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Breeding habitat distribution in a population of the Herring Gull *Larus argentatus* on the Finnish west coast

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Introduction

Kilpi (1988) called the Herring Gull *Larus argentatus* “one of the winners among Holarctic birds in this century”. This statement is clearly supported by data on the population growth in Finland: in the 1930s there were a few hundred Herring Gull pairs in the Gulf of Finland; in 1980 there were at least 11 000 pairs (e.g. Bergman 1939, Kilpi et al. 1980, Kilpi 1983). Nowadays, the Archipelago Sea also harbours several thousand Herring Gull pairs (Kilpi 1988).

On the other hand, the population along the Finnish west coast is still sparse; for instance, in the archipelago of southern Ostrobothnia in 1985–87 there were only about 500 pairs in a coastal stretch measuring about 100 km (Kilpi

1988). At Valsörarna/Valassaaret the Herring Gull population increased at least tenfold in 1960–1978, but the absolute numbers are small (about 70 pairs in 1978) (Hildén et al. 1978).

The future development of the Herring Gull population on the Finnish west coast will depend on several factors, such as the habitat and food availability, local productivity, immigration and changes in mortality (see Kilpi 1988). In this study, I present some data regarding the habitat distribution of a Herring Gull population that is probably in the initial stage of population increase, my aim being to discover whether the generalist nature of the bird is also reflected in the habitat distribution of a sparse population in an area that is geomorphologically clearly different from the Finnish south coast.

Results and discussion

In May 1988, I censused the whole commune of Korsnäs (approximately 62°49'N, 21°10'E) for breeding Herring Gulls (Ulfvens 1988a). The area consists of a narrow archipelago with low moraine skerries and boulder-rich shores (for details, see Ulfvens 1988b). In colonies, I tried to count all the gull nests, but when this would have been too time-consuming, I counted the birds flying above the colony and added 10% to this figure, since some of them were probably absent (see Haldin & Ulfvens 1987).

In May 1989, I returned to the same colonies and observed the habitats and nest sites used by the Herring Gulls. All colonies were active and located in the same places as in 1988. No data have been published earlier on the Herring Gull population in the area studied, but I assume that the population development has been approximately the same as at Valsörarna/Valassaaret.

The area censused is 220 km² (water areas included) and in 1988 it contained about 270 breeding Herring Gull pairs. There were 13 colonies (4–35 pairs in each) and according to my estimate these comprised 176 pairs (= 65% of the total population).

The solitary pairs mostly nested on large boulders situated in small bays or on barren, open shores of smaller islands. In the latter case most of the nests were placed on stones or boulders.

The colonies (Table 1) lie in a variety of habitats. Both small and large islands are represented, and the islands are both treeless and wooded (mostly birch and alder). Only one colony (Storbådan) is situated in a habitat that resembles the treeless, cupola-like skerries with polished rocks where Herring Gulls traditionally nested in the Gulf of Finland (e.g. von Haartman et al. 1963–72). It is remarkable that in at least six colonies many pairs nested among bushes and trees (e.g. Knappelgrynnan, Marskär, Täljknivshällorna) or on solitary stones and boulders off the shore (e.g. Korsungskatracklet, Norrskatgrynnan).

Thus the data from Korsnäs clearly conform with the opinion that the Herring Gull is eurytopic and generalistic in its habitat distribution (e.g. von Haartman et al. 1963–72, Tinbergen 1956). Some of the colonies even lie in extreme

habitats, for instance Korsungskatracklet, where 21 pairs of Herring Gulls nested on isolated boulders facing the open sea.

It seems clear that a possible population increase of the Herring Gull in Ostrobothnia will not be restricted by lack of nesting habitats. The species can certainly exploit habitats of very different kinds.

Yet, the population in question is sparse and the breeding density in the colonies is low, at least in comparison with the situation in the Helsinki area, where there were locally up to 30 pairs/ha in 1984 (Kilpi 1988). With the same regional rate of increase as on the Finnish south coast (about 9% per year; Kilpi 1988) the Herring Gull population in Korsnäs would double by 1996 and reach about 760 pairs in the year 2000 (however, the annual increase in small areas on the west coast has been 15–21%; Kilpi 1988). This means, for instance, that the two largest colonies would support about 90 pairs in the year 2000, if the increase were evenly distributed in the area. These numbers are not high for the total population or for separate colonies; on the Finnish south coast, colonies can consist of more than 400 Herring Gull pairs (e.g. Kilpi 1983). I therefore suggest that an even increase of the population at the same rate as in southern Finland may be possible.

From the local point of view, however, it is clear that a Herring Gull expansion in the Korsnäs area could be restricted by persecution. According to my own observations, the large gulls are heavily persecuted in the Bergö archipelago, which borders on Korsnäs in the north, and Herring Gull colonies are totally lacking in this area. The fishermen and hunters in Bergö are encouraged to shoot large gulls and are being paid for every bird they kill. As the Herring Gull population in Korsnäs, and the whole Ostrobothnian archipelago, is still rather small, an effective campaign to kill the nesting gulls could result in a rapid decrease. However, as immigration may be important for the growth of new colonies (Porter & Coulson 1987, Kilpi 1988), killing the local birds in this sparse population would probably not completely eliminate the species in the area.

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Table 1. Habitat and nest site distribution of the Herring Gull colonies in Korsnäs in May 1989. For details on the island types, see Hildén (1964). No data on island area can be given for Korsungskatracket and Norrskatgrynnan, as all gull pairs here nested on solitary stones. Note that figures in parenthesis for breeding area also include water areas (these colonies lie on scattered stones and boulders or on several very small islets). As regards breeding density, two figures are given: density for the whole breeding island, and in parenthesis density per breeding area.

Island name & type	Island area(s) (ha)	Breeding pairs	Breeding area (ha)	habitat(s)	Nest site(s)	Density (pairs/ha)	Next neighbour (m)
Hålbådan: bushy herbaceous islets	0.04, 0.08, 0.08	12	(4)	Bushy, small islets	Boulders, stones; on the shore	60 (3)	ca 10
Knappelgrynnan: wooded, boulder islets	0.9, 0.6	8	(2.4)	Alnus, Betula forest + shore	Boulders; on the ground	5.3 (3.3)	ca 10
Korsungskatracket	—	21	(6)	Solitary stones + boulders	Boulders, stones	— (3.5)	ca 20
Lillgrund (Upersinas bådan): woodless, boulder islet	0.7	14	0.24	Open boulder islet	Boulders; on the ground	20 (58.3)	4
Marskär: wooded, stony and polished rock islets	2.5	8	0.24	Shore meadow + Alnus, Juniperus bushes	On the ground	3.2 (33.3)	5
Mittigrynnorna: wooded herbaceous island	8.2	15	0.6	Stone shore meadow	On the ground	1.8 (25)	4
Norrskatgrynnan	—	8	(1.5)	Solitary stones	Boulders, stones	— (5.3)	ca 10
Remmargrynnan: bushy herbaceous islet	0.7	6	0.4	Bushy stone meadow	Stones; on the ground	8.6 (15)	7
Röngrunden: wooded boulder island	24	10	5	Boulder-rich shore	Boulders	0.4 (2.0)	ca 40
Storbådan: woodless, stony meadow island	12	30	3	Stony grass meadow	On the ground	2.5 (10)	ca 10
Tredjedelsstenarna: bushy, stony and polished rock islet	0.6	4	0.1	Stony shore meadow	On the ground	6.7 (40)	ca 20
Täljknivshällorna: wooded meadow islet	2.0	35	1.5	Shore meadow + Alnus, Betula forest	On the ground	17.5 (23.3)	3
Yttre Utstenarna: wooded stony meadow islet	16.0	5	0.5	Boulder-rich shore meadow	Boulders	0.3 (10)	ca 30
Mean	4.9	13.5	2.0			11.5 (17.8)	13.3
SD	7.5	9.6	2.0			17.4 (17.4)	11.2
n	14	13	13			11 (13)	13

Sammanfattning: **Biotopfördelningen i ett bestånd av gråtrut i Österbotten**

Gråtrutsbeståndet i Österbotten är betydligt glesare än i Finska viken eller i Skärgårdshavet. I skärgården i Korsnäs fanns år 1988 cirka 270 häckande gråtrutspar på ett område som är 220 km² stort. Av dessa gråtrutar häckade 35% solitär och 65% i kolonier (4–35 par i varje koloni).

Häckningsbiotopernas karaktär varierade kraftigt, vilket kan tas som intäkt för att gråtruten är flexibel och mångsidig även i detta område med en gles stam. Man kan därför slå fast att en fortsatt ökning av gråtrutsstammen längs västkusten i Finland troligen inte kommer att begränsas av brist på häckningsbiotoper. Lokalt kan emellertid det dödande av vuxna gråtrutar som t.ex. sanktioneras av jaktföreningarna i skärgården vara av betydelse med tanke på beståndets utveckling; t.ex. i skärgården strax norr om Korsnäs saknas gråtrutskolonier helt, främst på grund av årligen pågående förföljelse.

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