New nesting colonies of the Ivory Gull *Pagophila eburnea* in southern East Greenland

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(Med et dansk resumé: Nye kolonier af Ismåge Pagophila eburnea *i Sydøstgrønland)*

INTRODUCTION

Ivory Gulls have frequently been sighted along the coast of East Greenland as far south as Angmagssalik, but it has generally been assumed that the breeding range of the species in Greenland is confined to the far north. Observations made during the summer of 1978 in Kong Christian IX's Land confirm earlier suspicions that the Ivory Gull breeds in this area, up to 1000 km south of any previous records.

Records in northern Greenland

The Ivory Gull has been most commonly sighted in northern Greenland and, although low in numbers, it undoubtedly breeds quite widely there. Manniche (1910) described seven nests (all empty) on Renskæret, a small islet off Germania Land (Fig. 1). Recent visits show the island site to be abandoned, although the bird probably breeds nearby (Meltofte 1975, 1977). Manniche also observed Ivory Gulls on a number of small inaccessible islets and skerries off Kap Marie Valdemar and believed them to be nesting. They were also sighted around Hovgårds Island, Holm Land and Amdrups Land. Twelve pairs have subsequently been recorded breeding near Station Nord (Salomonsen 1961), while Meltofte *et al.* (in print) noted a possible breeding pair on Store Koldewey.

Salomonsen (1950) summarised sightings in Warming Land, Hall Land, Washington Land and Inglefield Land. Sightings have subsequently been recorded at a number of localities on the north east coast and in Peary Land. Hjort (1976) noted heavy migration offshore along the north east Greenland coast.

Records in East Greenland

Salomonsen (1950) stated that Ivory Gulls are seen off the East Greenland coast, and suggested that the birds moved south to these latitudes after breeding in the far north. More recent observations have extended the range of coastal sightings (Fig. 1), but evidence of breeding on the south-east coast has never been recorded. Ivory Gulls have also been seen inland on a number of occasions during the summer months when they might be expected to be breeding, but again no evidence of nesting has been seen. Courtauld (1936), for example, recorded three gulls in the Watkins Bjerge more than 80 km inland (see Fig. 1) and commented on the strange occurrence of »these mysterious silent birds so far from their native sea« (Courtauld 1936: 203). Fountaine and Deer subsequently observed a solitary gull at »Lindsay Nunataks«, about 30 km from the head of Kangerdlugssuak Fjord (Wager 1937). Other more recent expeditions to the Kangerdlugssuak area have noted Ivory Gulls singly or in small groups, and in 1972 members of the Westminster East Greenland Expedition noted a possible breeding colony on Mitivajkat in the Lemons Bjerge massif. In 1974, another Westminster expedition made several sightings further south, in the K I V Steenstrups Glacier region and, although no new nesting colonies were seen, it was strongly suspected that the gulls were breeding in that area.

RESULTS

New Observations

It was an objective of the 1978 Westminster East Greenland Expedition to observe Ivory Gulls and to look for positive evidence of breeding. The expedition made a pioneering sledge journey inland from Tasîlaq (66°40'N) during late July and August. The party sledged northwards as far as the latitude of Kap Edvard Holm (67°51'N) through the

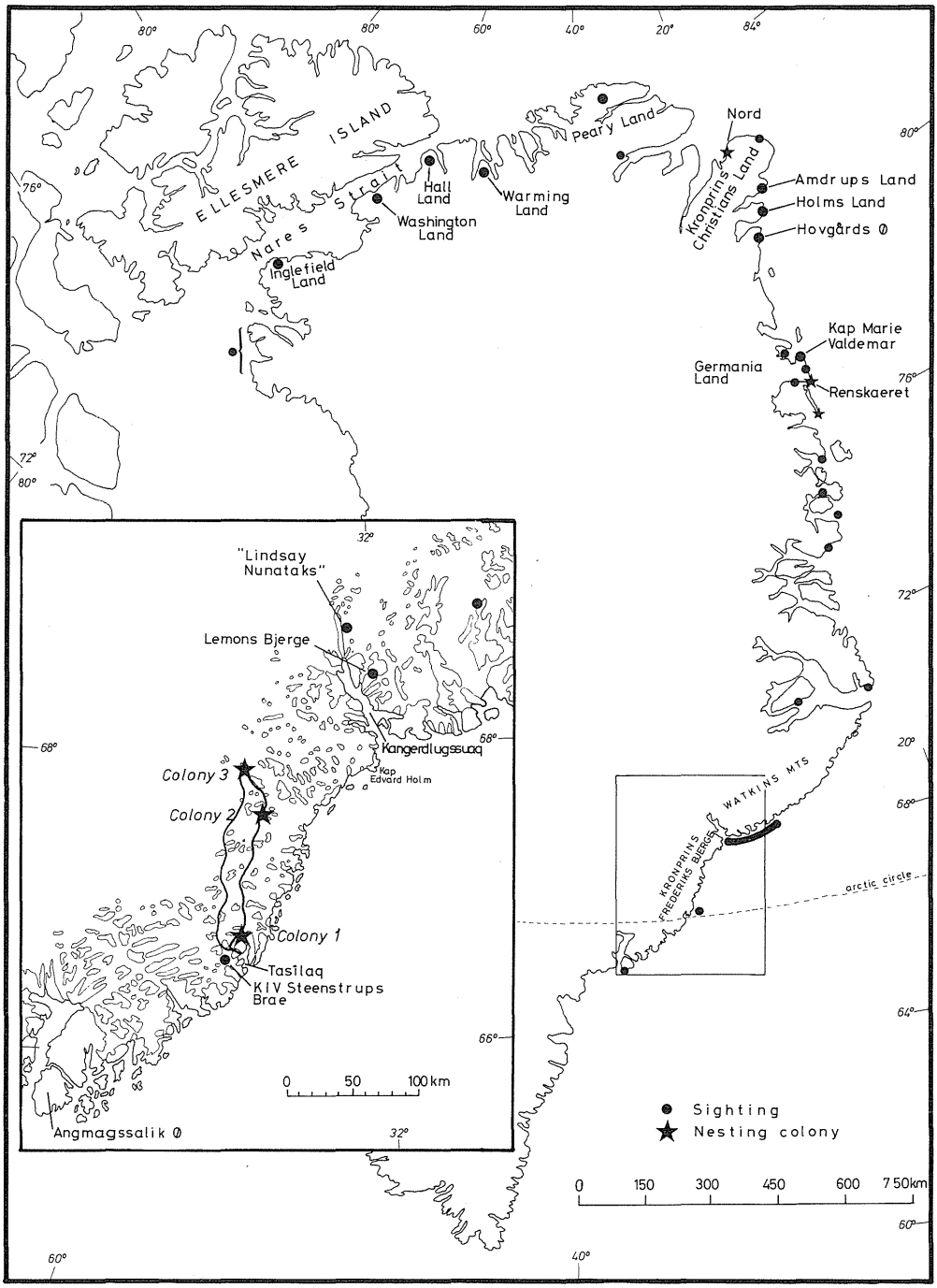


Fig. 1. Records of Ivory Gulls in North and East Greenland. Information from Bay (1894), Bird & Bird (1941), Degerbøl & Møhl-Hansen (1935), Salomonsen (1950, 1961), Meltofte (1972, 1975, 1976a, 1976b, 1977), Thing (1976) and Meltofte *et al.* (in print). Inset map of southern East Greenland shows sledge route taken by the 1978 Westminster expedition.
Iagttagelser (prikker) og ynglefund (stjerner) af Ismåger i Grønland. Udsnittet viser slæderuten og kolonierne i Sydøstgrønland.

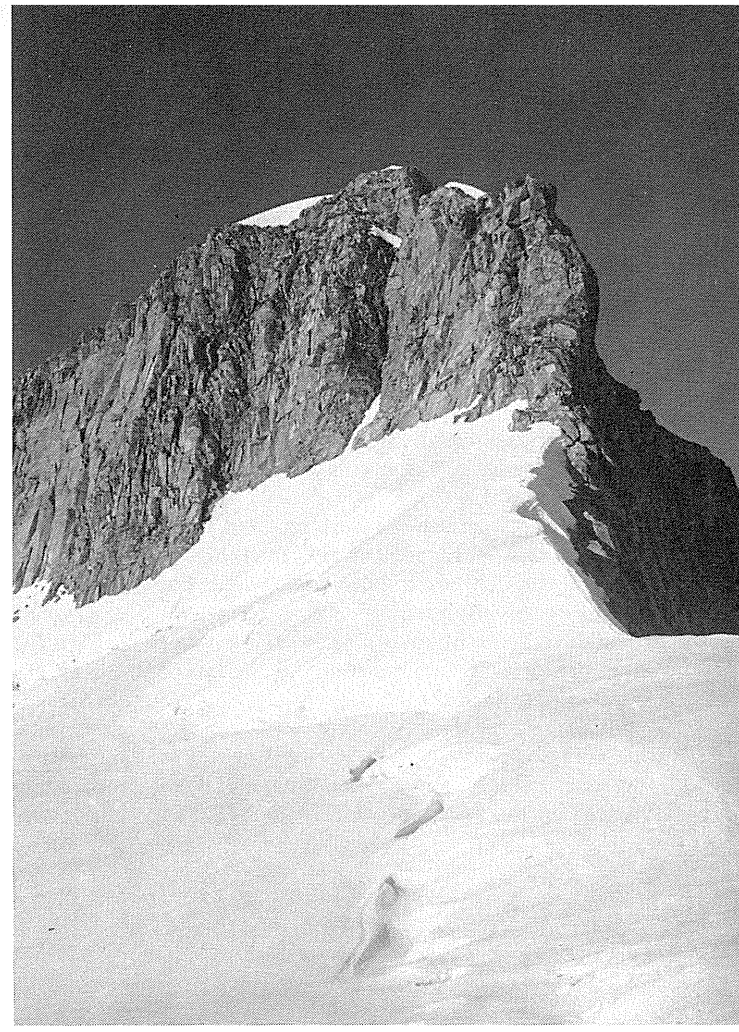


Fig. 2. The nunatak with Colony 3.
Nunataken med Koloni 3.

Kronprins Frederik Bjerge, an area previously unvisited and almost unknown. The sledge route taken is shown in Fig. 1. Solitary or small groups of Ivory Gulls were seen on every leg of the inland journey except at the two highest and most remote camp areas. Of much greater importance, however, three quite large nesting colonies were discovered on the cliff faces of isolated and widely separated inland nunataks. Less than one day was available to visit and observe each colony, but the results of our observations are given below. The locations are on Fig. 1.

Colony 1 Latitude 66°48' N
Longitude 34°25' W
Altitude 1100-1200 m
Visited 30 July 1978

This colony is situated on a sheer NE facing cliff located about 15 km from the head of the nearest fjord, Tasîlaq, and about 20 km from the open coastline. At least 26 adult birds were counted and some chicks were visible on the narrow ledges that formed the nest sites. No major nest structures could be seen, but it proved impossible to climb to the colony.

Colony 2 Latitude 67°38'N
Longitude 34°08' W
Altitude 1500-1700 m
Visited 7 August 1978

This colony was found on the south and east faces of a 1000 metre high sheer buttress some 40 km from the nearest coast where it is mostly ice cliffs. Over 30 adult birds were counted and as many as 45 may have been present.

This colony afforded a good opportunity to study debris in the snow at the foot of the cliff. A particular search was made for possible nesting material. Fragments of several species of grasses and mosses were found. A small quantity of fur, probably polar bear or fox, was also found. The remains of two dead adult and two juvenile gulls were found in the snow and these had been scavenged. A dead chick

was also discovered and this has been deposited with the British Museum (Natural History) at Tring.

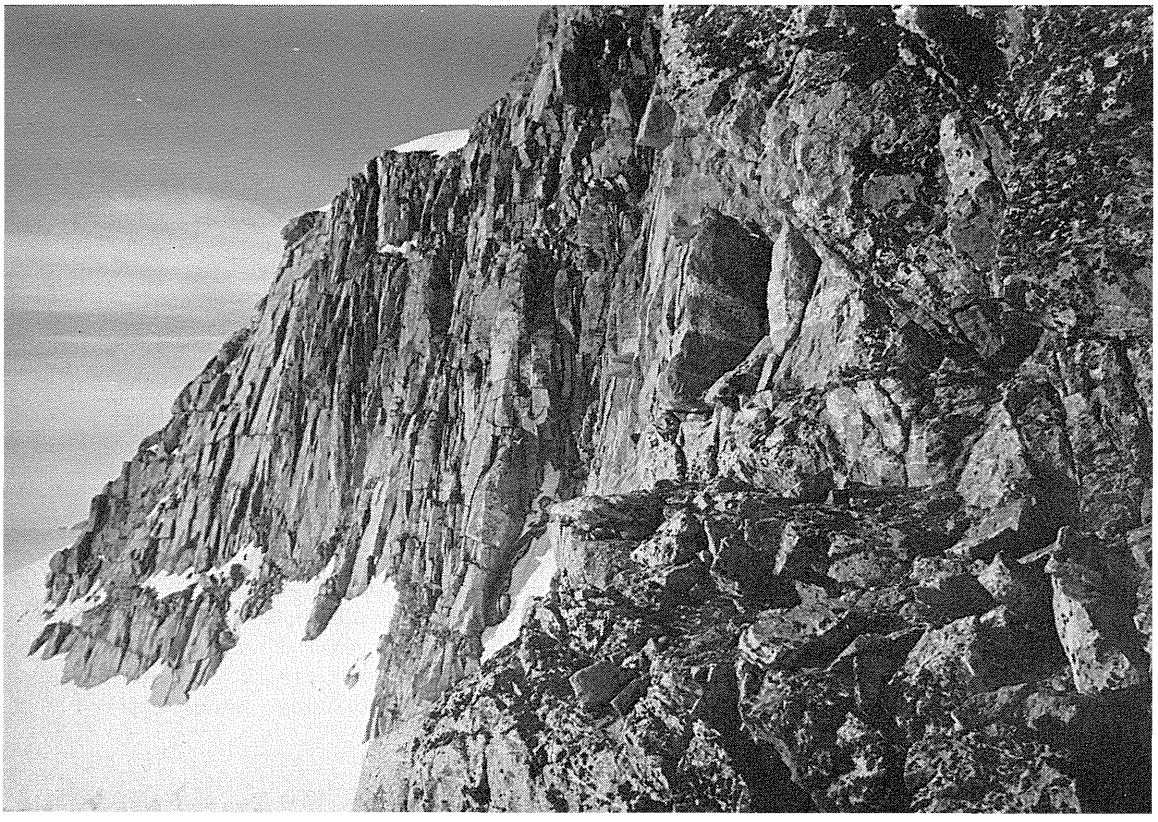
Colony 3 Latitude 67°53' N
Longitude 34°25' W
Altitude 1850-1900 m
Visited 11 August 1978

The third colony was found at the furthest point of the sledge journey, on the NE facing cliff of a small nunatak (see Figs. 2 & 3). The site is very romote, being a little over 60 km from the coast and at a considerable height above sea level.

At least 45 adult birds were counted here. Some chicks were present and their higher pitched piping could be heard when the adults' cries subsided, but most nests appeared to be empty of young by this stage of the summer. Several juveniles, with darker feather tips, were seen in the area.

It proved possible to climb to the lower parts of this colony and some empty nest sites were examined. These were on quite large ledges on the rather broken, rocky cliff and seemed to comprise no more than shallow hollows 12 to 18 cm in diameter, excavated in fine rock debris and moss on the flat surfaces (Fig. 3). No grasses were found growing on the rock at this colony. Some of the sites were in sheltered »caves« beneath large slabs of rock, a peculiarity noted in similarly located colonies in Spitsbergen (Birkenmajer & Skreslet 1963). Some fragments of egg shell were found. There were numerous feathers scattered around the ledges but very little else in the way of possible nesting material. Such material could, however, have been dispersed since the nests were vacated. Extensive discolouration of the snow by red algal growth was noted along the base of this cliff, as at Colony 2, suggesting that the colony had been in existence for a number of years. The growth of mosses at Colonies 2 and 3 could also be due to the prolonged presence of gulls both to carry the spores and to provide the droppings on which growth could flourish. This is in marked contrast to all other nunataks and cliffs seen in Kronprins Frederik Bjerge

Fig. 3. General view of Colony 3.
Koloni 3 findes midt på fjeldvæggen. Enkelte Ismåger ses.



which are conspicuously bare and devoid of almost all floral growth; far more so than, say, the high and remote Watkins Bjerge to the north of Kangerdlugssuak.

DISCUSSION

The main paradox that strikes the interested amateur is the absence of any obvious food supply in the area in which these new nesting colonies have been found. As indicated above, gulls were frequently seen over 50 km from the coast where they normally feed, and are breeding this far inland in considerable numbers and with apparent success. There is virtually no other animal or plant life inland from the coast in this particularly barren part of East Greenland, so the gulls must either be doing a lot of commuting or they are surviving with very little food. The gulls treated the expedition camps with circumspect curiosity, would approach to within eight metres of people or tents and on occasions were seen scavenging amongst discarded cheese and margarine wrappers.

A more commonly observed behaviour was the pecking at and apparent eating of snow. On several occasions quite large groups of birds, up to 15, were seen pecking around within a distinct and restricted area, but we could find no trace of any other solid matter on the snow. The gulls leave peck marks over one cm long and are presumably obtaining only water, but it is interesting that this should be a group activity.

The nesting areas in Kronprins Frederik Bjerge are completely free from land predators, so far as is known, but nevertheless all three colonies are note-worthy for their inaccessibility. Great alarm was caused at Colony 1 during our observations by what was thought to be a skua flying over.

It is also worth noting that, on the whole, nests were located on east or northeast facing cliffs, thus receiving the dawn and morning sunlight but avoiding the intense heat of the midday sun that is higher in the sky here than anywhere else that the Ivory Gull is known to breed.

In view of the numbers of birds seen both on the coast and in the inland areas during our expedition, as well as the ease with which the three nesting colonies were found during a relatively rapid land traverse, it seems probable that Ivory Gulls breed quite widely in this part of Greenland which is still largely unexplored. The gulls seen along the coast south of Tasîlaq towards Angmagssalik are therefore likely to have bred locally and not, as has previously been thought, in northern Greenland.

Besides the nunatak colonies on Spitsbergen (Birkenmajer & Skreslet 1963) five similar colonies have recently been found on south-eastern Ellesmere Island in arctic Canada (Frisch & Morgan 1979).

DANSK RESUMÉ

Nye kolonier af Ismåge *Pagaphila eburnea* **i Sydøstgrønland**

Selv om Ismåger er set mange steder i de højarktiske dele af Grønland, kendes kun nogle få ynglepladser her på småøer eller på stejlfjelde ved yderkysterne (Fig. 1). En noget speciel koloni har i nogle årtier eksisteret på Station Nord. Ismågen er både på Svalbard og Ellesmere Island fundet ynglende på nunataker i nogen afstand fra kysten, og sådanne kolonier er nu også fundet på Grønland. Efter at flere ekspeditioner havde haft mistanke om ynglende Ismåger i området, fandtes tre kolonier på mindst 15-25 par hver på nunataker mellem Angmagssalik og Kangerdlugssuaq i Sydøstgrønland (Figs. 1 og 2). Kolonierne fandtes på stejlfjelde i 11-1700 m's højde og 20-60 km fra kysten (Fig. 3).

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MS received 30 March 1979

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