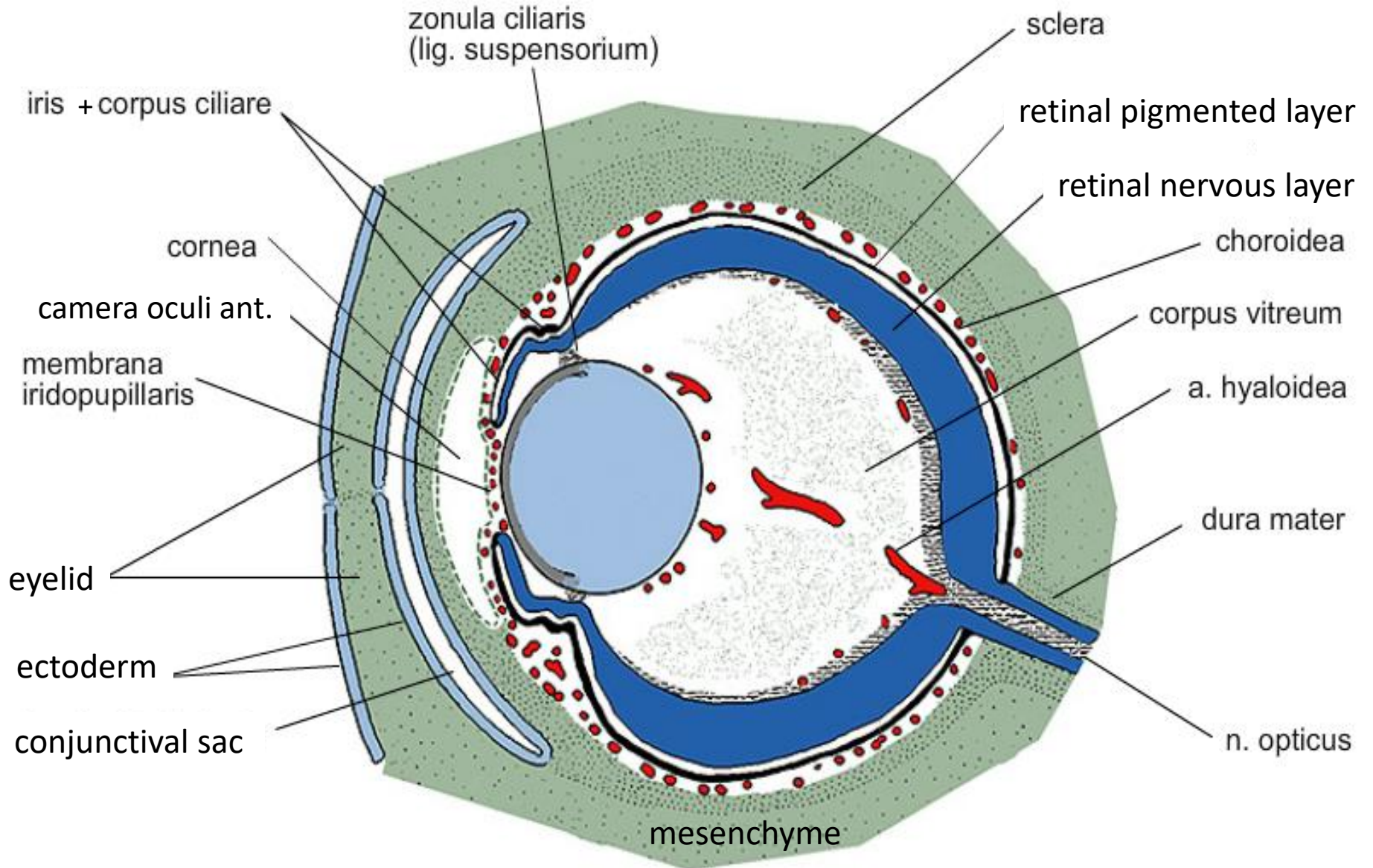


Development of optic cup and lens

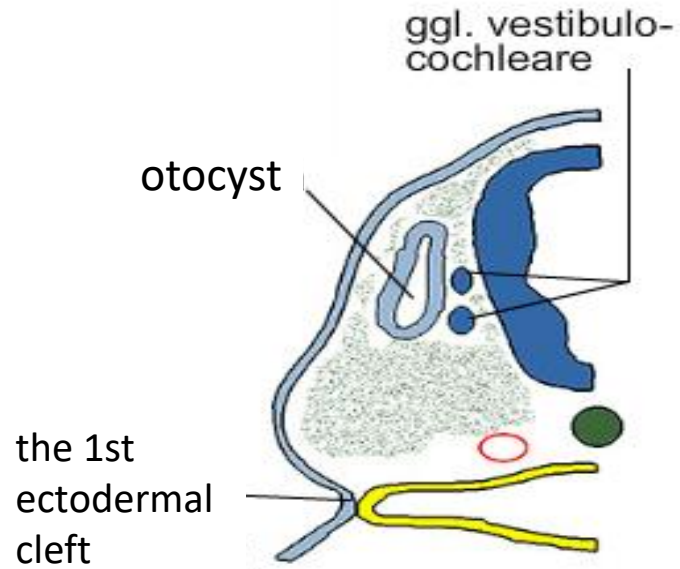
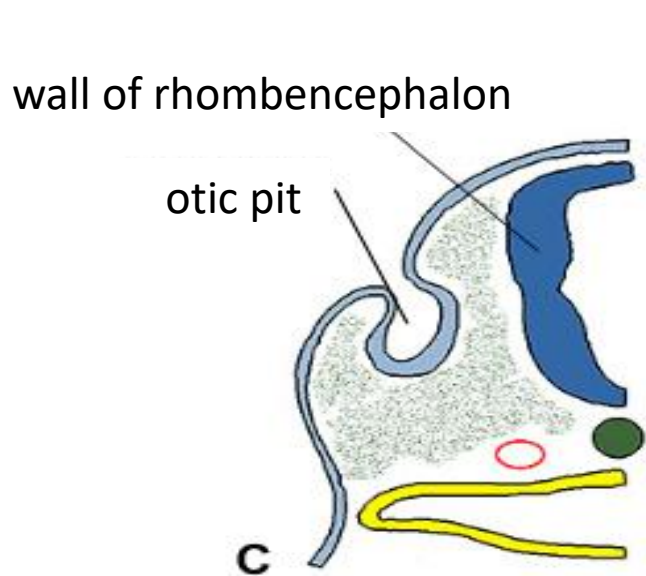
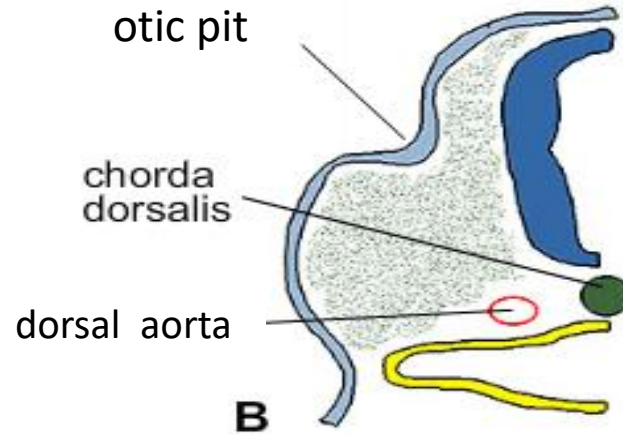
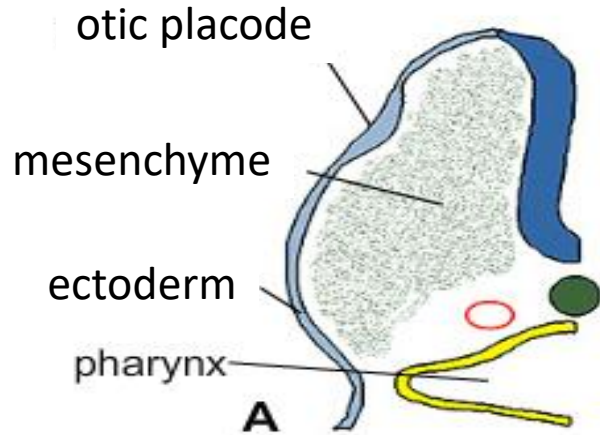




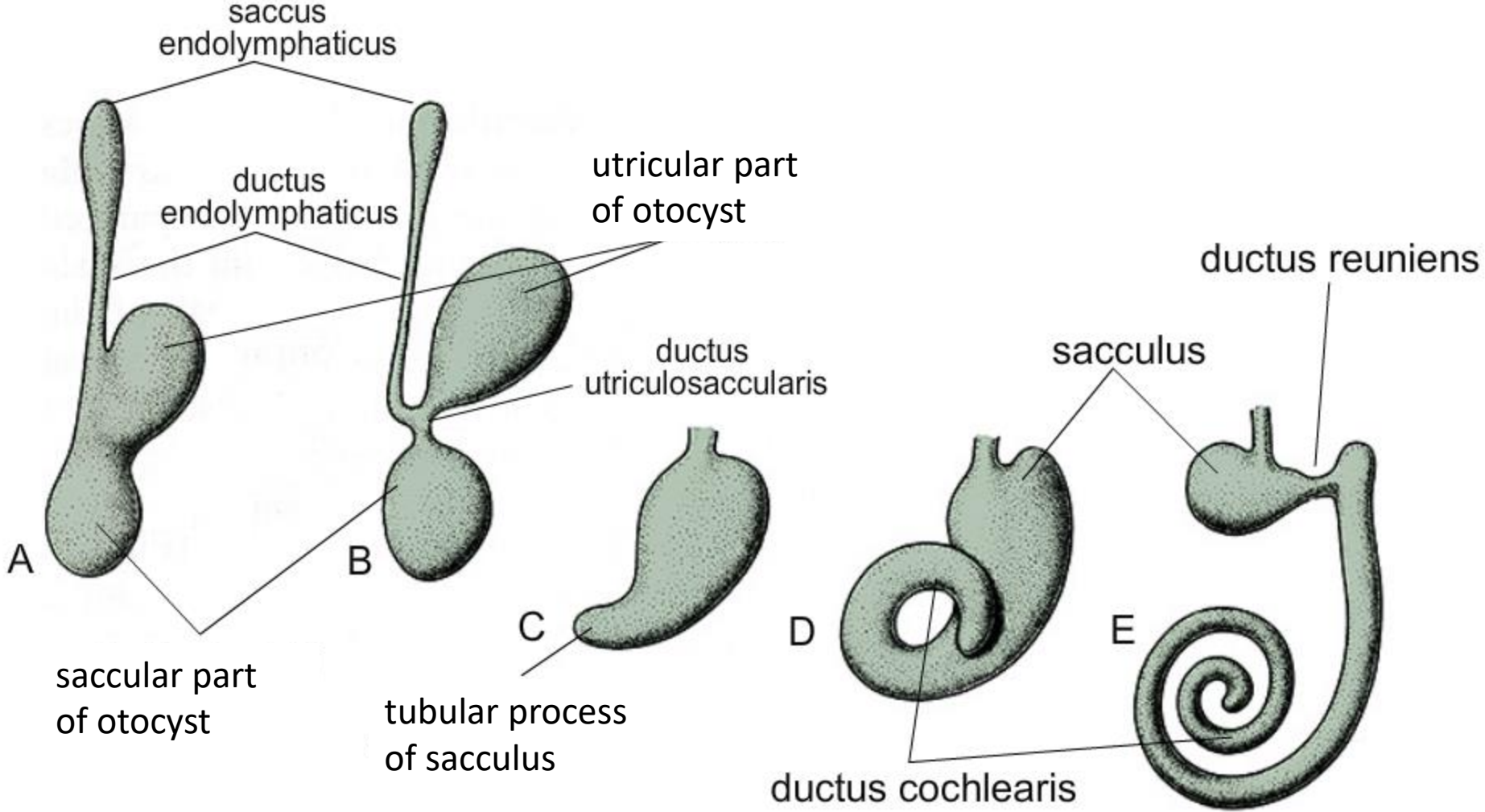




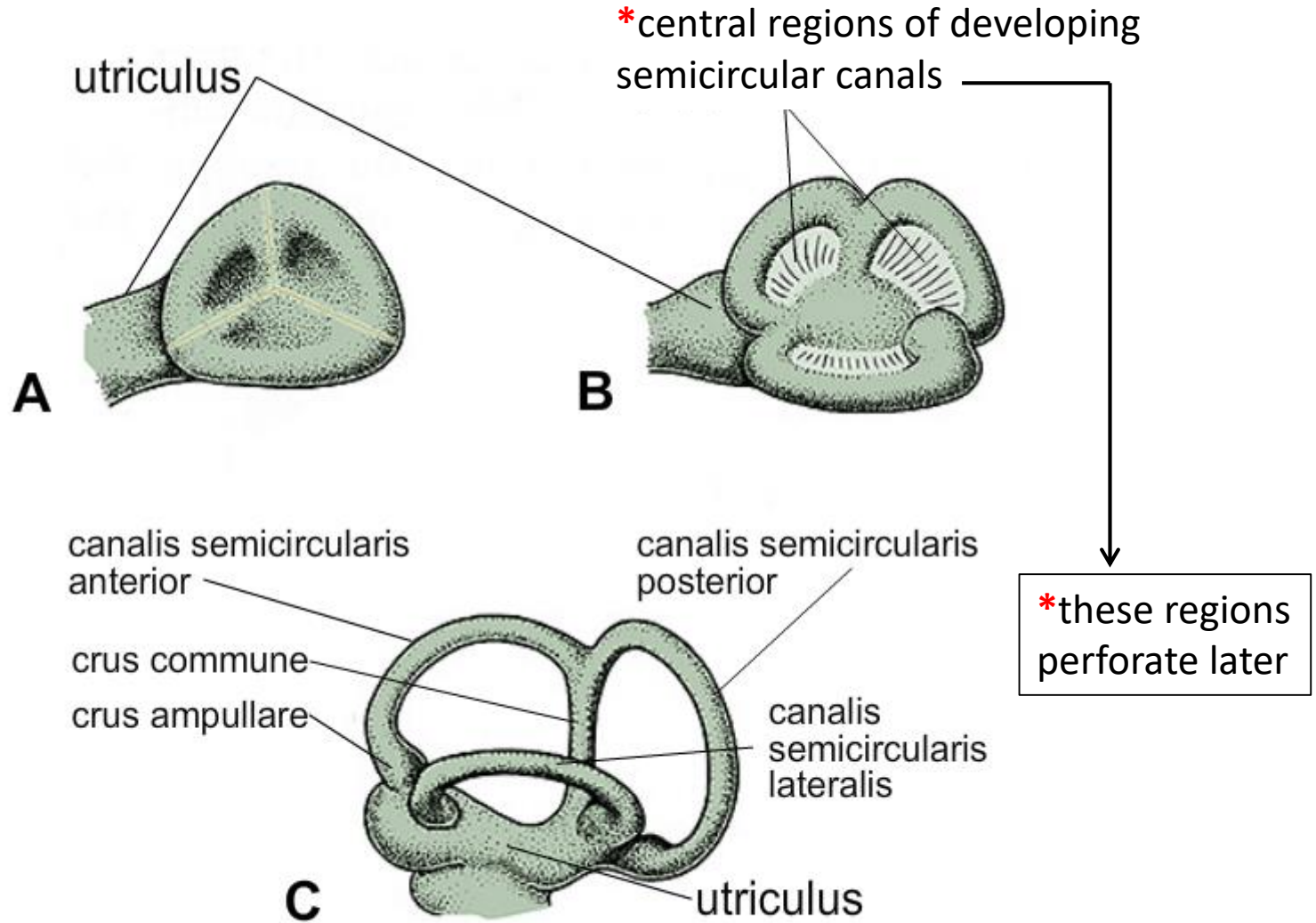
Development of inner ear



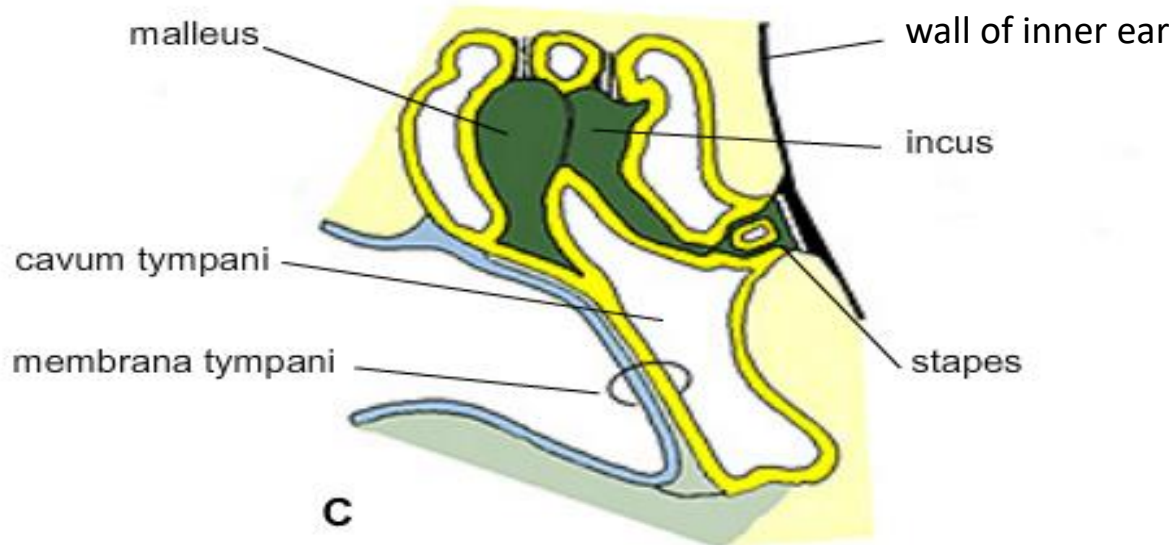
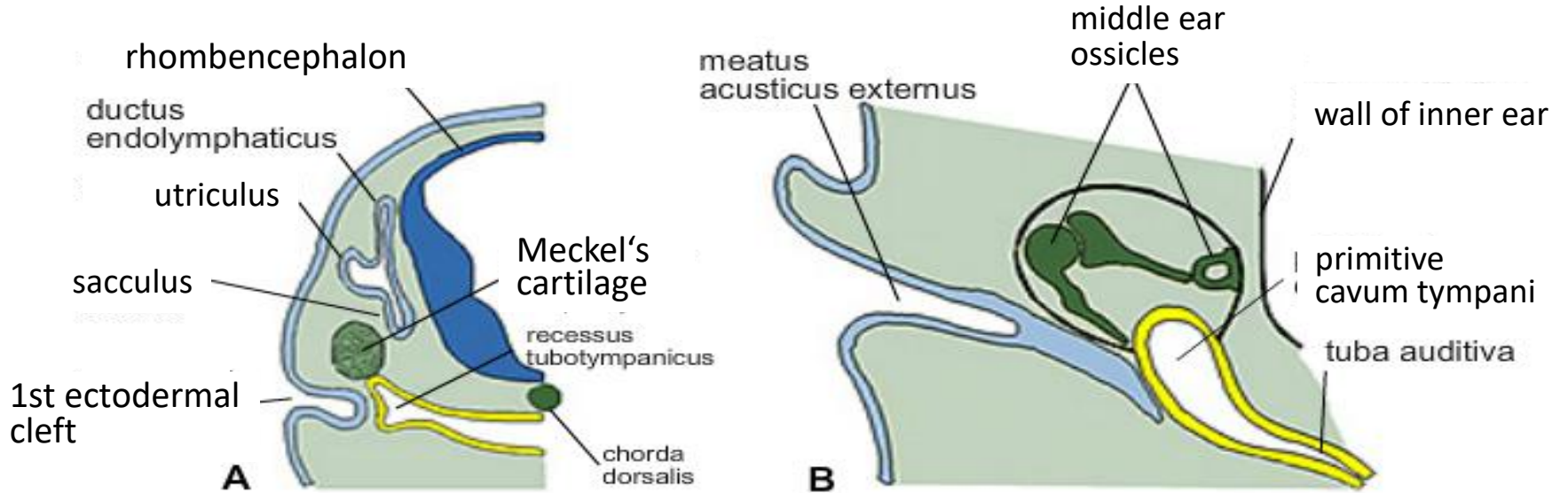
Development of membranous labyrinth



Development of semicircular canals



Development of middle ear



Development of external ear

