

The European pond turtle in Slovakia

PETER HAVAŠ & STANISLAV DANKO

THREATS:

Present situation:

Until the middle of the 20th century, the European pond turtle *Emys orbicularis* (LINNAEUS, 1758) inhabited all climatically appropriate regions of southern Slovakia, however, no comprehensive study mapping its accurate distribution was done at that time. LÁČ & LECHOVIČ (1964) were the first, who summarized literature sources dating from 1862 to 1963 and mentioned 12 localities of the European pond turtle in Slovakia. The next attempt to recognize its precise current distribution was based mainly on a questionnaire form of survey (RANDÍK *et al.* 1971). The authors found a past or present occurrence in 41 localities, but no verification of most of the gathered data was done and as the authors noted themselves, only four localities are possible inhabited by a turtle population. Nowadays, six localities are known by conservation officials. Nevertheless, three of them were established for re-introduced or confiscated specimens and the relevance of further two with very scarce turtle observations is uncertain. Until now, no reproduction has been registered in either of these five localities. Because the present distribution of the European pond turtle in Slovakia remains unknown, for the time being we consider that the Tajba marsh near Streda nad Bodrogom in southeastern Slovakia might be the only confirmed occurrence of this species (NOVOTNÝ *et al.* 2004).

Except for Tajba and three newly established localities, no information is available on the actual population density. BABOR (1943) remarks very briefly that the European pond turtle has been very abundant here in running and stagnant waters, but neither on time nor location he provides more precise data. After the beginning of considerable alterations of the Slovak lowlands in the 1950s, all subsequent authors have mentioned a radical decrease of suitable biotopes and established the rarity of this species (e.g. LÁČ & LECHOVIČ 1964, LÁČ 1968, RANDÍK *et al.* 1971, KMINIAK 1992). At present, we estimate that 100 to 120 adults inhabit the Tajba marsh.

Predation on eggs:

Foxes and badgers are the most significant predators plundering the nests. Sporadically nests are also destroyed by smaller animals like moles and hedgehogs. Occasionally people break nests. Turtle nests are crushed by passing motor-cars, because they are often located on the edges of field roads. Agricultural activities in the nesting areas like tillage, hoeing of vineyards and moving machines are serious threats as well.

Predation on juveniles:

Direct evidence of predation on juveniles by other animals is not available. However, it is likely that foxes, badgers, smaller animals, feral dogs and cats, raptors and various representatives of the Corvidae family prey on migrating juveniles. In the water, they are probably hunted by grass snakes and water birds. Mortality of juveniles caused by motor-cars during their migration from nesting areas to water bodies is well documented.

Predation on adults:

With the exception of man, adult turtles have no enemies. However, nearly every investigated specimen was infested with leeches of the species *Placobdella costata* (MÜLLER, 1846) and as MŁYNSKI (1971) points out, a massive invasion of this parasite can lead right to a turtle's death. Adults occasionally get caught on fishing hooks or in nets. Migrating individuals are often crushed by motor-cars or casually picked up as pets.

Habitat destruction:

Until the middle of the 20th century Slovak lowlands were only little used for farming and areas without forests or marshes were chiefly used as pastures. The situation has changed radically since then. In order to create more farmland, most wetlands have been destroyed by establishing a net of drainage canals. This resulted in the decline of suitable habitats and their fragmentation. Levees have been built along rivers to prevent flooding. While outside

of these levees wetland areas have started suffering from the lack of water and have inevitably dried up, floods and raised water levels inside of the levees often have destroyed appropriate places for egg deposition. Important egg-laying sites have completely disappeared after the construction of dams.

Human consumption:

At present, we are not aware of any consumption of the European pond turtle by man. However, there is a reliable report that at least until 1945, turtles used to be caught in the vicinity of the village Streda nad Bodrogom, held in butts and subsequently prepared as food for feasts in the manor of baron Véczey (RANDÍK *et al.* 1971). According to VOSKÁR (1989) this was carried on even in the 1960s.

Collecting for trade:

No information available.

Other human influences:

Besides the negative human activities mentioned already in the "Predation" sections above, the following present the most significant threats for the survival of the European pond turtle: road and railroad construction; manufacturing; direct pollution of water bodies by waste from factories; indirect pollution of water bodies by compost, insecticides and herbicides used in agriculture and washed out during rainfalls; littering and garbage dumping; grass burning; fishing; hunting; pasturage of farm animals; motor racing.

CONSERVATION:

Legislation, protective measures, organisations:

The European pond turtle is protected in Slovakia according to Ordinance of Chairmanship of SNR 125/1965 since 1965. In 1966 the Tajba National Nature Reserve (located approximately 1 km northeast of the village Streda nad Bodrogom in southeastern Slovakia) was established to protect marsh plant and animal communities with a special focus on the European pond turtle. In 1989 the species was classified in the former ČSSR as "endangered" species according to the 1980 IUCN Red List criteria (KRÁL 1989). After the constitution of the Slovak Republic as a separate state in 1993, the European pond turtle is protected by law 543/2002, that is practised by Ordinance of Department of Environment of the Slovak Republic 24/2003. Any specimen is worth SKK 40,000 (=

approx. EUR 1,100). It is the only reptile species that is listed in the category "Critically endangered" according to the 1995 and 2001 IUCN Red List criteria (URBAN *et al.* 1998, KAUTMAN *et al.* 2001).

In order to save the species from extinction in Slovakia, various conservation measures have been implemented since 2000. They are part of a recovery program, adopted by the Slovak Department of Environment and the Slovak National Nature Conservation Agency in 2001. Authors and executors of most of this program are members of the "Fauna Carpatica", a non-government organisation dealing with zoological research and the protection of the primary fauna of Slovakia and the Carpathian region.

REFERENCES:

- BABOR, J. (1943): Slovenská fauna. Slovenská vlastiveda I. – SAVU, Bratislava, 463 pp. In Slovak
- KAUTMAN, J., BARTÍK, I. & P. URBAN. (2001): Červený (Ekosozologický) zoznam plazov (Reptilia) Slovenska. In: BALÁŽ, D., MARHOLD, K. & P. URBAN (eds.): Červený zoznam rastlín a živočíchov Slovenska. – Ochrana prírody 20 (Suppl.): 148–149. In Slovak
- KMINIAK, M. (1992): *Emys orbicularis* (Linnaeus, 1758) – želva bahenní. In: BARUŠ, V. & O. OLIVA (eds.): Plazi. – Academia, Praha: 59–65. In Czech
- KRÁL, B. (1989): Želva bahenní. In: BARUŠ, V. (ed.): Červená kniha 2 – Kruhoústí, ryby, obojživelníci, plazi, savci. – Státní zemědělské nakladatelství, Praha: 56–57. In Czech
- LÁC, J. (1968): Plazy – Reptilia. In: OLIVA, O., HRABĚ, S. & J. LÁC (eds.): Stavovce Slovenska I – Ryby, obojživelníky a plazy. – Slovak Academy of Sciences, Bratislava: 313–366. In Slovak
- LÁC, J. & A. LECHOVIČ (1964): Historický prehľad výskumu plazov na území Slovenska do roku 1963. – Ac. Rer. Natur. Mus. Slovencii, Bratislava, 10: 124–154. In Slovak
- MŁYNARSKI, M. (1971): *Nasze gady*. – PZWS, Warszawa, 180 pp. In Polish
- NOVOTNÝ, M., DANKO, S. & P. HAVAŠ (2004): Activity cycle and reproductive characteristics of the European pond turtle (*Emys orbicularis*) in the Tajba National Nature Reserve, Slovakia. In: FRITZ, U. & P. HAVAŠ (eds.): Proceedings of the 3rd International Symposium on *Emys orbicularis*. – Biologia, Bratislava 59, Suppl. 14: 113–121.

RANDÍK, A., VOSKÁR, J., JANOTA, D. & A. TOKARSKÝ (1971): Rozšírenie a ochrana korytnačky močiarnej (*Emys orbicularis* L.) v Československu. – Československá ochrana prírody, **12**: 27–59. In Slovak

URBAN, P., KADLEČÍK, J., KAUTMAN, J., KMINIAK, M. & M. UHRIN (1998): Červený (Sozologický) zoznam obojživelníkov (Amphibia) a plazov (Reptilia) Slovenskej republiky. – Ochrana prírody, **16**: 203–218. In Slovak

VOSKÁR, J. (1989): Budeme mať viacej korytnačiek? In: SLÁDEK, J. (ed.): Aby prežili rok 2000. – Osveta, Martin: 139–141. In Slovak

Authors:

Peter Havaš
Titogradská 18
040 23 Košice
Slovakia
E-Mail: peter.havas@seznam.cz

Stanislav Danko
Fauna Carpatica
Maďarská 5
040 13 Košice
Slovakia
E-Mail: danko.stano@pobox.sk