



INTEGUMENTARY SYSTEM

- Skin
 - thin type
 - thick type

- Keratinized adnexa
 - hair
 - nail

- Nonkeratinized adnexa
 - small sweat glands
 - great sweat glands
 - sebaceous glands
 - mammary glands

Skin (integumentum)

Epidermis

stratum corneum proprium
(stratum lucidum)

stratum granulosum

stratum spinosum

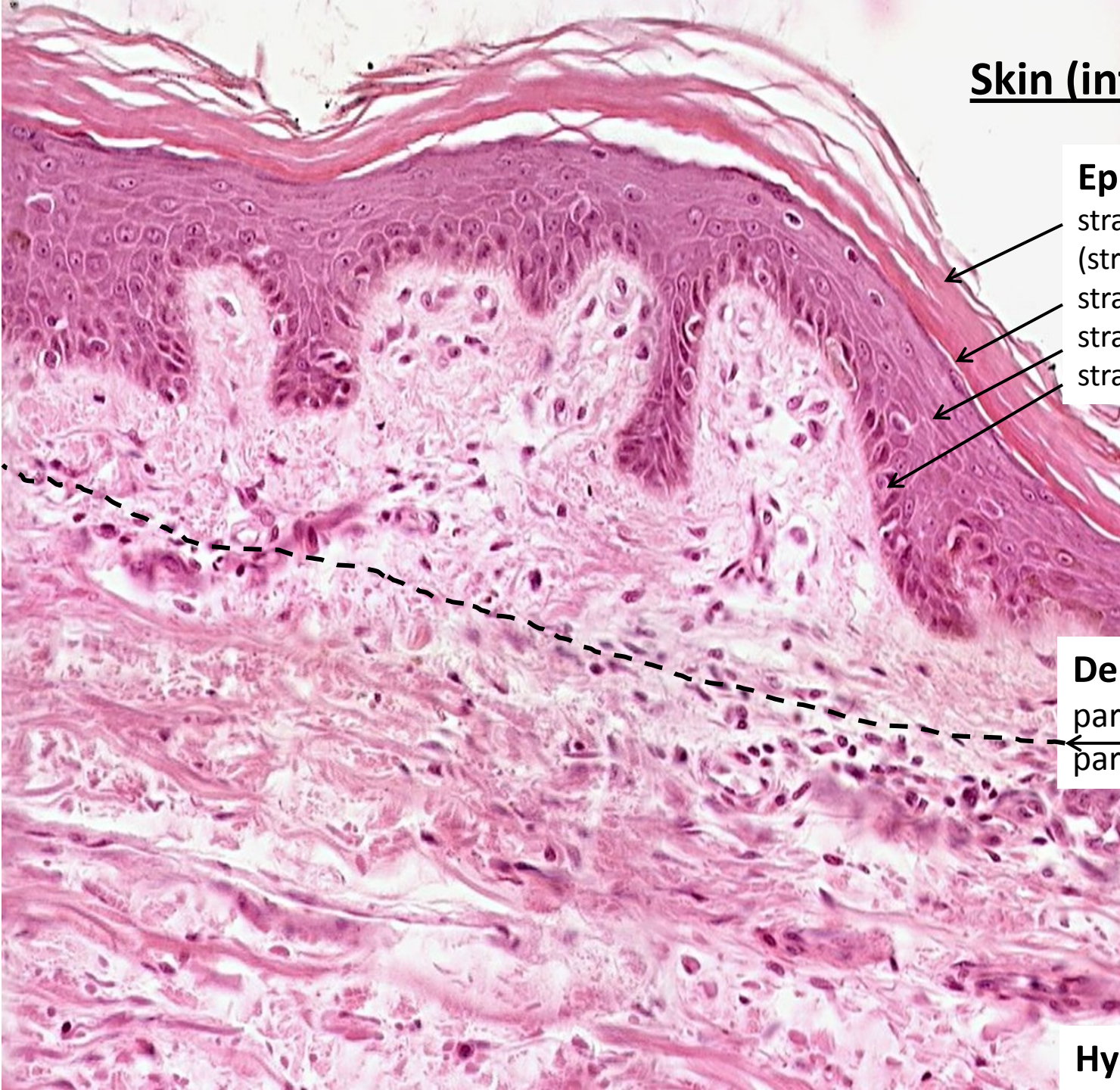
stratum basale

Dermis (corium)

pars papillaris

pars reticularis

Hypodermis

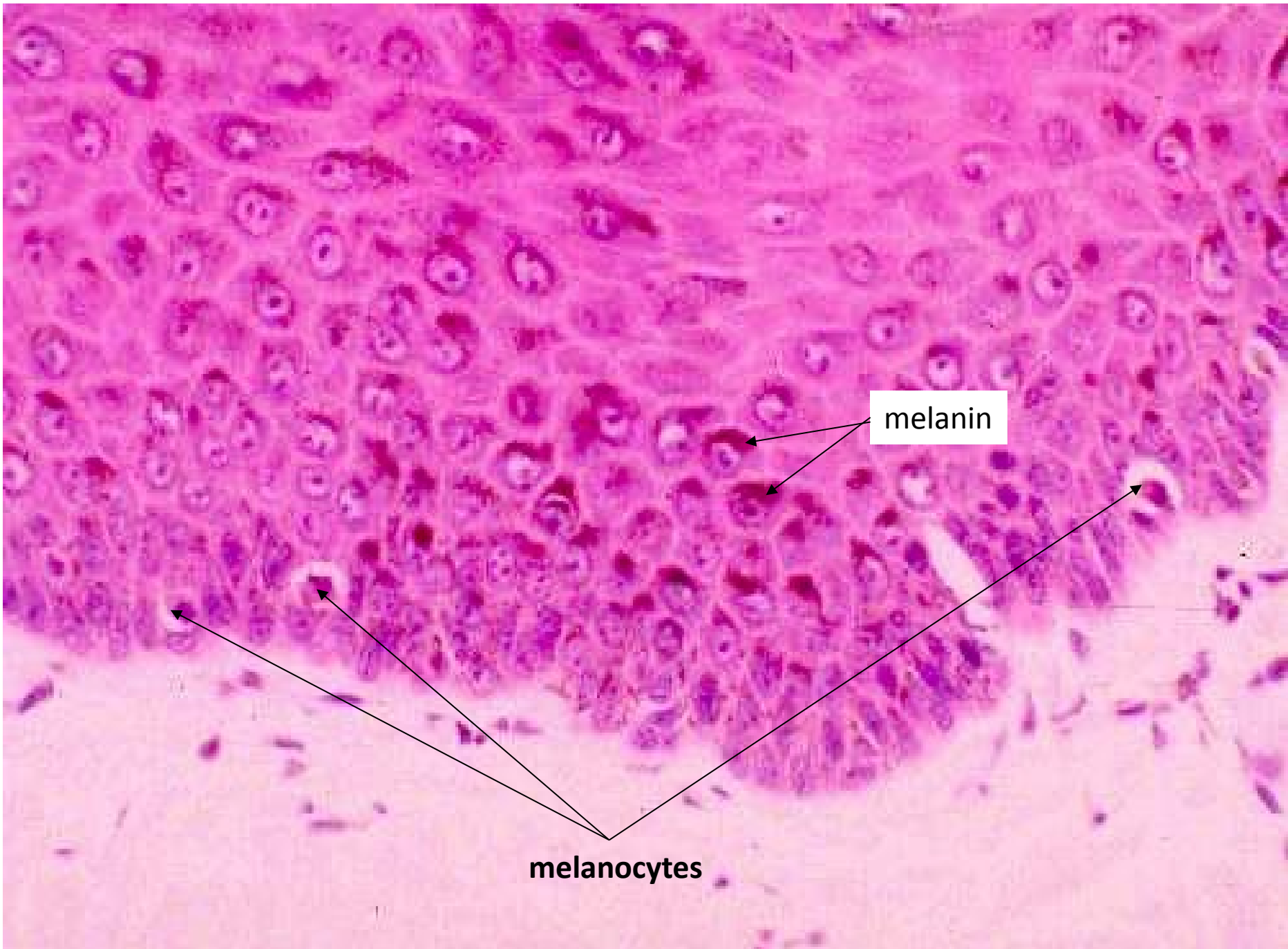


Epidermis



melanocytes

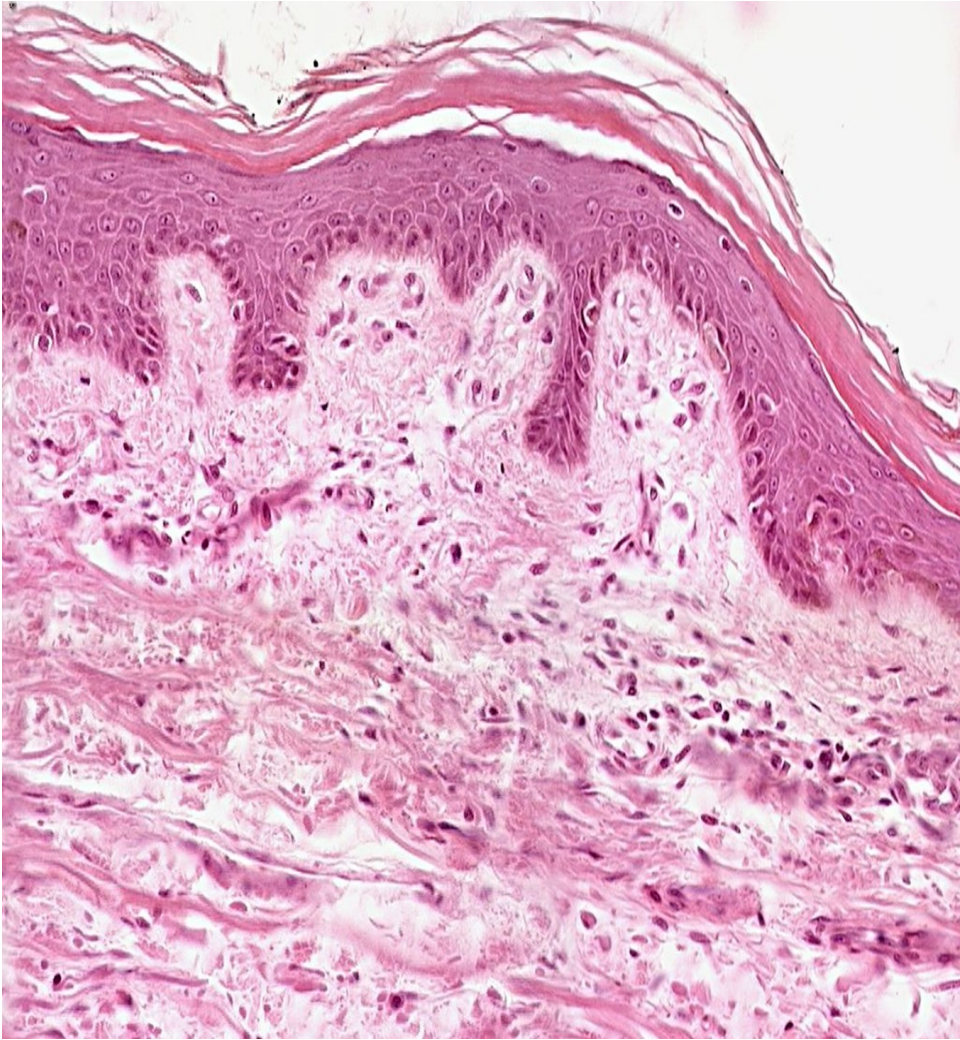
dermis



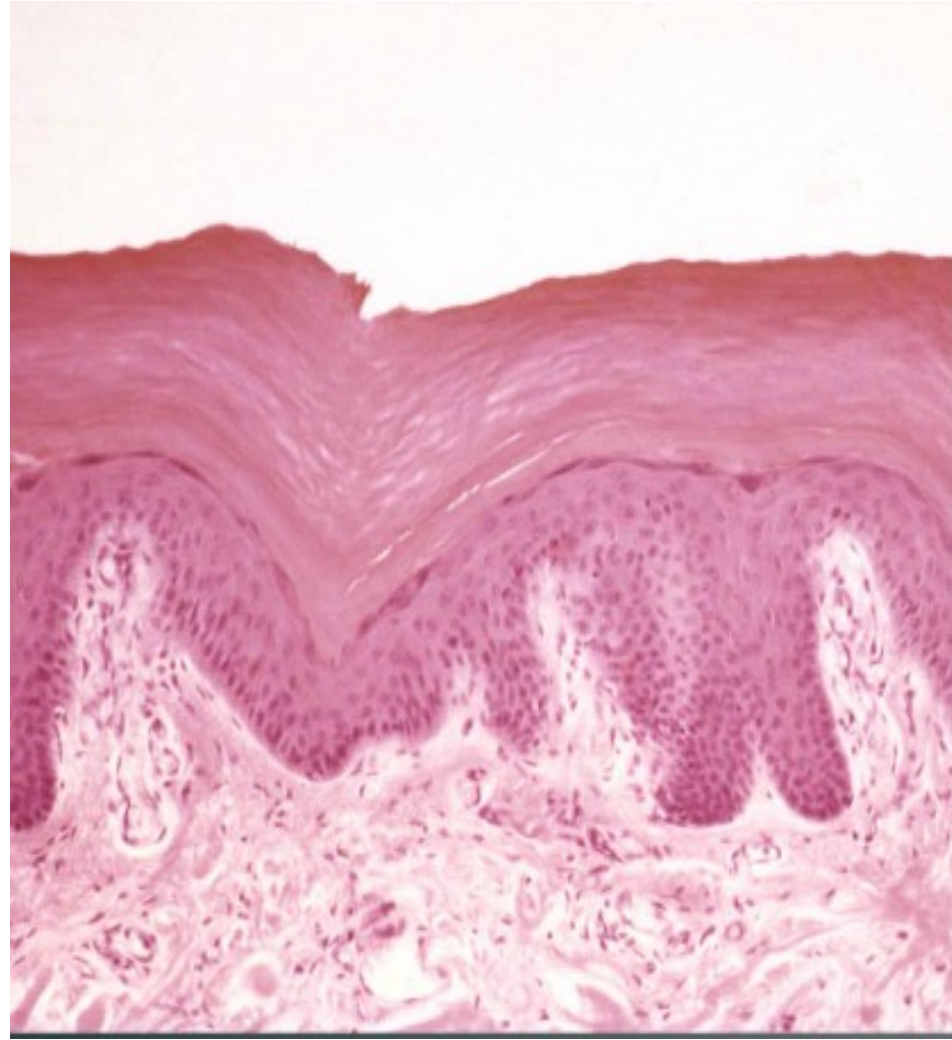
melanin

melanocytes

Thin skin



Thick skin

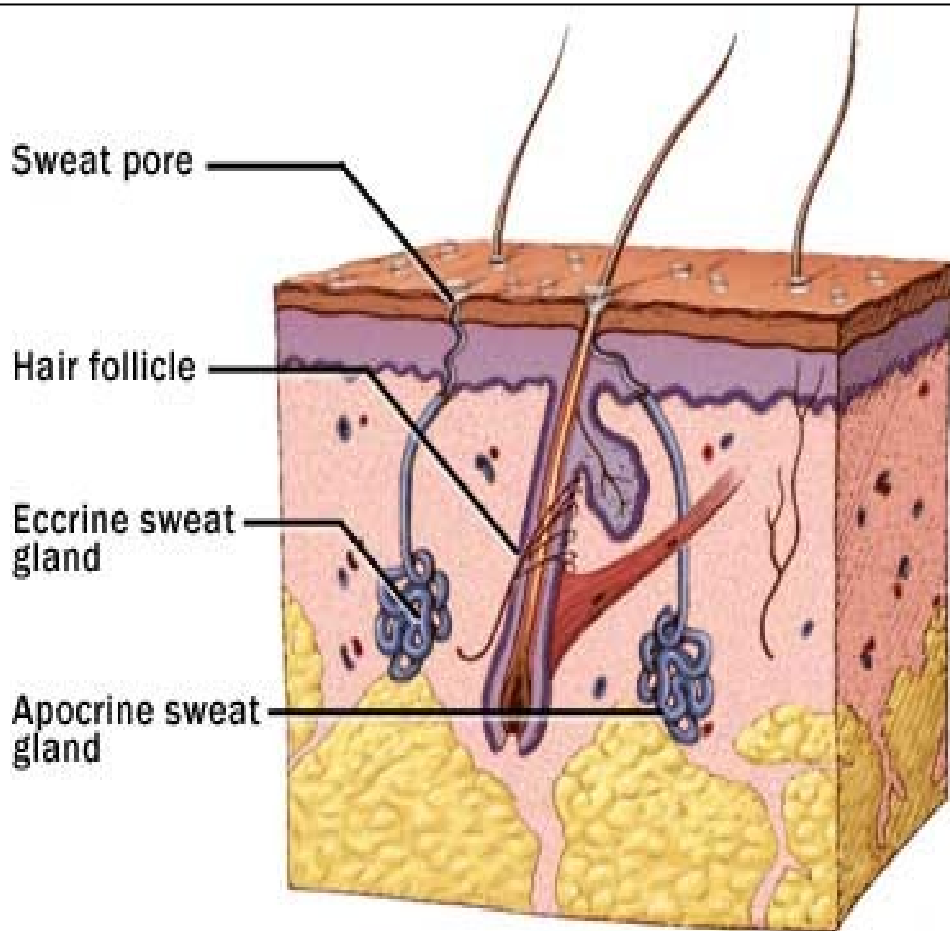


Occurrence: palma manus, planta pedis

Skin glands

small sweat (eccrine)
large sweat (apocrine)
sebaceous (holocrine)

} Gll. sudoriferae
Gll. sebaceae

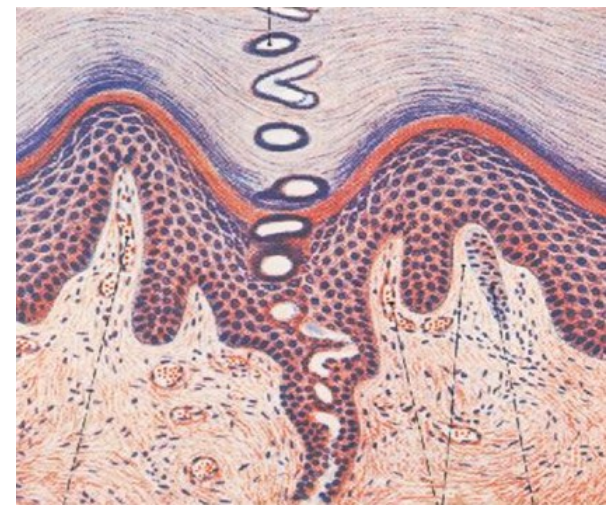
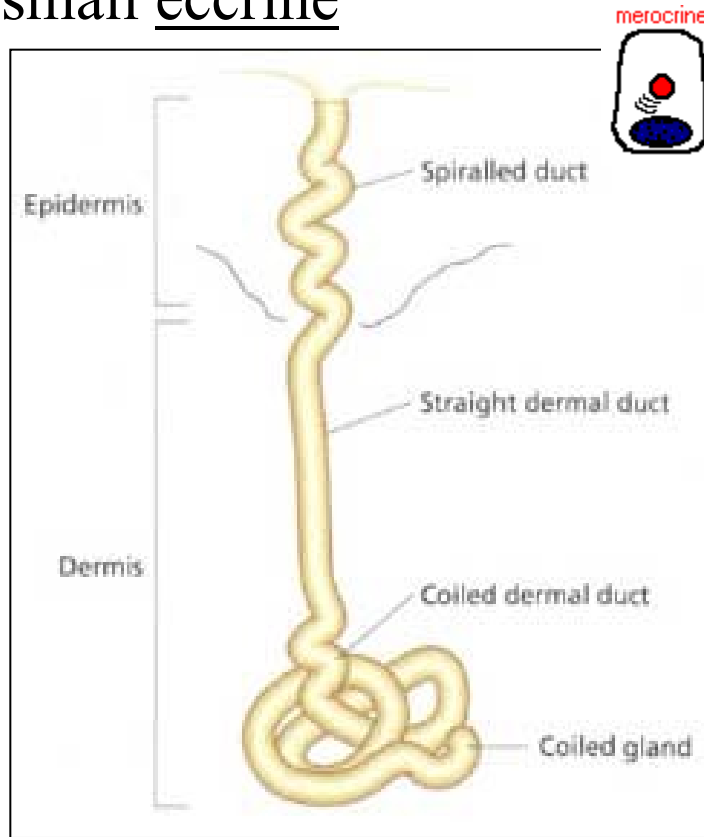


General structure of glands:

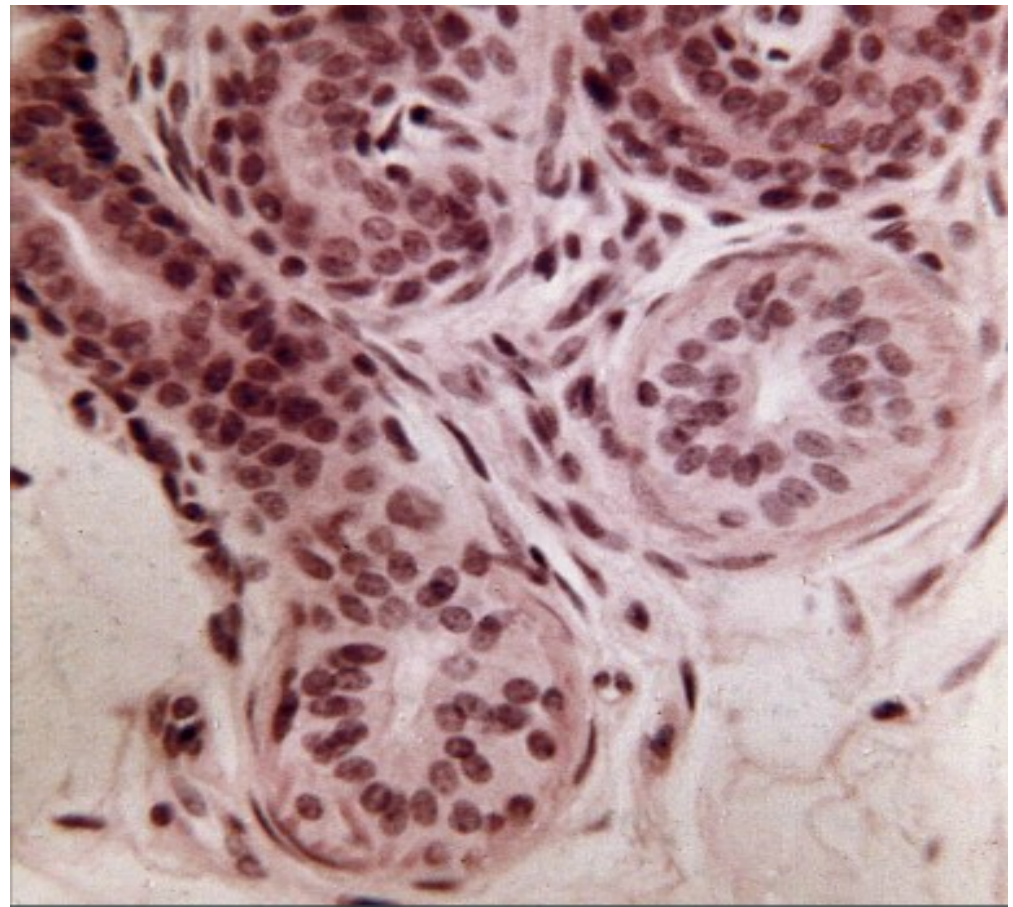
- excretory portion (ducts)
- secretory portion
 - glandular cells
 - myoepithelial cells

SWEAT GLANDS (gll. sudoriferae)

small eccrine

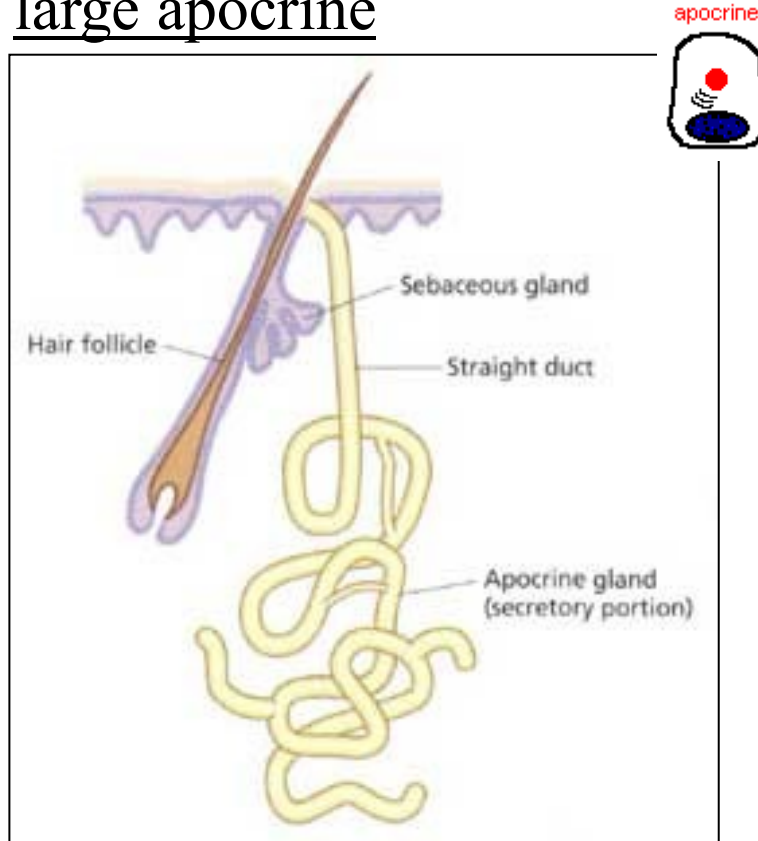


SWEAT – H_2O , $NaCl_2$, NH_3 ,
urea, uric acid, proteins

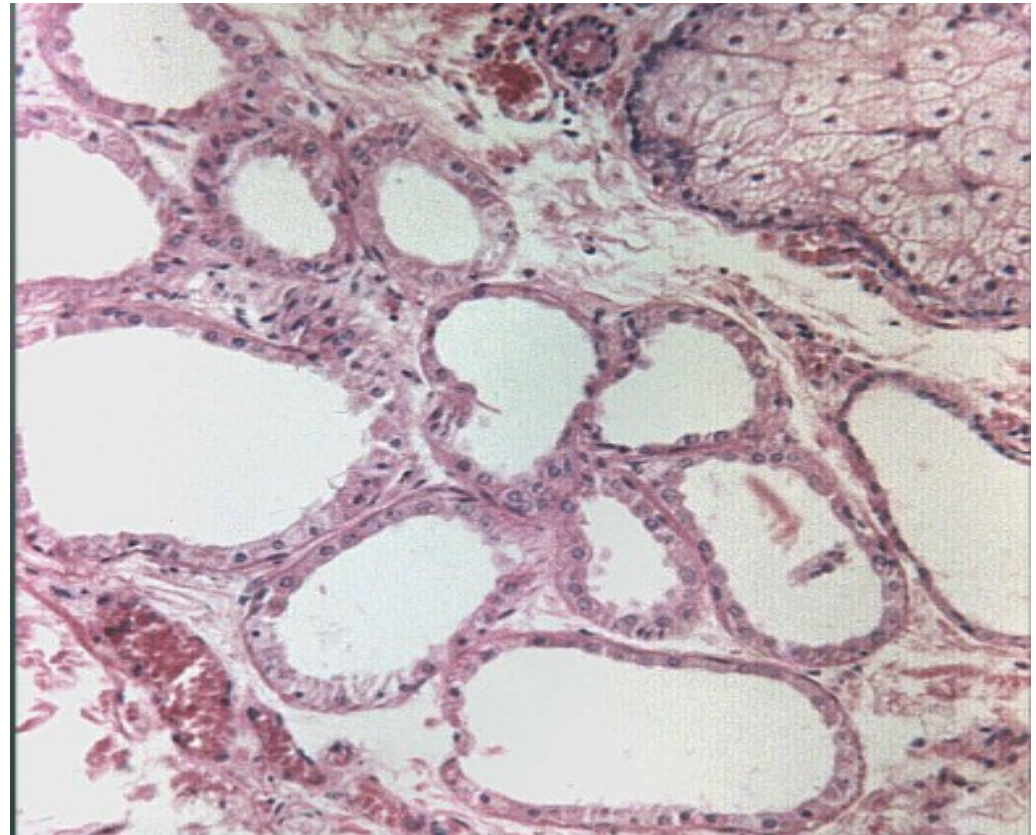


SWEAT GLANDS (gll. sudoriferae)

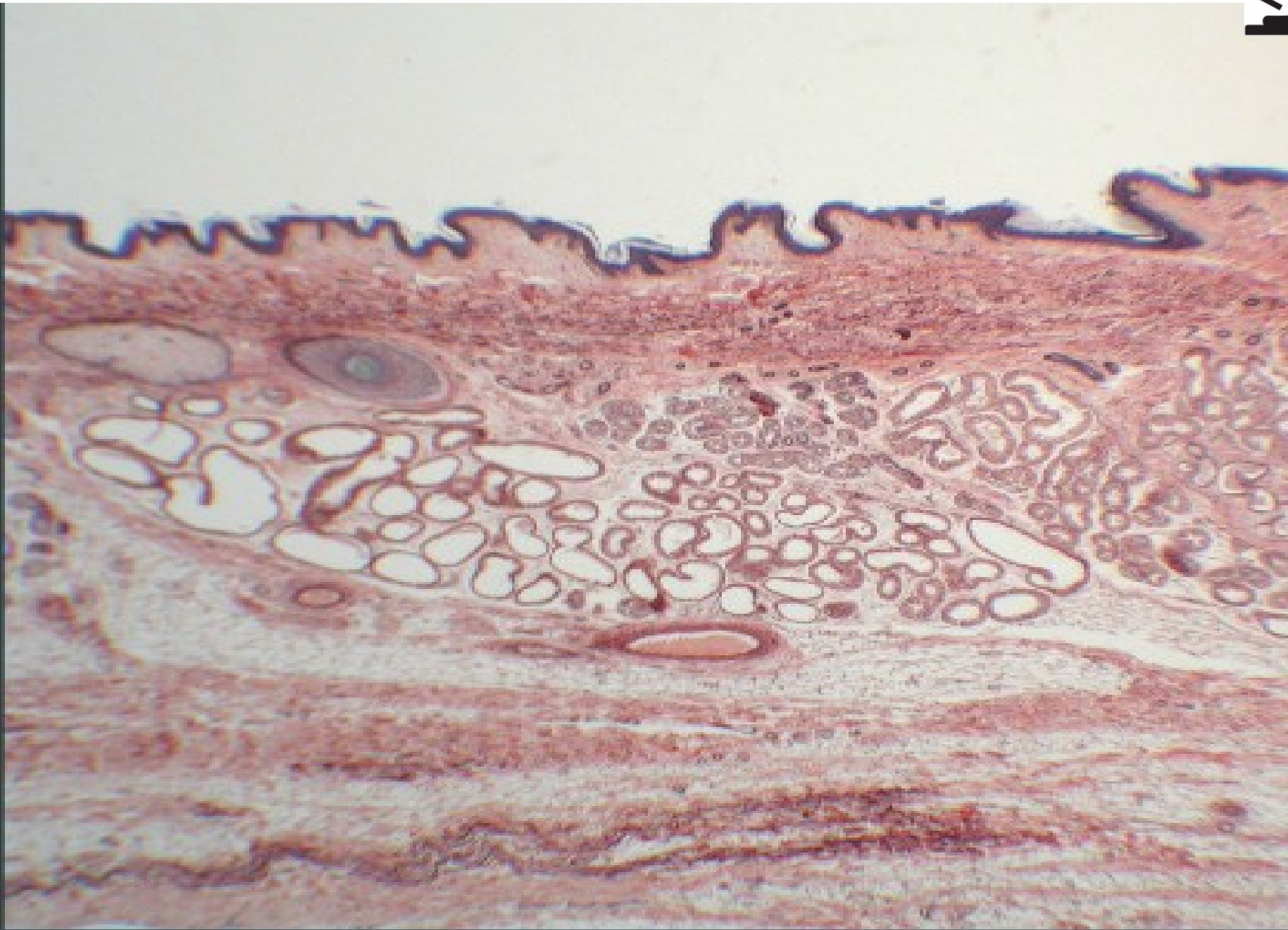
large apocrine



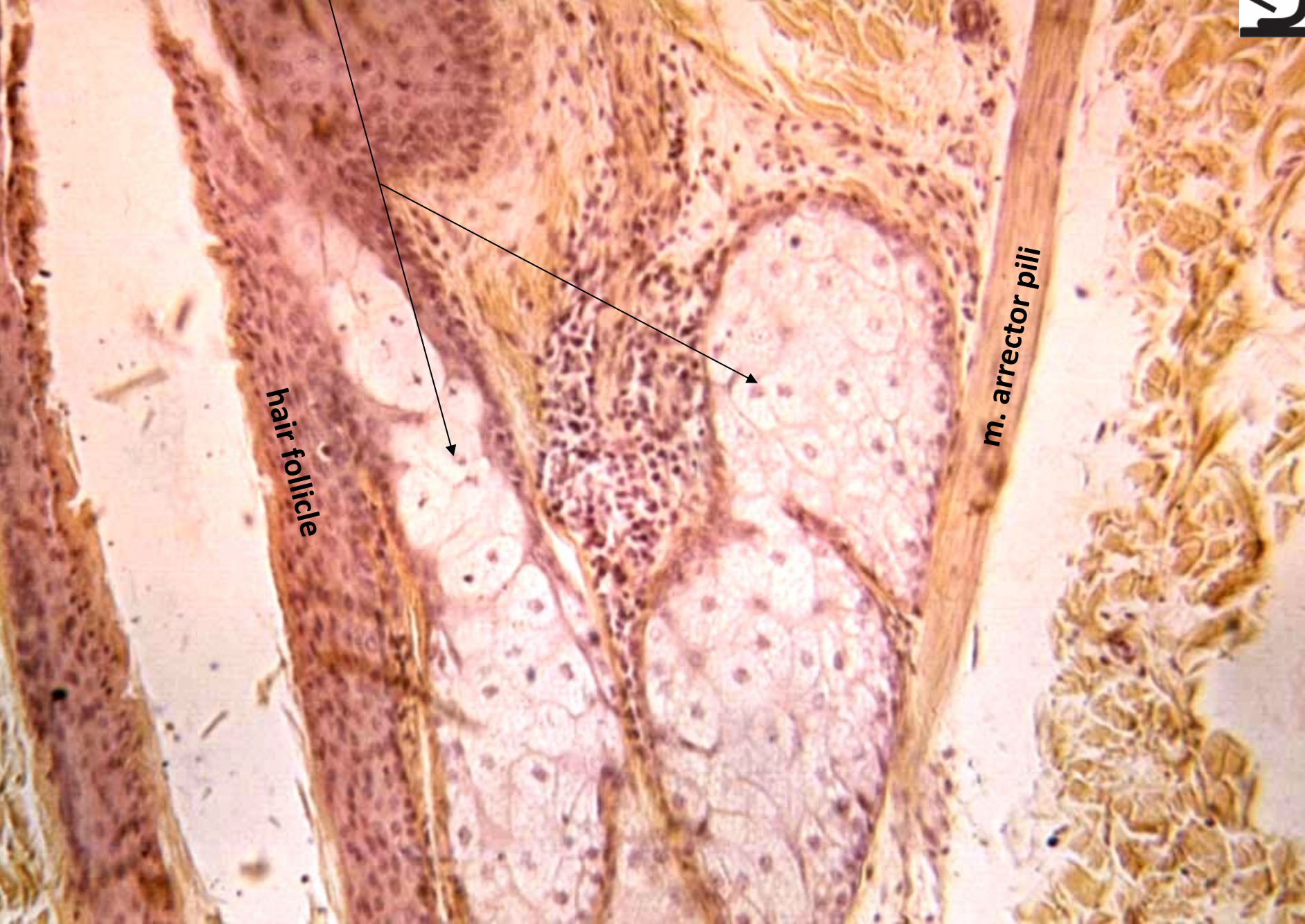
after puberty complete sweat
–pheromones, fats, steroids;
under hormonal influence



Skin from axilla – great sweat glands (apocrine, aromatic)



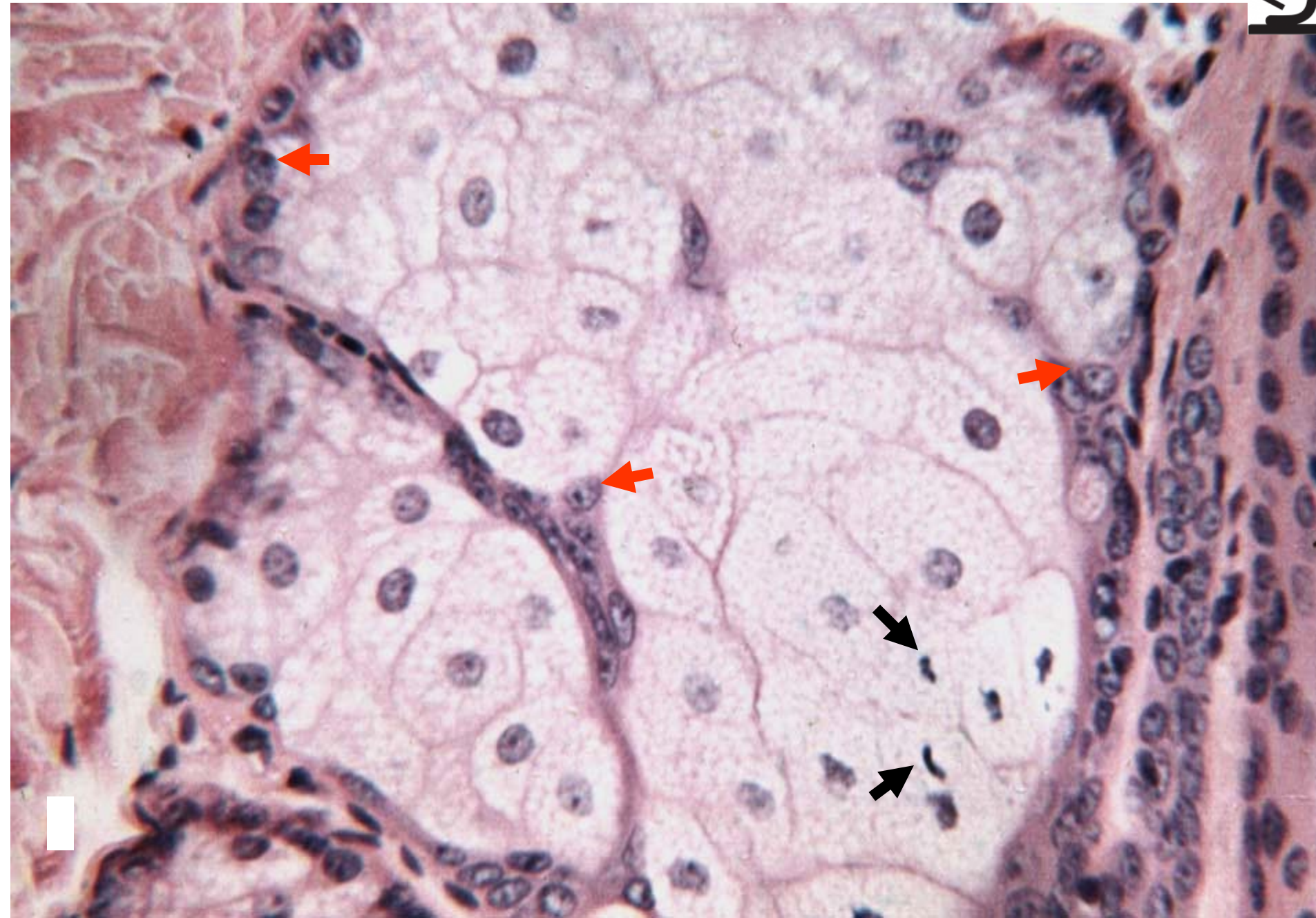
Sebaceous glands (HES)



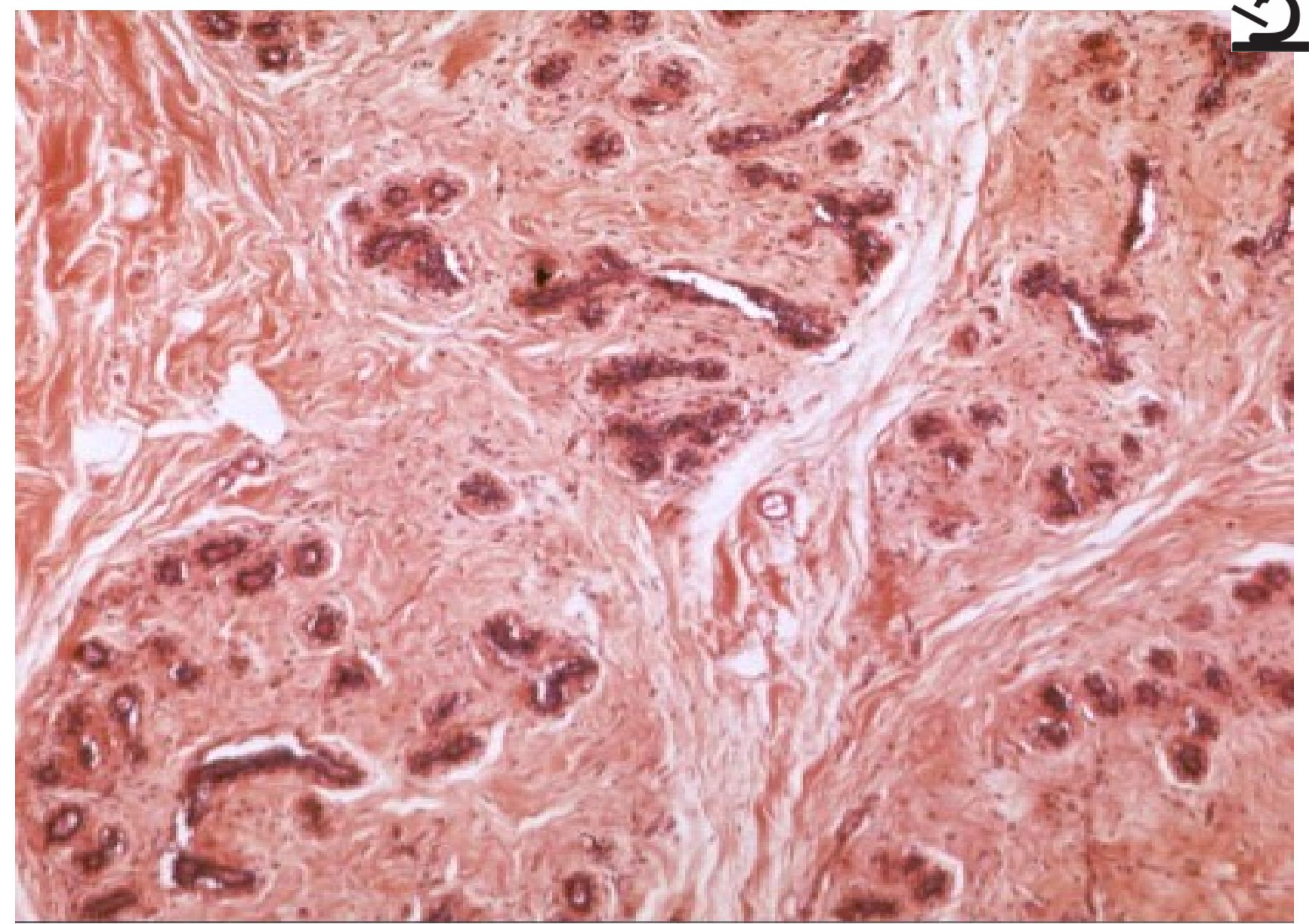
hair follicle

m. arrector pili

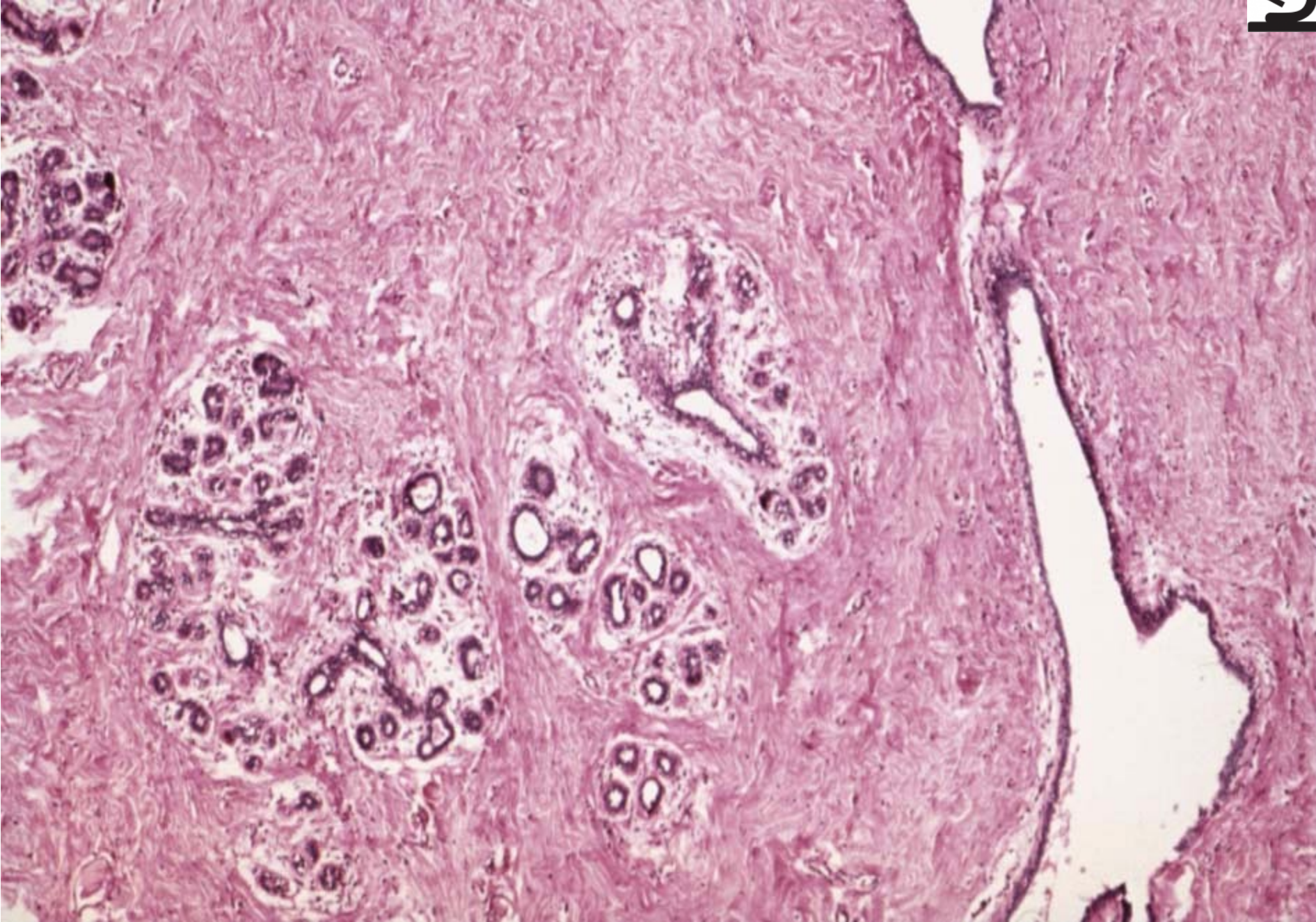
Sebaceous glands (HE)



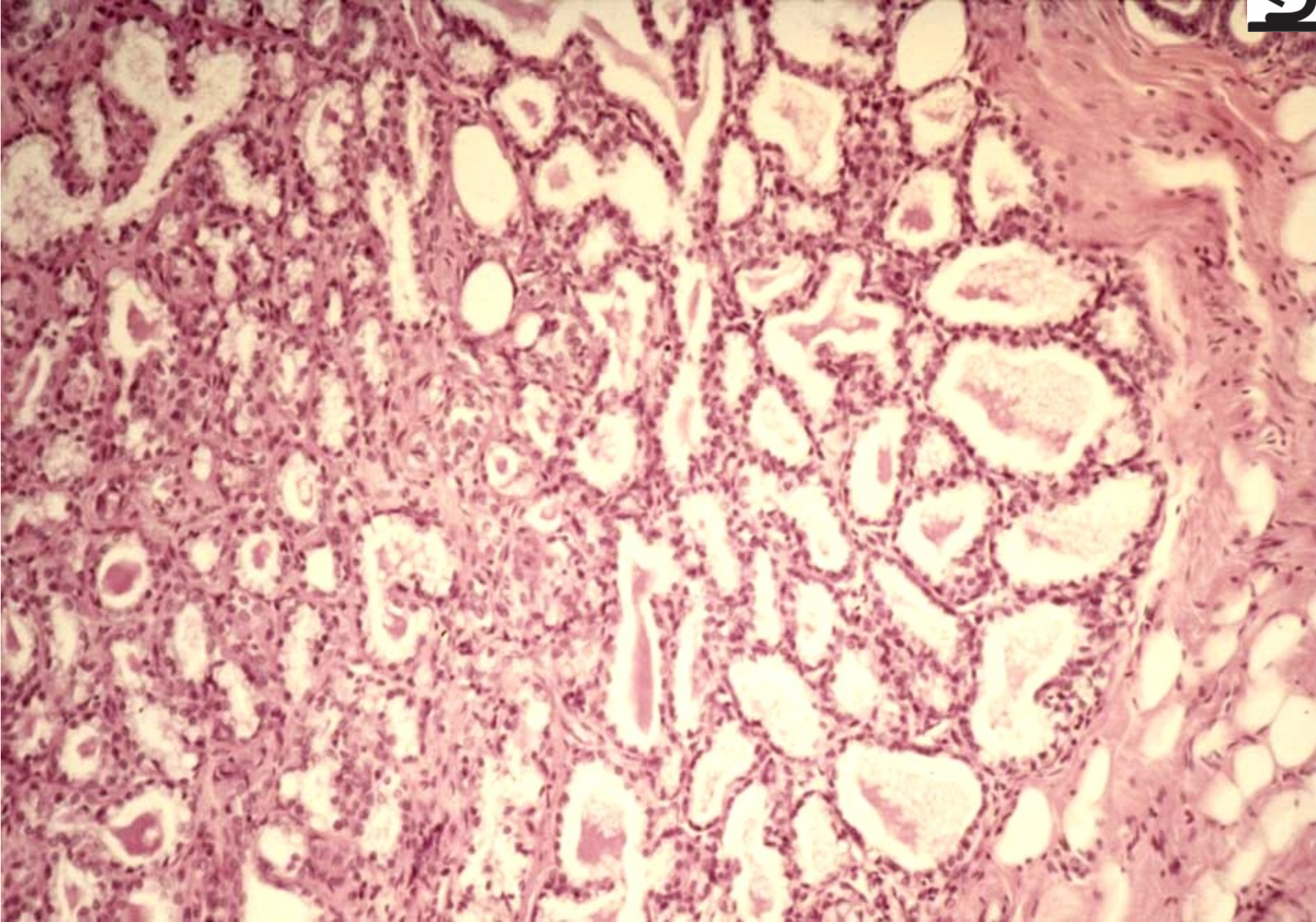
Mamma non lactans (HE)



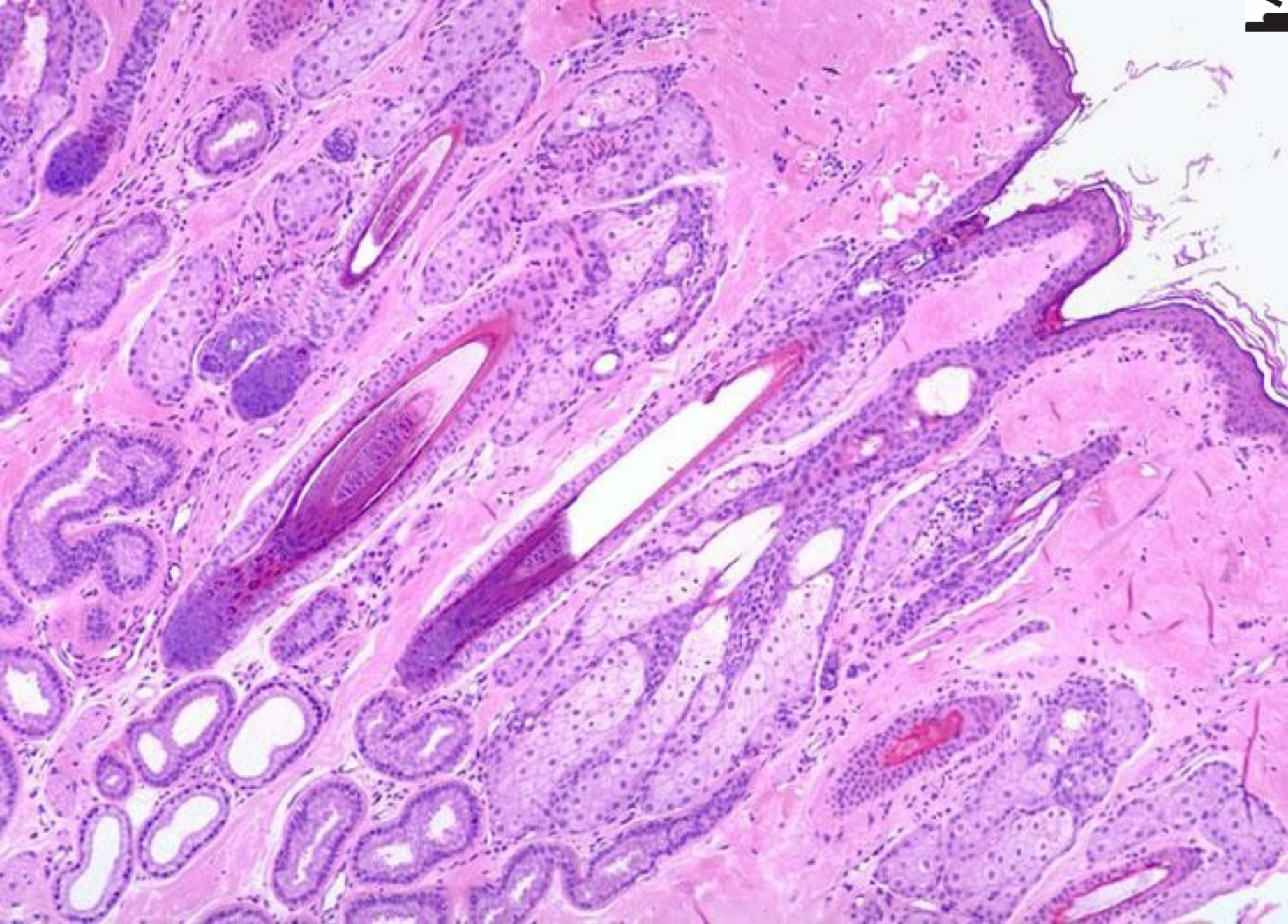
Mamma non lactans (HE)



Mamma lactans (HE)



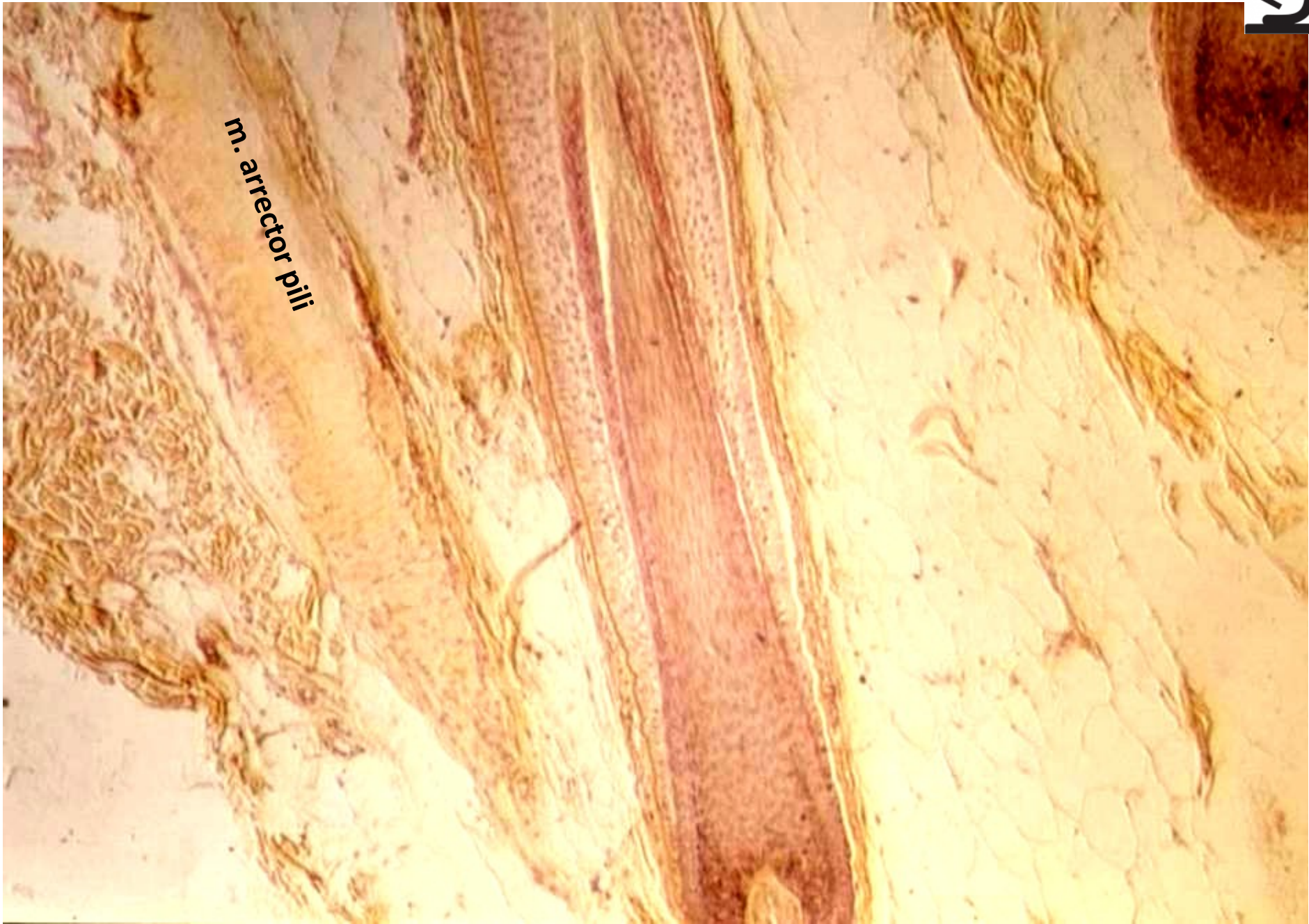
Skin from axilla (HE)



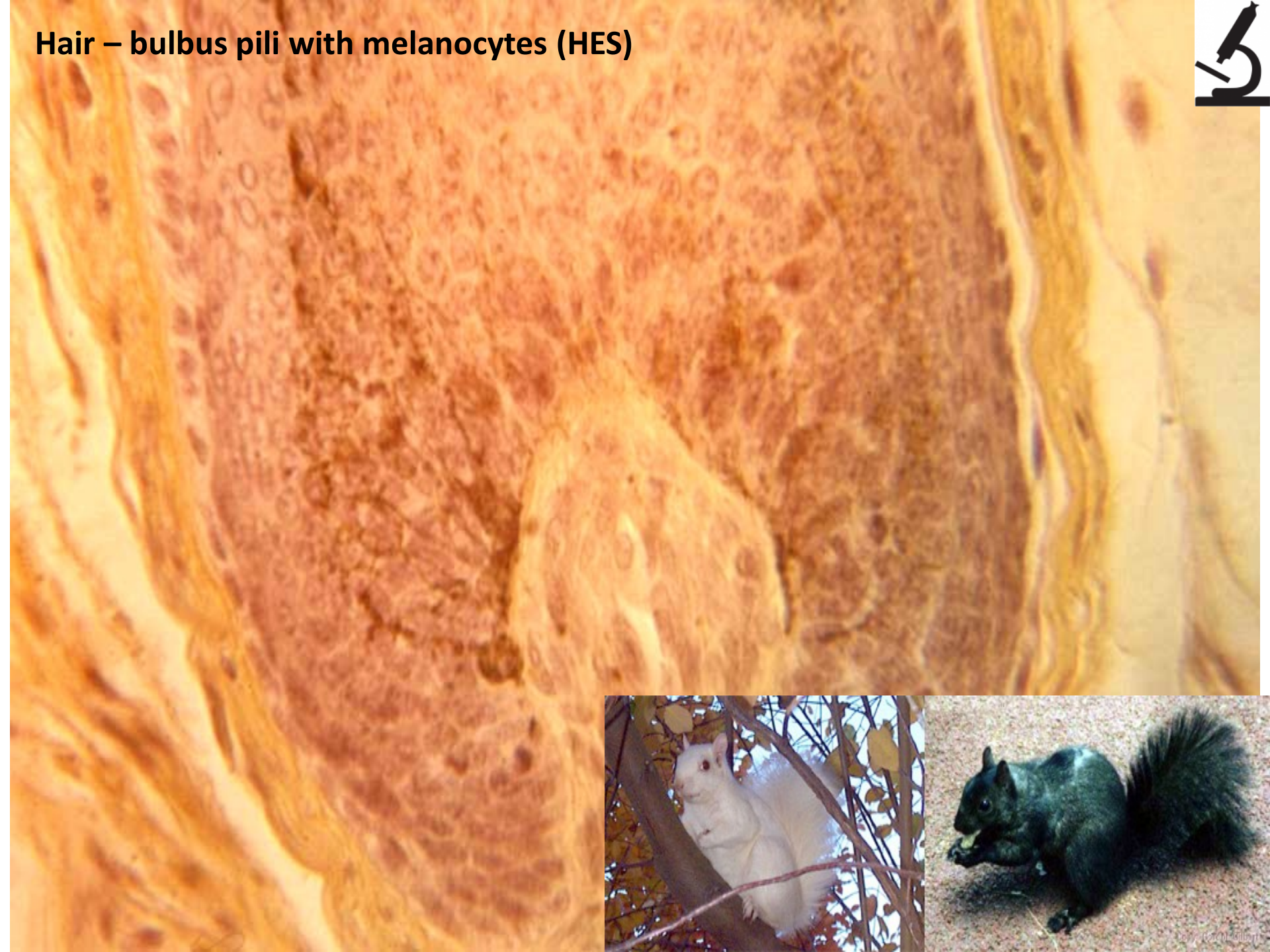
Hair (HES)



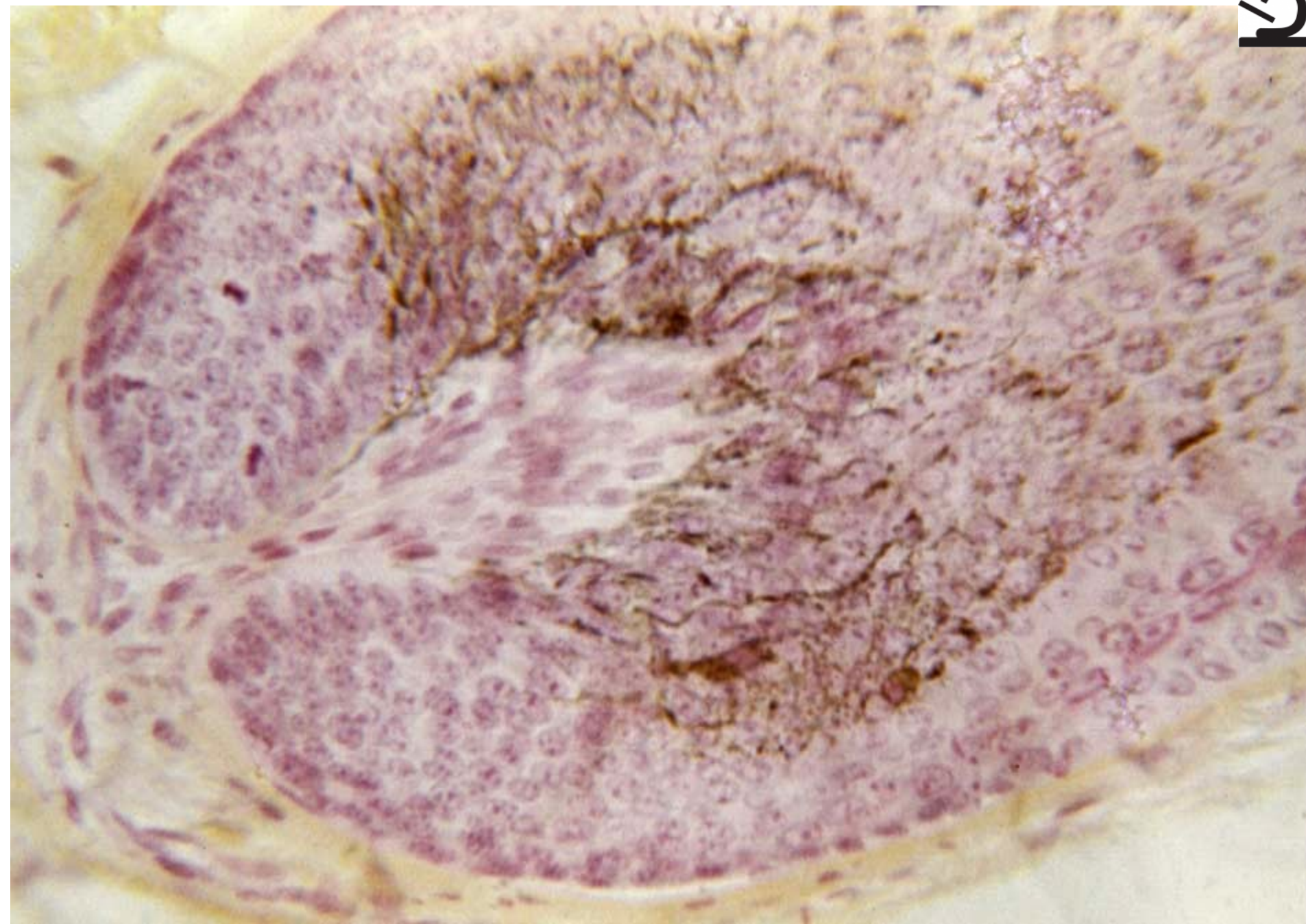
m. arrector pili



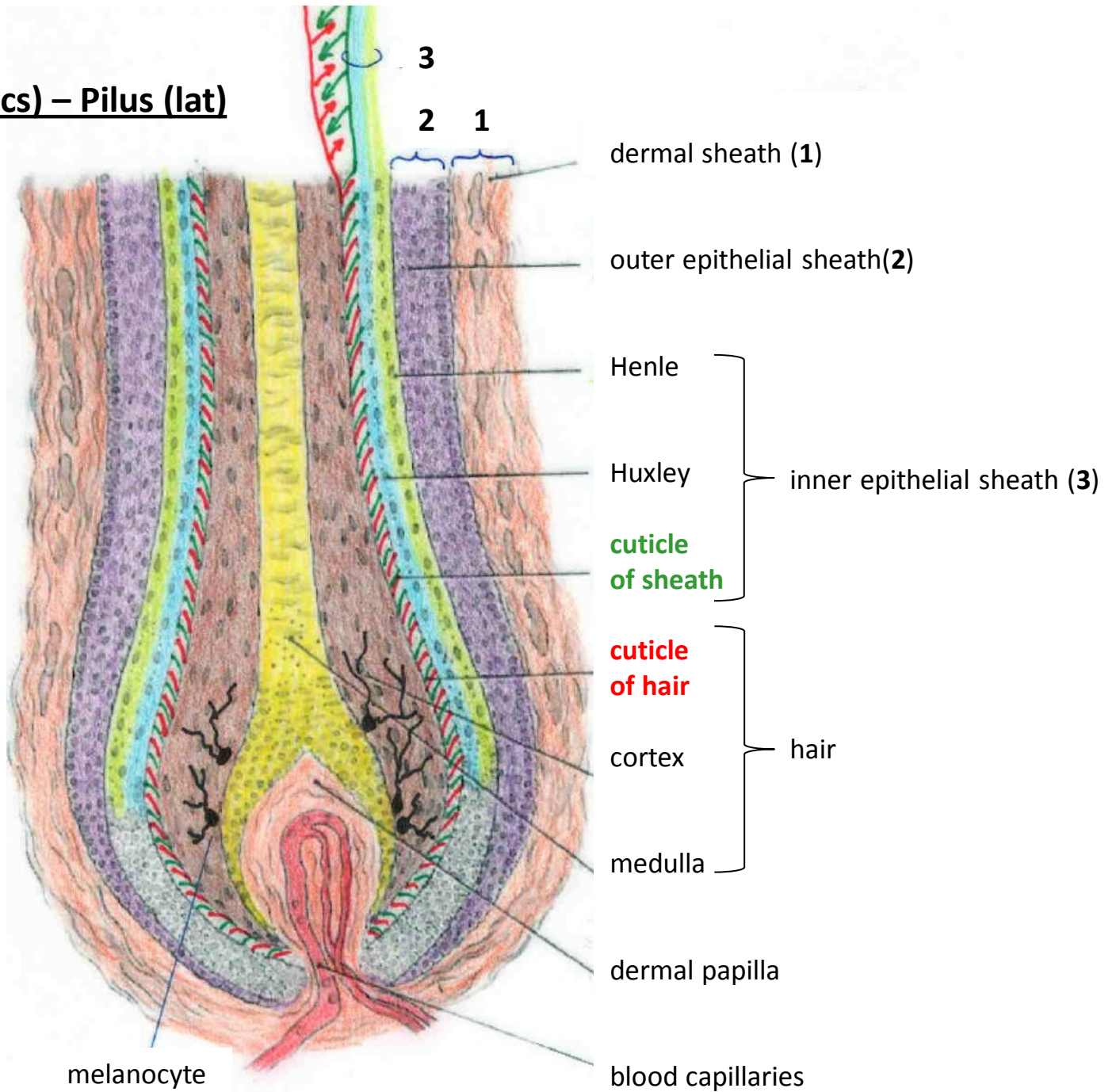
Hair – bulbus pili with melanocytes (HES)



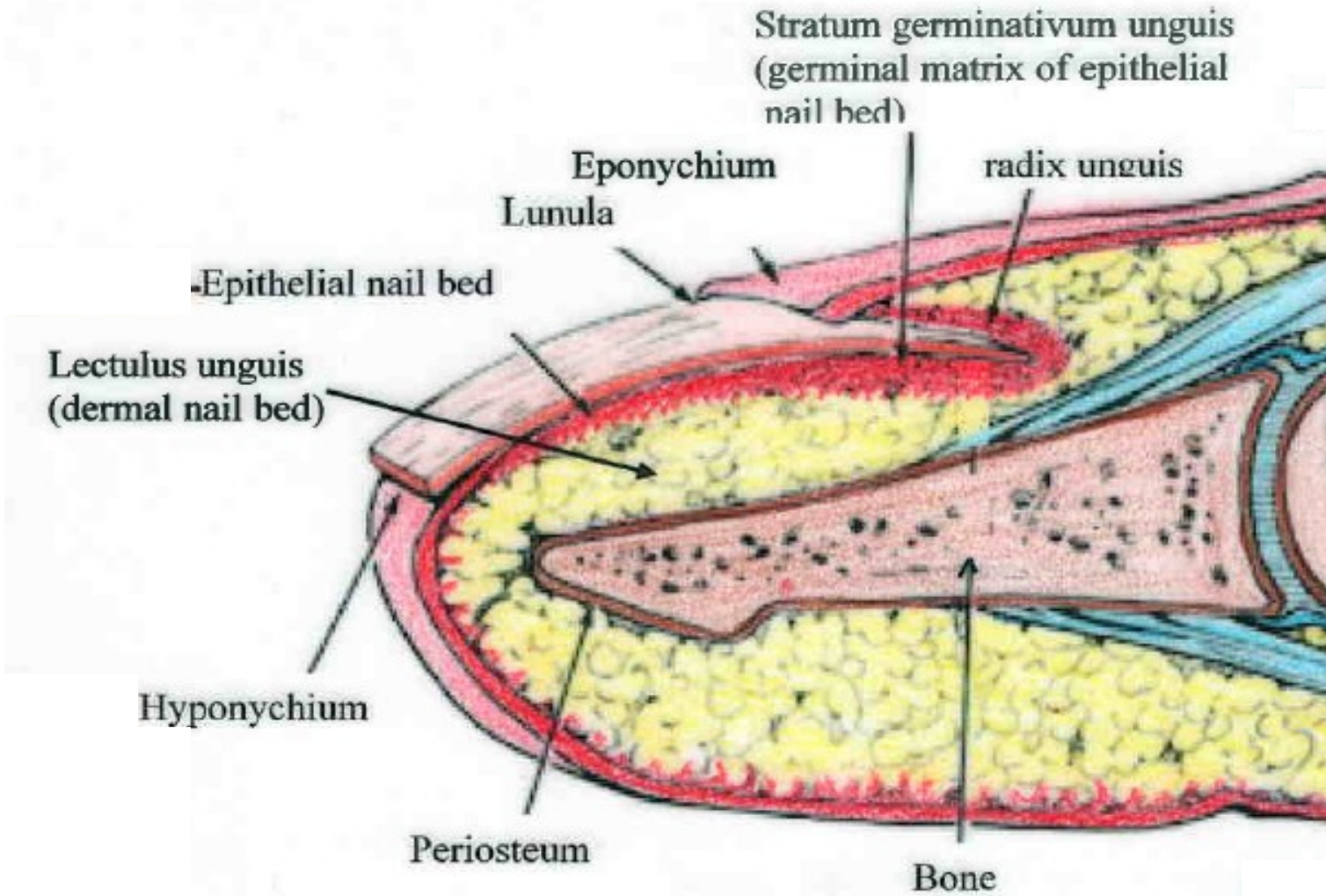
Hair – bulbus pili with melanocytes, papilla pili (HES)



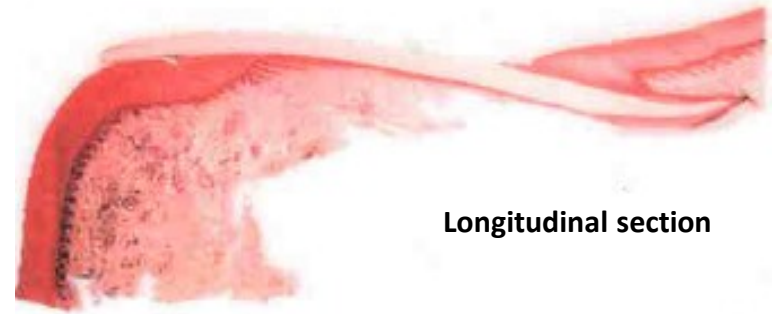
Hair (eng) – Vlas (cs) – Pilus (lat)



Nail (eng) – Nehet (cs) – Unguis (lat) – Onyx (gr)



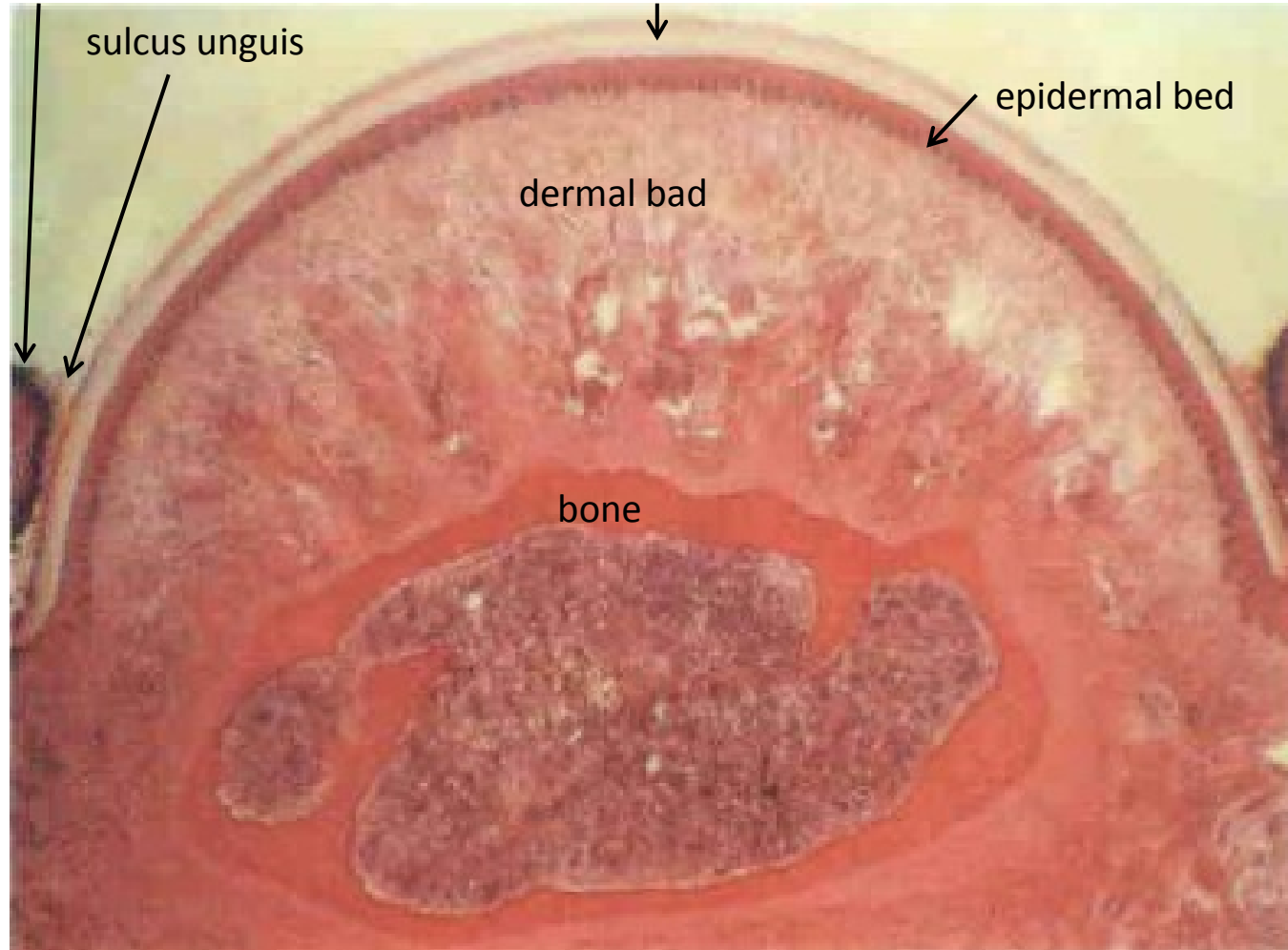
Nail (eng) – Nehet (cs) – Unguis (lat) – Onyx (gr)



Longitudinal section

vallum unguis

nail plate



Cross section

sulcus unguis

epidermal bed

dermal bed

bone



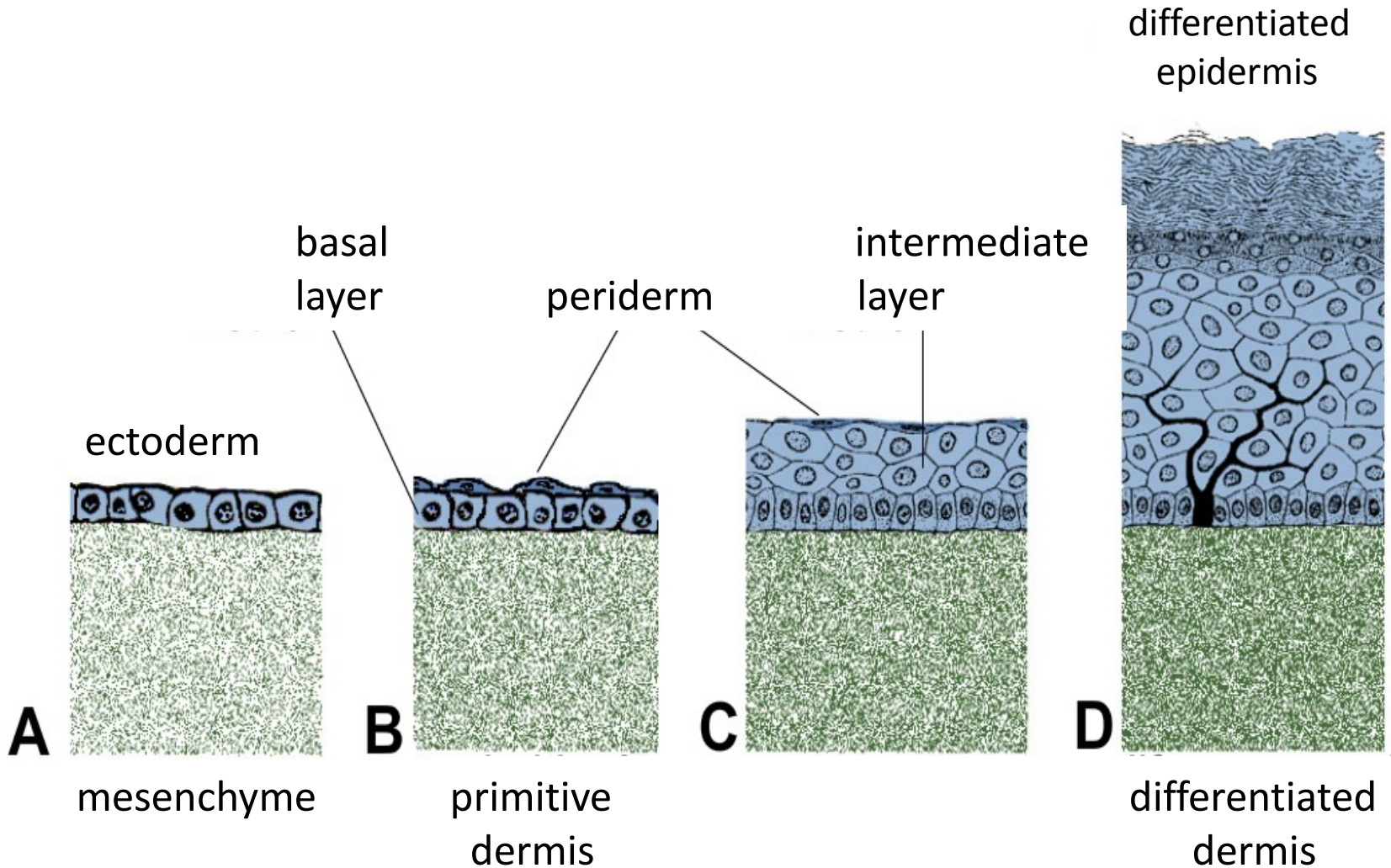
INTEGUMENTARY SYSTEM



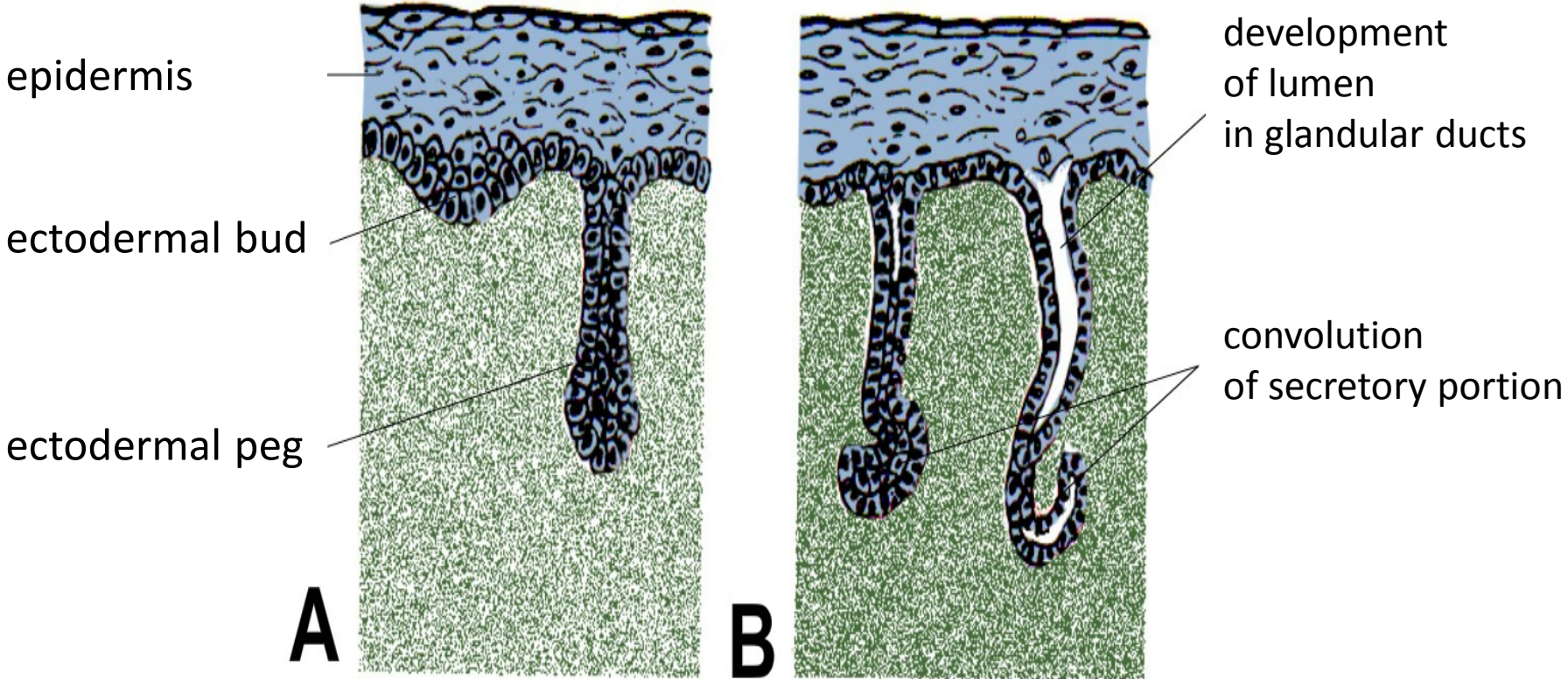
Slides:

- 69. Skin from tip of finger
- 70. Skin from axilla
- 71. Skin with hair
- 72. Nail
- 73. Mamma non-lactans
- 74. Mamma lactans

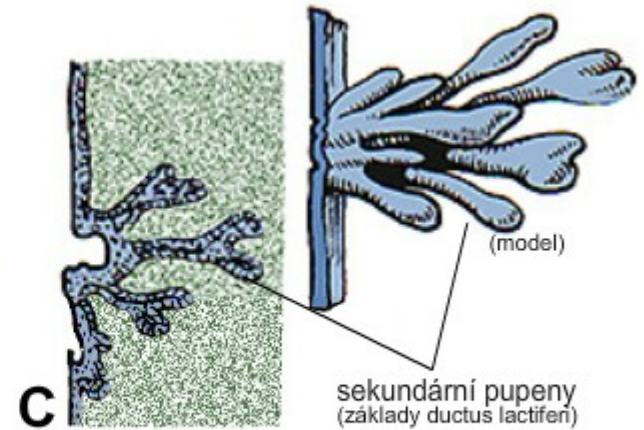
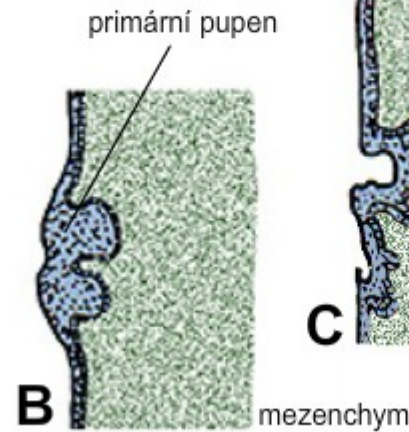
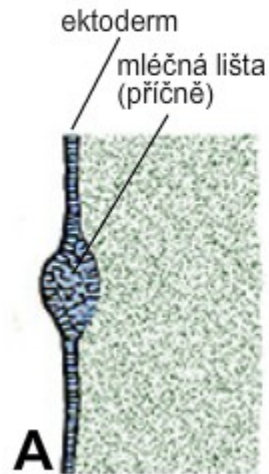
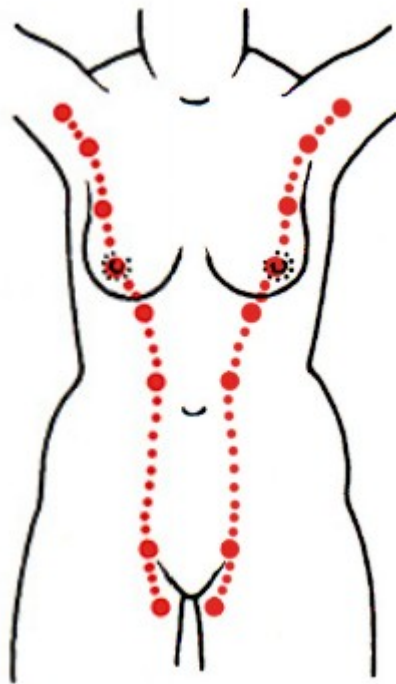
Development of epidermis and corium



Development of sweat glands



Development of mammary line and gland



B, C: primary and secondary ectodermal buds ingrowth mesenchyme

Development of hair and sebaceous gland

