

# Prospeccions paleontològiques al nord est del Massís del Garraf



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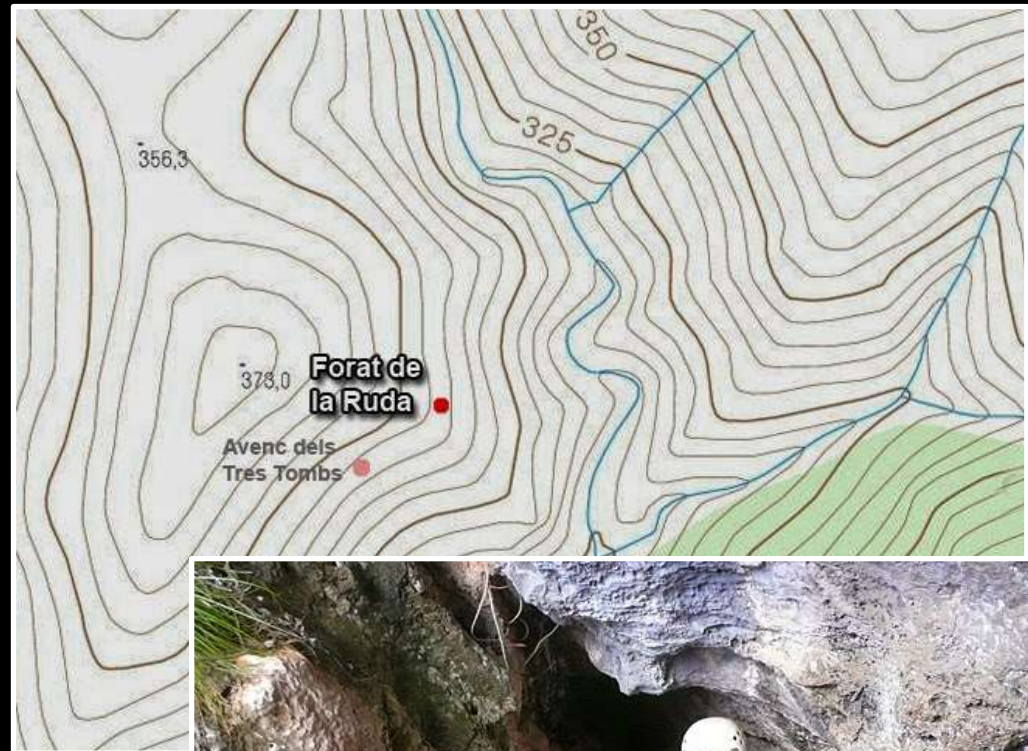
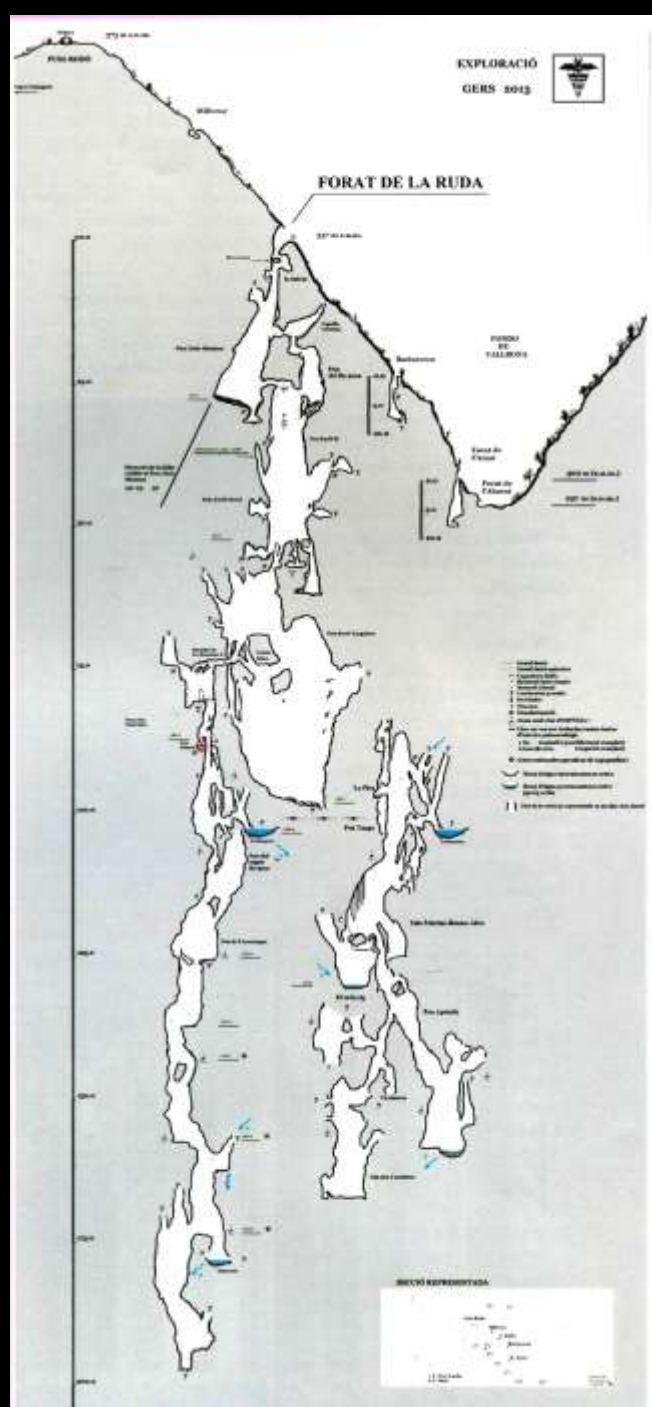
# Índex

- *1) Àrea d'estudi*
- *2) Forat de la Ruda*
- *3) L'Avenc del Boix*
- *4) Cova Bonica*
- *5) Canal Negre*
- *6) Altres cavitats*
- *7) Discussió i conclusions*

# 1) Àrea d'estudi



## 2) Forat de la Ruda







# 3) L'avenc del Boix

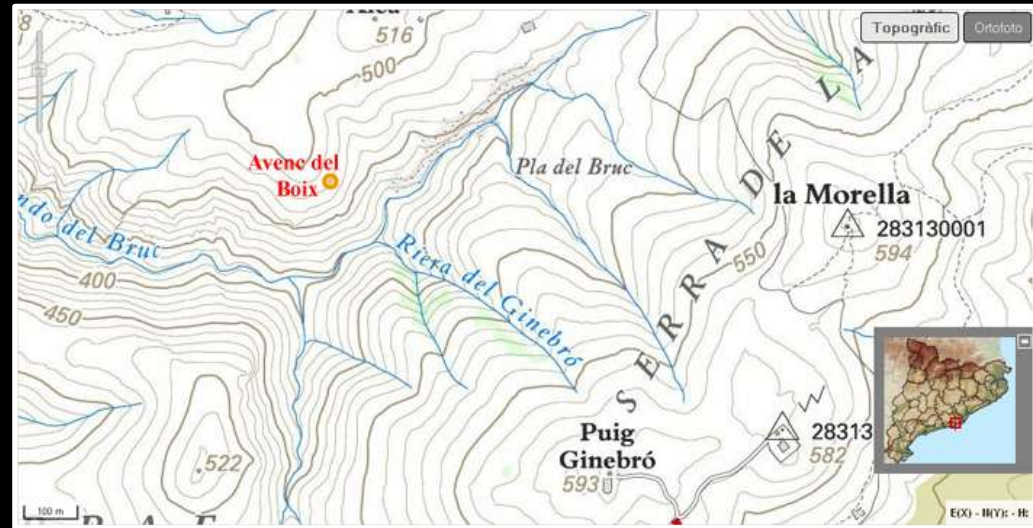
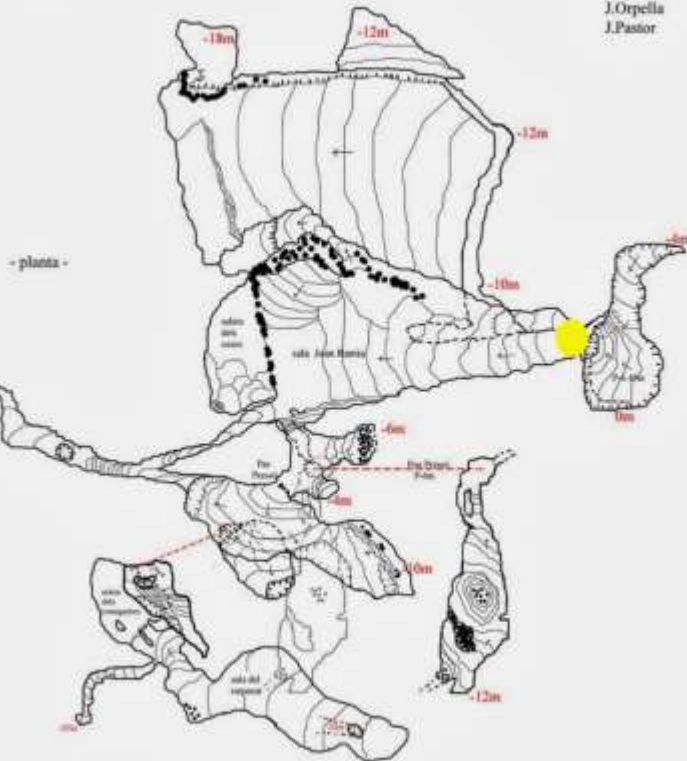
## Avenc del Boix

Begues - Baix Llobregat

10.03.2014, Grup d'Estudis Subterrànics GARRAF

Recorregut: 253m  
Desnivell: -27m

Topografia: J.Ramía  
M.Conesa  
D.Gascón  
J.Bernabé  
V.Pascual  
J.Orpella  
J.Pastor





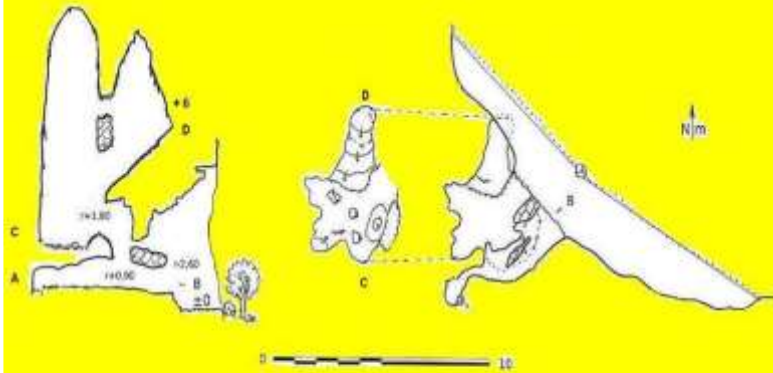




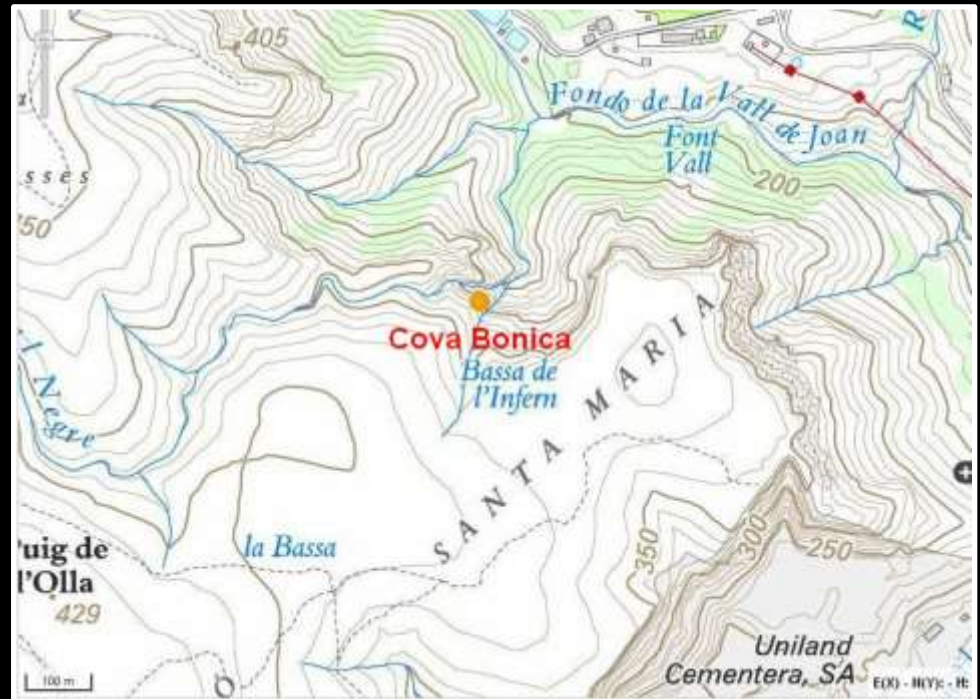
# 5) Cova Bonica

## Cova Bonica

Gavà, Baix Llobregat

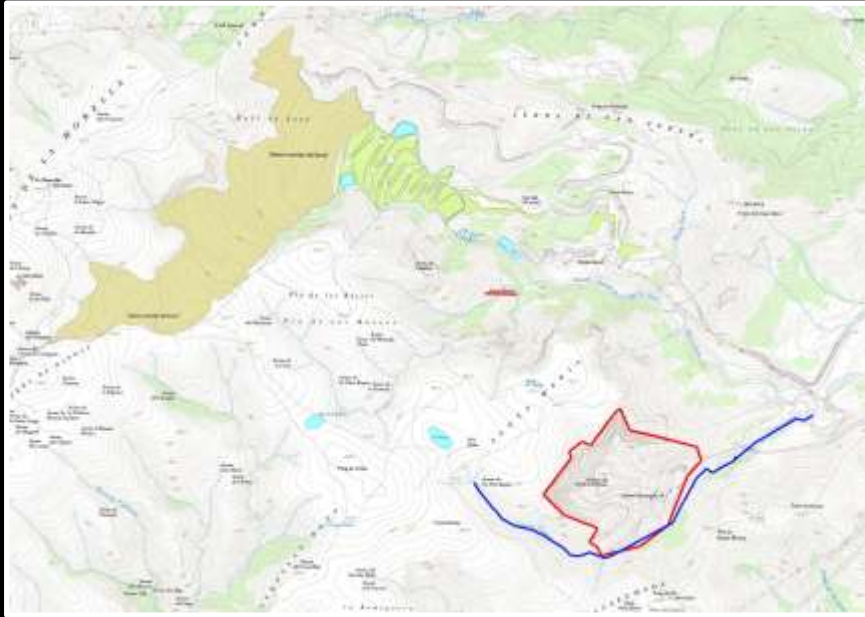


Topografia, 31-10-2015, E. Porcel, C. Miranda (GEB), J. Guillen (ECG)



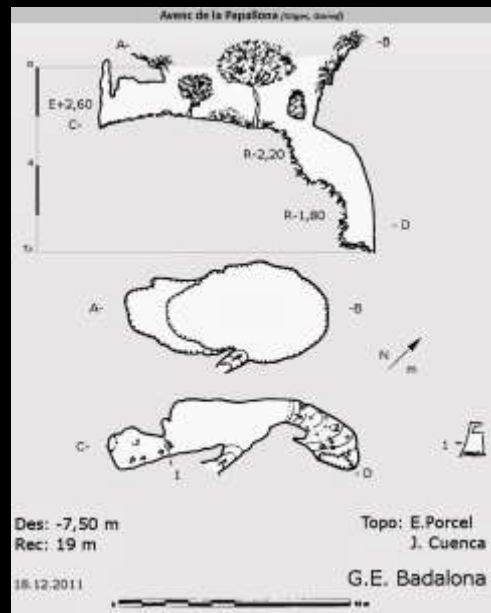
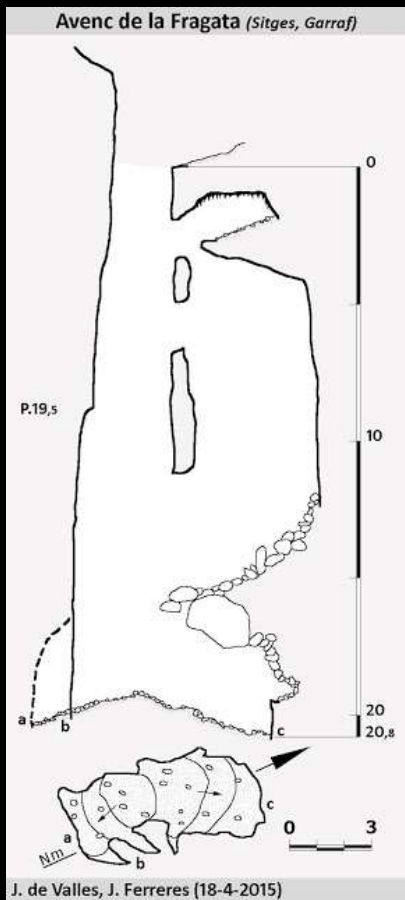


# 6) Canal Negro





# 6) Altres cavitats



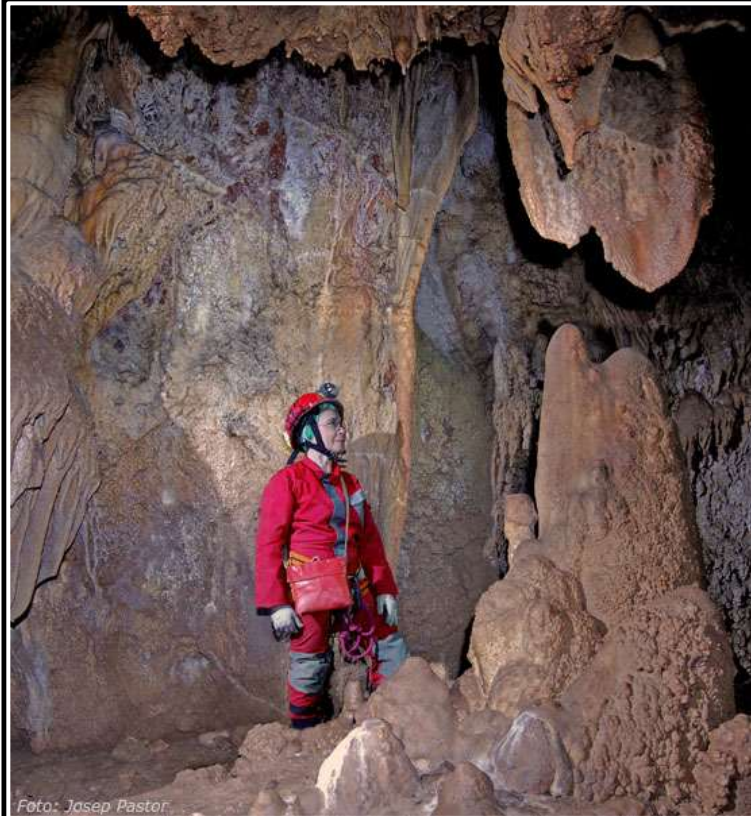
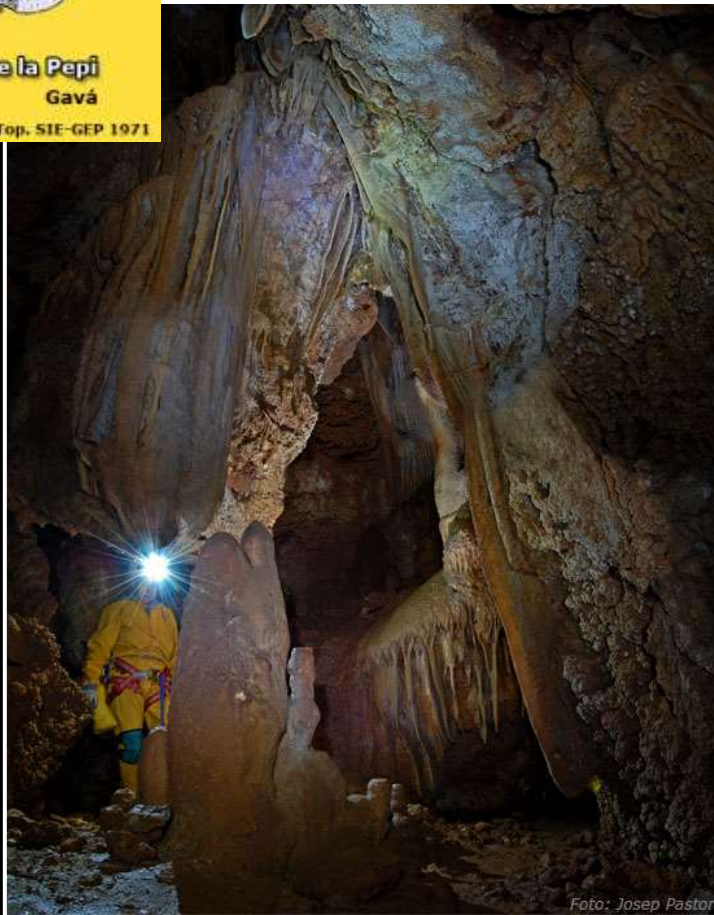
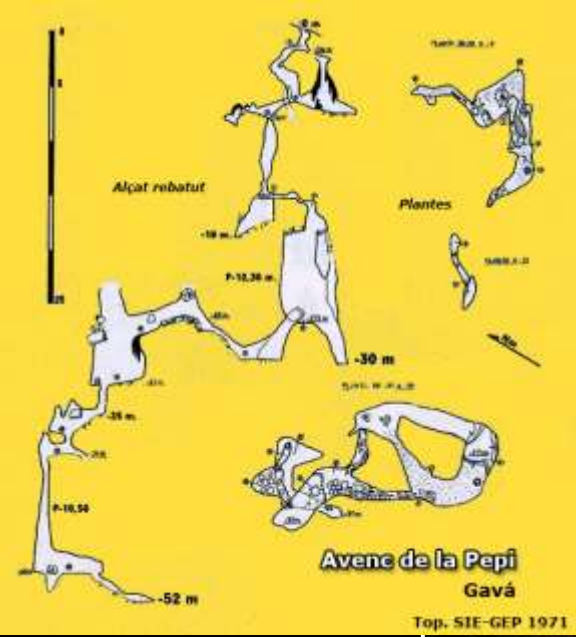


Foto: Josep Pastor

Foto: Josep Pastor

## ***7) Discussió i conclusions***

- Durant el transcurs del quadrienni 2014-2017 membres de l'ICP i espeleòlegs de diferents entitats han realitzat feines de prospecció paleontològica i espeleològica en diferents cavitats o bé conegudes històricament, recentment descobertes o ampliades en una zona concreta del Parc Natural del Garraf corresponent a les poblacions de Sitges i Castelldefels
- Aquesta és la primera vegada que històricament es realitza una feina intensiva de recerca paleontològica, que no arqueològica, al massís del Garraf per part d'especialistes qualificats en diverses disciplines, encara que hagi sigut en una zona geogràfica limitada.



- Per la seva pròpia morfologia les cavitats del Massís del Garraf preferentment o majoritàriament avencs i cavitats verticals no afavoreixen la formació geològica de grans jaciments paleontològics de morfologia clàssica i ampli desenvolupament horitzontal, però si les troballes puntuals producte de caigudes accidentals de diverses espècies que fa molt de temps que no habiten el Garraf.
- Així s'han pogut documentar durant el transcurs de les prospeccions realitzades restes de gat fer (*Felis sylvestris*), òs bru (*Ursus arctos*), cabirol (*Caproleus caproleus*), cérvol roig (*Cervus elaphus*), bisó (*Bison* sp.) i fragments de rosegadors i lagomorfs.
- Aquestes restes però es trobaren majoritàriament descontextualitzades impossibilitant la seva datació cronològica precisa. Esperem que en un futur proper l'increment de recursos disponibles ens permeti tant realitzar proves radiomètriques a les restes recuperades per donar-los un marc cronològic com poder extreure ADN fòssil de les mateixes per comparar-lo amb les poblacions ibèriques actuals.



## 50,000 years of genetic uniformity in the critically endangered Iberian lynx

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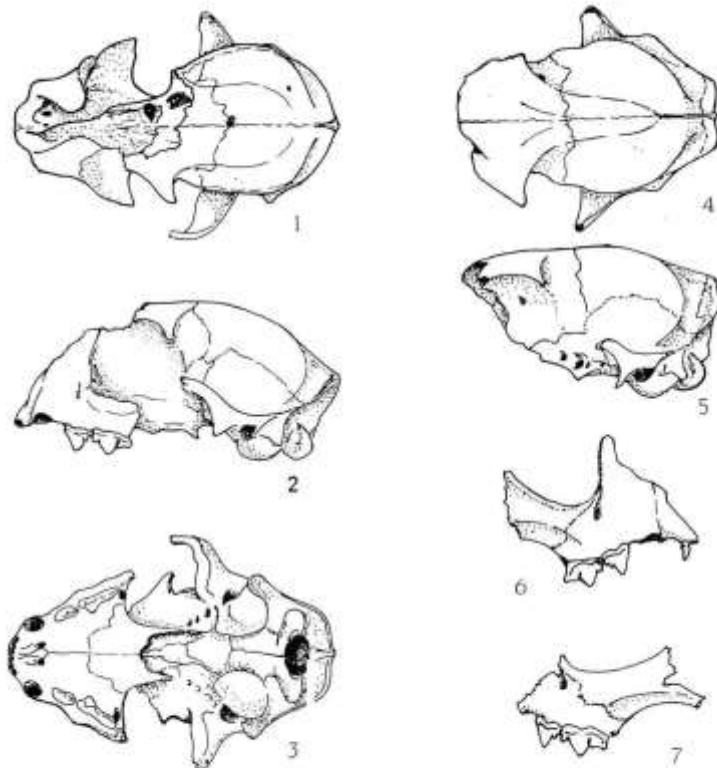
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### Abstract

Low genetic diversity in the endangered Iberian lynx, including lack of mitochondrial control region variation, is thought to result from historical or Pleistocene/Holocene population bottlenecks, and to indicate poor long-term viability. We find no variability in control region sequences from 19 Iberian lynx remains from across the Iberian Peninsula and spanning the last 50 000 years. This is best explained by continuously small female effective population size through time. We conclude that low genetic variability in the Iberian lynx is not in itself a threat to long-term viability, and so should not preclude conservation efforts.

**Keywords:** coalescence, female effective population size, *Lynx pardinus*, mitochondrial DNA, mutation rate

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## The origin of the critically endangered Iberian lynx: Speciation, diet and adaptive changes



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### ABSTRACT

A new cranial fossil attributable to the species *Lynx pardinus* (Temminck, 1827) attests to the presence of this felid in the late Early Pleistocene of the Iberian Peninsula. Certain diagnostic features, such as the confluence of the lacrum posterius and anterior condyloid foramina, and the long and lyre-shaped temporal ridges, allow this find to be established as the first occurrence of the Iberian lynx in Europe. The fossil described here was found in the Avenç Marcel cave (Vallirana, Barcelona, Spain) in association with many other Late Villafranchian faunal remains. The combined presence of the bovid genera *Capra* and *Saurogale*, and the rodent species *Mimomys medaenensis* and *Mimomys torensis*, allows the age of this deposit to be placed at about 1.6–1.7 Ma. Consequently, the appearance of *Lynx pardinus* is related here to the faunal turnover that occurred between the Middle and Late Villafranchian, considered to be one of the major changes in the European macromammal fauna. Such an early divergence is in accordance with the evolutionary split proposed by both the molecular data and with the glacial-interglacial dynamics that affected the European region during the Early Pleistocene. Under these circumstances, the Iberian lynx could have originated in isolation in the Iberian Peninsula (a recognized southern European refugium for several species), during one or more glacial episodes. In this time period, this species may also have developed a dependence on small-sized animal prey, such as the lagomorphs of the genus *Prastagus* and *Oryzologus*, already widespread throughout the Iberian Peninsula by that point.

In the present work, several topics regarding the earliest evolutionary history of *Lynx pardinus* are discussed. Understanding the events that took place surrounding the origins of this lineage can shed new light on the future conservation of this extremely threatened felid.

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## Latest Early Pleistocene remains of *Lynx pardinus* (Carnivora, Felidae) from the Iberian Peninsula: Taxonomy and evolutionary implications



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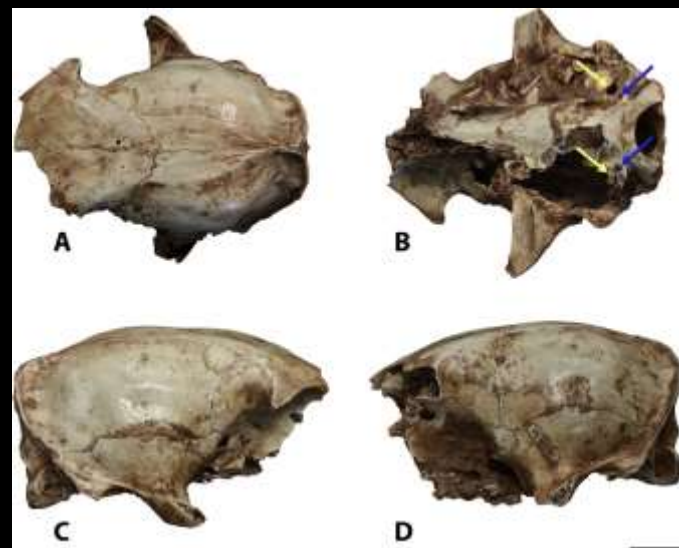
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### ABSTRACT

The Iberian lynx (*Lynx pardinus*) is a critically endangered felid that, during the last fifty years, has been subject to an intensive conservation program in an attempt to save it from extinction. This species is first recorded at ca. 1.7–1.6 Ma (late Villafranchian, late Early Pleistocene) in NE Iberian Peninsula, roughly coinciding with the large faunal turnover that occurred around the middle to late Villafranchian boundary. Here we describe the largest collection of *L. pardinus* remains available to date from the Iberian late Early Pleistocene (EpiVillafranchian), including localities from the Vallparadis Section (Valles-Penedès Basin, NE Iberian Peninsula) and Cueva Victoria (Cartagena, SE Iberian Peninsula). The morphology and biometry of the studied material attests to the widespread occurrence of *L. pardinus* in the Mediterranean coast of the Iberian Peninsula since the latest Early Pleistocene, i.e., about 0.5 million years earlier than it was generally accepted (i.e., at the beginning of the Middle Pleistocene). Based on the features observed in the large sample studied in this paper, we conclude that *Lynx spelaeus* is a junior synonym of *L. pardinus* and further propose to assign all the EpiVillafranchian and younger fossil lynxes from SW Europe to the extant species *L. pardinus*. Due to the arrival of the Eurasian lynx (*Lynx lynx*) into Europe at the beginning of the Late Pleistocene, the attribution of specimens younger than MIS 5e to either this species or *L. pardinus* solely on morphological grounds has proven equivocal. Here we discuss the main diagnostic features of both species of European lynxes and further review their evolutionary history and paleobiogeography throughout the Pleistocene.

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# Agraïments

*Direcció del Parc Natural del Garraf*

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