

Conservation ecology of red panda (*Ailurus fulgens*) in Himalayas

Saroj Panthi

District Forests Office, Nepal

Abstract

Red panda (*Ailurus fulgens*) is listed as endangered in IUCN red data list, protected for Nepal and distributed in Himalaya region of Nepal, and is commonly known as "Habre" in Nepalese language. The species is distributed in different protected areas of Nepal, however the detailed information on ecological, biological and conservation aspect are still lacking. The study was conducted in Dhorpatan Hunting Reserve (DHR), Nepal to investigate diet, habitat preference and distribution of red panda. Micro histological fecal analysis methods were used to investigate feeding species on red pandas' diet. The habitat preference of red panda was analyzed by using Ivelve's electivity index. A total of 120 plots were laid out for sampling the vegetation (trees, shrubs, and herbs respectively) and habitat features. Red panda preferred gully with forest area and tree species *Acer caesium* (IV=1). Most important forest species in the habitat of red panda were *Abies spectabilis* (IVI=66.22) and *Betula utilis* (IVI=17.15) with ground cover of *Arundinaria* spp. Red panda preferred 3000-4000 m elevation range, 26-50% slope, 51-75% crown cover and 26-50% ground cover. *Arundinaria* spp. was found as a major (81.7%) diet of red panda. For protecting this species human consumption of the *Arundinaria* spp. should be discouraged. Red panda, *Ailurus fulgens* is a poorly known Himalayan member of Carnivora which has adapted to a herbivorous diet. The present study conducted in the Singhalila National Park in the eastern Himalayas was initiated to gain information on the ecology and conservation problems of the red panda. Indirect and direct evidence was used to assess its distribution, relative abundance, habitat use and food habits in the National Park. Red panda was relatively more abundant within an altitudinal range of 2800–3600 m. In study sites 1 and 2, it had a very narrow preferred range of 2800–3100 m.

Higher bamboo cover, bamboo height and canopy cover emerged as important habitat components in sites used by red panda (Animal centered plots) compared to random plots. Red panda diet consisted chiefly of bamboo leaves and both species of bamboo, *Arundinaria maling* and *A. aristata* predominantly present as understorey in Singhalila National Park were eaten. The diet of bamboo was supplemented by seasonal fruits and bamboo shoots. However, the composition of diet differed between the three study sites and the impact of this, if any, on the overall ecology of red panda in the Singhalila National Park, needs further investigation. Some conservation problems are discussed. Red panda, *Ailurus fulgens* is a poorly known Himalayan member of Carnivora which has adapted to a herbivorous diet. The present study conducted in the Singhalila National Park in the eastern Himalayas was initiated to gain information on the ecology and conservation problems of the red panda. Indirect and direct evidence was used to assess its distribution, relative abundance, habitat use and food habits in the National Park. Red panda was relatively more abundant within an altitudinal range of 2800–3600 m. In study sites 1 and 2, it had a very narrow preferred range of 2800–3100 m. Higher bamboo cover, bamboo height and canopy cover emerged as important habitat components in sites used by red panda (Animal centered plots) compared to random plots. Red panda diet consisted chiefly of bamboo leaves and both species of bamboo, *Arundinaria maling* and *A. aristata* predominantly present as understorey in Singhalila National Park were eaten. The diet of bamboo was supplemented by seasonal fruits and bamboo shoots. However, the composition of diet differed between the three study sites and the impact of this, if any, on the overall ecology of red panda in the Singhalila National Park, needs further investigation.