

## New data on distribution of the European pond turtle *Emys orbicularis* (Linnaeus, 1758) in the Podravje region (NE Slovenia)

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**Abstract.** Ten new observations of the European pond turtle *Emys orbicularis* (Linnaeus, 1758) in the Podravje region are presented. One observation is fairly old, while the others have been made in the last six years. Most of the data are just random observations and do not give a complete overview of the species distribution in the Podravje region. New data suggest that the European pond turtle is more abundant in the Drava River basin than previously known. Distribution and population size of the species in the Drava River basin still remain to be investigated in detail and not only at the Natura 2000 Drava site, especially in the areas of potential habitats prior to planning any new activities.

Key words: European pond turtle, *Emys orbicularis*, Drava River, Natura 2000, Podravje, Slovenia

**Izvleček. Novi podatki o razširjenosti močvirske sklednice *Emys orbicularis* (Linnaeus, 1758) v Podravju (SV Slovenija)** – V prispevku navajamo deset novih podatkov o pojavljanju močvirske sklednice *Emys orbicularis* (Linnaeus, 1758) v Podravju. Eno opazovanje je starejšega datuma, ostala pa so iz zadnjih šestih let. Večina podatkov je bila zbrana ob naključnih opazovanjih, zato ne omogočajo celostnega vpogleda v razširjenost močvirske sklednice v Podravju. Novi podatki nakazujejo, da je močvirska sklednica v porečju reke Drave bolj pogosta, kot je bilo znano doslej. Zato bo treba ugotoviti njeno dejansko razširjenost in velikost populacije ne samo na območju Natura 2000 Drava, temveč v celotnem porečju reke Drave, še posebej na območjih, kjer so načrtovani posegi v njen potencialni habitat.

Gljučne besede: močvirska sklednica, *Emys orbicularis*, reka Drava, Natura 2000, Podravje, Slovenija

## Introduction

The knowledge of the distribution of the European pond turtle *Emys orbicularis* (Linnaeus, 1758) in Slovenia has improved in recent years (Grželj & Grželj 2012, Vamberger et al. 2013, Pekolj et al. 2015), but not for the Drava River basin. In the past 20 years, only three single observations have been reported for this region (Govedič & Janžekovič 2003), i.e. at Središče ob Dravi in 1997 at Slivniški ribniki in 1998, and at Borl in 2002. In the following publications on the distribution of reptiles no new data for the European pond turtle were reported for the Drava River basin (Janžekovič et al. 2008, Krofel et al. 2009, Vogrin 2009a, 2009b). Furthermore, there are no records of the European pond turtle occurring in the Drava River basin in Croatia along the Slovenian border (Šalamon et al. 2013).

In 2004, Natura 2000 sites were established in the Drava River basin, including the Natura 2000 site Drava (SI3000220) for the European pond turtle (Ur. l. RS 2004a). In 2007, the Natura 2000 Management Programme 2007–2013 was adopted (Vlada RS 2007). Despite the lack of data, this management plan did not propose additional field work for assessing the distribution of the European pond turtle. In 2015, the Natura 2000 Management Programme 2015–2020 was adopted (Vlada RS 2015), even though no additional information on the distribution of the pond turtle had become available. A single observation at Borl (Govedič & Janžekovič 2003) still remains the only record of the European pond turtle at the Natura 2000 site Drava. In this article we summarize new observations of the European pond turtles, older unpublished data and literature data for the Drava River basin.

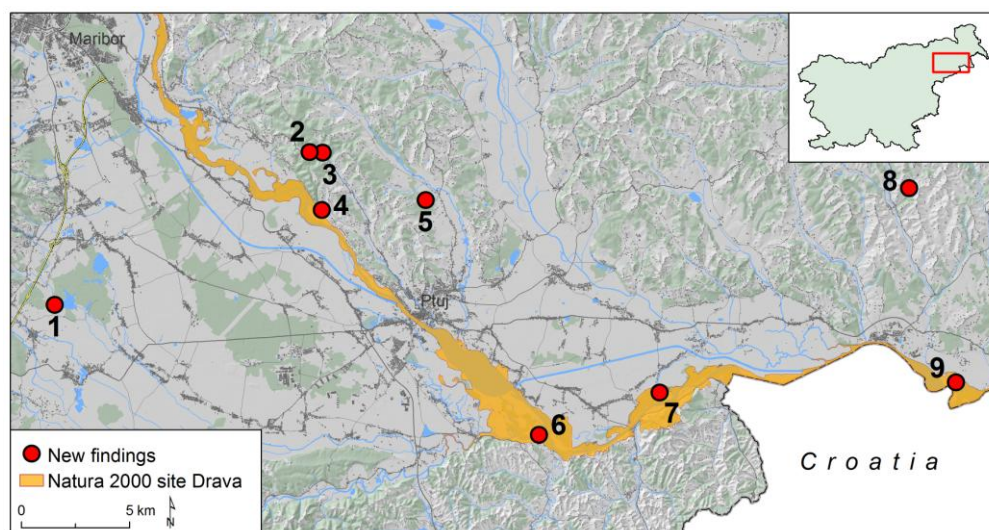
## Materials and methods

Our random observations and data gathered by the Herpetological Society – Societas herpetologica slovenica were summarized together for the Podravje region. Due to presence of the red-eared terrapin (*Trachemys scripta*) in the area (Krofel et al. 2009), only unambiguous observations are included. Most of the records are photo documented. If possible, sex of turtles was determined on the basis of eye colour in field or at photo. Combination of the number of growth rings, shield abrasion and size were used to distinguish between young and adult turtles.

## Results and discussion

We gathered nine new observations during the past six years, supplemented by one older unpublished observation, all of them from the Podravje region. Most turtles were seen randomly during biological field work or when crossing the road. The only record from the clay pit at Janežovci in 2016 was the result of a focused visit (Tab. 1). All data are from locations

where the European pond turtle had previously not been known, with the exception of clay pit at Janežovci. Four observations are from the Natura 2000 site Drava.



**Figure 1.** New observations of the European pond turtle in the Podravje region (with numbers on figure corresponding to ID Number in Tab. 1).

**Slika 1.** Nova opazovanja močvirske sklednice v Podravju (številke na sliki so enake ID-vrednostim v Tab. 1).

Surprisingly, as early as in 2002 Flis et al. (2002) stated in the Environmental Impact Assessment (EIA) for the expansion of Janežovci clay pit that very high population density of the European pond turtle was observed. The population size estimation was based on visual observation, since there are no research methods described and traps were not used for turtle research in Slovenia in 2002 as yet. Unfortunately, this information was not known in the time of proposals of Natura 2000 sites (Tome 2003), since EIA reports were not accessible to the public. In 2004, this area was recognized as an Ecosystem and Zoological Valuable Natural Feature (ekosistemska in zoološka naravna vrednota; Ur. l. 2004b). A few years later, after the implementation of the Habitats Directive in Slovenia, a new EIA report for Tourist Development of the Janežovci clay pit area was prepared (Flis et al. 2006). In this EIA report, the very high population density of the European pond turtle was still mentioned, but no additional research was carried out. It seems that in the evaluation of impacts and in the conclusions of the EIA as well as in the environmental permit issued by the authorities, species habitat requirements were largely neglected. Warning about the significant impact on the European pond turtle was later indicated in the EIA report for the Municipal Development Plan (Gregorc et al. 2009). Because construction works did not start during the two-year period, the building permit expired. According to the comparison of aerial photos of the clay pit area, the area hasn't changed much since 2002. As the European pond turtle is still present in these clay pits (Tab. 1), we conclude that the area has a high value for conservation of the species in the region, although its population size is not known. The proposal of Natura 2000 sites for the European pond turtle (Tome 2003) as well as for many other species was made on the existing data without additional research. In the case of the European pond turtle, the

proposal was based on occurrence data or observation density. The clay pit at Janežovci had been the only known location for the European pond turtle in the Drava River basin, where it was possible to observe several turtles at the same time. According to the used methodology of defining Natura 2000 network in 2003, we believe that the site certainly fulfilled all conditions for the establishment of a Natura 2000 site.

**Table 1.** Data on observations of the European pond turtle in the Podravje region. GKX, GKY refer to coordinates in Gauss-Krüger coordinate system.

**Tabela 1.** Podatki o opazovanjih močvirske sklednice v Podravju. GKX in GKY se nanaša na koordinate v Gauss-Krügerjevem koordinatnem sistemu.

ID	Location/ Najdišče	GKX, GKY	Number/ Sex/Age Št./Spol/ Starost	Type of observation / Način opazovanja	Date/ Datum	Observer/ Opazovalec
1	Western side of Požeg water reservoir	550396, 142553	One turtle	Visual observation	7.5.2013	M. Vogrin
2	Road parallel to a fishpond close to Vurberk	562187, 149621	One turtle	Found dead (run over)	26.5.2016	F. Janžekovič
3	Road parallel to a fishpond in the Grajena stream valley	562782, 149594	One female	Captured/picture	16.6.2015	F. Janžekovič
4	Garden at Krčevina pri Vurbegu close to oxbow of the Drava River	562742, 146942	One male	Captured/picture	28.4.2013	E. Šmigoc
5	Clay pit near Janževci in the Rogoznica stream valley	567556, 147405	Two young females	Visual observation/picture	29.5.2011	D. Bordjan
			One male turtle	Visual observation/picture	10.7.2016	N. Kirbiš & M. Vamberger
6	River bank 100 m from the mouth of the Dravinja River	572793, 136564	One turtle	Visual observation	29.7.2011	M. Vogrin
7	Oxbow of the Drava River near Gajevci	578369, 138506	One young male	Captured/picture	14.3.2013	D. Bombek
8	Road in the Sirotka valley	589905, 147952	One adult	Captured/picture	16.6.2016	T. Gregorc
9	Area of the present-day Ormož Basins Nature Reserve	592065, 138969	One turtle	Captured	Between 1990 and 1995	D. Denac

All data are just random observations, so actual distribution of the species in the Drava River basin is still unknown also at the Natura 2000 Drava site. However, even these random data provide firm evidence that European pond turtles do occur in the area from where it was largely unknown. New data suggest that the European pond turtle is more abundant in the Podravje region than previously known. The species is listed in Annex IV of the Habitats Directive and fully protected by our national legislation (Ur. l. RS 2004c). Its habitat is also protected, especially egg deposition sites that are subjects of environmental liability (okoljske odgovornosti; Ur. l. RS 2009), irrespective of whether they are located within Natura 2000

sites or not. Distribution and population size of the species in the Drava River basin still remain to be investigated in detail and not only at the Natura 2000 Drava site. Before the authorities issue any environmental permit for new activities in all potential habitats of the European pond turtle in the Podravje region, conservation status of the species should be considered independently of existing data. Results of the focused research into the species have to be considered as well. There are many other potential well suited habitats for the European pond turtle like oxbow lakes, gravel and clay pits, ponds and fishponds in the Podravje region.

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