

Chelon labrosus
(Risso, 1827) – the first
record from Lake Dąbie
(Poland)

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Abstract

We report on the first occurrence of *Chelon labrosus* in a Polish estuary. One *Ch. labrosus* was caught with a fyke net in the northern part of Lake Dąbie (Odra estuary) on 14 November 2007. It measured 266.92 mm in overall length and weighed 176.8 g. The fish's metric and meristic characters, age by scale, condition, sex and maturity stage (Maier's scale) were determined.

In recent years both rare and exotic species have been recorded in the southern Baltic and its estuaries, for example, the European seabass (*Dicentrarchus labrax*), the tub gurnard (*Chelidonichthys lucernus*),

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the Ballan wrasse (*Labrus bergylta*), the saithe (*Pollachius virens*) and the swordfish (*Xiphias gladius*) (Krzykowski et al. 2001, Keszka & Raczyński 2002, Keszka et al. 2003). Alien fish species found in the estuary of the River Odra have included the Siberian sturgeon (*Acipenser baerii*), the Russian sturgeon (*Acipenser gueldenstadtii*) and the American paddlefish (*Polyodon spathula*) (Keszka & Stepanowska 1997, Krzykowski et al. 2001, Keszka & Heese 2003). Most introductions of non-indigenous species are the effect of the globalisation of trade (introductions via ballast water, tank sediments) and aquaculture. Some species often occur unexpectedly in new regions after an expansion of their natural distribution range (Mohr 1988, Nehring 2002). One of these is the thick-lipped grey mullet (*Chelon labrosus* (Risso 1827)), which occurs in the North Atlantic. Its range extends from off the West African coast (Senegal) northwards to the Faroes and the British Isles, Iceland, and southern Norway (Ben-Tuvia 1986), and also eastwards to the Mediterranean Sea and the western Black Sea (Keith & Allardi (coord.) 2002). Since the mid-1960s, the species has evidently been spreading from the North Sea into the western Baltic (Mohr 1988). In the mid-1970s single specimens were caught in Flensburg Fjord and the Fehmarnsund, and in the 1980s in Kiel Fjord and in the Trave estuary. But there are only three 20th-century records of the thick-lipped grey mullet from the central and eastern Baltic: one specimen was caught off Pori (Finland) in 1958, and another in the Gulf of Riga near Salacgriva (Latvia) in 1980 (Plikšs & Aleksejevs 1998). The third eastern Baltic record, and the first one in Polish waters, comes from fish catches in Puck Bay on 20–21 September 1998. A specimen caught then measured 64 cm in overall length and weighed 2.61 kg after gutting (K. Skóra, personal communication). On 14 November 2007, the first thick-lipped grey mullet was caught in Polish estuarine waters. The specimen in question, caught with a fyke net in the northern part of Lake Dąbie (north-western Poland), was measured (TL, FL and SL) and weighed (W). Its condition (Fulton index), age, sex, and gonad maturity stage (Maier's scale) were determined. In addition, the metric and meristic characters of the fish were determined following the system proposed for perciforms by Brylińska (2000).

Basic biological characters

The specimen examined was a female at stage I on Maier's gonad maturity scale. It measured 266.92 mm in overall length and weighed 176.8 g. The Fulton condition index was 0.93, and its age, as estimated from the scales, was 2+. The specimen was therefore young and sexually immature. According to Gandolfi et al. (1991, quoted after Harrison 2003), females of the thick-lipped grey mullet reach sexual maturity when

355 mm (Mediterranean population) or 380 mm long (population from British waters). The maximum reported length of *Ch. labrosus* is 600 mm (Ben-Tuvia 1986). Chervinski (1989) reports that the species' daily weight increment is 0.3 g in its first year of life, and 1.1 g in its second year. In its third year, the species may measure 400 mm and weigh 600 g, with females exhibiting a faster growth rate than males (Gandolfi et al. 1991, quoted after Harrison 2003).

Coloration

The back is dark-grey with a greenish tinge; the sides are lighter (light-grey), with poorly visible, narrow, elongated, dark smudges. The abdomen is silver, with a whitish shade. The fins are dark grey.

Morphology

The body is spindle-shaped and elongated, with two short dorsal fins; the head is strongly flattened. The metric and meristic characters of specimen are typical of *Ch. labrosus*.

Food composition

Under natural conditions, the diet of *Ch. labrosus* consists principally of epiphytic algae and detritus accumulated on submerged surfaces; benthic diatoms, copepods, nematodes and amphipods are less commonly consumed (Harrison 2003).

Conclusion

Numerous species have expanded their distribution ranges as a result of natural migrations and/or human activities. This is particularly the case with species that display a relatively broad tolerance and are highly adaptable to new environmental conditions. The recent records of *Ch. labrosus* individuals in the Baltic are most probably evidence of an eastward expansion of the species' range. The migration of this euryhaline species is greatly facilitated by its high temperature tolerance (4–37°C) and its ability to live in both brackish and highly saline waters (Chervinski 1977, Harrison 2003).

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