Abundance and breeding success of birds in Ørsted Dal, East Greenland, 1974

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(Med et dansk resumé: Forekomst og ynglesucces af fuglene i Ørsted Dal, Østgrønland, 1974)

INTRODUCTION

The Joint Biological Expedition to N.E. Greenland, a largely British enterprise, but which included Danish, Canadian and Icelandic members, was based at Mestersvig Station in northern Scoresby Land during late June, July and August 1974. The Dundee University Group of this expedition remained near base throughout the summer, while Wader Study Group members were ferried by helicopter to three additional sites — Traill Ø, Antarctics Havn and Ørsted Dal (Fig. 1). The main work of the Wader Study Group, including the detailed studies of wading birds, will be published elsewhere (e.g. Green & Greenwood 1976), the main object of this paper being to compare breeding success in Ørsted Dal in 1974 with that recorded for the same area in outline in 1961 (Marris & Ogilvie 1962) and in greater detail in 1963 (Hall & Waddingham 1966). This comparison sheds some light on the factors affecting breeding success in the various groups of species concerned.

STUDY AREA

Ørsted Dal is a large valley, about 43 km long and 6 km wide, an area of 260 km^2, running south-westwards from Davy Sund into northern Jameson Land (Fig. 1). The snow on the valley floor melts earlier than in neighbouring valleys to the north and south. This was apparent when we flew over the region on 25 June, at which time a large meltwater lake filled the lower end of the valley. This lake dries out later in the season giving rise to a desert-like sandy flood plain, about 15 km^2 in area. A strong and persistent easterly valley breeze results in the formation of sand dunes and causes occasional dust storms on this plain. The central and south-western portions of the valley are made up of gently undulating, well-vegetated terrain, merging with moderately vegetated hills to the south and steep, bare mountains to the north. The main vegetational zones are shown in Fig. 2.

We arrived at Horsedal on 6 July 1974 and established a base camp in the central plain of Ørsted Dal on 12 July. During the first few weeks, the wading bird populations of the northern central region of the valley were intensively studied. Upper Ørsted Dal, part of Gipsdalen and Pingo Dal were visited between 25 and 30 July. The southern and eastern regions of the valley were traversed between 4 and 11 August. G.H. Green (expedition joint leader) and C. Lloyd surveyed Henrik Møller Dal, Ederfugledal and north-eastern Ørsted Dal between 20 July and 4 August.

SPECIES RECORDED

Red-throated Diver *Gavia stellata*
Two pairs of adults were seen in Henrik Møller Dal and Ederfugledal in the last few days of July. A pair with two chicks was present on the largest of a series of ponds between Solfaldsdal and Kap Seaforth (unofficially named "Whitefront Pond" by Hall & Waddingham (1966)) on 4 August. On the following day a single adult with one chick was observed on a small pond about 2 km east of "Whitefront Pond". The latter had disappeared on the morning of 6 August, the chick having presumably walked some distance overland. During the next few days several birds were heard and occasionally seen in flight over this complex of ponds, but no further chicks were seen.

Long-tailed Duck *Clangula hyemalis*
A solitary female was seen in northern central Ørsted Dal on 9 July, and another, possibly

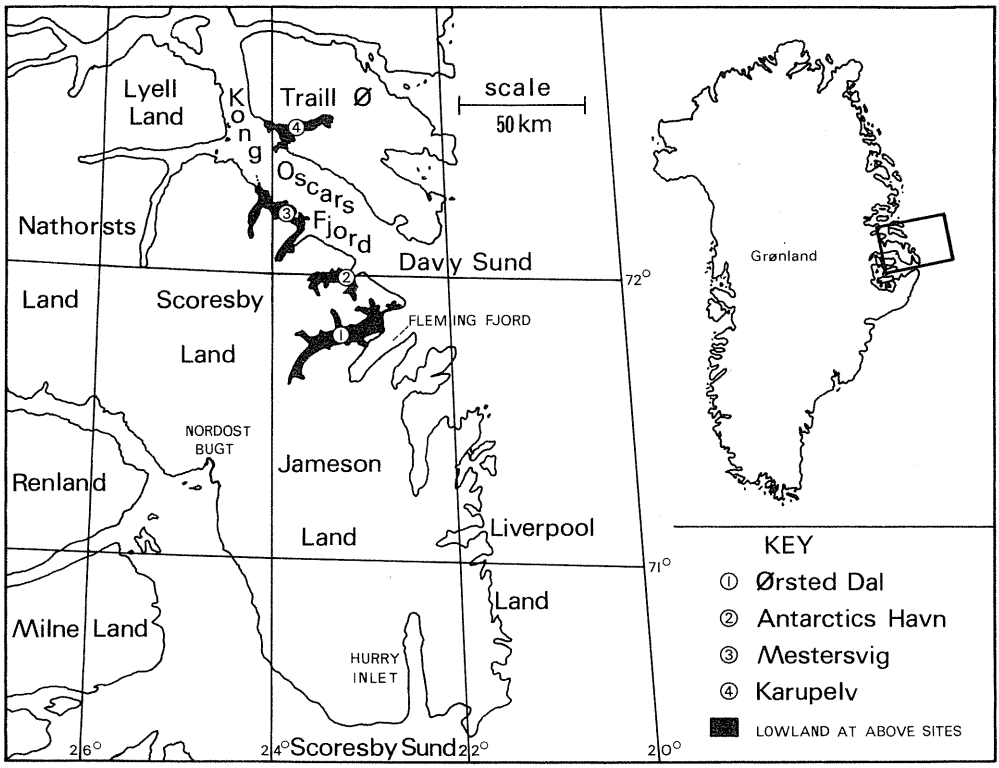

Fig. 1. Location of sites referred to in the text.
Placeringen af stednavne som er nævnt i teksten.

the same bird, on 20 July. At the largest lake in the valley, near the mouth of Lamprenens Dal, (referred to as "Primula Pond" by Hall & Waddingham) 44 adult Long-tailed Ducks and seven small chicks were present on 28 July. At the opposite end of the valley on 26 July, six adults were observed diving amongst pack ice a few hundred meters offshore. In early August an adult with four chicks was present on a series of ponds near the mouth of Henrik Møller Dal, and a female with three very small chicks on "Whitefront Pond".

Eider *Somateria mollissima*
There was no evidence of breeding, but 16 females were seen on the sea at the northern valley mouth on 29 July, and three males and two females at the mouth of Fleming Fjord on 7 August.

Pink-footed Goose *Anser fabalis brachyrhynchus*
Detailed goose observations for the whole expedition have been published separately (Ferns & Green 1975), so only a brief summary will be given here. No nests of this species were found in Ørsted Dal in 1974, though eight goslings were observed on "Primula Pond" and 75 near Kap Seaforth. Marris & Webbe (1969) discovered 12 nests in Solfaldsdal in 1963, and Hall & Waddingham (1966) a single nest in the central region of the valley in the same year. The total number of Pinkfoot goslings observed in 1974 represents a three-fold increase since 1963 and since there is no evidence that the brood size was very different in these two years, there appears to have been a real increase in the number of breeding pairs in the area.

A total of 394 adult Pinkfeet were observed, mostly at the eastern and western ends of the valley, representing a small increase since 1961 and 1963. A large proportion of these adults were non-breeding moult migrants (Christensen 1967).

Barnacle Goose *Branta leucopsis*
A breeding colony was situated on the cliffs at a height of about 400 m in south-eastern Horsedal. Growths of bright orange coprophilous lichen were visible beneath

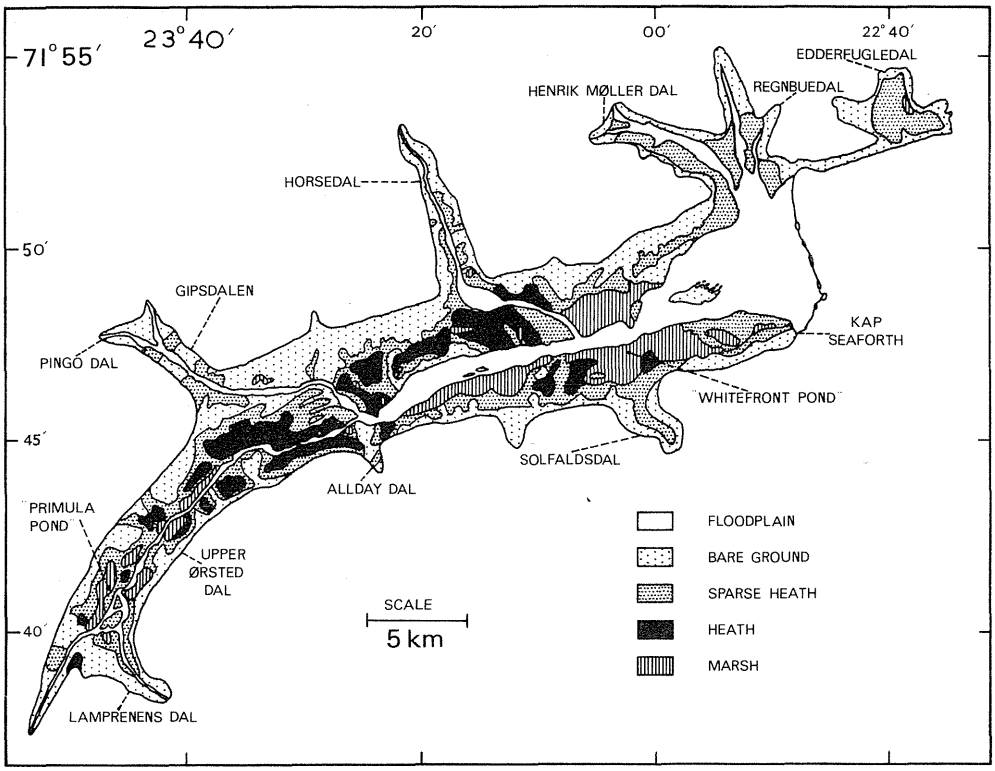

Fig. 2. Map of Ørsted Dal showing the distribution of vegetation. Drawn from aerial photographs and further simplified.
Floodplain — very little vegetation.
Bare ground — less than 25% vegetation (mainly *Dryas octopetala*).
Sparse heath — 25 - 75% vegetation cover.
Heath — more than 75% vegetation (*Dryas octopetala, Betula nana, Cassiope tetragona* and *Vaccinium uliginosum* locally dominant).
Marsh — *Eriophorum* spp dominant.
Kort over Ørsted Dal med fordelingen af vegetationstyperne. Tegnet efter luftfotografi og yderligere simplificeret.
Deltaslette (Floodplain) — *minimal plantevækst.*
Ubevokset terrain (Bare ground) — *mindre end 25% vegetationsdække* (*overvejende* Dryas octopetala).
Mager fjeldhede (Sparse heath) — *25 - 75% vegetationsdække.*
Fjeldhede (Heath) — *mere end 75% vegetationsdække* (Dryas octopetala, Betula nana, Cassiope tetragona *og* Vaccinium uliginosum *dominerer lokalt*).
Kær (Marsh) — *Kæruld* Eriophorum spp *dominerende.*

about 30 nesting ledges. Most adults had vacated these nests by the time we arrived and so it was impossible to tell how many had been occupied in 1974. Pieces of broken eggshell of this or the previous species were found near Kap Seaforth suggesting that there might be a nest nearby.

Family parties were seen occasionally in the main valley, the mean brood size of seven pairs of adults being 2.9. Larger groups of goslings were observed together with moulting flocks of adults in the southern central and south-eastern regions, and near the mouths of Henrik Møller Dal and Regnbuedal. A total of 1518 adults and 170 goslings were recorded. Since 172 goslings were counted in 1963 (Hall & Waddingham 1966), there has obviously been little change in the size of the breeding population since then (the mean brood size in 1963 was 2.5). This population must consist of about 60 pairs. The size of the non-breeding (or failed breeding) portion of the total population has, however, increased markedly since 1963.

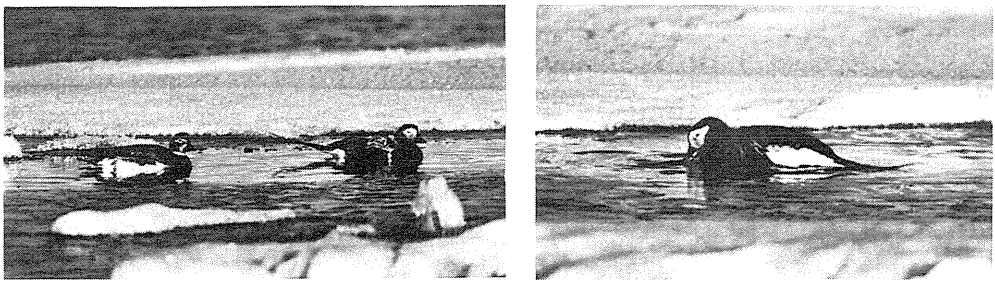

Fig. 3. Pair of Long-tailed Ducks *Clangula hyemalis*. Left: male and female circle in a pre-copulatory dance. Right: the male mounts and copulation ensues with the female almost completely submerged; the male pecks at the female's crown and opens his wings underwater for greater stability (2/7/74, Mestersvig). Photo: P.N.F.
Havlitpar. Til venstre: hannen og hunnen kredser under parringsspil. Til højre: hannen bestiger hunnen og kopulerer mens hunnen befinder sig under vandet; hannen pikker hunnens nakke og spreder vingerne under vandet for at opnå større stabilitet.

Gyrfalcon *Falco rusticolus*
A single pale adult was seen on 1 August near the mouth of Henrik Møller Dal.

Ptarmigan *Lagopus mutus*
No live birds were encountered in the survey area, but the wing of a bird in winter plumage was found in central Henrik Møller Dal.

Ringed Plover *Charadrius hiaticula*
This species was an abundant breeding bird on the scree slopes and boulder fields at the sides of the main valley and throughout most of the tributary valleys, extending to a considerably greater height (250 m) than any other wading bird. It also bred in the sparsely vegetated river flood plain in upper Ørsted Dal, in the gravel flood plains in the main valley and on all outwash fans, but was absent from the desert-like sandy flood plain at the river mouth. A few individuals held territories in the centre of the valley on bare hillocks and early drying stream beds.

Number of nests found	4
Mean clutch size	4
Known hatching dates	18, 22, 23 July
Number of pairs with chicks	10
Date first chick seen	22 July
Date last chick seen	7 August
Date first flying juvenile seen	7 August

Number of pairs proved to breed	14
Observed number of territories held	252

Though pairs showing territorial behaviour were extremely common, we spent only a small amount of time observing them and thus relatively few were proved to have bred successfully. The concentration of records along the edges of the valley was very noticeable (Fig. 4). There was also some evidence of the presence of non-breeding birds, several small flocks being seen in the first half of July. Three Ringed Plovers were seen regularly in the company of a single Dunlin in part of the Horsedal river flood plain unoccupied by territorial birds.

A female, ringed near Portsmouth, England in August 1971 was recovered not far from the foot of Allday Dal.

Golden Plover *Pluvialis apricaria*
A solitary bird was seen on 16 July only a few yards from our base camp in the central plain. It fed in an area of heath in a Turnstone territory for about an hour before flying off. This species breeds about 70 km further south near Nordost Bugt (Hall 1966) and also at the Hurry Inlet (Korte 1975).

Turnstone *Arenaria interpres*
Breeding birds were common in the inner regions of the valley, preferring expanses of heath in dry areas, dominated by *Cassiope, Vaccinium* or *Betula*. Many territories contained a lot of bare ground, and the species showed a marked preference for various types of patterned ground, particularly small tundra polygons, the nests being situated in the depression between adjacent polygons.

Number of nests found	5
Mean clutch size	3.8
Known hatching dates	14, 18, 21 July
Number of pairs with chicks	15

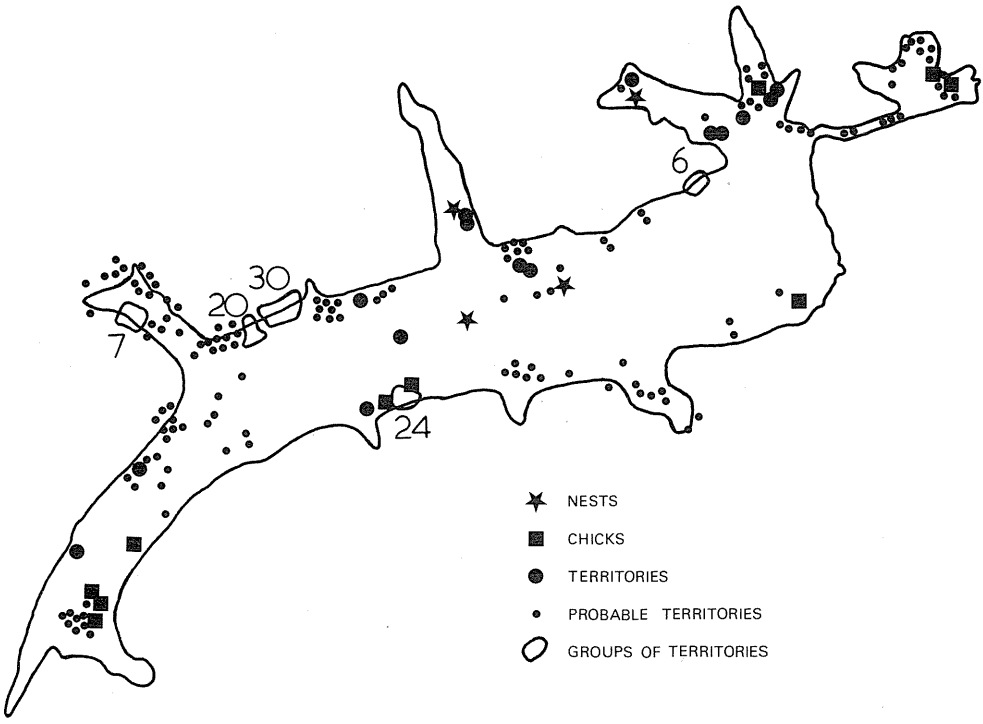

Fig. 4. Distribution of Ringed Plover *Charadrius hiaticula.* 1) Each record refers to a single family. 2) Unconfirmed due to lack of time. 3) Too close to enter separately; the number of territories is given. *Udbredelse af Stor Præstekrave.* Nests = *reder;* chicks = *dunungekuld;* territories = *territorier;* probable territories = *sandsynlige territorier, ubekræftede p.g.a. tidmangel;* groups of territories = *gruppe af territorier, for tæt sammen til at afsætte separat, men antallet af territorier er angivet.*

Date first chick seen	8 July
Date last chick seen	29 July
Date first flying juvenile seen	28 July
Number of pairs proved to breed	20
Observed number of territories held	71

The most notable feature in the distribution of these records (Fig. 5) is the absence of the species from areas near the coast and the sides of the valley. This relates clearly to the distribution of suitable habitat (see Fig. 2). Turnstone was the easiest bird to census accurately because of its conspicuous and noisy behaviour. Even so, many territories must have been missed, mainly because some areas could not be visited until after the birds had departed, e.g. the south-eastern region of the valley.

Several flocks of non-breeding birds were encountered in early July, the greatest number being 40 on the 7th, and the largest flock consisting of 18 individuals. The behaviour of these birds was quite different from that of the loose groups of breeding birds which formed occasionally. Several juveniles were seen on passage at the mouth of the valley in August.

Knot *Calidris canutus*

No nests were found in 1974, though several pairs held territory in the inner regions of the valley, and chicks were found. These territories were much larger than those of any other wading bird and included quite extensive patches of bare ground with scattered *Dryas octopetala,* where the nests were probably situated (Salomonsen 1950, Nettleship 1974), as well as patches of heath and other vegetation in which the young were later encountered. As suggested by Hall & Waddingham (1966) who found a nest in 1963, the adults seemed to prefer the north-western portion of upper Ørsted Dal where both Knot and Turnstone chicks were about a week more advanced than those on the opposite, similarly vegetated, but north facing side of the valley. Though upper Ørsted Dal was completely clear of snow on 25 June, several other valleys had their greatest snow cover on the

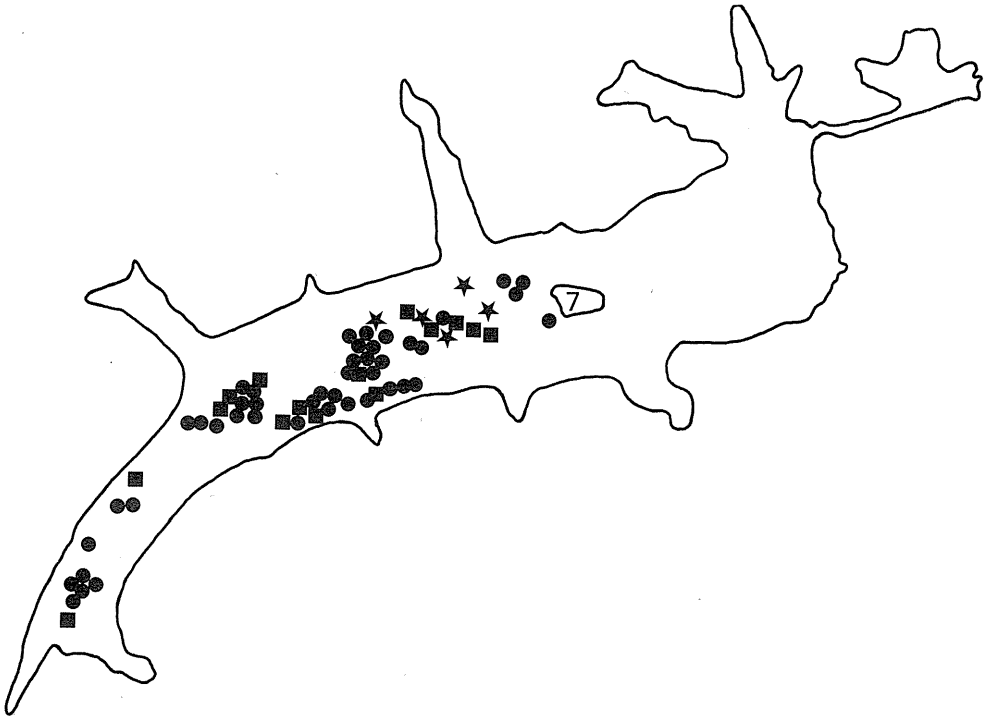

Fig. 5. Distribution of Turnstone *Arenaria interpres*.
Udbredelse af Stenvender.

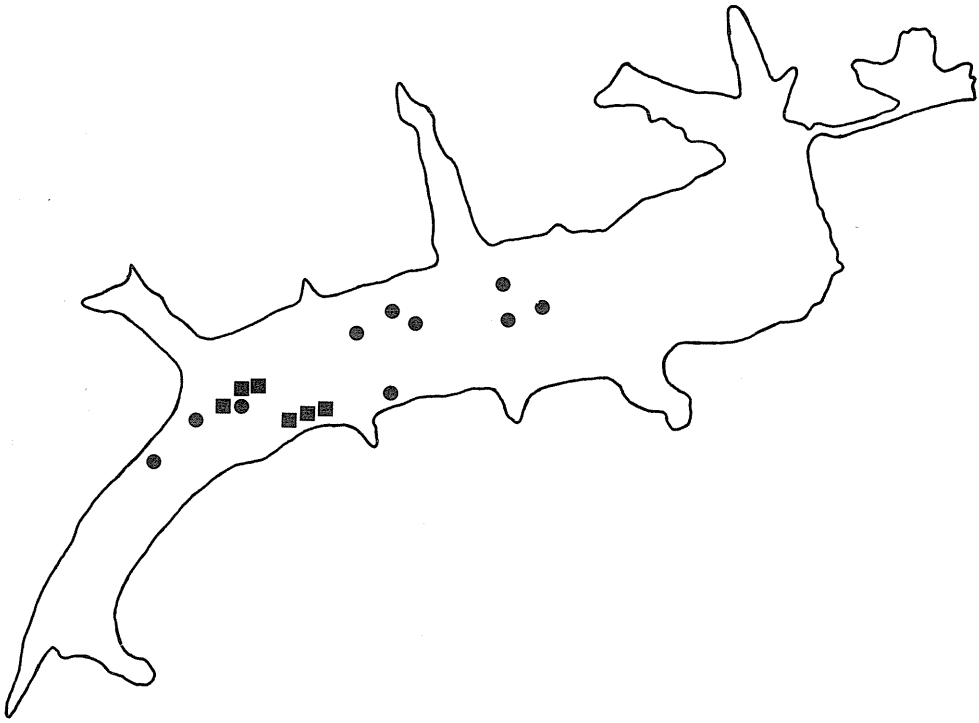

Fig. 6. Distribution of Knot *Calidris canutus*.
Udbredelse af Islandsk Ryle.

north facing slopes e.g. Trias Elv valley in Liverpool Land.

Number of pairs with chicks	6
Mean brood size	3
Date first chick seen	26 July
Date last chick seen	27 July
Date first flying juvenile seen	26 July

Number of pairs proved to breed	6
Observed number of territories held	16

Incubating birds developed a very clear mid-ventral "groove" in the feathers of the breast and belly along the length of the brood patches. Such "grooves" were also visible, but to a lesser extent, in other wading birds. A flock of 15 Knot in full summer plumage seen in the central plain on 12 July were fairly confidently identified as non-breeders by the absence of this "groove". These birds might otherwise have been classified as failed breeders, departing successful females (Nettleship & Maher 1973) or temporary congregations of breeding birds (Parmelee & MacDonald 1960).

Three juveniles were feeding in a muddy creek near Kap Seaforth on 7 August.

Fig. 7. Adult Knot *Calidris canutus*.
Photo: P.N.F.
Adult Islandsk Ryle.

Purple Sandpiper *Calidris maritima*
On 14 June a single bird probably of this species was seen with a flock of three Sanderling and a Dunlin in the centre of the valley.

Dunlin *Calidris alpina*
This species was abundant in wet and boggy ground with a dense cover of vegetation. In the Ørsted river floodplain and other flat areas this took the form of *Eriophorum* meadows with large ponds, while on gentle slopes beneath persistent snow fields, hummocks of moss and sedge interspersed with numerous very small pools provided suitable territory. Nests in the latter habitat were situated on the crests of the hummocks.

Number of nests found	3
Mean clutch size	3.7
Known hatching dates	9, 10 July
Number of pairs with chicks	18
Date first chick seen	9 July
Date last chick seen	7 August
Date first flying juvenile seen	27 July

Number of pairs proved to breed	21
Observed number of territories held	84

Very small flocks of possibly non-breeding birds were present in the valley during early July. From 24 July onwards adults suddenly became more abundant on the drier areas of tundra and small flocks began to be seen. These probably consisted of females which depart from the breeding grounds earlier than the males (Holmes 1966, Soikkeli 1967). Comparatively few juvenile Dunlin were seen on passage in early August.

Fig. 8. Adult male Dunlin *Calidris alpina*.
Photo: P.N.F.
Alm. Ryle, adult han.

Fig. 9. Distribution of Dunlin *Calidris alpina*.
Udbredelse af Alm. Ryle.

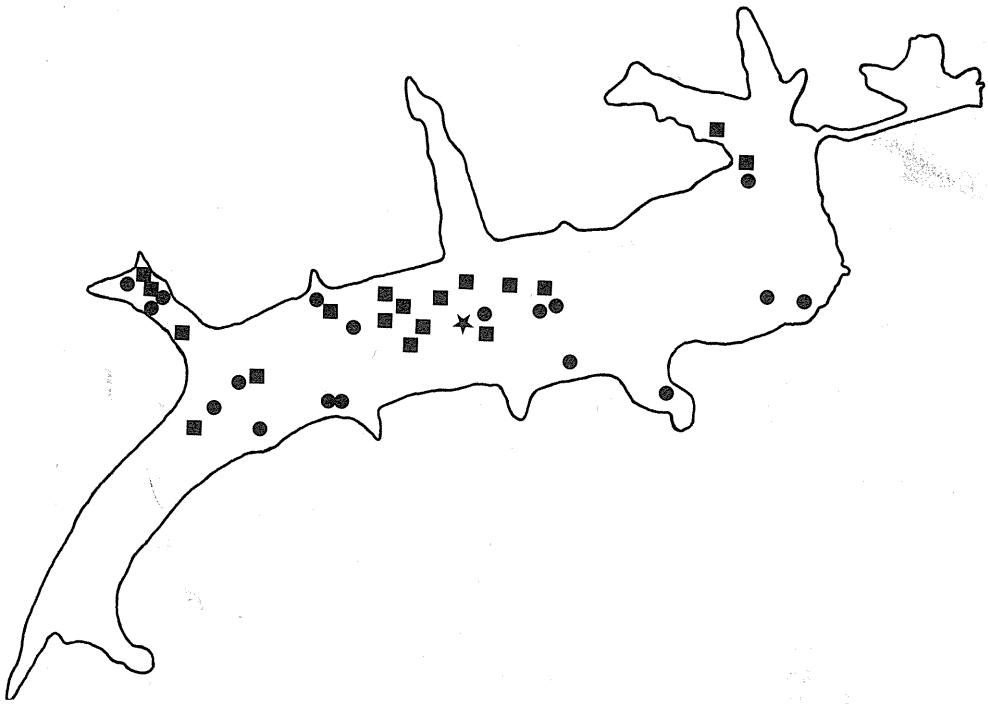

Fig. 10. Distribution of Sanderling *Calidris alba*.
Udbredelse af Sandløber.

Sanderling *Calidris alba*
Territories were situated on comparatively dry tundra which differed from the areas preferred by Turnstone in the absence of patterned ground and the presence of a considerable cover of lichens. They also occurred on the better vegetated margins of scree slopes, stone fields and outwash fans normally occupied by Ringed Plovers.

Number of nests found	1 (4 eggs)
Hatching date	21 July
Number of pairs with chicks	18
Date first chick seen	8 July
Date last chick seen	30 July
Date first flying juvenile seen	30 July

Number of pairs proved to breed	19
Observed number of territories held	37

Because the habitat preference of this species is somewhat intermediate between Ringed Plover and Turnstone, the distribution of records (Fig. 10) shows a wide scatter, birds spreading into the subsidiary valleys, though not as far as Ringed Plover, and being more abundant than the latter species in the main valley. Its absence from most of upper Ørsted Dal may be due to the fact that by the time we visited the area, the young of this early breeding species had already departed.

About 50 non-breeding birds were present in the central plain on 7 July, the largest single flock being of 16 individuals. On 29 July a flock of about 20 Sanderling and Dunlin were feeding in a muddy river bed near the mouth of Regnbuedal. These and smaller numbers seen on subsequent dates probably consisted of departing juveniles and adults.

Red-necked Phalarope *Phalaropus lobatus*
Two pairs of adults in full breeding plumage were present on "Primula Pond" on 28 July. One pair was accompanied by two almost fully grown chicks feeding on the open water. An additional solitary adult was also present, making a total of five adults and two young altogether. Although Hall & Waddingham (1966) recorded five Red-necked Phalaropes at "Primula Pond" as well as birds at other sites, there was no evidence of breeding in 1963.

Long-tailed Skua *Stercorarius longicaudus*
Pairs of Long-tailed Skuas held well dispersed territories on the tundra when we arrived on 6 July, but no attempt was made to breed. These pairs gradually coalesced into flocks of increasing size until their departure at the end of July. The following records of maximum flock size recorded on a number of dates clearly illustrates this trend.

Date	July 6-9	10	12	13	14	19	25	28
Maximum flock size	2	4	4	5	7	11	11	7

The latest bird was seen on 6 August near Kap Seaforth. With the single exception of a corpse being torn apart by a pair of skuas on 21 July, no lemmings were seen in the whole of the valley in 1974. The failure of Long-tailed Skuas to breed in seasons of poor lemming abundance is well documented (Løppenthin 1943, Andersson 1971). In 1974 adult skuas clearly turned to alternative sources of food, including insects, berries and wader chicks. Most hunting skuas were observed to quarter the ground at a height of 2 - 10 m. This is much lower than the 15 - 50 m recorded by Andersson (1971) in Sweden for this species and may have been associated with the search for wader chicks rather than lemmings. Skuas were frequently mobbed by wading birds, including individual Turnstone, Dunlin and Sanderling, as well as being successfully diverted away from chicks by the remarkable lemming mimicry of parent Sanderlings.

Glaucous Gull *Larus hyperboreus*
A single bird was seen in the central plain on 9 July about 30 km from the sea. A minimum of nine pairs with nests were counted on cliffs at the mouth of Fleming Fjord near Kap Seaforth and at least two more on the cliffs above Kap Seaforth itself. These were briefly examined from ground level on 7 August, but neither eggs nor chicks could be seen. The rocky island in the mouth of Ørsted Dal was the site of intense gull activity and although we were unable to visit it we strongly suspect it may be the site of a large breeding colony. No juvenile birds were seen.

Snowy Owl *Nyctea scandiaca*
The only record was of a solitary individual seen on 29 July near Henrik Møller Dal. Old and bleached pellets of this species were found on numerous hillocks throughout the main valley as well as a few at the pass at the top of Henrik Møller Dal.

Raven *Corvus corax*
A pair was present on the cliffs near the mouth of Horsedal for several days in early July. Singles and the occasional pair were observed throughout the valley during July and August. A group of five, possibly a family party, flew east down Ørsted river on 15 July.

Wheatear *Oenanthe oenanthe*
This species was uncommon. A male observed collecting insects in Horsedal on 16 July and repeatedly carrying away beakfuls, provided reasonably reliable evidence of breeding.

Snow Bunting *Plectrophenax nivalis*
Single foraging birds were occasionally encountered in the centre of Ørsted Dal, but this species was mainly restricted to the scree slopes at the valley sides. The density along eastern Horsedal was one breeding pair per 400 m (measured from five pairs) on 16 July when the young had just emerged from four out of the five nests. Towards the end of July, when the young were completely independent, the adults became very quiet and inconspicuous as they went into moult. Flightlessness during the peak of primary feather moult does not appear to be common in this area of North East Greenland, though we did observe a single flightless male (see Green & Summers 1975). Activity increased and small flocks began to form during the second week of August.

DISCUSSION

Bird observations for the area in 1961, 1963 and 1974 are summarized in Table 1. 1961 was clearly a poor breeding season for most species, whereas 1963 was comparatively good. 1974 differed from 1963 mainly in the failure of lemming predators to breed.

There are relatively few places in the High Arctic where even casual bird observations are available for more than two seasons. At Hazen Camp on Ellesmere Island, Nettleship & Maher (1973) described an avifauna of 21 species, of which 12 bred regularly (based on five seasons of observations between 1958 and 1966). Although Ørsted Dal is 10° further south than Hazen Camp, the climate is not much milder and differs mainly in the much greater amount of precipitation. Its avifauna consists of 26 species of which at least 14 can be regarded as reasonably regular breeders (Red-throated Diver, Long-tailed Duck, Pink-footed Goose, Barnacle Goose, Ringed Plover, Turnstone, Knot, Dunlin, Sanderling, Long-tailed Skua, Glaucous Gull, Raven (probably), Wheatear, Snow Bunting).

The predominant climatic feature of the 1974 season was the lateness of the snow melt. Snow cover at Mestersvig was almost 90% at the beginning of July, following a delayed peak winter snow fall. However, Ørsted Dal is an early melting site, perhaps the earliest to clear in the whole of northern Jameson and Scoresby Lands (based on observations from the air on 25 June 1974) and thus the lateness of the season did not have such a major impact in this area. Wading birds are the group whose breeding success is most critically affected by the melt (Green & Lloyd in prep.) and with the exception of Karupelv on Traill Ø, all other sites visited had a very poor wader season. Weather conditions later in the year may also be important in determining breeding success. In 1972 at Mestersvig, a sudden spell of late snowfall in July resulted in reduced breeding success of waders (Green & Williams 1972). Weather conditions of this kind may explain the very small breeding population of Turnstone observed in Ørsted Dal in 1961 (Marris & Ogilvie 1962). The apparent increase recorded two years later cannot be due to observer error since at least one person (A.B. Hall) was present on both occasions. Waders appeared unaffected in 1974 by two periods of unusually heavy and prolonged rainfall in late July, possibly because most chicks had passed the critical stages of growth by the time this occurred.

In 1963 at least 12 pairs of Long-tailed Skuas, one pair of Arctic Skuas and one pair of Snowy Owls bred successfully in Ørsted Dal (Hall & Waddingham 1966). In 1961 and 1974 no lemming predators bred. This pattern of breeding correlates clearly with casual observations of lemming abundance, for only in 1963 were more than a very small number observed. Furthermore, in 1974 at Mestersvig and Karupelv some lemmings were seen and at least a few skuas bred successfully (nesting Gyrfalcons also brought lemmings to their young, cf. Summers & Green 1974). This illustrates that local differences in lemming density can occur at sites quite close to one another, and that this in turn directly effects the lemming predators. In view of the importance of the timing of the melt to wading birds, it is interesting that snow cover is one of the few climatic variables to show any correlation with lemming abundance (Shelford 1943); in this case greater depth

Table 1. List of birds observed in Ørsted Dal. Data from 1) Marris & Ogilvie (1962), 2) Hall & Waddingham (1966) and 3) Hall (1966). 3), 4), & 5 excluded from totals (3) footprints only, 4) corpse only, 5) unconfirmed record).
Fortegnelse over fugle iagttaget i Ørsted Dal. Data fra 1) Marris & Ogilvie (*1962*), 2) Hall & Waddingham (*1966*) *og* 3) Hall (*1966*). *3), 4), 5) ikke medtaget i sammentællingen (3) kun fodspor, 4) kun kadaver, 5) tvivlsom observation*).

Species. Arter.	1961[1,2]	1963[2]	1974
Gavia stellata		A	B
Anas penelope		A	
Clangula hyemalis	B	B	B
Somateria mollissima			A
Somateria spectabilis	A	B	
Cygnus cygnus		A[3]	
Anser albifrons		A	
Anser fabalis brachyrhynchus	A	B	B
Branta leucopsis	B	B	B
Falco rusticolus			A
Lagopus mutus			A[4]
Charadrius hiaticula	B	B	B
Pluvialis apricaria			A
Arenaria interpres	A	B	B
Calidris canutus	B	B	B
Calidris maritima			A[5]
Calidris alpina	B	B	B
Calidris alba	B	B	B
Phalaropus lobatus		A	B
Stercorarius parasiticus		B	
Stercorarius longicaudus	A	B	A
Larus hyperboreus	A	B	A
Nyctea scandiaca	A	B	A
Corvus corax	A	A	A
Oenanthe oenanthe	A	A	B
Carduelis flammea	B	A	
Plectrophenax nivalis	B	B	B
A - Adults observed. Adulte fugle iagttaget	8	7	7
B - Breeding proved. Ynglen bevist.	8	14	12
Species total. Arter ialt.	16	21	19

and duration of snow tending to be followed by population peaks, though this is by no means clear cut.

The Greenland population of Barnacle Geese had a below average breeding season in 1974 (based on counts at the wintering haunts in Britain (M.A. Ogilvie pers. comm.)). In 1961, 1963 and 1974 the proportion of young birds observed in Ørsted Dal was lower than it must have been in other parts of the breeding range (Ferns & Green 1975). No differences were observed, however, in the breeding success of Barnacle or Pink-footed Geese at the different sites visited in 1974, thus indicating that the timing of the melt was of little significance to geese. Both species arrive at the breeding grounds towards the end of May (with the exception of moult migrant Pinkfeet), at which time snow cover is always considerable in this region. The food supply at the breeding grounds prior to hatching must therefore be less important in determining the number of pairs which breed (and the number of eggs which can be laid), than are other factors such as the food supply at the wintering grounds prior to departure or weather conditions during migration. The Greenland population of both species is, however, restricted in its choice of breeding sites to cliffs, gorges and other areas clear of snow for most of the year. This is in marked contrast to the choice of sites in other regions, for example, while Greenland Barnacle Geese nest almost exclusively on cliffs, those in Spitzbergen prefer the flat tops of offshore stacks and islets (Jackson *et al.* 1974).

The most significant climatic feature of this region of N.E. Greenland is the relatively high precipitation (about 35 cm water equivalent annually at Mestersvig), and the way in which this melts in the spring is thus of great importance to certain groups of birds. At higher latitudes where precipitation is much reduced other climatic factors may

become more significant. The topography of N.E. Greenland is so varied, however, that even in generally unfavourable seasons, some locally favourable sites will exist where birds can breed successfully. In late melting seasons Ørsted Dal is one such site.

SUMMARY

19 species of birds were recorded in Ørsted Dal in northern Jameson Land during July and early August 1974. Two species recorded in 1961 and 1963 were absent (King Eider and Arctic Redpoll) and three additional species were observed (Eider, Gyrfalcon and Golden Plover). The status of most species has remained unchanged over the last 11 years, the apparently greater abundance of wading birds in 1974 being largely due to more intensive study of this group. Only in the case of geese is there any reliable evidence of a population increase.

Ørsted Dal is an early melting site and as a result wading birds had a good season in 1974 in marked contrast to the situation at other sites where the melt was exceptionally late. Geese bred equally well at all sites indicating that the timing of the melt was of no great significance to them. Lemming predators did not breed.

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DANSK RESUME

Forekomst og ynglesucces af fuglene i Ørsted Dal, Østgrønland, 1974

Som medlemmer af Joint Biological Expedition til Nordøstgrønland, tilbragte forfatterne perioden 6. juli til 11. august 1974 i Ørsted Dal i det nordlige Jameson Land (Fig. 1 og 2). Den primære opgave var en undersøgelse af vadefuglepopulationerne, men de almindelige fugleobservationer gav muligheder for interessante sammenligninger med observationer fra samme område i 1961 (Marris & Ogilvie 1962) og 1963 (Hall & Waddingham 1966).

19 arter iagttoges med sikkerhed i 1974, hvoraf 12 arter fandtes ynglende (tabel 1). Antallet af ynglende Kortnæbbede Gæs *Anser fabalis brachyrhynchus* i dalen syntes udfra antallet af observerede gæslinger at være tiltaget siden 1963. Antallet af ikke ynglende (eller mislykket ynglende) Kortnæbbede Gæs og Bramgæs *Branta leucopsis* er tydeligvis steget.

Udbredelseskort gives for de almindeligt ynglende vadefuglearter. Stor Præstekrave *Charadrius hiaticula* ses at være talrigst registreret på dalsiderne og i de tilstødende sidedale, medens Stenvender *Arenaria interpres* og Islandsk Ryle *Calidris canutus* kun yngler i dalens centrale dele. Alm. Ryle *Calidris alpina* viser koncentration ved kærområderne, medens Sandløberne *Calidris alba* yngler mere spredt. Disse kort er ikke helt dækkende, da nogle områder først blev besøgt efter yngletiden (f.eks. Stenvender i det sydøstlige Ørsted Dal og Sandløber i øvre Ørsted Dal). De observerede antal besatte territorier og konstaterede ynglende par, omtales sammen med andre ynglebiologiske iagttagelser.

Lemmingafhængige arter havde et meget dårligt år, og ingen af dem gennemførte yngel. Kun én lemming sås hele sommeren.

Mange flere vadere optaltes i 1974 end i de tidligere undersøgelsesår, hvilket dog utvivlsomt skyldes den langt større interesse for denne gruppe dette år. De eneste arter som har ændret status i området i løbet af de 11 år, er de to gåsearter. 1974 var et sent år, med 90% snedække ved Mestersvig først i juli. Ørsted Dal adskilte sig herfra, idet f.eks. den øvre del af dalen var helt snefri på samme tidspunkt, og vadefuglene havde således et godt ynglеår, i stærk kontrast til de dårligere forhold andre besøgte steder. At gæssene havde samme ynglesucces i alle de undersøgte områder, viser at de ikke er afhængige af fødemængden ved ankomsten, de begynder at yngle længe før sneen smelter væk selv i normale år, og er derfor henvist til snefri ynglesteder så som stejlfjelde og kløfter.

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Kortnæbbede Gæs over Aggertangen, Vestjylland, i maj. Foto: Morten Strange.
Pink-footed Geese over the Aggertangen, Western Jutland, in May.