

Kittiwakes *Rissa tridactyla* as kleptoparasites of Great Cormorants *Phalacrocorax carbo*

Tretåig mås *Rissa tridactyla*
som kleptoparasit på storskarv
Phalacrocorax carbo

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Each winter large numbers of Great Cormorants *Phalacrocorax carbo* (simply called Cormorants below) roost at night on a small skerry off the island of Hallands Väderö, southern Kattegatt. Early in the morning most or all of them fly into the large bay of Skälderviken where they form fishing flocks numbering from less than a hundred to sometimes a thousand birds. Often several flocks are active in different parts of the bay, but birds often leave one flock in response to cues signalling that another flock has located fish, whether these cues are the diving Cormorants themselves or the presence of larids above the flock. Flocks thus often coalesce or split up. In all probability these flocks, which fish pelagically, exploit shoals of herring *Clupea harengus* and sprat *Sprattus sprattus*. Mostly, however, at the same time one can see Cormorants fishing solitarily or just a few birds together close to the shore, where the main prey seems to be benthic fish (flatfishes, Pleuronectidae and sculpins, Cottidae), but these solitarily fishing Cormorants constitute a very small fraction of the Cormorants in the area.

There is some evidence that the Cormorants at Hallands Väderö, which arrive there in autumn, used to be northern birds (Andersson et al. 1984). However, with the expansion of the population of Cormorants of a southern origin, it is possible that the large numbers that have been recorded more recently contain a mixture of northern and southern birds, which would explain a figure of c.3500 birds recorded on 23 February 1993 (pers. obs.).

The flock-fishing Cormorants are almost invariably attended by large gulls, both Great Black-backed Gulls *Larus marinus* and Herring Gulls *L. argentatus*, which try to kleptoparasitise them. On a number of occasions, however, also Kittiwakes *Rissa tridactyla* have been seen circling and hovering above these fishing flocks. One might assume that these small gulls would have small chances

of stealing fish from the Cormorants and that the association between Kittiwakes and Cormorants is commensal, the Kittiwakes diving for fish that has reached the surface in attempts to escape from their underwater bird predators. This may well be the case, but observation distances at Skälderviken are often great, precluding detailed behavioural observations. However, on 29 January 1993 such an opportunity arose.

Several flocks of Cormorants were fishing on the northern side of the bay. One such flock, heavily parasitised by some 20 Herring Gulls, had attracted a few Kittiwakes, whose number soon rose to 20. At the same time 15 Kittiwakes were patrolling above another actively fishing flock of Cormorants further out. After a while this Cormorant flock dissolved as the birds started flying to join the first flock. Also the Kittiwakes seem to have followed them, because shortly afterwards more than 30 Kittiwakes were circling above this intensively fishing Cormorant flock. When it gradually moved away from the shore, I left for another observation point c.3 km to the northwest, closer to the mouth of the bay. From there two flocks of fishing Cormorants could be seen, one with five or six Kittiwakes and one with five, later ten Kittiwakes, the latter swooping down over the front of the flock where the Cormorants were actively fishing. Distances were now short enough to enable one to see a few details. One Cormorant that surfaced with a fish was immediately attacked by a Kittiwake. However, the Cormorant easily avoided the attack by turning the back towards the gull and swallow the fish. Within a short period eleven kleptoparasitic attacks against surfacing Cormorants were seen, some of them rather violent, but in none did the Kittiwake succeed in stealing the fish. Meanwhile the other Cormorant flock had come closer and was fishing intensively with 15 Kittiwakes circling above (and several large gulls on the water among the birds). This flock came relatively close and could be seen very well in the excellent weather conditions that prevailed and by using a 20x spotting scope. During the spell of fishing activity the outcome of 50 kleptoparasitic attacks by Kittiwakes on the Cormorants was recorded; only one of them was successful. The Kittiwakes used two different techniques: they either dived headlong towards a surfacing Cormorant or made a quick swoop trying to snatch the fish from the Cormorant's bill before the fish was swallowed.

If this low success rate is typical for Kittiwakes' kleptoparasitism of Cormorants, then one wonders if this kleptoparasitism is energetically profitable.

In contrast to the larger gulls, the Kittiwakes are constantly on the wing above the fishing flocks. If this feeding method is unprofitable, however, one would not expect it to be a regular phenomenon unless it is also combined with exploitation of fish made available by the Cormorants' diving activities. During my observations, however, there was no indication that the Kittiwakes captured any fish on their own.

Reference

Andersson, G., Karlsson, J. & Kjellén, N. 1984. Earlier occurrence and recent appearance of the Cormorant *Phalacrocorax carbo* in Skåne, South Sweden. *Anser* 23: 109–124. (In Swedish with summary in English.)

Sammanfattning

Stora mängder storskarvar, numera sannolikt av både nordligt och sydligt ursprung (Andersson m.fl. 1984), övervintrar i nordvästra Skåne. Toppnoteringen tycks hittills vara de 3500 fåglar, som sågs i sundet mellan Hallands Väderö och Torekov den 23 februari 1993. Skarvarna övernattar på Svarteskär på Hallands Väderös västsida och flyger tidigt på morgonen företrädesvis in till Skälderviken, där flertalet deltar i flockfiske, sannolikt efter sill eller skarpsill. Enstaka solitärfiskande skarvar ses också strandnära, där de fångar flatfisk och simpör. Fiskeflockarna, av vilka ett antal samtidigt kan ses på olika delar av viken, kan bestå av allt från några tiotal till tusen fåglar.

Skarvflockarna beledsagas praktiskt taget alltid av grå- och havstrutar, vilka försöker stjåla fisk

från skarvarna. Ett antal gånger har jag emellertid dessutom sett tretåiga måsar, vilka fladdrat över de fiskande skarvarna. Man skulle kunna tro att dessa relativt små måsar associerar sig med skarvarna för att utnyttja fisk, som drivs upp mot havsytan som en följd av skarvarnas aktivitet, men så tycks inte vara fallet. Den 29 januari 1993, en dag då sikt-förhållandena var utmärkta, kunde jag i tubkikare i detalj studera de tretåiga mäsarnas förehavanden. Denna dag var flera skarvflockar samtidigt aktiva. Flera av dem hade, förutom trutar, ett antal tretåiga måsar (som mest 30), vilka fladdrade över skarvarna och dök ned mot fronten på flockarna, där dykaktiviteten var högst. Småningom kom ett par skarvflockar så nära att jag i tubkikaren tydligt kunde se att de tretåiga mäsarna försökte stjåla fisk från uppdykande skarvar. Härvid använde mäsarna endera av två tekniker. Antingen dök de huvudstupa mot en uppdykande skarv eller gjorde ett blixtsnabbt svep mot en skarv, som hade fisk i näbben. Av totalt 62 registrerade försök lyckades emellertid blott ett. En så låg framgång får en att undra om denna kleptoparasitism verkligen kunde vara energimässigt lönsam, i synnerhet som de tretåiga mäsarna hela tiden befann sig på vingarna (till skillnad från trutarna, som tillbringar långa perioder liggande på vattnet). Fler iakttagelser av den beskrivna associationen mellan tretåiga måsar och fiskande skarvar, och framför allt av mäsarnas framgång, skulle kunna kasta ljus över denna fråga.

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