

# Unusual horn growth pattern of translocated male Iberian wild goats

## Crecimiento atípico de los cuernos de dos machos monteses translocados

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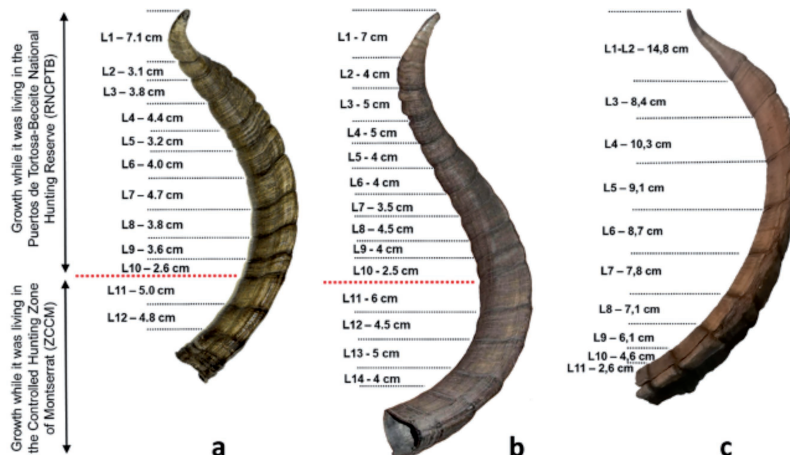
Horns are biological archives that provide insight into past and present environmental conditions. In the Iberian wild goat *Capra pyrenaica* Schinz, 1838, horns grow continuously at age-dependent rates, allowing age estimation through horn ring counts. Unlike some mountain ungulates, the Iberian wild goat shows little evidence of compensatory or “recovery” horn growth. Whereas species such as chamois (*Rupicapra* spp.) and mountain goats (*Oreamnos americanus*) can partially compensate for reduced early horn growth later in life, horns of the Iberian wild goat typically increase during the early years and decline from around 5-7 years of age, rarely recovering from early growth limitations (Carvalho *et al.* 2017). Here, we report an exceptional observation of horn growth in two adult male Iberian wild goats (>9 years old) relocated in 1995 from the Puertos de Tortosa-Beceite (South Catalonia, Spain) to Montserrat Mountain (Central Catalonia, Spain). The released individuals showed poor horn development at the time of translocation, probably reflecting poor habitat quality (Carvalho *et al.* 2020). No supplementary feeding was provided after release. The translocated goats died at 15 and

16 years of age. Horn rings formed after relocation showed substantially greater growth than those formed previously and exceeded growth observed in ibexes of similar age in both populations (Fig. 1). Post-relocation horn growth increased by 93.3–140%, suggesting a strong environmental effect, likely related to improved habitat conditions or reduced competition in Montserrat. Despite the limited sample size, the consistency of these patterns suggests that horn growth in the Iberian wild goat is highly sensitive to habitat quality and may serve as a reliable indicator of environmental conditions.

### References

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**Figure 1.** Horns of two male Iberian wild goats released in the ZCCM a), b) and a third male born in the area for comparison c). An increase in horn ring size at age eleven is evident, likely reflecting the improved environmental conditions of the new habitat.