

## Short communications

# Piracy strikes back on Lake Maggiore (Northern Italy): first report of Common Merganser *Mergus merganser* kleptoparasitizing Great Crested Grebe *Podiceps cristatus*

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Kleptoparasitism refers to the stealing of already procured food (Brockmann & Barnard, 1979). Although it is not specific to birds (Iyengar, 2008), ‘piracy’, as it is also called, has especially been studied in this group, where it has been associated with a relatively large brain, habitat openness and presence of vertebrate prey in the diet (Morand-Ferron *et al.*, 2007). This behaviour appears more common in some waterbird families.

Fish-eating waterbirds, such as the Great Crested Grebe (*Podiceps cristatus*) and the Common Merganser (*Mergus merganser*) occupy ecological niches matching at least two of the three factors apparently promoting kleptoparasitism (open habitat and vertebrate food). Unsurprisingly, piracy has been recorded in both species (Källander, 2006; 2013). For instance, Källander (2013) reported intraspecific kleptoparasitism at low frequency (0.14 attempts per hour and individual) and with low chances of success (<20% of attempts) in flock-fishing Great Crested Grebes, and suggested (2006) that the behaviour might be even more frequent among mergansers. Often piracy occurs among members of different species (Brockmann & Barnard, 1979, and references therein), as when Great Crested Grebes or Common Mergansers are mobbed by gulls trying to steal their prey (Källander, 2006). However, despite reports of both intra- and inter-

specific kleptoparasitism in these well-studied species, no published observations of piracy by Common Mergansers on Great Crested Grebes were found. In this short note, the first account of such behaviour is provided.

The occasional observation by AC was made by eye from the lake shore at ca. 18.30, local time, on 18 April 2014, near the village of Belgirate (Lake Maggiore, Italy; 45.83°N, 8.57°E). Pictures documenting the event immediately before and after it took place were taken using a Panasonic DMC-TZ6 Lumix digital camera with a Leica lens and a 12× optical zoom.

An isolated Great Crested Grebe, swimming in approximately 25-50 m distance from the shore, was seen while it was trying to swallow a large fish (Fig. 1a), later identified from the picture (Luigi Sala, pers. comm.) as a European Perch (*Perca fluviatilis*). The bird was handling the fish with some difficulty because of its size (Fig. 1b,c). A solitary female Common Merganser was swimming next to the shore about 100 m from the grebe. Approximately one minute after the first observation of the grebe, the bird, still holding the fish, fled swimming fast, while the merganser came ‘flight-rushing’ towards it. As the merganser approached, the grebe dived, immediately followed by the merganser. They both surfaced again soon, ca. 10 m farther from where they had dived. The Great Crested Grebe had lost its prey and the Common Merganser swam away holding the perch in her beak (Fig. 1d). The grebe followed her for a few seconds but soon gave up the chase. Shortly afterwards the merganser swallowed the fish.

The Great Crested Grebe population of Lake Maggiore is large and it may reach a few thousand individuals when wintering birds from northern Europe join local residents (Gagliardi *et al.*, 2007). The Alps are also home to a smaller resident population of Common Merganser (ca. 1000-1400 pairs in 1998; Keller, 2009), which is augmented in winter with birds from northern Europe.

The occurrence of breeding individuals of Common Merganser on Lake Maggiore is relatively recent. The first reports of females with ducklings are from 1998 for the north-western side of the lake, and from 2003 for the

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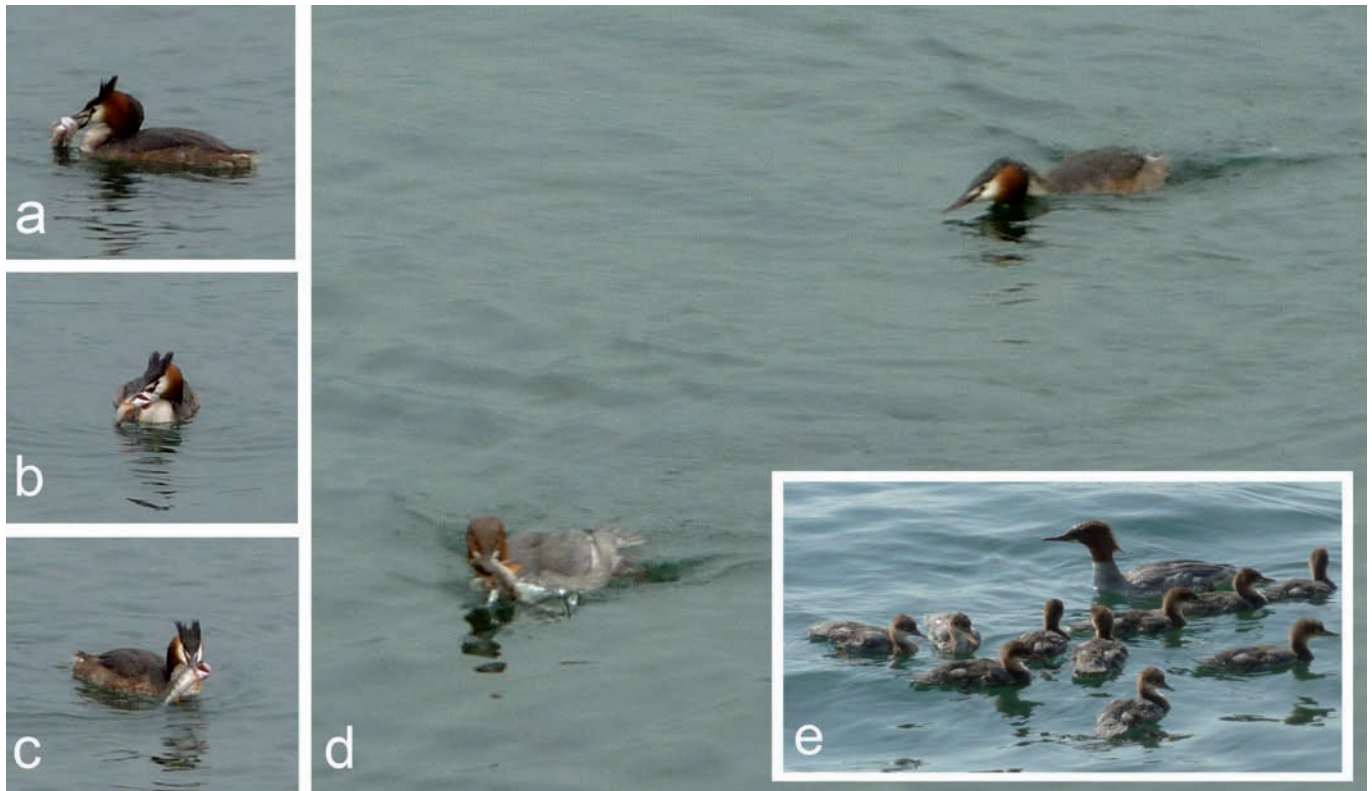


Fig. 1 - a-c) Great Crested Grebe trying to swallow a European Perch. d) Female Common Merganser, after chasing the grebe underwater, manages to steal the perch and swims away. e) Female Common Merganser with 10 ducklings photographed in 2011 by AC in the same locality.

north-east (Gagliardi *et al.*, 2007, and references therein). A recent ornithological report for Piedmont and the Aosta Valley (Alessandria *et al.*, 2013) and personal observations by AC (Fig. 1e) confirm the now relatively common presence of breeding Common Mergansers on the lake. As for the Great Crested Grebe, its population also seems to be increasing and the two species might compete for fish with each other, as well as with Great Cormorants (*Phalacrocorax carbo*), which also permanently inhabit the lake. Detailed studies of population trends and competitive interactions among waterbirds on Lake Maggiore are, however, missing.

Observations of kleptoparasitic behaviour, in which Great Crested Grebes are attacked by other birds (*e.g.*, gulls; see Källander, 2006) are relatively rare, as this species mostly captures small fish which is immediately swallowed. Källander (2013) reported instances of intra-specific kleptoparasitism in Great Crested Grebes fishing in flocks, a behaviour that in itself is relatively uncommon (Källander, 2008). In all instances, piracy happened if a bird had captured a large fish which could not be swallowed in one gulp. This is consistent with the suggestion that kleptoparasitism occurs if these waterbirds capture unusually large preys. On Lake Maggiore, the open habitat gives the grebes no place to hide while the time required for ingesting larger prey creates a chance for nearby birds to try stealing the fish, as it was the case in this observation.

Interestingly, despite the rarity of piracy against grebes, the Great Crested Grebe's immediate fleeing response to the still distant 'flight-rushing' merganser raises the issue of whether the bird had previous experience of similar attacks. The coexistence of the two species on Lake Maggiore is, as mentioned, relatively recent and the rapid response of the grebe could actually be instinctive rather than learnt. Our occasional observation, however, cannot provide an answer to this question.

Both species are mainly piscivorous. However, the Common Merganser might be more opportunistic than the Great Crested Grebe in terms of diet, as it was seen being fed with bread by tourists in the same area (AC, pers. obs.). Great Crested Grebes, on the other hand, seem to be more strict in their food preferences but could have expanded their niche by fishing at night (AC, pers. obs.), a behaviour repeatedly observed in Belgirate, where grebes may be exploiting fish preys attracted by the light of nearby street-lights. That Great Crested Grebes can finely tune their activity to optimize feeding efficiency has been suggested by Piersma *et al.* (1988, p. 481), who showed that grebes in their study population tend to fish "during twilight when much of their prey is near the surface, where light intensities allow the fish to be detected and captured".

Future studies are required for an accurate assessment of the behavioural ecology and interactions between these waterbirds and their potential effects on the population

dynamics in Lake Maggiore and other sub-alpine lakes. For the time being, we must limit ourselves to report the first observation worldwide of merganser-grebe kleptoparasitism, which is in the title jokingly referred to piracy striking back on Lake Maggiore, once home to the legendary 15<sup>th</sup> century Mazzarditi ‘pirates’.

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