Wild Tiger Health Centre Information Sheet

Disease threat: Gnathostoma spinigerum

Hazard description: A stomach nematode in the Superfamily Spiruroidea.

Host species: Final host species are carnivores, including man. Life cycle: eggs are deposited into water; L1 hatches out and is then ingested by crustaceans where L1 develops to L2. Fish, frogs and/or reptiles ingest L2 with the crustacean host; followed by further development to L3, which is then ingested by carnivores. Several reports were found from free-living and captive wild felids (Boo Liat 1976; Miyazakl 1952; Thilakan *et al.* 2007; Gupta & Yadav 1988; Patel *et al.* 2000), including a free-ranging tiger (Shrivastav *et al.* 2011), some with associated gastric nodules, and one fatal report in a free-ranging leopard in Southern Africa (Candy 1963). True pathogenic potential is largely unknown. Reported from Amur leopard in RFE (Zheleznova *et al.* 2012). Gastric nematodes (not speciated) reported from wild Amur leopard post-mortem examination (*pers comm.* J. Lewis).

Pathogenesis: L3 invades the stomach wall causing fibrous nodules and potentially gastric perforation and peritonitis. L3 may also migrate for example to the liver, burrowing and necrotising tissues (Taylor *et al.* 2007).

Diagnosis: Eggs in faeces.

Free-ranging tiger occurrence: Reports found from free-ranging tiger in India (Shrivastav *et al.* 2011; Nigam *et al.* 2016).

Distribution: SE Asia, Japan, Thailand (Taylor *et al.* 2007), and from free-ranging Amur leopard in RFE (Zheleznova *et al.* 2012), thus likely present in all tiger range states.

Assumptions: Assume low/moderate pathogenicity wild felids.

Limitations: None.