

## ESTIMATION OF SICILIAN POND TURTLE POPULATION IN THE NATURAL RESERVE “TORRE SALSA” (SOUTH-WESTERN SICILY)

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Based on biomolecular and morphological investigations (Fritz et al., 2005, *Zoologica Scripta* 34: 351–371), pond turtle populations in Sicily have been recently assigned to a new species, *Emys trinacris*, endemic to the island. This paper provides a numerical estimation of Sicilian pond turtle population within the Protected Area “Torre Salsa” (Agrigento, Sicily).

For numerical estimation, the capture-mark-recapture method and Petersen-Lincoln algorithm (see Begon, 1979), modified on average estimations from Chapman (1951), were used. Specimens were caught by hand or using traps, and were all marked by notching a shell scute (Stubbs *et al.*, 1984, *Amphibia-Reptilia* 5: 57-68). Sex was identified by their outer morphological features (sensu Lanza, 1983. *Lavori Soc Ital. Biogeografia* 8: 723-74), and/or based on biometric characters (Zuffi & Gariboldi in Llorente et al. (Eds). *Scientia Herpetologica*: 124-129).

Pond turtles were caught between March 2004 and October 2005. In total, 189 specimens were caught and marked: 79 males, 44 females, 39 sub adults and 27 young specimens born in the same year. The entire population, including adults and sub-adults, was estimated between 195 and 203 specimens, excluding juveniles born during the same year, which were caught but not considered in the estimation.

Based on the obtained results, and considering that specimens were caught during all months, it seems that the Sicilian pond turtle population found in the study area of the Natural Reserve “Torre Salsa” did not hibernate. Considering that this area is located just a few meters above sea level and at low latitude, extreme temperatures for this species are probably not reached for a long time. Moreover, it seems that this population is in better conservation conditions than the only population studied within the Natural Reserve “Lago Preola e Gorgi tondi” (Lo Valvo & D'Angelo, in press. *Atti V Congresso SHI*). Indeed, in addition to a larger number of specimens, average body size is bigger in both males and females (see D'Angelo et al., 2005. 4th International Symposium on *Emys orbicularis* web. Valencia, Spain; Fritz et al., in press. *Amphibia-Reptilia*). Considering that there is a positive correlation between the number of laid eggs, and the body size of females (Zuffi M., pers. comm.), a higher productivity is possible, as it is shown by the large number of young specimens caught, which were born during the same year (14.3% of the total number). The size of this population is small, when compared with the population sizes of European Pond Turtles (*Emys orbicularis*) in the Po River valley (northern Italy), where the lowest estimated density is approximately 100 specimens per hectare (Ficetola F., pers. comm.).

Key words: *Emys trinacris*, *Sicilian pond turtles*, *census*.