**Modelling disjunct carnivore distributions: the case of the wolf (Canis lupus) in the Iberian Peninsula**

**Type**

Book chapter

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**Abstract**

**Book Description:** In this book, the authors present current research in the conservation, species and management of carnivores. Topics discussed include the adaptation, impact and management of the raccoon dog in Europe; human perceptions of cougars in Canada and El Salvador; the impact on wildlife conservation of emerging protozoal tick-borne diseases of canids; mitigating conflict between humans and large carnivores in carnivore conservation; the management and conservation of wolves in the Iberian Peninsula; and factors affecting small and middle-sized carnivore occurrence and abundance in Mediterranean agricultural landscapes in Southern Portugal.

**Chapter summary:** The gray wolf (*Canis lupus*) is a generalist species whose distribution was originally the widest among wild carnivores but suffered a marked regression due to human persecution during the 19th and 20th centuries. Legal protection after 1970 allowed wolves to recover significant parts of their range, including, in some cases, heavily humanized and modified landscapes. Nowadays, many wolf populations keep expanding, although the viability of many others is still at risk due to small population sizes and loss of genetic diversity. The Iberian Peninsula holds Western Europe’s largest wolf population, which is currently divided into two distinct nuclei: a large and practically continuous one spreading through most of the northern half of this region, and a smaller and subdivided one in a southern mountainous area. A distribution model based on the whole Iberian wolf distribution overlooked the southern nucleus, suggesting biogeographic differences between them. This can happen due to local adaptation events, and points to the need for caution when modelling species or populations with disjunct distributions. When we modelled both wolf nuclei separately, the southern nucleus showed indeed different environmental and biogeographical properties, with a trend towards a metapopulational structure. We discuss the implications of these models for the conservation and management of wolves in the Iberian Peninsula and of other species facing similar biogeographic situations elsewhere.

**Palavras Chave(47)**

Wolf, Iberian Peninsula, distribution models, adaptation, management, conservation

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