Desert Tortoise Health Assessment

Observing and Recording Clinical Signs on Data Sheet

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Goal Oriented Approach

- Maximize individual survival
- Minimize spread of disease
- Bank for the future
  (data, photos, biological samples)
Systematic Approach

- Far to near
- Head to tail
- Least to most
Attitude and Activity

• = Animal’s disposition in the context of it’s environment

• Normal
• Lethargic/weak
Normal attitude and activity
Normal
Normal
Lethargic and weak
Respiration

- Lack a diaphragm
- Air is moved in/out of the lungs through movement of the forelimbs
Respiration

• Normal breath sounds
  – None
  – Whistling, hissing

• Abnormal breath sounds/breathing
  – Wheezing, rattle
Increased Respiratory Effort

– Head/neck extended
– Open mouth
– Exaggerated forelimb movement or “pumping”
Increased respiratory effort
QuickTime™ and a YUV420 codec decompressor are needed to see this picture.
Beak

• = An external anatomical structure with a keratinized covering which serves as the mouth in some animals

• Normal
• Abnormal
Normal beak
Abnormal beak
Abnormal beak
Evidence of foraging on beak
Naris (s), Nares (pl)

- External opening of the nasal cavities
Naris (s), Nares (pl)

- Normal
- Asymmetrical = left and right openings are different in size or shape
- Eroded = loss or wearing away of scales
- Occluded = Narrowing or reduced opening of the naris due to debris, exudates or scarring
Normal nares
Asymmetrical nares
Asymmetrical nares
Eroded nares
Eroded nares
Eroded nares
Eroded nares
Occluded nares
Occluded nares
Occluded nares
Occluded Nares
Occluded Nares
Nasal Discharge

• None
• Serous = clear, watery
• Mucous = cloudy, thick
Nasal Discharge Severity

1) Mild = moisture at/around nares, bubbles from nose
2) Moderate = discharge visible beyond nares
3) Severe = discharge from nares running down beak
Serous Discharge
Mild Serous Nasal Discharge
Moderate Serous Nasal Discharge
Severe Serous Nasal Discharge
Mucous Discharge
Mild Moucoid Nasal Discharge
Moderate Mucoid Nasal Discharge
Severe mucoid nasal discharge
The Real World

(things are rarely simple)
Occluded, Eroded Nares With Moderate Mucoid Nasal Discharge
Eroded Nares,
Severe Mucoid Nasal Discharge
Eyes

• Normal
• Sunken
• Corneal opacity
  – Cloudy, hazy, or loss of transparency of cornea
  – Focal or diffuse
• Partially or fully closed
Normal Eyes
Sunken Eyes
Corneal Opacity

glossary term

cornea

The outer, transparent, dome-like structure that covers the iris, pupil, and anterior chamber; part of eye's focusing system.
Corneal Opacity
Partially Closed
Fully Closed Eyes
Ocular Discharge

• Serous discharge
• Mucous discharge
Serous Discharge
Mucoid Ocular Discharge
Periocular Region

- Area around the eye from the eyelid margins outward (covered with skin)
- Normal
- Swollen
- Reddened
Normal Periocular Region
Periocular Swelling
Periocular Swelling
Periocular Swelling
Periocular Swelling
Periocular Swelling
Periocular Swelling and Redness
Conjunctiva

• = Mucous membranes from the eyelid margin inward, includes the third eyelid (tissues beneath the eyelid)

• Normal
• Swollen
• Reddened
Conjunctival Redness
Conjunctival Swelling and Redness
The Real World

(things are still not simple)
Periocular And Conjunctival Swelling
Partially Closed Eye, Serous Ocular Discharge, Periocular Swelling
What are the clinical signs?
Skin Lesions

• Lesion = An abnormal change in structure of an organ or part due to injury or disease
Skin Lesion
Location/Distribution

- None
- Generalized
- Head
- Neck
- Forelimb
- Hindlimb
- Axillary region
- Prefemoral region
- Vent/tail
Condition Of Skin Lesion

• N/A = Not Applicable

• Active = Status of a wound or lesion that is very recent or unhealed

• Inactive = Status of a wound or lesion that is no longer changing significantly or is healed
Normal Skin
Mental Glands (normal)
Skin Lesion, Head, Active
Skin Lesion, Neck, Inactive
Skin Lesion, Right Forelimb, Inactive
Skin Lesion, Neck, Active
Skin Lesion, Vent/Tail, Active
Skin Lesions, Axillary Region, Active
Coelomic Cavity Palpation
Normal Tortoise
One Urolith
Two Uroliths
One Urolith and Three Eggs
Urolith (bladder stone)
Shell
Shell Characteristics

• N/A
• Compressible
• Sunken
  – may be normal in geriatric animals but not normal in a juvenile
Shell Characteristics

• Extra scutes
• Missing scutes
• Peeling/flaking keratin
• Bone exposed
Shell Abnormalities

• Location
  – Carapace
  – Plastron
  – N/A
Shell Abnormalities

• Distribution
  – None
  – Localized
  – Multifocal
  – Generalized
Shell Abnormalities

• Condition
  – N/A
  – Active
  – Inactive
Dyskeratosis

Main Entry: dys·ker·a·to·sis
Pronunciation: \\ˌdis-ˌker-ə-'tō-
səs\Function: noun Inflected Form(s): plural dys·ker·a·to·ses \\ˌsēz\: faulty development of the epidermis with abnormal keratinization—dys·ker·a·tot·ic \\ˈtät-ik\ adjective
Causes of Dyskeratosis

--Causes are many including but not limited to auto-immune, infectious, traumatic, metabolic, nutritional, or toxic etiologies

• Idiopathic
Cutaneous Dyskeratosis

- A disease affecting the shell
- High mortality rates in some populations
- Lesions include white discoloration, flaking, and peeling of the scutes with irregular pitting and chipping of the shell, +/- bone exposure
- Plastron usually affected first
- Cause not definitively determined
Normal Shell
Normal Shell
Compressible Shell
Peeling Scutes
Sunken Scutes
Extra Scute
Carapace Abnormality, Localized, Inactive
Bone Exposed, Carapace, Localized, Inactive
Plastron Abnormality, Localized, Inactive
Carapace Abnormality, Localized, Active
Plastron Abnormality, Localized, Active
Carapace Abnormality, Multifocal, Active
Carapace Abnormality, Generalized, Inactive
Carapace Abnormality, Generalized, Inactive
Carapace Abnormality, Multifocal, Active
Carapace Abnormality, Generalized, Inactive
Circumstances of Skin/Shell Trauma

- N/A
- Unknown
- Suspect canid bite
- Vehicle
- Other
Vehicular Trauma

Canid Predation
Other Trauma, Lesions, Or Identifying Features

• Missing Limbs
• Missing Eyes
• Missing Digits/Nails
Ticks

- Argus (family)
- Ornithodoros (genus) - Soft-bodied tick
- Ornithodoros parkeri and O. ruricata (Greene 1986)
- Life span 20 yrs for some argastid ticks
- Ticks can survive long periods of starvation
Ticks
Ticks
Ticks
Oral Cavity

- Choana
- Tongue & Oral Mucosa
Choana

- Not Examined
- Normal
- Pale
- Reddened
Tongue & Oral Mucosa

- Not Examined
- Normal
- Pale
- Reddened
Tongue & Oral Mucosa

- Crusts
- Ulcers
- Plaques
- Hypersalivation
- Impaction
Normal Oral Cavity
Choana Reddened
Pale Tongue
Reddened Tongue
Tongue and Oral Mucosa
Reddened
Oral Crust

• Crust is an outer layer of solid material formed by drying of a bodily exudate or secretion
Oral Ulcers

• An ulcer is a localized defect or excavation of the surface of a tissue, usually produced by sloughing of necrotic inflammatory tissue.
Oral Plaques

• In the oral cavity, plaques are flat areas that tend to have a white or yellow appearance with a dry surface compared to the pink moist tongue or mucous membrane.
Oral Ulcer & Plaque

Ulcer

Plaque
Oral Plaque
Oral Plaque
Oral Plaque and Ulcer
Hypersalivation
Oral Impaction

- Occasionally observed in tortoises
- Food or debris is lodged in the oral cavity, often in the cheek
- Can cause an abscess
- Bromus seeds
Oral Impaction