Wild Tiger Health Centre Information Sheet

Disease threat: Cytauxzoon spp.

Hazard description: A piroplasmid tick-borne erythrocytic parasite of felids, found in the Americas and Europe. Taxonomy and nomenclature, as with *Babesia* spp. is complicated and likely incomplete. Vectors outside US not known.

Host species: To date only reported almost exclusively from felid species. *C. felis* has been reported in free-ranging bobcats and pumas in the USA (Alvarado-Rybak et al. 2016), and in several free-ranging felids in Brazil (Andre et al. 2009). In Europe, a very similar agent, possibly a Eurasian strain, distinct from *C. felis* has been reported in free-ranging Iberian lynx (Millán et al. 2009), free-ranging European wild cats in Italy (Veronesi, Ravagnan, et al. 2016). and in Pallas' cat in Mongolia, in which it was named *C. manul*, but is in the same cluster as the European strains (Ketz-Riley et al. 2003). In two Russian samples a *Cytauzxoon* sp. was detected at a very high CT value (cycle threshold value, inversely proportional to the amount of nucleic acid in the sample); one in a leopard cat, and one in a badger. Although the CT values on these were high, the samples were considered positive by the laboratory (as low concentrations are not unusual in chronic infections). No tiger (0/20) and no leopard (0/7) samples tested positive (M. Gilbert *pers.comm.*).

Pathogenesis: It has been reported in association with fatal disease in several captive wild felids (Peixoto et al. 2007; Jakob & Wesemeier 1996), including a captive white tiger in the US (Garner et al. 1996). In addition it has been reported in association with anaemia in free-ranging cougars (Harvey et al. 2007).

Diagnosis: Blood smear morphological appearance, and PCR on blood sample.

Vaccination: None.

Free-ranging tiger occurrence: No reports found of infection in free-ranging tigers – but see note above re captive tiger in US.

Distribution: Previously considered restricted to the Americas, it now appears there may be a Eurasian strain, which has the potential to infect tigers in the RFE and/or China (Alvarado-Rybak et al. 2016). Based on absence of reports it seems unlikely in other range states, but this would be an unwise assumption.

Assumptions: None.

Limitations: Distribution and prevalence data changing all the time.