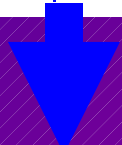
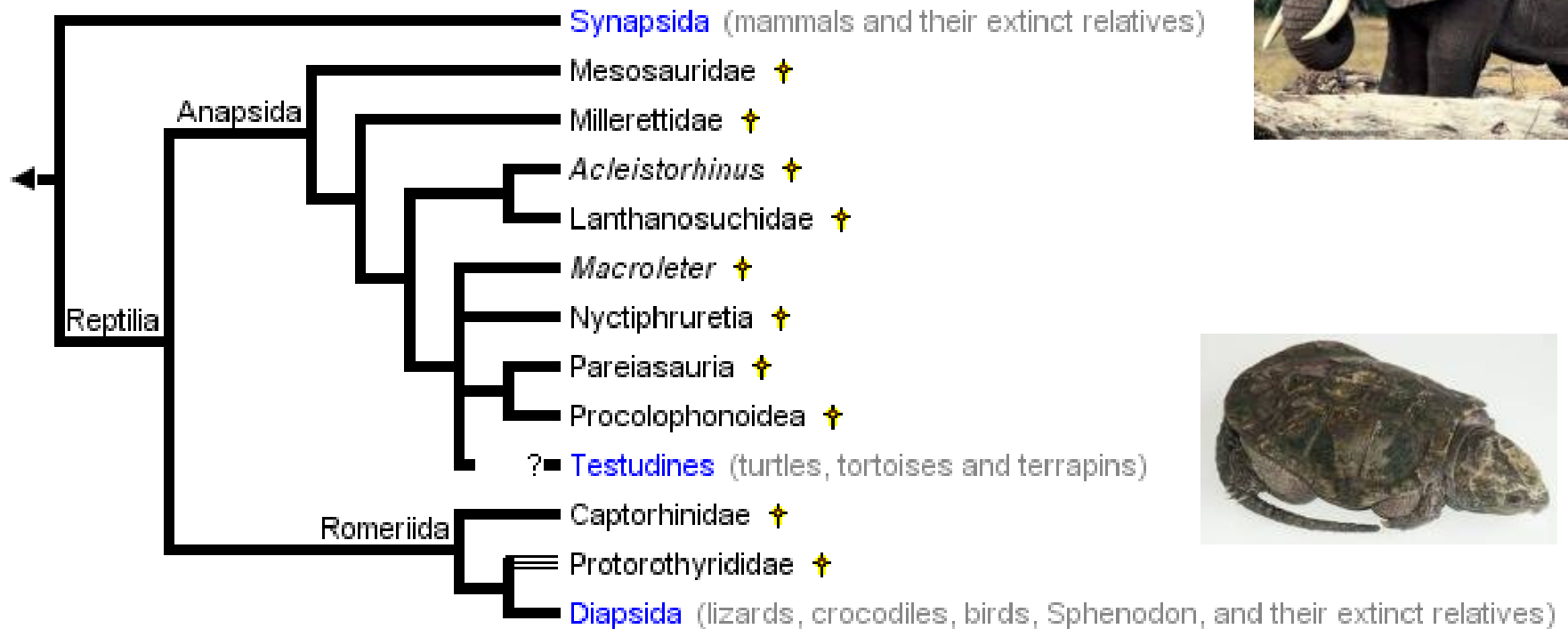


Reptiles in practice: Introduction, Biology and Management



Frank Pasmans



skin

- scales
 - dehydration
 - epidermis
 - ecdysis
- Osteoderm
- Chelonians: carapax / plastron
- Structures:
 - pores
 - Spines, rattles
- Pigment ~ thermoregulation



Respiration

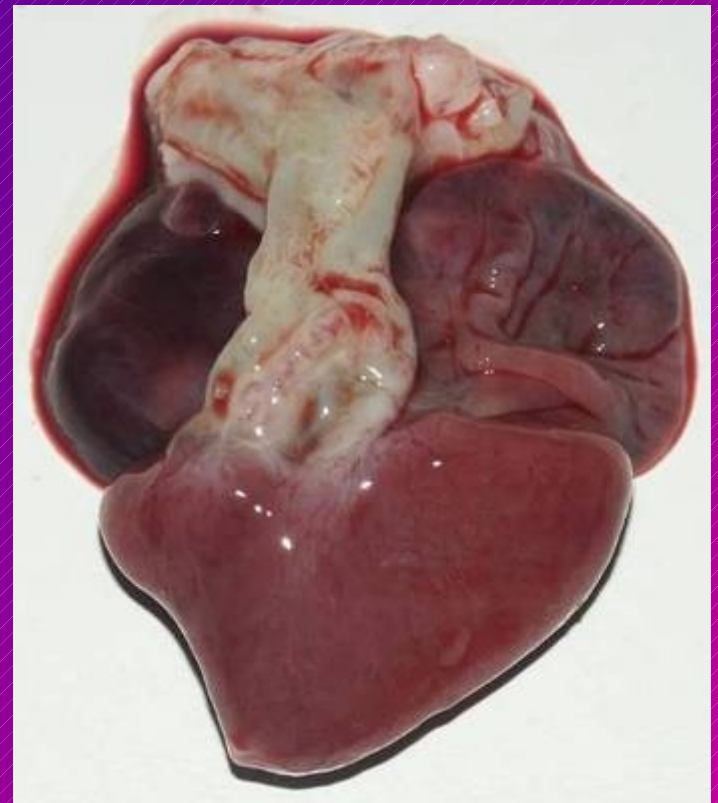
- 1 or 2 lungs
- “bags”
- no diaphragm
 - Coelomic cavity
- Incomplete palatine (ex crocs)
- glottis





Cardiovascular

- Heart: 2 atria, 1 ventricle (ex crocodiles)
- Renal portal system



Thermoregulation

- Poikilothermic (= NOT cold blooded!)
- Preferred Body Temperature
- 25 - 40°C
 - thermoregulation
 - Variations: diurnal / seasonal
- activity
- metabolism



Special senses

- Jacobson's organ
- Labial / facial pits
- Parietal eye

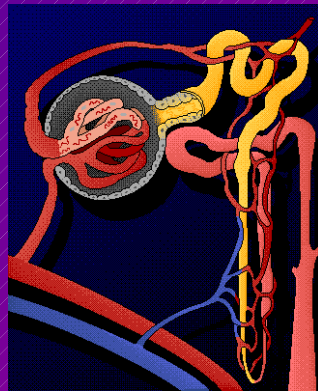


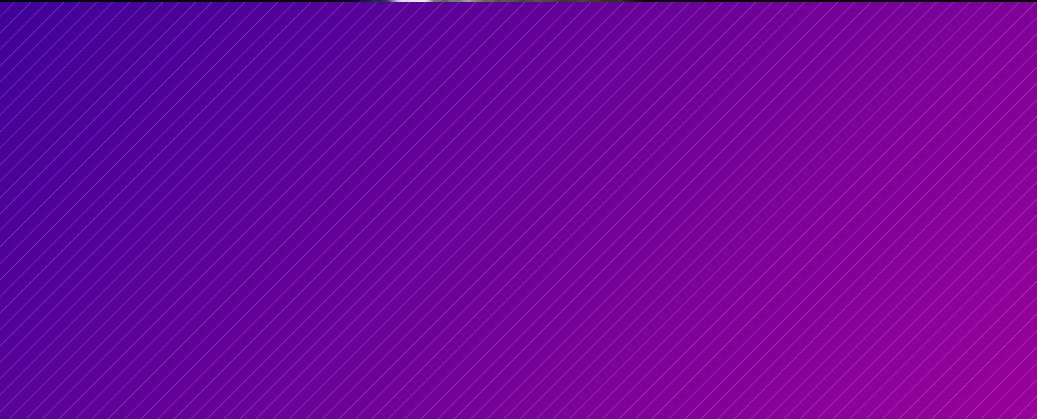
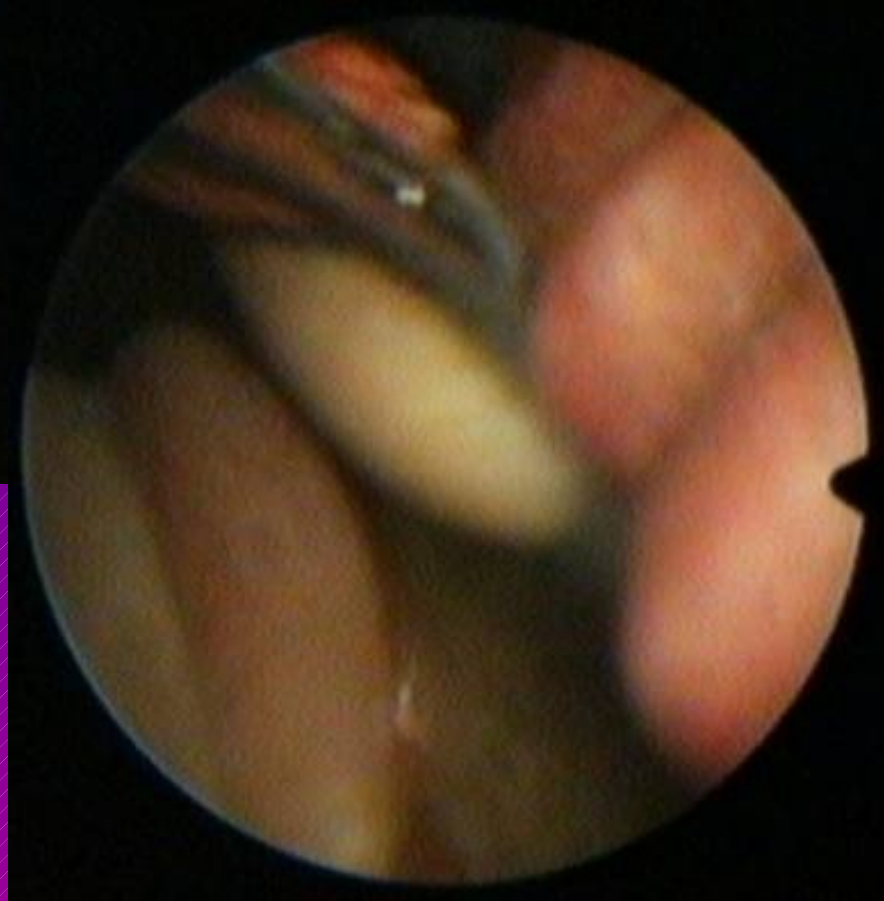


Corallus caninus

Urogenital

- Metanephros ~ birds / mammals
- Endproduct N metabolism
 - Uric acid (terrestrial)
 - ureum, allantoïne, ammonia (aquatic)
- “bladder”
 - Present: chelonians, lizards
 - Absent: snakes, crocodiles
- Squamata: 2 penisses (hemipenes)







Disease?



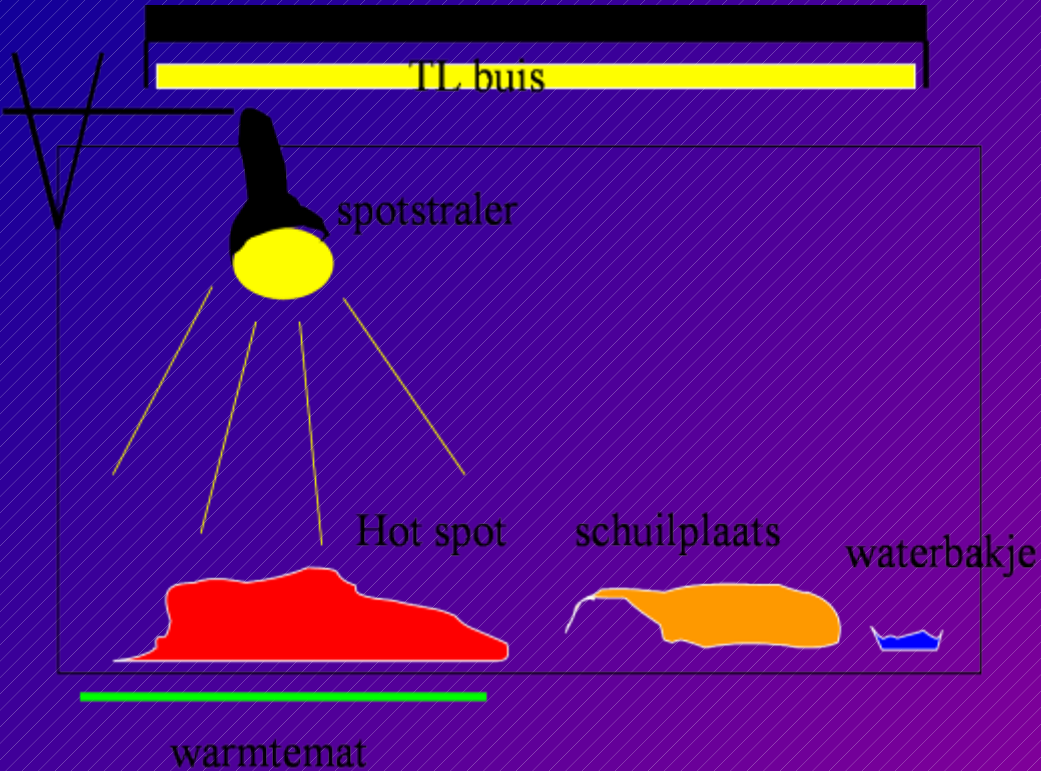
Primary

Nutritional

Management



Temperature gradient!!



Heating

Heating:

- Radiation
- Conduction
- Cooling
-



Temperature

- NO DRAFTS
- Overheating!
- Diseases
 - Too cold
 - Inactive
 - Secondary infections (resp, GI)
 - Too hot
 - Stress
 - metabolism, exhaustion, secondary infections
 - burns





- daily + seasonal variation!
 - Daily
 - Extreme:
 - Eg mountain chameleons (30°C – 0-10°C)
 - Desert?
 - Infertility



Humidity

- Substrate
 - Dry!!!!
- Air
 - ~ species
 - ~ microclimate





Too humid



Too dry



Lighting

- Duration
- Intensity
- Spectrum

Duration

- ~ geographical location ~ season
- Sexual stimulus!!!
- Temperate:
 - Summer: 14 h
 - Winter: 8 h licht
 - Transition: gradual?
- Equator: 12 h

Intensity

- Eg desert lizard: min locally 10000lux
- Nocturnal animals: night > 0 lux!
- Intensity $< (\text{distance to source})^2$
- Diseases:
 - Apathy, anorexia, infertility



Spectrum

~ SUN!

UV!

- UVA:
 - psychological (UV is “seen”)
 - colour development
- UVB: 290-310 nm
 - $10 \mu\text{W}/\text{cm}^2??$



UV lights

- TL/PL lights (Zoo Med, Sylvania, Sera...)
 - < 20 cm
 - 1000 hours
 - continuously
- Self ballasted bulbs
 - > distance
 - High power (100 en 160 Watt)
 - Continuously?



Calcium metabolism



dystocia!



ventilation

- sufficient!
 - CO_2 , NH_3 ...
- No draft
- Ventilation vs humidity



Substrate

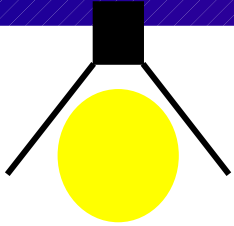
- Hygiene!!!
- Dry
- Sand?
- Bark?
- Diseases
 - Irritation (pine bark)
 - Obstipation
 - Dermatitis
 - Abscesses (~sand?)







Hospitalisation of sick reptiles





Nutrition

Insects

- “wildcaught”
- Commercially bred, private production
 - crickets
 - locusts
 - Meal-, buffalo-, morioworms (beetle larvae)
 - Wax moths
 - Flies
 - Fruit flies (*Drosophila*, large, small)
 - (“wingless”) house flies
 - cocroaches







Nutritional value

- Variation!
- Chitin (no calcified skeleton!)
 - Very low Ca/P
- Value ~ gut content
 - “empty”
 - “gut loading” 24 h – 3 days before feeding
 - Feed for laying hens + carrot
 - commercial

Feed additives

- Powders
 - Calcium / Vit D3
 - Daily!
 - Amino acids, vitamins (?)
 - Important:
 - Tot D3 / kg feed: < 2000 IE
 - Ca / P as high as possible
 - Cheap alternatives...
- Drinking water
 - Calcium lactate / gluconate
 - Vit D3 aquosum



Vertebrate prey

- chicks, finches...
- Mice, rats, gerbils, guinea pigs, rabbits... ,
- Gold fish, guppies...
- Rarely deficiencies (eg snakes)!!
 - IF: complete prey item with FILLED gut
 - fish:
 - thiaminase (vs vit B1), inactivate by heating at 80°C
 - Vit E: veel poly-unsaturated fatty acids, hence no overdue fish!





Commercial feedstuffs

- Dog / cat feed
- “Reptile feeds”
 - Dry pellets for iguanas, tortoises...
 - Freeze dried insects
 - Canned feed
- “specific” for eg
 - Bearde dragons, iguanas, tegus, monitors...
- Problems
 - Specific requirements?
 - starvation
 - Long term effects?
 - Obesitas (eg monitors)
 - Kidney problems
 - Deficiencies (eg Gammarus)
 - Ca / vit D3
 - Vit A





Water

- Hygiene! (defaecation)
- Dehydration
- drowning



Waterquality!

- Cfr tropical fish
- Nitrate, nitrite, ammonia
- pH
- salinity



stress



- Egg deposition site!



entry

