# Further Study on the Geographical Distribution and Conservation of Snow leopard in Qinghai, China

**Full Text:**

This program was designed to assess the past and present status and distribution of snow leopard in Qinghai Province, People's Republic of China. Information about the requirement of this species was sought, and threats to their continued existence were to be identified. Snow leopards are distributed in the high mountains of Central and Middle Asia, including Afghanistan, Pakistan, India, Nepal, China, Bhutan, Mongolia, Kazakhstan, Kirghizia, Russia, Tadzhikstan and Uzbekistan, and it is believed that their number has greatly decreased in recent decades. In order to help in protecting the snow leopard from extinction the International Snow Leopard Trust (ISLT) has held six scientific conferences. Detailed accounts of studies in Qinghai Province, including collections for beeding in the zoo are given by Liao Yanfa (1985) and Liao Yanfa and Tan Bangjie (1988), and will not be repeated here. An addendum on the geographical distribution and some suggestions for preservation of this rare animal are given below.

## STUDY AREA METHODS

Because the snow leopard is difficult to observe in the field, sign surveys, interviews and other indirect data collection are valuable methods for obtaining data. Information on the whole of Qinghai was collected from local and official informants and in literature. Field surveys were conducted from March to December 1991 in Yushu county, Nangqien county (Juela, Baiza Foresty), Mado county (Huashixia, Hehai), Golmud city and Mangnai Administrative Area (Shaniuhe, Mt. Altun). The study area is wholly plateau with alpine steppe and meadow characterizing its vegetation, at an average altitude above 4000 m. Information on the poaching of snow leopards was gathered, and interviews were conducted with hunters, local people, poaching culprits, and other informants and villagers totalling more than 50 people.

## RESULTS

Many captive snow leopards in China have been collected from Qinghai Province In the past 30 years about 150 individuals were taken from the wild in southern, western and northern parts of Qinghai. According to official reports many culprits poaching snow leopard were caught. Based on field surveys (Mar. to Dec. 1991), Liao Yanfa (1985), Liao Yanfa and Tan Bangjie (1988) and other literature, we prepared a geographical distribution map of snow leopard in Qinghai (Figure 1).

A distributional addendum, based only on our investigation, is presented below:

1. Yushu Tibet Autonomous Prefecture: snow leopard is widely distributed in many counties of Yushu Prefecture, including Yushu, Nangqian (Juela, Baiza, Niangla), and Zado (Nangsai).
2. Golog Tibet Autonomous Prefecture: Modo (Mt.A'nyemaqen, Huashixia, Hehai).
3. Haixi Mongolia and Kazak Autonomous Prefecture: Haixi is the chief area of snow leopard distribution. Mt. Kunlun and Mt. Altun are primary areas in this prefecture. Snow leopard are often found and captured in Dulan (Guoli), near to Golog Prefecture. Mangnai Administrative Area is located at Mt. Altun, and between Nov. 1990 and Feb. 1991, 14 snow leopards were poached in this area.
4. Haibei Tibet Autonomous Prefecture: a large part of Mt. Qilian is located in this prefecture; snow leopards were often captured from Qilian county (Yeniu gou).

**FIGURE 1. Distribution map of snow leopard in Qinghai Province.**

Notes on the occurrence of snow leopard in the following four areas indicate their recent distribution:

1) Hehai country of Huashixia area (Mado county): On April 4, 1991, when we were driving our car to the study area, a snow leopard (adult) was sitting off to the side near the top of a hill (ca. 4300 m). When we approached him, he saw us and went towards the opposite side of the hill. On April 5, 1991, we were beside the Donggdzuola Lake. At 1000 hr a young snow leopard, head to tail-tip about 100 cm, was walking slowly up a hill. Upon seeing us, it ran very fast and hid in a fox-hole, very jittery in appearance, and ran away at 1830 hr. A local villager told us that several sheep were killed by snow leopard in recent years. Sometimes the snow leopard pulled itself up a 100-120 cm wall and jumped into the sheep enclosure. On Nov. 1991 a woman who collected her sheep at about 1800 hr found two snow leopards

closing in on her flock. She and her family used fire to drive away the snow leopards, but the next morning they found three sheep absent (1 adult and 2 lambs).

2) Juela county (Nangqien county): Juela is a remote area of Nanngqien county where before 1990 there was only a narrow horse path, and disturbance to wild animals is less than other places. In Buwei a villager named Wongza told that a fellow villager found a dead snow leopard at the foot of the Gelongsai Mountains, and in the same year two sheep were attacked by snow leopard.

3) Baiza Forestry (Nangqien county): We investigated in the Jiagedongcasantsong Mountains (opposite Garer Lamasery) where I found snow leopard tracks on a snowfield at about 1730 hr on April 22, 1991 (snow depth 20-50 cm).

4) Haixi Mongolia and Kazak Autonomous Prefecture: Where the Kunlun Mountains cross this Prefecture we find the most suitable snow leopard habitat. According to reports of Xining Renming Park they collected 73 snow leopards from 1968 to 1984, 25 of which were collected from Haixi. Aral district of Mangnain Administrative Area has the best snow leopard habitat we found in this region. As reported by Golmud Public Security Bureau (Nov. 1990 to Feb. 1991) five peasants of Huangzhong County drove a tractor to Shaniuhe, a small river of Alaer, and poached 14 snow leopards. According the culprits' confession they set up their tent in only one place and used 45 foot-traps over 60 days to catch the snow leopards.

## CONCLUSIONS

The snow leopard is listed as an endangered species in the Red Data Book of IUCN/SSC and is recognized as such in China, and an important part of snow leopard range is in Qinghai. To date, only Liao Yanfa (1985) has compiled statistics on collections for zoos and studied the geographical distribution, and Schaller (1988) and other Chinese scientists did a joint field investigation. On the basis of literature (Schaller et al. 1987, 1988a, 1988b, Jackson 1979, Kuznetsoy et al. 1980, Liao 1985, Liao and Tan 1986) and interviews with local people, it is evident that snow leopard was once abundant in many parts of Qinghai, especially in Haixi, Yushu, Golog and Haibei prefectures.

Because of its wide distribution and a sense of conservation apathy, the poaching of snow leopard has occurred often. According to a report published by *Guangming Daily* on May 1984, a person named Chen killed 13 snow leopards and sold them for 2300 yuan RMB. Chen and 11 miners killed 28 snow leopards from 1972 to 1984. From Feb. to May 1983, eight peasants killed 19 snow leopards in Dulan county. From Nov. 1990 to Feb. 1991 five people of Huangzhong county trapped and killed 14 snow leopards.

Given the status of snow leopard as described above, combined with the results of our distribution surveys, we suggest the following conservation actions: a) enhance the awareness of nature conservation and the construction of legal instructions, b) study further the distribution and population status of snow leopard, c) set up snow leopard conservation areas at the centers of its distribution (e.g., Guoli, Aral and Qilian Mountains), and d) encourage international cooperation on comprehensive studies.

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