

A note on snow leopards and local people in Nangqian County, Southern Qinghai Province

Full Text:

The general distribution of snow leopards (*Uncia uncia*) in China's Qinghai province was reported by Liao (1985), Liao and Tan (1988) and Schaller et al. (1988a), who also summarized food habits and status of prey species. Additional information on snow leopard distribution in neighboring Xizang (Tibet) was provided by Feng et al. (1986), and in Xinjiang by Schaller et al. (1988b). No intensive biological work on snow leopards has yet been carried out in Qinghai, and descriptions of practices and attitudes of local people are limited to incidents of poaching such as those described by Rowell (1983), Schell (1982), Anon. (1983).

Taber (1988) has pointed out that the attitudes and practices of local people with respect to wildlife such as snow leopards will increasingly be recognized as important by researchers and management officials. Information on local people and their relation to wildlife may ultimately be as important to the conservation of snow leopards as biological information such as the animal's distribution, density, home range and movements.

Snow leopards are so difficult to study in the wild that it is unlikely that any single research program will be able to fill the gaps in our knowledge of any given area in the near future. Rather, those interested in forming a comprehensive picture of snow leopard status will need to integrate small pieces of information from varied sources whenever possible, interpreting them as best they can amid the many uncertainties. It is in that spirit that this note, providing information on practices and attitudes toward snow leopards in an area of southern Qinghai province, is offered.

CAPTURE OF SNOW LEOPARD CUBS BY LOCAL PEOPLE

During a study of musk deer (*Moschus sifanicus*) in the provincially administered Baizha Forest, Nangqian county, Yushu Autonomous Tibetan Nationality Prefecture, 1988-1990 (Harris 1991), I gathered incidental data on snow leopards. This area is slightly south of those in Yushu prefecture surveyed by Schaller et al. (1988a), but is mentioned by Liao and Tan (1988) as having snow leopards. In August 1989, we received a report that local people had captured a snow leopard cub, were keeping it alive in captivity, and were attempting to sell it for 1300 yuan. Because our interests were focused on other activities, we were not able to investigate this report, but later heard that the cub had subsequently died.

In mid-November 1990, we received a similar report that I was able to investigate. The man who had captured and was holding the cub was an ethnic Tibetan semi-nomadic pastoralist. Sometime during August 1990, he had discovered a snow leopard cub along with its mother and a litter-mate resting in a talus slope approximately 2.1 km from the man's home. I was unable to determine the exact circumstances of the discovery and capture, but it was probably incidental to routine herding work, as the site was only a few hundred meters from pasture area used by his yaks. The mother leopard escaped with the second cub, but the man was able to grab the young female cub by hand and carry it back to his house. Since then, it had been kept in a small wooden enclosure (approximately 1 m²) adjacent to the man's house (Figure 1). A hemp collar and rope had been attached to the cub's neck, and it was allowed out of its enclosure periodically to exercise. Its diet while in captivity consisted mostly of plateau hares (*Lepus oiostolus*), which evidently were killed specifically for feeding it.

Determining the cub's true age was not straightforward, because neither its size nor weight were consistent with its having spent 3 months in captivity. When I arrived in mid-November, the animal appeared to weigh only about 4-6 kg (I had no scale with me), and measured 79 cm in total length, of which the tail length accounted for 19 cm. The estimated weight would suggest an age of 7-10 weeks (Fox 1989), and the tail length would suggest an age of less than 50 days (Liao 1985). However, according to Fox (1989) snow leopard cubs are generally born in April-June, which would have made it 6-8 months old at the time. If the cub was this old, it may have been a runt of the litter, or it may not have been fed adequately while in captivity, so grew more slowly than captive leopards in zoos. However, other than its small size, it had no obvious signs of malnourishment or mistreatment. It appeared frightened of its keepers, and responded to attempts to drag it out of its enclosure by hissing, snarling, and displaying its teeth.

The man's intentions were no doubt to obtain as much profit as he could from the leopard, and to that end, feeding and keeping it alive while it increased in size might have brought a higher price. However, he agreed to sell it to me for 600 yuan (about half his original asking price), with the conditions that he show me the original capture location, assist me in re-releasing it, and promise not to recapture it. I

fitted it with a small (225 g) radio-collar, originally intended for use on musk deer, after having immobilized it with approximately 50 mg Ketamine hydrochloride and 25 mg Xylazine hydrochloride. The two of us then loaded the anaesthetized cub into a small feed-bag used for horses (Figure 2), and carried it back up to its capture site. The cub began recovering from the drugs just as we reached the release site (elevation 4415 m) about 2 hours later.

The ability of an immature snow leopard to feed itself, presumably by killing small mammals and birds until large enough to subdue its major prey, blue sheep (*Pseudois nayaur*), is unknown. Its likelihood of surviving was probably low, but orphaned mountain lion (*Felis concolor*) cubs have been known to survive to adulthood and successfully raise offspring in the western U.S. (Brown 1987). Thus, it was hoped that the radio-collar would provide information on the cub's eventual survival (Figure 3). Unfortunately, when I returned to the site one week later the cub had shed its collar at the release site, thus no movement or survival data were obtained. It is certain, however, what its fate would have been had I not obtained and re-released it.

SNOW LEOPARDS IN THE LOCAL COMMUNITY

Snow leopards are legally protected from exploitation by both Chinese central government and Qinghai provincial wildlife laws. However, with two captures of snow leopards in as many years in a relatively small area, one might be tempted to conclude that the conservation status of snow leopards in Nangqian County is bleak. Indeed, with such activity one might expect my call for more vigilant protection of snow leopard resources, stepped up enforcement, and yet harsher penalties for those found poaching. However, I believe such statements are unlikely to be useful, and instead offer here some thoughts about the complexities of snow leopard conservation on the ground.

The area where this incident occurred is not a national park or nature reserve. Wildlife is not a high priority, but nevertheless persists in moderate numbers. In addition to locally patchy populations of musk deer, the area contains among the largest herds of white-lipped deer (*Cervus albirostris*) within this species' range, as well as lesser numbers of red deer (*C. elaphus*) and serow (*Capricornis sumatraensis*). More importantly for the snow leopard, blue sheep are locally abundant, particularly near Buddhist monasteries. I counted 286 blue sheep on a single slope about 5.1 km from where this incident occurred, and estimate that upwards of 1,000 exist within a radius of about 6 km. Other possible prey of snow leopards include Tibetan hares and marmots (*Marmota himalyana*), which, unlike those in Xinjiang (Schaller et al. 1988), are rarely killed by local people. In fact, in this particular area very few local people participate in hunting of any kind. None of the eight families that I lived near owned a gun; only one or two men from the larger village some 20 km distant are known to engage in hunting. Wildlife is killed in this region, but the majority of harvest is by people who come from other areas for specific species (notably to snare musk deer).

Livestock grazing, primarily by yaks and secondarily by sheep and horses, is both the dominant land use of the area and the primary source of income for local people. Summer pastures are high elevation alpine meadows, and winter pastures are typically slightly lower and closer to winter homes. However in both cases, herds are tended loosely, usually by young children, and individual yaks can roam far from villages and tent-camps protected by dogs.

Snow leopards here, as in most of their habitat, are predators on domestic livestock as well as native ungulates. Yaks and sheep are killed primarily during the summer season when immature animals are more susceptible and pastures difficult to patrol, although less frequently losses also occur during winter. I was unable to estimate numbers of livestock lost to snow leopards annually; local Tibetan people are not inclined toward quantification. However, I was left with the clear impression that few families avoid at least some losses to leopards each year. The response of local people on discovering a predator at or near a kill is to attempt to drive it off by throwing stones. Some local people believe, perhaps erroneously, that snow leopards are a threat to humans, at least to young children. Young children often travel alone, and at night, through rough terrain and wild country.

The value of snow leopards in the marketplace is well known to local people. In addition to about 300-500 yuan potentially available from sale of the pelt from an adult, bones can also be sold for about 600-800 yuan/kg. Thus, a snow leopard that is captured and removed from the wild not only reduces the threat of income loss from depredation on livestock and removes a perceived personal threat, but also may provide a financial windfall.

Given this situation, one should expect to find a strong preference among local people for dead, over live snow leopards. Surprisingly, it is far from clear that such is the case. The man who captured and held the leopard cub, while clearly intending to profit from it, showed no hostility toward the animal, and after release seemed genuinely interested in its survival. Other local herders who had heard about the release frequently asked me whether it had survived. A few expressed concern that the release site wasn't sufficiently close to places where hares and Galliform birds could be killed by the inexperienced cub. Perhaps in part because of the novelty of having a strange American attach a radio transmitter to an animal, the local people were clearly hoping it would survive.

The capture incident encouraged local people to speak with me about snow leopards in general, and all those I spoke with had seen leopards, had experienced loss of livestock, but otherwise spoke with no more sense of rancor toward the species than they did toward non-threatening species such as musk deer or serow. At the same time, none expressed bitterness toward the man who captured the cub, and none seemed inclined to pressure the local forest guards to press charges against him. These attitudes and practices differ from those suggested as characterizing Tibetans living in Qinghai's A'nyemaqen area by Rowell (1983), Schell (1982), and Schaller et al. (1988a), and similar to those described for Ladakh by Osborne et al. (1983). The former authors described heavily armed herdsman who shot any wildlife encountered. I cannot account for the discrepancy, save to point out that Tibetan culture is not uniform throughout, and that Kham speaking people of Nangqian may differ in practices and attitudes from the Golok speaking people of A'nyemaqen.

CONSERVATION STATUS AND PROSPECTS

Snow leopards are protected in all locations by both national and provincial law. However, there are currently no national parks in Qinghai Province to provide additional protection, and the only governmentally-recognized nature reserve in snow leopard habitat covers only 10,000 ha (Li and Zhao 1989), hardly sufficient for a viable population of snow leopards. Wildlife that has persisted in southern Qinghai has done so alongside a pastoral-nomadic economy, where only land that is too steep or too high to support vegetation is free of livestock grazing during some time of the year. A major source of protection for wildlife are Buddhist monasteries, most of which were destroyed in earlier decades, but which have been rebuilt in recent years (Pu 1990). Although the acreage effectively protected by monasteries is small, blue sheep appear to have benefitted greatly from their resurgence, being subject to considerable hunting pressure elsewhere.

While it is possible that new national parks or nature reserves can be established in limited areas, most snow leopards in Qinghai must contend with land use typified by livestock grazing and small islands of total protection (monasteries) for the foreseeable future. Snow leopards will probably not stop killing livestock, nor will the domestic demand for leopard bones or pelts disappear. The use of snow leopard parts is rooted in ancient cultures, but it need not cause the demise of the species. Whereas Tibetan culture includes heavy reliance on livestock, use of snow leopard trim on garments and does not dictate censure for individuals who kill leopards, it also incorporates a general reverence for life, manifested most clearly near monasteries, as well as a measure of tolerance for inconvenient aspects of life near the natural world, such as livestock depredation. One would hardly expect ranchers in western North America to display as benign an attitude toward a threat to their livelihoods as do the local Tibetan people in the Nangqian area.

It is important that any new programs for snow leopard conservation take account of the cultural forces at work in each locale, and not blindly accept an assumption that no conceptual base exists upon which to build more effective conservation. In particular, the re-emerging role of religion, and the protection afforded to ungulate populations as a by-product, appears to be important in maintaining snow leopard populations in southern Qinghai. Many areas in Qinghai have suffered severe reductions in wild ungulate populations, and conservation (restoration where possible) of the populations is critical for the long-term prospects for snow leopard. Additionally, some form of legal protection will no doubt continue to be needed for snow leopard. As new programs are contemplated, however, it would be wise to take care that they do nothing that would inadvertently weaken the effectiveness of cultural institutions that have allowed the existence of snow leopard populations up to the present.

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