

Kleptoparasitism of wintering Great Northern Divers *Gavia immer* by gulls

Ingvar Byrkjedal

Bergen Museum, University of Bergen, P.O. Box 7800,
Allégt. 41, N-5020 Bergen, Norway
E-mail: ingvar.byrkjedal@zmb.uib.no

Abstract. Four cases are described of wintering Great Northern Divers *Gavia immer* being attacked by gulls (Herring Gull *Larus argentatus* in three of the cases, Greater Black-backed Gull *Larus marinus* in one) while handling flounder (Pleuronectiformes) on the sea surface. In each case the gull tried to steal the divers' prey without success. The divers saved their prey either by diving with prey in bill, or by dropping prey into the sea and retrieving it after attacking the gull.

Waterfowl handling prey on the sea surface are prone to kleptoparasitism by gulls (Brockmann & Barnard 1979, Morand-Ferron et al. 2007). A typical example is Common Eiders *Somateria mollissima* being subjected to food-stealing by Glaucous Gulls *Larus hyperboreus* while spending time handling molluscs for swallowing (Varpe 2010). Piscivorous pursuit-diving seabirds often swallow their prey after a brief handling (e.g. cormorants *Phalacrocorax* spp., mergansers *Mergus* spp.; Cramp & Simmons 1977) or even under water (e.g., alcids (Alcidae); Cramp 1985), and are thus in less danger of being kleptoparasitized. Great Northern Divers *Gavia immer*, while swallowing small fish under water, bring larger fish to the surface for immobilization before swallowing (Evers et al. 2010). During their stay in winter on the coast of Jæren, SW Norway, Great Northern Divers often capture flatfish as prey, and these usually require handling time of many minutes at the surface before the fish is swallowed. In this situation the divers may lend themselves to kleptoparasitism. While observing the winter behaviour of Great Northern Divers along the coast of Jæren, SW Norway, in 1996-2010 (Byrkjedal, 2011), I observed three cases of attempted kleptoparasitism by Herring Gulls *Larus argentatus* and one by a Great Black-backed Gull *Larus marinus*:

1. 2 December 1996: A second-winter Great Northern Diver surfaced with a flounder (Pleuronectiformes) about 10 m from a juvenile Herring Gull sitting on the sea, and started to mandibulate the flounder. The gull flew up to the

diver and tried to grab the fish. The diver dropped the flounder, which sank or swam outside the reach of the gull, and stabbed towards the gull with its bill whereby the gull immediately retreated. The diver then made a short dive to pick up its prey and continued its handling of the fish before swallowing it without further disturbance by the gull.

2. 3 December 1997: A second-winter Great Northern Diver handling a flounder was suddenly "pounced upon" by an overflying adult Herring Gull. The diver quickly dived with prey in its bill and soon surfaced about 10 m away. Within a short time the prey was swallowed, while the gull flew away.

3. 12 November 2009: An adult Great Northern Diver handling a flounder was attacked from behind by a second-winter Great Black-backed Gull that approached the diver a metre above the sea surface. The diver promptly dived carrying the prey in its bill, surfaced about 10 m away to continue handling the prey and finally swallowing it, without any further attempts of attack by the gull.

4. 10 November 2010: An adult Great Northern Diver surfaced with a flounder only 3-4 m from a juvenile Herring Gull sitting on the sea. The diver started to mandibulate the flounder, and the gull immediately took interest and swam towards the diver, which turned away from the gull, still handling the fish. The gull took flight and attacked the diver from behind and tried to grab the fish. The diver immediately dived with the flounder in its bill and surfaced 3-4 m away, where it continued to work on the prey. The gull swam towards the diver, which now swallowed the flounder. The gull picked up and ate a few small morsels from the diver's prey left floating on the surface.

The observations show that Great Northern Divers are able to prevent their prey being stolen by large gulls, either by diving carrying the prey in their bill or by attacking. Being large and with sharp, strong bills, they make a formidable opponent even for gulls as large as Herring and Great Black-backed Gulls. In all four cases, the gulls attempted their kleptoparasitic attacks from above the diver, partly in what appeared to be a swift surprise attack. On at least one occasion, the diver counterattacked the gull. The gulls quickly gave up their attempts on the divers, possibly because more promising victims that posed less of a risk were nearby. In the areas where the observations were made, there were many Herring Gulls, several of which were swimming near Velvet Scoters *Melanitta fusca*, which the gulls regularly kleptoparasitized as the scoters brought prey to the surface (mainly the echinoderm *Echinocardium flavescens*, Byrkjedal et al. 1997). The fact that only four instances of kleptoparasitic attacks by gulls on Great Northern Divers were observed in a five

winter study of these birds involving 245 observations of divers (Byrkjedal 2011) also indicates that this is a risky and less profitable species to attack.

My observations seem to be in contrast to some made in North America where American Herring Gulls *Larus smithsonianus* succeeded in taking fish from Great Northern Divers that dropped their food while diving to escape the gulls' attacks (Ford & Gieg 1995). However, attacks on swimming Herring Gulls by Great Northern Divers have been reported from America (Tozer 1993).

Sammendrag. Overvintrende islom forsøkt kleptoparasitert av måker. Islom *Gavia immer* som overvinterer på Jærkysten tar ofte flyndre, og mens de arbeider med byttet i overflata utsetter de seg for kleptoparasittisme fra måker. Fire tilfeller av måke som forsøkte å stjele flyndre av overvintrende islom langs Jærkysten blir her beskrevet (gråmåke *Larus argentatus* i tre tilfeller, svartbak *L. marinus* i det fjerde). Lommene reddet bytte hver gang, enten ved å dykke med fisken, eller ved å la fisken synke i sjøen, gjøre motangrep mot måken og deretter dykke og hente fisken igjen.

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