

Title: Acoustic communication in the Iberian lynx *Lynx pardinus*

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Abstract

The Iberian lynx *Lynx pardinus* is endemic to the Iberian Peninsula (Spain and Portugal). Its population and distribution range have been declining in recent decades, reaching a critical situation in 2005 with a population of less than 200 individuals, thus being the most threatened carnivore in Europe and the world's most endangered cat species. The main reason for this decline is the combination of habitat loss, decrease of rabbit populations (its principal prey species), persecution by hunting and poisoning, and traffic accidents. A captive breeding program was started in 2001 as a strategy to support the conservation program of the species. Observations in the ex situ breeding centers added considerably to our knowledge of the biology and ecology of the species. To date no effort has been made to study the vocal repertoire and acoustic communication of the Iberian lynx.

We started recording Iberian lynx vocalizations in the field during the mating season in the Sierra Morena, Spain, in January 2007 and continued to do so in the Spanish ex situ breeding centers El Acebuche in winter 2007, spring 2007, winter 2009 and 2010, and in La Olivilla in winter 2011. The species being endangered and sensitive to disturbance, recording opportunities in the breeding centers were limited. Nevertheless, we could record vocalizations of more than 20 individuals.

A preliminary analysis of the vocal repertoire reveals an extensive similarity with that of the Eurasian lynx, *Lynx lynx*.

The continuation of this study will add to the knowledge of acoustic communication in the Felidae and may help in the conservation and management of the Iberian lynx.