

Record of the China mussel *Sinanodonta woodiana* (Lea, 1834) (Bivalvia: Unionidae) in Slovenia

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SINANODONTA WOODIANA (LEA, 1834)
(BIVALVIA: UNIONIDAE) V SLOVENIJI

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China mussel (*Sinanodonta woodiana*) is a species native to the East Asia (from the river Amur to Cambodia). Introduction of this invasive species in Europe most likely occurred with import of exotic fishes (Fechter & Falkner 1990). According to Watters (1997), this species has been recorded in Europe, i.e. Romania, Hungary and France, where it was found in fish farms. In the last decade, it has also been found in Austria (Edlinger & Daubal 2000, Reischütz & Reischütz 2000, Taurer 2003), Serbia (Paunović et al. 2006), Romania (Popa et al. 2007), Poland (Kraszewski & Zdanowski 2007), Czech Republic (Beran 2008), Italy (Cianfanelli et al. 2007, Cappelletti et al. 2009) and Croatia (Lajtner & Crnčan 2011). Due to its presence in the neighbouring countries, its occurrence in Slovenia has been expected. The species presence in Slovenia has erroneously been given in Cianfanelli et al. (2007), with Slovakia mistaken for Slovenia, as can be deduced from the cited references. The error has been repeated in Cappelletti et al. (2009).

China mussel is found in flowing and standing waters. As it lives parasitically on fish gills during its larval stage (glochidium), the species can successfully and quickly expand not only downstream but upstream as well. Grass carp (*Ctenopharyngodon idella*), silver carp (*Hypophthalmichthys molitrix*) and bighead carp (*H. nobilis*) are most common vectors for the China mussel. Stocking of this species is the main reason

for the China mussel's rapid and large distance spreading.

Six large (max 8.5 cm) live specimens of China mussel were found on 11.5.2011 in drained fish pond Prilozje near Metlika (Bela krajina, SE Slovenia; Fig. 1). According to the information from the pond's concessionaire (Metlika Fishing Club), stocking of grass carp occurred more than 10 years ago. In the last 10 years, only carp (*Cyprinus carpio*) and common bream (*Abramis brama*) were in stocking program at the pond. We can assume that China mussel has been present in the pond for more than 10 years. This find is presently the only known record of China mussel in Slovenia, but as grass carps originated from a pond in NE Slovenia, we can assume that the species is much more common than actually recorded.

In Slovenia, grass, silver and bighead carps do not breed naturally, mostly owing to insufficiently high summer water temperatures. Juveniles have been imported by breeders from abroad, mostly from Hungary. Grown fish were later sold to fishing clubs. As non-breeding species, they have been stocked recklessly in gravel pits, lakes and fish ponds in the last two decades, unaware of the potential spreading of another invasive species.

At least one of three carp species is found in the entire lowland area of Slovenia (Fig. 2), representing the potential distribution of China mussel in Slovenia. Last tests confirmed that China mussel is a broad host generalist and can complete its development not only on carp species but also chub (*Leuciscus cephalus*) and barble (*Barbus barbus*) (Douda et al. 2012). For this very reason, urgent identification of ponds with China mussel is required, especially ponds from where fish are distributed to other areas.

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Figure 1. The found specimen of *Sinanodonta woodiana* (photo: Dušan Klenovšek)
Slika 1. Najdeni primerek vrste *Sinanodonta woodiana* (foto: Dušan Klenovšek)

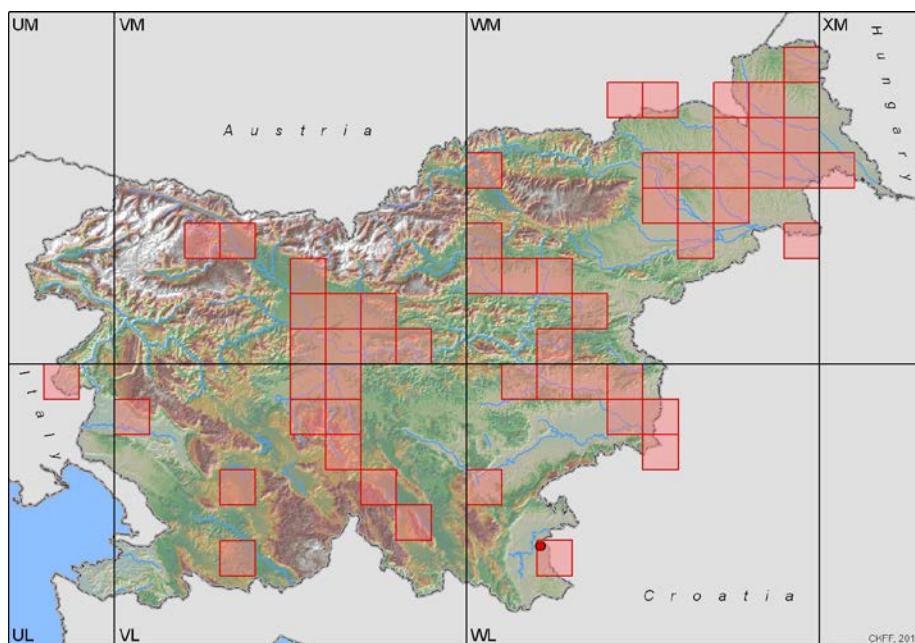


Figure 2. Location of the mussel (red dot) and distribution of grass carp (*Ctenopharyngodon idella*), silver carp (*Hypophthalmichthys molitrix*) and bighead carp (*H. nobilis*) in Slovenia at the UTM10 squares level (Smolar et al. 2004 supplemented upon CKFF, 2012).

Slika 2. Lokacija najdbe školjke (rdeča pika) in razširjenost amurja (*Ctenopharyngodon idella*) ter srebrnega (*Hypophthalmichthys molitrix*) in sivega tolstolobika (*H. nobilis*) v Sloveniji na nivoju mreže UTM10 (Smolar et al. 2004 dopolnjeno po CKFF, 2012).