

First record of reproduction of *Trachemys scripta* in the Po Delta

Gentile Francesco Ficetola¹ Alessandro Monti¹
& Emilio Padoa-Schioppa²

¹ Departement of Biology, section Ecology, University of Milano. V. Celoria 26, 20133 Milano. e-mail: francesco.ficetola@unimi.it. fax: 02/50314713

² Department of Landscape and Environmental Sciences – University of Milano – Bicocca. Piazza della Scienza 1 – 20126 Milano. e-mail: emilio.padoaschioppa@unimib.it

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We record the first reproduction case of *Trachemys scripta elegans* on the Po Delta, on sympatric condition with an *Emys orbicularis* population. *E. orbicularis* vulnerability and the presence of this competitor now present in most European countries impose urgent management activities.

Key words: *Trachemys scripta elegans*, *Emys orbicularis*, reproduction, competition, exotic specie introduction, Po delta.

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Si segnala il primo caso di riproduzione di *Trachemys scripta* all'interno del Delta del Po, in simpatria con una popolazione di *Emys orbicularis*. La vulnerabilità di *E. orbicularis* associata alla presenza di questo nuovo competitore ormai diffuso in buona parte dell'Europa impone misure di gestione attiva urgenti.

Introduction

The read eared slider turtle *Trachemys scripta elegans* (Wield, 1838), native of oriental U.S.A. (LAPINI et al., 1999), during the last years were massively imported in Europe as pet (BALLASINA, 1995; ARVY & SERVAN, 1998), until the import ban stated by European Union. These animals were

bought when were only few months, and only few centimetres long: because of the fast growing, great numbers of slider turtles were released in natural and semi-natural environments. *T. scripta* individuals are present in wetlands in Italy (BALLASINA, 1995) and in several European countries as French (ARVY & SERVAN, 1998), Spain (MASCORT, 1998) and Germany (HANKA & JOGER, 1998). In a few

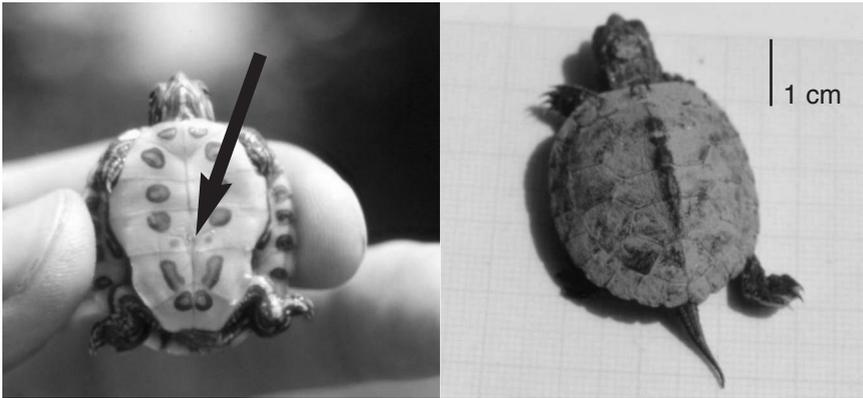


Fig. 1. Plastron and carapace of an hatchling. The black arrow shows the umbilical scar position.

case, reproductive activity or reproduction of this specie were recorded (LAPINI et al., 1999; MARANGONI, 2000).

Introduction of exotic species, and subspecies sequent competition with native fauna, are important causes of biodiversity loss (PRIMACK, 1997; OCCHIPINTI & SACCHI, 1999). The European pond turtle *Emys orbicularis* (L., 1758) is threatened by habitat loss and therefore protected by the European Community and included in The Habitat Directive (92/43, enclosures 2 and 4) and subject of numerous conservation projects (e. g. DELEVAUD et al., 1998; CHELAZZI et al., 2000; LACOMBA, 2000). *T. scripta*, because of its large dimensions and high ecological valence, can be an important competitor for the European pond turtle when sympatric, especially during basking (ARVY & SERVAN, 1998; CADY & JOLY, 2000).

In the Alfonsine Fornace Violani Natural Reserve *E. orbicularis* and *T. scripta* are sympatric. Since this area is situated on the Po Delta, were live some of the most important Italian populations of *E. orbicularis*, events of slider turtle reproduction, if any, may be of concern for the European pond turtle conservation.

Study area

Fornace Violani “Speciale” Natural Reserve is located in the Alfonsine municipality (Ravenna province, Northern Italy).

This reserve is a pit lake with 3 ha of surface, stated on 1990 for the protection of the local *E. orbicularis* population (MARCOTTI et al., 2001). The reserve is fully fenced, accessible only if brought by a guide, and it is only few kilometres far from the Punte Alberete and Val Campotto reserves of the Po Delta Natural Park.

Methods

We visited repeatedly the Fornace Violani Reserve in April and May 2002, between 11.00 and 15.00, when the basking activity is major (LEBBORONI & CHELAZZI, 1991; CADY & JOLY, 2000). We performed the research by eye, using binocular and telescope. We caught the animals by hand and we weighted them (precision: 0.5g); we measured carapace length, plastron length and carapace width using a caliper (precision: 0.1mm).

Results

The surveys confirmed the presence of European pond turtle and slider turtle on the Reserve. May 22 we caught 2 juvenile *T. s. elegans*, few meters far from the water. The two animals had the umbilical scar on the middle of plastron; no one had growing rings on the carapace (fig. 1). Biometric data are in tab. I.

Tab. I. Biometric data of hatchlings, and comparison with data by JANZEN ET AL (2000)

	Hatchling 1	Hatchling 2	Mean for slider turtle hatchlings
Carapace length (mm)	29,7	29,4	30.1 (n=178)
Plastron length (mm)	26,5	26,2	
Carapace width (mm)	26,8	27,2	
Body mass (g)	5,5	6,0	6.1 (n=178)

Discussion and conclusion

Umbilical scare and absence of growing rings show that the animals born during the autumn 2001. Biometric data confirms that they are hatchlings: they both are smaller than the mean for slider turtle hatchlings measured by JANZEN et al. (2000). *T. scripta* hatchlings usually overwinter on the nest and come out in April or May (CAGLE, 1950; JANZEN et al., 2000). Since 1997 the trading of *Trachemys scripta elegans* is forbidden, and the Fornace Violani Reserve is not accessible to public, so we can exclude that they are released animals: very likely this specimens born for the reproduction of slider turtles living on the reserve.

In Italy there are some *T. scripta* population successfully breeding (LAPINI et al., 1999; MARANGONI, 2000), but there are mainly populations living on urban ponds or semi-natural wetlands. At least in one case, in Friuli, a slider turtle breeding population is sympatric with the European pond turtle. In this population, *E. orbicularis* look be loser on the competition for basking sites (N. Bressi, pers. comm.).

The *T. scripta* reproduction in the Fornace Violani Reserve is the first verified on the Po Delta wetlands and does matter because of the presence of sympatric *E. orbicularis* populations. The competition with reproductive slider turtle populations will be a new disturbance factor for native terrapins witch are already confined on the more natural wetlands.

Therefore we think it is necessary to make slider turtles management, and to

remove them from natural wetlands, where can happen acclimatization and competition with European pond turtles.

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