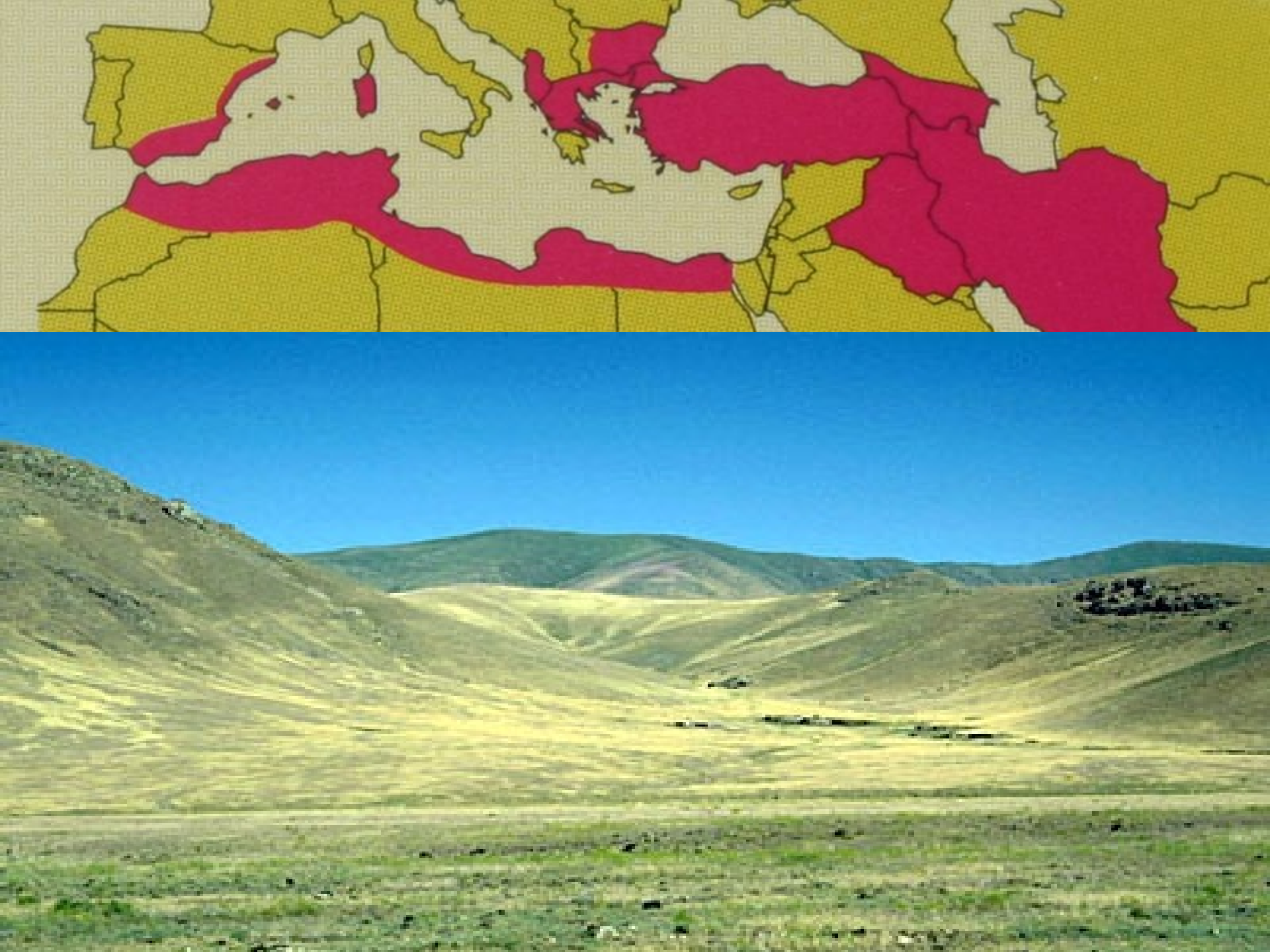
Chelonians (turtles and tortoises)

Testudo hermanni

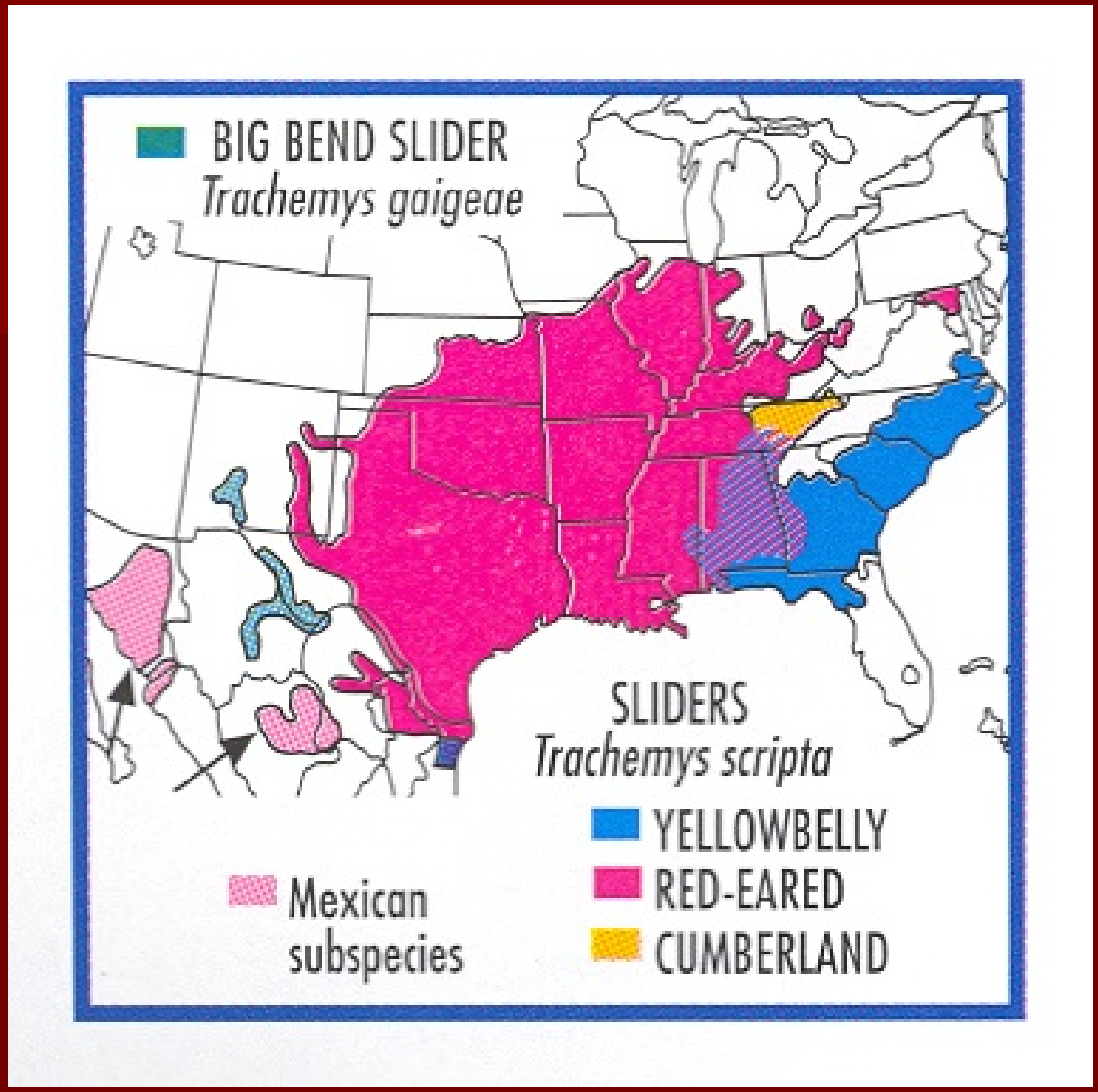
Testudo graeca



Testudo horsfieldii

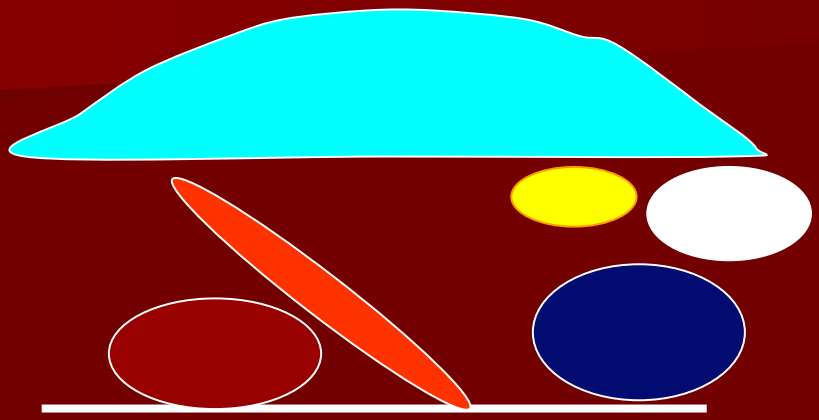
Testudo marginata

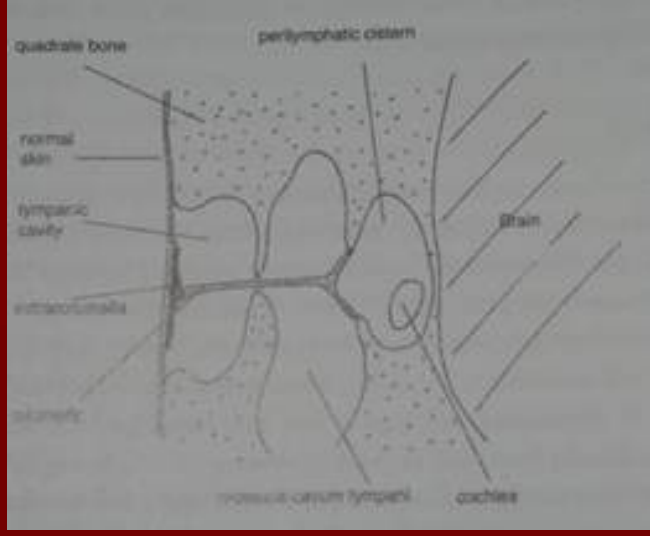
Sliders, *Trachemys*



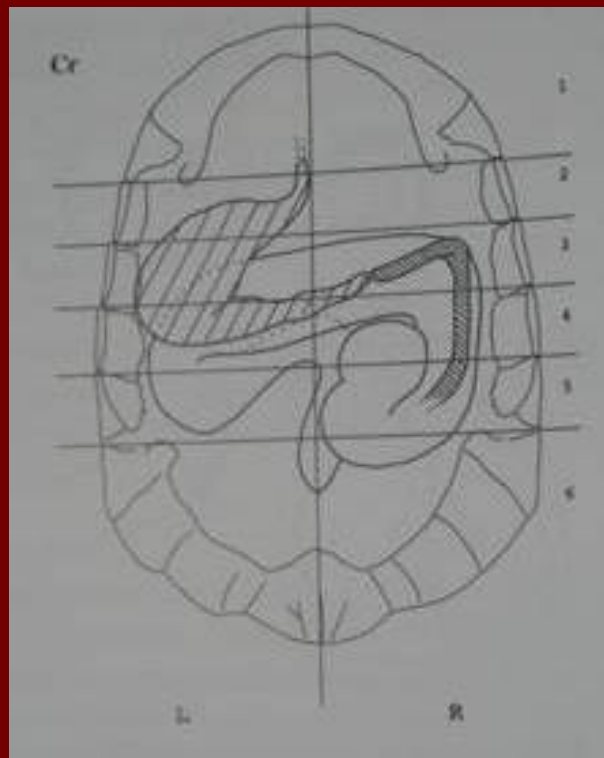
Source: Collins

Anatomy




quadrate bone
perilymphatic cistern
normal skin
tympanic cavity
brain
cochlea

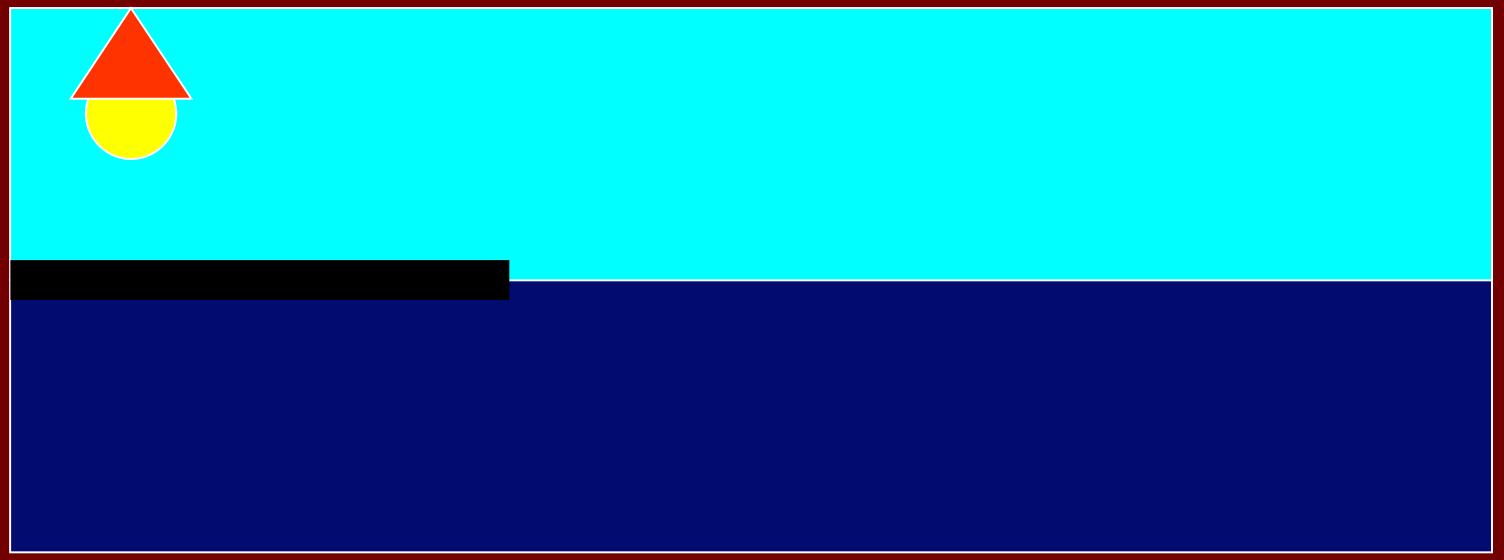

9
12
13
2
7
3
1
14
15
4
16
8
17
5
10
18
6


Cr
L
R

Housing tortoises

Housing sliders

- Outside pool (escape proof!!)
- Aquarium (approx 100 l per adult turtle)
- Water quality!



Nutrition of tortoises

- Vegetarians!!
- Animal protein?
- Commercial pellets?
- coprophagy

Elizabeth Morales

Nutrition

- calcium
- vit A
- vit D3
- Fat / protein

Nutrition of sliders

- Omnivorous
- Turtle pellets
- Dog / cat feed
- Adult: at least 50% vegetables

Nutrition

- Ca / P: 2
- vit A
- vit D3
- Fat / protein

Hibernation

- Preparation:
  - Light cycle
  - temperature
- Fast (± 2 weeks)
- Tepid baths
- Temperature: constant 4 – 8°C
- Humidity: substrate dry
- Dark
- 1 octobre – 1 april

Hibernation

- Problems:
  - Gut not emptied
  - Unrest
  - Too moist
  - Rodents
  - Frost
  - Too warm
- No hibernation
  - Reproduction
  - Longevity?

Reproduction

- Mating: in spring
- Eggs: may - july
- gestation: 4-6 weeks
- 1-2 clutches
- 4-8 eggs
- 3-4 cm (10 – 20 g)

incubation

- Fertilized?
  - Cf bird eggs
- 24 - 32°C, 70 – 100 days
- TDSD
- vermiculite, au bain marie

raising

- inside
- outside

- HUMIDITY!!
- NUTRITION!!
- 6 – 15 year

Sex determination

- age, cm
- plastron
- tail
- behaviour?

female

male

manipulation

IV

- V. jugularis
- Dorsal tail vein?
- Cardiocentesis
- Dorsal cervical sinus

Intracoelomic

epicoelomic

- Problems:

Supportive care

Clinical examination

- signalement!
- anamnesis
  - MANAGEMENT!
  - behaviour
  - appetite
  - contact with other chelonians
- General impression!

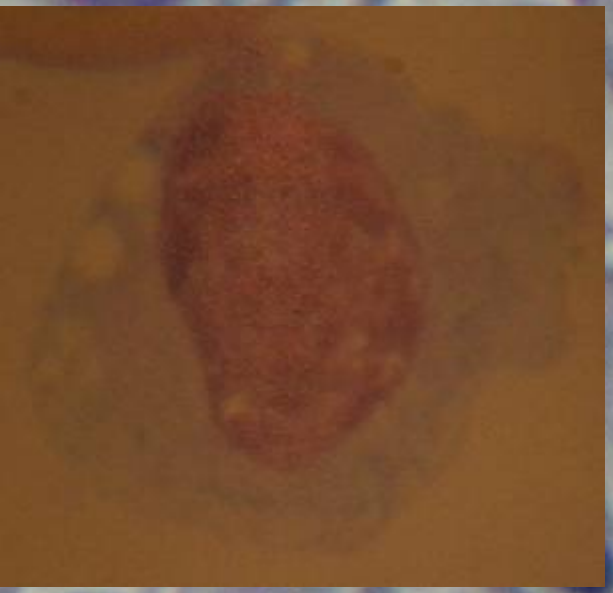
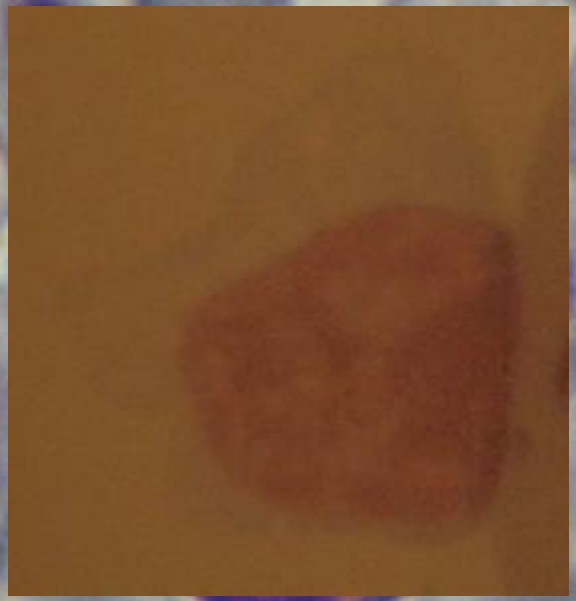
Clinical examination

- pulse, respiration, temperature, lnn?
- mucosae
- condition, hydratation
- Skin / carapax / plastron
- parasitol faeces (swab?)
- RX, haematology, (echo),...

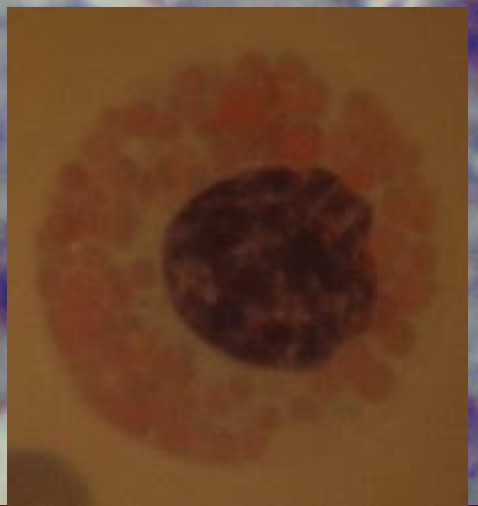
Blood

- cytology
- biochemistry
  - AST, bile acids
  - Uric acid?
  - Ca, P, Na, K
  - TP

Haematology





Anesthesia


IMALGÈNE® 100
Kétamine - Ketamine
101


Rapinovet
Schering-Plough

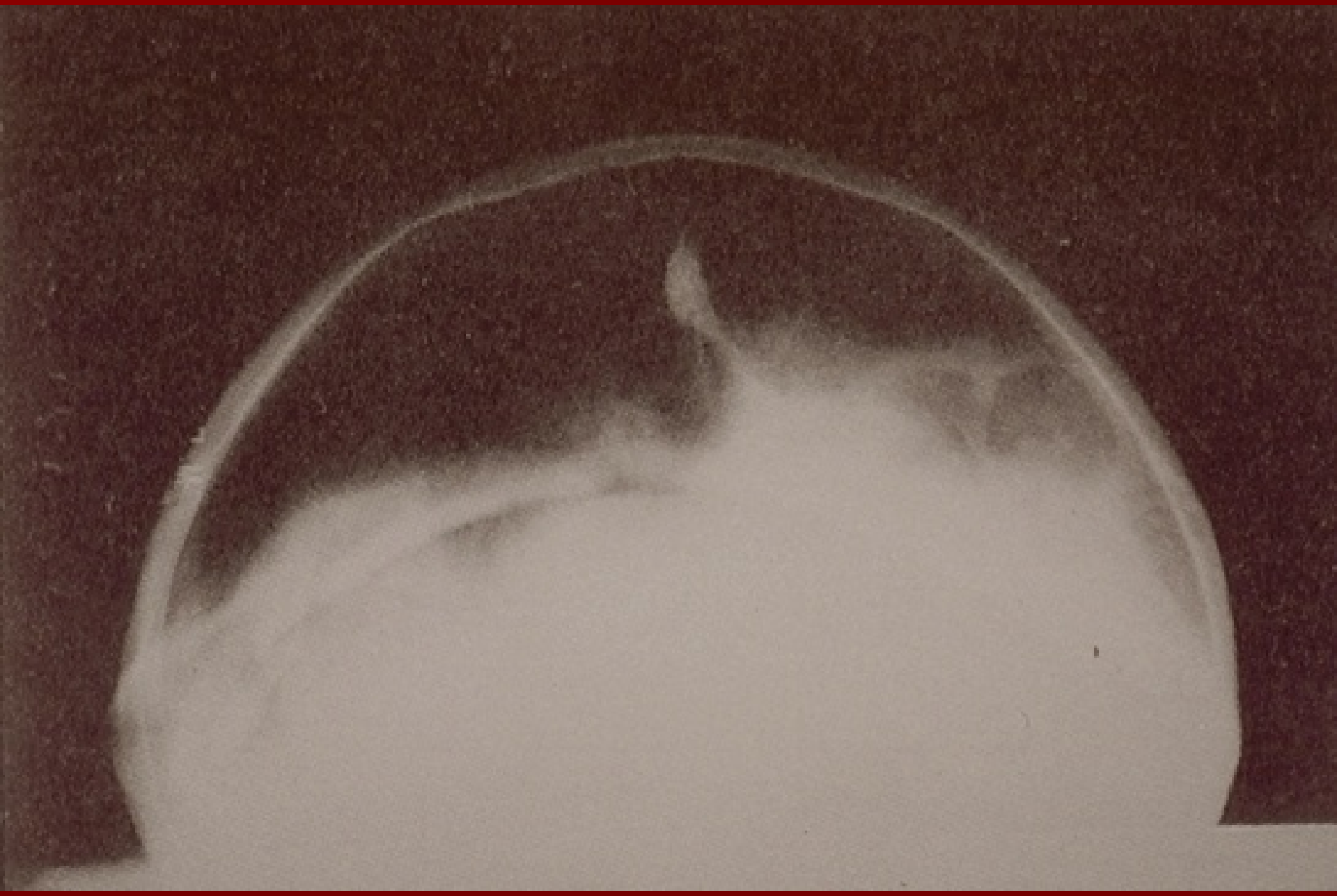
Most prevalent diseases

Cutaneous ulcerations

- Mild to septicemic (SCUD)
- Ulcera to perforations
- Cause: bacterial / mycotic
- Treatment:
  - debridement
  - isobetadine, flammazine, vulketan
  - (antibiotics)

Respiratory disorders

- LUNG???
- URTD (~ *Mycoplasma,* Herpes)
- Pneumonia
  - multifactorial
  - bacterial / parasitic



Herpesvirosis

- Most important viral disease in *Testudo*!!
- Clinical signs
- Diagnosis
- Treatment
- Prevention

URTD (*Mycoplasma agassizii*)

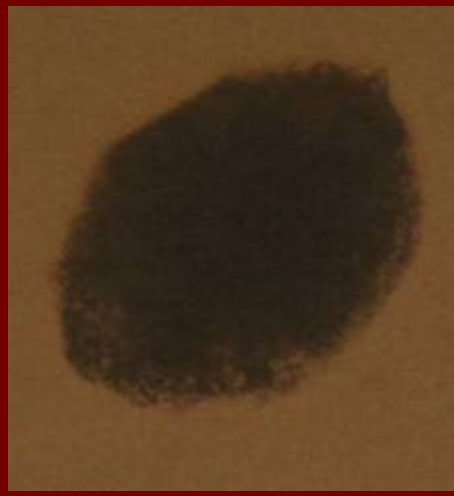
- Most important bacterial disease in *Testudo*!!
- Clinical signs
- Diagnosis
- Treatment
- Prevention

Diarrhoea

- hibernation!
- ~ diet, corpus alienum, low temperature, viral / bacterial infections, “dysbacteriosis”, liver- kidney problems
- Parasitic problems!

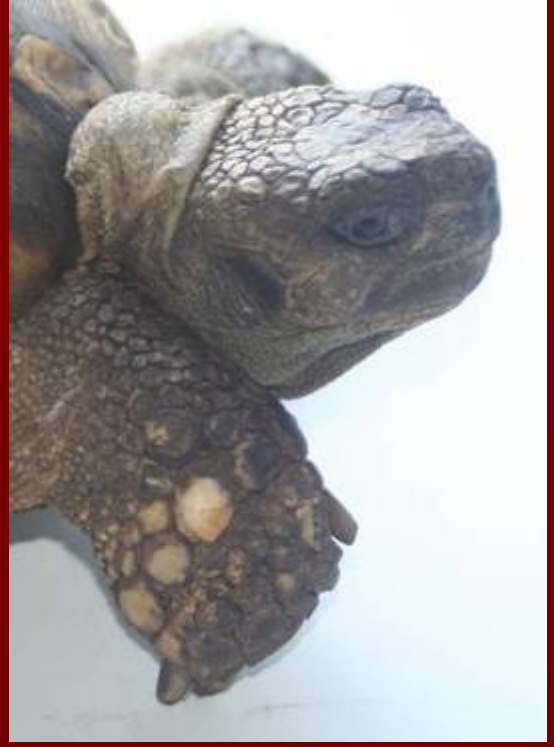
Parasitic diarrhoea

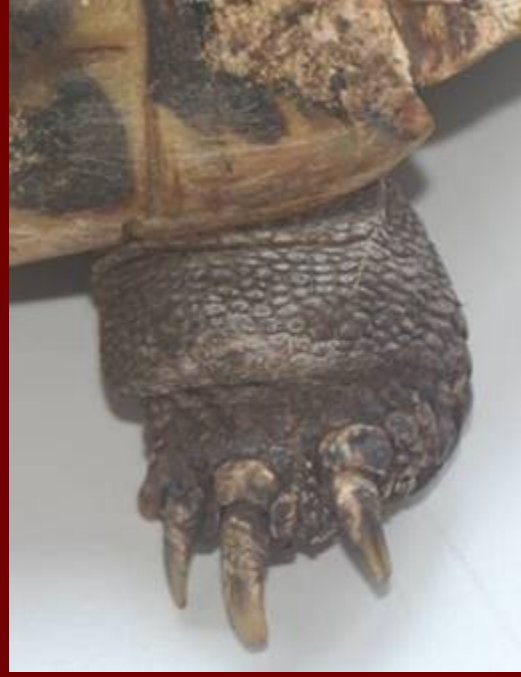
- Nematodes
  - Oxyura /ascaridia
- (trematodes / cestodes)
- Flagellates
  - *Hexamita* -> nieren!
- Ciliates (eg *Balantidium*)
  - "fading" of juveniles
  - Treatment?
- (Coccidia)
- Amoebiasis?



Kidney

- Joints, visceral, kidney GOUT
- herbivores ~ dietary protein
- dehydration
- allopurinol?
- Diagnosis?



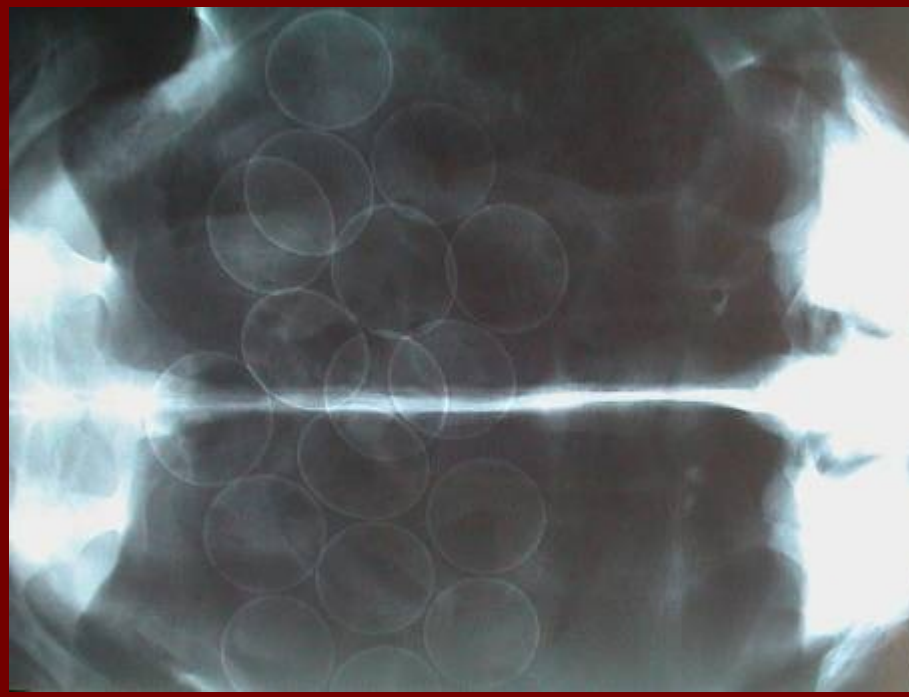


MBD

- Nutrition / UV
- Very high prevalence

dystocia

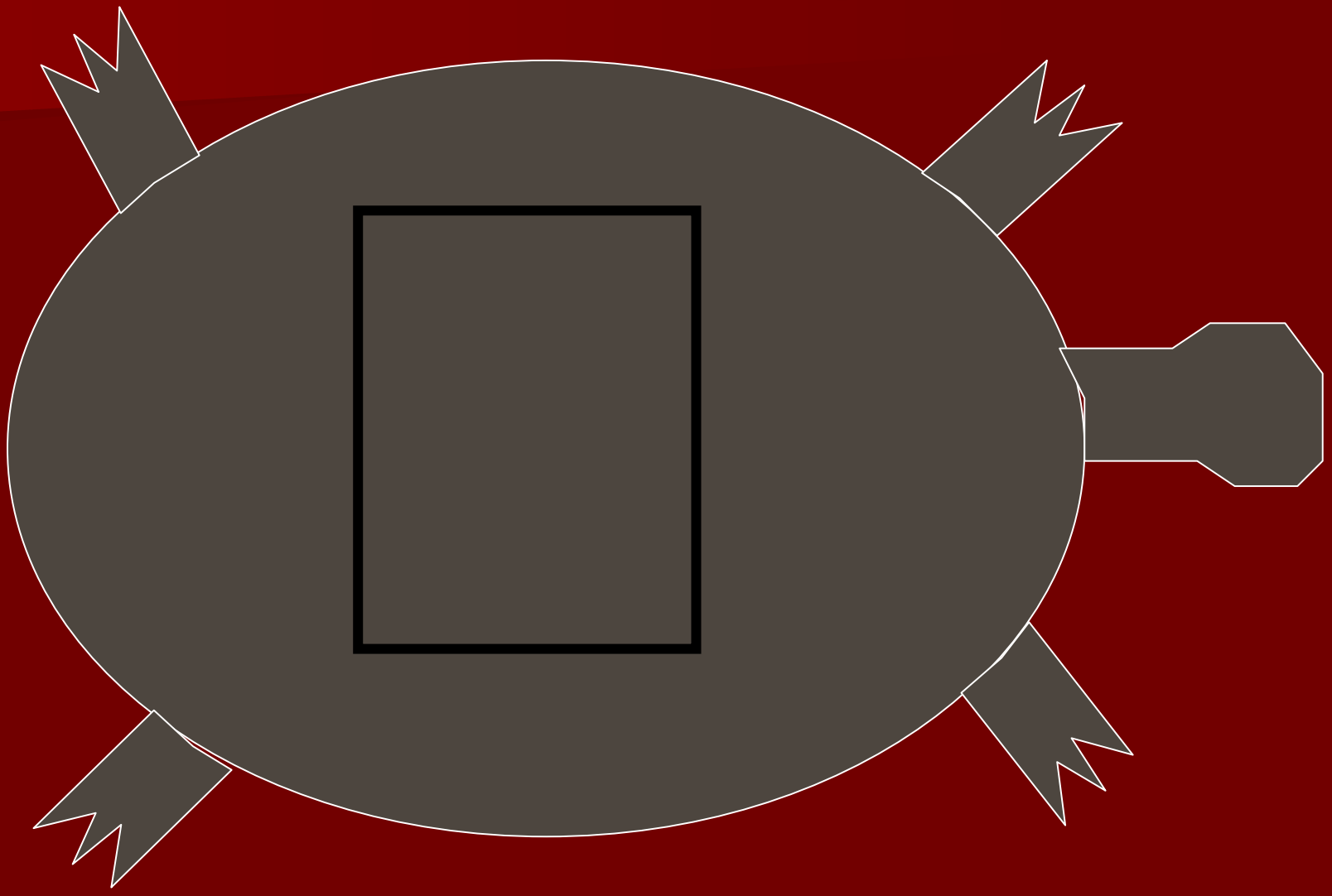
- Egg deposition site, salpingitis, mbd, malformed eggs, debilitation (kidney!), anatomic deformities
- Palpation / RX
- Therapy:
  - Egg deposition site
  - Ca gluconate IP
  - oxytocine
  - surgery



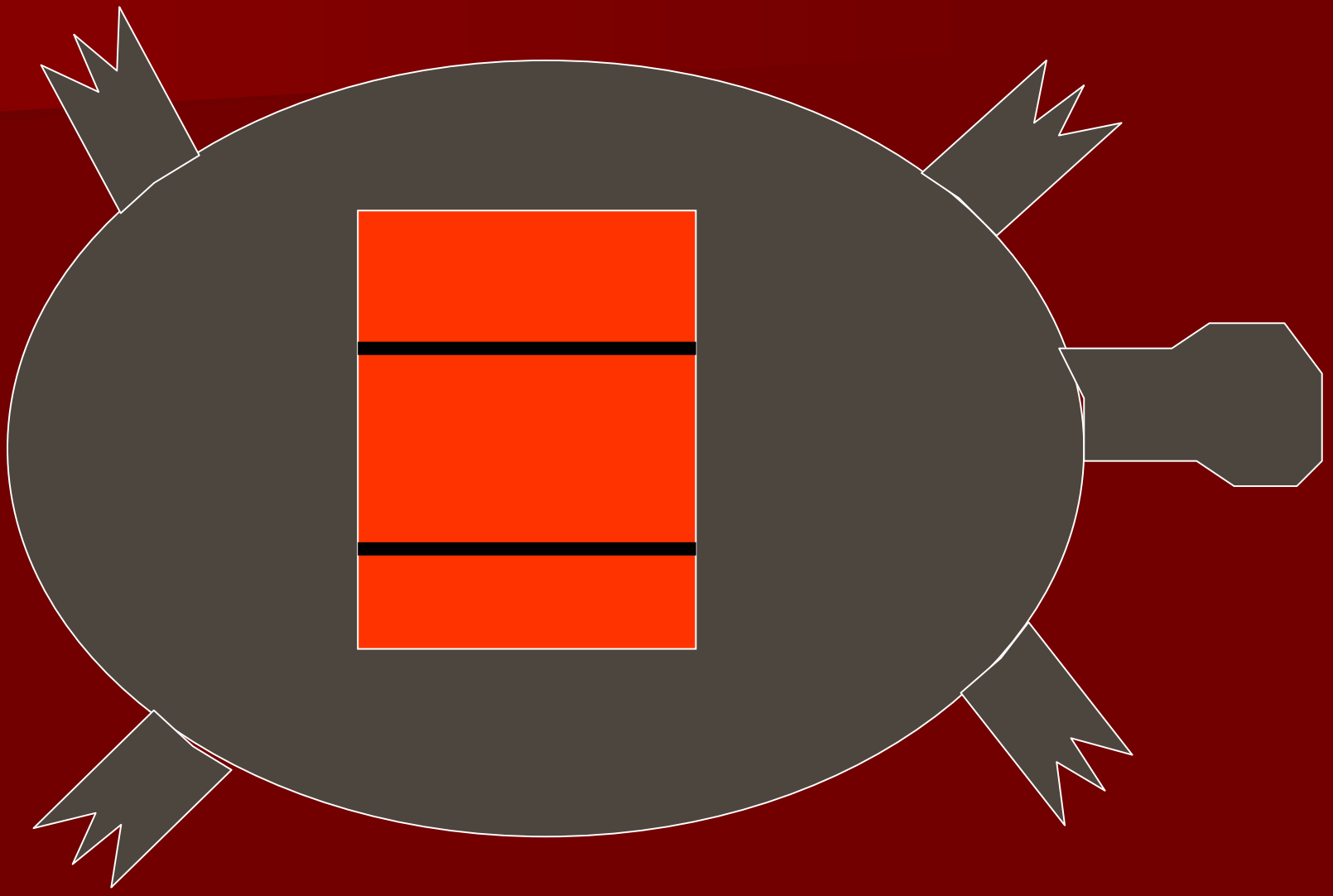
Coeliotomy

- anesthesia!

Coeliotomy



Coeliotomy



Hypovitaminosis A

Hypovitaminosis A

Hypovitaminosis A

Hypervitaminosis A

Trauma *T. hermanni*

Bite wound!

Trauma / myasis


ticks

fatty liver