Bird observations around the Nordøstvandet polynya, Northeast Greenland, 1980

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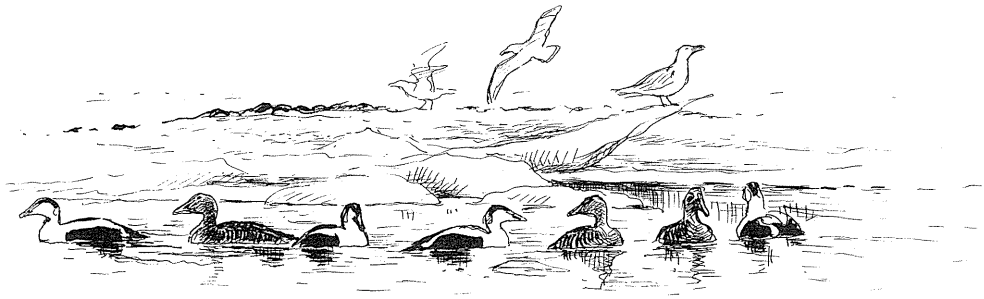
(Med et dansk resumé: Fugleobservationer omkring Nordøstvandet, Nordøstgrønland, 1980)



INTRODUCTION

The Nordøstvandet (Northeast Water) polynya is an area of open water within the East Greenland Current, stretching southwards along the coast from Nordostrundingen, the northeasternmost point of Greenland (Fig. 1.). At most it reaches some 150 km southwards, to the vicinity of Hovgaard Ø. The open water, which seems to have a normal salinity- and temperature stratification for the East Greenland Current (Fig. 2 in Aagard et al. 1981), is obviously a result of slackened ice pressure on the leeward, southern side of Nordostrundingen. This situation may sometimes be enhanched by the stranding of large ice-bergs or ice-islands east of that point (Vinje 1982). In the summer, this polynya is usually connected with large open leads stretching along the north coast of Kronprins Christian Land, up to and beyond easternmost Peary Land (Håkansson et al. 1981).

The coastal areas inside Nordøstvandet are extremely barren, with a long lasting but thin snow cover and a vegetation cover usually below 1 pct. Inside marine forelands, which may be some kilometres wide, lie mountains commonly of more or less flat-lying sedimentary rocks. Usually steep, 400-500 meters high cliffs face the sea and fjords, and wide rather flat plateaux constitute their tops (Fig. 2). Local ice-caps are common on these plateaux and outlet glaciers often reach sea-level. On the northern part of Kronprins Christian Land lies Flade Isblink, an ice-cap with a diameter close to 100 km. Nordostrundingen is a narrow stretch of low moraines between the ice-cap and the sea. Kilen is a wedge-shaped area of flat land, some 15 km wide at the coast, and stretching more than 30 km inland, almost to the center of Flade Isblink. In the interior a complex of 500 m high mountains divide the ice-stream, thus forming this ice-free enclave. About 25 km off Amdrup Land lie Henrik Krøyer Holme, four flat and barren islets nowhere reaching more than 20 m above sea-level (Fig. 3).

The Nordøstvandet polynya was found to be an isolated northern breeding enclave for the Fulmar *Fulmarus glacialis* by the Danmark Expedition 1906-1908. This expedition also noted pre-breeding congregations of King Eider *Somateria spectabilis* (Manniche 1910). These records were confirmed during the Danish Northeast Greenland Expedition 1938-1939 (Pedersen 1942), but otherwise virtually no data on the avifauna of this inaccessible region

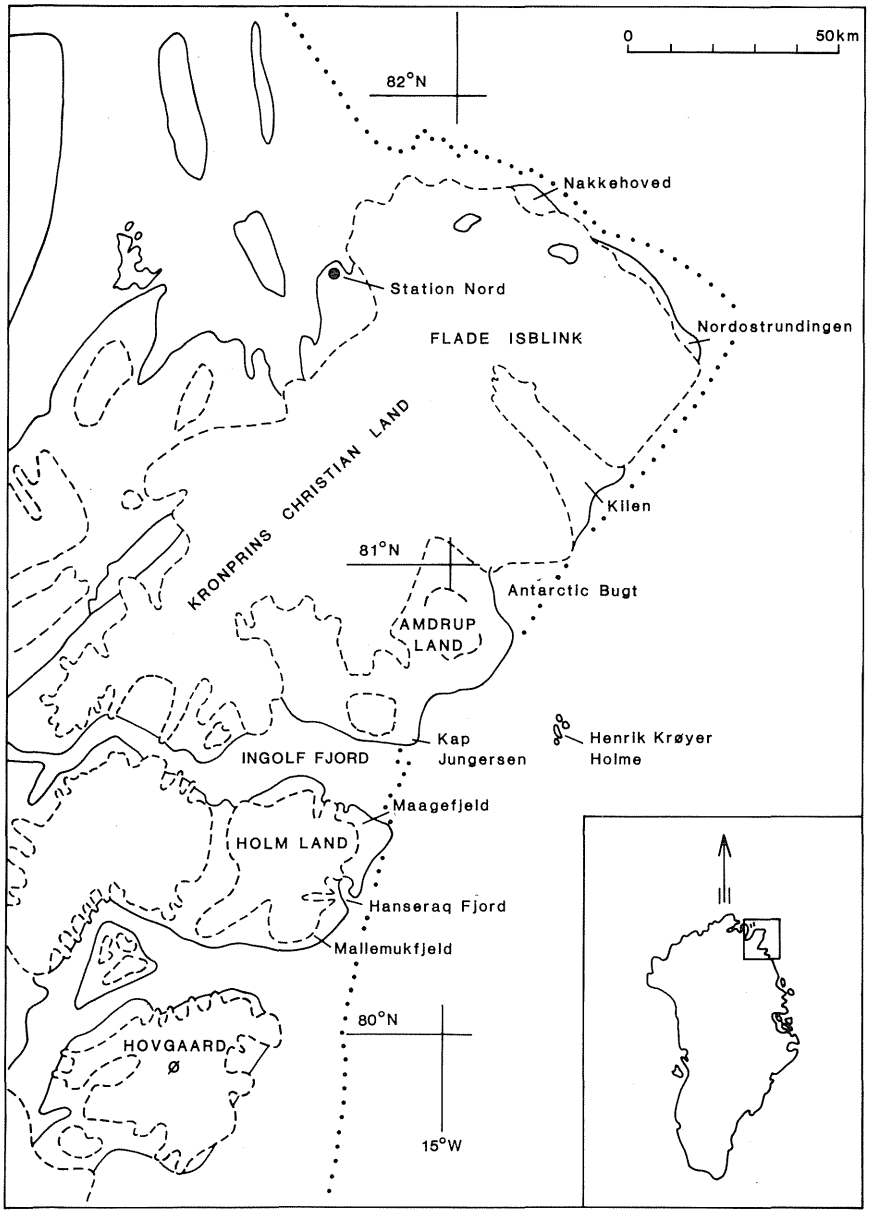


Fig. 1. Northeasternmost Greenland, with inset map of Greenland. The dashed lines indicate glaciers and ice-caps. The dotted line shows how the edge of unbroken ice along the coast may run before its break up in the middle of the summer. It is based on an air-photo from 4 August 1978, when the drift ice coverage off this ice edge was 4/8-8/8 north and northwest of Nordostrundingen, 1/8 in a 15-40 km wide zone from Nordostrundingen southwards to beyond Hovgaard Ø (Nordøstvandet sensu strictu), and 2/8-3/8 in the areas immediately east of this zone. According to satellite images and field experience the situation was similar in 1980.

Det nordøstlige Grønland, med oversigtskort over hele Grønland. De stiplede linier markerer gletschere og iskapper. Den prikkede linie viser hvordan fastiskanten kan ligge lige før den bryder op midt i sommeren. Den er baseret på et flyfoto fra 4. august 1978. På dette tidspunkt var drivistætheden uden for fastiskanten 4/8-8/8 nord og nordvest for Nordostrundingen, 1/8 i en 15-40 km bred zone fra Nordostrundingen sydover forbi Hovgaard Ø (det egentlige Nordøstvand), og 2/8-3/8 i området umiddelbart øst for denne zone. Satellittbilleder og felterfaring viser at situationen var lignende i 1980.

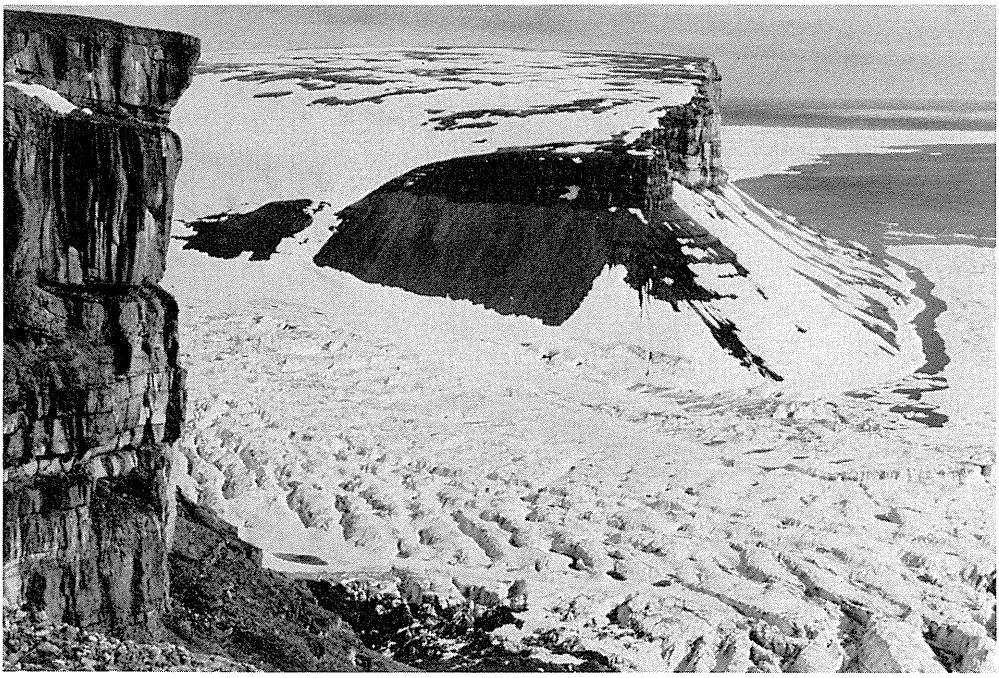


Fig. 2. Late Paleozoic limestone cliffs rising to approximately 500 m characterize most of the east coasts of Holm Land and Amdrup Land. The cliff-face on the near side of the glacier is part of the Mallemukfjeld breeding colony of Fulmars. Photo E.H.
Klinter i sen-Palæozoiske kalksten dominerer østkysterne af Holm Land og Amdrup Land. Klippevægen til venstre huser en del af Mallemukkolonien på Mallemukfjeld.

exists. Some observations from the Nakkehoved area 50 km west of Nordostrundingen were, however, published by Håkansson et al. (1981).

By coincidence, this coast was visited by two teams of part-time ornithologists in 1980. EH and LS (together with Claus Heinberg and Per Mølgaard) worked on foot and with occasional helicopter support as geologists for the Geological Survey of Greenland (GGU) and were in the area between 22 June and 12 August. CH, also as a geologist, worked by helicopter from the Swedish ice-breaker *H.M.S. Ymer* 28-29 August and was stationary in the ice off Nordostrundingen 1 September.

OBSERVATIONS

Fulmar *Fulmarus glacialis*

The breeding area 1980 was situated along the east and north coasts of Holm Land (Mallemukfjeld, Hanseraq Fjord, Maagefjeld) and at Kap Jungersen north of Ingolf Fjord. This corresponds well with that described by Pedersen (1942). The species was particularly numerous at Mallemukfjeld (Fig. 2), where more than 250 were seen 11 July. More than 50 were observed at Maagefjeld 12 August, 15-25 birds at Kap Jungersen 26 June – 4 July and similar numbers on the north side of Hanseraq Fjord 4-10 July. Smaller numbers were obviously breeding here and there along other parts of these coasts, and more than 10 different birds visited the cliffs immediately south of Hanseraq Fjord as late as the night 28-29 August. The breeding birds were mainly of the semi-dark form (type D; Fisher 1952, van Franeker & Wattel 1982), but a few very dark birds (type DD) were also seen. The Fulmar was common in the off-shore area and in the ice further out.

Common Eider *Somateria mollissima*

This bird had not previously been observed north of Germania Land, 300 km to the south (Manniche 1910, Pedersen 1942, Meltofte 1975), but in 1980 it was found to be rather common in the area from Hanseraq Fjord up

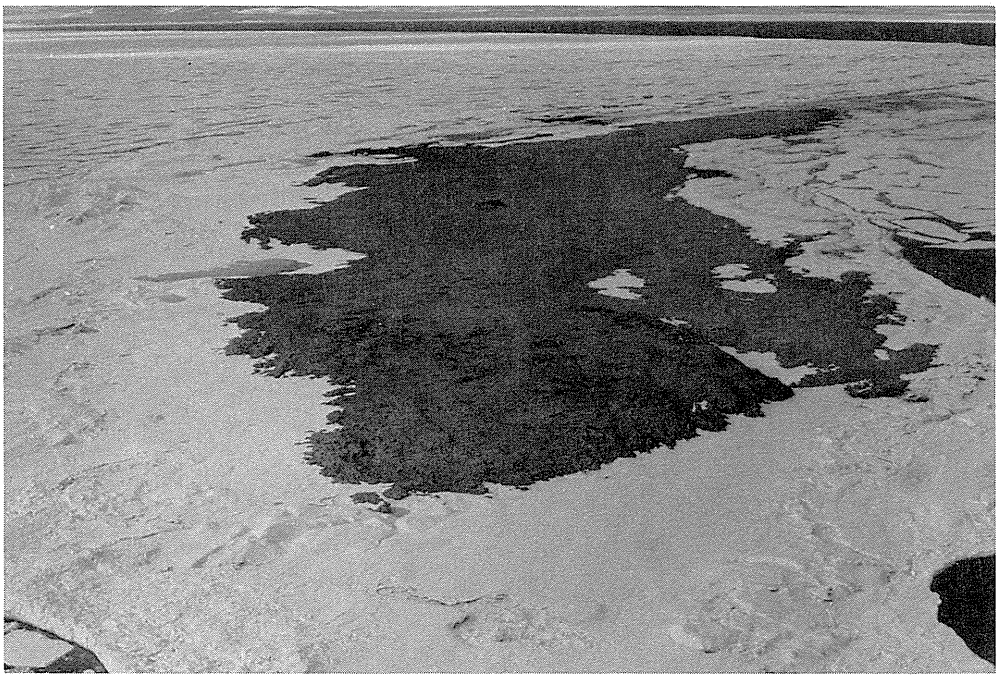


Fig. 3. The smallest, southernmost island in the Henrik Krøyer Holme archipelago. Among the ruins of the former eskimo settlement in the nearest part of the island, Sabine's Gull and Common Eider were recorded breeding. In addition Arctic Terns probably bred here, and both Ross's Gulls and Ivory Gulls occurred around the islands. Photo E.H.
Den sydligste og mindste af Henrik Krøyer Holme. Mellem ruinerne af øens tidligere eskimobosættelse fandt vi ynglende Sabinemåger og Ederfugle. Adskillige Havterner har formodentlig også ynglet her, og såvel Rosenmåge som Ismåge forekommer omkring øerne.

to Nordostrundingen. Pre-breeding flocks of c. 30 were seen in Antarctic Bugt on Amdrup Land 23 June (Fig. 4), and c. 80 near Henrik Krøyer Holme 26 June. Breeding was indicated by 11 males and 8 females present in lakes at Antarctic Bugt 25 June, by one pair in a lake on southeastern Amdrup Land 26 June and two pairs in lakes at Hanseraq Fjord 9 July. Breeding was proved by the presence of 5-7 females with 25-30 ducklings on the southeastern coast of Amdrup Land 25 July, and several abandoned nest cups on Henrik Krøyer Holme probably belonged to this species. Post-breeding flocks were seen as follows: six females on southeastern Amdrup Land 27 July, 30 males and female-coloured birds (the latter dominating) off Hanseraq Fjord 28 August and 25 female-coloured at Nordostrundingen 29 August. Two eider flocks, totalling some 75 birds, which were seen in the lakes on central Kilen 31 July probably belonged to this species too. In this area, with the barren shores mostly covered far into the summer by a well developed ice-foot and no islands available except for the far off-shore Henrik Krøyer Holme, the Common Eider obviously utilizes fresh water lakes (the traditional King Eider habitat) and mainland for breeding.

King Eider **Somateria spectabilis**

One male courting a female Common Eider in a lake at Antarctic Bugt 25 June and six males with 33 females at Nordostrundingen 31 July were the only observations. This indicates that the species more or less completely abandons these harsh outer coastal areas after its pre-breeding congregation here (Manniche 1910, Pedersen 1942).

Ringed Plover **Charadrius hiaticula**

Observations of single birds were made at Antarctic Bugt 21, 22 and 25 June. Three birds were seen daily at Kap Jungersen 29 June – 3 July and one bird on the plateau inland from this cape 25-30 July. The only more substantial

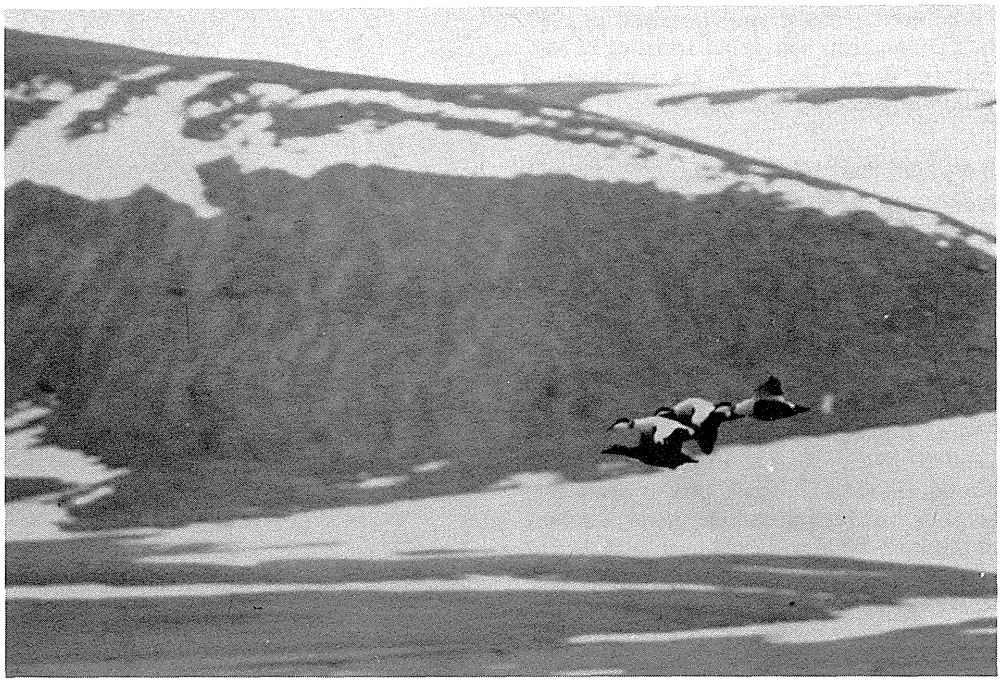


Fig. 4. Common Eiders at Antarctic Bugt. Photo C. Heinberg.
Ederfugle ved Antarctic Bugt.

indication of breeding within the area was the daily encounter of one pair between 10 and 25 July on the narrow plateau above the south coast of Holm Land.

Knot **Calidris canutus**

Breeding was indicated but not proved on the south coast of Holm Land 13 July, in an area almost devoid of vegetation. Another adult was observed in the same general area 23 July and a migrating bird at Hanseraq Fjord 28 August.

Sanderling **Calidris alba**

Scattered pairs were found in Holm Land and Amdrup Land. Some were found at the coast, but the majority on the flat 300-500 m high plateaux on top of the mountains just inside the narrow coastal forelands. Five resting migrants were seen at Hanseraq Fjord 28 August.

Great Skua **Stercorarius skua**

One bird was seen 31 July along the northern shore of Ingolf Fjord, some 20 km west of Kap Jungersen.

Sabine's Gull **Xema sabini**

Found 12 August on Henrik Krøyer Holme (Fig. 3) in small groups together with Arctic Terns *Sterna paradisaea.* Except for one single flying adult, four adults were seen with 12 terns, at least eight adults with 20 terns and six adults with 10 terns. With the latter group there was at least one Sabine's Gull chick. When the islets were visited 26 June these gulls had obviously not yet arrived. A single adult was still present in the ice north of the islets 29 August. The nearest known breeding places for this species in Greenland lie at Danmarks Havn 400 km to the south (Manniche 1910, Meltofte 1975) and at Sandøen some 250 km further south (Löppenthin 1932, Rosenberg et al. 1970).

Ross's Gull **Rhodostethia rosea**

A total of 16 or 17 adults were seen close to Henrik Krøyer Holme 29 August and a few birds off Nordostrundingen 1 September. These observations are included in Fig. 1 of Meltofte et al. (1981), where it can also be seen that this gull was a rather common bird in the

ice between Svalbard and Greenland in 1980. In 1979 one pair was found breeding in easternmost Peary Land, 200 km northwest of Nordostrundingen (Hjort 1980).

Ivory Gull **Pagophila eburnea**

Ivory Gulls were common in the ice off the coast and along the shores from Nordostrundingen to the south coast of Holm Land. Birds were also seen flying in and out of Ingolf Fjord. Single pair breeding was proven by one pair breeding on a cliff south of Antarctic Bugt 22 June and by an old nest found on the flat beach at Nordostrundingen. It was further indicated by one pair on a nunatak in southern Holm Land 10 July. A total of 10 adults on Henrik Krøyer Holme 12 August may indicate that breeding had been attempted there? A colony of about 75 birds was examined on 4 August some 30 km inland in the ice-free enclave Kilen. It was situated on a northwest exposed cliff facing the Flade Isblink ice-cap (Fig. 5). Approximately 20-25 pct. of the birds were young, most of them already flying. One ringed bird present in the area (and perhaps associated with this colony) was tame enough to eat from the cooking pans at the campsite. This and the ring indicates that it had also been a visitor to Station Nord on the other side of the ice-cap, some 50 km to the west, where many of these gulls have been trapped and ringed (Salomonsen 1961, 1979) and where they are common customers outside the kitchen door. The birds at the Kilen colony appeared to be largely unaffected by a snowstorm with -10° C raging 8-10 August. Ivory Gulls were also present at virtually all resting places for walruses *Odobenus rosmarus* encountered in the ice off Amdrup Land.

Four colonies of Ivory Gulls have earlier been found in northeasternmost Greenland. They are situated on the north- and northwest coasts of Kronprins Christian Land and on an island northwest thereof (Håkansson et al. 1981), and three colonies lie within 50 km of the Kilen colony. To the south the species has been found breeding no closer than Danmarks Havn (Manniche 1910, Meltofte 1975), but it seems likely that breeding also takes place along the intervening 400 km of ornithologically unknown land.

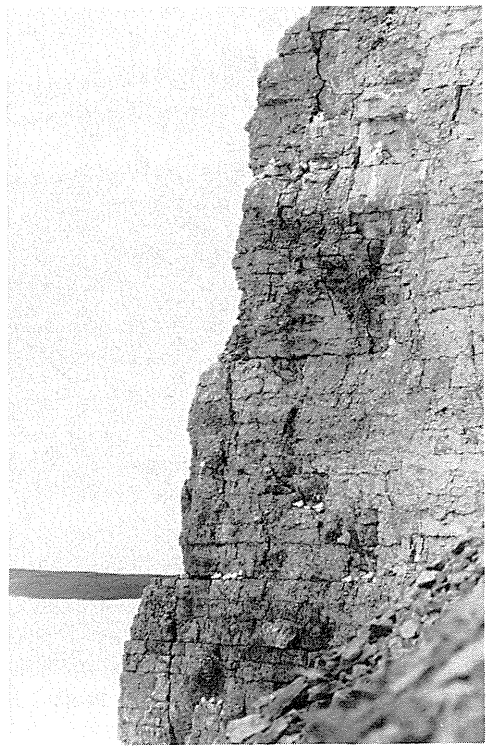


Fig. 5. Part of the breeding colony of Ivory Gulls on an inland sandstone cliff at Kilen. Photo E.H.
Udsnit af Ismågekolonien på en sandstensvæg i det indre af Kilen.

Glaucous Gull **Larus hyperboreus**

Fairly common everywhere along the coasts in the area and found breeding in a few places. On Henrik Krøyer Holme a colony of 20-25 birds was noted 26 June, at Kap Jungersen at least three pairs were found breeding 26 June and about the same number were breeding at Hanseraq Fjord 4 July. There were more than 50 birds at the breeding colony on Mallemukfjeld 10 July. Three juveniles were seen at Hanseraq Fjord 28 August.

Arctic Tern **Sterna paradisaea**

A total of 15-20 birds, showing aggressive behaviour, were seen on Henrik Krøyer Holme 26 June. On 12 August there were more than 50 present, now associated with Sabine's Gulls, but no young were seen. Throughout the summer a total of only five terns were seen on the mainland coast, all on Amdrup Land.

Other observations

Apart from the above mentioned birds, for which new information was gathered in 1980, the presence in the area of a few other species was also established: Two Red-throated Divers *Gavia stellata* were found in Antarctic Bugt in late June. Ptarmigans *Lagopus mutus* were at several places and were probably breeding at least at Kap Jungersen and Antarctic Bugt. Turnstones *Arenaria interpres* were seen as migrants only; at Hanseraq Fjord 6 July (1 bird), 7 July (1) and 28 August (3). Long-tailed Skuas *Stercorarius longicaudus* were seen at Mallemukfjeld 21 July and at Henrik Krøyer Holme 12 August, two birds on both occasions. Snowy Owl *Nyctea scandiaca* pellets were found in southern Holm Land. Snow Bunting *Plectrophenax nivalis* occurred almost everywhere from sea-level up to 450 m. Flying juveniles were seen from 1 August onwards.

It is also worth noting that both the Danmark Expedition 1906-1908 and the Danish Northeast Greenland Expedition 1938-1939 found the Kittiwake *Rissa tridactyla* well established in the area (c. 100 birds at Mallemukfjeld 9-10 June 1907 (Manniche 1910), and »eine grössere Anzahl« in the second half of May 1939, both on the cliffs and along the open leads off the coast (Pedersen 1942). *No Kittiwakes were seen by us!*

Acknowledgements

CH wants to thank the organizers of the Ymer-80 expedition, notably Professor Valter Schytt and Admiral Bengt Lundvall, for the opportunity to reconnoiter this part of the Greenland coast, and also my helicopter pilot Naval Captain Gunnar Jansson. EH and LS thank Per Mølgaard and Claus Heinberg for informations and good companionship in the field. Christine Andreasson drew the map. The paper is published with the permission of the Director of the Geological Survey of Greenland.

DANSK RESUMÉ

Fugleobservationer omkring Nordøstvandet, Nordøstgrønland, 1980

Fuglefaunaen i de smalle kystområder nord for Germania Land og op til Nordostrundingen er blandt de dårligst kendte i Grønland, og tidligere rapporter omfatter udelukkende forårsobservationer fra Danmark Ekspeditionen 1906-1908 (Manniche 1910) og fra Dansk Nordøstgrønlands Ekspedition 1938-1939 (Pedersen 1942). Fra disse og andre ekspeditioner blev den nordlige del af området kendt/berygtet for tilstedeværelsen af et udstrakt, kystnært åbentvandsområde allerede meget tidligt på foråret. Det åbne vand strækker sig fra Nordostrundingen godt 150 km mod syd, og om sommeren er det forbundet med et system af åbne sprækker, der strækker sig videre mod nord langs Peary Lands nordøstkyst (Håkansson et al. 1981). Som geologer på to uafhængige ekspeditioner havde vi i sommeren 1980 lejlighed til at indsamle oplysninger i tilknytning til dette kystnære åbentvandsområde.

De mest interessante observationer var: (1) Tilstedeværelsen af en lille population af Ederfugle *Somateria mollissima,* 300 km nord for den tidligere kendte nordgrænse i Østgrønland. (2) Mallemukken *Fulmarus glacialis* rugede på omtrent de samme steder som i 1907 og 1939, medens Riden *Rissa tridactyla* ikke mere forekom i området. (3) Sabinemågen *Xema sabini* rugede på Henrik Krøyer Holme, vor 20 fugle blev iagttaget 12. august, deraf en dununge. (4) Rosenmågen *Rhodostethia rosea* forekom i isen udenfor kysten, hvor 16-17 fugle observeredes omkring Henrik Krøyer Holme 29. august og nogen enkelte udenfor Nordostrundingen 1 september. (5) Ismågen *Pagophila eburnea* var hyppig i området. En koloni på 75 fugle, deraf 20-25 pct. unger, blev fundet langt vestpå i det isfrie område Kilen, medens enkelte par eller reder blev fundet i Amdrup Land och på Nordostrundingen. (6) En Storkjove *Stercorarius skua* blev observeret i Ingolf Fjord 31. juli.

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Manuscript received 15 December 1982

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