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ARGENTINA **ZE RO** detail

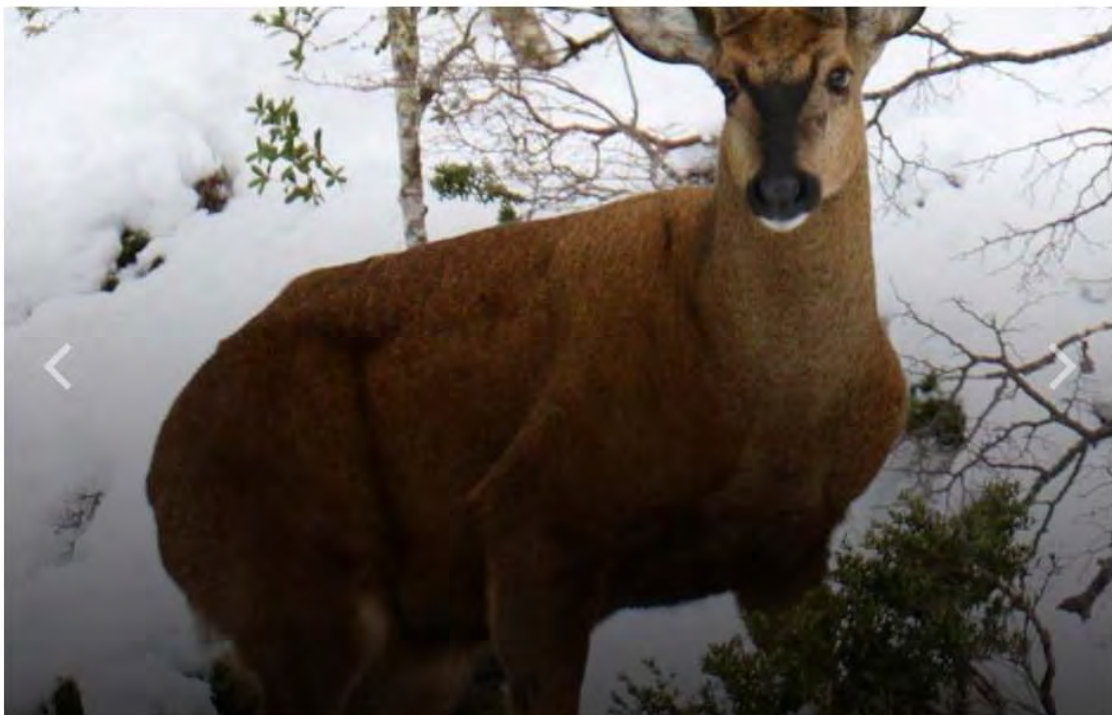
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✔ Conicet scientists alert for a Patagonian animal in danger of extinction

BREAKING NEWS

Casey ✔ Local ⌚ about 5 hours ago

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In modern times it was wrongly conceptualized as **huemul** (*Hippocamelus bisulcus*) as a species adapted to the forest and exclusively to the high mountains, with rocky environments and steep slopes. Now, a study by Conicet researchers and other scientists published in the journal *Conservation* puts this concept in crisis by ensuring that **the huemul is not different from other animals of the cervid family** and that the cause of its extraordinary decrease is due to the **man impact**.

It is that, they maintain, the history of civilizations resulted in their expulsion from a good part of their original territory in the Patagonian peninsula and allowed them to survive exclusively in refuges in the high Andean forest.

“This refugee species **then lost its migratory traditions** (cultural cycle of transfer from wintering to summering) and their access to various habitats such as prairies and meadows, modifying their food practices”, says Werner Flueck, first author of the work and Conicet researcher in the Nahuel Huapi National Park.

It is estimated that of the original metapopulation in Argentina there are currently only **between 350 and 500 huemules** fragmented into about 60 groups along 1,800 km of the Andes with one of the most prominent population groups in the Shoonem Protected Park, Alto Río Senguer, in Chubut, where research tasks are carried out with the support of the Directorate of Flora and Fauna of the Province.

They estimate that there are between 350 and 500 huemules left in the country.

“The loss of the migratory traditions of the huemul as a result of the **overhunting** in the past and the establishment of human populations in areas inhabited by these animals put this species in danger of extinction”, indicates Flueck. And he adds that the forced seclusion in regions of the Andes, in areas classified as summer, would be a factor that would explain the decrease in its population and the high proportion of specimens with skeletal conditions and low longevity.

Historical information, telemetry and medical studies

Through archaeological information from the discovery of bones or antlers that the males lose during the winter and from the compilation of historical records since 1521, the authors of the work were able to confirm the migratory tradition in a wide habitat that the huemules had in the past, combining open areas (prairies) and wooded areas of the Patagonian peninsula.

“The historical data found show that, in the past, the huemul had members that migrated seasonally from forested Andean areas classified as summers to non-forested regions of the Patagonian peninsula during winters. Even in this wintering area, it is estimated that many groups of huemules behaved as annual residents, sharing habitat with guanacos and rheas or other steppe animals. In this sense, their behavior is very similar to that of other cervids”, highlights Flueck, also a researcher at the Swiss Institute of Tropical and Public Health based in Basel, Switzerland.

The loss is not only of habitat but also of a cultural pattern, since migration is educated from the mothers,

or the group, to the offspring, it is not genetic, explains the Conicet researcher. And he adds: “Without education there is no possible migration, only occasional minimal movements due to climatic contingency. Even these migrations must have been shared with other mammals, such as guanacos, as depicted in hunting cave images of ancient prehistoric inhabitants.”

The huemul, in danger of extinction.

The Argentine Naturalist **Francisco Pascasio Moreno (1852-1919)** He had already published in 1898 about sightings in non-forested areas of Patagonia, where huemules abounded and did not flee despite the danger they were running. Also the German Carl Martin, had reported in 1899 about a steppe area with pieces of low and open forest, where with his expedition group, in addition to seeing many groups of huemules while they crossed the area, they hunted some to eat their meat during weeks.

Flueck and colleagues placed radio collars (one with satellite GPS) on six huemules (three females and three males) from the Shoonem Protected Park, Lake La Plata sector, to study their movements between 2017 and 2022.

“The radio-tagged and geolocated huemules remained throughout the year in small territorial ranges with minimal seasonal elevational movements. We thus find that **it is the only cervid in the world that inhabits summers in mountain ranges** throughout the year as a reaction to anthropogenic activities,” Flueck pointed out.

And he adds: “However, the anatomy of the huemul shows that it is adapted to grasslands (open deforested areas). Unfortunately, the human presence distanced him from his migratory traditions. This change decreased their reproductive rates and **detrimentally altered your health**”.



The loss of teeth observed in bones of the huemul, a trait of the lack of key minerals for survival.

Flueck has also led much research on the health of huemules. One, published in the scientific journal *BMC Research Notes* in 2020, determined that in Argentina the **57% of the huemul carcasses** presented osteopathology, and that **86% of the living had that condition**. They presented structural problems both in the skeletons and in the dentures.

“The head injuries involved tooth loss before death at a young age, which reduced feeding efficiency. The analyzes of his tissues showed deficiencies of minerals such as selenium, copper, magnesium and iodine that are essential for bone metabolism,” says Flueck.

In this regard, the Conicet researcher comments that in summer areas -terraces- of high mountains such as the Andes, the nutritional quality of the forage is lower compared to that of the wintering areas to which the huemules do not have access due to human presence and the loss of the habit of migrating.

“The few cases where a huemul descends into a valley, it generally does not survive due to dog attacks, hunting, or vehicle accidents. For this reason, most of the extant subpopulations of huemules inhabit remote mountainous areas, **unattractive for human settlements** and of little value for agriculture or forestry”.



The huemul used to migrate between the prairie and the summers, but it stayed in the forests and the high mountains due to the actions of man.

The six huemules with radio collars were reviewed by pathologists and biologists, in two cases also by a veterinarian, and blood samples were taken to assess their health. “In fact, one of the radio-collared males had practically no teeth, he only had one of the eight incisors, in such a way that he had difficulty feeding, and died of starvation, in addition to carrying permanent pain due to severe infections” Flueck laments.

Conservation opportunities

The **extinction is an irreversible process** Flueck warns. “If the huemul becomes extinct, it would be a failure of the human system, and of the nations of Argentina and Chile, since it is endemic. Losing it is inexcusable and it is preventable,” he emphasizes. And he adds: “Large mammals, like the huemules, have **a relevant role in the functioning of an ecosystem**”.

If the lack of migration behavior explains the high degree of bone disease and the lack of numerical recovery of the huemul, the researcher stresses that “part of the solution would be the reintroduction of the huemul to historically used wintering areas, in those areas where manage to neutralize anthropic and environmental threats. With good monitoring, the effect of this measure on health and on the population’s response could be verified. It would be proof that ‘source’ populations have been created, and with that a phase of recovery of the species”.

“The recently published work increases knowledge about the huemul, and provides useful and concrete tools to increase the possibility of recovering it. We believe that it will be a fundamental part of determining a strategy for the conservation and recovery of the southernmost deer in the world”, concludes Flueck, also a member and creator of the **Shoonem Foundation** whose objective is to collaborate with the state in the preservation and conservation of nature in the Senguer River watershed, in Chubut.

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TOPICS THAT APPEAR IN THIS NOTE

The article is in Spanish.