

Red panda

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Conservation status



Vulnerable (IUCN 3.1)^[2]

Scientific classification

Kingdom: [Animalia](#)
Phylum: [Chordata](#)
Class: [Mammalia](#)
Order: [Carnivora](#)
Suborder: [Caniformia](#)
Infraorder: [Arctoidea](#)
Superfamily: [Musteloidea](#)
Family: [Ailuridae](#)
Genus: ***Ailurus***
[F. Cuvier, 1825](#)
Species: ***A. fulgens***

Binomial name

Ailurus fulgens
[F. Cuvier, 1825](#)

Subspecies

A. f. fulgens
A. f. styani^[3]



Synonyms

A. ochraceus [Hodgson](#), 1847

The **red panda** (*Ailurus fulgens*, or *shining cat*), is a small [arboreal mammal](#) native to the eastern [Himalayas](#) and southwestern [China](#).^[2] It is the only species of the genus *Ailurus*. Slightly larger than a [domestic cat](#), it has reddish-brown fur, a long, shaggy tail, and a waddling gait due to its shorter front legs. It feeds mainly on [bamboo](#), but is [omnivorous](#) and may also eat eggs, [birds](#), [insects](#), and small [mammals](#). It is a solitary animal, mainly [active from dusk to dawn](#), and is largely [sedentary](#) during the day. It is only distantly related to the [giant panda](#).

The red panda has been classified as [Vulnerable](#) by [IUCN](#) because its population is estimated at less than 10,000 mature individuals. Although red pandas are protected by national laws in their range countries, their numbers in the wild continue to decline mainly due to habitat loss and fragmentation, [poaching](#), and inbreeding depression.^[2]

It has been previously classified in the families [Procyonidae](#) (raccoons) and [Ursidae](#) (bears), but recent research has placed it in its own family [Ailuridae](#), in superfamily [Musteloidea](#) along with [Mustelidae](#), [Procyonidae](#), and [Mephitidae](#).^[4] Two subspecies are recognized.

Physical characteristics

Head and body of red pandas are 56 to 63 cm (22 to 25 in) long, and their tail about 37 to 47 cm (15 to 19 in). Males weigh 3.7 to 6.2 kg (8.2 to 14 lb) and females 4.2 to 6.0 kg (9.3 to 13 lb).^[5] They have long, soft reddish-brown fur on the upper parts, blackish fur on the lower parts, and a light face with tear markings and [robust cranial-dental](#) features. The light face has white badges similar to those of a [raccoon](#), but each individual can have distinctive markings. Their roundish head has medium-sized upright ears, a black nose, and very dark eyes: almost pitch black. Their long bushy tail with six alternating yellowish red transverse [ochre](#) rings provides balance and excellent [camouflage](#) against its habitat of moss- and lichen-covered trees. The legs are black and short with thick fur on the soles of the paws. This fur serves as thermal insulation on snow-covered or ice surfaces and conceals scent glands which are also present on the anus.^[6]

The red panda is [specialized](#) as a bamboo feeder with strong, curved and sharp semi-retractile claws^[7] standing inward for grasping of narrow tree branches, leaves and fruit. Like the [giant panda](#), it has a “false thumb” that is an extension of the wrist bone. When descending a tree headfirst, the red panda rotates its ankle to control its descent, one of the few climbing species to do so.^[8]

Distribution and habitat

The red panda is [endemic](#) to the [temperate forests](#) of the [Himalayas](#), and ranges from the foothills of western [Nepal](#) to [China](#) in the east.^[9] Its easternmost limit is the [Qinling Mountains](#) of the [Shaanxi Province](#) in China. It is found in southern [Tibet](#), [Sikkim](#), [Assam](#) and [Bhutan](#), in the northern mountains of [Myanmar](#), and in southwestern China in the [Hengduan Mountains](#) of [Sichuan](#) and Gongshan Mountains in [Yunnan](#). It may also live in southwest [Tibet](#) and northern [Arunachal Pradesh](#), but this has not been documented. Locations with the highest density of red pandas include an area in the Himalayas that has been proposed as having been a refuge for a variety of endemic species in the [Pleistocene](#). The distribution range of the red panda should be considered disjunct, rather than continuous.^[5] A disjunct population inhabits the [Meghalaya](#) Plateau of northeastern

[India](#).^[10] The species' westernmost limit is the [Dhorpatan Hunting Reserve](#) in [Nepal](#), where red pandas were found during a survey in the 1970s.^[11] Red pandas may also occur in Nepal's [Rara National Park](#) located farther west of the Dhorpatan Hunting Reserve.^[12]

The red panda lives between 2,200 and 4,800 meters (7,200 and 15,700 ft) altitude, inhabiting areas of moderate temperature between 10 and 25 °C / 50 and 77 °F with little annual change. It prefers mountainous mixed [deciduous](#) and [conifer](#) forests, especially with old trees and dense understories of [bamboo](#).^{[5][13]}

The effective population size of the [Sichuan](#) population is larger and more stable than that of the [Yunnan](#) population, implying a southward expansion from Sichuan to Yunnan.^[14]

The red panda has become [extirpated](#) from the Chinese provinces of [Guizhou](#), [Gansu](#), Shaanxi and [Qinghai](#).^[15]

Distribution of subspecies

Distribution of the red panda is disjointed, and there are two [extant](#) subspecies:

- Western red panda *Ailurus fulgens fulgens* ([Cuvier](#), 1825) — lives in the western part of its range: in [Nepal](#), [Assam](#), [Sikkim](#) and [Bhutan](#);
- Styan's red panda *Ailurus fulgens styani* ([Thomas](#), 1902) — lives in the east-northeastern part of its range: in southern [China](#) and northern [Myanmar](#).^{[16][17]}

The [Brahmaputra](#) river is often considered the natural division between the two subspecies, where it makes a curve around the eastern end of the [Himalayas](#). Although some authors suggest that *A. f. fulgens* extends farther eastward, into China.

The Styan's red panda is supposedly larger and darker in color than its Western cousin, but there is considerable variation in both subspecies, and some individuals may be brown or yellowish brown rather than red.^[13]

Biology and behavior

Behavior

Red pandas are territorial. Adults are solitary except during mating season. They are generally quiet except for some [twittering](#) and whistling communication sounds. They have been reported to be both [nocturnal](#) and [crepuscular](#), sleeping on tree branches or in tree hollows during the day and increasing their activity in the late afternoon and early evening hours. They sleep stretched out on a branch with legs dangling when it is hot, and curled up with its tail over the face when it is cold.^[5] They are very heat sensitive, with an optimal “well-being” temperature between 17 and 25 °C (63 and 77 °F), and cannot tolerate temperatures over 25 °C (77 °F).

Shortly after waking, red pandas clean their fur like a cat, licking their front paws and then rubbing their back, stomach and sides. They also rub their back and belly along the sides of trees or rocks. Then they patrol their territory, marking it with urine and a weak musk-smelling secretion from their anal gland. They search for food running along the ground or through the trees. They use their front paws to place the food into the mouth, and drink by plunging a paw into the water and then licking the paw.^[5]

Predators of the red panda include the [snow leopard](#), [martens](#) ([Mustelidae](#)), and people. If they feel threatened or sense danger, they may try to escape by climbing a rock column or tree. If they can no longer flee, they stand on their hind legs to make themselves appear larger and use their sharp claws on the front paws to defend themselves.

Diet

Red pandas are excellent climbers, and forage largely in trees. They eat mostly [bamboo](#). Like the [Giant Panda](#), they cannot digest [cellulose](#), so they must consume a large volume of bamboo to survive. Their diet consists of about two-thirds bamboo, but they also eat berries, fruit, mushrooms, roots, acorns, lichen, and grasses. Occasionally, they supplement their diet with young birds, fish, eggs, small rodents, and insects. In captivity, they readily eat meat. They do little more than eat and sleep due to their low-calorie diet.

Bamboo shoots are more easily digested than leaves, exhibiting the highest digestibility in summer and autumn, intermediate digestibility in the spring, and lowest digestibility in the winter. These variations correlate with the nutrient contents in the bamboo. Red pandas process bamboo poorly, especially the cellulose and cell wall components. This implies that microbial digestion plays only a minor role in their digestive strategy. In order to survive on this poor-quality diet, they have to eat the high-quality sections of the bamboo plant such as the tender leaves and shoots in large quantities, over 1.5 kilograms / 3.3 pounds of fresh leaves and 4 kilograms / 8.8 pounds of fresh shoots daily. This food passes through the digestive tract fairly rapidly (~2–4 hours) so as to maximize nutrient intake.^[18] Red pandas can taste artificial sweeteners such as [aspartame](#), the only known non-primate to be able to do so.^[19]

Reproduction

Red pandas are able to reproduce from around 18 months of age, and are fully mature at 2–3 years. Adults rarely interact in the wild except to mate. Both sexes may mate with more than one partner during the mating season from mid-January to early March.^[20] A few days before birth, females begin to collect material, such as brushwood, grass, and leaves, to build a nest, which is normally located in a hollow tree or a rock crevice. After a gestation period of 112 to 158 days, the female gives birth in mid-June to late July to about one to four blind and deaf cubs weighing 110 to 130 grams (3.9 to 4.6 oz) each.^[5]

After birth, the mother cleans the cubs and can then recognize each by their smell. At first, she spends 60% to 90% of her time with the cubs. After the first week, the mother starts spending more time outside the nest, returning every few hours to nurse and groom the cubs. She moves the young frequently among several nests, all of which she keeps clean. The cubs start to open their eyes at about 18 days of age. By about 90 days, they have achieved full adult fur and coloring, and begin to venture out of the nest. They also start eating solid foods at this point, weaning at around 6–8 months of age. The cubs stay with their mother until the next litter is born in the following summer. Males rarely help raise the young, and only if they live in pairs or in small groups.^[5]

The average lifespan is 8–10 years, but individuals have been known to reach 15 years.

Threats

The primary threats to red pandas are direct harvest from the wild, live or dead, competition with domestic livestock resulting in habitat degradation, and [deforestation](#) resulting in habitat loss or fragmentation. The relative importance of these factors is different in each region, and is not well understood.^[13] For instance, in India the biggest threat seems to be habitat loss followed by [poaching](#), while in China the biggest threat seems to be hunting and poaching.^[2] A 40% decrease in red panda populations has been reported in China over the last 50 years, and populations in western Himalayan areas are considered to be lower.^[15]

[Deforestation](#) can inhibit the spread of red pandas and exacerbate the natural population subdivision by [topography](#) and [ecology](#), leading to severe fragmentation of the remaining wild population. Less than 40 animals in 4 separate groups share resources with humans in Nepal's [Langtang National Park](#), where only 6% of 1,710 square kilometres (660 sq mi) is preferred red panda habitat. Although direct competition for food with domestic livestock is not significant, [livestock](#) can depress bamboo growth by trampling.^[21] Small groups of

animals with little opportunity for exchange between them face the risk of inbreeding, decreased genetic diversity, and even extinction. In addition, clearcutting for firewood or agriculture, including hillside terracing, removes old trees that provide maternal dens and decreases the ability of some species of bamboo to regenerate.^[13]

In [Southwest China](#), red pandas are hunted for their fur, especially for the highly-valued bushy tails from which hats are produced. In these areas, the fur is often used for local cultural [ceremonies](#), and in [weddings](#) the [bridegroom](#) traditionally carries the hide. The "good-luck charm" red panda-tail hats are also used by Chinese newlyweds.^[15]

In the past, red pandas were captured and sold to [zoos](#). Glatston reports that "in *International Zoo News*, Munro (1969) reported he personally had handled 350 red pandas in seventeen years."^[22] Thanks to [CITES](#) this number has decreased substantially in recent years, but poaching continues, and red pandas are often sold to private collectors at exorbitant prices. In some parts of Nepal and India, red pandas are kept as pets.^[23]

The red panda has a naturally low birth rate (usually single or twin births per year), and a high death rate in the wild.

Conservation

The red panda has been classified as [vulnerable](#) in the [IUCN Red List](#) since 2008^[2] and included in [CITES Appendix I](#).^[24] The total area of potential habitat of 142,000 km² (55,000 sq mi), with only about half of this actually being used by the species, suggests that the global population is about 10,000 individuals, with a decreasing population trend. Due to their shy and secretive nature, and their largely nocturnal habits, observation of red pandas is difficult. Therefore, population figures in the wild are determined by population density estimates and not direct counts.^[2]

Worldwide population estimates range from less than 2,500 individuals^[20] to between 16,000 and 20,000 individuals.^[10] In 1999, the total population in China was estimated at between 3,000 and 7,000 individuals.^[15] In 2001, the wild population in India was estimated at between 5,000 and 6,000 individuals.^[10] Estimates for Nepal indicate only a few hundred individuals.^[25] There are no records from Bhutan or Myanmar.

Reliable population numbers are hard to find, partly because other animals have been mistaken for the red panda. For instance, one report from Myanmar stated that red pandas were still fairly common in some areas, and was accompanied by a photograph of a "red panda" as proof. The photograph in question depicted a species of [civet](#).^[26]

The red panda is protected in all range countries, and hunting is illegal.^[2] Beyond this, conservation efforts are highly variable between countries:

- [China](#) has 35 protected areas covering about 42.4% of red panda habitat.^[2]
- [India](#) has 20 protected areas with known or possible red panda populations in [Sikkim](#), [Arunachal Pradesh](#) and [West Bengal](#) such as [Khangchendzonga National Park](#), [Namdapha National Park](#) and [Singalila National Park](#), and a coordinated conservation policy for the red panda.^[2]
- In [Nepal](#), known populations occur in [Langtang National Park](#), [Sagarmatha National Park](#), [Makalu Barun National Park](#), [Rara National Park](#), [Annapurna Conservation Area](#), [Kanchenjunga Conservation Area](#), and in [Dhorpatan Hunting Reserve](#).^[27]
- [Bhutan](#) has 5 protected areas that support red panda populations.^[2]
- [Myanmar](#) has [26 protected areas](#), of which at least one or more host red panda populations.^[2]