



Northern White-cheeked Gibbon

Nomascus leucogenys

Classification *What groups does this organism belong to based on characteristics shared with other organisms?*

Class: Mammalia (all mammals)

Order: Primates (prosimians, monkeys, apes, humans)

Family: Hylobatidae (gibbons and lesser apes)

Genus: *Nomascus* (crested gibbons)

Species: *Nomascus leucogenys* (Northern white-cheeked gibbon)



Distribution *Where in the world does this species live?*

Nomascus leucogenys is better known as the white-cheeked gibbon. This species is found only in Southeast Asia. They primarily populate Laos, Vietnam, and Southern China. In Vietnam white-cheeked gibbons are found to the southwest of the Song Ma and Song Bo Rivers.

Habitat *What kinds of areas does this species live in?*

They live in the canopy of subtropical rainforests and prefer lowland forests with more diversity of fruit trees. However more recently with habitat loss most of these gibbons live above 700 meters. White-cheeked gibbons hardly ever descend to the forest floor.

Physical Description *How would this animal's body shape and size be described?*

- Gibbons are small apes with very long arms and no tail. *Nomascus leucogenys* are not sexually dimorphic for size, but are for color.
- Males and females are 45-63 cm (18-25 in) long and weigh an average of 5.7 kg (12.5 lb).
- All infants are born with cream-colored fur. At two years of age, the infants' fur changes from cream to black, and they develop white patches on their cheeks.
- At sexual maturity, males stay black with white cheeks. Females turn back to the original cream or pale yellow/yellow color and they lose the majority of their white cheek color, except for a thin white face ring. Females also have a black to brown crown streak.
- They have exceptionally long forelimbs and hindlimbs. Their bodies are built for an arboreal lifestyle.
- They have an opposable hallux (innermost digit of the hind foot) and opposable pollex (thumb), and their hands are hook-shaped, for grasping food and branches.
- Their bodies are small with an upright posture.
- The fur in both sexes is long and rather coarse. The crown hair is erect and rather elongated.



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Diet *What does this species eat?*

In their historic range: *Nomascus leucogenys* are primarily frugivorous, with fruit comprising 39% of their diet. They especially enjoy eating the pulp of fruits. They are important seed dispensers for some plants. Along with fruit, a large portion of their diet consists of leaves and shoots (36%), and they also eat flowers, and insects. The type of food they eat depends on precipitation. When it is wet, fruit is plentiful, and they don't have to travel far. But with little rainfall, they travel great distances in search of food.

At the zoo: Gibbons are fed greens, vegetables, low starch biscuits, konjac gel, and some fruit for training.

Predators *What eats this species?*

The main threat to white-cheeked gibbons is forest clearing, and therefore their main predator is humans, who also hunt them for food. Otherwise not much is known about other specific predators, but eagles, owls and panthers are known to prey on other gibbon species who live in the canopy.

Social Organization *How does this animal interact with others of its species?*

White-cheeked gibbons live in small families comprising a male adult and a female adult that mate monogamously. They usually have three to four offspring within the group. There is an hierarchy among the family. The female is dominant followed by her female offspring, male offspring, and the adult male is last. *Nomascus leucogenys* individuals spend much of their free time playing and grooming. They are territorial and live in an area that spans about seventy-five to one hundred acres, and they defend their territory.

Life Cycle *How does this species mate, raise young, grow and develop?*

White-cheeked gibbons become sexually mature at about six to seven years of age. At this point, females have a menstrual cycle that lasts about twenty-eight days. They breed throughout the year. After a gestation period of seven months, a single infant is born. The infant stays with the mother for nearly two years, after which it is weaned. White cheeked gibbon offspring will stay with the family group until it becomes independent between 3-8 years. Females bear young every 2-3 years and infant care is shared between the male and female of the monogamous pair.

Adaptations *What physical and behavioral characteristics enable this animal to survive and thrive?*

- *Nomascus leucogenys*, have exceptionally long forelimbs and hindlimbs. **Their bodies are built for an arboreal lifestyle. They have opposable hallux (inner toe) and pollex (thumb)** making grasping food and holding branches easy.
- Furthermore, **their hands are hook shaped**, facilitating **brachiation** (moving through the trees by grasping and swinging from branch to branch by the arms), and allowing them to remain suspended for feeding in the terminal branches where the most nutritious flowers and fruits are most abundant. .
- White cheeked gibbons have melodic songs with long, pure notes rising and falling in a great call. Individuals **signal territory by using vocalizations. They also use vocalizations in mating behaviors. Males and females participate in elaborate duets;** the male emits



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- booms and multi-modulated phrases and the female gives rapid great calls with rising notes, 20-27 notes, 13-15 seconds, with the male coda at the end.
- In order to **signal aggression**, these gibbons resort to the common threat of opening their mouth wide to show their teeth.
 - White-cheeked gibbons spend much of their time **grooming and playing**. Grooming and playing allow individual gibbons to form bonds. It is also likely that chemical cues, such as **pheromones** are used to communicate reproductive status.
 - Unlike other primates, white-cheeked gibbons do not sleep during the day; **they search for food throughout the day**, starting high in the canopy early in the morning and retreat to the lower tree understory when the canopy heats up.
 - These gibbons **will travel far** in search of food when there is little rainfall.

Collection Connection

Denver Zoo has one Northern white-cheeked gibbon resident in Anschutz Foundation Gibbon Islands area of Toyota Elephant Passage named Vinh. She lives with her companion Briscoe. He and Vinh are different species of gibbon but they get along well. Since social interaction is important for primates, this pairing allows both Briscoe and Vinh to have that bond.

Vinh knows multiple behaviors that help keepers care for her. She has been trained to present various body parts for physical exams and to tolerate a syringe and allow injections. Vinh also cooperates to sit on a scale. Another important part of her training has been to learn to shift to and from her outdoor exhibit.

Conservation Status *Is this animal at risk for extinction and why?*

IUCN Status: Critically endangered

White-cheeked gibbons' numbers in the wild are unknown, but suspected to be declining, and it is known that a related species are endangered due to deforestation, logging, hunting and military activities. As of 2015, there are 87 animals (48 males, 38 females, and one unknown gender) at 27 AZA facilities and one non AZA facility. White-cheeked gibbons are part of an AZA-formed SSP, but Vinh and Jing Chi were not planned to be a breeding pair.

Resources and Where to Learn More

University of Michigan Animal Diversity Web <http://animaldiversity.ummz.umich.edu/>

National Primate Research Center, University of Wisconsin-Madison”
http://pin.primate.wisc.edu/fact-sheets/entry/white-cheeked_gibbon



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Geissman, T. 2002, Taxonomy and Evolution of Gibbons. *Evolution Anthropology*, Volume 11/Issue S1: 28-3