

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/309359053>

Twenty years after: the global state of the art of the Italian hare (*Lepus corsicanus*) management and conservation

Poster · April 2016

DOI: 10.13140/RG.2.2.15379.68647

CITATION

1

READS

94

4 authors:



Francesco Riga

Institute for Environmental Protection and Research (ISPRA)

86 PUBLICATIONS 882 CITATIONS

[SEE PROFILE](#)



Mario Lo Valvo

Università degli Studi di Palermo

151 PUBLICATIONS 1,012 CITATIONS

[SEE PROFILE](#)



Christian Pietri

12 PUBLICATIONS 38 CITATIONS

[SEE PROFILE](#)



Federica Roscioni

Università degli Studi del Molise

24 PUBLICATIONS 240 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Morphology, natural history and distribution of Sicilian reptiles [View project](#)



Monitoring of California Quail (*Callipepla californica*) populations in Corsica [View project](#)

TWENTY YEARS AFTER: THE GLOBAL STATE OF THE ART OF THE ITALIAN HARE (*LEPUS CORSICANUS*) MANAGEMENT AND CONSERVATION

F. Riga¹, M. Lo Valvo², C. Pietri³, F. Roscioni⁴

¹Institute for Environmental Protection and Research, ²Dipartimento di Scienze e Tecnologie Biologiche Chimiche e Farmaceutiche – Università di Palermo, ³Fédération Départementale des Chasseurs de Haute-Corse, ⁴Envix Lab Dipartimento Bioscienze e Territorio-Università del Molise.

Introduction

Twenty years ago, Fernando Palacios published a scientific paper where described the morphological differences between the Italian hares traditionally identified as *Lepus europaeus*, and proposed to re-consider the taxon *corsicanus* as a good species. Since then, many information have been collected on molecular, morphological and ecological characteristics of the specie; however, some issues are still poorly understood (i.e. the actual distribution of the Italian hare in continental Italy and the ecological needs). Furthermore, the surveys and the researches carried out in these 20 years have not always found an application in orienteering suitable conservation measures. The aim of our survey is to describe the actual state of the art of management and conservation of the Italian hare both in its native range, and in the introduction one; we also performed an analysis of the potential distribution of the species, in order to propose local level management actions.



Distribution of *Lepus corsicanus*

To assess the global distribution of the species, we collected the recent (after 1996) information on the distribution of the species; data were gathered by means of direct observation (diurnal or night-time spotlight), photos, specific published and unpublished paper on hares distribution, visual examinations of hunted hares, occasional observations and expert interviews. The actual distribution of *L. corsicanus* extends from Grosseto southward to Calabria, and the Sicily; in continental Italy, verified records are reported for Tuscany, Umbria, Latium, Abruzzi, Molise, Apulia, Basilicata and Calabria. However, the northernmost observations in Grosseto province (Punta Ala and Prata), are based on two single records and they need to be verified by means of a more continuous sampling. In Corsica the species must be considered alien, it was introduced presumably before the 15th century using individuals from central Italy, and its actual distribution covers three distinct parts of the island: the southern three quarters of Haute-Corse (that hosts the 97% of the total range), Cape Corse and Sagone.

Conservation status

The Italian hare is listed as “Vulnerable” in the IUCN Red List. In the autochthonous range, the species displays a geographical structured conservation status: in Sicily it is widely distributed and with good density of populations (> 10 ind/kmq); however, in continental Italy *L. corsicanus* is reduced to small sized and isolated populations. Moreover, in continental Italy, the species lives almost everywhere in sympatry with *L. europaeus*. In the allochthonous range, it shows a population increase in the main range of Haute-Corse, in the other two areas of presence, the status of populations is much more precarious. The legal status of *L. corsicanus* varies according to the considered, too. In continental Italy the species is protected, in Sicily it is a game species (only on the basis of a quantitative hunting plan), in Corse it is a game species.

Main threats

The main threats to conservation of *L. corsicanus* in continental Italy are the small size of populations, the fragmented distribution of populations, and the illegal hunting; however, a key role is played by the *L. europaeus*. In fact, several thousands of European brown hares, has been introduced, since the twenties of the XX century, for hunting purpose in the native distribution area of *L. corsicanus*. This persistent release of European brown hare, which can compete for resources and transmit diseases when in sympatry with the autochthonous species, could worsen the conservation status of peninsular populations of *L. corsicanus*. Moreover, in Corsica have been discovered a few of hybrids resulting from crossbreeding of the Italian hare with two other species alien to Corsica, the European brown hare and the Iberian hare (*L. granatensis*). Consequently, the release of captive-breed or translocated European brown hare should be avoid in native and Corsican distribution range; furthermore in continental Italy and in Cap Corse and Sagone, considered the small size of populations, to prevent further loss of genetic diversity and increase of inbreeding, should be performed habitat restoration and expansion of ecological corridors programmes.



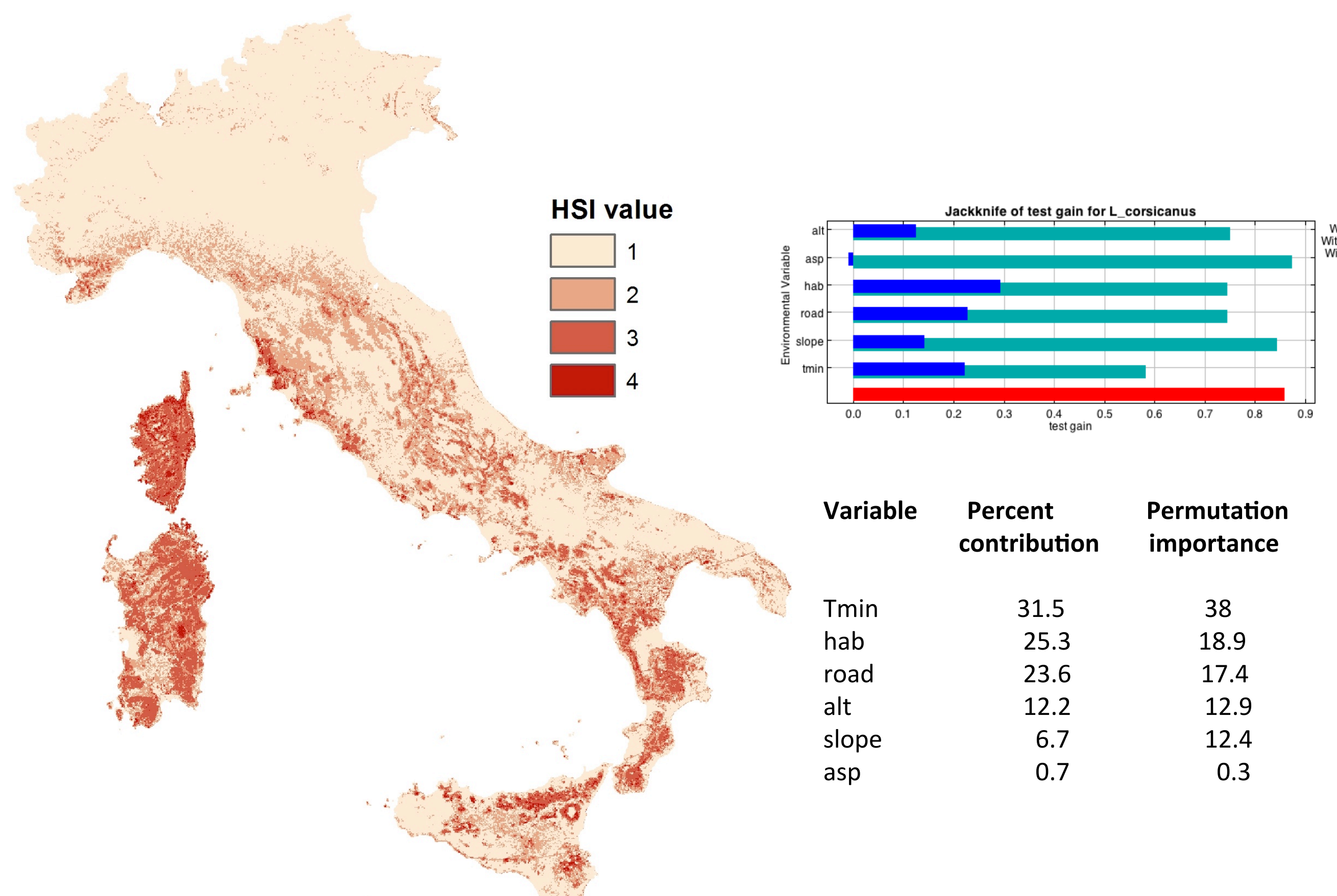
Suitability model

In this study we used MAXENT to project the hare potential habitat. Data on Italian hare presence locations were extracted from the recent field study reports (after 2006), removing contiguous localizations. The natural environmental variables included: altitude, aspect, slope, min temperature in January, linear length of paved roads, habitat use (1: urban areas; 2: cultivated areas; 3: pastures; 4: natural agro-ecosystems; 5: broadleaves woods; 6: coniferous woods; 7: shrubs; 8: rocks and dunes; 9: wetlands). Data of presence and environmental variables were georeferenced to an UTM 32 (WGS84) grid (cell size 1x1 Km).

Conclusions

The suitability model we performed for Italy and Corsica represents an useful tools to

- identify areas where ban introduction or restocking of European brown hare
- identify important areas where implement ecological corridors;
- for Corsica and Sicily, where Italian hare is a game species, it is urgent to improve suitable methods to estimate actual population densities and to plan a sustainable harvest;
- in Corsica, major effort should be done to identify and remove all the hybrids as soon as possible.



N.B. However, in Italy conservation action for should be planned only in the historical distribution range of the species.