



SEVEN YEARS OF ITALIAN HARE, *LEPUS CORSICANUS*, MONITORING IN SICILY.

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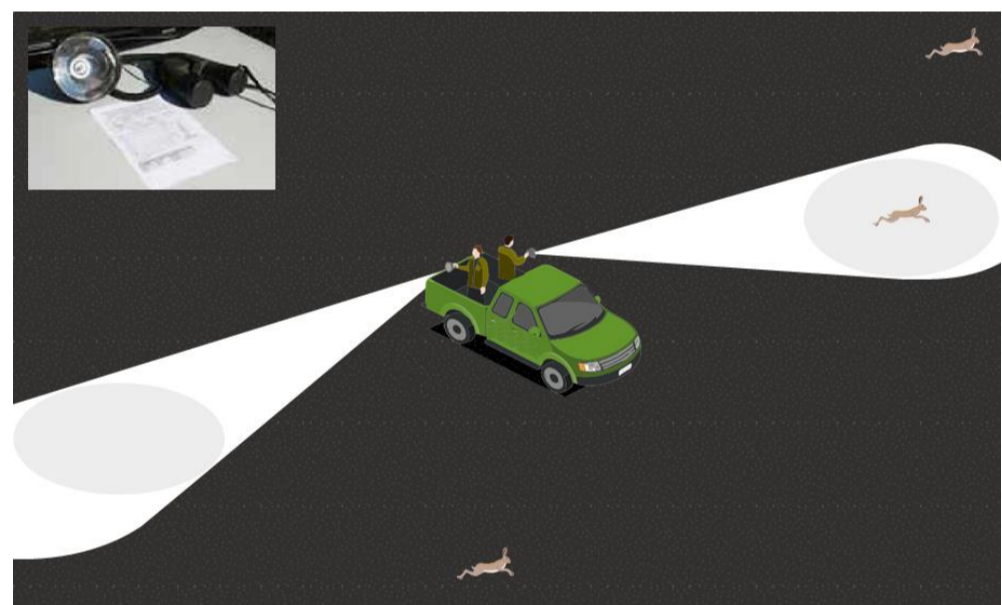
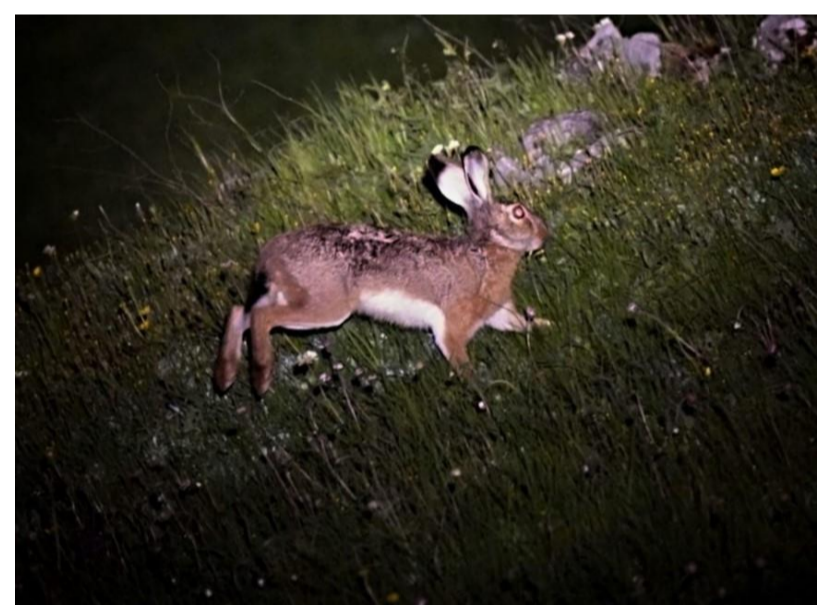
Introduction



The Italian hare *Lepus corsicanus* De Winton, 1898 is an endemic species occurring in central and southern Italy and in Sicily. In Corsica this species has been introduced in historical times and on the Elba Island it has been

reintroduced in recent times. In Sicily, the Italian hare is a species of conservation and hunting interest. Understanding population dynamics is crucial for effective species management and conservation.

From 2017 to 2023 the Italian Hunting Federation promoted an Italian hare monitoring program in Sicily. The monitoring was carried out using spot-light census, a simple and cost-effective method suitable for application by properly trained laypeople, on a large scale and over long periods (Sliwinski *et al.*, 2021).



Volunteer training.

Materials and methods



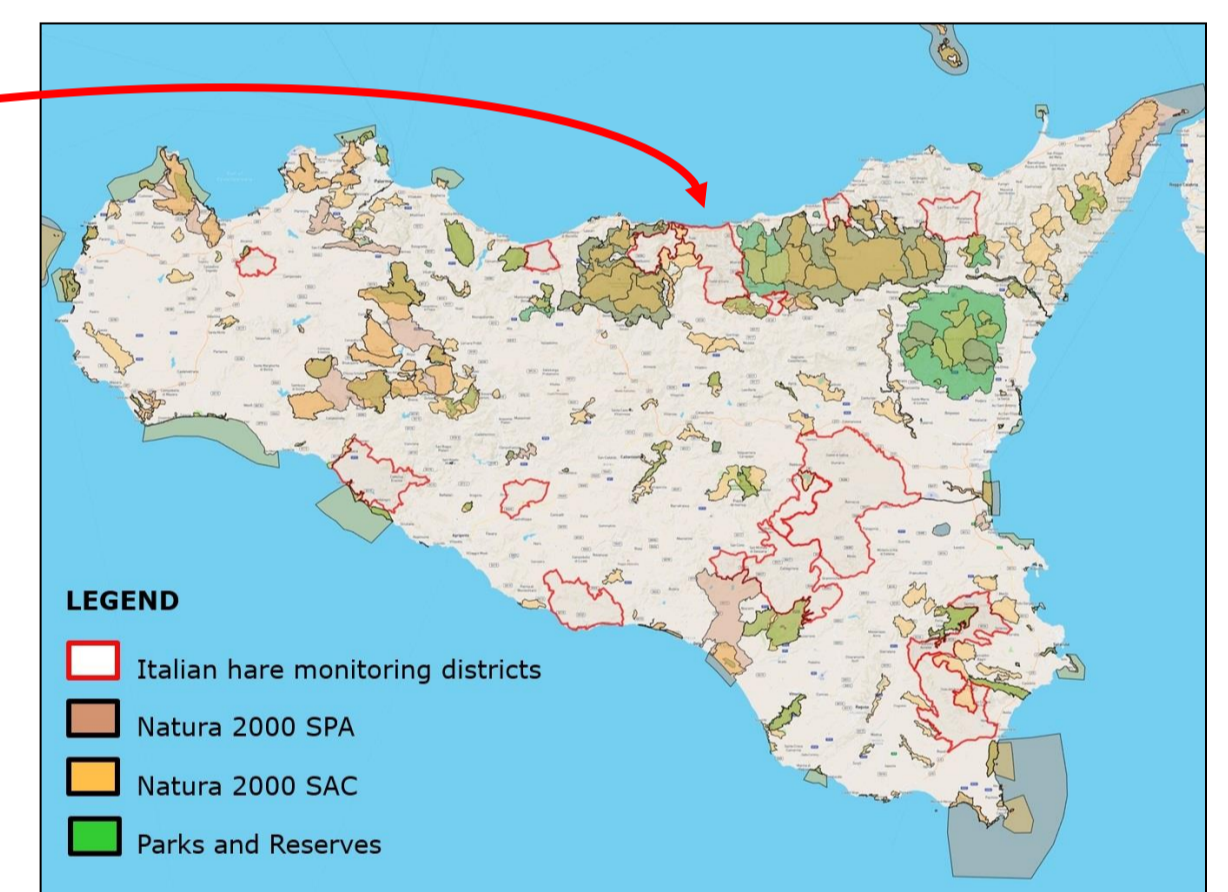
152 volunteers (mainly hunters) were trained for the monitoring activities. The activity progressively involved 15 out of 18 Sicily's Hunting grounds (ATC) and was carried out at the end of summer.

On average, 39 sample transects per year were monitored (min. 27, max. 76), of 7.28 km per transect (± 4.83) and 287.22 km travelled per year (min. 179.80, max. 551.94).

We calculated the kilometric abundance index (KAI) considering the hares spotted on a single band of approx. 100 m to the side of line transect.



Two examples of districts and monitoring line transects.



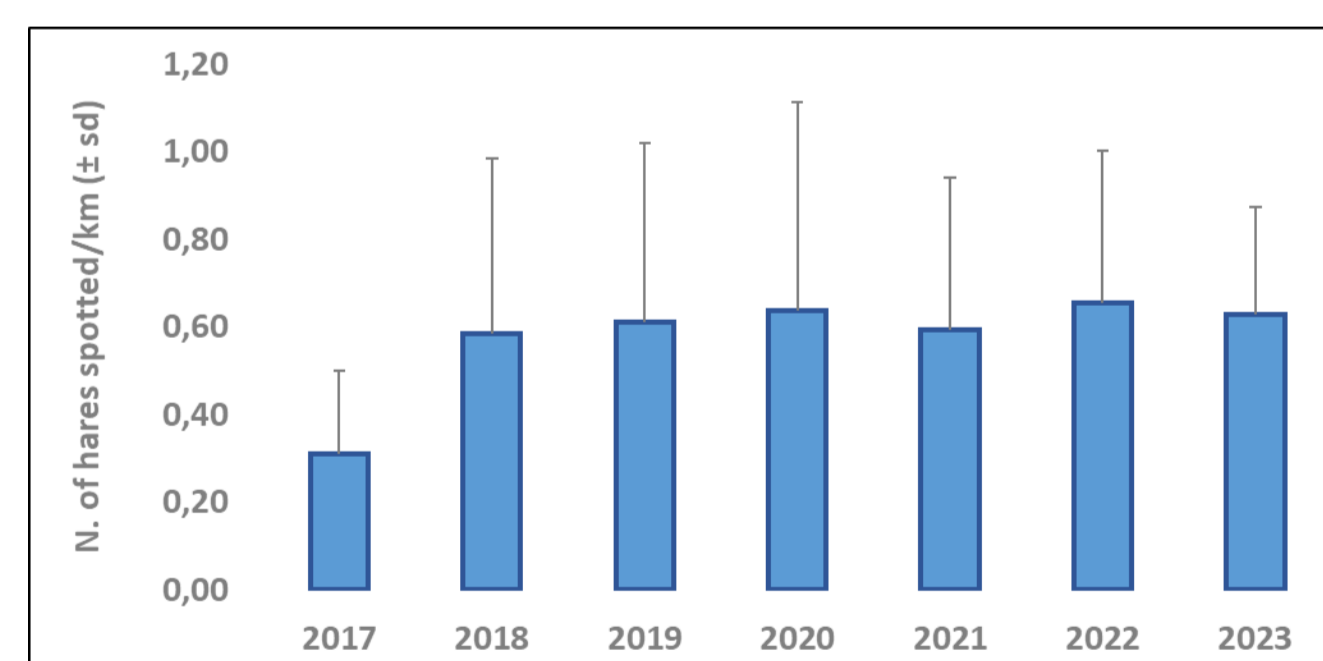
Monitoring districts in the hunting grounds and the system of protected areas in Sicily.

Results

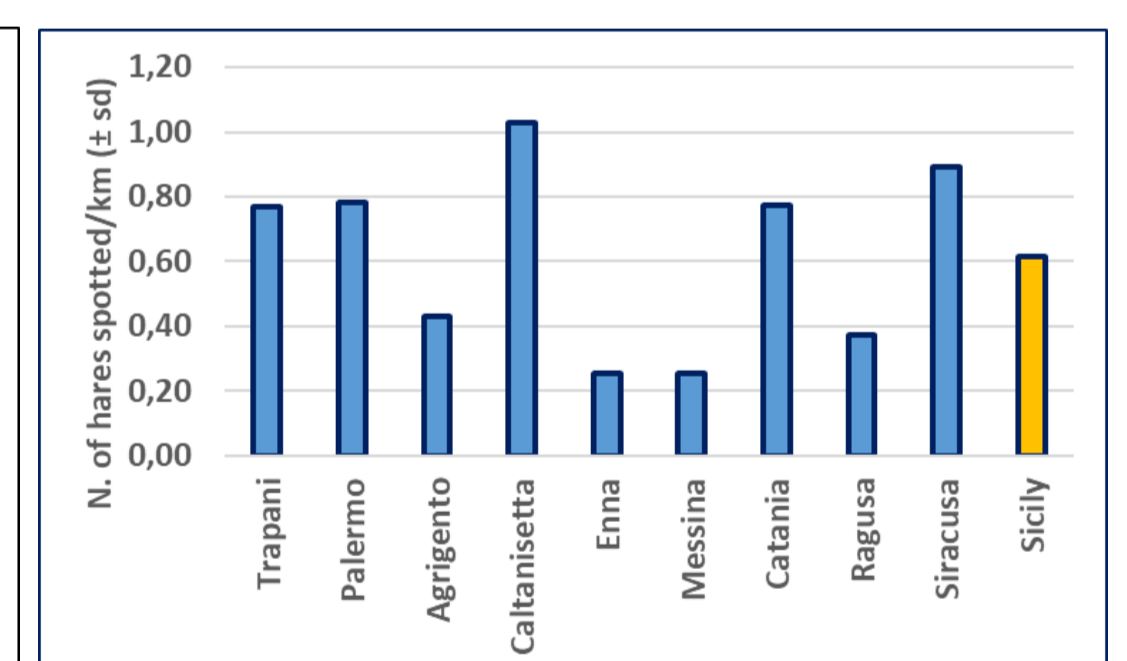


The mean value of KAI among ATC (2017-2023) was 0.30 (± 0.19 s.d.), 0.58 (± 0.40 s.d.), 0.61 (± 0.41 s.d.), 0.64 (± 0.48 s.d.), 0.59 (± 0.35 s.d.), 0.64 (± 0.35 s.d.), 0.63 (± 0.24 s.d.), respectively.

The mean relative abundance of hares in Sicily was 0.63 individuals/km (± 0.25 s.d.). The lowest value, of 0.10 individuals/km, was observed in the ATC ME2 (Messina province), the highest one, 1.47 individuals/km, in the ATC SR2 (Siracusa province) and the highest per transect was 2.6 individuals/km (ATC SR2).



The kilometric abundance index (KAI) of the Italian hare populations in the ATCs involved in the monitoring program from 2017 to 2023.



First regional-level assessment of the relative abundance (KAI) of Italian hare populations (Hunting grounds, ATC).

Discussion and conclusions



The mean relative abundance of Italian hare populations in Sicily has improved compared to the values obtained in the past. In 1997 Trocchi *et al.*, 1998, applying the same methodology on a total of 236.75 km of line transects in hunting grounds, obtained an IKA = 0.36 (± 0.28 s.d.).

On the Island, the Italian hare is widespread and the populations abundance is now stable. Differences in population abundance are observed, evidently reflecting local ecological conditions and demographic fluctuations typical of Lagomorphs. It would be interesting to assess the ecological interactions with the Wild rabbit (*Oryctolagus cuniculus*) populations present on the Island. Our results show that monitoring data generated by trained volunteers can be reliable, if implemented and conducted in a standardized scientific way. Given the ecological importance of the Italian hare, it is necessary to continue monitoring activities on a regional scale over time. This will make it possible to acquire important data to define a management strategy for the species, aimed at its conservation.



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References. Sliwinski K., Strauß E., Jung K., Siebert U.. 2021 - Comparison of spotlighting monitoring data of European brown hare (*Lepus europaeus*) relative population densities with infrared thermography in agricultural landscapes in Northern Germany. PLoS ONE 16(7): e0254084. <https://doi.org/10.1371/journal.pone.0254084>; Trocchi V., F. Riga, S. Toso e M. Spagnesi, 1998 — La Lepre italiana (*Lepus corsicanus* De Winton, 1898) si conferma una buona specie. Il Congresso italiano di Teriologia (Riassunti), Varese, 28-30.10.1998.