

(CAPRA IBEX)

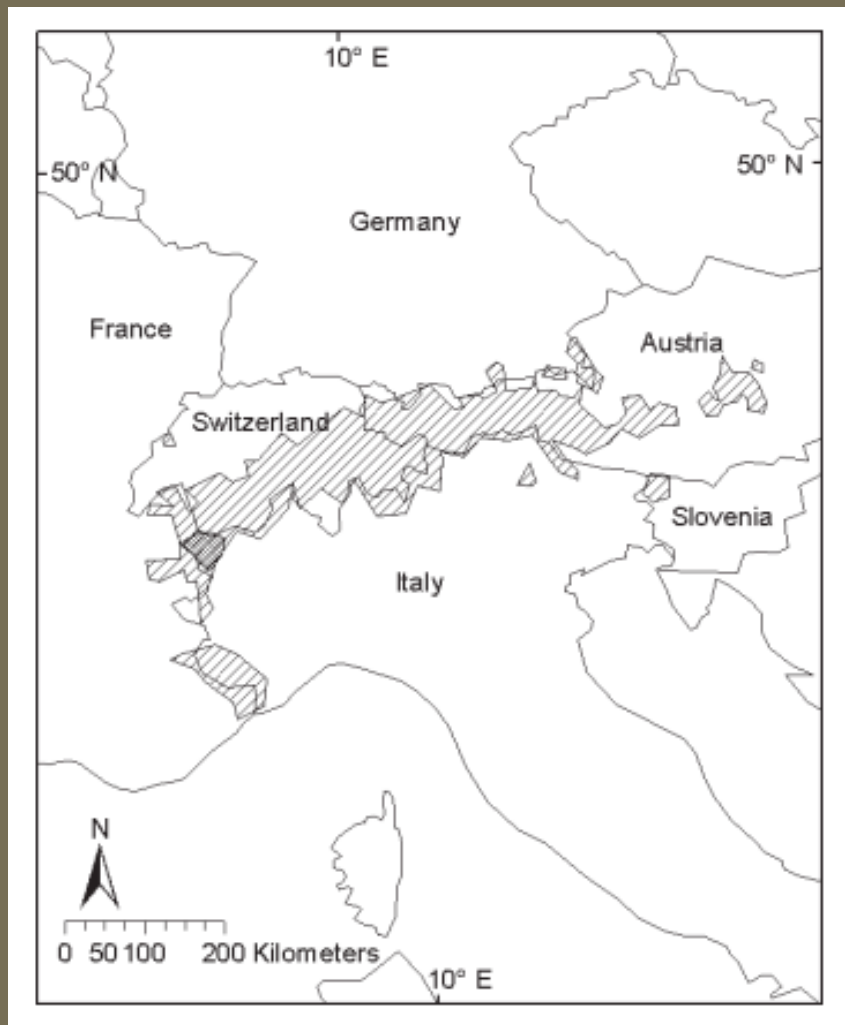
ALPINE IBEX



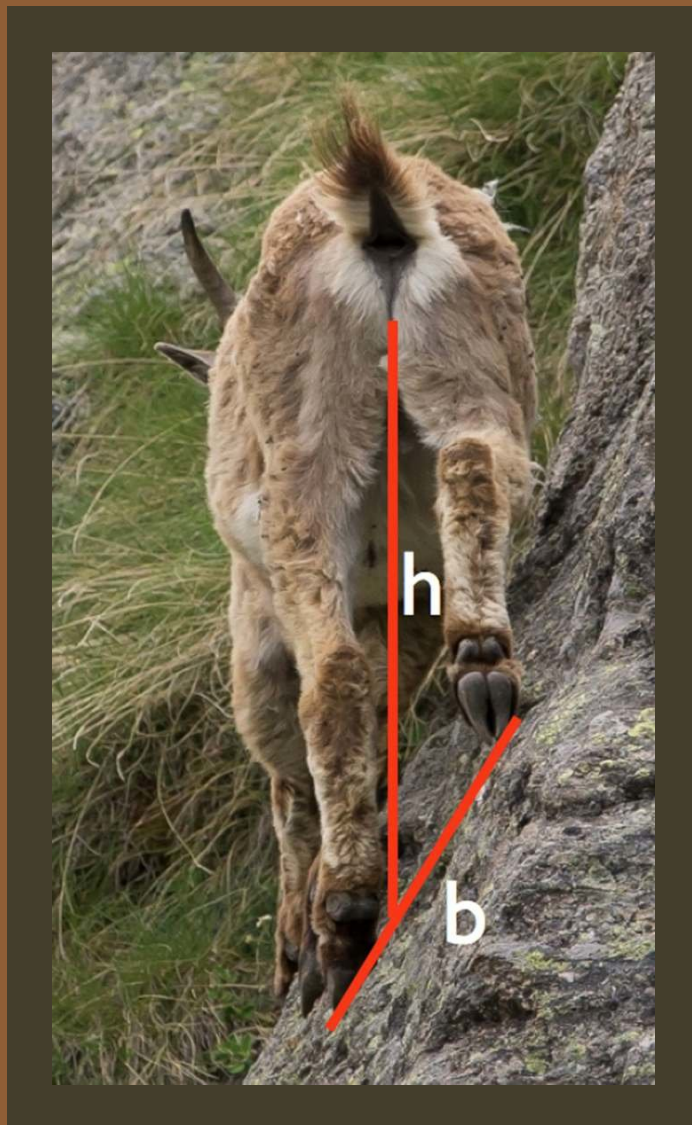
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EVOLUTION

Alpine ibex is part of the Bovidae family under the order Artiodactyla. The *Capra* genus signifies this species specifically as a wild goat, but this genus shares very similar evolutionary features as species we recognize in Montana like *Oreamnos* (mountain goat) and *Ovis* (sheep). *Capra*, *Oreamnos*, and *Ovis* most likely derived in evolution from each other due to glacial migration and failure to hybridize between genera and species. *Capra ibex* was first historically observed throughout the central Alpine Range of Europe, then was decreased to Grand Paradiso National Park in Italy and the Maurienne Valley in France but has since been reintroduced in multiple other countries across the Alps.



FORM AND FUNCTION



Capra ibex shares a typical hoofed unguligrade foot posture, a cannon bone with raised calcaneus, and the common cursorial locomotion associated with species in Artiodactyla. These features allow the alpine ibex to maneuver through the steep terrain in which they reside. Specifically, for alpine ungulates and the alpine ibex, more energy is put into balance and strength to stay on uneven terrain than moving long distances. Alpine ibexes are often observed climbing artificial dams that are almost vertical to lick mineral deposits! This example shows how efficient *Capra ibex* is at navigating steep and dangerous terrain. The most visual distinction that sets the *Capra* genus apart from others is the large, elongated semicircular horns. Alpine ibex specifically has horns that grow throughout their life span at an average of 80mm per year in males. When winter comes around this growth is stunted until spring and creates an obvious ring on the horn that signifies that year's overall growth. Horn length is longer in males than females and males use their horns for fighting against one another to earn tending rights in the upcoming breeding season.

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BEHAVIOR



In the time outside of the breeding season starting in November, alpine ibexes live in sex segregated communities or groups of males and females. Males tend to stay in the lower elevations where food is widely distributed to gain mass for the upcoming breeding season while females and young stay in the higher elevations to be further protected in the harsh rocky terrain. Males during this time use their strength and large horns to fight each other for access to breeding the group of females. The dominant males, which are often the older males, that have won rights to the females are then entitled to tending to the group of females. Tending means that the male essentially follows the group of females around and individually mates with multiple females. Younger or less dominant males combat this hierarchy by a strategy called coursing. Courasing is the term given when a less dominant male sneaks into the group of females and mates with a female while the other dominant male is distracted or does not notice. Courasing requires much less energy in comparison to tending and while it may not produce as many genetic offspring as tending, it can be assumed that it increases genetic diversity which is a problem in the population of this species.

ECOLOGY, CONSERVATION, AND MANAGEMENT



Although the population is stable, each community of *Capra ibex* is quite fragmented and therefore the issue of low genetic diversity and inbreeding is very high throughout the population. These issues stand to be the largest threat to the alpine ibex at the moment but most likely will not cause too severe of a decline in population in the future. The largest threat outside of the population that could have the highest impact is habitat alteration through climate change. The Alps are very exposed to the effects of climate change and can have both direct and indirect effects on *Capra ibex*. As temperatures increase it causes ibex to move higher in elevation to avoid the heat but is then faced with loss of vegetation and food resources.

Both male and female *Capra ibex* are relatively long lived compared to other alpine species and live upwards of 16-19 years. This longevity translates directly to the alpine ibex's conservation status. *Capra ibex* is listed as a species of least concern by the IUCN as of March 10th, 2020. An estimated population of 53,000 individuals from 180 different colonies has been made giving this species a stable population trend. This number signifies a successful reintroduction of the species after its close call with extinction during the 19th century due to over-hunting and poaching. In France and Italy alpine ibex is listed as a protected species while in other European countries where ibex is present the species is considered a game animal, but harvest is sustainable and strongly regulated. Reintroductions of alpine ibex into unoccupied historic sites still continues along with the transferring of individuals between colonies to promote genetic diversity to further manage and conserve this unique wild goat species.



SOURCES:

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