Madagascan Tomato Frog

Gillian Shaw, DVM, MS

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Department of Molecular and Comparative Pathobiology
Johns Hopkins University, Baltimore, MD
Madagascan Tomato Frog

- *Dyscophus antongilii*
- Found only in limited regions of Madagascar
- Habitat degradation, pollution and overcollection for the pet trade are current problems
- Listed as:
  - Near Threatened (NT) on the IUCN Red List 2007
  - Appendix I of CITES

http://calphotos.berkeley.edu

www.amphibiaweb.org

www.arkive.org
History

- 9 year old, male Madagascar Tomato Frog
- From the Maryland Zoo in Baltimore
- Chronic history of abnormal corneas (visually impaired)
  - hand-fed with forceps
- Presented to the Zoo clinic (7/15/04) for hemorrhaging of the left eye after trauma sustained during hand feeding
  - Treated with a collagen hemostat and triple antibiotic ointment
- Right cornea then developed an erosion/ulcer
- Developed generalized SQ edema and was euthanized (8/26/04)
Gross Findings

• Diffuse, marked subcutaneous and visceral edema
• Right eye was 1.5X the size of the left eye
• Marked opacity in both corneas
• Multiple 0.5 – 1.0 mm tan white nodules present deep within the stroma of both corneas
• No internal lesions noted
Histopathologic Findings

• Cornea:
  – Thickened by granulomatous infiltrate, corneal stromal proliferation & fibrosis

• Other findings:
  – Anterior and posterior synechiae
  – Uveitis
  – Cataract
  – Retinal detachment, degeneration and atrophy

• Acid Fast stain - numerous AF positive bacilli (slightly beaded) within macrophages the cornea
Morphologic/Etiologic Diagnoses

- Granulomatous and lymphocytic keratitis, chronic, diffuse, marked with extra- and intracellular acid fast positive bacilli
- Endophthalmitis, diffuse, moderate with anterior and posterior synechiae, vitreous hemorrhage, retinal detachment and degeneration and cataract
Mycolic Acid Analysis

• No mycolic acids were identified via high-pressure liquid chromatography from the paraffin embedded tissues
  – Mycobacteria still likely etiologic agent
Discussion

• Ocular mycobacteriosis reported in humans and animals
  – Sequela to systemic mycobacteriosis
  – Isolated ocular infection
• Mycobacterial keratitis due to accidental trauma or iatrogenic damage (surgery)
  – Florida spots in dogs and cats
• Amphibian mycobacteriosis common
  – Mycobacteria commonly found in environment
  – Commonly implicated species include:
    • *M. avium*, *M. fortuitum*, *M. marinum*, *M. liflandii*
  – Mycobacteria likely secondary invader in this case
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http://allaboutfrogs.org