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SHORT COMMUNICATION

New reports on the Russian sturgeon, *Acipenser gueldenstaedtii*, in the Polish Baltic Sea

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Abstract. The first report of Russian sturgeon, *Acipenser gueldenstaedtii*, in Polish Baltic waters dates to 1968. Since then there have been only seven observations of this species. New reports of five Russian sturgeons are presented. For the first time, three specimens of *A. gueldenstaedtii* were caught in the Puck Bay, while the other two fish were caught in fishing grounds on the western Polish Baltic coast.

Keywords: *Acipenser gueldenstaedtii*, non-native species, Baltic Sea, Gulf of Gdańsk, Puck Bay

The Russian sturgeon, *Acipenser gueldenstaedtii* Brandt and Ratzeburg, is a Ponto-Caspian species (Vlasenko et al. 1989). In the 1960's, an unsuccessful attempt was made by the Soviet Union to introduce the species into the Gulf of Riga and the Gulf of Finland (Kairov and Kostrickina 1970). Consequently, two specimens were caught in the Gulf of Gdańsk close to the Vistula Spit in 1967 (Bartel 1968). Currently, the occurrence of *A. gueldenstaedtii* in the Baltic Sea is attributed to accidental escapement from fish farms or deliberate releases by anglers and aquarists (Arndt et al. 2002). Russian sturgeon was reported in Polish Marine Areas from the area stretching from the Szczecin Lagoon and the Pomeranian Bay to the Gulf of Gdańsk (Bartel 1968, Gessner et al. 1999, Keszka and Heese 2003). This report is of new observations of *A. gueldenstaedtii*, and presents the first three records from the Puck Bay.

The two sturgeon caught in the Puck Bay are deposited in the fish collection of the Hel Marine Station of the University of Gdańsk. The date of catch, fishing gear, and catch location in the Puck Bay of the first specimen are unknown. The second sturgeon was caught at a depth of 13 m 2 NM off Mechelinki. The third specimen belongs to a local fisherman, Kazimierz Necel, and was caught in the Puck Bay off Jastarnia in 1968. The fourth sturgeon was found stuffed in a fisherman's storeroom in Unieście. Information on the by-catch the fifth specimens of *A. gueldenstaedtii* was found in a press article. Pawełoszek (2011) included its photograph in an article on the catch of an American Atlantic sturgeon, *Acipenser oxyrinchus* Mitchill, measuring 1.5 m in total length near Kołobrzeg. The biometric features of described specimens of the Russian sturgeon are presented in Table 1. All of the fish are presented in Figure 1.

While it is impossible to identify the origin of fish, the two main pathways are deliberate release and escapement (Arndt et al. 2002). *Acipenser gueldenstaedtii* has been farmed in Poland since

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Table 1
Characters of reported *A. gueldenstaedtii*

Specimen	Date	Standard length (cm)	Mass (g)	Number of bony scutes		
				dorsal	lateral	ventral
no 1	1968-??-??	x	x	12	x	11
no 2*	2000's	46.8	796	13	37	12
no 3	2011-10-14	43.2	513	12	41	9
no 4	2011-11-??	x	x	13	46	9
no 5	2011-11- 0?	x	x	13	x	x

*specimen preserved in 4% formalin, x – impossible to measure

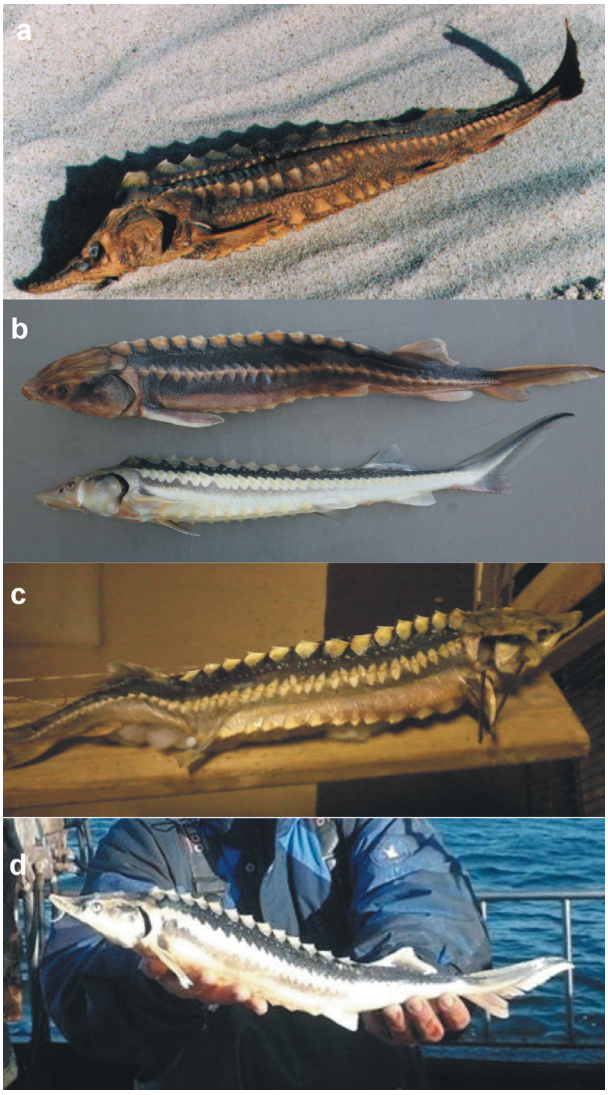

Figure 1. Russian sturgeon, *A. gueldenstaedtii*, caught along the Polish coast: (a) dried, caught in the Puck Bay in 1968, (b) both fish were caught in the Puck Bay – the upper specimen was preserved in 4% formalin, and the lower one is a live fish caught on 17 October 2011, (c) stuffed, found in a fishermen's storeroom in Unieście, 18 November 2011, (d) caught near Kołobrzeg, November 2011.

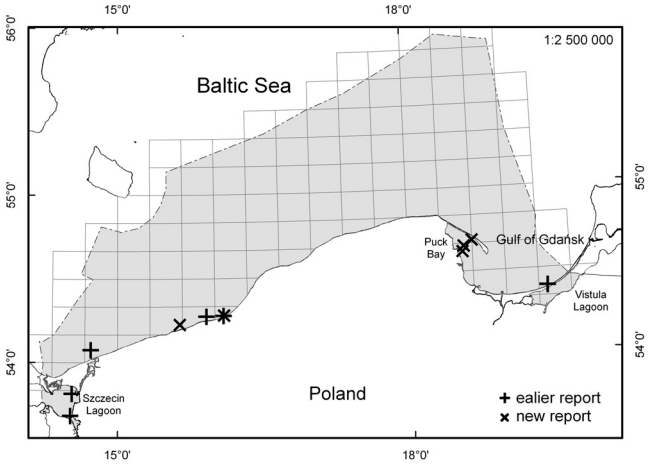

Figure 2. Reports on the Russian sturgeon (*A. gueldenstaedtii*) in Polish Marine Areas.

1985 (Grabowska et al. 2010), but there have been no reports on this species from open, inland waters with the exception of those in the Regalica River and Lake Dąbie, which are both in the Oder River Estuary, where the fish were observed in the 1990s (Gessner et al. 1999) (Table 2). Sturgeon have been caught in various areas of the brackish environment of the Polish Baltic since the 1960s; however no *A. gueldenstaedtii* has ever been observed in the Vistula Lagoon (Fig. 2). A review of survey data of sturgeon catch in Polish, German, and Dutch coastal and inland waters between 1981 and 2000 indicates that *A. gueldenstaedtii* has been observed since 1991, and that its share among the overall species observed was 6.35% (Arndt et al. 2002). According to the Polish Fisheries Monitoring Center in Gdynia, a single specimen of sturgeon was caught in the Polish Marine Areas between 2006 and 2012, whereas the authors have collected more than 75 catch reports (fish were

Table 2
Reports on *A. gueldenstaedtii* from Polish marine (M) and inland (I) waters

Date	Place of catch	ICES sub-division	Tot. length (cm)	Source
1967-??-??	Gulf of Gdańsk, Vistula Spit [M]	26	32	Bartel 1968
1967-??-??	Gulf of Gdańsk, Vistula Spit [M]	26	39	Bartel 1968
1968-??-??	Puck Bay, Jastarnia [M]	26	-	present study
1992-11-11	Dąbie Lake, Lower Odra Estuary [I]	24	25	Gessner et al. 1999
1993-06-02	Szczecin Lagoon, Wolin [M]	24	38	Gessner et al. 1999
1993-07-06	Dąbie Lake, Lower Odra Estuary [I]	24	27	Gessner et al. 1999
1993-07-??	Dąbie Lake, Lower Odra Estuary [I]	24	35	Gessner et al. 1999
1994-07-??	Regalica River, Gryfino [I]	24	30	Gessner et al. 1999
1995-06-??	Szczecin Lagoon, Trzebież [M]	24	30	Gessner et al. 1999
1996-03-30	Pomeranian Bay, Dziwnów [M]	24	33	Gessner et al. 1999
2000-12-17	Baltic Sea, Unieście [M]	25	48	Keszka and Heese 2003
2001-10-20	Baltic Sea, Gąski [M]	25	55	Keszka and Heese 2003
2000's	Puck Bay [M]	26	57	present study
2011-10-14	Puck Bay, Mechelinki [M]	26	54	present study
2011-11-??	Baltic Sea, Unieście [M]	25	-	present study
2011-11-0?	Baltic Sea, Kołobrzeg [M]	25	-	present study

landed, not discarded) from less than a dozen fishery harbors over last three years. From the low number of sturgeon in official Polish catch statistics, that sturgeon occur as by-catch extremely incidentally could be a misinterpretation. Another issue is that the majority of marine fishery inspectors lack experience in identifying sturgeon species.

European sturgeon, *Acipenser sturio* L., and Atlantic sturgeon, *A. oxyrinchus*, are protected by Polish law (Directive 2009a, 2009b, 2009c, Regulation 2009a, 2009b, 2011), but fishermen have difficulty identifying sturgeon species, and they seem to ignore individuals smaller than 50-60 cm because of their low profitability. Some fishermen release these fish. Generally, only specimens longer than 1 m treated as trophies are photographed more often, which subsequently allows identifying the species.

The co-occurrence of alien and native sturgeon species is associated with threats since it facilitates the transfer of pests and pathogens, leads to competition for food resources, and can result in hybridization (Gessner et al. 1999). Coastal fisheries contribute to lowering the abundance of alien species such as *A. gueldenstaedtii*, thus reducing these threats. However, it can also simultaneously reduce the number of stocked *A. oxyrinchus*.

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