

## Sightings of Red Squirrels *Sciurus vulgaris* Linnaeus 1758 (Mammalia Rodentia) in the Monumento Naturale “Pineta di Fregene” and in the Castel di Guido Oasis (Latium, Italy)

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### ABSTRACT

This note gives news of the sighting of the Red Squirrel *Sciurus vulgaris* Linnaeus, 1758 (Mammalia Rodentia) in the monumental pine forest of Fregene, nowadays recognized as Federico Fellini Park and of other specimens inside the Oasis Lipu of Castel di Guido. The first sighting is the confirmation of the presence of the species in coastal pinewoods of Latium. The second one constitutes the first report for this area.

### KEY WORDS

Castel di Guido; Fregene; Monumental Pinewood; urban ecology; *Sciurus vulgaris*.

Received 09.01.2017; accepted 24.02.2017; printed 30.03.2017

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### INTRODUCTION

The Red Squirrel *Sciurus vulgaris* Linnaeus, 1758 belongs to the Mammals class, Rodents order and Sciuridae family. It is the only native arboreal squirrel in Europe and in most of the Palearctic area. Its area covers, in west-east direction, from England to Japan while in north-south direction, from the Arctic Circle to the Mediterranean, including the Caucasus (Gurnell, 1987). In Italy it is widespread in the Alps and the Apennines, reaching the hillside. In plain it is almost absent because of the excessive fragmentation of its habitat; it is not present in the islands. It is a species related to forest formations, which can be made of conifer, mixed woods or simple hardwoods. It is spread from sea level up to the limit of the forest vegetation (Wauters & Marinoli, 2008).

The species is primarily found in Latium in natural areas near the Apennines, as well as in some urban parks in Rome like Villa Ada and Villa

Borghese. It seems to be absent in coastal pinewoods (Capizzi, 2009). The Pineta Monumentale of Fregene, managed as an urban park, is made up of Italian stone pine *Pinus pinea* L. These pines, dated among the oldest of the Tyrrhenian Coastal and probably of the entire Mediterranean basin (Di Filippo et al., 2015), offer a special landscape and natural value, providing an ideal habitat for the red squirrel. The whole area of Castel di Guido, including the homonymous Lipu Oasis, is part of a typical environment and landscape of the Campagna Romana.

### MATERIAL AND METHODS

#### *Study area*

The Fregene's pinewood, inserted in the “Natural Reserve of the Roman Coast”, is one of the best known examples of the Italian coastal pine forest.

It is an area of high cultural-historic value and naturalistic-ecological value. It is a relic of Tyrrhenian landscape before the land reclamation, which started from the end of the 19th century in the Roman coast. Nowadays the area is used by a large number of people for sport and leisure activities. The pine forest is characterized by the presence of century-old specimens of *Pinus pinea* (about 220 years), until now dated among the oldest of the whole of the Mediterranean basin (Di Filippo et al., 2015). In the pine forest, there are areas with a higher density of vegetation. This is especially shown where are typical elements of the Mediterranean maquis such as *Quercus ilex* L., *Arbutus unedo* L., *Erica arborea* L., *Pistacia lentiscus* L., *Myrtus communis* L., *Rhamnus alaternus* L., *Phillyrea angustifolia* L., *P. latifolia* L., *Laurus nobilis* L. and *Ruscus aculeatus* L. This type of plant formation is the primary maquis - known as the original vegetation not altered by man, responding to the climate and flora of the place.

From the point of view of the fauna, the Fregene's pinewood is an area of great interest for its presence of bird species which are typical of old woodlands, such as the red woodpecker *Dendrocopos major* (Linnaeus, 1758) and the green woodpecker *Picus viridis* Linnaeus, 1758. Among mammals we remember the fox *Vulpes vulpes* Linnaeus, 1758 and the hedgehog *Erinaceus europaeus* Linnaeus, 1758.

The territory of Castel di Guido, an agricultural center since the end of the tenth century, has typical characteristics of the Campagna Romana; while the flat areas are cultivated, the steepest parts, which do not allow an easy tillage, are characterized by a typical natural plant formation of Mediterranean climate areas. The area is characterized, in fact, for the presence of evergreen oak such as *Quercus ilex* and *Q. suber* L. which are accompanied by undergrowth made of *Phillyrea angustifolia*, *P. latifolia*, *Rhamnus alaternus*, *Erica arborea*, *Arbutus unedo* and *Pistacia lentiscus*. In this area there are also several examples of typical oaks of the mixed deciduous wood, such as *Quercus pubescens* Willd., *Q. cerris* L. and *Q. crenata* Lam. (Di Giuseppe, 2012).

Inside the reserve 160 bird species have been counted (Cecere, 2006). Among these it is important to underline the presence of booted eagle *Hieraetus pennatus* (J.F. Gmelin, 1788), of the nightjar *Caprimulgus europaeus* Linnaeus, 1758, of

a large colony of bee-eaters *Merops apiaster* Linnaeus, 1758, and some nocturnal raptors as *Tyto alba* Scopoli, 1769, *Otus scops* Linnaeus, 1758, *Bubo bubo* (Linnaeus, 1758), *Athene noctua* Scopoli, 1769, *Asio otus* (Linnaeus, 1758) and *Strix aluco* Linnaeus, 1758.

There are many mammals, as the fox *Vulpes vulpes*, the crested porcupine *Hystrix cristata* (Linnaeus, 1758), the European hare *Lepus europaeus* Pallas, 1778 and recently, even the wolf *Canis lupus* Linnaeus, 1758.

Considering the presence of an important herpetofauna, in 2016 Castel di Guido has been designated AREN (Area di Rilevanza Erpetologica Nazionale, i.e. Relevant National Herpetological Area) by Societas Herpetologica Italica.

## Methods

The observation in the Pineta Monumentale of Fregene, lingered for several days and in different times of the day. These observations have been made with the aid of binoculars Minox HG 10X43.

## RESULTS AND CONCLUSIONS

This note describes the sighting, in January 2016, of an individual of Red Squirrel *Sciurus vulgaris* in Pineta Monumentale of Fregene (Fiumicino). The specimen was observed for several days by one of the authors, in the early hours of the day, as is typical of the species (Lurz et al., 2005), both on land and in the act of climbing on trees. It was also noted as it entered into a cavity at the top of *Pinus pinea*. The specimen, of which was not possible to determine the sex, had a deep brown color. Nor was possible to understand whether the observations made on different days were referring to the same specimen or to different individuals. This sighting represents a new evidence about the presence of the species in the Pineta Monumentale of Fregene which with its maturity level reached, provides a suitable habitat for this species. The feeding supply is probably based on fruits of *Pinus pinea*, but also on other seeds, fruits and sprouts (Wauters & Dhondt, 1987).

The presence of the squirrel in the pine forest of Fregene is relevant because in recent studies conducted in the province of Rome, it was shown that



Figure 1. The young Red Squirrel is fed at the Wildlife Rescue Center of Lipu in Rome.

it had turned away from coastal pinewoods (Capizzi, 2009). It is absent, in fact, also in the nearby coastal pinewoods of Castel Fusano and Castel Porziano (A. Cattaneo, pers. com.). On March 2016 at the Oasis Lipu of Castel di Guido, in the village of Castel di Guido (Rome), it was found by some cyclists a young squirrel which was taken at the Wildlife Rescue Centre of Lipu in Rome (Fig. 1). It was a young female still unweaned, released in June in the oasis through an acclimatization cage. A few weeks later in the same site was spotted an adult specimen.

The Maccarese area - Fregene and the Castel di Guido area are separated by anthropic barriers, such as the A12 Civitavecchia - Rome and the railway Rome - Civitavecchia, which create significant ecological fragmentation (Battisti, 2004). However, these two areas are connected to each other through the old Via di Maccarese, which could be a natural ecological corridor for the spread of this species. In conclusion with this note can be confirmed the presence of *Sciurus vulgaris* in the territory of Fregene and in that one of Castel di

Guido, places included in the Roman Coast State Nature Reserve. Regarding the area of Fregene, it would be appropriate and desirable to promote in the future specific research and studies to determine whether it is a growing population or some isolated specimens. As concerns the Castel di Guido areas it can be affirmed that the existing population is consolidated and reproductive.

## ACKNOWLEDGEMENTS

The authors would like to thank Augusto Cattaneo (Rome, Italy), Cristina Cattaneo (Rome, Italy), Francesca Manzia (Rome, Italy), Alessia De Lorenzis (Rome, Italy), Flavia Cappello (Rome, Italy) and Fabrizio Monaco (Fiumicino, Italy). A special thanks to the people of Fregene, habitual goers of the pinewood, for signalling the presence of the red squirrel in that area.

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