

## 5<sup>th</sup> International Conference on **Biodiversity**

March 10-12, 2016 Madrid, Spain



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#### **Ecological inferences between *Capra pyrenaica* subspecies through comparative niche modelling**

The discrepancies on the phylogeography of Iberian ibex are notable, including the validity of subspecies established by Cabrera (1914). The high degree of handling of the species, its versatility and numerous population bottlenecks have greatly contributed to maintaining these divergences. In order to provide additional information, in this work we propose the use of niche modelling to analyze the biogeographical similarities and differences between Iberian ibex by ENMTools using the index of similarity and equivalence. From available presence data in Universal Transverse Mercator (UTM) 10 x 10 km of the different subspecies of *Capra pyrenaica* and through predictive variables, the phylogenetic niche conservatism was calculated by ENMTools and principal component analysis was performed on the different subspecies to determine the ecological similarity between them. The similarities in the ecological niche between subspecies matched the phylogenetic distances established for the group. *C. pyrenaica hispanica* and *C. p. victoriae* are ecologically similar subspecies. *C. p. hispanica* is the subspecies with more likely niche occupation while *C. p. victoriae* has a more restricted distribution. The use of the ecological niches and species distributions is essential to analyze several possible interactions occurring within the studied subspecies and allow us to better understand the uniqueness and variability of Iberian ibex subspecies and the possibility of establishing programs for the integrated management of populations.

#### **Biography**

Pablo Refoyo Roman is an Associated Professor of the Zoology and Physical Anthropology Department of the Complutense University of Madrid (UCM). He received his Master's (2010) and PhD (2012) degrees in Biology from UCM. In his 25 years of professional life, he has experiences working with different Spanish administration in more than 55 projects about Iberian endangered species or cinegetic species. He has 45 published articles and 10 books and book chapters. His current research areas are focused on the relationship between parasitism and Iberian mammals, especially ungulates and carnivores; and species distribution models of the Iberian Peninsula's fauna.

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