Wild Tiger Health Centre Information Sheet

Disease threat: Paragonimus spp.

Hazard description: A respiratory trematode.

Host species: Carnivores, ungulates and man (Taylor *et al.* 2007). The life cycle is indirect with two intermediate hosts: snails; crayfish/crabs. Paratenic hosts may also be involved in the epidemiology, thorough consumption of intermediate hosts.

Pathogenesis: Parasite development in the final host continues predominantly in lungs. Infection is rarely of clinical significance in the animal host, but extra-pulmonary infections in humans may be more serious (Taylor *et al.* 2007). However, it has been associated with disease in free-ranging leopards in India/South-East Asia (Pythal *et al.* 1994; Kinge *et al.* 2010a), and lung pathology has been reported from free-ranging tigers (n=2) from northern India, although the parasite was not considered to be the cause of death in either case (Kwo & Miyazaki 1968). In two other cases from southern India the presence of *Paragonimus* flukes in the lungs was associated with significant pathology (Dharanesha *et al,* 2017; 2019). Infestation with this parasite has also been reported from tigers in Indian zoos (Deshmukh *et al.* 2009).

Diagnosis: Eggs in faeces.

Free-ranging tiger occurrence: Reported from wild tigers in Sumatra; 100% prevalence, n=10 (Kwo & Miyazaki 1968), northern India (Singh & Somvanshi, 1978), southern India (Nigam *et al.* 2016; Dharanesha *et al.* 2017; 2019) and the Russian Far East (Lyubchenko *et al.* 2012). *Paragonimus spp* eggs have also been reported in tiger scats from the Huai Kha Wildlife Sanctuary, Thailand (Patton and Rabinowitz, 1994).

Distribution: Reported from the Americas, Asia and Africa. Assume present in all tiger range states.

Assumptions: Low/moderate pathogenicity wild felids (caveat leopard reports).

Limitations: None.