

Wild Cats of the World

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Snow Leopard, Ounce

Uncia uncia

(SCHREBER 1775)

The snow leopard was first brought to the notice of the European public in 1761, when Buffon produced a recognizable figure of this beautiful cat, but slipped up in stating that it occurred in Persia and was trained for hunting, presumably getting it mixed up with the cheetah. The French naturalist called it "once," a name derived from the "lyncaea" that had long been applied to lynxes and various other felines. In French and English, "once" and "ounce" are still used for the snow leopard, while the Spanish "onza," the Portuguese "onça" and the German "Unze" all refer to the jaguar. Schreber Latinized Buffon's "once" when giving the species its scientific name of *Felis uncia*. He assumed it to occur in "Barbary, Persia, East India and China," and we can hardly blame him for this, considering that the few skins so far seen by Europeans had probably gone from hand to hand in the fur trade, ending up far from their places of origin in the palaces of Oriental potentates or Chinese mandarins. It was only when naturalists such as Peter Simon Pallas and Samuel Gmelin set out to explore the more remote parts of Russia's Asiatic empire that information regarding the snow leopard's true home began to come in.

In a *List of Quadrupeds of Russia and Siberia*, which he sent to Thomas Pennant in April 1779, Pallas wrote of the "ounce:"

Is pretty frequent in the Bucharian and Altaic mountains, and sometimes seen on the chain that borders upon Siberia. When I was in Siberia, one of a very whitish hue had been kill'd near Tumkinskoi Ostrog on the west side of Lake Baikal, the skin of which is in the Cabinet at Petersburg. In general this is well known to the Tungusian hunters that live about that lake, and skins of it, as also of the leopard, are frequently brought to us by the Bucharian traders.

Griffith published an illustration taken from a specimen that had somehow found its way to the Tower Menagerie via the Persian Gulf, but Cuvier and Temminck ignored the species, probably suspecting it to be nothing but a long-haired race of the common leopard. Sir William Jardine, in 1834, was not too sure about this either. Introducing the ounce as an animal "which is yet almost unknown," he published an improved version of Buffon's figure and wrote:

"We think that naturalists who have the opportunity of seeing or receiving specimens from northern and western Asia should keep this species or variety (whichever it may prove) in recollection."

When British sportsmen began to penetrate the Himalayan valleys in search of ibex and other game, they encountered the snow leopard in the southernmost parts of its range, and zoologists soon had plenty of opportunities to study it from skins, skulls, and, in due course, also from live specimens. The first snow leopard of the London Zoo, a young animal obtained from Bhutan in 1891, did not survive long. Of the second, which arrived in 1894, it is said that on the voyage to England it became a great pet of the ship's cook who taught it to drink tea and milk in addition to the mutton broth which it apparently favoured.

The generic designation *Uncia* in place of Schreber's *Felis* was proposed by Gray in 1854.

Like the clouded leopard, the snow leopard takes up an intermediate position between the small cats and the members of the genus *Panthera*, but it is thought by most taxonomists to stand much closer to the latter, so close, in fact, that J. Ellerman and T. C. S. Morrison-Scott, in their *Checklist of Palaearctic and Indian Mammals*, refer to *Uncia* as a subgenus of *Panthera*. It seems preferable, however, to follow Hemmer and Petzsch in giving it separate generic status. It certainly has many of the attributes of the big cats. The hyoid, for instance, is only partially ossified, but the ounce is nevertheless able to purr. It does not roar, like the members of the genus *Panthera*, and has some behavioural peculiarities, such as its way of feeding, which are reminiscent of the small cats. The cubs display a striking resemblance to those of the puma. The pupils are round in contraction.

The ounce's skull is relatively large, very much shortened and broadened in the region of the brain-case. It differs considerably from that of the leopard, being much higher and more convex when viewed from the side, with a depression at the hind end of the nasal bones which are short and broad. The anterior upper premolar is present.

Characteristics. The ounce is somewhat smaller than a leopard, but has a relatively long tail. The muzzle is short, the forehead high, the chin vertical. The body is elongate, the limbs are powerful and of moderate length. The fur is long, dense, and rather woolly, the hairs attaining a length of 3 cm (1 in) on the mid-back, 6.5 cm (2.5 in) on the belly, and 5 cm (2 in) on the tail. The background colour is smoky greyish, with a light yellowish tinge, especially on the

flanks, and turning whitish on the belly. The head is dotted with round black spots. The backs of the short, bluntly rounded ears are black at tips and bases, with the median parts brownish smoky grey. The body is marked with large, somewhat blurred rosettes among which small, compact spots can be seen. The well-furred tail appears very thick and is marked with rosettes which form a pattern of transverse rings. The markings are most intense and conspicuous in young individuals but tend to fade and become diffuse with age.

Measurements. Two Kashmir specimens measured by Colonel A. E. Ward had the following dimensions: Male, head and body length, 111.7 cm (43.6 in), tail, 91.4 cm (35.6 in); female, head and body length, 99 cm (38.6 in), tail, 83 cm (32.4 in). Prater gives a head and body length of 100 to 110 cm (avg. 41 in) and a tail length of 90 cm (35 in). The measurements published by Ognev—head and body length 1.30 m (4 ft), tail, 90 cm (35 in)—must be near the upper limit. The shoulder height is about 60 cm (23 in); the weight, 65 to 75 kg (avg. 158 lb).

Distribution. From the Hindu Kush Mountains, Chitral, Gilgit, Hunza, and the Karakoram Range eastward along the Himalayas and across the Tibetan Plateau to the Kunlun Mountains and Szechwan, north from the Pamirs through the Tien Shan and Altai ranges to the Sayan Mountains on the Russo-Mongolian border southwest of Lake Baikal.

Snow leopards are not nearly so common on the southern slopes of the Great Himalayan Range as on its northern side, but they do extend a short distance along the Dhauladar and Pir Panjal ranges. Major G. Burrard found them especially numerous in the Zaskar Range of southern Ladak. Rumours of its occurrence in the Kopet Dagh Range on the Iranian-Turkmenistan border and in various areas east of Lake Baikal have never been confirmed and may have originated from confusion with long-haired forms of the common leopard.

Habits. The ounce is an inhabitant of high mountain regions, where in summer it can most often be encountered on alpine meadows above the timber-line. It also enters rocky wildernesses and visits the world of snow fields and glaciers, ranging up to at least 5400 m (17,700 ft) in the Ladak Range. As Colonel Ward put it, the only limit at high elevation for the ounce is where game cannot dwell. In winter the snow leopard follows the general migration of game and domestic stock to lower levels, down to 2100 (6900 ft) and

even 1800 m (5900 ft) in Kashmir. It may then take up temporary residence among evergreen oaks, in coniferous forests or among rhododendron scrub, occasionally extending its forays to the outskirts of villages. There are places in central Asia where snow leopards are said to remain in the tree and scrub zone all the year round.

Most parts of the snow leopard's homelands are thus remote and difficult of access. Until quite recently, long and arduous journeys were necessary to reach even the fringes of its area of distribution, and the traveller could count himself lucky if he caught just one fleeting glimpse of this beautiful but exceedingly shy and secretive cat.

Under these circumstances it is hardly surprising that even until a short time ago there were no photographs showing the snow leopard in its rugged habitat. George Schaller was the first to photograph them. He was spending a winter in the Chitral Gol Reserve to study the habits of that magnificent wild goat, the markhor. Coming upon snow leopard spoor at about 3350 m (11,000 ft), Schaller decided that in addition to watching markhor, he would do everything possible to see one of these cats.

A week's study of tracks revealed the presence of three ounces within the reserve, a female with a cub and a small, probably subadult individual. Realizing that the chances of catching sight of one while roaming around the mountains was very slim indeed, Schaller staked out domestic goats at five different places. After two weeks his patience and perseverance were rewarded: the mother ounce had killed a goat, and this gave Schaller a unique opportunity for observation and photographs.

When the first goat had been eaten, two more were provided in succession, and Schaller was lucky enough to be present late one afternoon when the female killed the second of these.

In the New York Zoological Society's magazine, *Animal Kingdom*, Schaller gave the following account of what he saw:

She advanced slowly down the slope, body pressed to the ground, carefully placing each paw until she reached a boulder above the goat. There she hesitated briefly, then leaped to the ground. Whirling around, the startled goat faced her with lowered horns. Surprised, she reared back and swiped once ineffectually with a paw. When the goat turned to flee, she lunged in and with a snap clamped her teeth on its throat. At the same time she grabbed the goat's shoulders with her massive paws. Slowly it sank to its knees, and when she tapped it lightly with a paw, it toppled on its side. Crouching or sitting, she held its throat until, after eight minutes, all movements ceased. Judging by tooth marks on the throat, she had also killed the two previous goats by strangulation.

The snow leopard is both powerful and agile. Ionov, a Russian observer quoted by Ognev, saw one leap not less than 15 m (49 ft) uphill over a ditch. It is quite often active in daytime, especially in the early morning and late afternoon. Prospective victims are stalked or ambushed, and in their search for prey, ounces like to patrol the ridge-tops. Stockley twice found places where, in the soil softened by the melting snow on top of a crest, there was a regular puddled path of snow leopard tracks.

One of the best descriptions of a hunting snow leopard was given by C. A. Stockley:

I was watching a herd of ibex through a powerful telescope, and a snow leopard suddenly raced across the hollow in which they were feeding and made an attempt on a buck, which started away just in time. The leopard's outstretched claws raked a great lump of hair from the ibex's coat as it wheeled away, and the whole herd bolted to the edge of the hollow, halting on a small ridge, 100 yards away, and staring back at the leopard, which stood waving its great tail in the middle of the hollow. After a minute or so both the parties departed in opposite directions.

The ounce's choice of prey varies according to the species of game available. Ibexes seem to be its preferred victims in some areas, wild sheep, such as shapoo and bharal or blue sheep in others. In the Sutley Valley, for instance, it is known as the "bharal-hay"—the blue sheep killer—due to its predilection for that species. It takes tahr, goats, musk-deer, marmots, snow-cocks, monal pheasants, and red-legged partridges. Russian observers have listed Persian gazelles in the Ala-Tau Mountains, and wild boar in the Trans-Ili Altai. Domestic animals—sheep, goats, and dogs, even the occasional horse, cow, or yak—are taken as well, especially in winter when the cats establish themselves in the vicinity of villages. Of sixteen droppings picked up by Schaller in Chitral Gol Reserve, five contained hair of markhor, eight the remains of domestic sheep and goats, two a large-leaved herb, and one just earth.

Snow leopards have vast territories, within which they move about a great deal, often covering long distances in the process. While following their tracks, Schaller came to places where pungent scent marks had been left on tree trunks or rocks. He also found scrapes, with or without droppings.

Within its home range, an ounce finds plenty of rock crevices and clefts to hide in, and there have been reports of one and the same den having been used for several years in succession. In the Kirghiz Ala-Tau, snow leopards often rest on the huge nests black vultures build in low juniper trees. African leopards have oc-

asionally been seen to lie down on top of a vulture's nest, but large quantities of moulted fur seem to indicate that with the Ala-Tau ounces this is quite a regular habit.

In zoological gardens the gestation period has been found to last for 98 to 103 days. According to Russian authors, mating takes place in late winter and early spring, the two, three, and more rarely four or five cubs are born in April and May. By the middle of summer the young are said to be able to accompany their mother on her hunting trips, and the litter apparently stays together during the next winter.

The cub seen by Schaller was about four months old, a "black and white puff of fur," which meant that it would have been born in August. Game guards stated positively that the female had first been seen with two cubs, and it thus looked as if one might have succumbed to the hardships of winter. The surviving cub kept out of sight most of the time, while the female guarded the kills and drove off thieving crows. Whenever it came out of hiding, it greeted its mother by rubbing its cheek against hers.

In the Chin-meng Mountains of Szechwan a solitary cub was found in a cave about four feet square, which must have been in use as a den for a very long time, for it was carpeted with moulted fur to a depth of about 1.27 cm (0.50 in).

Ward saw two cubs in the Liddar Valley, at an altitude of less than 3000 m (9800 ft) and later obtained possession of them after they had been caught by goat-herds. They became quite tame, and when a big shelf was put up on the veranda for them to sleep on, they would jump up and down, time after time, with extraordinary ease. Directly they touched the veranda floor, they twisted round and bounded back onto the shelf. Nothing would, however, induce them to climb a tree, and even if their food was placed on a bough, they jumped and tried to reach it, but never climbed up the trunk.

Accounts of the ounce generally leave one with the impression of an animal going its own solitary way, except, of course, for a mother and her cubs or for a courting couple. Ionov once watched a playful encounter between two ounces. The first one, running along a mountain stream, suddenly crouched as if preparing to attack. That moment the other snow leopard appeared. The two reared up on their hind legs and exchanged blows with their forepaws. One ran away, the second followed and overtook it in an enormous bound. They rolled about in the grass for a while and then jumped up, arched their backs at each other and went off in different directions.

It has been suggested that pairs might possibly occupy joint territories and co-operate in hunting, one chasing the prey from one

part of the valley to where the partner lies in ambush. In 1884, a mission station in Lahaul, did, in fact, suffer from the depredations of two snow leopards. A British officer hunting in the area bagged one of them, a male, late one evening. Next day he shot an ibex and dragged the carcass to the spot where the ounce had fallen. The female came at dusk and was also shot. In this case the two ounces had certainly been hunting together—but were they a couple, or a mother with an almost full-grown youngster? A male in the Dresden Zoo displayed a fatherly interest in his progeny and took part in rearing the cubs. No male, however, showed up in the vicinity of the mother and cub observed by Schaller.

There seems to be no record of a snow leopard ever having made an unprovoked attack upon a human being. The species has, however, suffered very badly from the hand of man, not so much because of its occasional depredations on domestic stock, as for the sake of its magnificent fur. Snow leopards may be wary and secretive, but they are quite easily caught in traps, snares, pitfalls, and even nets. Some years ago, Stroganov assessed the total world catch as "no more than a thousand," but even this was far too much. There seems to have been a sharp decline in numbers since Stroganov's time, for two more recent Russian authors estimated the total of snow leopards taken annually within the Soviet Union at from twenty-four to sixty. The species is now fully protected in all Russian-controlled areas.

The ounce has fared especially badly in Kashmir. Fur traders in both Pakistan and India pay up to 600 rupees for raw skins. With such an inducement to ruthless killing, it might be very difficult to protect the snow leopards of the Chitral Gol, Nanda Devi, and Tons sanctuaries from being wiped out by poachers.

There is one ray of hope, however: The International Fur Trade Federation has agreed to impose among its members a total ban on trade in snow leopard skins. It is now up to the authorities in Europe and America to put a complete ban on their importation, in order to prevent a certain type of status-symbol-mongering tourist from bringing back skins acquired in India and Pakistan. When the demand for its fur is gone, the snow leopard would have a fair chance of survival.