

The alpine marmot spreads into the Catalan Pyrenees

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The alpine marmot spreads into the Catalan Pyrenees. Credit: Maximilian Naar.

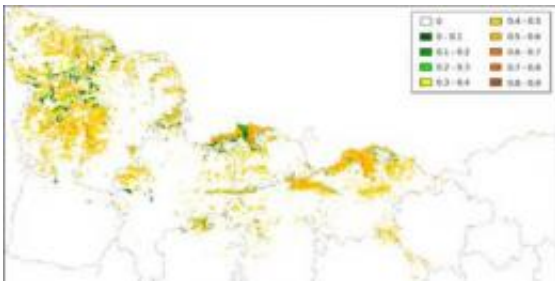
Researchers from the Centre for Ecological Research and Forestry Applications (CREAF) and the Autonomous University of Barcelona (UAB) have demonstrated, using a map of the potential distribution, the alpine marmot's capacity for adaptation in the fields of the Pyrenees. Its quick proliferation makes it a successful example of species introduction.

At the end of the Pleistocene (10,000 years ago), the increase in temperatures brought an end to the alpine marmot (*Marmota marmota*) in the Pyrenees, but between 1950 and 1988, the French government introduced around 400 specimens into the Pyrenees. The first appearances in Spain date back to 1962-1964 in the valley of Otal (Huesca).

"As an herbivore that lives in colonies, its impact on the flora of the alpine and subalpine fields can be significant. In addition, it can be a key competitor for other herbivores that it coexists with, like the ptarmigan", Bernat Claramunt, main author and researcher in CREAM and in UAB, explains to SINC adding that the impact on the ptarmigan is "very low".

But to determine the magnitude of the direct or indirect effects of the presence of the alpine marmot on the alpine community, the team of scientists from CREAM-UAB, together with the association for environmental studies LUTRA, has ascertained the potential extent of the expansion of this species.

The results, published in *Ethology Ecology and Evolution*, are visualised on a map showing the potential distribution of the species in the Catalan Pyrenees. In this way, the marmot could occupy all the alpine and subalpine fields of the Pyrenees. In addition, "it is capable of occupying abandoned fields at altitudes lower than its optimum altitudinal level for distribution", points out the Catalan scientist.



The alpine marmot spreads into the Catalan Pyrenees. Credit: Claramunt et al.

The alpine marmot is the largest rodent [mammal](#) in Europe. According to some estimates made in 2000, the population is more than 10,000 specimens. Other studies carried out in CREAM-UAB also suggest that

"the presence of the alpine marmot favours the biodiversity of the Pyrenees", the researcher highlights.

The benefits of the marmot

By again becoming an abundant species which is of a medium size, the predators of the Pyrenees have found "prey that is easy to capture". Studies on the remains of golden eagles' (*Aquila chrysaetos*) nests indicate that this bird eats marmot frequently. The scientists have observed that foxes also capture them.

"Very probably, the adaptive flexibility of marmots, the best climatic conditions on the southern slope of the range, and the lower density of significant predators, explain the rapid expansion of the species", Claramunt points out.

More information: López, B.C.; Figueroa, I.; Pino, J.; López, A.; Potrony, D. "Potential distribution of the alpine marmot in Southern Pyrenees" *Ethology Ecology and Evolution* 21(3-4): 225-235, Dec 2009.

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