

First Record of *Emys orbicularis* (Boulenger, 1882), (Reptilia, Testudinati) in the “Castel di Guido” Natural Park (Northern Latium, Italy): a Case of Interest for Species Conservation

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Abstract — The finding of five specimens of *Emys orbicularis* (Linnaeus, 1758), (Reptilia, Testudinati) in the “Castel di Guido” Natural Park (Northern Latium, Italy), is reported. This is the first record for the species in the area, regularly monitored since 2006. It is assumed that the species has recently colonized the site through highly populated and degraded territory; the data is of conservation interest, proving the capacity of the species to cross polluted environments.

Keywords —Castel di Guido, Central Italy, colonization, *Emys orbicularis*, first record.

I. INTRODUCTION

The European Pond Terrapin *Emys orbicularis* (Linnaeus, 1758) is one of the two representatives of the family Emydidae; it has a very wide range, from northern Europe to some places in North Africa (Vamberger et al., 2015). *Emys orbicularis* is a Reptile distributed in the Italian peninsula, with the exclusion of the Sicily (Mazzotti & Zuffi, 2005). The Italian populations are located principally in two main types of wetland habitats, the first represented by the ponds, puddles, swamps and marshes, mainly with rich aquatic vegetation. The second type is represented by little river and canals for drainage of water, usually in open areas or riparian vegetation.(Mazzotti & Zuffi, 2005). In general we assist to a decline of the species in all its areal and in particular in Latium territory.

The vitality of the populations, in Central Italy, is closely linked to the conservation of small wetland and rivers, often temporary. (Utzeri, 2000)

In the Latium region is a species that mainly frequents the coastal strip. (Utzeri, 2000; Bologna et al., 2007).

The “Castel di Guido” Natural Park is a protected area managed by the LIPU ONG organization included in the Litorale Romano National Reserve (Figure 1).

The area is part of the Mediterranean region, the phytoclimatical unit is characterized by a

mesomediterranean type and a higher sub-humid ombrotype (Blasi, 1994; Mangianti & Perini, 2001).

The study area is characterized by an evident complexity of vegetation and a great floristic richness, divided in different habitats. The area is characterized by a mosaic of natural and human elements mixed together. We have crops to wheat, corn, barley, olive groves, pasture lands, natural woods mainly composed by *Quercus ilex* L. and *Quercus pubescens* Willd.; We have areas covered by pine forests and reforestation trees, while the rest of the territory is occupied by country roads, cowsheds, farms and irrigation canals.(Chirici et al., 2001; Filesi, 2001)

In the area there are small rivers, springs and ponds both permanent and temporary.

Scientific research in the wetlands of Castel di Guido” Natural Park had begun in 1994. Since 2006 is ongoing continuous monitoring for populations of amphibians and reptiles. *Emys orbicularis* was discovered for the first time in May 2015.

II. RESULTS AND CONCLUSION

On may, 2015, during monitoring activities, five specimens of *Emys orbicularis* were found in a little ditch in the “Castel di Guido” Natural Park. On 12 of May were observed and captured three specimen; on 25 of May two more specimen were caught. They are three adults (two male and one female), one juvenile specimen and one newborn specimen. Before being captured, they were observed together in basking activities.

All the specimens observed (Figure 2) present the typical coloration with the carapace brown with a hint of green, and a spotted yellow skin. In Table 1 are reported the morphometric measures of the captured individuals. The study was conducted in accordance with applicable laws and authorizations provided for this kind of studies.

The discovery of individuals of *Emys orbicularis* in “Castel di Guido” Natural Park is a noteworthy event. This is the first record for the species in the study area,

where scientific research had begun in 1994 and populations of amphibians and reptiles are monitored continuously from 2006.

The presence in a peripheral area of the Natural Park might suppose that this is a colonization of the site. By comparing data collected with bibliography references (Lebboroni & Chelazzi, 1991; Gariboldi & Zuffi, 1994), the presence of individuals of different size, including a newborn, probably means that a reproductive population has settled in the area, this may signify that the terrapins have colonized the ditch many years ago. This case of expansion of areal and have importance in conservation of species.

The area surrounding the park is highly urbanized (Figure 3); the nearest population of *Emys* is five kilometers away from the study area. This is a positive aspect for the conservation of the species, suggesting the capacity of the terrapins to cover long distances through degraded and polluted areas.

Finally the present note contribute to the knowledge of the status of the population of *Emys orbicularis* and its conservation in "Castel di Guido" Natural Park and Roman area. The Authors illustrate the hypothesis of recent migration and colonization of the area; the fact needs more studies for the future in order to check the quantity of individuals and persistence in the area.

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REFERENCES

- [1] Blasi C., 1994 – Fitoclimatologia del Lazio. *Regione Lazio*, Roma.
- [2] Bologna M. A., Salvi D. & Pitzalis M., 2007 – Atlante degli Anfibi e dei Rettili della Provincia di Roma. *Provincia di Roma, Gangemi Editore*, Roma.
- [3] Chirici G., Corona P., Filesi L., Vannuccini M., 2001 – Lineamenti ambientali della Tenuta di Castel di Guido. In: Corona P., 2001. I rimboschimenti della Tenuta di Castel di Guido: Materiali di studio. *Supplemento al n° 4/2000 di Innovazione e Agricoltura, ARSIAL*, Roma: 23-30.
- [4] Filesi L., 2001 – Vegetazione attuale e potenziale della Tenuta di Castel di Guido. In: Corona P. I rimboschimenti della Tenuta di Castel di Guido: Materiali di studio, 2001. *Supplemento al n° 4/2000 di "Innovazione e Agricoltura"*, ARSIAL, Roma: 31-42.
- [5] Mangianti F. & Perini L., 2001 – Osservazioni Meteorologiche dell'anno 1998 - 1999 - 2000 - 2001. *Ufficio Centrale di Ecologia Agraria e difesa delle piante coltivate dalle avversità meteoriche. Osservatorio Meteorologico Torre Calandrelli*. Roma, Collegio Romano.
- [6] Gariboldi A. & Zuffi M.A.L., 1994 – Notes on the population reinforcement project for *Emys orbicularis* (Linnaeus, 1758) in a natural park of northwestern Italy (Testudines: Emydidae). *Herpetozoa*, 7: 83-89.
- [7] Lebboroni M. & Chelazzi G., 1991 – Activity patterns of *Emys orbicularis* L. (Chelonia Emydidae) in Central Italy. *Ethol. Ecol. Evol.*, 3: 257-268.
- [8] Mazzotti S. & Zuffi M., 2005 – *Emys orbicularis*, pp. 377- 381. In: F. Barbieri, G. Doria & R. Sindaco (eds), Atlante degli Anfibi e Rettili d'Italia. *Societas Herpetologica Italica. Polistampa*, Firenze.
- [9] Utzeri C., 2000 – *Emys orbicularis*, pp. 70-71. In: Bologna M. A., Capula M. & Carpaneto G. (eds.), Anfibi e Rettili del Lazio. *Fratelli Palombi Editori*, Roma.
- [10] Vamberger M., Stuckas H., Sacco F., D'Angelo S., Arculeo M., Cheylan M., Corti C., Lo Valvo M., Marrone F., Wink M., Fritz U., 2015 – Differences in gene flow in a twofold secondary contact zone of pond turtles in southern Italy (Testudines: Emydidae: *Emys orbicularis galloitalica*, *E. o. hellenica*, *E. trinacris*). *Zool. Scr.* 44(3): 233-249.

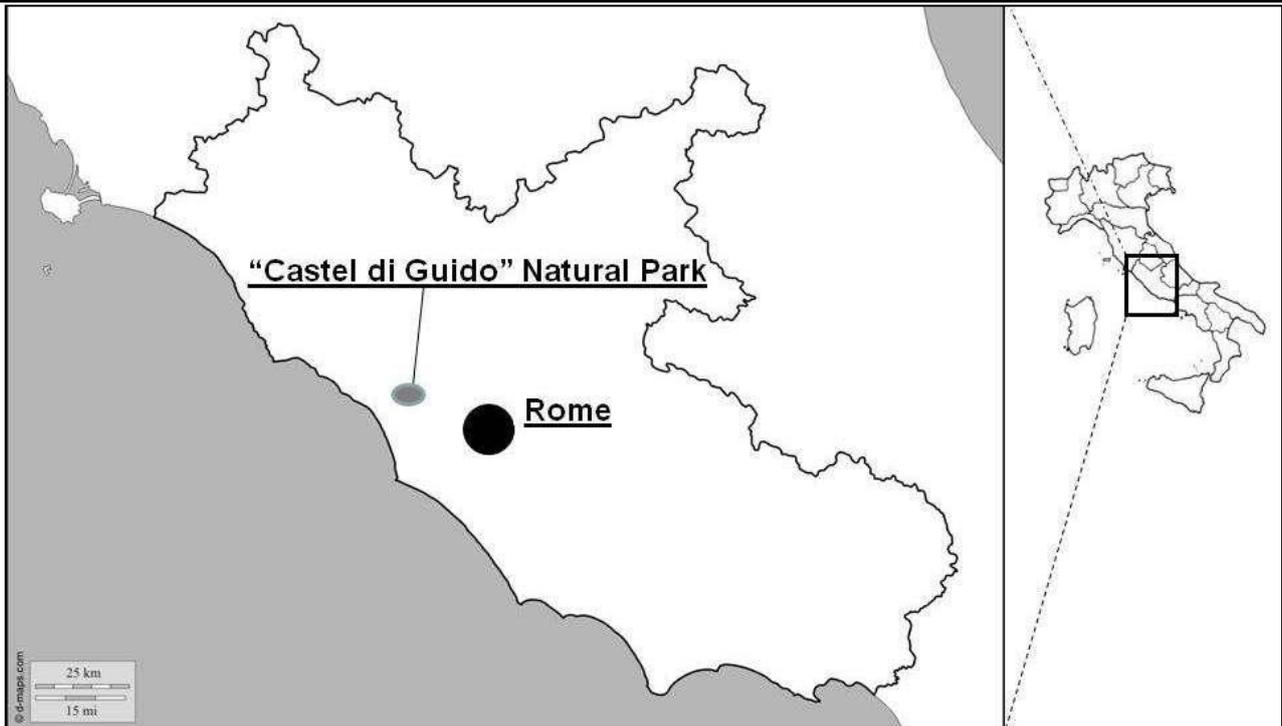


Fig. 1: The "Castel di Guido" Natural Park.



Fig. 2: Three specimens of *Emys Orbicularis* of "Castel di Guido" Natural Park.

Table.1: Sizes (in grams and in millimetres) of the specimens of *Emys Orbicularis* of "Castel di Guido" Natural Park.

	Sex	Age	Weight	Length of carapace	Width of carapace
1	Male	Adult	369	136	110
2	Male	Adult	311	133	103
3	Female	Adult	553	147	112
4	-	Juvenile	122	90	80
5	-	Newborn	10,4	36	33

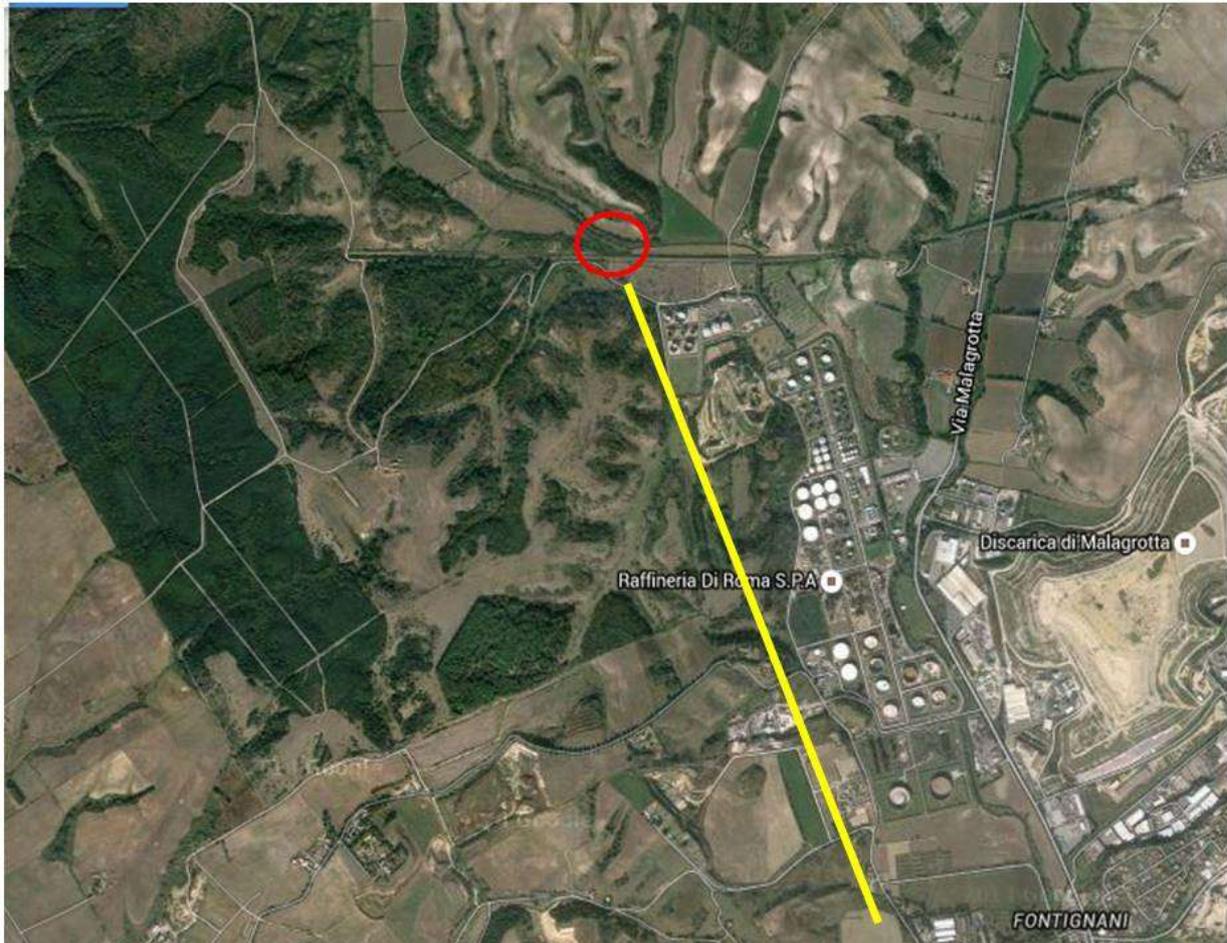


Fig. 3: The location of *Emys Orbicularis* in "Castel di Guido" Natural Park (red circle). In yellow the direction of provenance of the species.