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Observation of the sturgeon hybrid (*Acipenser naccarii* x *Acipenser baerii*) in the Hungarian section of River Danube

Idegenhonos tokhibrid (*Acipenser naccarii* x *Acipenser baerii*) észlelése a Duna magyarországi szakaszán

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In the last decades the occurrence and spreading of several non-native fish species was observed in the river basin of the Danube, among them several sturgeon species (e.g.: Friedrich 2013, Weiperth et al. 2013). The most common are the paddlefish (*Polyodon spathula*), native in the Mississippi River basin in North America and the Siberian sturgeon (*Acipenser baerii*), native in practically all large Siberian rivers. Other sturgeon species introduced are the white sturgeon (*Acipenser transmontanus*), the Adriatic sturgeon (*Acipenser naccarii*), the Atlantic Sturgeon (*Acipenser oxyrinchus*) and various artificially produced hybrids. These species were originally introduced with the purpose of aquacultural utilisation in several European countries in the 20th century, and they might endanger populations of native sturgeon species if released into natural waters (Arndt et al. 2006). The protection of natural populations of sturgeon species has been a priority task of conservation biology in the last decades due to their significant decrease (Friedrich 2013). However, only a few targeted studies have been performed in order to survey the natural population of the species in the Middle Danube Basin (e.g.: Tóth 1979, Guti 2008,).

After the record size flood on the Danube in 2013, between 7th and 21th July three individuals of AL sturgeon hybrid (*Acipenser naccarii* x *A. baerii*) were caught between the mouth of River Ipoly and the Danube at Szob (1708–1707 rkm) during a survey of juvenile fishes. All individuals were caught in deep, sandy and clay sections divided with pits. During the survey, electrofishing and small beach seine nets were used. The caught individuals were taken into the laboratory and kept in fish-tanks. The total lengths of individuals were 16.8, 17.5 and 19.2 cm long. The parental species were identified based on literature data by meristic characters, shape and structure of fins as well as shape of the mouth (Arlati et al. 1999, Costa et al. 2006) (*Table 1.*).

Our results prove that non-native fish species are washed out into natural waters during floods, as supposedly the sampled individuals escaped from large garden-, angling ponds or aquaculture enterprises in the drainage area during the flood and drifted into the main channel of the Danube. The appearance of non-native and hybrid sturgeon individuals in large Hungarian rivers raises many questions as they might endanger the populations of native sturgeon species through hybridization and competition. First hints of hybridization between native sterlets and non-native Siberian Sturgeons were already observed in the Upper Danube (Ludwig et al. 2009).

Table 1. The head morphometric characters of parent species and AL hybrid juveniles

Species	Cephalic region		
	Dorsal view	Lateral view	Ventral view
A. baerii	longer rostrum	longer rostrum	mouth transverse and lower lip with a split in the middle, barbells reach the mouth
A. naccarii	upper profile usually slightly concave	higher profile	wider lateral profile, mouth transverse and lower lip with a split in the middle, outer barbels longer than inner ones
AL hybrid	transition of both parent	transition of both parent	short barbells and mouth profile similar to *A. baerii*

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Juvenile sturgeon hybrid (Acipenser naccarii x Acipenser baerii) from the middle Hungarian section of the Danube River and detail of the rostrum from ventral side (Photo: A. Weiperth, 07. 07. 2013)