

***Emys orbicularis*: SITUATION AND CONSERVATION PROJECTS IN LOMBARDY.**

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Summary

The knowledge of the current status of *Emys orbicularis* (Linnaeus, 1758) in Italian regions is incomplete even if, since 1986, regional mapping programs have been started, coordinated by herpetologists who, though slowly, are outlining the current distribution of this and all other reptile and amphibian species.

Eight years after the beginning of the mapping program, collected data and their cartographic conversion do not allow definition of European pond turtle in Lombardy, but they are useful to outline a potential distribution scenario in the region. In effect it is rare in the region and its population is concentrated along the middle and the low course of the largest rivers (Ticino, Lambro, Adda, Oglio and Mincio) and the observations concern lonely or isolated specimens.

The situation is even more dangerous considering that specimens of esotic species (in particularly *Trachemys scripta*) are more and more pointed out in the same places.

The protection of this species is strictly connected with the defence of places still frequented and with serious reintroductions projects.

Introduction

After almost ten years of research and of specific census at regional and provincial level, the presence of the European pond turtle (*Emys orbicularis*) in our marshes at this point has to be considered an exceptional case and due to very few specimens in separated zones. Considering the news about its condition in nearby regions it has to be afraid about, their disappearing from the lombard territory in a few time, and in a not far future the extinction of this species above all in Padania. For this reason it's very important the realisation of a serious program of study of the surviving populations (i.e. the ones of the Delta of Po and of the northern Laguna Veneta) and the programming of preservation and potentiation initiatives for the populations already at risk (for example in Lombardy) as the ones involved in our " LOMBARDY EMYS PROJECT".

Data about the actual situation of *Emys orbicularis* in Lombardy.

The Centro Studi Erpetologici of the Società Italiana di Scienze Naturali has been collecting signals about the presence of *Emys orbicularis* (L.) all over the lombard territory for eight years (1988-1995) and the data obtained allow us to define the actual distribution and to say something about its numerical extension.

We want to remember that the pond turtle, at least at the beginning of this century, was considered almost common only in some marshes of the lowland (Vandoni, 1914), but it was rarely signalled over 100 m. of altitude (Sordelli 1872, Pozzi 1972); but the species could be found also in urban areas or in localities out of their natural zone, such as Sondrio (Carli, 1988) and in the Lake Lugano, near Porlezza and in the Lake Maggiore in front of Fondo Toce (Pozzi, 1972), as a consequence of their immission by man or of their occasional flights from breed.

The enclosed maps of Lombardy, which are divided in squares with 10 km of side (quadrants U.T.M. 1:25,000 scale), shows the historical distribution, previous 1980 (fig.1), and the current distribution, by 1980 (fig. 2). Our research allow us to make the point about the situation of this species in each province.

Province of Como.

Regarding the province of Como we miss new observations about Briantei lakes (Baratelli 1990, Ferri & Generani, in press) and the news, several times spread, in relation with a possible presence of turtles into the Lake Montorfano and into the small Lake Sartirana, probably regard the *Trachemys scripta* species.

During the last years (1989, M.Testa p.c.) some specimens of *Emys orbicularis* have been released into the Lake Peschiera (Albonico, Sorico) at about 500 m, but they didn't survive.

Province of Varese and Sondrio.

No recent data have been registered.

Province of Bergamo.

This species has been signalled in the part of Adda river between the dam of Trezzo sull'Adda (Milan) and the one of

Fara Gera D'Adda, in Isolone of Serraglio place on Adda too, in the commune of Monte Marenzo.

Province of Brescia.

Emys orbicularis has been signalled to be present into the Lake Iseo, but we are very uncertain about the observations regarding some *Trachemys* specimens into the nearby Torbiere of Sebino (Provaglio d'Iseo).

Province of Pavia.

In the province of Pavia the specialists are already studying this species from several years (Zuffi 1988, Zuffi, Gariboldi & Caruso, 1987; 1992) also because the great part of the signallings regarded the Natural Park of Ticino (Pavia).

A reproduction has been verified too and in a case more than one animals have been seen together. Some signalling regard also some channels nearby the confluence of Lambro and Po rivers.

Province of Milano.

The data received about Milan province regard above all isolated specimens that, a part from few exception (such as angling of a specimen into Adda river in Bertinico) have been found in too strange conditions to be natural. One of these was the case of a subadult male rambling in the garden of a building in Milan; another one regards an adult male wandering on a country road nearby Castellazzo (Natural Park of Groane, Bollate), another one, again, was an adult (female?) in an artificial pool near a farm of Basiglio.

The pond turtle has been signalled both in the holding "LA ZERBAGLIA" (R.Groppali, c.p.) and in the part of Adda between S.Anna dam (Vaprio d'Adda and Fara Gera d'Adda, Bergamo) and Cassano d'Adda dam (Cultural Centre "RUDUN", in litteris). In the Natural Park of Ticino there is the orientated preserve "LA FAGIANA" where in 1989 about thirty *Emys orbicularis* have been released, precisely in some low marshy lands near Delizia branch of Ticino river (Zuffi, 1987).

All the notices concerning the province of Milan have been evaluated and if possible verified, because a big number of them regarded exotic species. The big part of the cases were inherent the *Trachemys scripta*, which at this point is almost frequent into the marshes of some urban and suburban lakes. In June 1992 a female has been sighted laying at the artificial lake Idroscalo (Rossetti p.c.). Also the *Mauremys (Clemmys) caspica* (Gmelin) and the *Chelidra serpentina* (L.) have been signalled in this province: two animals of the first species have been captured into the Natural Park of Groane (near Cesate) while a specimen of the second species, 25 cm long, has been captured in 1987 with net into the Adda river (Belgiardino, Lodi).

Provinces of Cremona and Mantova.

The provinces of Cremona and Mantova are full of marshes, particularly in the Golena of PO, along Oglio and Mincio rivers. In this place the *Emys orbicularis* has been seen just occasionally, but surely the wideness of the territory of studied and the rather low number of researchers made it apparently rare. The different places studied are: Oglio river near Soncino (CR), Golena of Po in Stagno Lombardo (CR), some Bodri near San Daniele (CR) and near Pieve d'Olmi (CR); a ditch near Motta Baluffi (CR) and a channel near Felonica (MN), the Lake of Mezzo, near Mantova.

Also in these provinces some observations unfortunately regard the *Trachemys scripta*, found in 1992 also into the natural preserve "LE BINE" (Calvatone, CR).

Considerations and conclusions.

The situation of *Emys orbicularis* in Lombardy seems to be less good than expected, and the researches prove the extreme precariousness of the wreckage populations; the distribution is too located and save very few exception, the animals seem lonely (or the ones remained are so few that it's very difficult and occasional their observation).

Its presence seems to be still consolidated only in the low course of Ticino river and in the midium Adda's river course; it is more desultory along the other big rivers of the lowland (Lambro, Oglio, Mincio) and it is almost absent (except for the Golena of Po, near Cremona) in the lombard part of Po river. The apparent or effective subdivision of the population surely reduces genetic exchange (with great repercussion for the rate of reproduction). This one is already invalidated by the too big anthropical interference and by the reduction of good places for the reproduction; besides the offspring are killed from a lot of predatories, particularly pikes, carrion crow and rats).

The almost null reproductive possibility make very difficult reintroduction's or repopulation's works.

The dangers for the eggs and the offspring in our places are so high that they completely or nearly cancel, the hope of a repopulation. This is the reason to project preventive seminatural stalling of reproducers to pick up the eggs at the right moment; to proceed to the artificial incubation of the same ones and to breed

the offspring (in conditions more similar to the habitat in which they will be released) for at least two years (until the total calcification of the carapace and of the plastron, or until they reach the dimensions of about 10 cm long).

For this reason our Centro Studi Erpetologici, in its "LOMBARDY EMYS PROJECT", (Ferri, Di Trani & Jesu, 1992), with the scientific collaboration of the "CARAPAX", Italian Centre of Massa Marittima (Grosseto), is going to project at least two centres of intensive breeding (tab. 2) of this species in our region, to increase the subjects to restore and to stimulate the knowledge and the protection of this very interesting reptile.

The search of the necessary sponsor, the acquisition of right areas, the project, the building and the management of these kind of centres are in the next our programmes.

Regarding the freshwater exotic turtles released in natural places, it is an European problem and it's pressing to define the right rules about their purchase and breeding. In several part of Italy, cases of naturalization of *Trachemys* (Lanza, 1983; Andreone, 1988) have been signalled; even some cases of reproduction's success (D.Ballasina, p.c.); thing that will interfere with the vitality and the trophic opportunity of the surviving *Emys* specimen. For this reason the Centro Studi

Erpetologici S.I.S.N., starting a focused project (LOMBARDY ARCADIA PROJECT) stimulated the recovery of these "clandestines" diverting them toward perfectly limited pools, in gardens or park, or toward new and more scrupulous breeders.

Lombardy Emys Project.

This project has been activated in 1986 by the Centro Studi Erpetologici S.I.S.N. The following steps have been finished:

1. Census of vital population (compound by at least 3-5 specimens)
2. Census of reproductive population (thanks to the finding of eggs and/or offspring);
3. Finding of protected areas where to collect animals which have been found alone or given by private and breeding them in a seminatural way (constitution of a genetic protected reserve of the species).
4. Protection of the places considered as the more suitable for the species life (since more than one vital and/or reproductive population or since we want to restore a turtle).

After the right interpretation of the data regarding *Emys orbicularis* situation in Lombardy, the preservation project will go on with these aims:

1. collecting a reproductive stock in a suitable area for the controlled breeding to obtain annually the new borns;
2. finding one or more optimal areas in the storic distribution, where to proceed to the restore, after that an enough number of specimens have been reached.

Acknowledgements.

As co-ordinator of the Centro Studi Erpetologici S.I.S.N., I thank all the people who worked until now to collect the data mentioned before and in particular: dott. Marco Zuffi (Museo di Calci, Pisa), prof. Francesco Barbieri (Dip. Biologia Animale, Pavia), dott. Giovanni Giovine (Bergamo), dott. Corinne Di Trani (Milano), dott. Susanna Caruso (Pavia), Giancarlo Baggio (Val di Nizza, Pavia), dr. Giancarlo Quadrelli (Casalpusterlengo, Milano), Vittorio Saporiti (Milano), Guido DeFilippo (Milano), Marcella Pittini (Pisogne, Brescia), dott. Marco Testa (Gravedona, Como), dr. Davide Cambi (Roè Volciano, Brescia), Giovanni Vezzoli (Cassano d'Adda, Milano), Nunzio Grattini (Pegognaga, Mantova), Rita Mabel Schiavo (Milano), Andrea Sassi e Annarita Di Cerbo (Rho, Milano), dr. Damiano Ghezzi (Cremona) and Franca Guerini for the English translation.

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Table 1:

Finding of *Emys orbicularis* (EMYORB) and *Trachemys scripta* (TRASCR) in parks and preserves in Lombardy.
(Research 1988-1995, Centro Studi Erpetologici S.I.S.N.)

CO Como, MI Milan, BG Bergamo, BS Brescia,
MN Mantova, CR Cremona, PV Pavia

EMYORB	TRASCR	<i>incerta</i>
Parco Adda Nord (BG-CO-MI)	Lago Montorfano (CO)	Lago Sartirana (CO)
Parco Adda Sud (MI)	Lago Sartirana (CO)	Lago d'Iseo (BG)
Parco del Ticino (MI-PV)	Lago Alserio (CO)	Pian di Spagna (CO)
Bodri S.Daniele (CR)	Torbiere Iseo (BS)	Fontanile Nuovo (MI)
Bodri Solarolo (CR)	Lago Pusiano (CO)	Paludi di Ostiglia (MN)
Confluenza Lambro-Po (MI)	Parco del Ticino (MI-PV)	
Milano Basiglio	Confluenza Lambro-Po (MI)	
Milano Buccinasco	Fontanile dei Frati (MI)	
Parco dell'Oglio (CR)	Parco Adda Nord (BG-CO-MI)	
Parco del Mincio (MN)	Parco Adda Sud (MI)	
Bosco WWF Vanzago (MI)	Parco Valle Lambro (MI)	
	Parco Groane (MI)	
	Le Bine (CR-MN)	
	Parco dell'Oglio (CR)	
	Parco del Serio (CR)	
	Idroscalo-Laghetto Vergini (MI)	
	Parco del Mincio (MN)	
	Valli del Mincio (MN)	
	Parco Nord Milano (MI)	
	Parco Agricolo Sud Milano (MI)	

Table 2:

Potential location of Breeding Centres for *Emys orbicularis* in Lombardy.

1. **Natural preserve "LE BINE"**, (Calvatone, Cremona);
Manager Society: WWF, Lombardy Delegation
2. **Natural preserve "LANCHE DI TORRICELLA"**, (Torricella d. Pizzo, Cremona)
Manager Society: Province of Cremona
3. **Natural preserve "LA FAGIANA"**, Natural Park of Ticino river. (Ponte Vecchio of Magenta, Milan)
Manager Society: Natural Park of Ticino
4. **Natural preserve "ADDA MORTA"**, Natural Park of Adda Sud (Castiglione D'Adda, Milan)
Manager Society: Natural Park of Adda Sud
5. **Natural preserve "RIVA ORIENTALE"** Lake Alserio, (Alserio, Como);
Manager Society: Natural Park Lambro Valley .

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Proceedings



Astrochelys yniphora is the rarest tortoise in the world. Reared at Ampijoroa, in Malagasy, and at St Catherine Island (in this photo), its total strength never exceed a few ten individuals in captivity and a few hundred ones in the wild. An excellent conservation programme concerns this animal, leaded by the Jersey Wildlife Conservation Trust and the Wildlife Conservation Society. Nevertheless, at the beginning of may 1996, part of the tortoise populations (adults and juveniles) have been stolen at Ampijoroa, flying specialists into a rage and disappointment. So, this tortoise is a symbol, by its scarceness, by the efforts made to protect it, and by the threats which hang over it, of the difficult conservation of the tortoises in the world.

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