

## NOT YET EXTIRPATED! *POTOMIDA LITTORALIS* (CUVIER 1798) LIVING IN THE SEINE DRAINAGE

*Potomida littoralis* is a freshwater mussel belonging to the subfamily *Gonideinae* Ortmann 1916. It has a disjunctive distribution in Europe, with populations living in Spain and France and also isolated populations in Greece and Turkey which perhaps needing further taxonomic study (Reis *et al.*, 2013).

In France, *Potomida littoralis* was considered a very common species (Germain 1931) and was historically known from the main French drainage systems, except Corsica and Northern France out to Somme basin. However labels on shells conserved in the museum of Lille indicate that this species was collected in the Scheldt river in sand from Oise at the end of the 19<sup>th</sup> century. No recent data have showed the persistence of this mussel in this river to date. According to Prié *et al.* (2014), the distribution area of *Potomida littoralis* has been reduced by more than 75% in France, and it is probably extirpated from the Seine river drainage and other several small Mediterranean basins (Lopes-Lima *et al.* 2015).

Here we report living populations of *Potomida littoralis* discovered in summer 2015 during an informal snorkel diving survey in the Seine River, where it has been recorded in three stretches.

*Potomida littoralis* adults and juveniles were initially found at Verrières in département of Aube (N 48.2310, E 4.1419). Specimens were collected up and downstream of a road bridge, at the foot of its piles and along the bank sides of the river in high velocity. The depth was between 0.5 and 2.00m. Adults and juveniles were deeply burrowed in fine sediments between cobbles and rocks. Individuals were recorded living with a flourishing population of *Unio crassus* and sparsely distributed specimens of *Unio mancus*. We noted the following fishes at this station: Barbel *Barbus barbus* (Linnaeus, 1758), Minnows *Phoxinus phoxinus* (Linnaeus, 1758), Chub *Squalius cephalus* (Linnaeus, 1758) and Gudgeon *Gobio gobio* (Linnaeus, 1758).

Adults and juveniles of *Potomida littoralis* were recorded downstream of a dam at Villemoyenne in département of Aube (N 48.1819, E 4.2212). Specimens were found deeply burrowed in fine sediment, where only siphons were visible,

between cobbles and rocks. The velocity was low at this station and the water depth between 1.5 to 3m. *Unio crassus* and *Unio mancus* have also been recorded with it. We did not note the fishes at this station.

*Potomida littoralis* was also recorded downstream of a dam at Clérey in département of Aube (N 48.2041, E 4.1864). Specimens (adults and juveniles) were recorded upstream of a road bridge and along the bank sides of the river in a high energy environment. The depth was between 0.5 and 1.80m. Many specimens of *Unio crassus* were also present, with few specimens of *Unio mancus*. We noted the same species of fishes as the Verrières station.

To date all specimens of *Potomida littoralis* found in the Seine drainage were old and empty shells. However, these new records of living specimens show that much more is to be discovered regarding this species' distribution and we suggest further survey before conclusions about this species' conservation status are made. It is hoped that this species is found elsewhere in the Seine with young and old specimens, possibly upstream of Paris and the city of Troyes. Young specimens provide evidence that *Potomida littoralis* populations are still functional and in the case of amelioration of water quality in the lower part of the Seine river the species may recover its former distribution. We note that this is also the first published record of *Unio crassus* living in the Seine river. Given that *Potomida littoralis* is often associated with the Giant freshwater pearl mussel (*Margaritifera auricularia* Spengler 1793) and given there are specimens of this mussel in the MNHN from the Seine river at Troyes, there is also hope that this freshwater mussel is still living in the Seine upstream of Paris.

### REFERENCES

- GERMAIN L 1930 *Mollusques terrestres et fluviatiles* Faune de France 21–22. P. Chevalier, Paris. 893 pp.  
 LOPES-LIMA M *et al.* 2015 *Biological Review* doi: 10.1111/brv.12244.  
 PRIÉ V, MOLINA Q & GAMBOA B 2014 *Hydrobiologia* **735**: 81–94.  
 REIS J, MACHORDOM A & ARAUJO R 2013 *Graellsia* **69**: 17–36.

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