



European Pond Turtle

Emys orbicularis

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Edition Chimaira



The European pond turtle in Spain

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THREATS:

Present situation: *Emys orbicularis* is considered to be in retrogression throughout the nation, except for the Balearic Islands, where the species has been introduced (FRITZ *et al.* 1998) and therefore it is considered to be a non endangered species (KELLER & ANDREU 2002). All peninsular populations are small concerning numbers of individuals. The largest colony, numbering approximately 1000 specimens, is found in The Doñana National Park in the southwest of the Iberian peninsula (DÍAZ-PANIAGUA *et al.* 1994). In the northeast of the peninsula, the largest population numbers 300 specimens and lives in the province of Girona (MASCORT 1998). In the region of Galicia, northwest of its main distribution, the species is at the verge of extinction (AYRES & CORDERO 2002). There are scattered populations almost everywhere in Spain (AYRES & CORDERO 1999, MASCORT *et al.* 1999, RUBIO & GONZÁLEZ 2000, GÓMEZ-CANTARINO & LIZANA 2000, PERPIÑAN 2004) except in the north. However, they all have a low number of effectives and even in some cases are considered as fortuitous introductions coming from the pet trade market. This is also true of individuals found in the El Foix nature reserve in the province of Barcelona (SOLER *et al.* 2005).

Predation on eggs: In Majorca (Balearic Islands), communal egg-laying sites have been described, which have turned out to be negatively affected by predation (MAYOL 1993).

Predation on juveniles: Predation on juveniles and hatchlings is high and mainly due to waterfowl and aquatic mammals (KELLER 1997). The mongoose (*Herpestes ichneumon*) has also been identified as predator of newborns and juveniles in The Doñana National Park (PALOMARES 1990). This is why releasing adult specimens is considered to be the best strategy to favour the conservation of the species (KELLER 1999).

Predation on adults: The wild boar (*Sus scrofa*) is recognized as one of the main predators of adult individuals (KELLER 1997).

Habitat destruction: The destruction of salt marshes is one of the foremost threats for the survival of the species. Some of the most significant populations of the European pond turtle in the Iberian peninsula are found in humid regions such as The Doñana National Park, the Nature reserve of Aiguamolls de l'Empordà, the Sils Lakes and the river Ebro delta (Delta de l'Ebre) nature reserve (BERTOLERO 1999) in the community of Catalonia, and the Albufera in the region of Valencia (SANCHO *et al.* 1999). The fragmentation of the area of distribution as well as pollution and the drying-up of these fertile lands for agricultural use reduces the possibilities of survival of the species (MERCHANT & MARTÍNEZ SILVESTRE 1999; KELLER & ANDREU 2002).

Note on behaviour: Although information on cross-breeding is lacking, there are reports of a male *Mauremys leprosa* and a female *Emys orbicularis*, and a male *Emys orbicularis* and a female *Trachemys scripta elegans* copulating in the wild in the northwest of Spain (AYRES 2002; AYRES & DEL POZO 2005).

Human consumption: In the community of Catalonia, the use of the species for human consumption has been documented dating back to the Neolithic period (Félix *et al.* 2006). Similarly, in Neolithic sites in the provinces of Girona and Barcelona, its possible use as a food source has also been reported (BUDÓ *et al.* 2003). At present, this practice only persists in rural communities of the provinces of Huelva, Seville and Cádiz (community of Andalusia), and in the province of Badajoz (community of Extremadura) (PLEGUEZUELOS *et al.* 2002).

Collecting for trade: Currently, collection of specimens for the pet trade is rare. However, there are

turtles on sale via the Internet. These sales most commonly have taken place in the autonomous region of Valencia (pers. obs. of the authors). In other communities, e.g. Catalonia, local laws prohibit possession, collection or trade of European pond turtles.

Other human influences: Turtles often accidentally get caught and drown in baskets set up for catching American red crayfish (ASENSIO 1990). Over-exploitation of aquifers also is a potential threat for the survival of the habitats of the species. Such activities are especially frequent in the southwest of Spain.

It is necessary to point out that the accidental introduction of American turtles is becoming an imminent danger because they compete with their European counterpart. Species of the genera *Trachemys*, *Graptemys*, *Chrysemys* and *Pseudemys* are largely present in many parts of the central and lower reaches of the rivers of the Mediterranean slope. The reproduction and coexistence of the Red-eared slider (*Trachemys scripta elegans*) with the indigenous species has been documented repeatedly (MARTÍNEZ SILVESTRE et al. 1997, MARTÍNEZ SILVESTRE et al. 2003).

CONSERVATION:

Legislation, protective measures, organisations:

The species is protected by diverse national and local laws. Hence it is included on the Red List of the amphibians and reptiles of Spain (PLEGUEZUELOS et al. 2002) and categorized as vulnerable (with a high risk of extinction in the wild in the medium term). In Catalonia, the Animal Protection Law 3/1988 of March 4 catalogues it as strictly protected and prohibits its possession, collection or trade. In case of inflicting this law, the fines for possession of just one specimen amount to 2000 EUR.

There exist diverse initiatives directed toward the preservation of the European pond turtle whose aims are habitat restoration, captive breeding of the indigenous species and eradication of alien turtle species.

Within the framework of these strategies, studies have been carried out at the biological station in the Ebro Delta nature reserve in order to design future measures to reinforce the small existing population (BERTOLERO 1998). In the commu-

nity of Galicia, studies have been made to assess the state of the few existing populations, to make plans for conservation (AYRES & CORDERO 2002) and to establish their taxonomic state (CORDERO & AYRES 1999).

In Andalusia a program to eradicate invasive species is being developed, aimed at eliminating them from the zones with indigenous turtles as well as determining the transmission of pathogens between the exotic and the indigenous chelonians. (HIDALGO et al. 2006).

In 2001 the CRARC (Catalonian Reptile and Amphibian Rehabilitation Center) has started a campaign in the El Foix nature reserve (province of Barcelona) to capture *Trachemys scripta elegans* and other alien turtle species which coexist with *Mauremys leprosa* and *Emys orbicularis* (SOLER & MARTÍNEZ SILVESTRE 2005, SOLER et al. 2005). In order to avoid the genetic mix-up of different populations on the Iberian peninsula, repatriations have only been done with animals of well-known origin (MARTÍNEZ SILVESTRE 1999). Additionally, in 2007 works have begun to eliminate red-eared slider turtles from the Albufera of Majorca while at the same time evaluating the *Emys orbicularis* population there.

The Community of Valencia has made a proposal to implement a general plan for the conservation of the species (LACOMBA 1999). Presently, the autonomous administration in collaboration with the Department of Zoology of the University of Valencia are carrying out a study on the helminth parasites of the European pond turtle (NAVARRO et al. 2006).

The foundation "Emys", a naturalist society from Girona (community of Catalonia), has successfully recovered and created ponds for the European pond turtle (RAMOS 2004). Also in Girona, the society CRT (Tortoise Reproduction Centre) is breeding turtles in captivity to release them later into the local river Tordera as part of the "Life" program for regenerating the Tordera river basin and its fauna.

In the Basque country, local public institutions financed the elimination of alien turtles as well as the reintroduction and monitoring of the European pond turtle in the wetlands of Bolue (BUENETXEA et al. 2006). The ecological data obtained will serve to determine the status of *Emys orbicularis* in a community where it is very rare.

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