

DISEASES OF FREE-RANGING SNOW LEOPARDS AND PRIMARY PREY SPECIES

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ABSTRACT – Although a wide range of infectious and non-infectious diseases has been reported in captive snow leopards, very little is known about diseases affecting the species in the wild. However, the potential threat from diseases to wild snow leopards must not be underestimated as a consequence of lack of health surveillance across most of its distribution range. As a felid, the snow leopard is probably susceptible to most diseases affecting the domestic cat. In addition, as a large predator, it is exposed to infectious agents through its prey (wild ungulates, marmots, hares, and occasional other carnivores, rodents and birds). It is beyond the scope of this chapter to present an exhaustive treatment of infectious and non-infectious diseases that might affect free-ranging snow leopards. Instead, we present a synthesis of key health issues of relevance to snow leopard conservation, based on their ecology and current understanding of their effects in large cat species in the wild. These issues include non-infectious causes of mortality, the possible effect of a selection of infectious diseases of known occurrence in wild felids, and the importance and potential impact of morbillivirus infections.

In contrast to the health of snow leopards themselves, a great deal is known about the diseases affecting their primary prey species in the wild. We present documented cases of three main diseases affecting ungulate prey species of snow leopards; the sacroptic mange in blue sheep (*Pseudois nayaur*) and other prey species; mycoplasmosis in markhor (*Capra falconeri*) and other prey species, and peste des petits ruminants in blue sheep and other prey species. We also provide a map of geographical locations of all reported disease outbreaks in natural ungulate prey species with references plotted over snow leopard distribution range. Monitoring the health condition of these species appears therefore of crucial importance to support snow leopard conservation at local and global scales. In the Asian context of generalized increasing encroachment of livestock into wild habitats, domestic ungulates are the prime target for disease surveillance schemes as they are the most likely source of disease spillover to snow leopard prey. Controlling the risk of disease outbreaks in snow leopard prey requires a complex and holistic approach that enforces prevention of disease spillover from livestock to wild ungulates and implements multifaceted controls over livestock numbers and their range use. Health managers should always tend to prioritize measures that limit contact between livestock and wild ungulates rather than often ineffective or counter-productive prophylactic actions (eg. vaccination) on livestock.