

# ORGANUM VISUS (ZRAKOVÉ ÚSTROJÍ)

## TUNICA FIBROSA BULBI

- bělima (sclera) zadní 5/6 oka
- rohovka (cornea) přední 1/6

## Tunica

- fibrosa bulbi
- vasculosa bulbi
- interna bulbi

## Sclera (poloměr 11-12 mm)

lamina cribrosa sclerae

fascia bulbi (Tenoni) → spatium episclerale

spatium perichoroideum

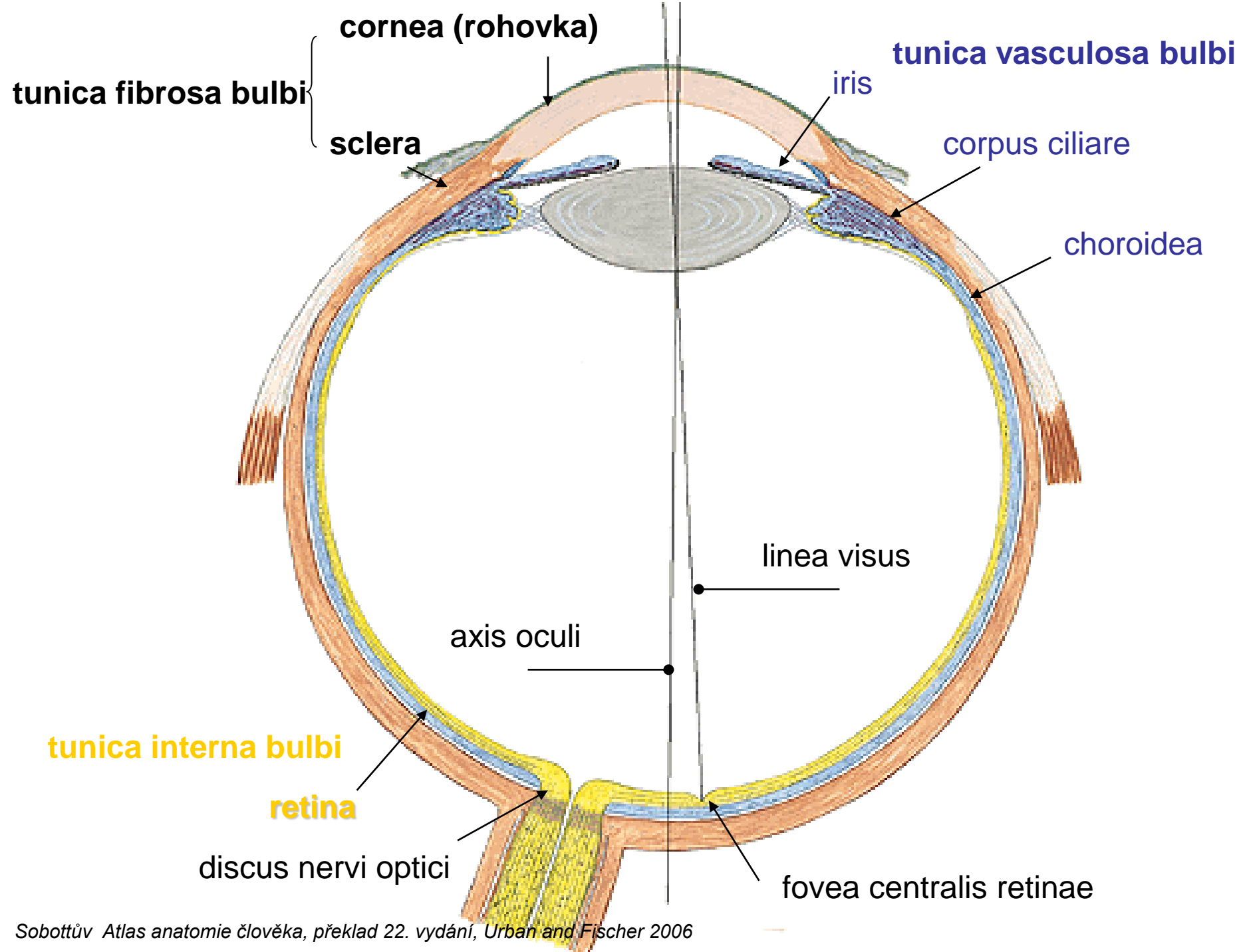
## Cornea (poloměr 7-8 mm)

facies anterior et posterior corneae

limbus corneae

sklerokorneálního spojení - sulcus sclerae

- žilní splav sinus venosus sclerae (canalis Schlemmi)



## TUNICA VASCULOSA BULBI

**choroidea** (cévnatka)

**corpus ciliare** (řasnaté těleso)

**iris** (duhovka)

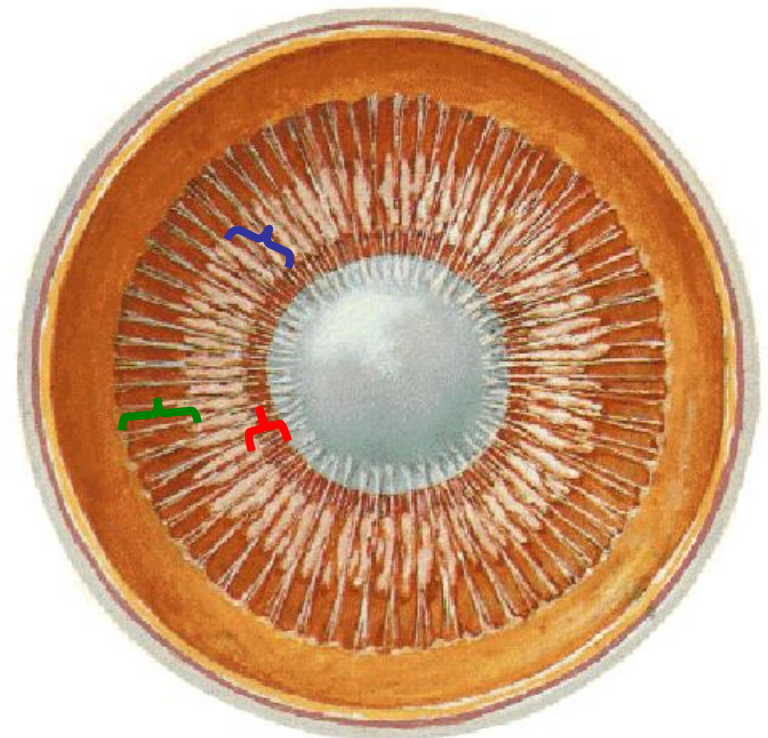
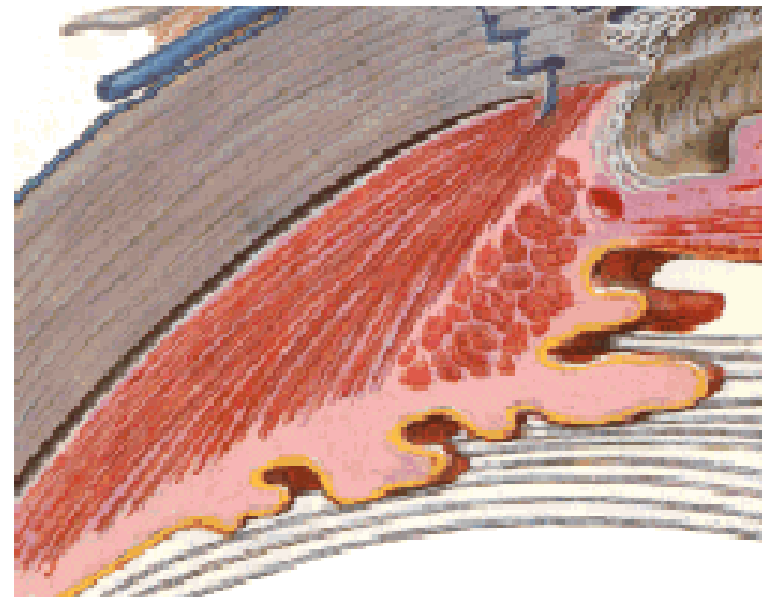
## CORPUS CILIARE

**m. ciliaris** fibrae meridionales  
fibrae circulares

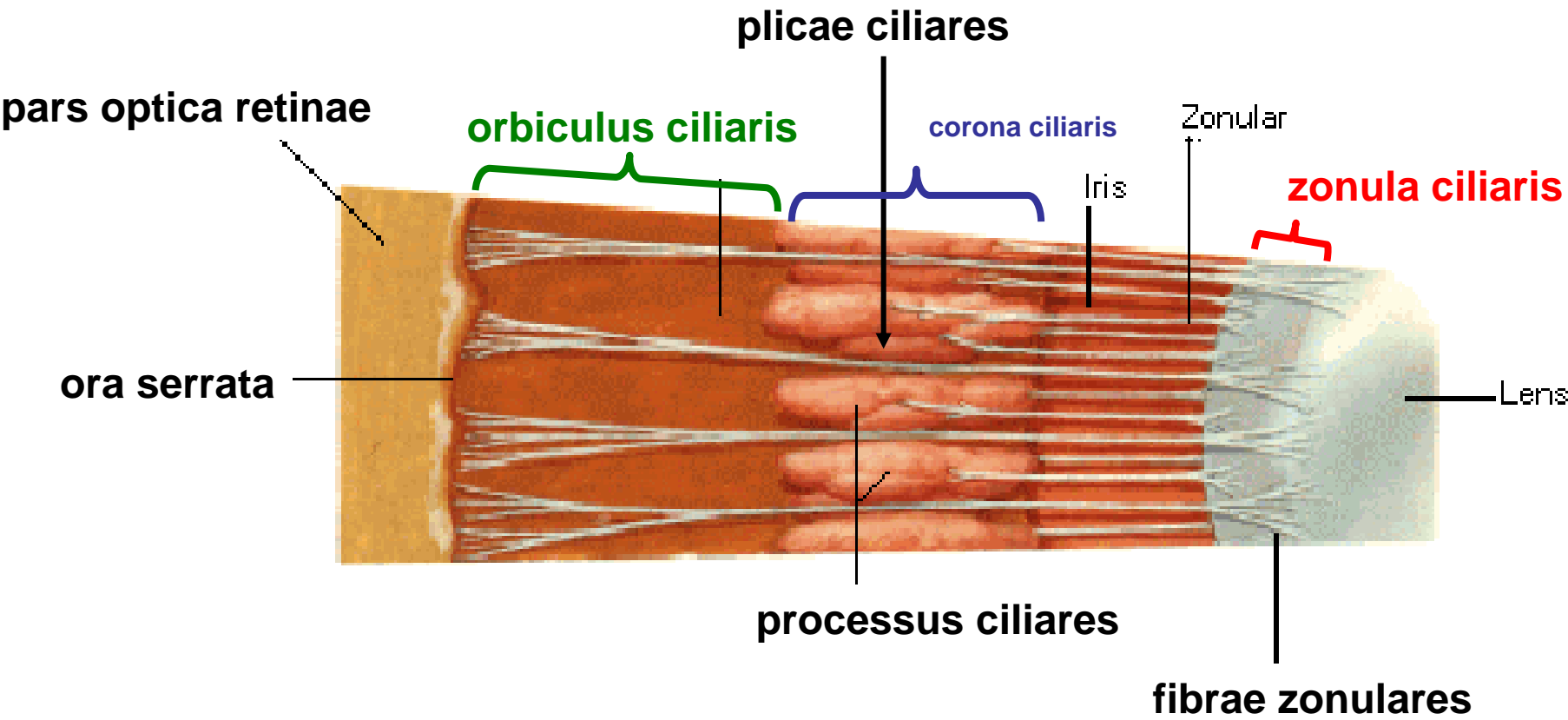
**orbiculus ciliaris**

**processus ciliares**  
**plicae ciliares** } **corona ciliaris**

**fibrae zonulares** **zonula ciliaris**



# CORPUS CILIARE



## **IRIS (DUHOVKA)**

**margo pupillaris**

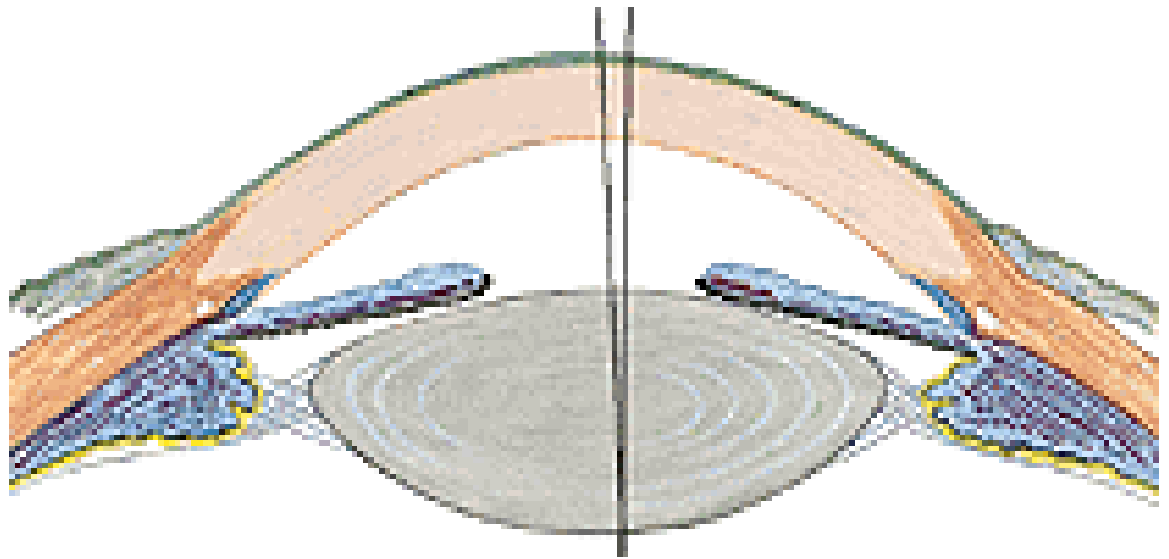
**margo ciliaris**

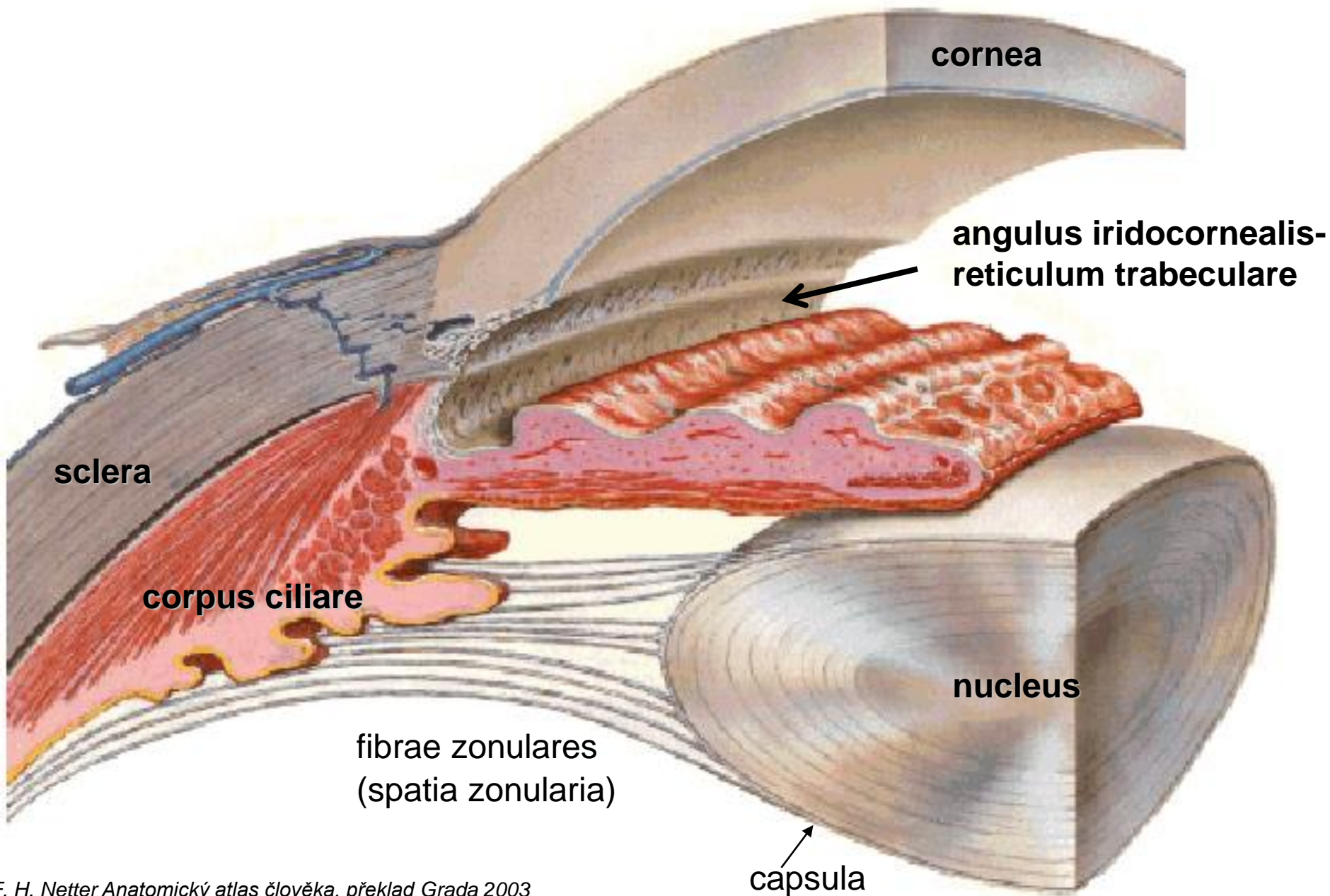
**facies anterior et posterior iridis**

**m. sphincter pupillae - parasymptikus - miosis**

**m. dilatator pupillae – sympatikus - mydriasis**

**angulus iridocornealis → reticulum trabeculare**





## **TUNICA INTERNA BULBI    *RETINA***

**pars optica retinae**

**pars caeca retinae (pars ciliaris retinae, pars iridica retinae)**

**ora serrata**

**pars optica retinae**

**stratum pigmenti retinae**

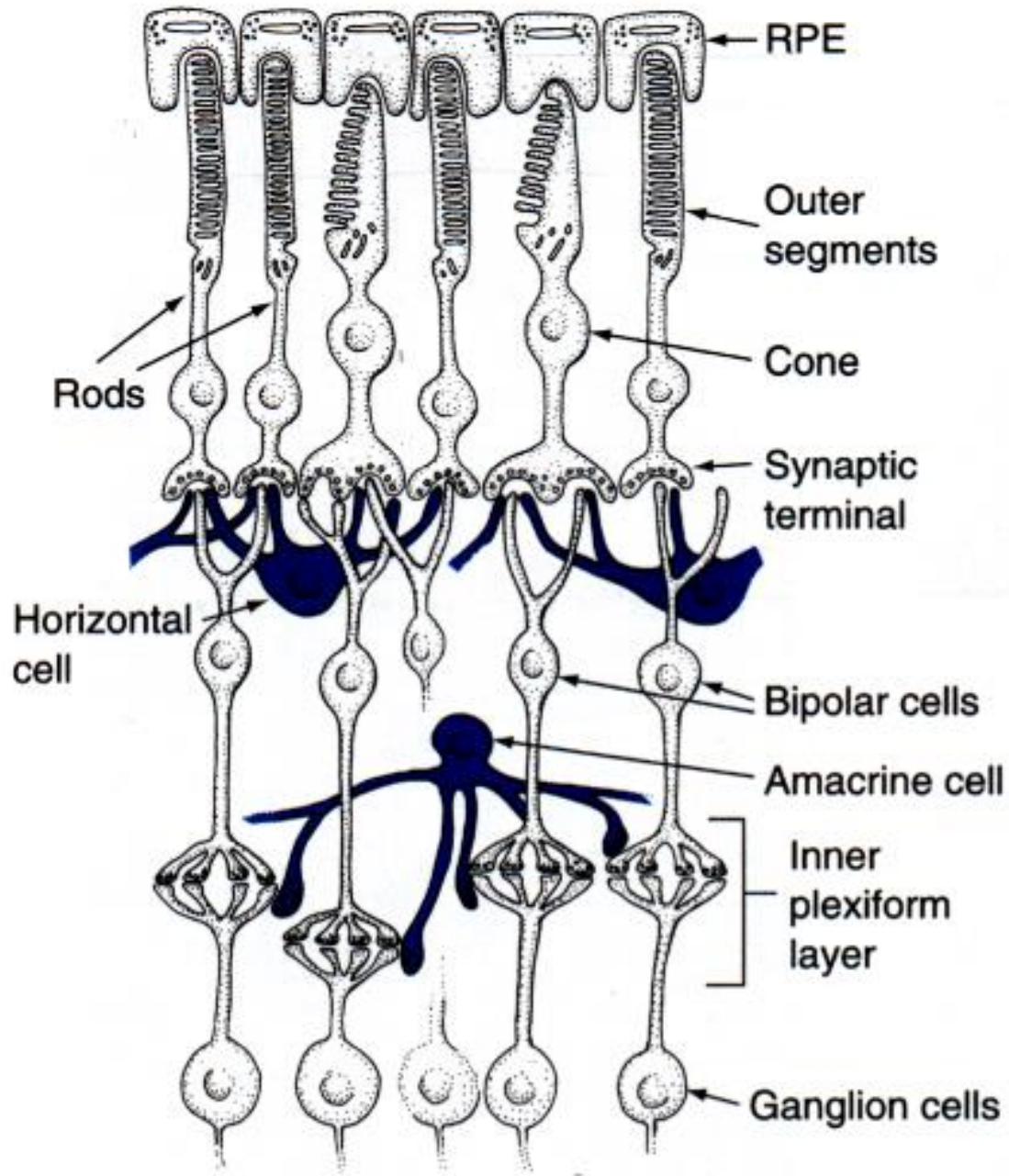
**stratum neuroepitheliale (vrstva tyčinek/120mil a čípků/6mil)**

**stratum ganglionare retinae**

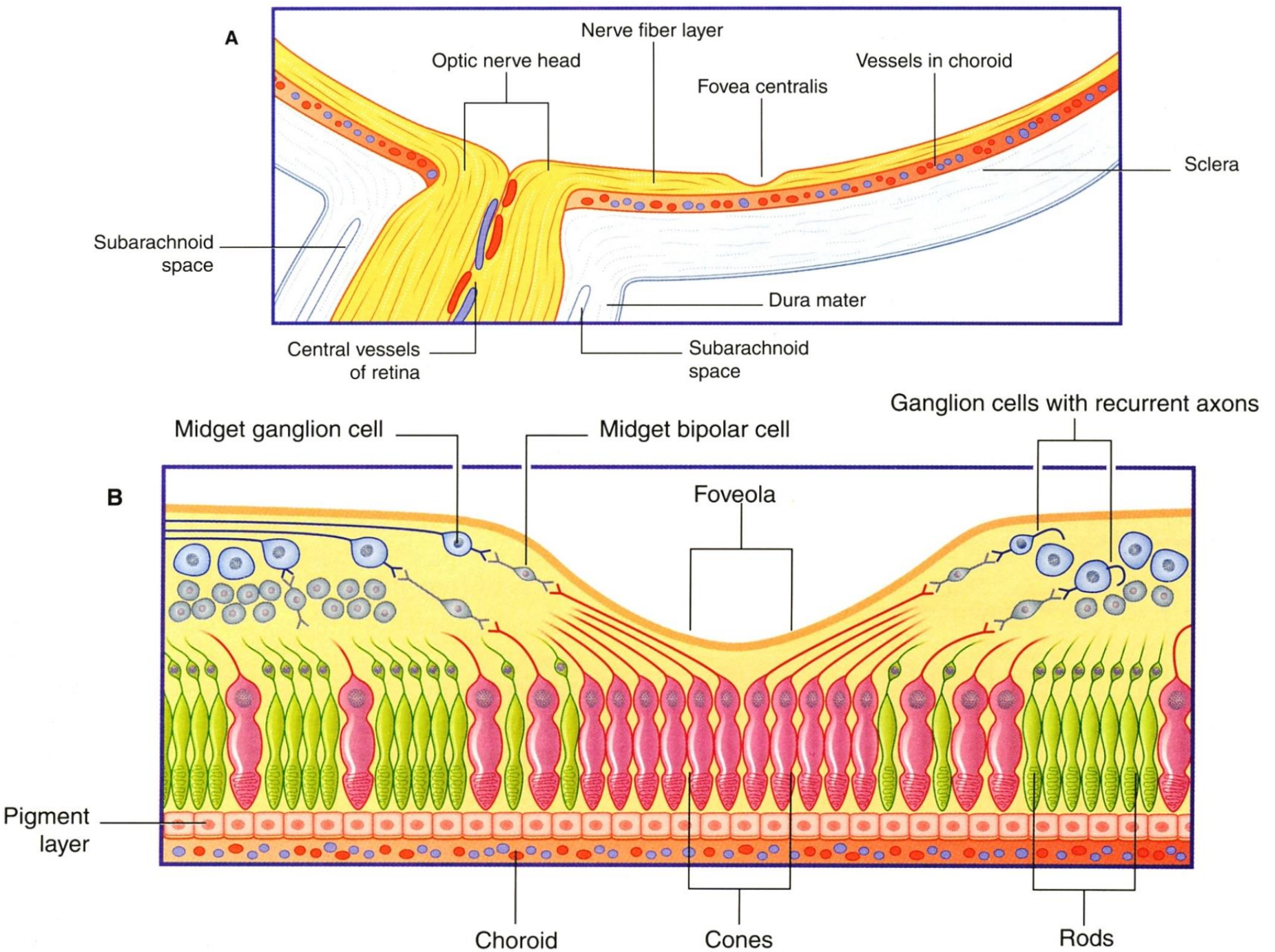
**stratum ganglionare nervi optici**



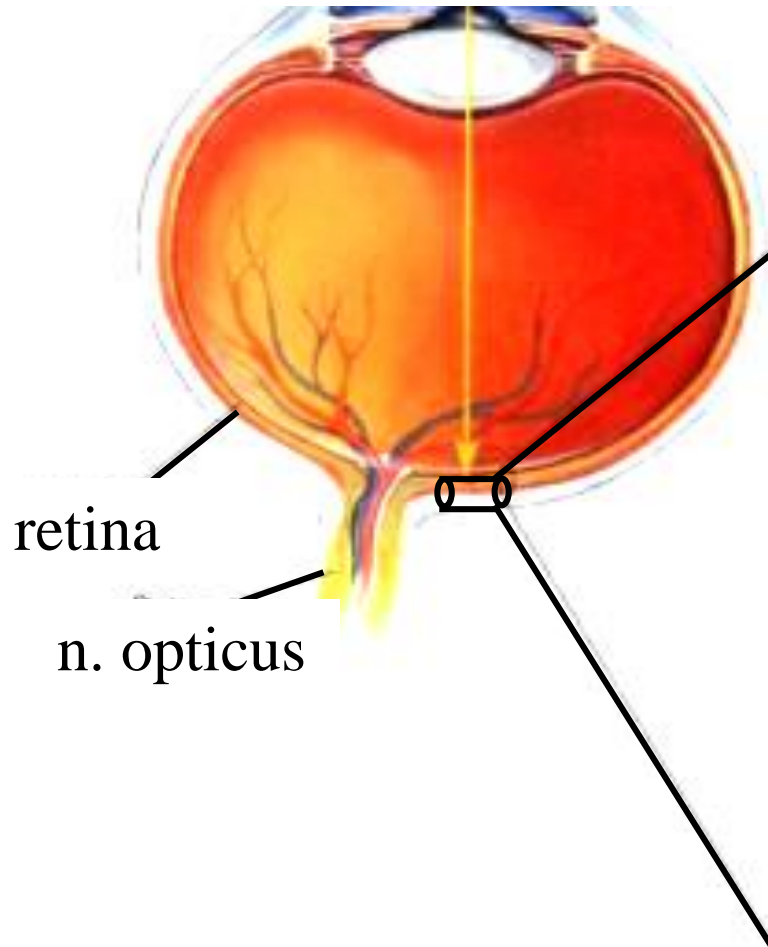
# NEURONY SÍTNICE







# Schéma spojení neuronů sítnice



temporální retina

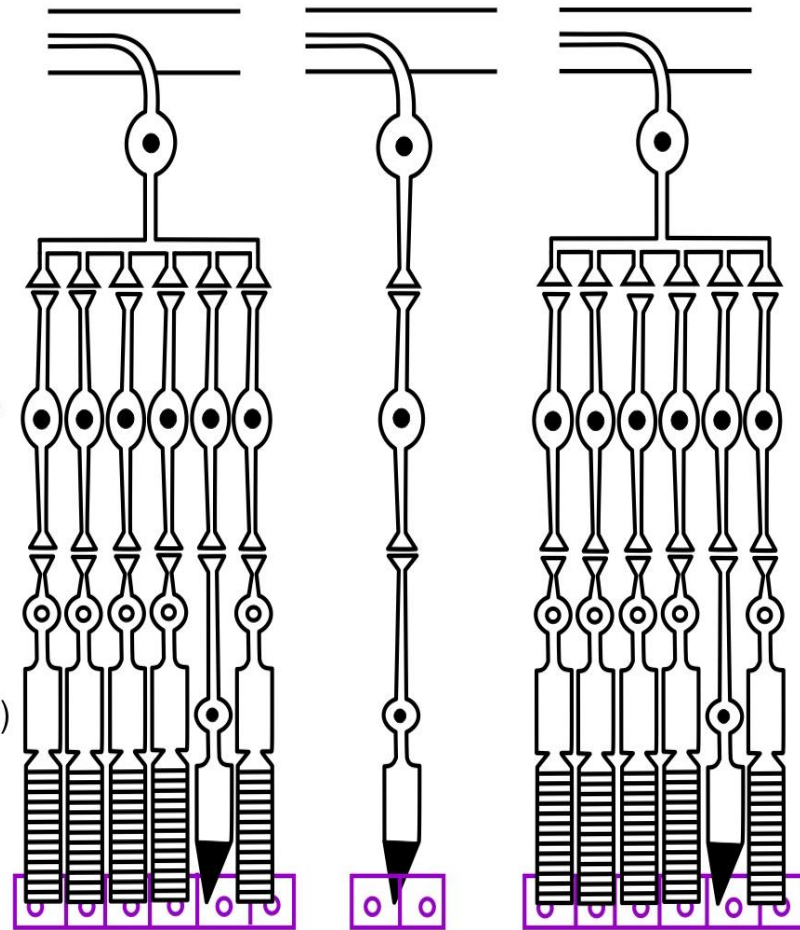
nazální retina

N. opticus

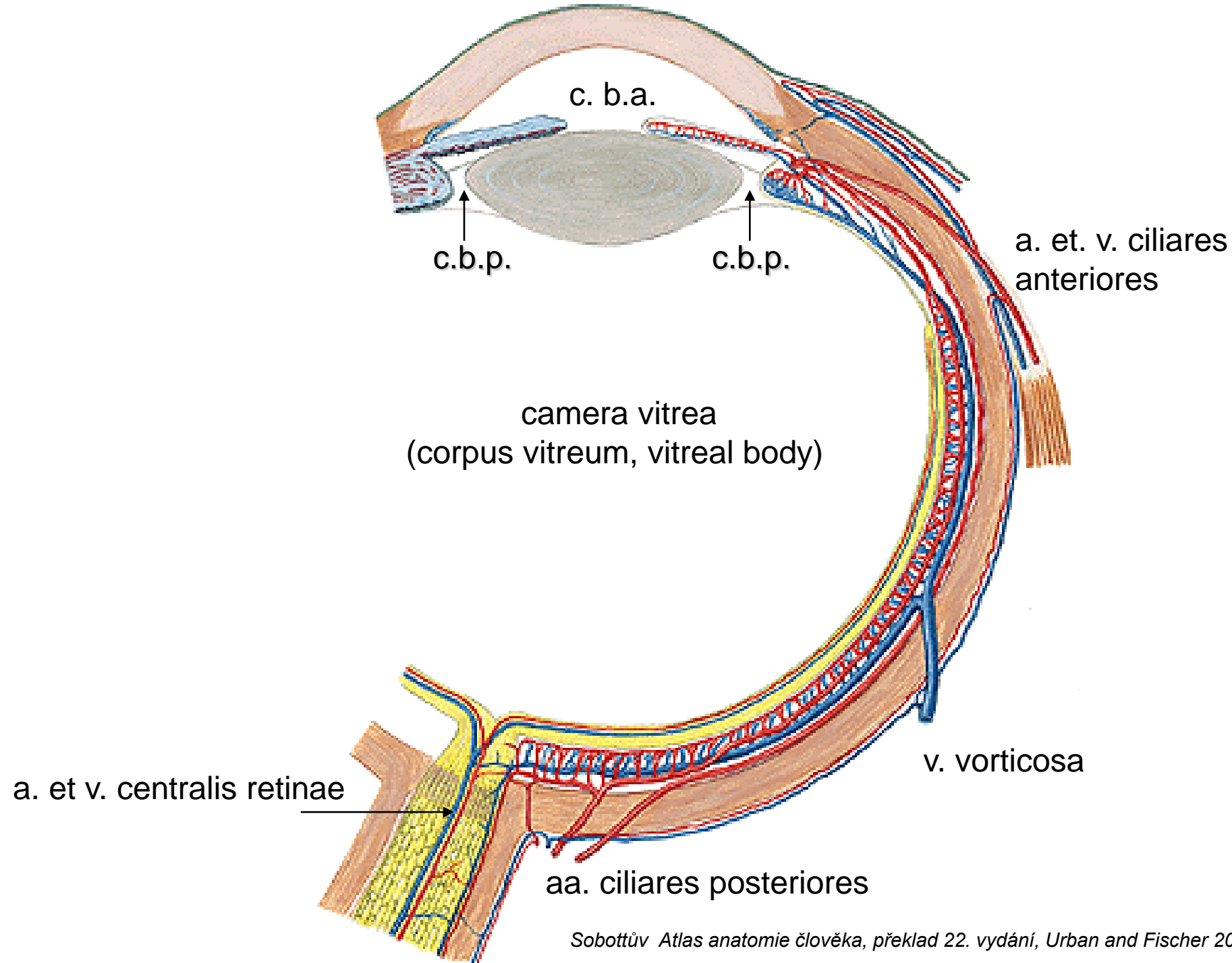
Multipolární neurony  
(stratum ganglionare  
n. optici)

Bipolární neurony  
(stratum ganglionare  
retinae)

Fotoreceptory  
(primární smyslové bb.)

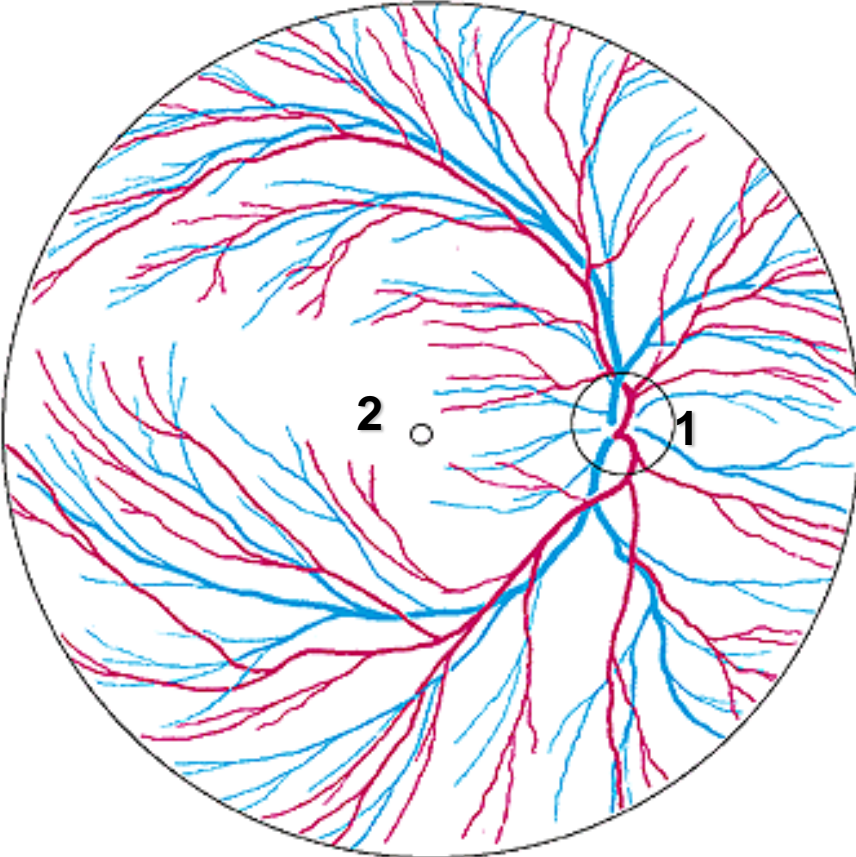


Fovea  
centralis

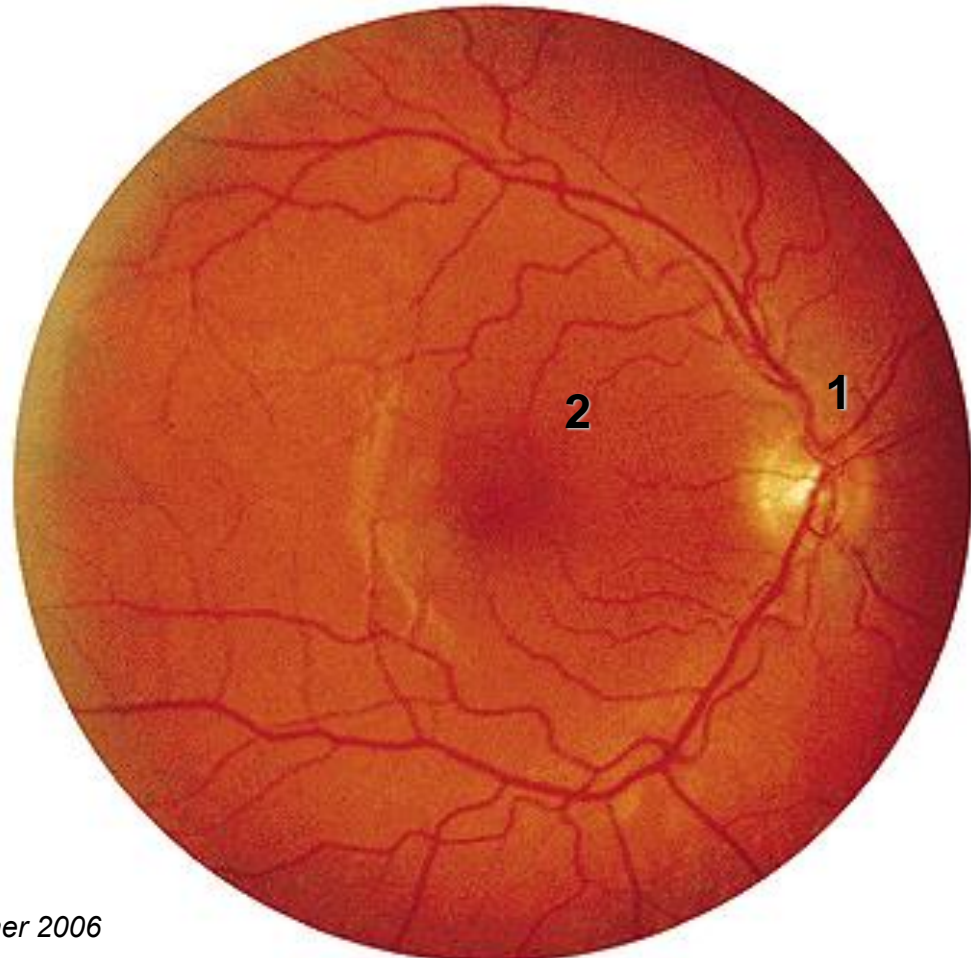




větve  
a. et v. centralis retinae



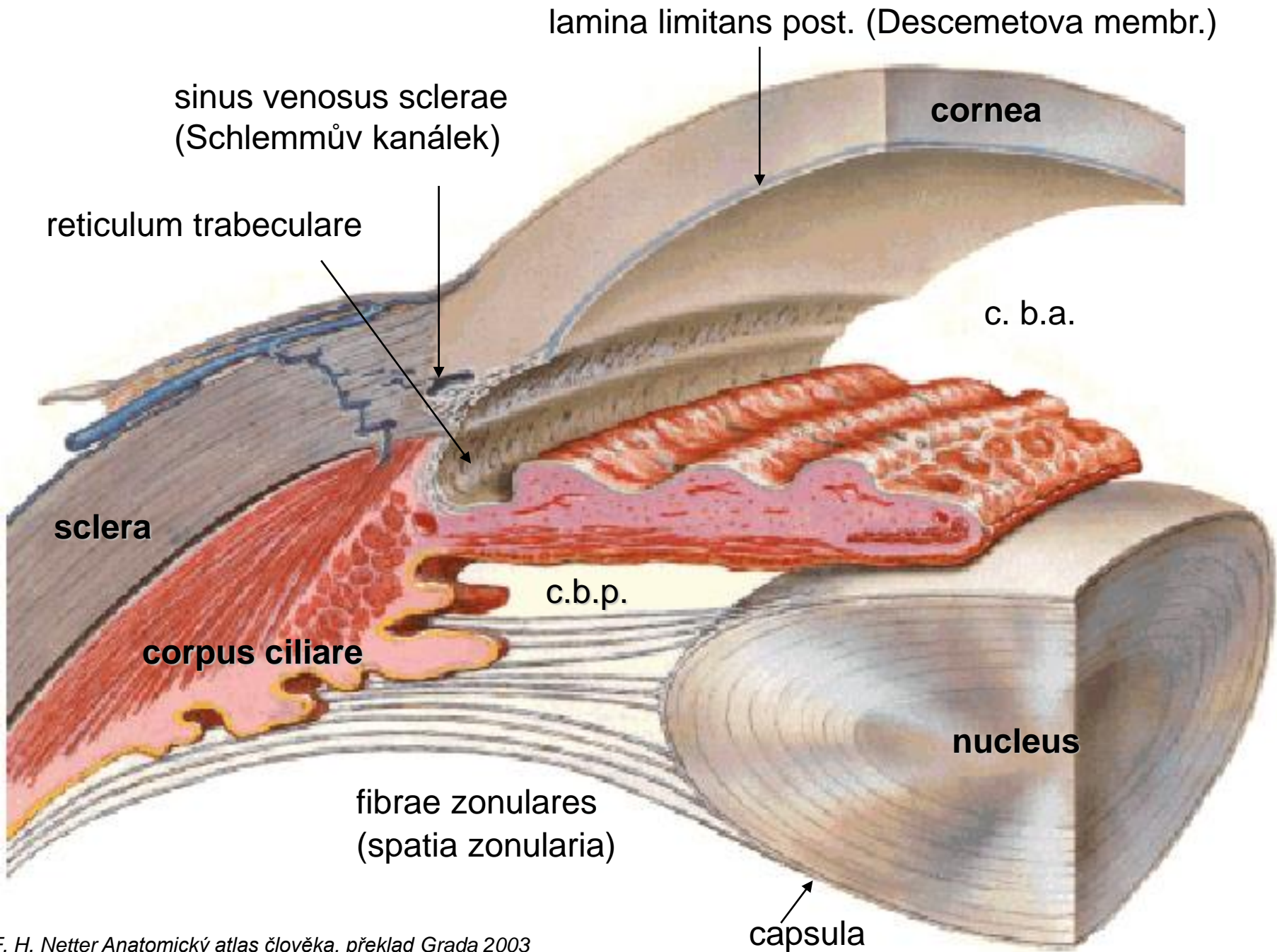
- 1. discus nervi optici - excavatio disci
- 2. macula lutea - fovea centralis



# Diabetická retinopatie



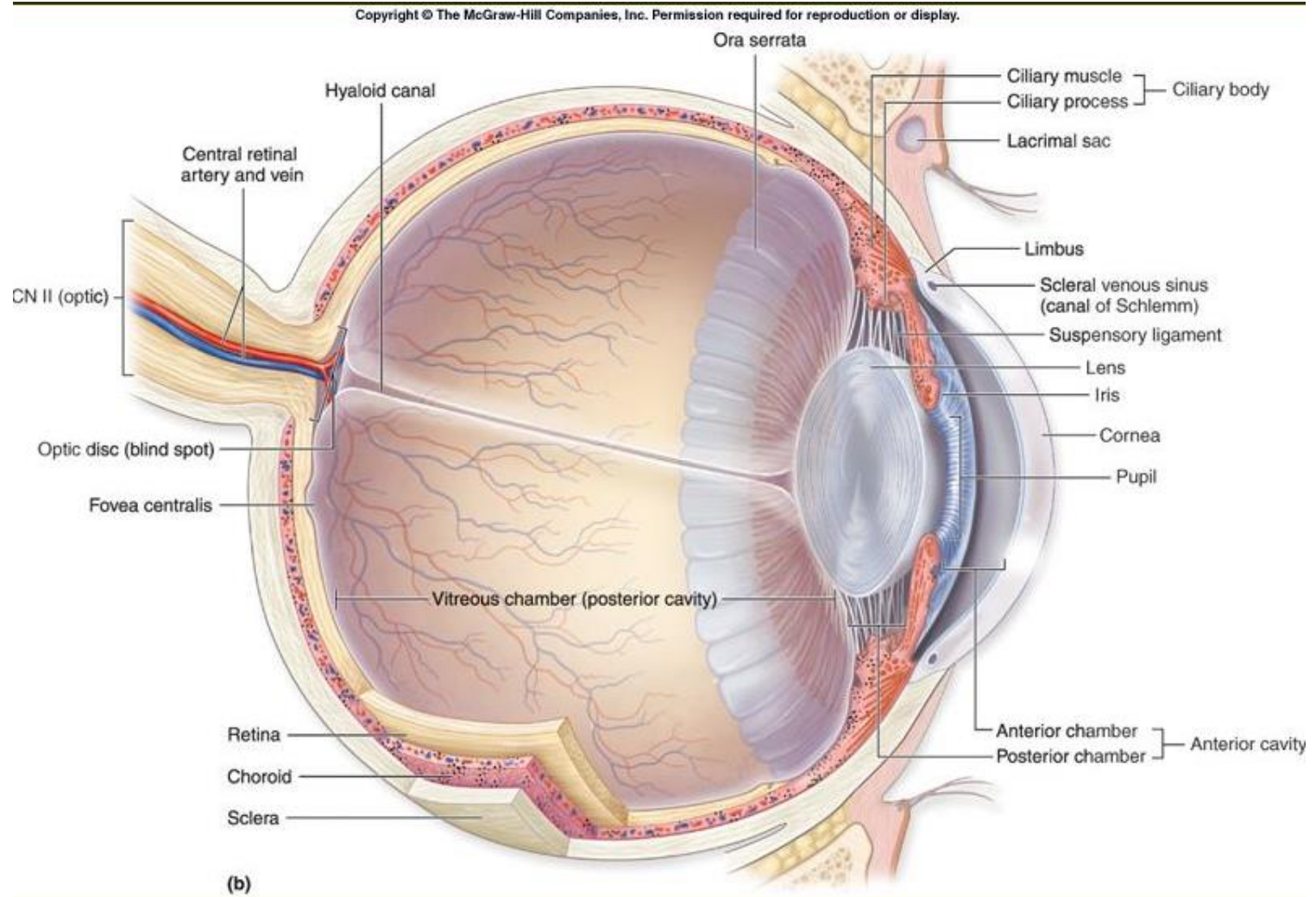




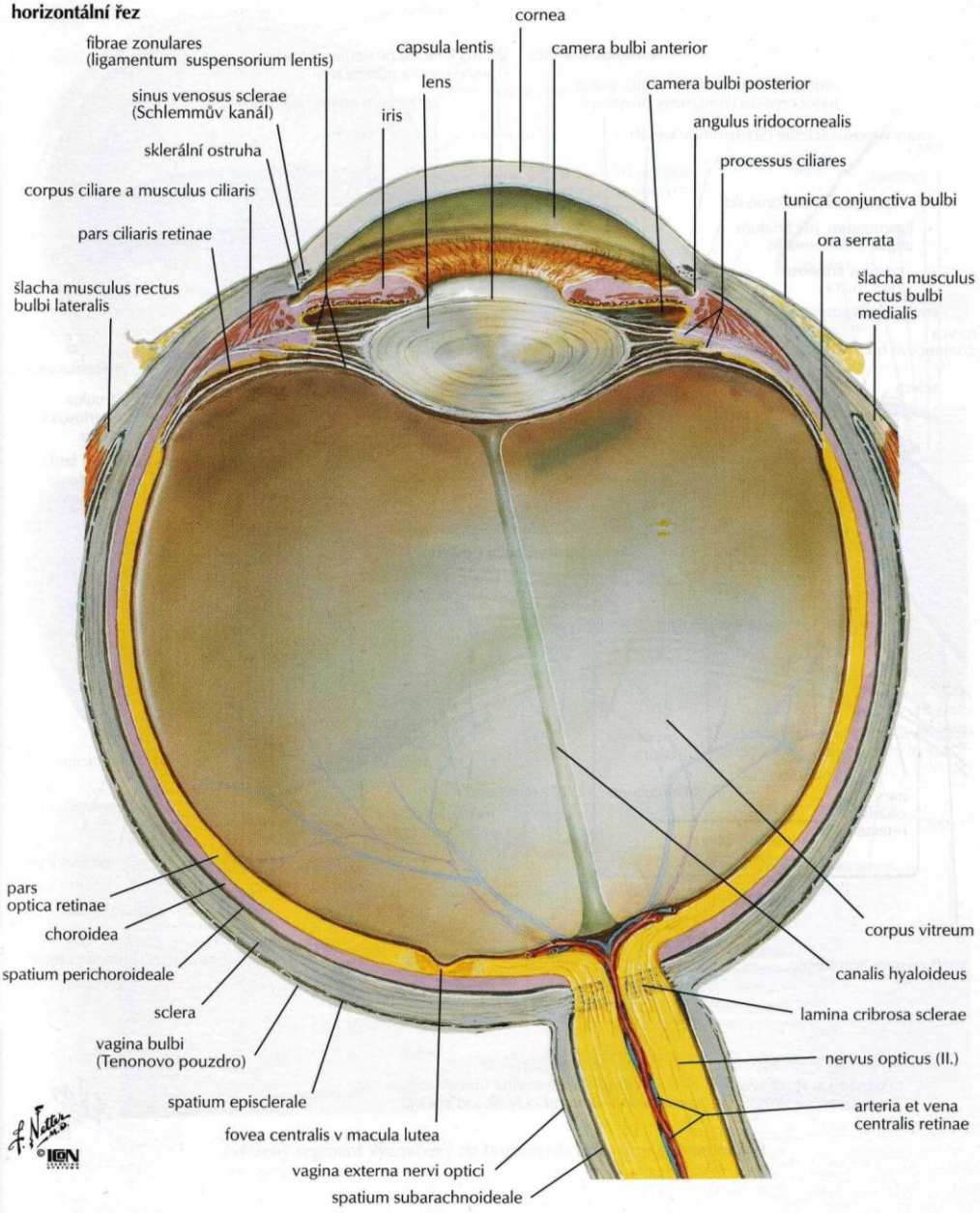


# Camera vitrea – humor aquosus

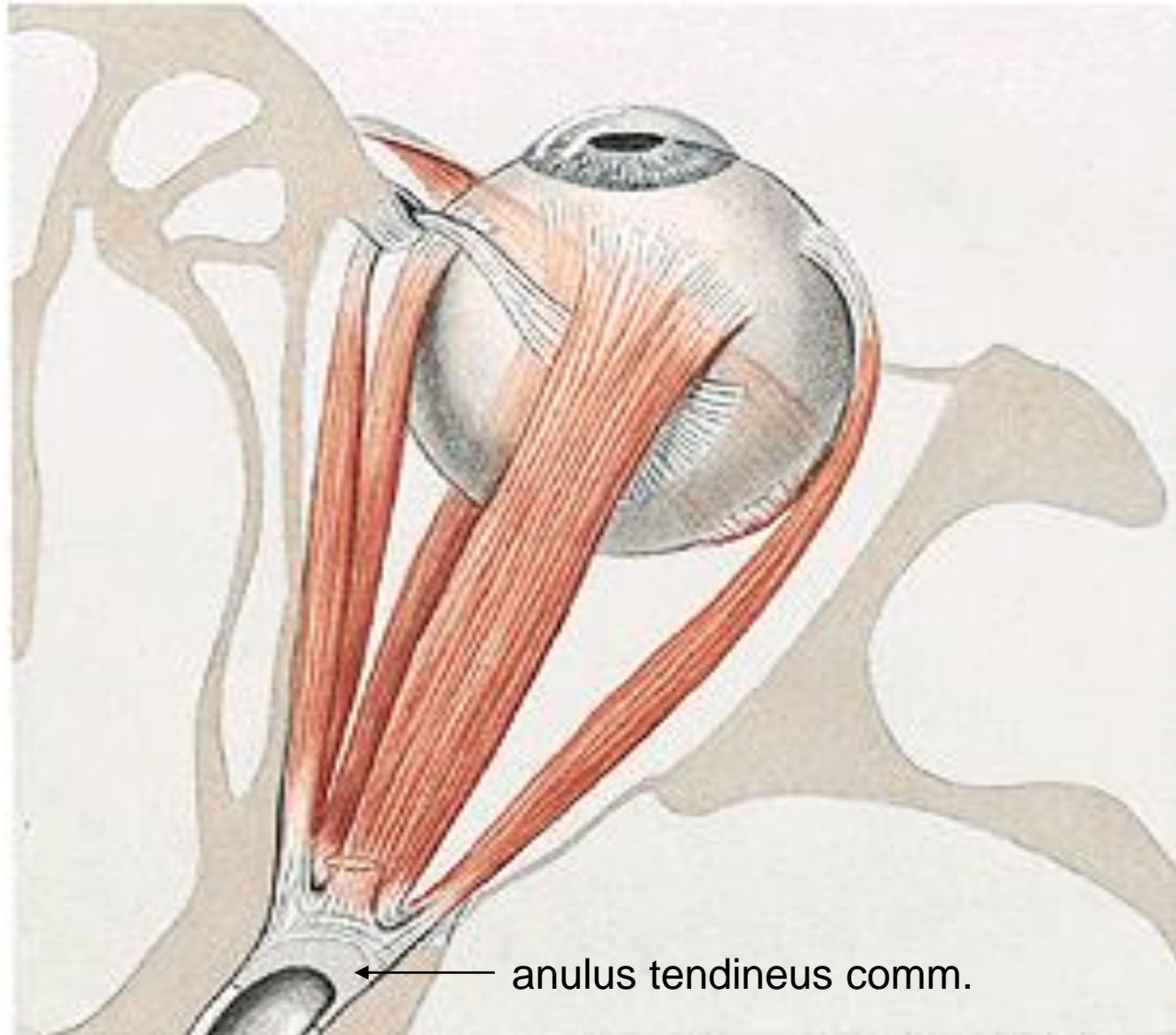
## a. hyaloidea - canalis hyaloideus



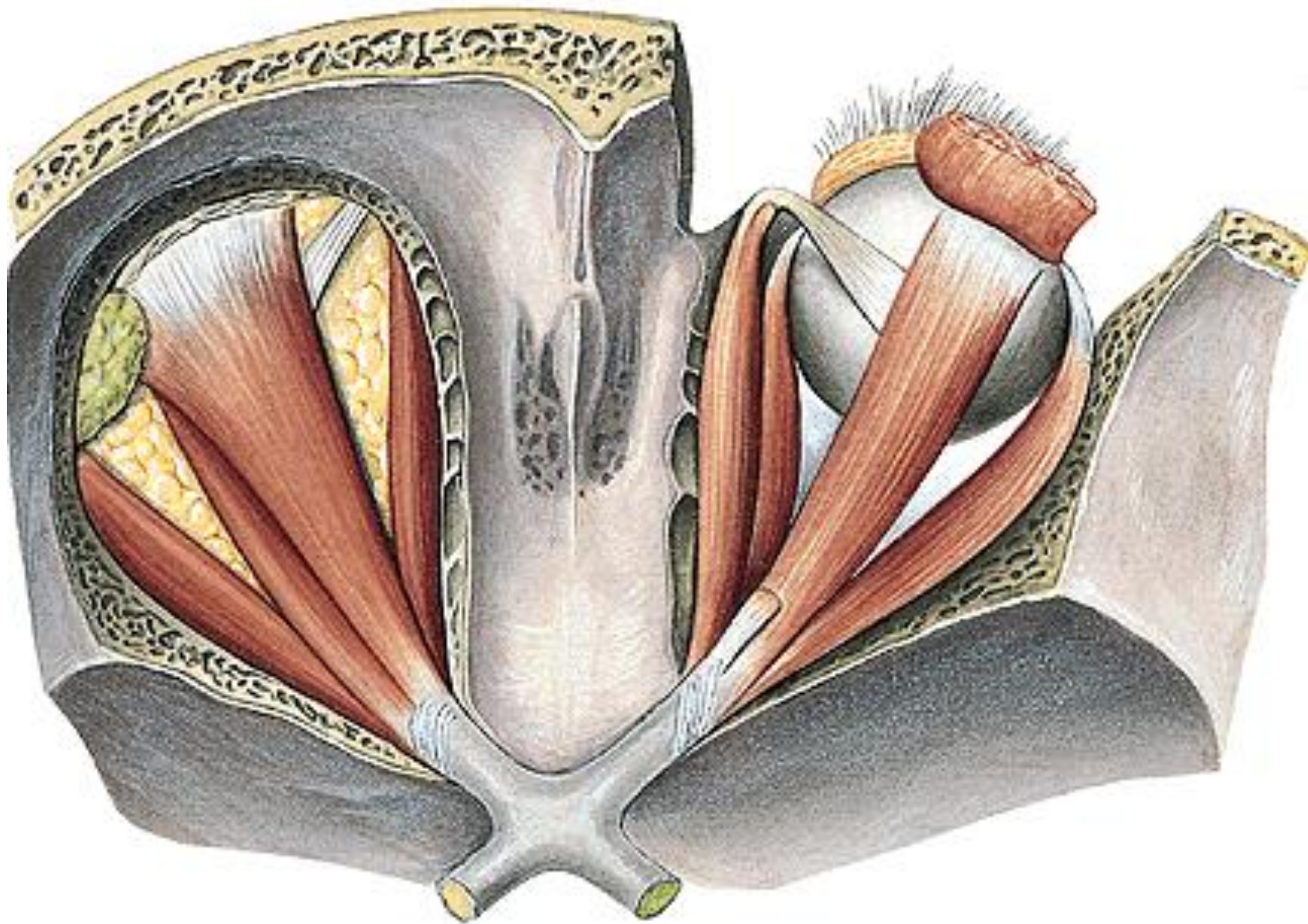
# Camera vitrea – humor aquosus

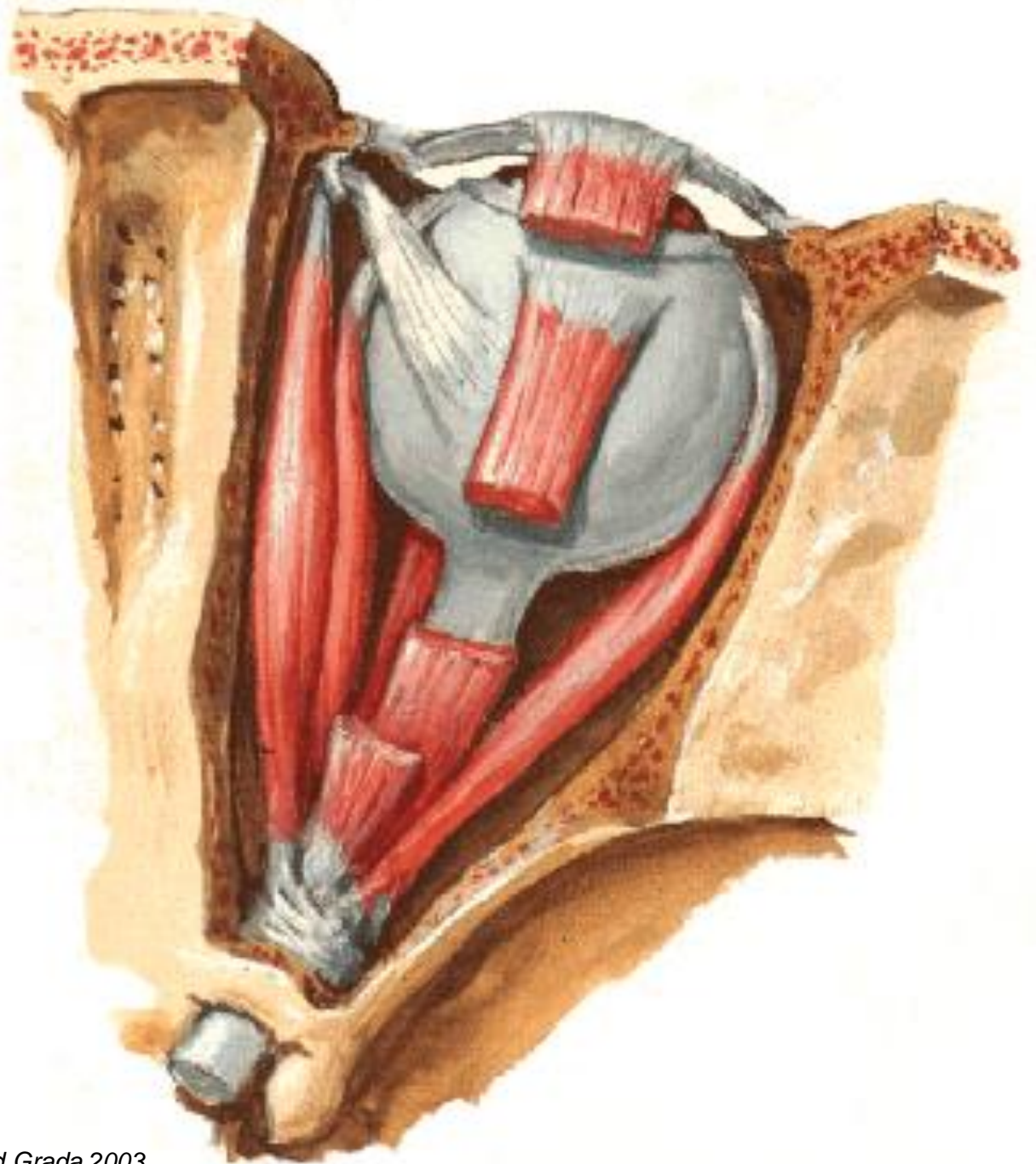


## Extraokulární svaly (příčně pruhované)

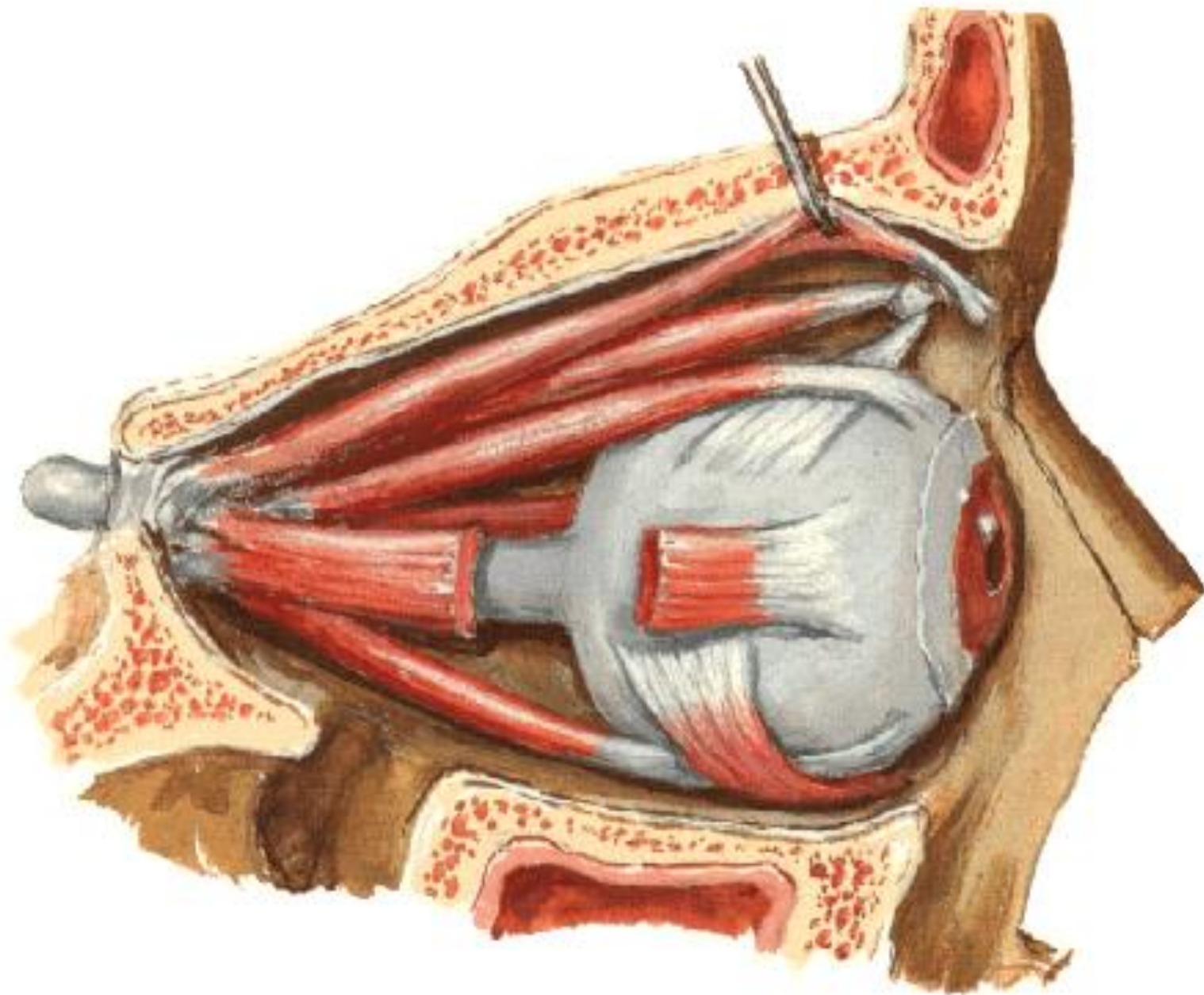








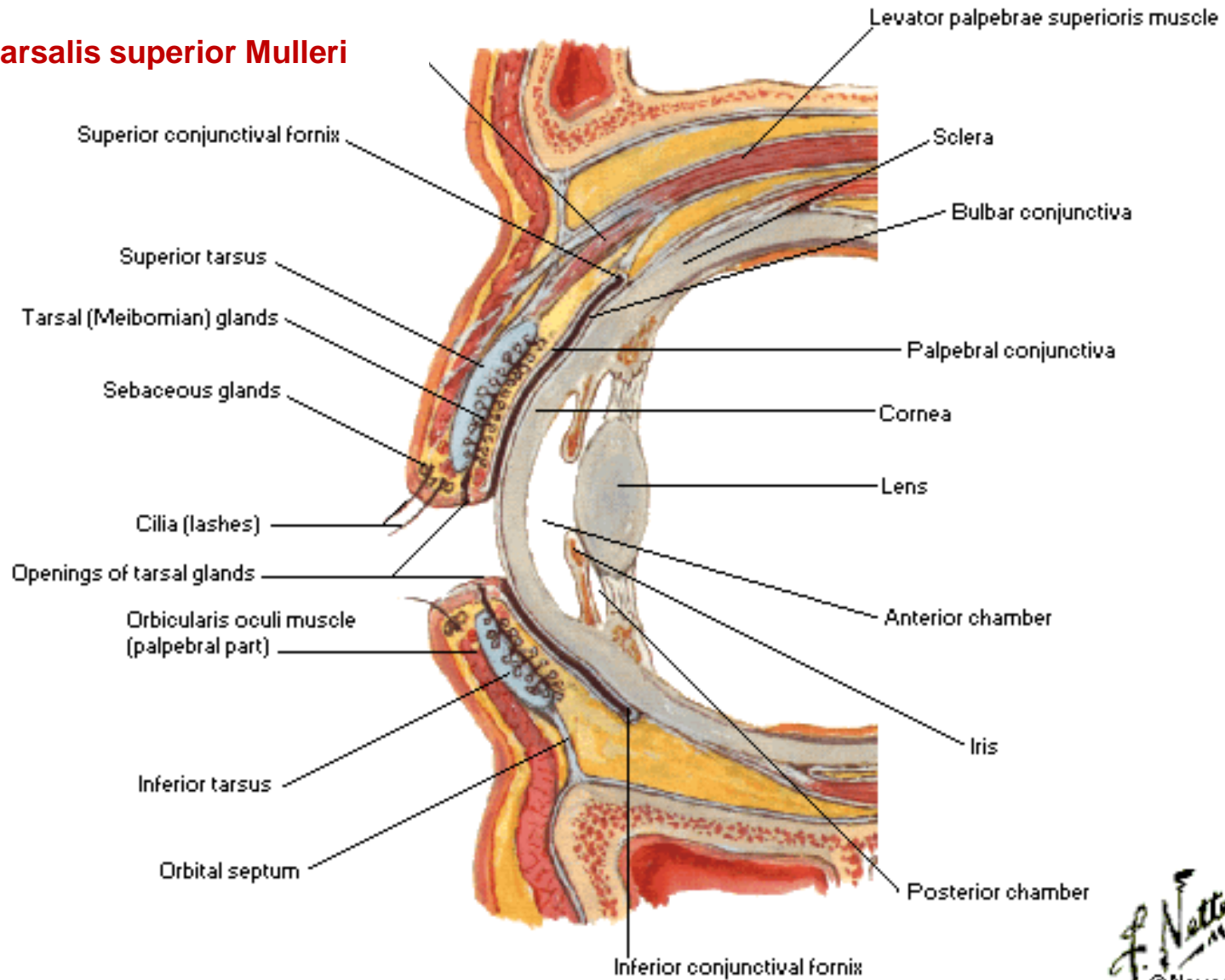






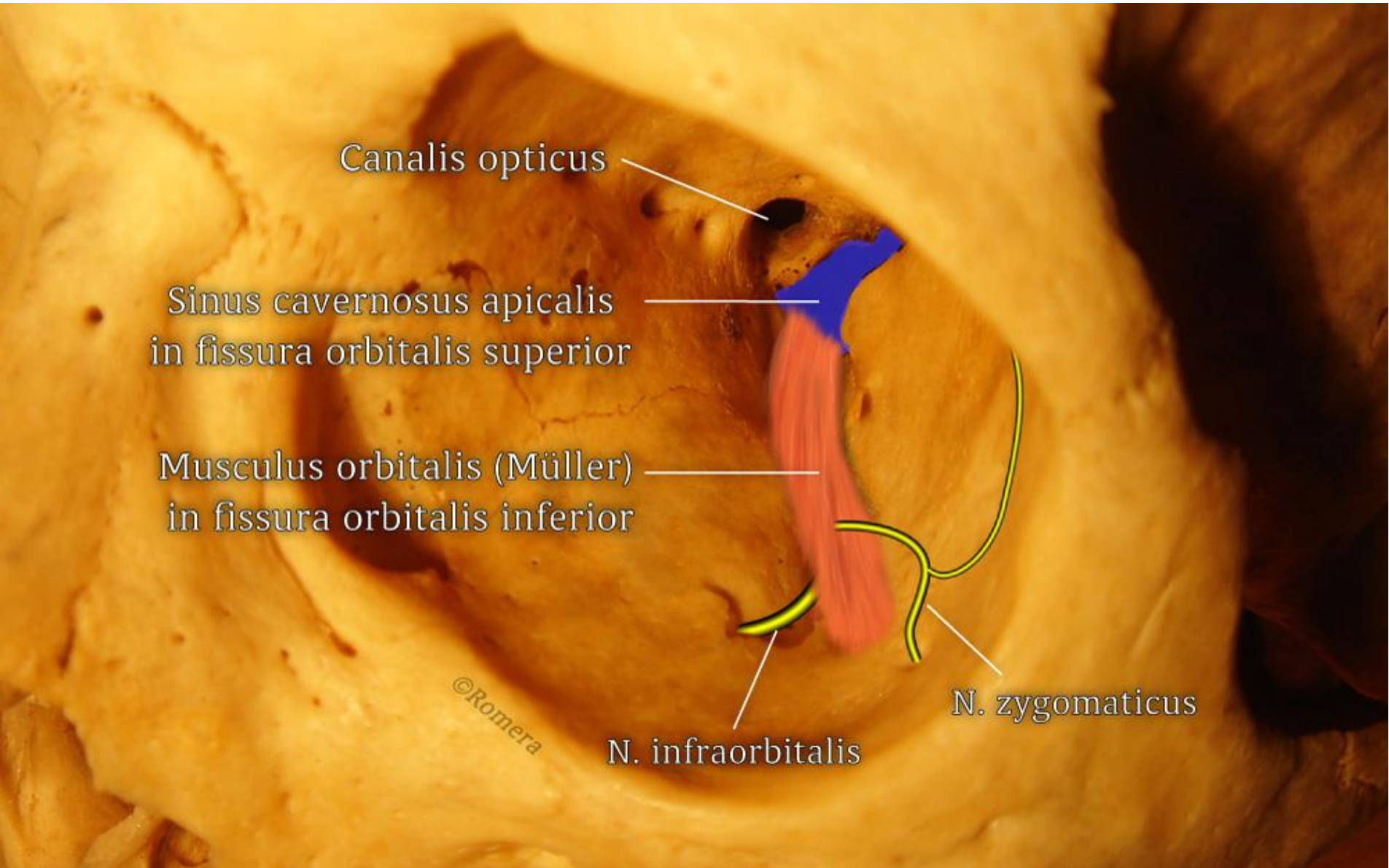
# Extraokulární svaly (hladké)

## m. tarsalis superior Mulleri



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M.D.  
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# M. orbitalis



# Hornerův syndrom

**Hornerova triáda:** mióza, ptóza víčka, enoftalmus



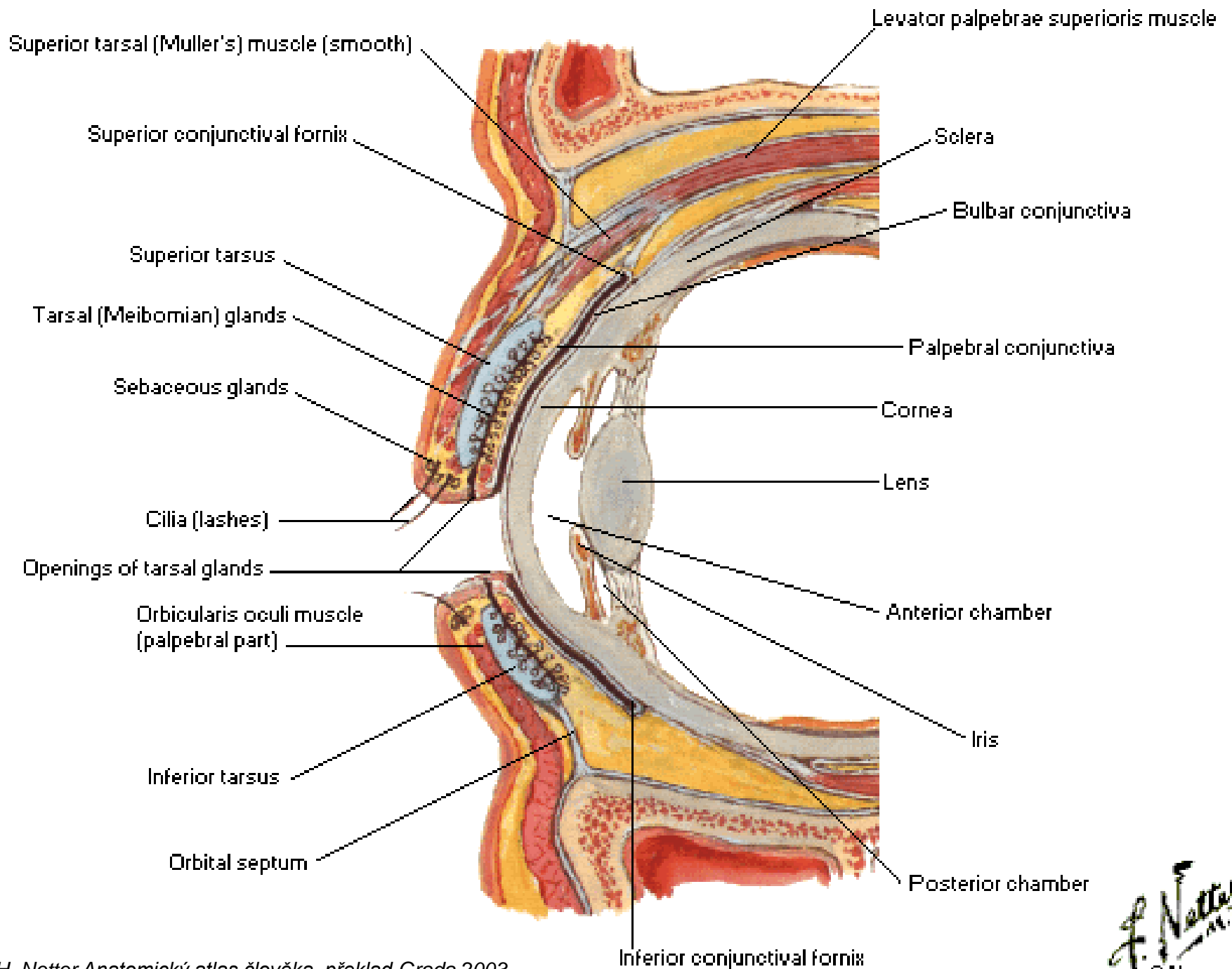
Poškození/útlak - krčního sympatiku, pregangliového i postgangliového (plexus caroticus)  
- Budgeova ciliospinálního centra

## **Tunica conjunctiva - spojivka**

tunica conjunctiva bulbi et palpebrarum  
fornix conjunctivae superior et inferior

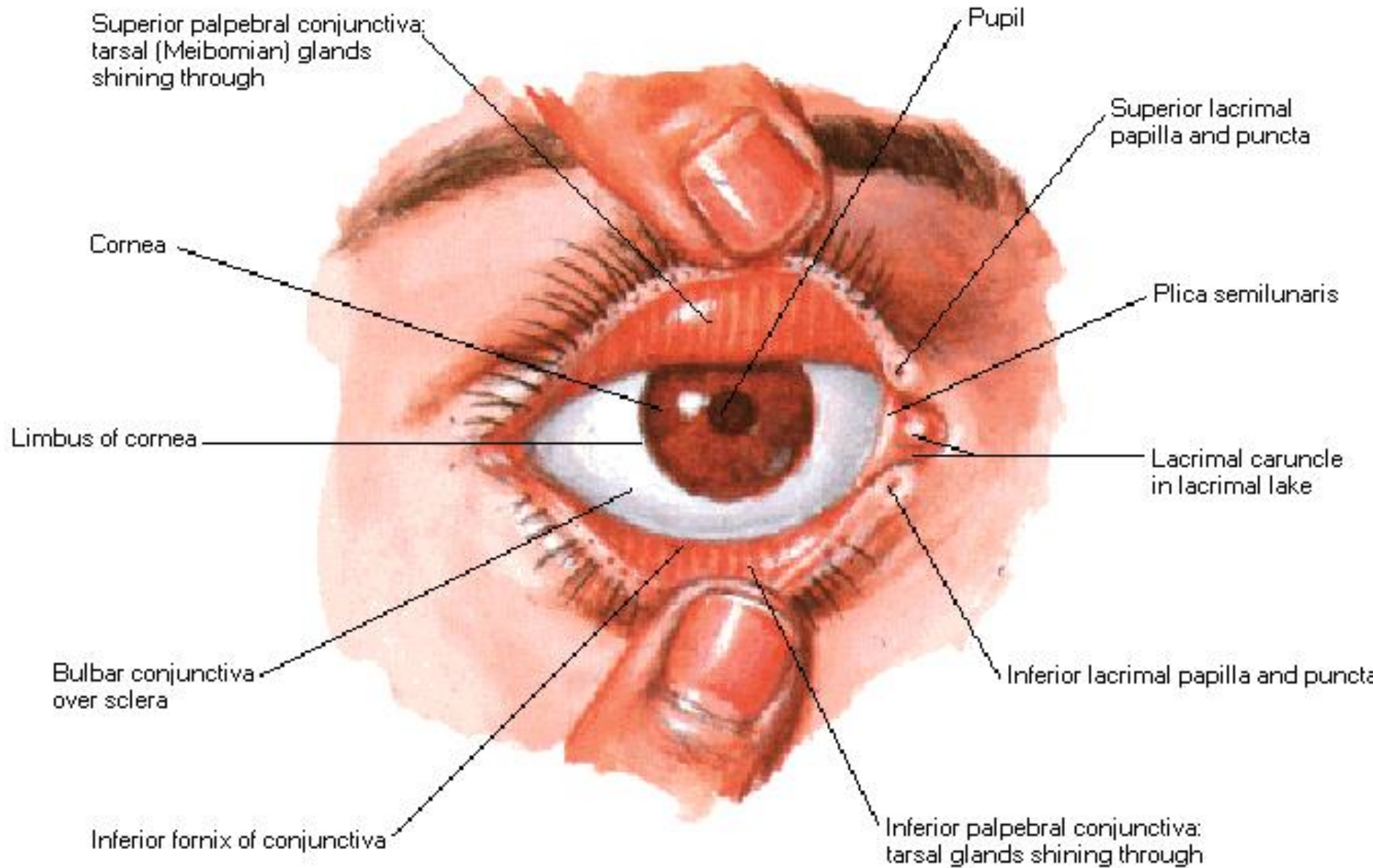
## **Palpebrae – oční víčka**

- tarsus superior et inferior
- lig. palpebrale mediale et laterale
- rima palpebrarum
- rivus lacrimalis
- angulus oculi medialis et lateralis
- gll. tarsales (Meibomi) – vyústění na rima (mazové)
- gll. ciliares (Molli) – vázány na rima et cilie (apokrinní potní)
- gll. sebaceae (Zeisi) – vázány na cilie (holokrinní mazové) - hordeolum

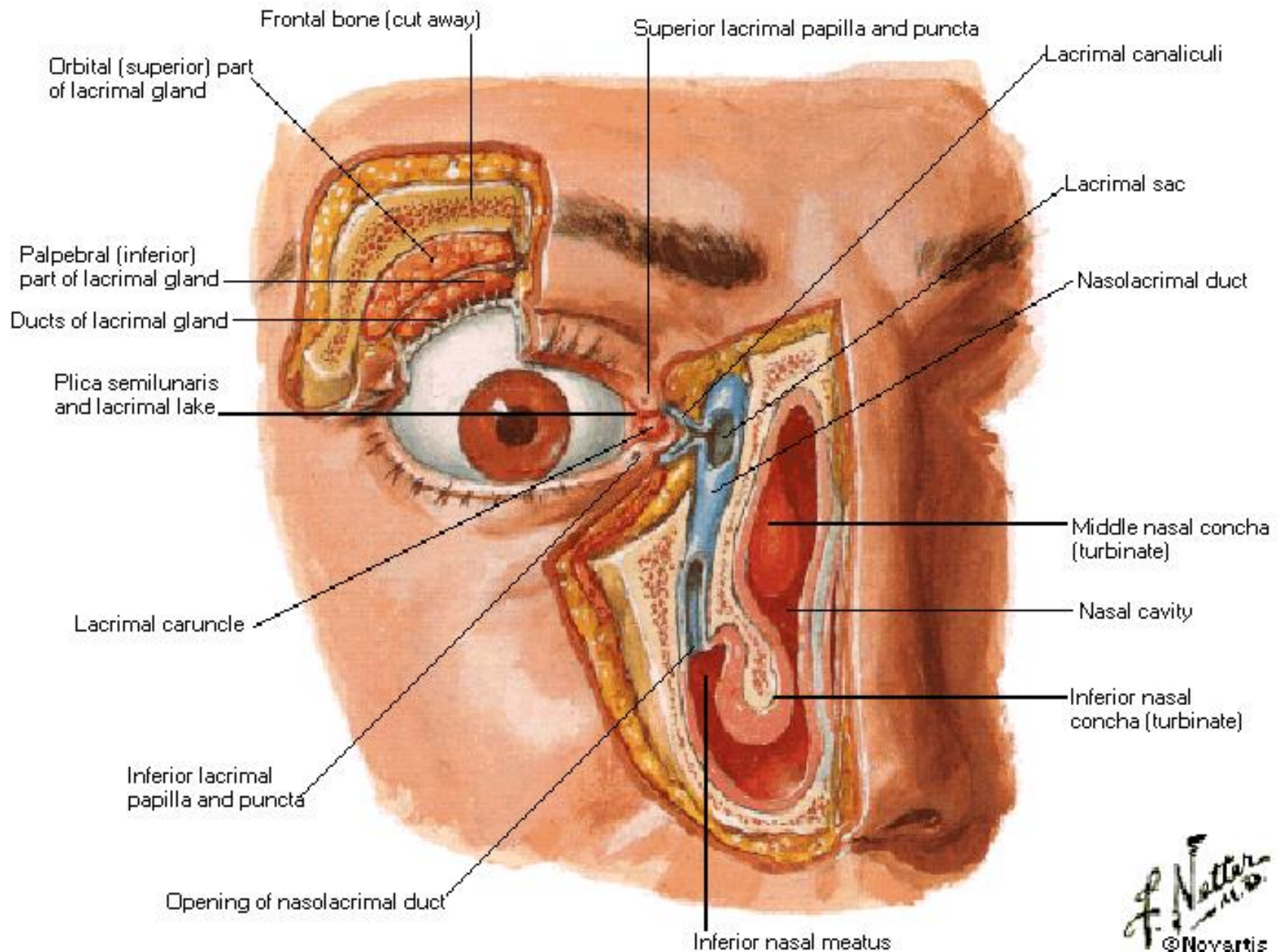




# Apparatus lacrimalis







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# Orbita

Stěny orbity – periorbita

Vagina (fascia) bulbi (Tenoni)

Corpus adiposum orbitae

## horizontální řez

ligamentum palpebrae mediale

cavum nasi

omezující šlacha musculus rectus bulbi medialis

cellulae ethmoidales

periorbita

musculus rectus bulbi medialis a jeho fascie

vagina bulbi (capsula Tenoni)

sclera

spatium episclerale

nervus opticus (II.) a jeho obaly

sinus sphenoidalis

tarsus

tunica conjunctiva palpebrarum

tunica conjunctiva bulbi

cornea

ligamentum palpebrae laterale

omezující šlacha musculus rectus bulbi lateralis

periorbita

sclera

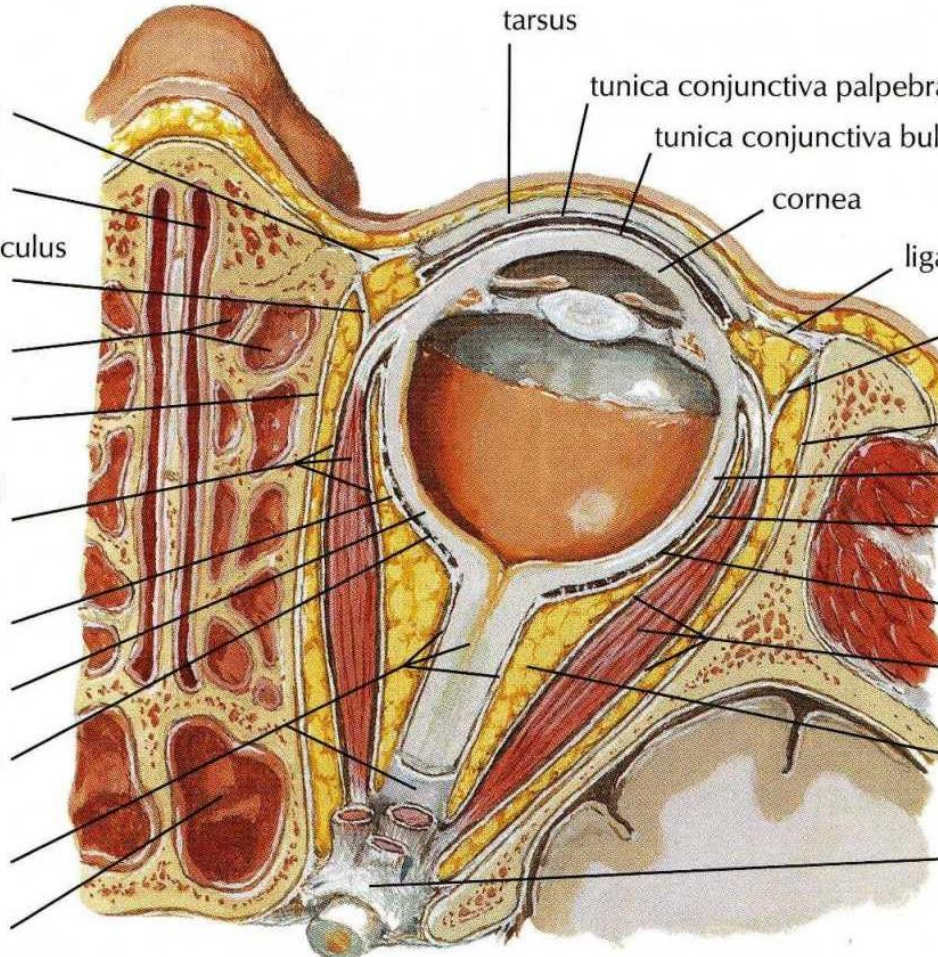
vagina bulbi (capsula Tenoni)

spatium episclerale

musculus rectus bulbi lateralis a jeho fascie

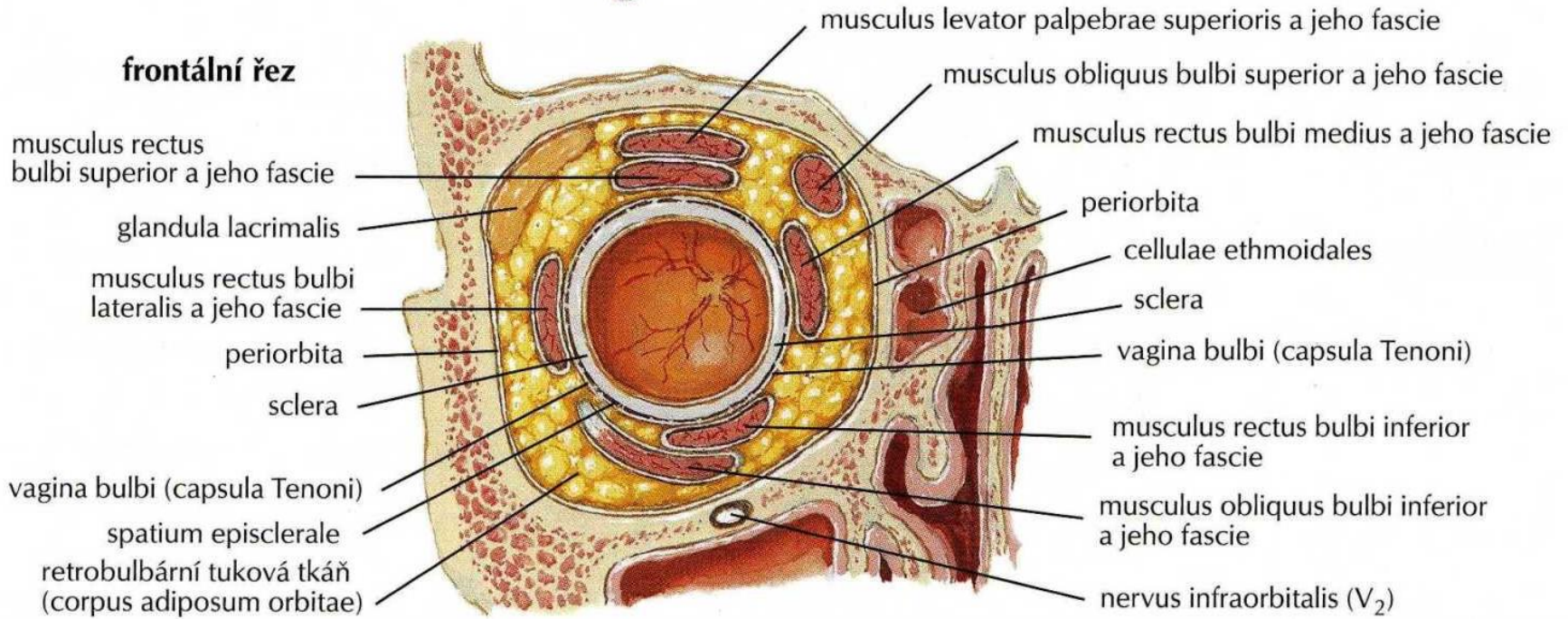
retrobulbární tuková tkáň (corpus adiposum orbitae)

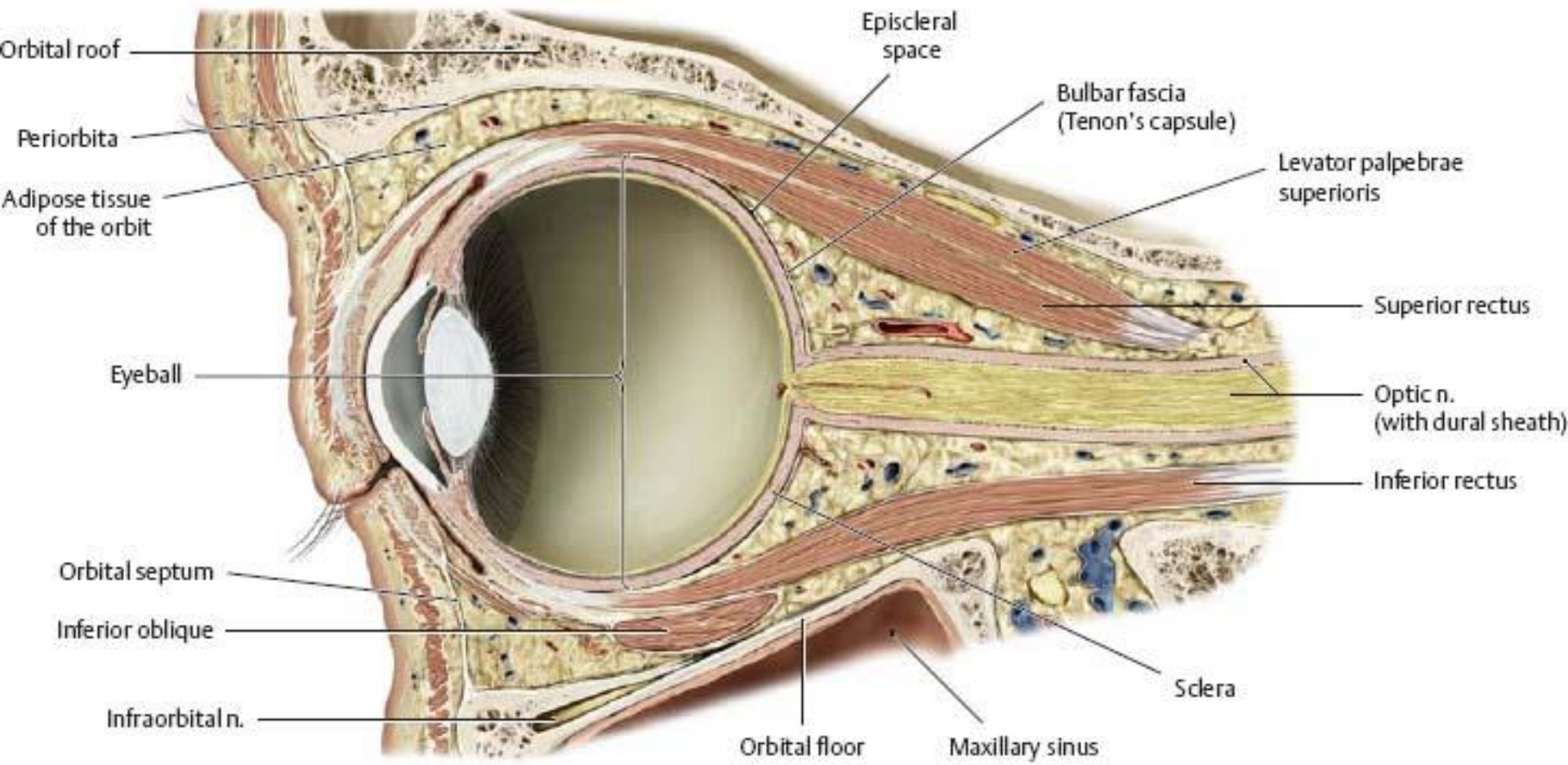
anulus tendineus communis





**frontální řez**





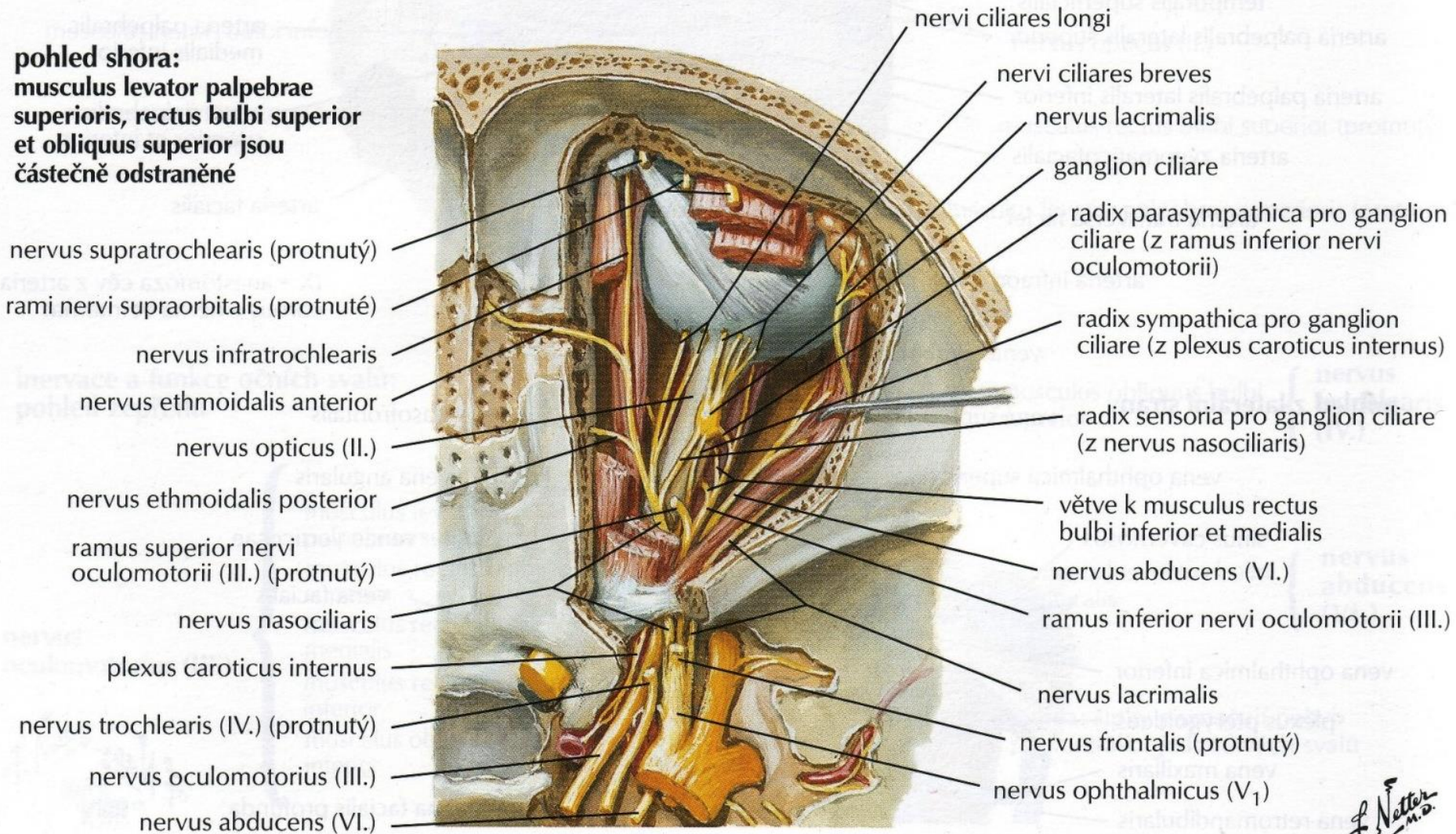






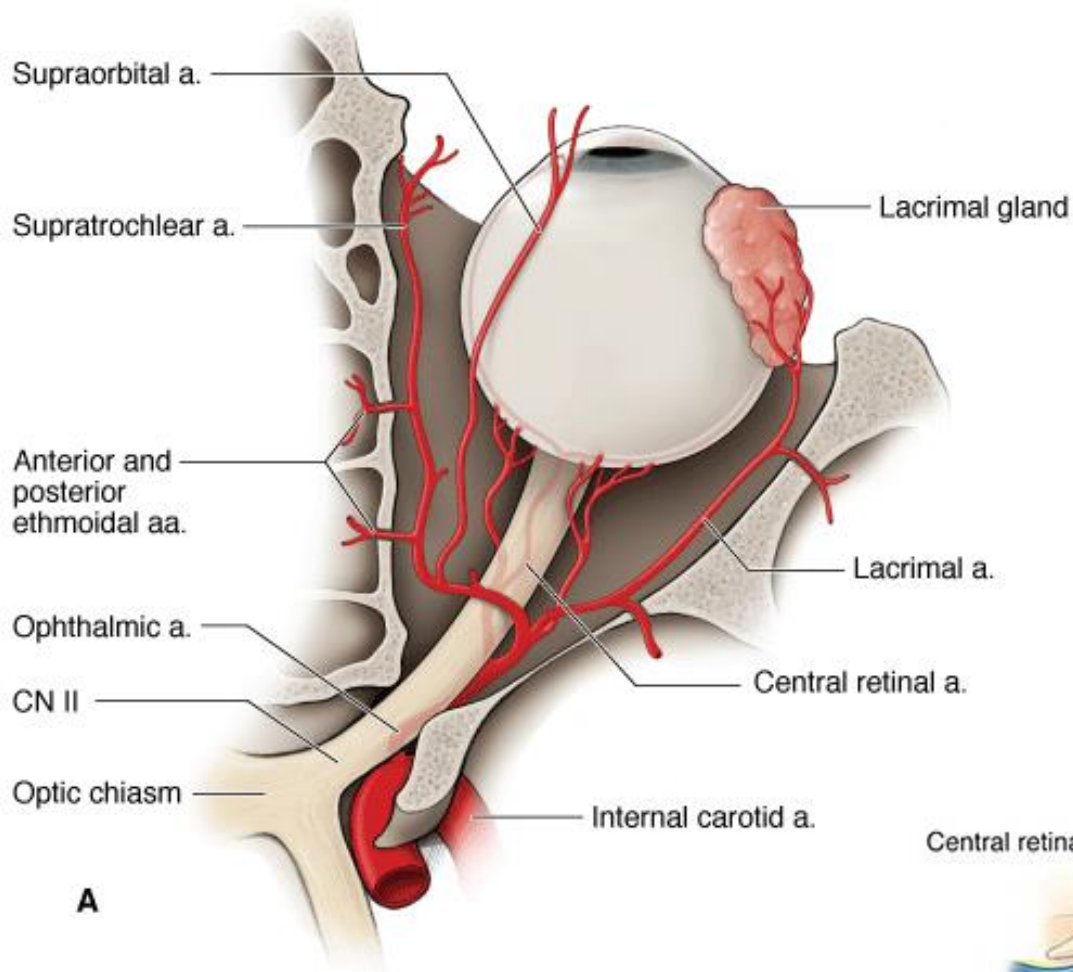
# Orbita – střední etáž

**pohled shora:**  
**musculus levator palpebrae superioris, rectus bulbi superior et obliquus superior jsou částečně odstraněné**

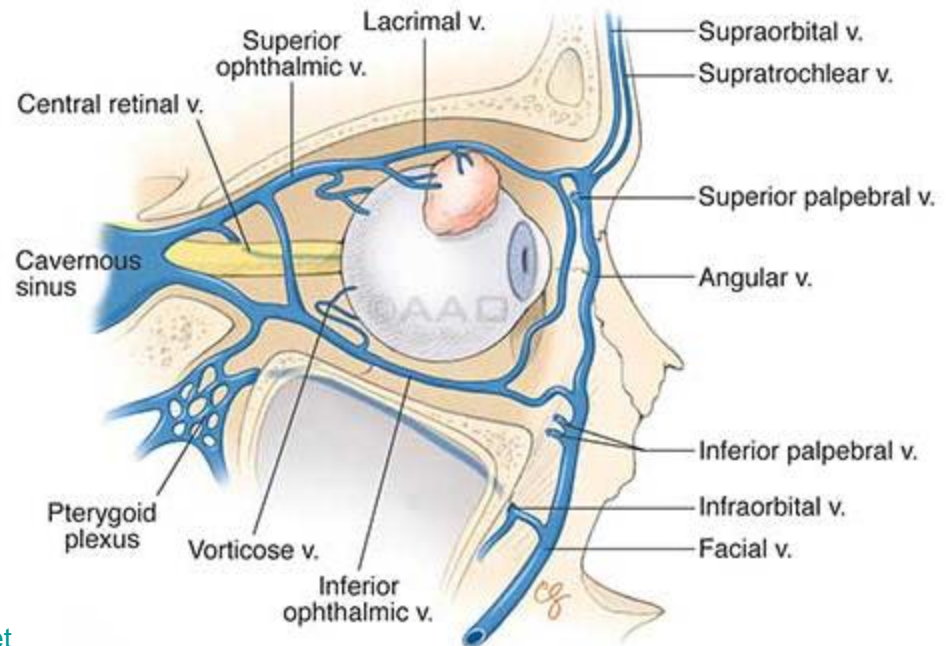


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<https://www.medizin-kompakt.de/ophthalmica>



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