



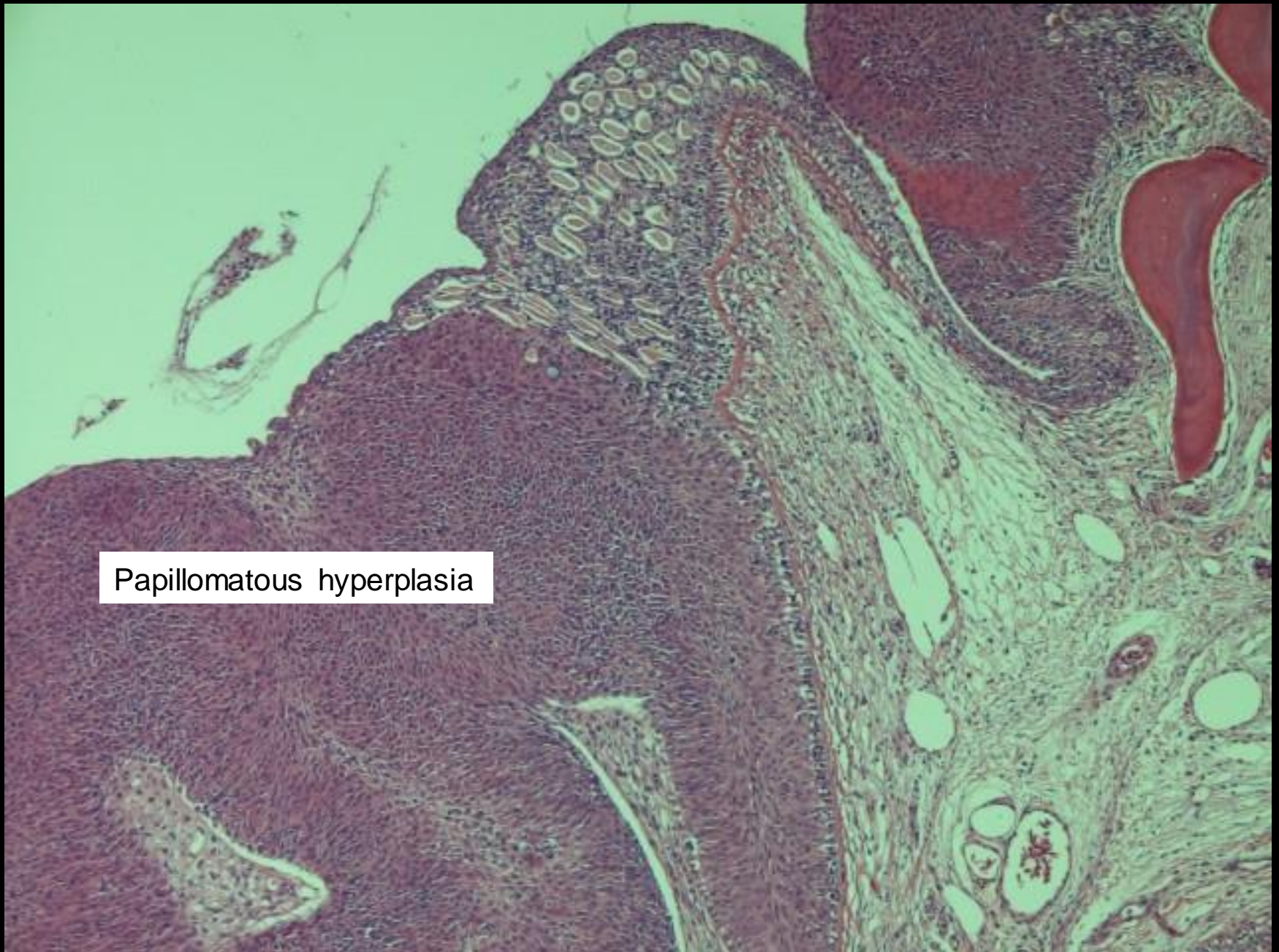
F03/4542

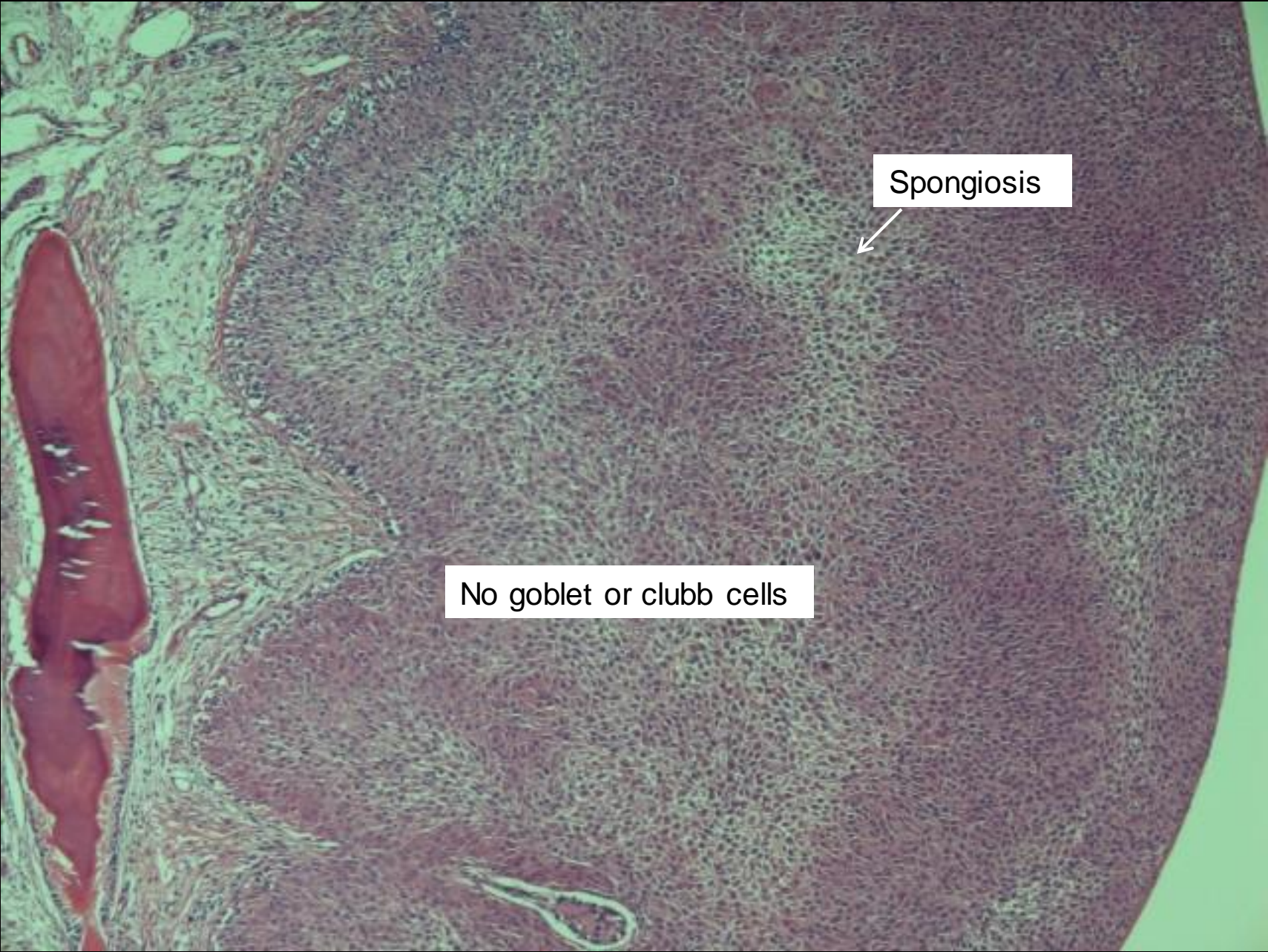
Common carp, pond

Clinic: multiple whitish nodules on skin, non-lethal  
temperature dependant, clinical symptoms mainly in spring,  
later regression



Papillomatous hyperplasia

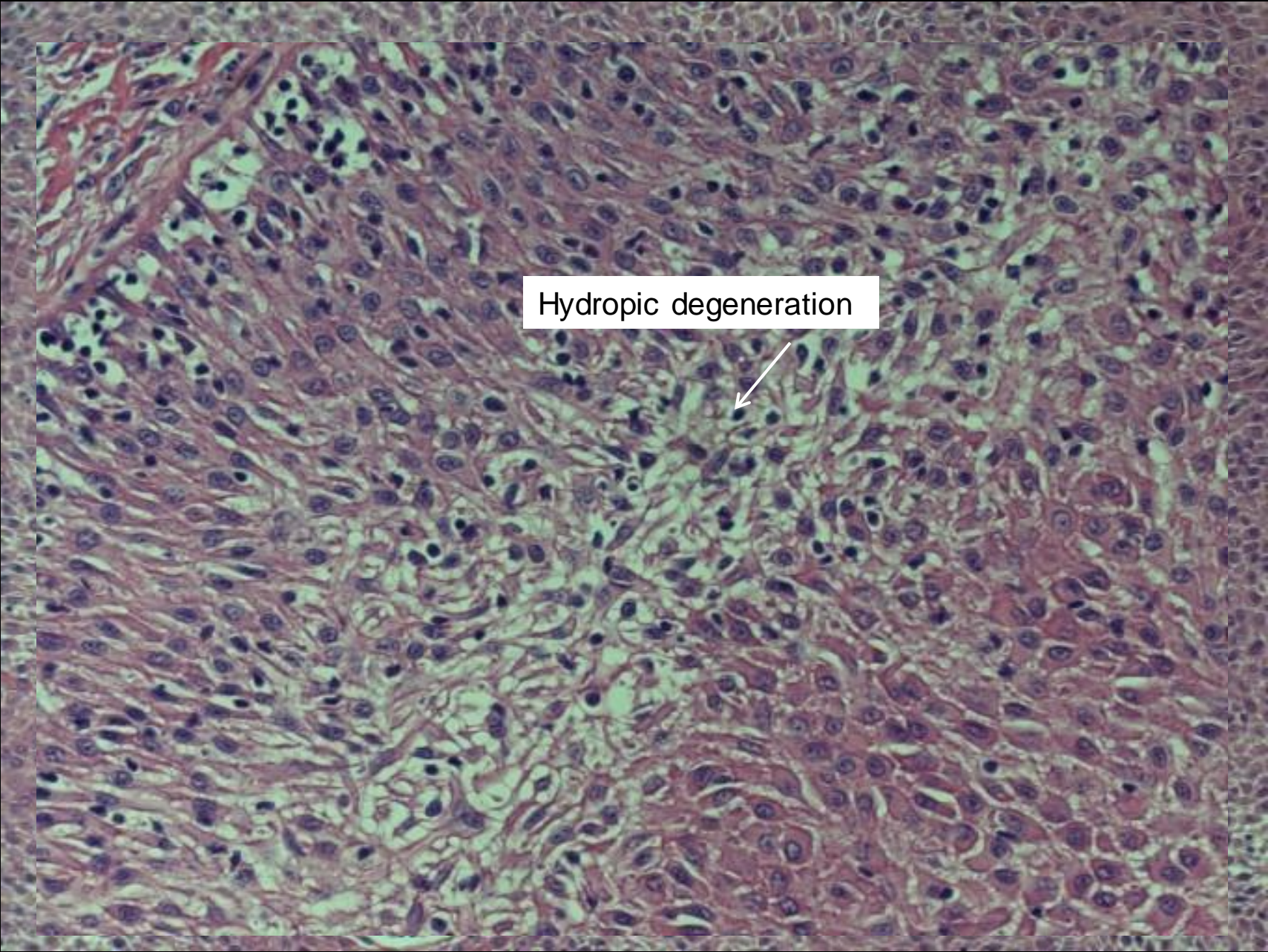




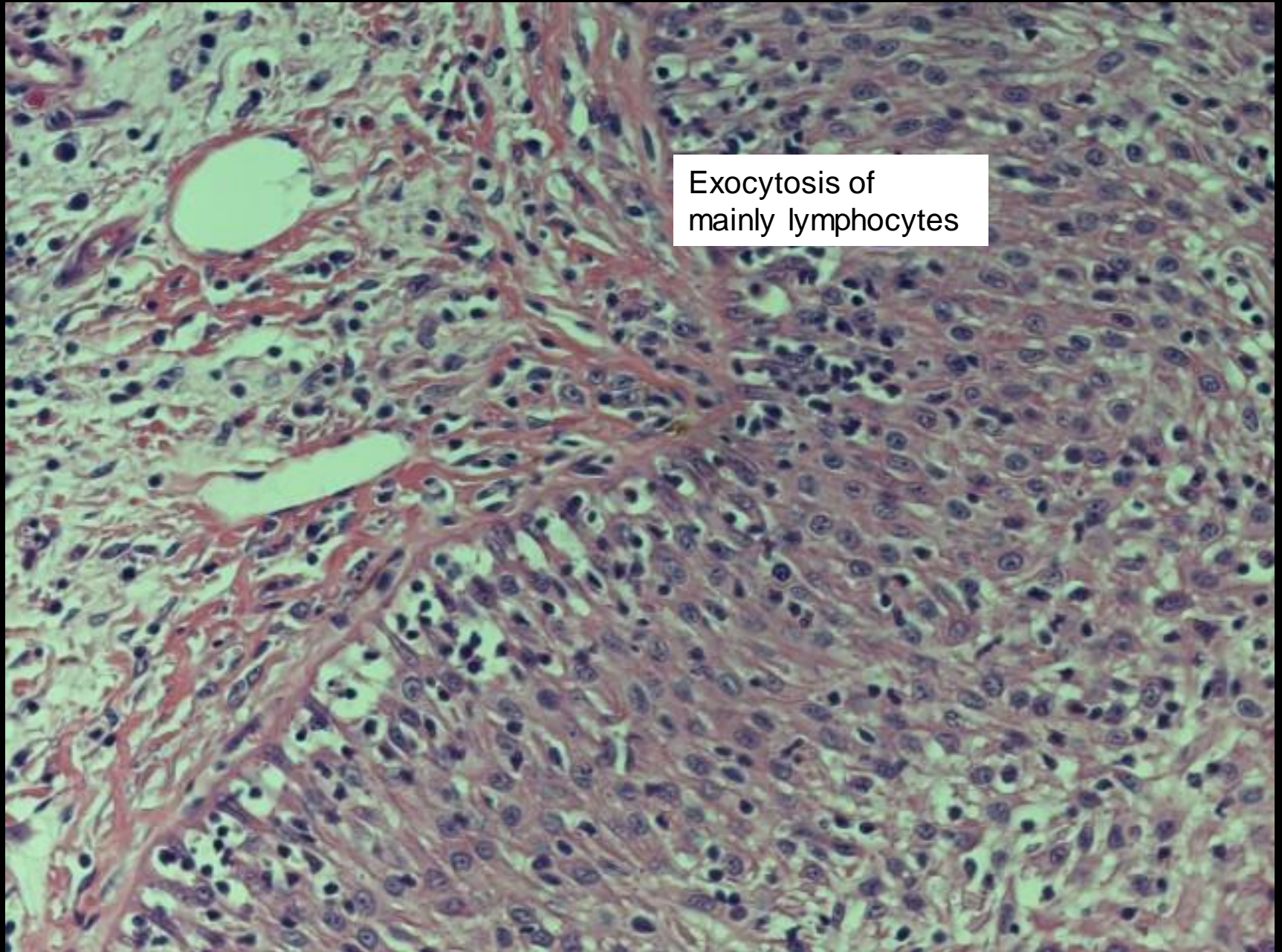
Spongiosis



No goblet or clubb cells



Hydropic degeneration



Exocytosis of  
mainly lymphocytes



## Morphological diagnosis

Skin, epidermal hyperplasia, multifocal, severe

## Aetiology

*Herpesvirus cyprini (Cyprinid herpesvirus 1)*

Carp pox, Epithelioma papillosum carpio



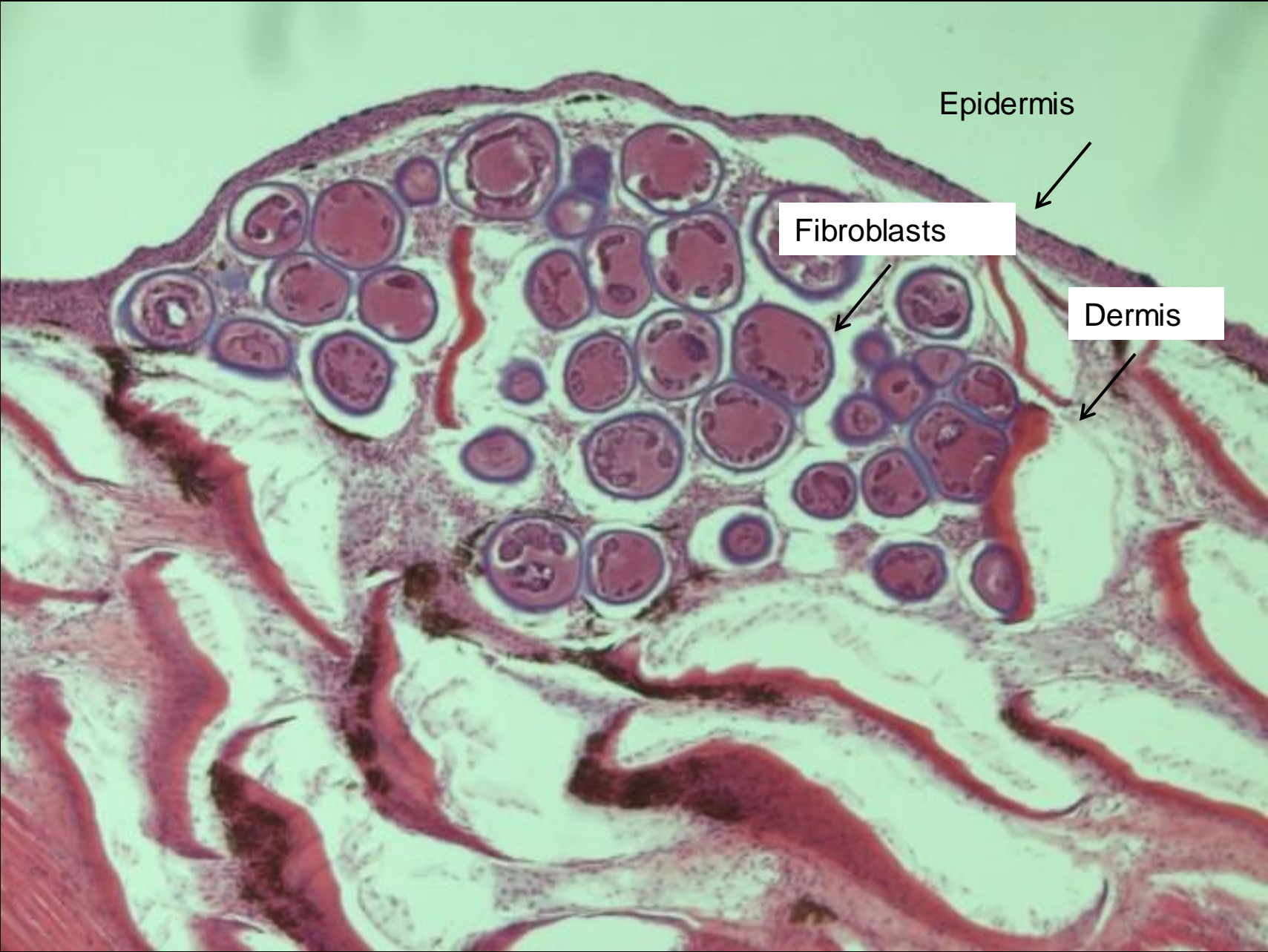
Fi227/98

Ornamental fish, freshwater aquaria

Clinic: non-lethal, multiple white nodules on skin and fins

Organs: skin, fins





Epidermis

Fibroblasts

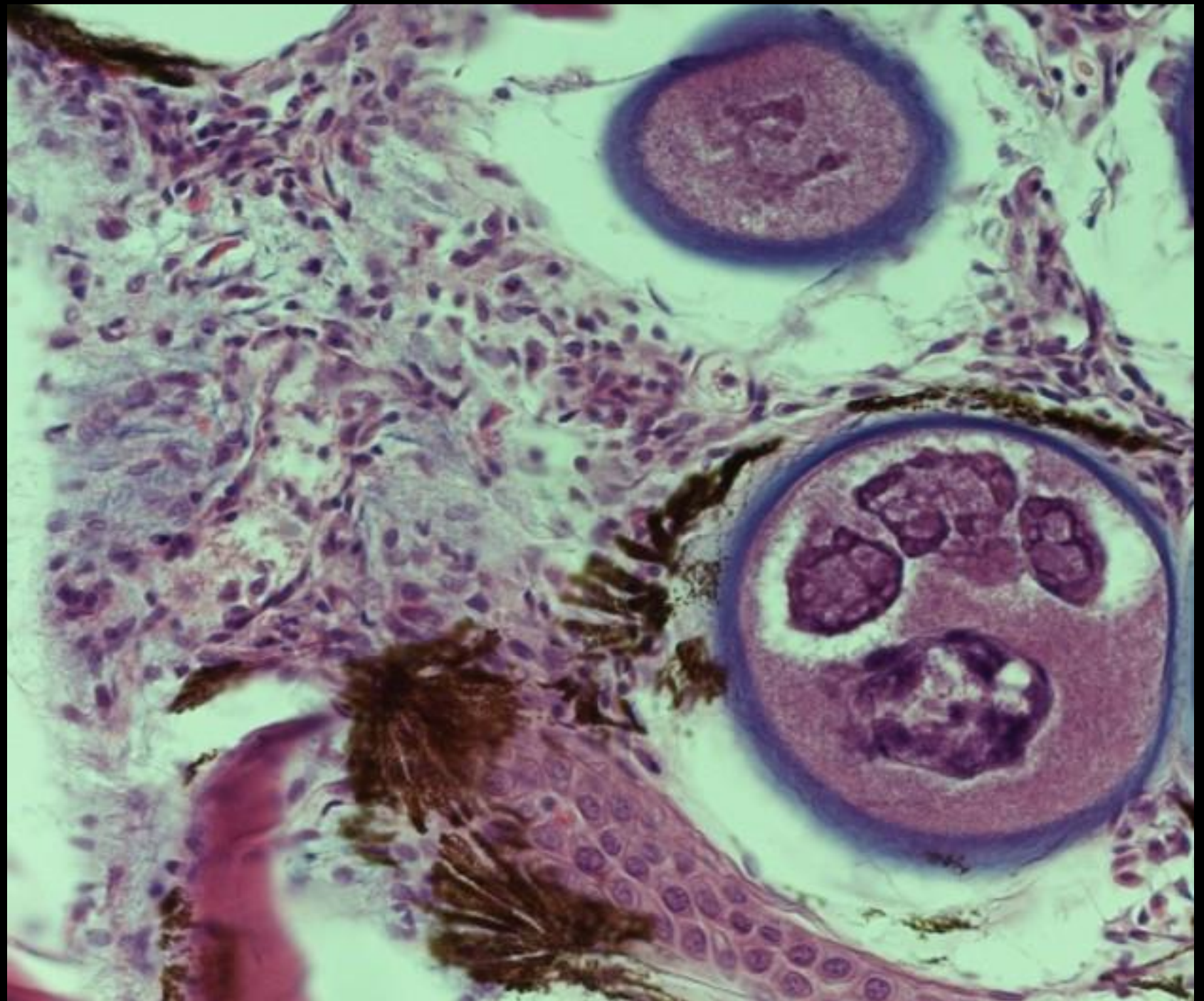
Dermis





Nucleus

Web-like intracytoplasmic inclusion bodies





## Morphological diagnoses

Skin, fibroblast hypertrophy with intracytoplasmatic inclusion bodies,  
multifocal, severe

Skin, lymphohistiocytic dermatitis, multifocal, chronic, mild

## Aetiology

*Lymphocystis Disease Virus, Iridovirus*





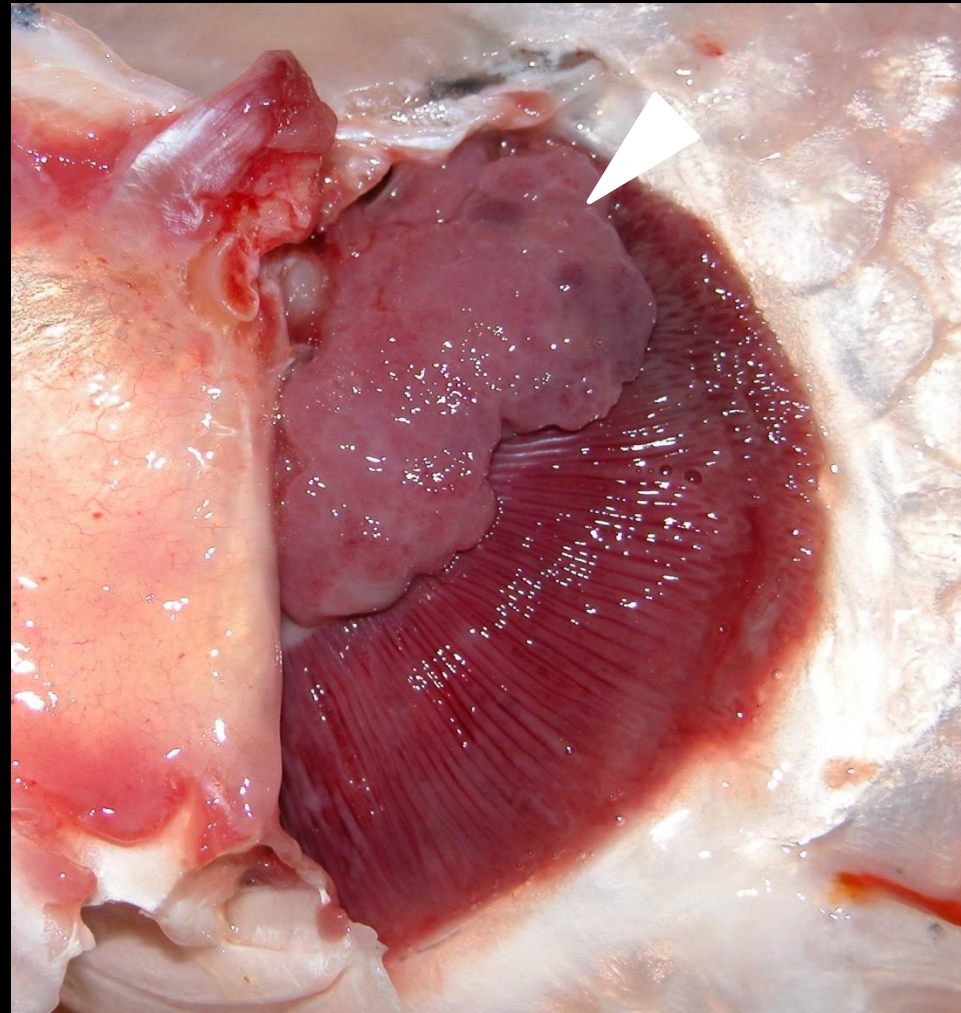
# Neoplasia

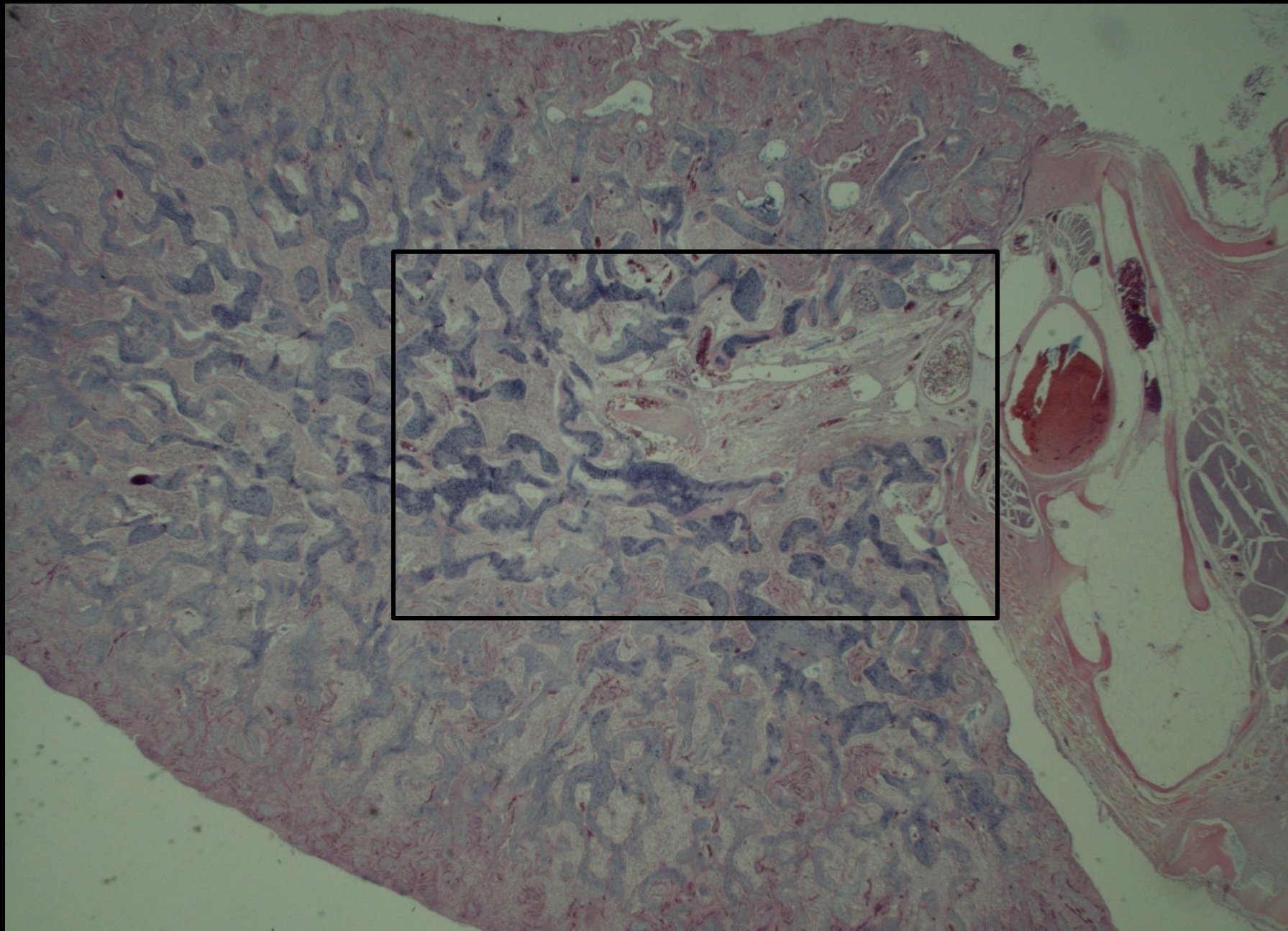
F09/629

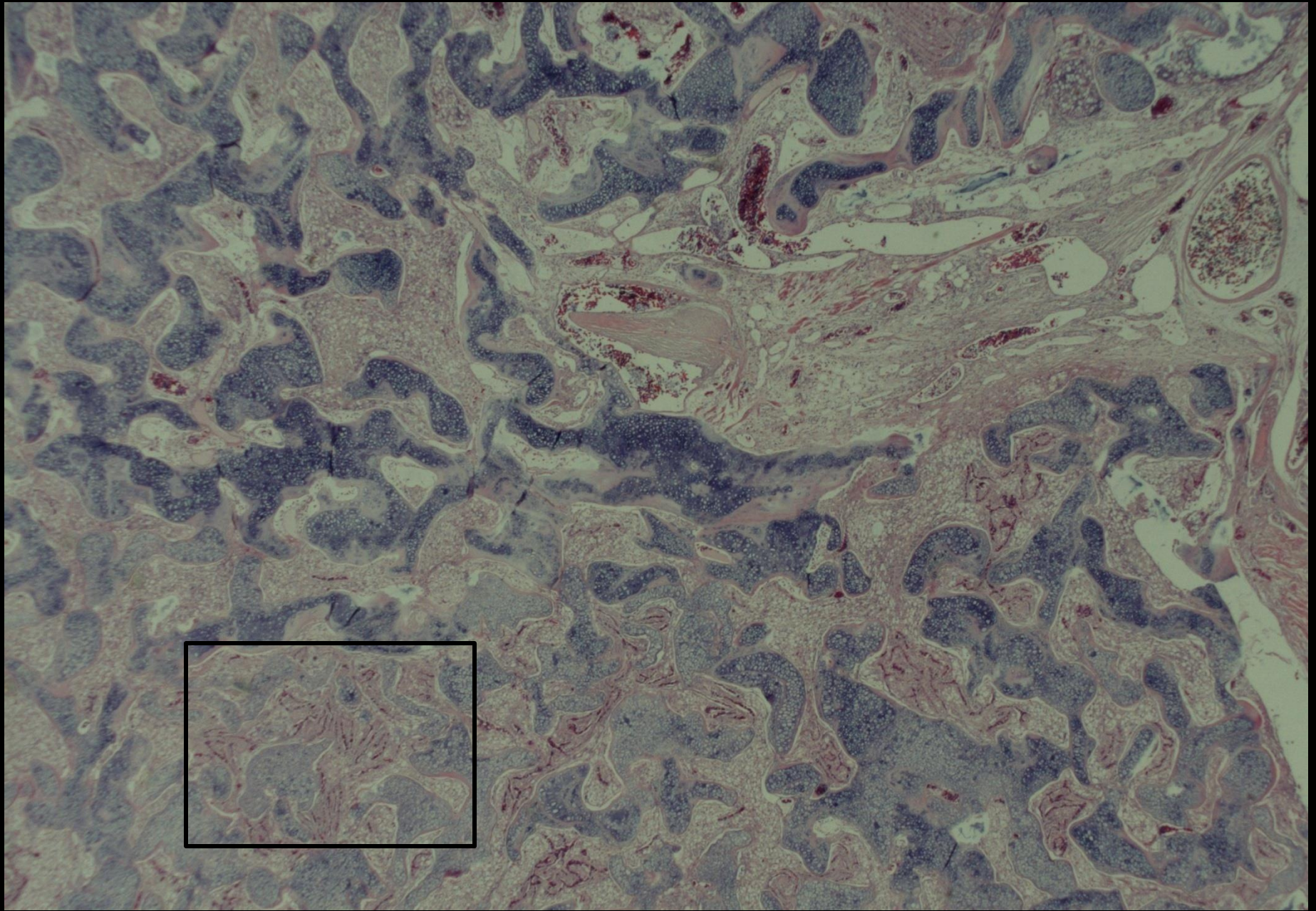
Koi, pond

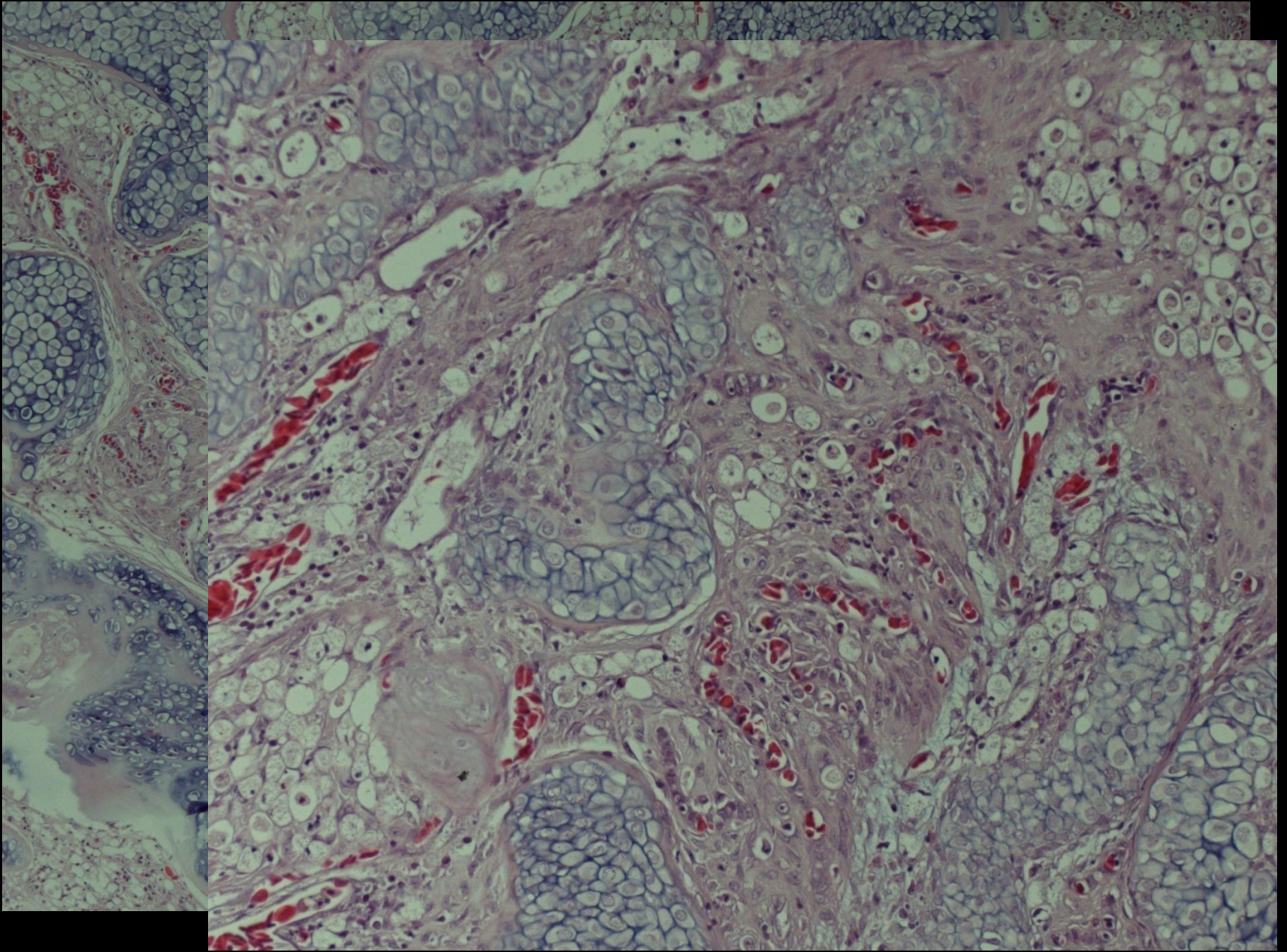
Clinic: Only single animals affected, incomplete closure of operculum

Organ: gills

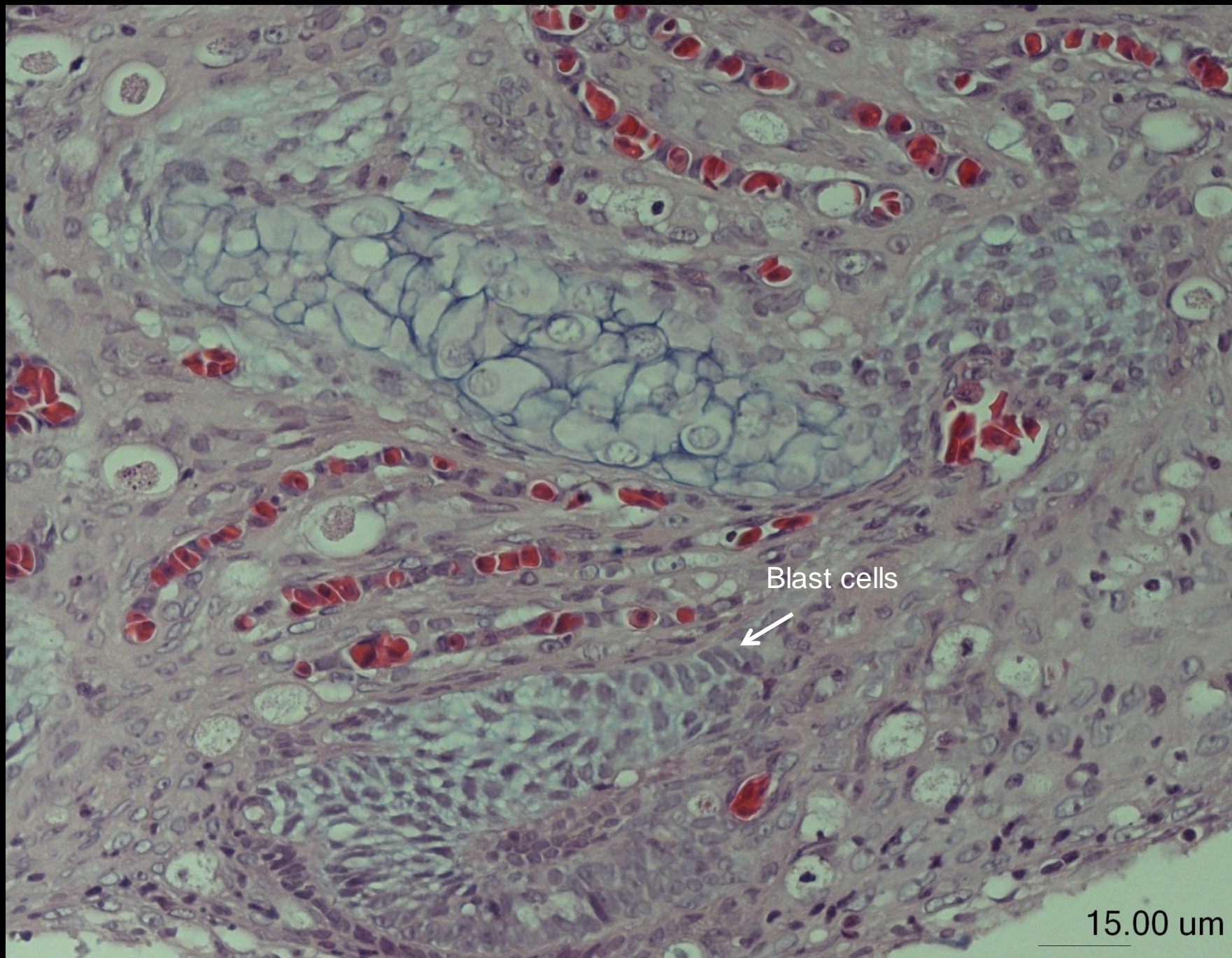










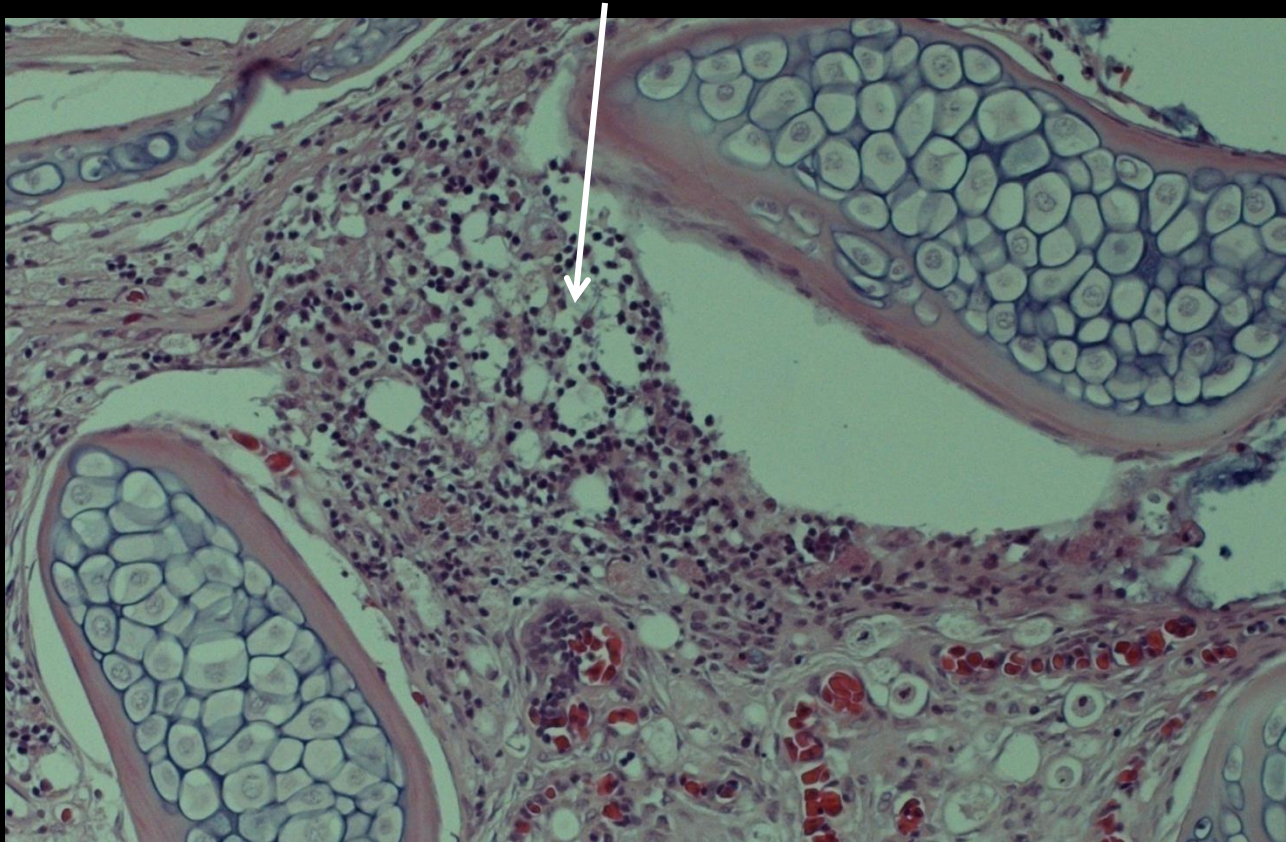


Blast cells



15.00 um

Infiltration with lymphocytes, macrophages, few eosinophilic granular cells





## Morphological diagnosis

Gills, branchioblastoma

## Prognosis

Neoplasia: benign

Localisation and expansive growth leads to malfunction of gills →  
lethal

Usually surgery not possible



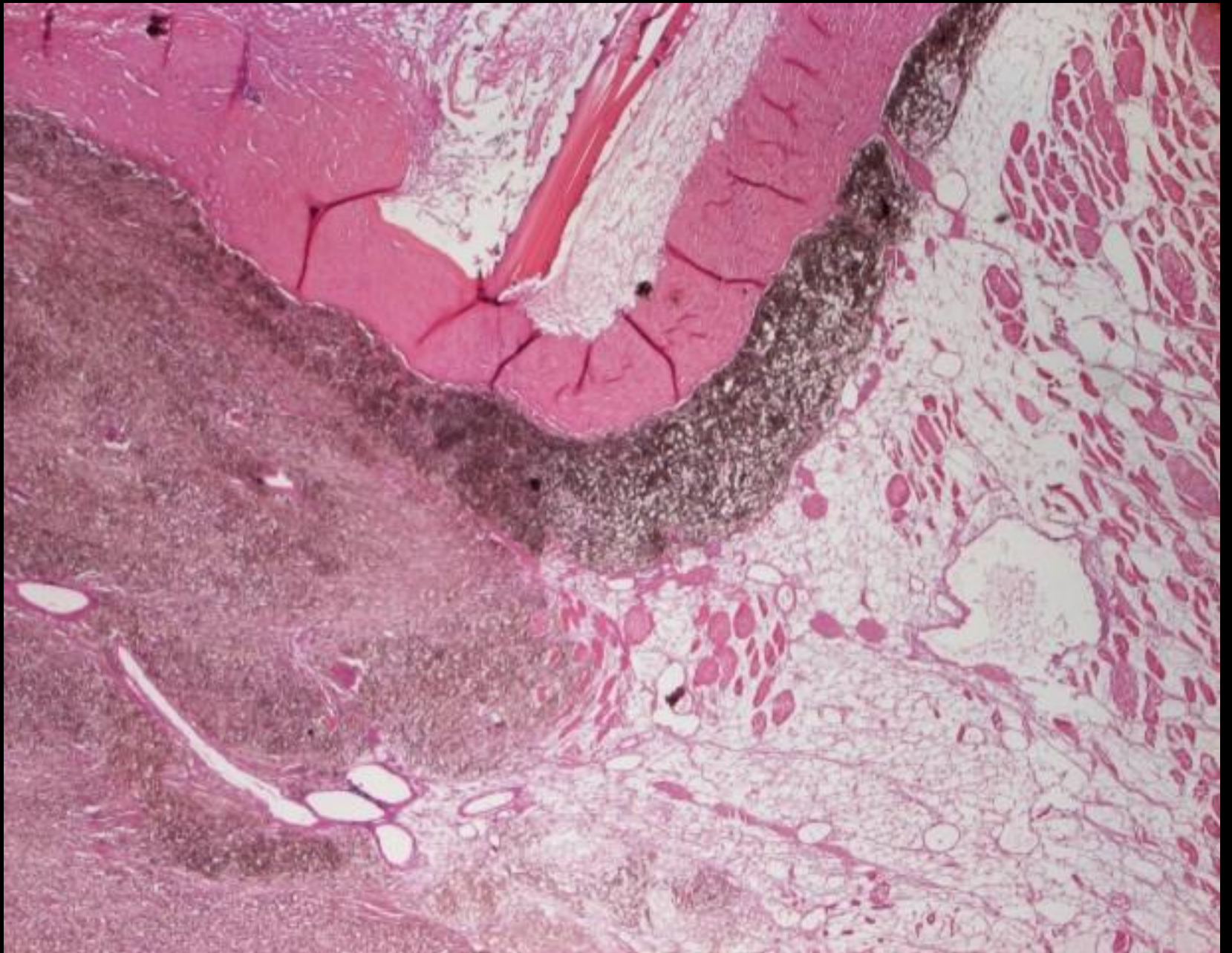
F01/2354

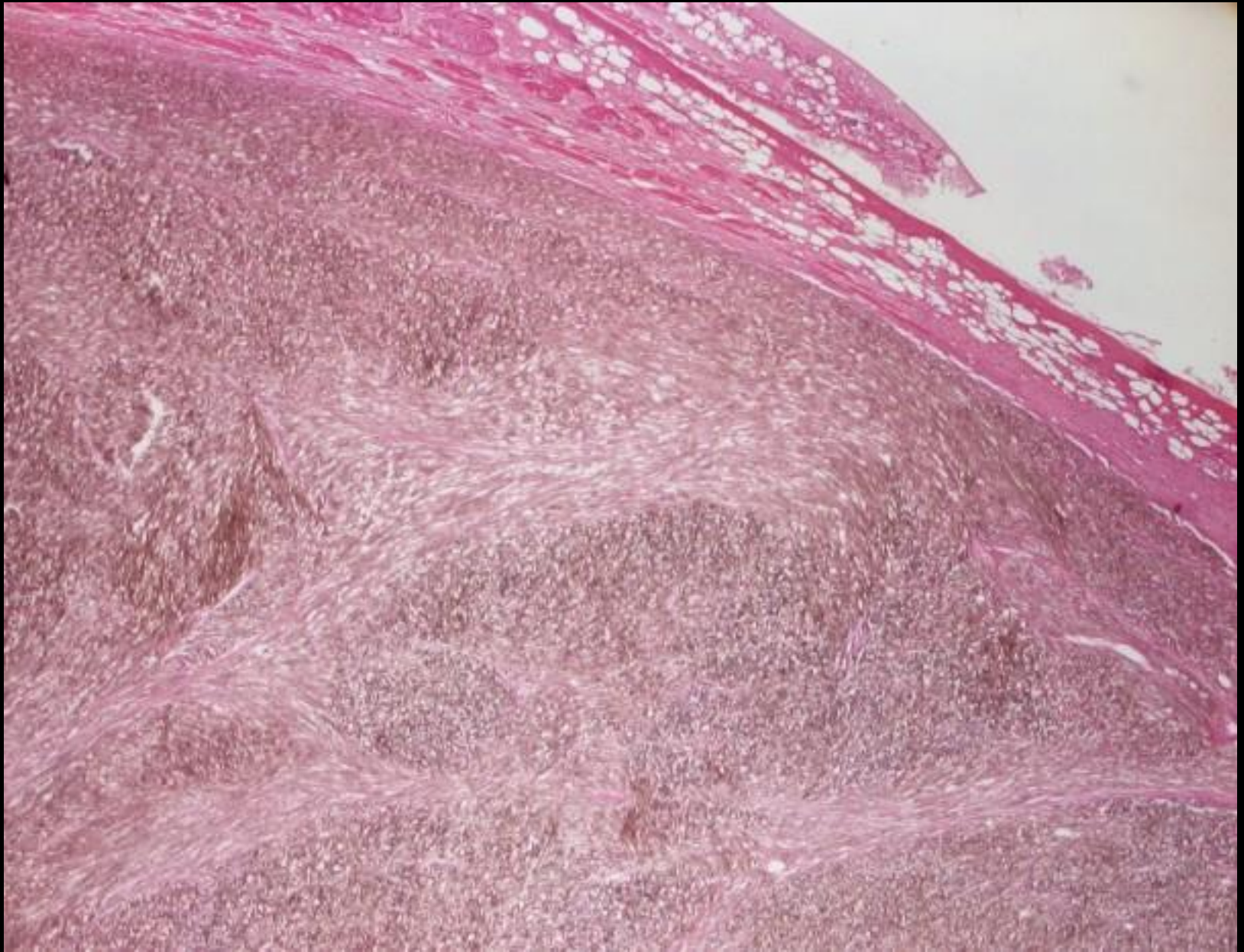
Feral grayling

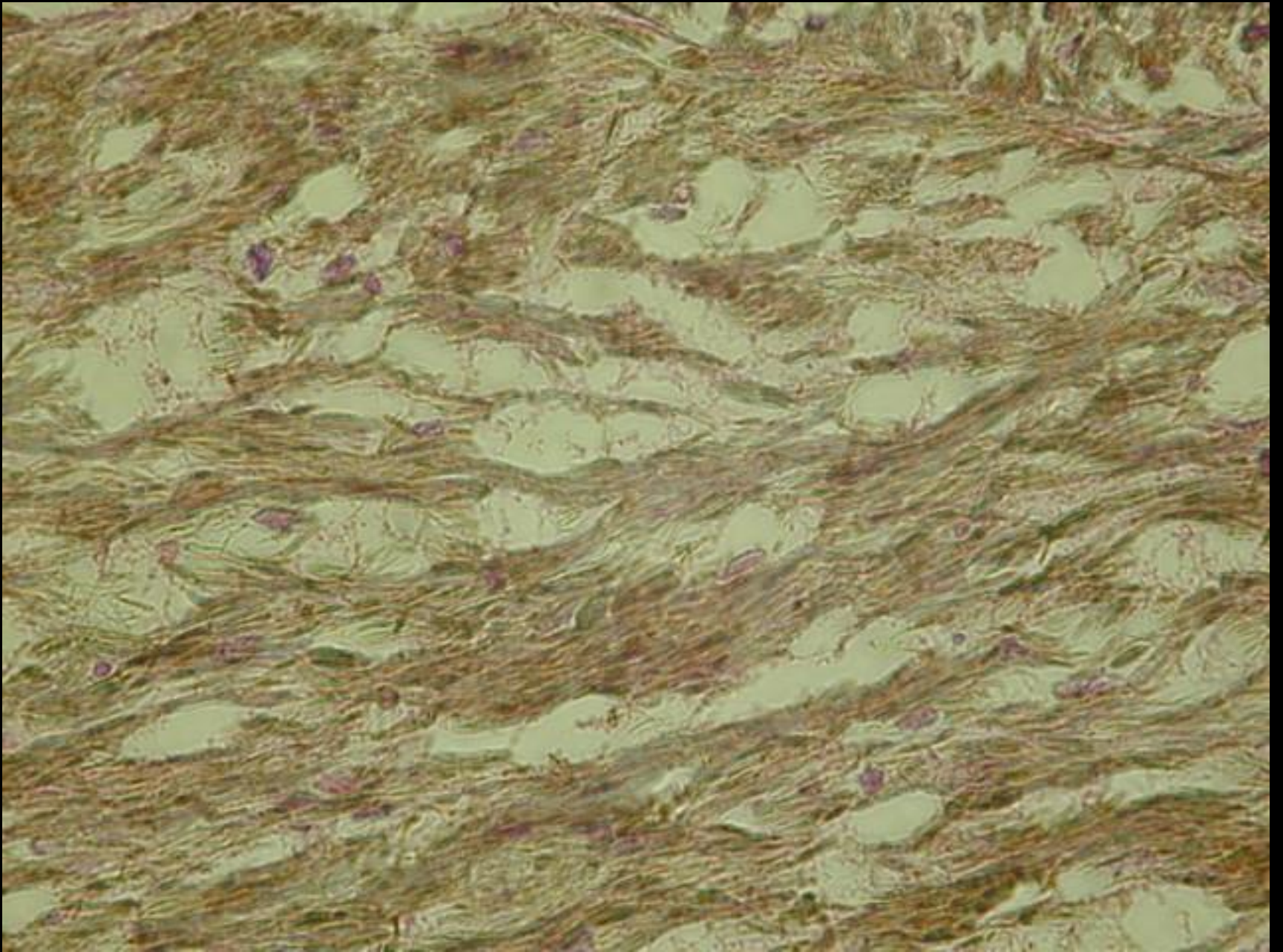
Clinic: silver nodule on skin

Organ: skin











## Morphological diagnosis

Skin, iridophoroma





# Miscellaneous disorders

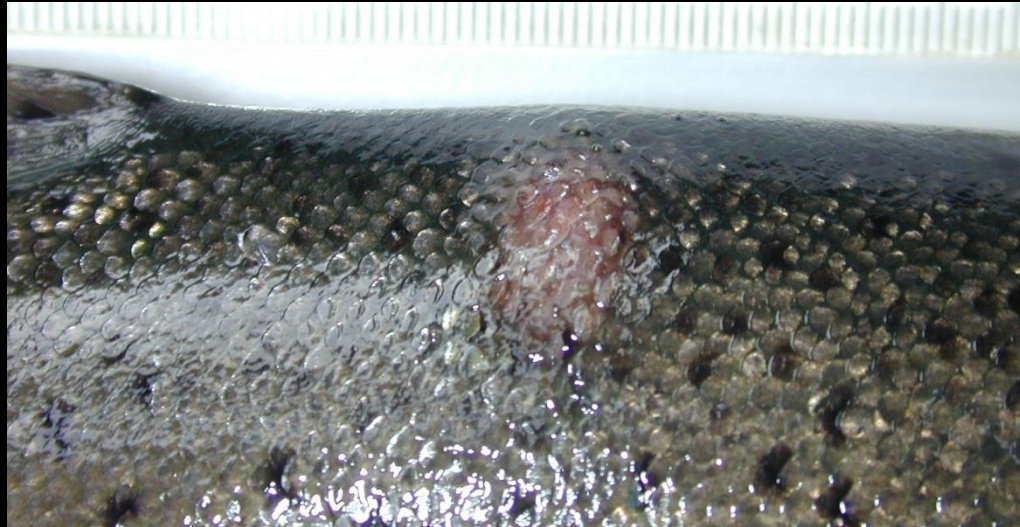
F08/2311

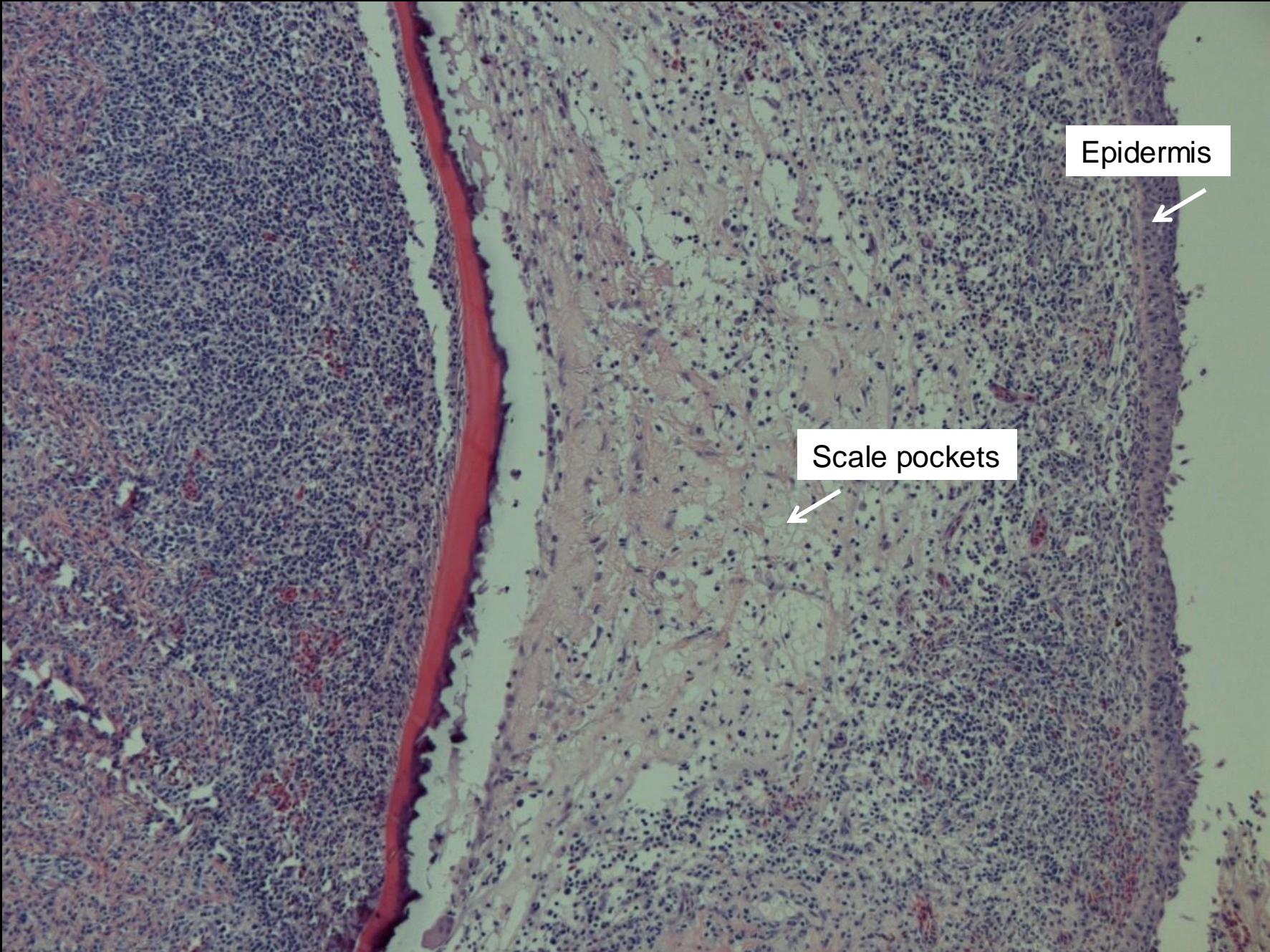
Rainbow trout, fish farm

Clinic: non-lethal, low morbidity

Rainbow trout > 100 g, single to multiple reddish to whitish nodules on body site

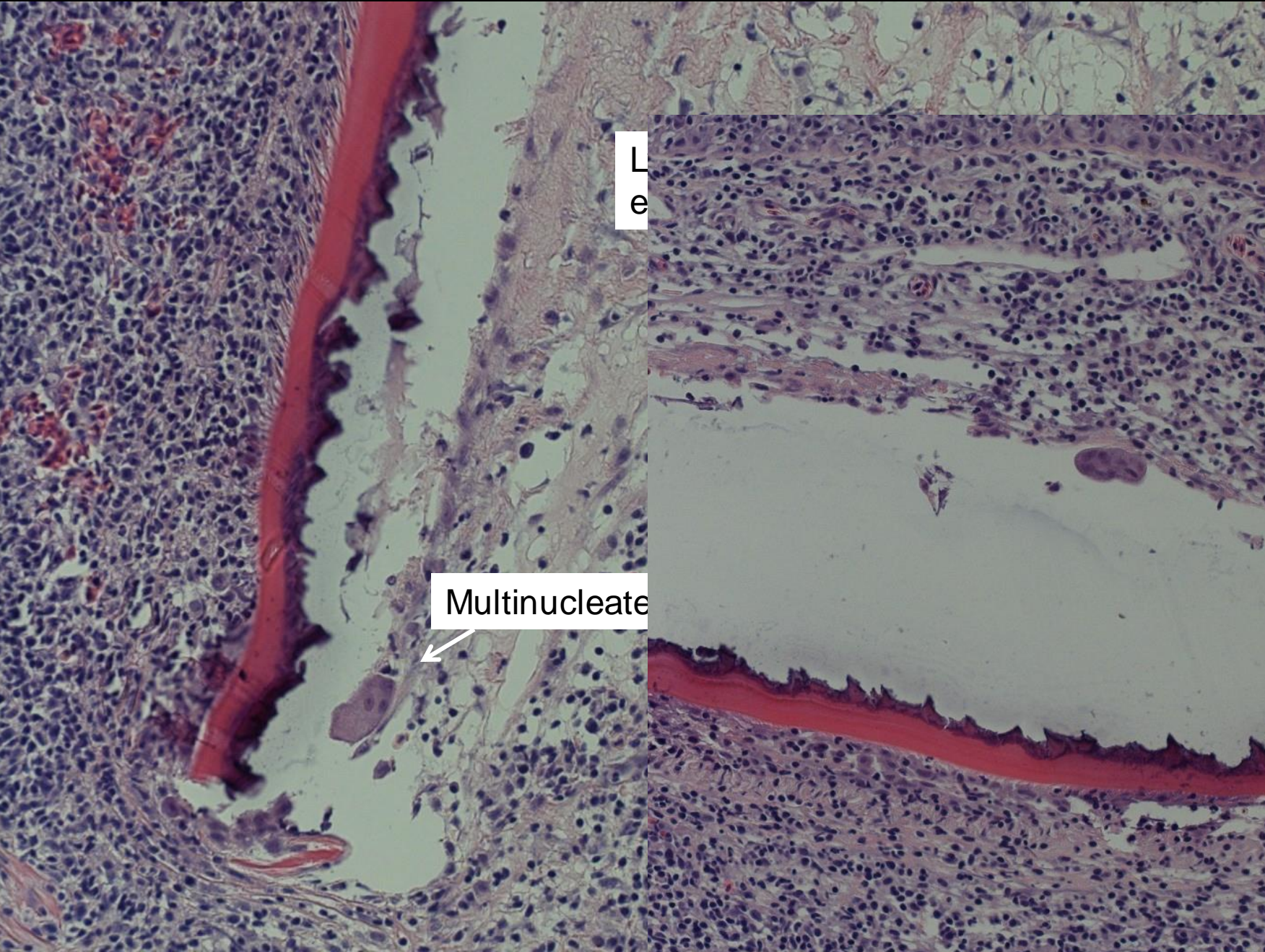
Organ: skin

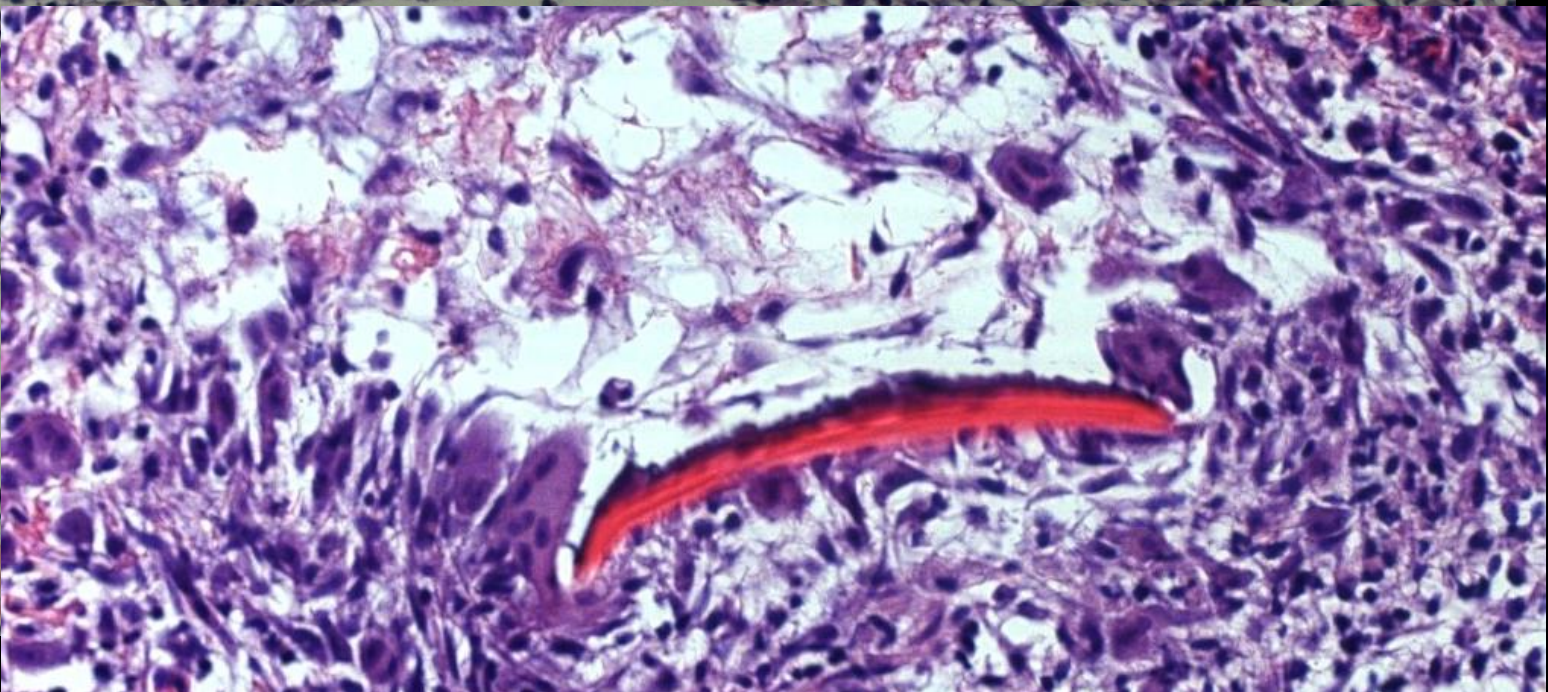
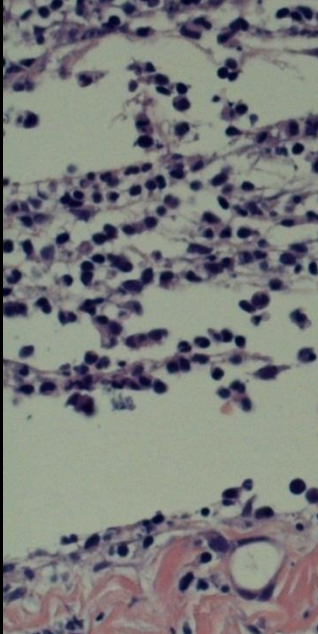
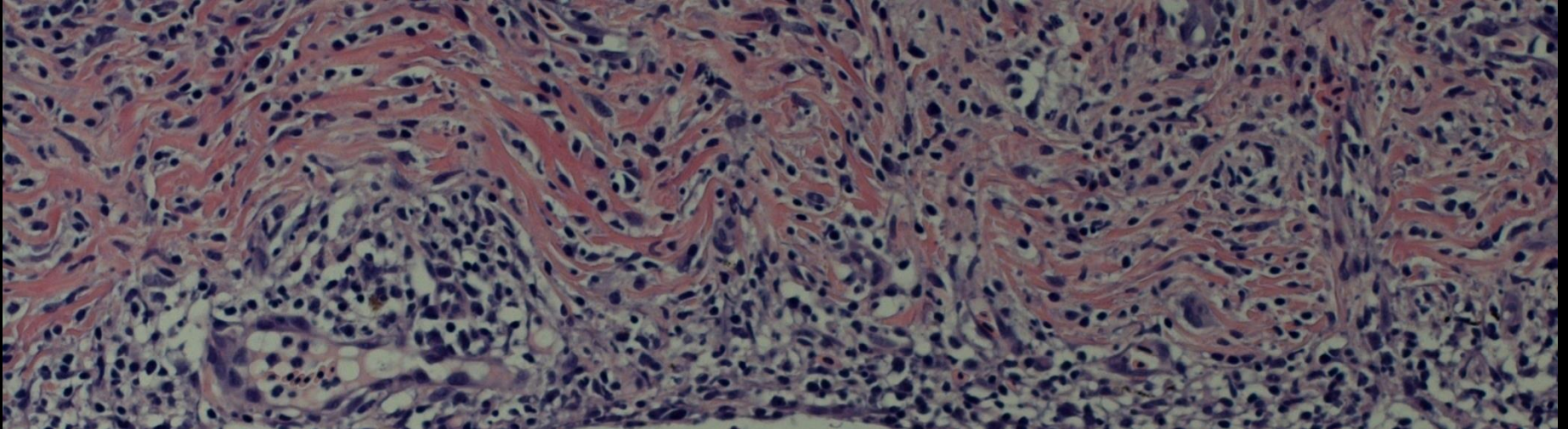


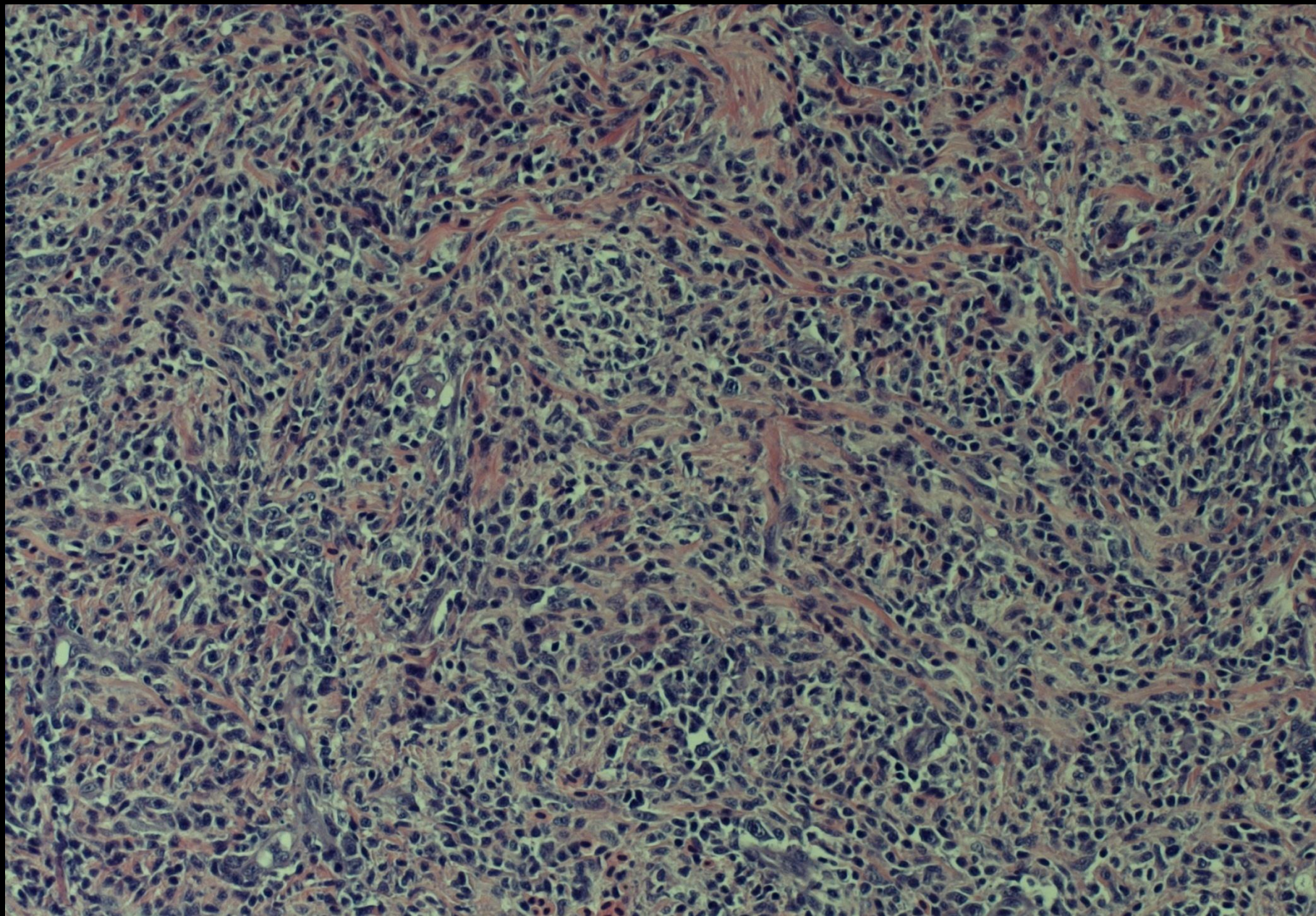


Epidermis

Scale pockets









## Morphological diagnosis

Skin, granulomatous dermatitis, focal extensive, severe, chronic with scale resorption

Red mark syndrome (Cold water strawberry disease)

Aetiology unknown, RLO in discussion



F09/2062

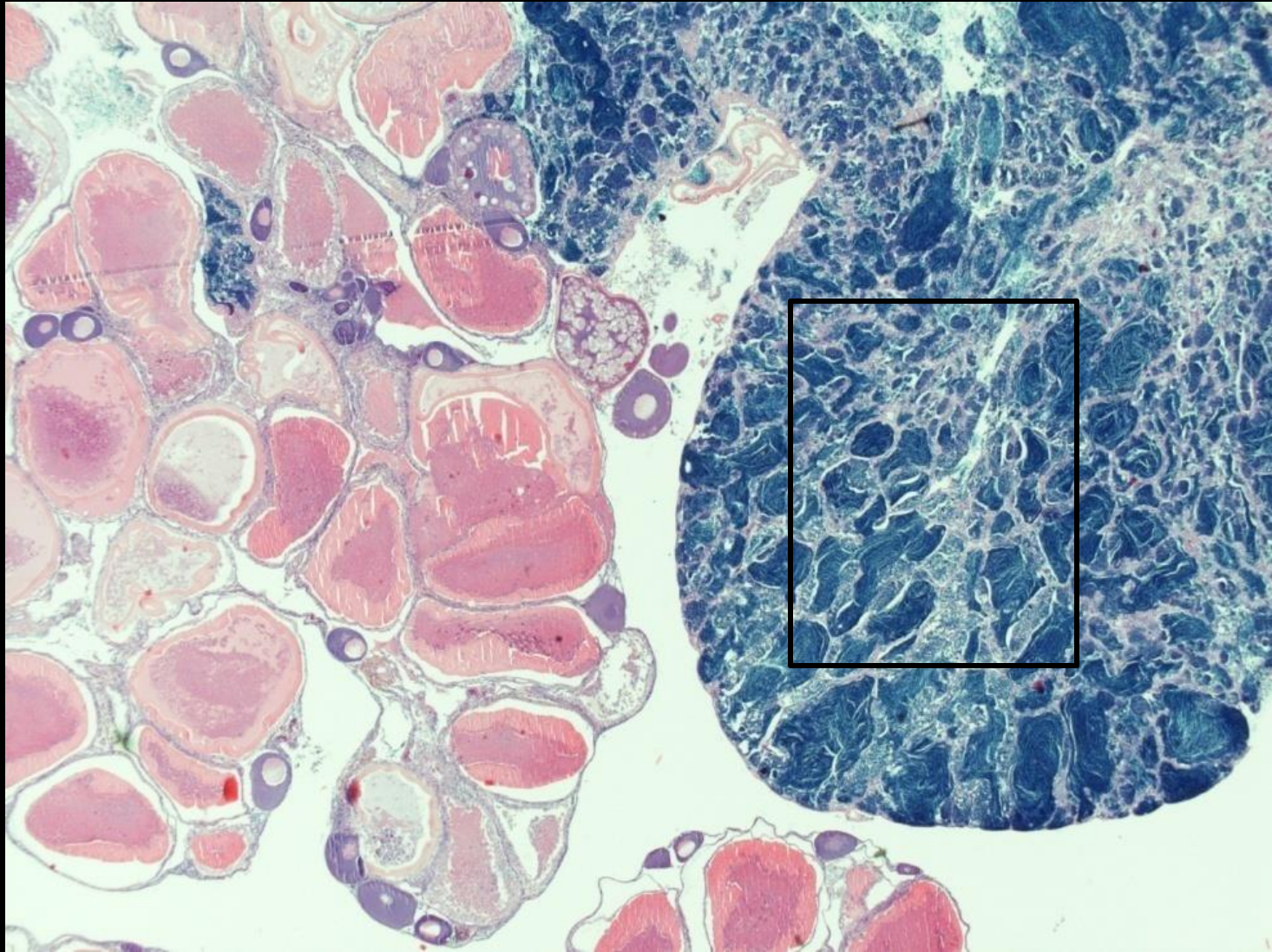
Koi, pond

Clinic: no clinical signs, only single animals affected

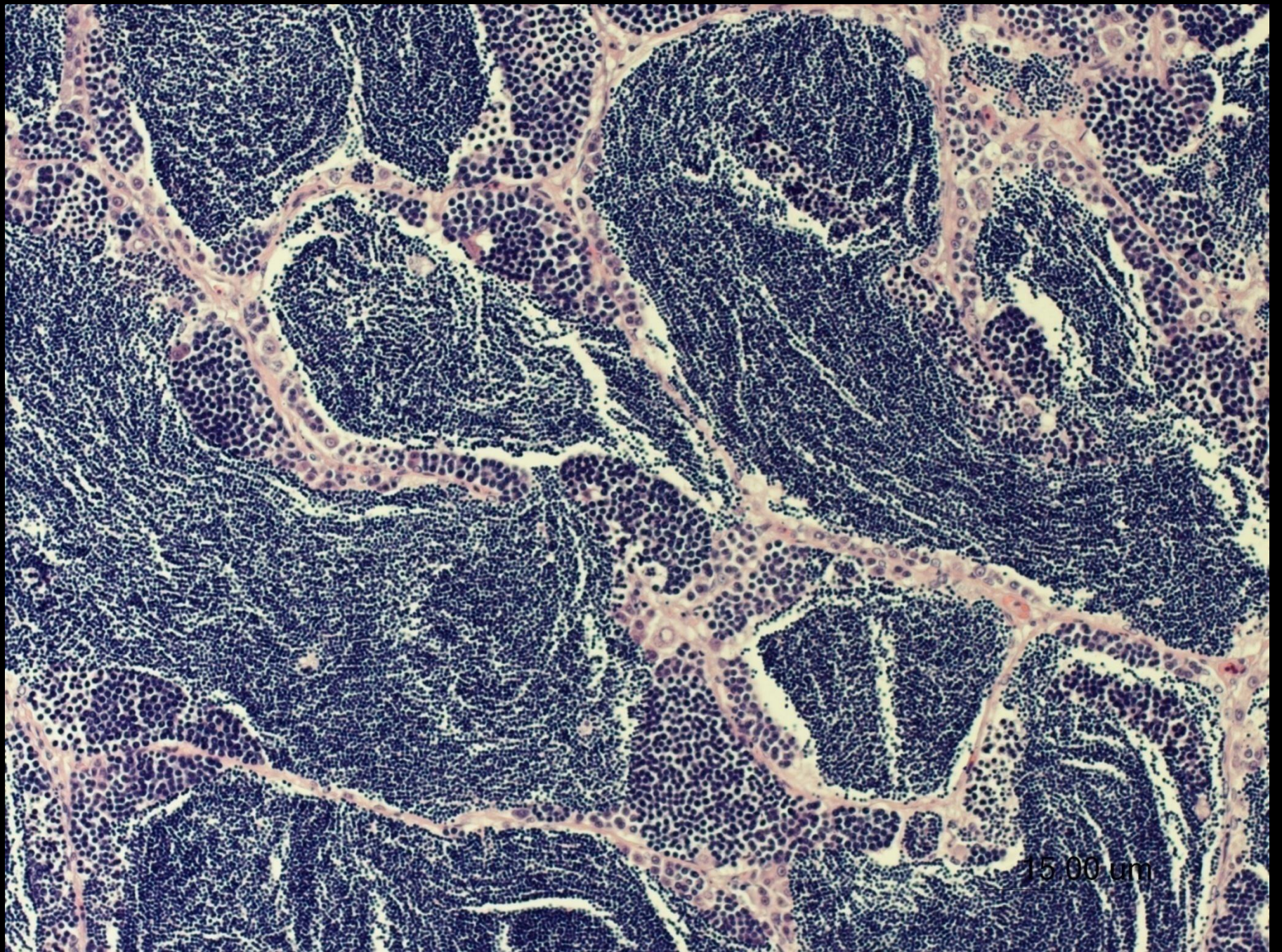
Organ: gonads



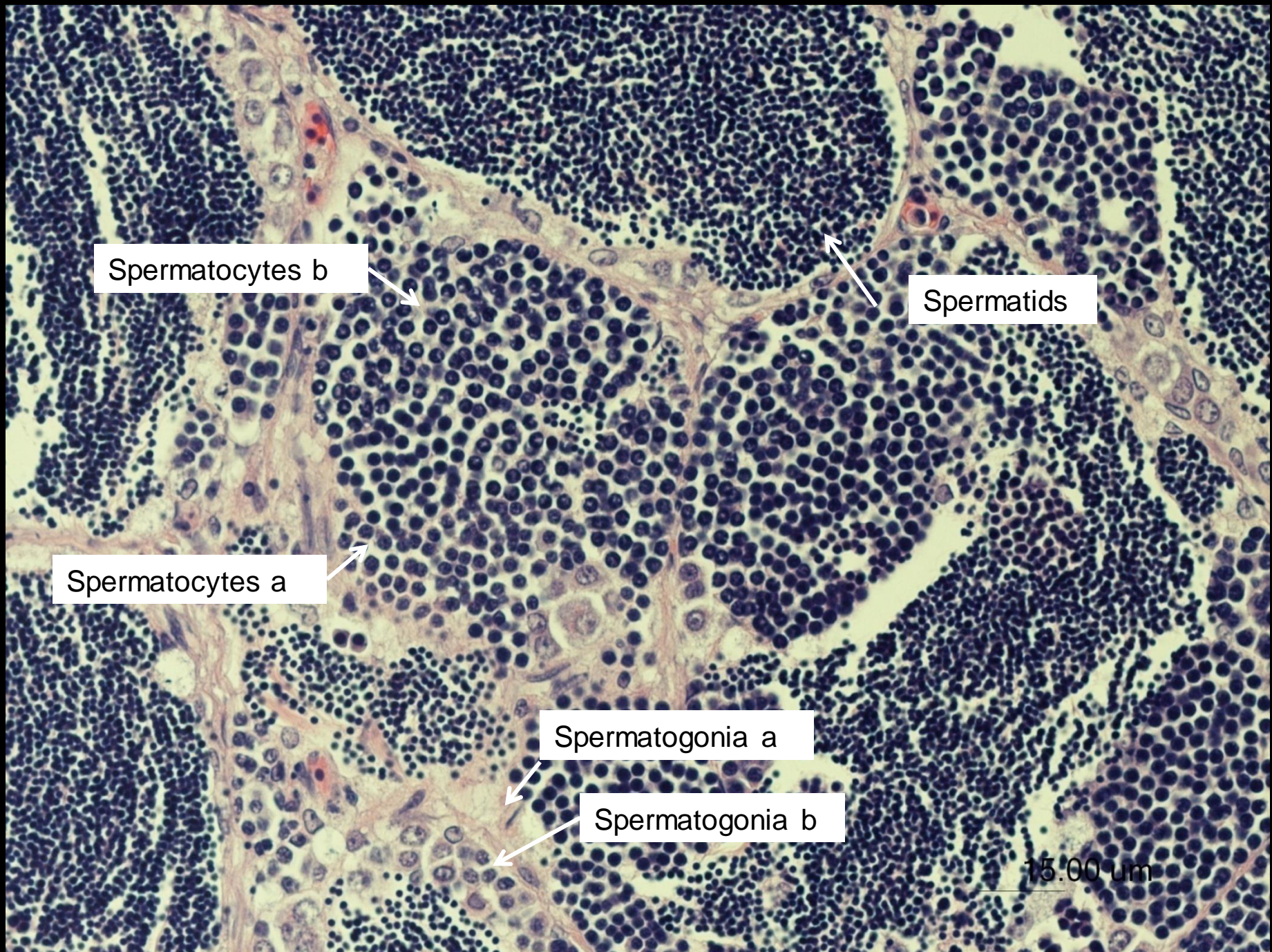
Macroscopic picture of a *Common Roach*







15.00 μm



Spermatocytes b

Spermatids

Spermatocytes a

Spermatogonia a

Spermatogonia b

15.00 um

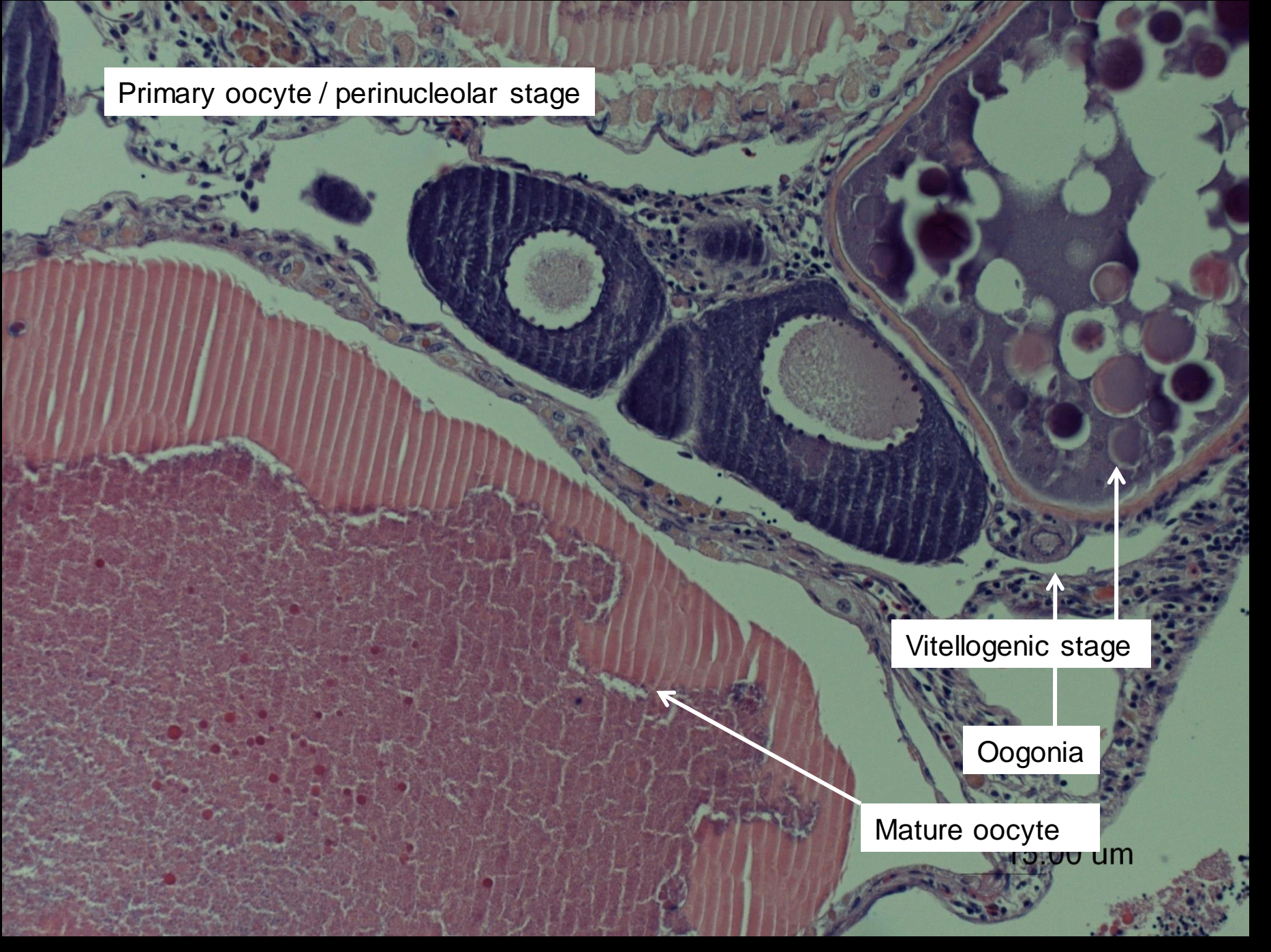
Primary oocyte / perinucleolar stage

Vitellogenic stage

Oogonia

Mature oocyte

15.00 um





## Morphological diagnosis

Ovotestis, lobular form



## Ovotestis (Intersex) in gonochoristic fish

### Definition intersex:

- Gonads with male and female compartments

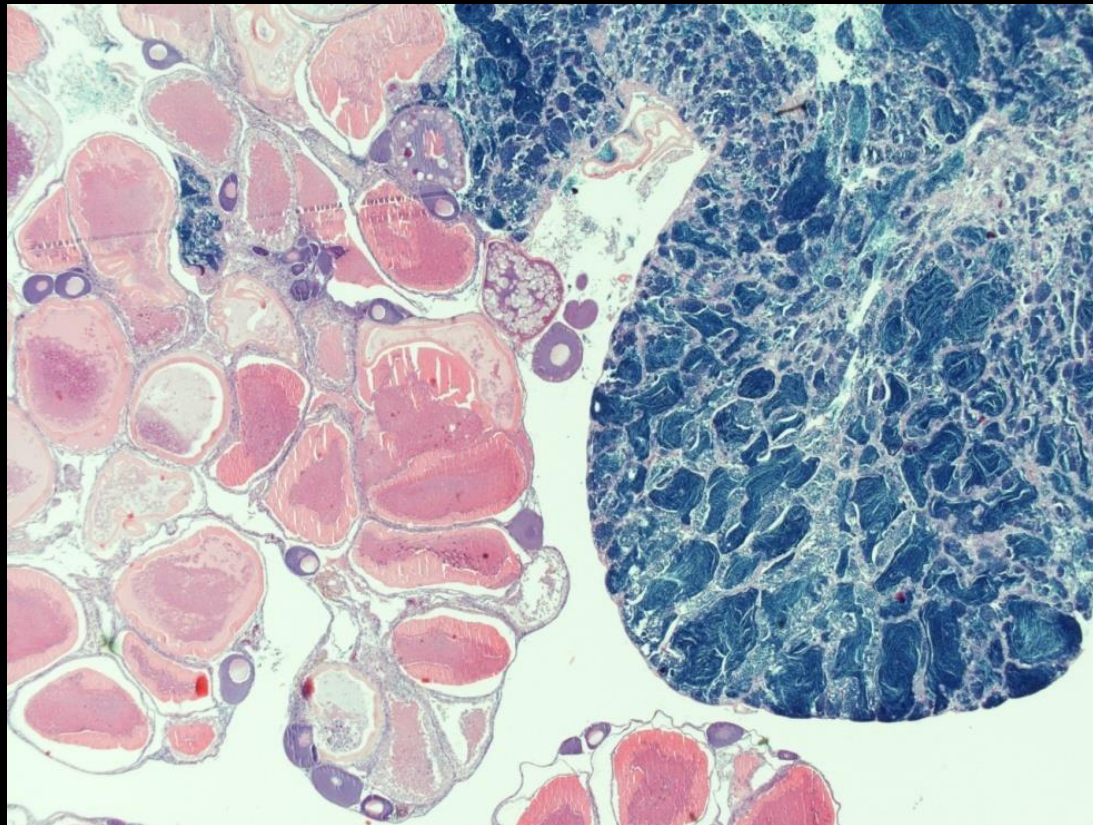
### Forms:

- Lobular form
- Mosaik form



## Ovotestis lobular form:

two separate compartments of male and female gonadal tissue

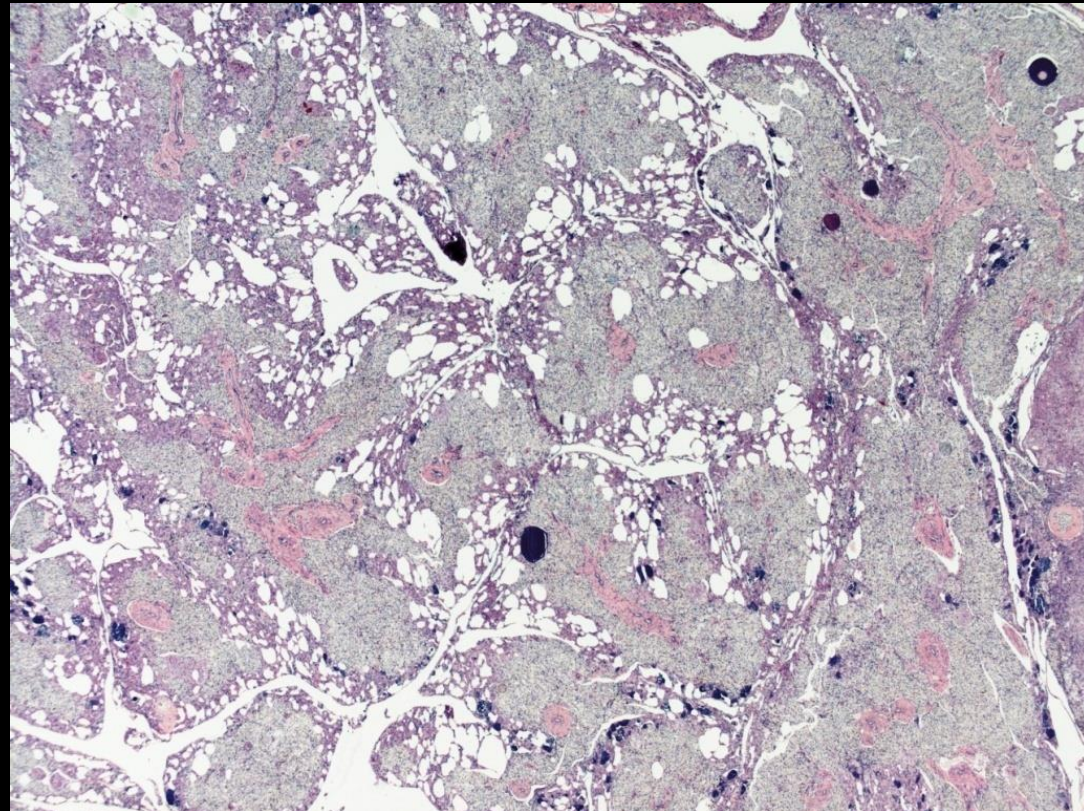


## Ovotestis mosaik form:

Oocytes multifocally distributed in testicular tissue

Testicular structure preserved

Most common intersex-form





Occurrence only occasionally

Exception: pollution with oestrogenic substances

Etiology:

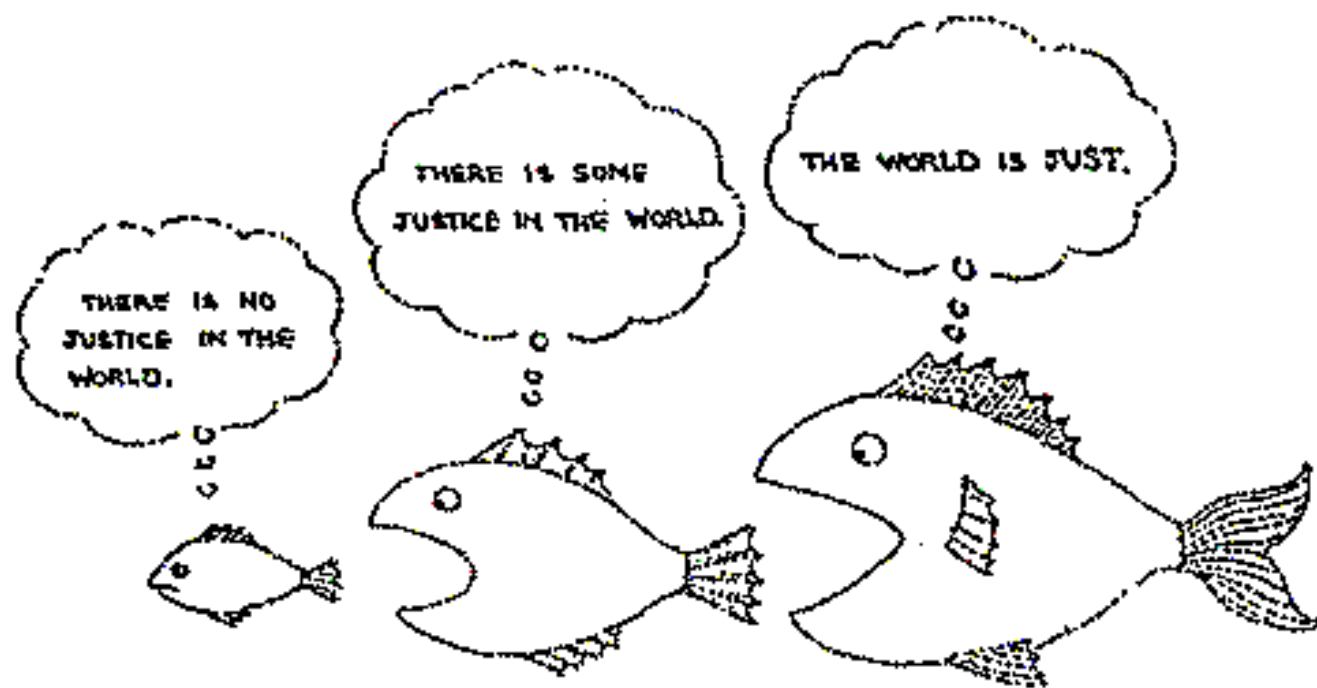
Hormonal active substances (esp. oestrogenic active), e.g. industry

Incidental

Normal, endogenous variance

Hormonal active neoplasms





MANKOFF

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