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First data on the distribution of crested porcupine (*Hystrix cristata* Linnaeus, 1758) in Campania, southern Italy

ABSTRACT

In the last decades, in Italy, the crested porcupine *Hystrix cristata* showed a marked northward expansion of the historical range in particularly toward the Alps, and its occurrences are increasing in Central and Southern Italy. However, there is a lack of data about the species in Campania region, as shown by recently published distribution map. In order to fill this gap we collected occurrence data between 2015 and 2017 in the whole region. The crested porcupine was detected in many province of Campania showing an increasing extent of occurrence as well as a probable population increase.

Keywords: Crested porcupine, *Hystrix cristata*, range, wildlife mapping, Campania Southern Italy

INTRODUCTION

The crested porcupine (*Hystrix cristata*) is classified as “lower risk-near threatened” by the International Union for Conservation of Nature (IUCN), listed in the Berne Convention (all. II) and in the Habitat Directive (all. IV). It has been protected by Italian law since 1978 (national law no. 968/1977). In the last decades, the species has shown a remarkable northward expansion of its historical range particularly towards the Alps and it is increasing its presence in Central and Southern Italy (Amori & Angelici, 1992; Angelici & Amori, 1999; Vigorita & Cucè, 2008; Angelici & De Marinis, 2009; Masseti *et al.*, 2010; Gagliardi *et al.*, 2012; Mori *et al.*, 2013 and 2018). In Campania region, the crested porcupine is classified as Near Threatened (NT) in the Red List of terrestrial vertebrates (Fraissinet &

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Russo, 2013). Amori *et al.*, (2009) reported that crested porcupine is present throughout Central and Western Italy, as well as in Calabria and Basilicata, and, on the Eastern coast, only in Gargano (Apulia) with last records dating back to 1985: Mori *et al.*, 2013) and in Emilia Romagna. The only records of crested porcupine in Campania were located at the boundaries with Latium, concentrated between the provinces of Caserta and Frosinone. Angelici & De Marinis report at least three records in Campania, two north of the region (Cellole, and Sessa Aurunca, Caserta province), and one south of the region (Camerota, Salerno province). Nevertheless in the past the crested porcupine was present and probably evenly distributed in Campania during the nineteenth century (Costa, 1839; Caputo, 1989; Carpino & Capasso, 2008) and, at least until the 1950s, in the area of Cilento and Vallo di Diano and Alburni National Park (Picariello *et al.*, 1999). In the last years some signs of presence and road kills suggest a stable presence and an increasing range of the species in other areas of Campania (Varuzza *et al.*, 2017).

MATERIALS AND METHODS

From 2015 to 2017 we collected all the available records of the species in the whole regional territory. We used two type of sources: a) hard facts as videos, pictures, road kills and direct observations of presence signs as tracks, fecal pellets and quills; b) reports from hunters and farmers. The low risk of misidentification of this species (body shape/structure, presence signs as quill) allowed us to consider these reports as reliable. Every report was reported on a digital map using a GIS software (QGIS 3.2).

RESULTS AND DISCUSSION

A total of 114 accurately localized records of crested porcupine were recorded (Tab. I). Others not accurately records regard 19 communes of Campania. Totally 82 communes of Campania are interested by the presence of crested porcupine (15% of Campania communes) (Fig. 1). Most of the records (90) regards random observations, often with photos and videos taken casually with smartphones, other 19 roadkills, and only 5 regard quills.

The two major areas where the crested porcupine in Campania was detected are the province of Caserta and Salerno. They are probably the results of the species range expansion from Latium region (i.e. from the north) and from Basilicata (i.e. from the southeast). The first report of a dead crested porcupine in the Salerno province dated back to 2005. Since then the reports based on videotape and road killed animals have increased year by year. As to the Salerno province, the species is for sure present on the ridge of Maddalena Mountains, on Cervati Mount and Picentini Mountains. In the province of Avellino and Benevento, reports mainly refer to agricultural areas suggesting an underrated distribution in the less anthropized areas. The area where the species is most present is the Caserta province

with two populations, one around the Roccamonfina crater and the other on Matese Mountains.

Our study updates the knowledge on the distribution of the crested porcupine in Southern Italy. This species is present and common in many parts of Campania region and the populations are probably increasing and expanding their range.

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RIASSUNTO

Primi dati sulla distribuzione dell'istrice (Hystrix cristata Linnaeus, 1758) in Campania, Italia meridionale

Negli ultimi anni, l'istrice *Hystrix cristata* ha fatto registrare una marcata espansione verso nord del suo areale storico spingendosi fino alle Alpi e contemporaneamente è aumentata la sua presenza nel centro e nel sud del paese. Tuttavia esistono pochi dati riguardo la presenza dell'istrice in Campania, come si evince dalla recente letteratura. Allo scopo di completare le informazioni su questa specie in Campania, tra il 2015 e il 2017, è stata condotta una campagna di raccolta dati su tutto il territorio regionale. L'istrice è risultato presente in molte aree della Campania mostrando una espansione dell'areale e probabilmente anche della consistenza della popolazione.

Parole chiave: Istrice, *Hystrix cristata*, areale, mappaggio faunistico, Campania, Italia meridionale

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Province	Reports (N)	Municipalities (N)
Avellino	5	7
Benevento	4	3
Caserta	67	35
Salerno	38	37
TOTAL	114	82

Tab. I - Numbers of report of crested porcupine in Campania and number of communes interested

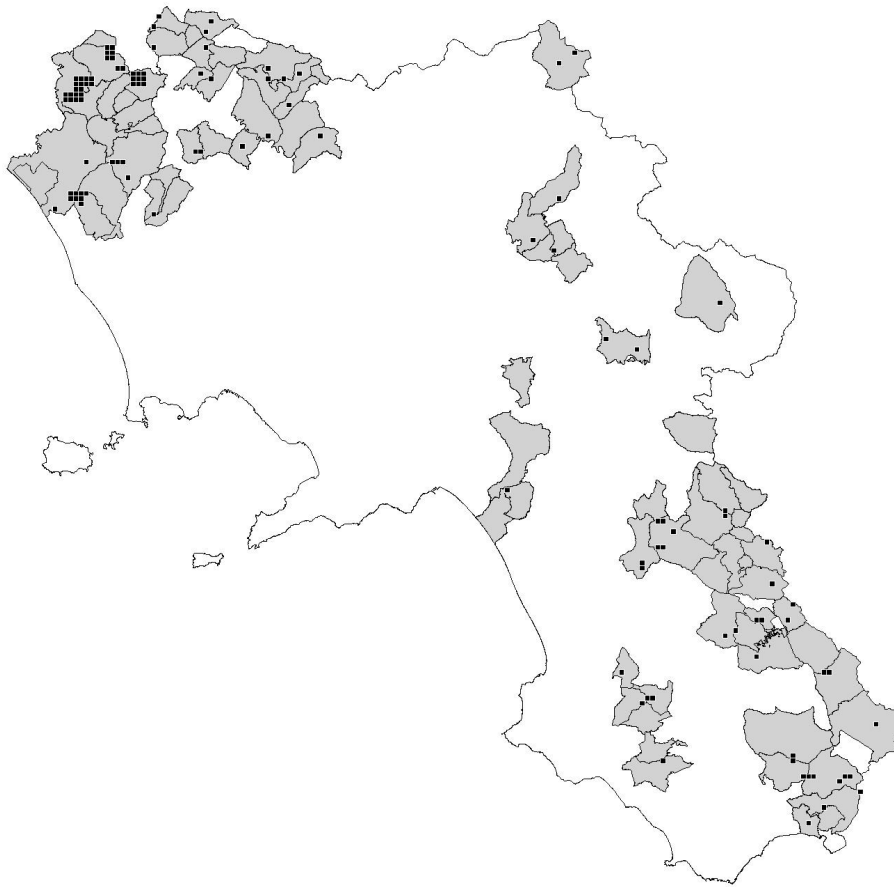


Fig. 1 - Reports (dots) and communes (gray) interested by the presence of crested porcupine in Campania.

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