

Infanticide perpetrated by a free ranging adult male Tiger – a case report

Tigers have served as an effective umbrella species in conserving many forms of biodiversity in the Indian subcontinent. Tiger demography is characterized by both high productivity and high mortality. Its body is adapted for stalking and ambushing prey up to five times its own size and the jaw muscles and long canines enable a strong bite necessary to kill and crush bones (Karanth 2003). Tigers are solitary animals that aggressively defend their home range by marking, charging, roaring, and growling (all contribute to defense). Unlike other animals, tigers must travel much further to obtain nutrients. Because of this they are much more aggressive and are prone to attack much more quickly than other cats (Ostrowski 2012).

Infanticide includes starvation, forest fire, floods, diseases, other predator attacks, human persecution, and death of a tigress (all these directly affect cub population). Infanticide perpetrated by male animals is common considering the physiological characteristic of females and social organization in cats. Infanticide is a key factor shaping the socio spatial ecology of tigers and also highlights the importance of functional components of population when managing large carnivores, particularly for invasive activities that artificially elevate adult male turnover (Barlow et al. 2009).

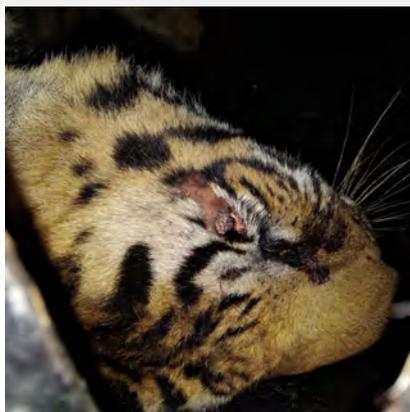
Approximately, a year-old male tiger cub was presented with a history of weakness, hide bound, knuckling and epistaxis. It was immobilized on the field with a standard dose of xylazine and ketamine at 0800 h. Detailed examination revealed numerous scratches and bite wounds over face, body, and limbs with a compound fracture on forehead. The cub was treated with standard dose of antibiotic, anti-inflammatory, anti-histamine, intra-venous fluids, and supportives. On the same night, a cage death reported and complete post mortem procedure was carried out to identify the cause of death and to support the infanticide.

Scratch wounds and bite marks on various parts of the body showed conclusive evidence of attack on cub. Previous history of animal sighting and mating season clearly supported infanticide perpetrated by immigrating adult male tiger. Ramnagar forest division and adjoining Corbett Tiger Reserve, India have recorded high density tiger population, high reproductive rate, low survival and or shorter home range resulting in more frequent encounters.

Eva et al. (2006) documented that based on the sexually selected infanticide (SSI) hypothesis, infanticide can be an adaptive mating strategy for males, but rarely documented in non-social mammals and should not benefit females, so one would expect females to evolve mating counter strategies in order to protect their



Knuckling position.



Bite mark in forehead.



Bite mark in knee.



Break in skull.



Massive blood clot in brain.



Piece of broken skull bone.

infants from infanticidal males. Suggesting that infanticide is an adaptive male mating strategy in this non-social carnivore, infanticide shortens the time to the mother's next estrus and putative perpetrator is not the father of the killed infants.

Fest-Bianchet & Apollonio (2013) stated that loss of resident males increases cub mortality substantially through infanticide and temporarily limits the supply of individuals available for replacing residents who die.

The large fluctuation in number of young tigers was due to infanticide that occurred when adult males acquired new territories. With male land tenure typically being only about 2.8 years, infanticide and subsequent synchrony of litter births by resident females may be common and account for much of the observed oscillations in local abundance. Randeep et al (2014) reported female tiger death from a battle with a male while defending her cubs to avoid infanticide. Removal

of adult territorial males leads to increased immigration of new males and further leads to reduced survival of cubs and population.

Management strategies to secure the remaining tiger populations can be evaluated by assessing changes in tiger numbers, increasing or stabilized numbers indicate success, whereas decreasing populations may help identify threats and highlight the need for intervention (Parmigiani & Vom Saal 1994).

Camera trapping, radio telemetry, and secondary sign surveys all have been used to estimate tiger abundances at various sites but most studies have been limited rather than tracking change over time (Johnsingh & Negi 2003; Karanth 1995).

Smith & McDougal (1991) reported monitoring programs that identify the breeding sector of a population that have considerably higher power to detect change than comparable efforts tracking total abundance.

Small-scale monitoring programs may have low power to detect trends, and if trends are detected they may not be useful to evaluate the effectiveness of conservation efforts. We recommend that tiger monitoring programmes be designed to differentiate between the breeding and nonbreeding sections of the population. Identifying the residents will increase power to detect change and improve inferences regarding population status and long-term viability (Chapron et al. 2008).

However, detailed demographic population studies on the breeding female and or immigrating male tiger along with effective monitoring and surveillance may control infanticide in the future.

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