Meddelelser om Grønland

A annotated checklist to the birds of Greenland

David Boertmann



Meddelelser om Grønland

The series *Meddelelser om Grønland* was started in 1879 and has since then published results from all fields of research in Greenland. In 1979 it was split into three separate series:

Bioscience Geoscience Man & Society

The series should be registered as *Meddelelser om Grønland*, *Bioscience (Geoscience, Man & Society)* followed by the number of the paper. Example: *Meddr Grønland*, *Biosci.* 1, 1979.

The new series are issued by Kommissionen for videnskabelige Undersøgelser i Grønland (The Commission for Scientific Research in Greenland).

Correspondence

All correspondence and manuscripts should be sent to:

Danish Polar Center The Commission for Scientific Research in Greenland Strandgade 100H DK-1401 Copenhagen K.

Questions concerning subscription to all three series should be directed to the agent.

Agent

Geografforlaget, Fruerhøjvej 43, DK-5464 Brenderup. Tlf. +45 64441683.

Meddelelser om Grønland, Bioscience

Meddelelser om Grønland, Bioscience invites papers that contribute significantly to studies of flora and fauna in Greenland and of ecological problems pertaining to all Greenland environments. Papers primarily concerned with other areas in the Arctic or Atlantic region may be accepted, if the work actually covers Greenland or is of direct importance to the continued research in Greenland. Papers dealing with environmental problems and other borderline studies may be referred to any of the series *Bioscience, Geoscience*, or Man & Society according to emphasis and editorial policy.

Scientific editor - Botany

Gert Steen Mogensen, Botanical Museum, Gothersgade 130, DK-1123 Copenhagen K. Telephone +4533111744.

Scientific editor - Zoology

G. Høpner Petersen, Zoological Museum, Universitetsparken 15, DK-2100 Copenhagen Ø. Telephone +4531354111.

This volume edited by G. Høpner Petersen.

Instructions to authors See page 3 of cover.

© 1994 Kommissionen for videnskabelige Undersøgelser i Grønland. All rights reserved. No part of this publication may be reproduced in any form without the written permission of the copyright owner.

ISBN 87-601-4129-8 ISSN 0106-1054

An annotated checklist to the birds of Greenland

David Boertmann

MEDDELELSER OM GRØNLAND, BIOSCIENCE 38 · 1994

Contents

Introduction	2
The material	2
The species account	6
Rarities	8
Some trends in status	8
Abbreviations	9
Acknowledgements	9
Species account	9
Divers Gaviidae	9
Grebes Podicipedidae	10
Albatrosses Diomedeidae	11
Petrels and shearwaters Procellariidae	11
Storm-petrels Hydrobatidae	12
Gannets and boobies Sulidae	12
Cormorants Phalacrocoracidae	13
Bitterns and herons Ardeidae	13
Ibises and spoonbills Threskiornithidae	14
Swans, geese and ducks Anatidae	14
Hawks and eagles Accipitridae	23
Ospreys Pandionidae	23
Falcons Falconidae	23
Grouse Tetraonidae	24
Rails and coots Rallidae	25
Cranes Gruidae	26
Oystercatchers Haematopodidae	26
Avocets and stilts Recurvirostridae	26
Plovers Charadriidae	26
Sandpipers and snipe Scolopacidae	28

Skuas Stercorariidae	34
Gulls Laridae	36
Terns Sternidae	40
Auks Alcidae	41
Doves and pigeons Columbidae	43
Cuckoos Cuculidae	44
Owls Strigidae	44
Nightjars Caprimulgidae	44
Swifts Apodidae	45
Kingfishers Alcedinidae	45
Woodpeckers Picidae	45
Tyrant flycatchers Tyrannidae	45
Larks Alaudidae	45
Swallows and martins Hirundinidae	45
Wagtails and pipits Motacillidae	46
Waxwings Bombycillidae	47
Wrens Troglodytidae	47
Thrushes and chats <i>Turdidae</i>	47
Old world warblers Sylviidae	49
Crows and jays Corvidae	49
Starlings Sturnidae	50
Vireos Vireonidae	50
Finches Fringillidae	50
New world warblers Parulidae	51
Buntings and grosbeaks Emberizidae	54
New world blackbirds Icteridae	55
Some unaccepted records	56
References	56

Accepted: Januar 1994 ISBN 87-601-4129-8 ISSN 0106-1054



Fig. 1. Map of Greenland with regions, municipalities and major localities mentioned in the text. Qaqortoq/Julianehåb 'mun.' refers to the united municipalities of Qaqortoq/Julianehåb, Nanortalik and Narsaq. Aasiaat/Egedesminde 'mun.' refers to the united municipalities of Aasiaat/Egedesminde, Kangaatsiaq and Qasigiannguit/Christianshåb. The thin line on the map demarcates the inland ice and large ice caps.

An annotated checklist to the birds of Greenland

DAVID BOERTMANN

Boertmann, D. 1994. An annotated checklist to the birds of Greenland. – Meddr Grønland, Biosci. 38, 63 pp. Copenhagen 1994-03-28.

The most recent total account of the birds of Greenland was published in the late sixties (Salomonsen 1967). Since that, major changes have been recorded in the status and occurrence of several species. One species have disappeared (Barrow's Golden eye) and 28 new vagrants have been added to the list.

This checklist gives a current account on the birds occurring in Greenland. 235 species have been recorded. About 58 are well established breeders, c. 17 are regular (some numerous) visitors and the rest are more or less rare vagrants. Some of the visitors may breed occasionally and some are probably in the initiating phase of an immigration to Greenland. Although many vagrants have only been recorded once, some of them may occur more commonly or even annually.

The present status is described for each species and if possible also population numbers and trends. When relevant, issues as subspecies, habitats and migration are discussed or described briefly.

Keywords: birds, Greenland, status, distribution, population trends, population numbers, phenology.

David Boertmann, Greenland Environmental Research Institute, Tagensvej 135, 4., DK-2200 Copenhagen N, Denmark.

Introduction

The purpose of the present work is to give an up to date species list of the birds of Greenland. This augments and extends the previous list by Salomonsen (1967), which in many ways no longer represents the existing situation: the occurrence and distribution of many species have changed, and areas which were nearly unknown from an ornithological point of view in 1967, have been visited and described by ornithologists. Some of the recent information is included in popular books (Salomonsen 1974, 1979c, 1981 with a revised ed. in 1991) and some also in a small field guide (Boertmann 1988). However, a current, complete, and annotated list of the birds in Greenland is in demand now, as a reference for the increasing ornithological field work in Greenland.

It is my hope that the list will be useful to both the amateur bird watcher and the scientist, who want information regarding the status of the birds of Greenland. The list also refer to other aspects of ornithology though not in great detail. However, extensive references make it possible to find detailed information from studies in Greenland or, in some cases, other arctic areas, if required.

The material

The most important lists of Greenland birds before the works of Salomonsen (1950a, 1963, 1967) were given by Fabricius (1780), Holbøll (1842–43), Reinhardt (1861), Winge (1898), Schiøler (1926), Jensen (1928), Bertelsen (1932) and Oldenow (1933). All these works, except Salomonsen (1950a) are in Danish. However, R.G.B. Brown has in 1981 translated the seabird chapters from Salomonsen (1967) to English as 'The Seabirds of Greenland' (Canadian Wildlife Service Report No. 100). The most extensive bibliography was made by Salomonsen (1950a).

Salomonsen referred in some of his works (1950a, 1963) to a paper he was preparing concerning rare birds in Greenland. This was never published and only a minor part of the manuscript is kept in the Zoological Museum of Copenhagen. However, all his correspondence about rare birds in Greenland are also there. This valuable and unpublished material on the occurrence of rarities is intact and incorporated in the present account.

Over the last 20 years much information regarding birds in North and Northeast Greenland has appeared. This is due to intensive expedition activity, mostly from

geologists and biologists. Background studies in association with mineral and oil exploration in the region have made further ornithological information available. The residents in the region: the personnel in the weather stations and 'Sirius', the naval sledge patrol, have also contributed.

The knowledge on the off-shore distribution and occurrence of seabirds has also been greatly improved. Particularly in the Davis Strait and Baffin Bay where extensive surveys have been carried out for example as background studies to hydrocarbon exploration and transportation (e.g. Brown et al. 1975; Maclaren Marex 1979; Reneaud et al. 1982; Brown 1986; GERI unpubl.).

A large part of the recent information are published in field reports, 'grey' reports or are even unpublished. One of the major tasks during the present work has been to check and include such information.

In West Greenland the birdlife is, in general, much better known than in the other regions of the country, because this region is inhabited and was studied by Salomonsen during most of his life. However, much new information also comes from this area.

The only major region in Greenland which is still nearly unknown from an ornithological point of view is Southeast Greenland. Very few ornithological papers have been published from there and most of these are more than 50 years old. Pedersen (1930) reported – on second hand – several species of waders breeding in the Kangersittuaq-area and the Ammassalik-area. This information is obviously wrong and is omitted in the present account.

New information comes also from collections of study skins. I have examined all the skins of rare and unusual species from Greenland kept in the Zoological Museum of Copenhagen. Some new specimens have been found and the identification of a few have been altered. Salomonsen refers only to one collection in Nuuk/Godthåb: in the Ilinniarfissuaq/Teachers College. However, the Nunatta Katersugaasivia Allagaateqarfialu/National Museum and Archives also has a collection, which Salomonsen apparently never studied. Moreover, most of the specimens from Ilinniarfissuaq have now been moved to Nunatta Katersugaasivia Allagaateqarfialu. I have studied both collections. The curators of many local museums in Greenland have forwarded me lists of their usually small bird collections. I have also examined some private collections in Denmark. Finally, the Icelandic Museum of Natural History forwarded me information regarding their specimens obtained in Greenland.

In the autumn of 1992 the Greenland Environmental Research Institute and Ornis Consult prepared a database of the seabird colonies in Greenland based on both published and unpublished information (GM & OC 1993). The population estimates given for the seabirds in the species accounts are based on this database.

Compared to Salomonsen's list from 1967, 29 additional species are described. One is the result of dividing *Pluvialis dominica* into two species, which both have appeared in Greenland, and 28 are actually new to the Greenland list. The Dark-bellied Brent Goose and the Lesser Redpoll are new subspecies to Greenland. On the other hand, the only record of Short-billed Dowitcher cannot be accepted today. A total of 235 species are accepted as having occurred in Greenland. The extinct Great Auk *Pinguinus impennis* is not included and is not described in the species account. Interested readers are referred to Meldgaard (1988).

The species account

The text for each species is divided into the following paragraphs: STATUS describes the current knowledge of the occurrence, numbers and distribution. The birds are characterized as widespread if they occur abundantly in both the high arctic and the low arctic zones. If they occur in only one of these climatic zones and they breed in both regions within the zones (see below), they are characterised as 'widespread high (alternatively low) arctic breeders', and 'regional' if they occur in only one region. 'Local' is used if they occur in a few sites. Some species occur in one low arctic and in one high arctic region, which is described as 'regional (or local) high and low arctic breeders'. Residents do not migrate, but stay in the same general area as they breed; intraregional (within regions) and interregional migrants (between regions) have their main wintering areas within Greenland and extralimital migrants have their wintering areas abroad: in Europe, Africa, North America, South America or the southern Atlantic. Species that have an annual occurrence in Greenland but breed abroad are characterized as visitors or vagrants, the visitors being the most numerous. Winter visitors, for example, may breed in arctic Canada or on Svalbard. Rare and irregular occurring species are characterized as accidentals (less than 10 records) or rare vagrants. If records are listed, following information is given if available: First the site with municipality, area or land name followed by the locality; then the date of the find and information on numbers, sex and age of the bird (if no numbers are mentioned, the record concerned one individual); finally the source and where specimens are kept. SUBSPECIES is only mentioned when relevant. HABITAT describes briefly the habitats of the breeders. the common visitors and for those of the vagrants where possible. POPULATION refers to population estimates or to trends in population size. MOVEMENTS describes briefly the migration pattern and mentions phenological data concerning the migration. The general information regarding winter quarters was obtained from handbooks and general works (Salomonsen 1967, 1981; Cramp & Simmons 1977, 1979, 1983; Scott 1983; Peterson et al. 1985; Cramp 1985, 1988; Goodfrey 1986). ORIGIN describes the breeding grounds of the vagrants and the accidentals. The general information was obtained in the handbooks mentioned above. Newfoundland in this con-

text is the state (incl. Coast of Labrador), and when referring to the island, it is mentioned as Newfoundland Island. REMARK is used when additional information is necessary.

Concerning collected specimens, the collection in which they are kept is mentioned after the quoted source, if the specimen was studied by me. Age and sex mentioned before the source, means that I agree or that I am not able to confirm the information; if age and sex are mentioned after the source, I have made the determination or have changed it from what has previously been reported. Specimens or records, which are only mentioned with a source 'in litt.', 'pers. comm.' or without a source have not previously been published.

Many of the specimens in the Greenland collections are mounted, but are referred to as skins.

The Danish Rarities Committee has approved all the records of rare species not hitherto published by Salomonsen or in the journal of the Danish Ornithological Society (Dansk Orn. Foren. Tidsskr.). The quotation RC refers to the reports by the committee, in which the record is approved. However, most of the records which have been approved for the present list, have not or will not be mentioned in the reports.

In this paper Greenland is divided into four major regions: West, North, Northeast and Southeast (Fig. 1). To some extent, these regions reflect the climatic zones: North and Northeast form the high arctic zone and West and Southeast form the low arctic zone. The boundary between North and Northeast Greenland is the same as between the flora provinces of North and Northeast Greenland (Bay 1992) and the fauna districts proposed by Böcher (1988). The boundary between Northeast and Southeast Greenland is here drawn along 69°N, just south of Kap Dalton. This is approximately the boundary between the low arctic and the high arctic zones at the outer coast. However, the interior parts of Kangertiitivaq/ Scoresby Sund are usually referred to the low arctic zone (Salomonsen 1981). It is more convenient to include these areas in the region of Northeast Greenland, because the mammal and bird fauna are obviously high arctic. The boundary between West and Southeast Greenland is here similar to that of the boundary between the municipalities of Nanortalik and Tasiilaq in Kangerlussuatsiaq/Lindenow Fjord, However, both sides of the fjord are considered as belonging to Southeast Greenland.

In West Greenland the municipalities (kommuni in Greenlandic/kommune in Danish) are used as subdivisions. These are roughly similar to the former districts referred to in all Salomonsen's works. In two areas, some comparatively small municipalities have – in this context – been joined under the name of the largest town. 1) The municipalities of Nanortalik, Narsaq and Qaqortoq/Julianehåb are united and referred to as Qaqortoq/Julianehåb, and 2) the municipalities of Kangaatsiaq, Aasiaat/Egedesminde and Qasigiannguit/Christianshåb are united and referred to as Aasiaat/Egedesminde. The very small municipality of Ivittuut/Ivigtut is included in Paamiut/Frederikshåb municipality. Towns and municipalities have the same names. In the species account the municipalities are mentioned both with Greenlandic and Danish name and the term municipality is omitted. Towns are mentioned with Greenlandic name only, and with 'town' following the name.

In North, Northeast and Southeast Greenland the major land areas are used as subdivisions. However, some areas are defined as follows: The Ammassalik-area lies between 65°30'N and 66°30'N and the Qaanaaq/Thule-area is the area between Kap Melville (76°00'N, 64°00'W) and Sermersuaq/Humboldt Gletscher (79°30'N, 65°00'W). Both areas roughly correspond to the old districts. The Qeqertarsuup Tunua/Disko Bugt-area include the north coast of Aasiaat/Egedesminde, Ilulissat/Jakobshavn, Qeqertarsuaq/Godhavn and the south coast of Nuussuaq.

The Greenland names of localities are used followed by the Danish name if such exists. All Greenlandic words are written in the new orthographic form (since 1973) as in Berthelsen et al. (1989). Most of the Greenland locality names are obtained from the official maps from the National Survey and Cadastre – Denmark. Some Greenland names particularly from North and East Greenland are found elsewhere (Ulloriaq 1976; Smidt 1989; Sandell & Sandell 1991; Glahder 1992; Rosing 1993). The large fiord in northern Southeast Greenland is on official maps called Kangerlussuaq. In the present context the East Greenlandic way of spelling, Kangersittuaq, is used, to separate it from the numerous other fiords called Kangerlussuaq in Greenland.

The bird families and species are listed in the sequence of Voous (1977) including the changes proposed by Knox (1989). The English bird names are used in accordance with the 'British Birds list' (Anonymous 1993). Deviating U.S. names are mentioned in brackets.

The records are listed firstly according to their geographical occurrence: In West, Northeast and Southeast Greenland mainly from south towards north and in North Greenland from west to east. If several records have occurred in the same area, they are listed in chronological order.

In the present context, Greenland include the off-shore waters within the 200-nautical mile fishery limit/the convention boundaries (midlines) between Greenland-Canada and Greenland-Iceland. Records from a British weather ship, which was situated between Iceland and Southeast Greenland just outside the limit (e.g. Tuck 1973), are not mentioned.

Future faunistic studies are much needed in Southeast Greenland, where only scanty information concerning birds occurring in the Ammassalik area and a few other sites is available.

In North Greenland some regions are almost unknown from an ornithological point of view: Washington Land, Avannarliit/Inglefield Land and the region between Nioghalvfjerdsfjorden and Independence Fjord.

In Northeast Greenland, the inner parts of the large

fjord complex Kangertiitivaq/Scoresby Sund are also unknown.

Rarities

The chance of encountering a rare bird in Greenland is very small: The land is enormous $(385,000 \text{ km}^2 \text{ icefree} \text{ land})$ and the human population small (c. 55,000 in 1990) and mainly distributed in West Greenland which covers only about 1/3 of the land. Some of the rarities may, therefore, have a more regular occurrence than described in the species account.

However, an unusually high number of rare birds have been recorded and it can be explained by the fact that many Greenlanders are (and have been) keen observers who know when they see unusual birds. Many specimens have been obtained in settlements and towns where the vegetation is often more lush and the insect life richer than elsewhere. Such areas are probably attractive to straggling landbirds and this increases the chance of detecting the birds.

Earlier, unusual birds were, if possible, shot or caught and usually given to local officials, who forwarded them to the Zoological Museum in Copenhagen. A large collection of rarities is kept there, and several specimens are more than 100 years old. Other specimens were given to local museums or to local collectors. During Salomonsen's time (he died in 1983) many specimens were sent directly to him from his many local contacts.

Today the Zoological Museum in Copenhagen receives very few specimens from Greenland. First of all are rare birds now protected from hunting, although the legislation is not effective. Secondly, the specimens which are obtained now are usually given to the local museums particularly the Nunatta Katersugaasivia Allagaateqarfialu/National Museum and Archives in Nuuk. But the unusual birds still have general interest. The Greenland television (N.H. Lynge) regularly shows or mentions unusual birds found in Greenland.

Many Scandinavian species occur annually in Iceland (Pétursson et al. 1991), and some of these, e.g. Rook, Blackbird and Curlew have been recorded in Greenland, in particular on the east coast. Other species with the same pattern of occurrence in Iceland are very likely to show up in Greenland, for example Jack Snipe Limnocryptes minimus, Wood Pigeon Columba palambus, Mistle Thrush Turdus viscivorus, Garden Warbler Sylvia borin and Brambling Fringilla montifringilla. Also Common Swift Apus apus may turn up in Greenland; a bird was recorded just outside the 200 mile limit in June 1969 (Anon. 1971). Many Nearctic species which have occurred in Iceland or have the same pattern of distribution and migration as those which have occurred in Greenland may be expected as well. For example Pied-billed Grebe Podilymbus podiceps, Double-crested Cormorant Phalacrocorax auritus, Snowy Egret Egretta thula, Roughlegged Buzzard *Buteo lagopus*, Cedar Waxwing *Bomby-cilla cedrorum* and White-throated Sparrow *Zonotrichia albicollis*. A Cooper's Hawk *Accipiter cooperii*, kept in the Natural History Museum in Reykjavik, Iceland, was captured on a trawler halfway between Newfoundland and Southwest Greenland in Oct 1978 (Æ. Petersen in litt.).

Some trends in status

Most bird populations and particularly arctic bird populations are not stable through time. They increase or decrease for example because of climatic fluctuations, and during this century human impact has been a prime factor. Therefore, this checklist can only be an up-to-theminute account, but some population trends are mentioned, if sufficient data are available.

Since the last complete list of Greenland birds (Salomonsen 1967) several vagrant species have become more common, and several species have been found breeding for the first time. Among the Nearctic species, first time breeding has been proved for Tundra Swan, American Golden Plover, Grey Plover and Pectoral Sandpiper, and Shore Lark has probably bred. First time breeding records for Palearctic species has occurred for Slavonian Grebe, Teal, Whimbrel, Golden Plover, Lesser Black-backed Gull and Herring Gull. Also Snipe might have bred, displaying birds have been recorded some times.

Among the vagrants, particularly some of the seabirds have become more common: Gannet, Great Skua, and the two palearctic gulls mentioned above are now occurring annually and often in numbers. Also Sooty Shearwater seem to be recorded more often now, but it may very well have been overlooked previously. This may, to some extend, also be true for the gull species mentioned.

Among the native breeding species it is apparent that all the goose populations except Brent Goose are increasing. Particularly Canada Goose and Snow Goose are now expanding their breeding range within Greenland. When Brent Geese were found breeding in northeasternmost Greenland in 1980 it was the first confirmed breeding in many years (Hjort et al. 1987). But whether the population had occurred in the area for a long time or it was a sign of an increasing population is an open question. Dunlin has been reported more often in West Greenland, where breeding has been confirmed once.

It has often been discussed why Purple Sandpiper and Red-necked Phalarope are the only waders which breed commonly in West Greenland, while many more species breed in high arctic Greenland and on Ellesmere Island on the opposite side of the Davis Strait (Meltofte 1985; Alerstam et al. 1986). The recent findings of breeding Dunlin, Pectoral Sandpiper, American Golden Plover, Grey Plover and probable breeding of Snipe may indicate that delayed immigration is the reason. On the other hand it can also be argued that some waders which, during

spring migration, overshoot their normal breeding range will start breeding in Greenland in favourable years. And because of an increased ornithological activity they have been recorded more often during recent years.

Barrow's Goldeneye has probably disappeared by now. Breeding has only been confirmed once, but the species has occurred in most of the central parts of West Greenland (Salomonsen 1950a). The most recent reports of Barrow's Goldeneye are from the 50s and mid-60s. The nearest breeding sites are in Iceland and in northern Labrador, where the populations are rather small and, in the case of the Icelandic population, stationary. Thus, re-immigration does not seem likely.

Brünnich's Guillemot has showed a very serious population decrease in most of West Greenland (Evans & Kampp 1991). For example, a previously very large colony in Uummannaq mun. is now exterminated and the large colonies in Upernavik mun. are greatly reduced. Only a remote colony in Qaqortoq/Julianehåb mun. has increased. This decrease is caused by heavy hunting of the breeding birds often close to the colonies (Kampp 1991). Many other colony breeding seabirds, particular Kittiwake and Arctic Tern, suffer for the same reason.

Abbreviations

Most months are abbreviated to the first three letters. In aging, the following terms are used: ad./ads = adult/adults, imm. = immature, juv./juvs = juvenile/juveniles (only used if a specimen is proved to be in juvenile plumage), pull. = pullus/pulli, and 1y/1ys, 2y/2ys, etc. = bird(s) in first calendar-year, second calendar-year etc. Likely, but not confirmed age identifications are indicated by a question mark.

Asl. = above sea level, GERI = Greenland Environmental Research Institute, I = Ilinniarfissuaq/the teachers college in Nuuk, indvs = individuals, mun. = municipality, NKA = Nunatta Katersugaasivia Allagaateqarfialu/ National Museum and Archives in Nuuk, ssp. = subspecies, ZMUC = the Zoological Museum of Copenhagen.

Acknowledgements

Michael Andersen, Rasmus Andersen, Christian Bay, Thomas Berg, Helene Brochmann, Henrik Christoffersen, Thorkil Duch, Jan Durinck, Henning Ettrup, Knud Falk, Mads Forchhammer, Tony Fox, Ole Frimer, Christian Glahder, Jes Graugaard, Peter Gravlund, A.K. Higgins, Will Higgs, Kenneth Høegh, Stig Jürgensen, Kaj Kampp, Birger Knudsen, Henrik Korning, Michael Lea, Niels Henrik Lynge, Lars Maagaard, Allan Nielsen, Kaj Nielsen, Peter Nielsen, Torgny Nordin, Klaus Nygaard, Leif Petersen, Jens Rosing, Kim Rosing-Asvid, Benoît

Meddelelser om Grønland, Bioscience 38 · 1994

Sittler, Lars Stemmerik, Henning Thing, Christian Vibe, Frank Wille, and Richard Vaughan, all put unpublished information at my disposal or helped in other ways. Preben Grossmann, Sisimiut, kept me informed of the rarities mentioned in the Greenland media and gave me much valuable information regarding birds in the central part of West Greenland. Dorete Bloch supplied information from the Natural History Museum in Thórshavn, Faeroe Islands. Ævar Petersen supplied information from the Icelandic Museum of Natural History and from Icelandic literature. Erik Hansen and Aage Meyer kindly invited me to study their collections of Greenland specimens. The curators of the local museums in Greenland gave me lists covering their collections of bird specimens. The Zoological Museum of Copenhagen gave me admission to the large collection of Greenland birds, to unpublished information regarding ring recoveries in Greenland, and to the late Finn Salomonsen's correspondence. Nunatta Katersugaasivia Allagaateqarfialu/ National Museum and Archives in Nuuk/Godthåb allowed me to study the collection of birds and Emil Rosing helped in various ways. In Ilinniarfissuaq/Teachers College in Nuuk/Godthåb I studied the few remaining specimens, kindly guided by Birgitta Wallstedt. In Maniitsup Katersugaasivia/Maniitsoq Museum Magdalene Pedersen allowed me to study the specimens. In the library of Danish Polar Centre I studied the collection of field reports and 'grey' reports. The Goverment of Greenland helped in contacting the local museums. Michael Lea checked the English. Kaj Kampp criticized an early draft of the manuscript. Klaus Nygaard and Marianne Thomsen housed me during my stay in Nuuk/Godthåb. Two referees gave comments to the manuscript. A grant from the G.E.C. Gads Fond made the trip to Nuuk/ Godthåb possible. All receive my most sincere thanks.

Species account

DIVERS GAVIIDAE

Red-throated Diver (Loon) Gavia stellata

STATUS: Widespread breeder and extralimital migrant. West Greenland: Common breeder in most parts of the region (Salomonsen 1981). Reported densities: 8 pairs/350 km² in 1979 and 7 pairs/400 km² in 1991, both in inland areas in Aasiaat/Egedesminde (Fox & Stroud 1981; Fox et al. 1991); 4 nests/<1 km² in a delta area in Qeqertarsuaq/Godhavn in 1989 (Frimer & Nielsen 1990); absent in Nunap Isua/Kap Farvel-area (Nørrevang 1973). North Greenland: Widespread but sparse breeder; most common in the Qaanaaq/Thule-area. Recently found breeding in central part of north coast (Bennike & Kelly 1986; Aastrup et al. 1986). Northeast Greenland: Widespread and common to sparse breeder (e.g. Meltofte 1975; Boertmann et al. 1991; Bay in press). Reported densities: 2 pairs/10 km² on Traill Ø in 1990 (Sittler et al. 1991); 3–5 nests/6.1 km² in a coastal area in Hold With Hope in 1976 (Elander & Blomqvist 1986); 3 pairs/18.2 km² in a coastal area in Hochstetter Forland in 1976 (Meltofte et al. 1981a); 1–2 pairs/3.4 km² and 1–2 pairs/7.7 km² both in 1989 in Dove Bugt (Boertmann et al. 1991); 4–5 pairs/400 km² in northern Germania Land in 1987 (Cabot et al. 1988). **Southeast Greenland:** Widespread and common breeder (Helms 1926; Knudsen 1935a; Degerbøl & Møhl-Hansen 1935; Hørring 1939; Ray 1973; J. Andersen 1981; Molenaar 1982; Gravlund 1991; J. Rosing pers. comm.).

HABITAT: The breeding habitat is shallow ponds usually close to the coast. Commonly seen along coasts, where breeders feed and non-breeders stay throughout the summer.

MOVEMENTS: Migratory and ring recoveries indicate that at least a part of the population winters along coasts in western Europe. Arrives at the breeding grounds during May and early June and departs in Sep. Late indvs may occur along the coasts until Nov (Fencker 1947; Meltofte 1977; Salomonsen 1981).

Black-throated Diver (Arctic Loon) Gavia arctica

STATUS: Accidental. West Greenland: One record: Uummannaq: Ikerasak, 8 Aug 1910, ad. Q (Bertelsen 1921), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimen refers to the Nearctic ssp. *pacifica*, whose nearest breeding grounds are on southern Baffin Island. It is sometimes recognized as a full species.

Great Northern Diver (Common Loon) Gavia immer

STATUS: Widespread, mainly low arctic breeder and extralimital migrant. West Greenland: Widespread and rather common to scarce breeder. Reported density: 3 pair/350 km² in interior Aasiaat/Egedesminde in 1979 (Fox & Stroud 1981). North Greenland: Qaanaaq/ Thule-area: Established as a breeder in the 1940s (Salomonsen 1967), but now probably very rare or may perhaps have disappeared (Thing 1976; Vaughan 1988). -Peary Land: One record: Nedre Midsommer Sø, 15 July 1973 (Meltofte 1976b). Northeast Greenland: Sparse breeder in the region from the Kangertiitivaq/Scoresby Sund-area northwards to Hochstetter Forland (Meltofte et al. 1981a). However, recently found breeding further north: in the interior parts of Dove Bugt (Friend 1991), where the species has also occurred as summer visitor (Manniche 1910). Southeast Greenland: Region between 63° and 64°N: Akerninnarmiit/Skjoldungen: birds in summer plumage seen in 1991 (Gravlund 1991). -Ammassalik-area: Common breeder (Helms 1926) or 'occasionally seen' (Molenaar 1982). - Kangersittuaqarea: Seen several times in summer 1991 (Glahder 1992). HABITAT: The breeding habitat is lakes. Non-breeders often occur along coasts.

MOVEMENTS: Migratory. Winter quarters of Greenland birds unknown, except that a few birds winter along the coasts in the Open Water Region. Salomonsen (1967) suggested that the majority of the population probably winter along the eastern coast of North America, and some may also winter along the coasts in western Europe. Alerstam et al. (1986) find it highly probable that Great Northern Divers undertake transglacial spring migration from West Greenland to Southeast Greenland. Arrives at the breeding grounds mid-May until mid-June and departs Aug/Sep. However, several seen off-shore southwest Greenland during early and mid-Oct 1993 (GERI unpubl.).

White-billed Diver (Loon) Gavia adamsii

STATUS: Accidental. West Greenland: Two records: Paamiut/Frederikshåb: Ivittuut/Ivigtut, 1897, 1y/2y (Salomonsen 1963), skin in ZMUC. – Upernavik: Kangersuatsiaq/Prøven, summer c. 1982, ad., skin in private collection (RC 1986–87).

ORIGIN: Ne- and Palearctic species, with the nearest breeding grounds on Somerset Island and Boothia Peninsula in Canada.

GREBES PODICIPEDIDAE

Red-necked Grebe Podiceps grisegena

STATUS: Vagrant, occurring in coastal habitats mainly during winter. **West Greenland:** C. 37 records known until 1981. The majority were found in Qaqortoq/Julianehåb, some in Paamiut/Frederikshåb, Nuuk/Godthåb and Maniitsoq/Sukkertoppen and one in each of the municipalities Aasiaat/Egedesminde and Uunmannaq. Most records occurred in Oct-Dec, a few in Jan and Feb, one in Apr and one in 'summer' (Salomonsen 1935a; Hørring & Salomonsen 1941; Asmussen 1957; E. Hansen in litt.; NKA). In ZMUC and NKA there are 25 specimens from West Greenland, of which two are ads and at least 19 are 1y/2ys. **Southeast Greenland:** One record: Ammassalikarea: Kulusuk/Kap Dan, Nov or Dec 1908, 1y (Helms 1910), skin in ZMUC.

SUBSPECIES: Most of the records concern the Nearctic ssp. *holboelli*. Hørring & Salomonsen (1941) mentioned two records of the Palearctic ssp. *grisegena*, from Maniitsoq/Sukkertoppen and Qaqortoq/Julianehåb, but the specimens have not been available for study.

ORIGIN: The nearest breeding grounds in North America are in southeastern and western Canada and in Europe in southern and eastern Scandinavia.

REMARK: The record from Southeast Greenland has previously been dated as Jan 1909 (Salomonsen 1935).

This was, however, the date when the bird was received by the Danish manager in Ammassalik (Helms 1910).

Slavonian Grebe (Horned Grebe) Podiceps auritus

STATUS: Vagrant and occasional breeder. West Greenland: C. 30 records are known. The majority occurred in the region between Qaqortoq/Julianehåb and Nuuk/Godthåb and single records also in each of the municipalities Maniitsoq/Sukkertoppen and Aasiaat/Egedesminde. Most were from the late autumn (Oct-Dec) and one was from July or Aug (Salomonsen 1981). The majority of the twelve specimens in ZMUC are 1ys and only two are ads. A pair bred in interior Qaqortoq/Julianehåb in 1977 (Salomonsen 1979a; RC 1977–78). Southeast Greenland: One record: Ammassalik-area: Sarfaakaajik west of Amitsivartik, 8 Oct 1900, 1y (Helms 1926), skin in ZMUC. However, Helms (1926) mentioned that the species had been seen several times.

SUBSPECIES and ORIGIN: Fjeldså (1973) stated that the general impression of the Greenlandic specimens in ZMUC is that they were of Icelandic provenance (viz. ssp. *arcticus*). However, also the Nearctic ssp. *cornutus* occurs: one of the breeding birds in 1977 was identified to this ssp. (J. Fjeldså pers. comm.).

HABITAT: During winter along coasts; the breeding occurred in a shallow pond.

Black-necked Grebe Podiceps nigricollis

STATUS: Accidental. West Greenland: Two records: Maniitsoq: Naajarsuit, 7 Nov 1991, ad., skin in Maniitsoq Museum. – Ilulissat/Jakobshavn: Saqqaq, 8 Nov 1969 (H. Fencker in litt.), 1y, skin in ZMUC.

SUBSPECIES: The specimens refer to the Nearctic ssp. *californicus*, whose nearest breeding grounds are in southern and southwestern Canada.

ALBATROSSES DIOMEDEIDAE

Black-browed Albatross Diomedea melanophris

STATUS: Accidental. West Greenland: Two records, both from Lille Hellefiskebanke off Maniitsoq/Sukkertoppen: Late Aug 1935, imm. Q (Hørring & Salomonsen 1941). – July, 1958, imm. O' (Salomonsen 1963). Both specimens are in Thórshavn Museum, the Faeroe Islands (D. Bloch in litt.).

SUBSPECIES and ORIGIN: Both specimens seems to be ssp. *melanophris*, whose nearest breeding grounds are on the Falkland Islands and South Georgia, the southern Atlantic.

Meddelelser om Grønland, Bioscience 38 · 1994

REMARK: Salomonsen (1963, 1967) mentioned a third record from Akunnaaq 1944, but this is now identified as Yellow-nosed Albatross (see below).

Yellow-nosed Albatross Diomedea chlororhynchos

STATUS: Accidental. West Greenland: Two records: Sisimiut/Holsteinsborg: Qassit off Amerloq Fjord, Aug 1963 (Aa. Meyer pers. comm.), ad., skin in private collection. – Aasiaat/Egedesminde: Akunnaaq, 21 Aug 1944, imm., skin in ZMUC.

SUBSPECIES and ORIGIN: The ad. specimen refers to ssp. *chlororhynchos*, whose nearest breeding grounds are on the Tristan da Cunha Islands in the southern Atlantic (Harrison 1983).

REMARK: The Akunnaaq specimen was previously reported as Black-browed Albatross (Salomonsen 1963, 1967).

PETRELS AND SHEARWATERS *PROCELLARIIDAE*

Northern Fulmar Fulmarus glacialis

STATUS: Widespread breeder with few and widely dispersed breeding sites. West Greenland: South of Oegertarsuup Kangerlua/Disko Bugt only a few and small (<200 pairs) colonies: one in Qaqortoq/Julianehåb and one (perhaps two more) in Paamiut/Frederikshåb (no birds in 1993); in Qeqertarsuup Kangerlua/Disko Bugtarea three large or very large (> 10,000 pairs) and one or two small; in Uummannaq four large or very large and in Upernavik one very large colony and a few small (Salomonsen 1979a; Evans 1984; Kampp 1985; GM & OC 1993). The Fulmar is usually numerous off the coast of the whole region. North Greenland: Qaanaaq/Thulearea: one large colony (5,000 indvs in 1987) at Appat/ Saunders Ø (Kampp 1990; GM & OC 1993). Stragglers are recorded as far northeast as Hall Land (Bessels 1879). - Eastern part: Six colonies in Holm Land (five) and Amdrup Land (one) with in total 2500 apparently occupied nest sites (Falk 1993). This is much more than reported during earlier brief visits to the area (Pedersen 1942; Hjort et al. 1983). Elsewhere recorded as summer visitor along the coast and off-shore as far north as the easternmost Peary Land (Bennike & Higgins 1989; Mehlum 1989; Kristensen & Kristensen 1993) and occasionally inland (Freuchen 1915). Northeast Greenland: At the mouth of Kangertiitivaq/Scoresby Sund one small colony on Kap Brewster and twelve lesser (some hundred pairs as maximum) colonies on the outer coast of Liverpool Land (Salomonsen 1979a; Meltofte 1976a). Further north, a small colony (150 birds) was recently found on Hvalros Ø off Wollaston Forland (Stemmerik 1990), and more colonies occur probably along the coast. Common off-shore and along the outer coast during summer (Andersen & Berg 1991; Søder 1991) and occasionally in fiords and bays (e.g. Marris & Webbe 1969; Forchhammer 1990). **Southeast Greenland:** The Fulmar occurs regularly along the coast, but no breeding sites are known (Helms 1926; Pedersen 1930; Hørring 1939; Meltofte 1976a; J. Andersen 1981; Molenaar 1982; S. Jürgensen in litt.).

SUBSPECIES: Previously were two north Atlantic ssp. recognized (Salomonsen 1965), but these are better treated as one: ssp. *glacialis* (Franeker & Wattel 1982). The dark colour-phases dominate in the high arctic colonies in eastern North Greenland (Pedersen 1942; Hjort et al. 1983), while the light colour-phases predominate in all other colonies: 99,9% in southern West Greenland, 99% in the Qaanaaq/Thule-area and 70–80 % in Northeast Greenland (Franeker & Wattel 1982). However, many dark colour-phase birds occur off-shore West Greenland during summer (Boertmann 1979), indicating that Fulmars from the large colonies on eastern Baffin Island feed in Greenland waters.

POPULATION: 120,000–175,000 pairs are estimated (based on GM & OC 1993) to breed in Greenland.

HABITAT: Colonies on steep sea facing cliffs.

MOVEMENTS: Migratory and dispersive. There are several winter recoveries of Greenland rings from Newfoundland waters, but Fulmars are also common during winter in open water areas off southern Greenland (Salomonsen 1967; Durinck & Falk in prep.). Arrives at the breeding sites even in eastern North Greenland during Apr and departs during Sep (Pedersen 1942; Salomonsen 1981).

Great Shearwater Puffinus gravis

STATUS: Widespread low arctic summer and autumn visitor. West Greenland: Usually abundant (July-Sep occasionally -Oct) as far north as Sisimiut/Holsteinsborg and sometimes also to Qeqertarsuup Tunua/Disko Bugt (Brown et al. 1975; Christensen & Lear 1977; Kampp & Kristensen 1980b). However, very few in some years (e.g. 1992), and seems in general to have decreased during the recent decades. Southeast Greenland: Has been recorded during late summer in rather large numbers as far north as off the Ammassalik-area (Hørring 1939; Berland 1961, 1962; Voous & Wattel 1963; Gräfe 1973; Glahder 1993).

HABITAT: Off-shore waters, along coasts and sometimes in larger fiords. Avoids areas with drift ice.

MOVEMENTS and ORIGIN: Breeds on the Tristan da Cunha Islands and Gough Island in the southern Atlantic, and spends the southern winter on the northern hemisphere.

Sooty Shearwater Puffinus griseus

STATUS: Rare summer and autumn vagrant in off-shore areas and along the outer coasts. West Greenland: Salomonsen (1967) mentioned only one record from June 1875 off Qaqortoq/Julianehåb. Since then: Qaqortoq/Julianehåb: Off Nunarsuit, 28 July 1980 (RC 1981). – Off Kobberminebugt, 25 July 1985 (RC 1985). – Paamiut/ Frederikshåb: Off the coast, 16 and 19 Aug 1973 (Pihl 1976; RC 1974). – Maniitsoq/Sukkertoppen: Off the coast, 11 Sep 1981 (RC 1985). – Qeqertarsuaq/Godhavn: Off Qeqertarsuaq town, 8 Aug 1988 (RC 1988). **Southeast Greenland:** Ammassalik-area: Off Kulusuk/Kap Dan, 11 July to 31 Aug 1960, several indvs (Salomonsen 1963).

MOVEMENTS and ORIGIN: Breeds like the Great Shearwater in the southern hemisphere, and a segment of the population spends the southern winter in the northern Atlantic. Nearest breeding grounds are on the Falkland Islands.

REMARK: Observations made during whale-surveys off-shore West Greenland during the 1980s (F. Larsen pers. comm.), indicate that the species occurs more frequently than stated above.

Manx Shearwater Puffinus puffinus

STATUS: Accidental. **West Greenland:** Two records: Qaqortoq/Julianehåb: c. 1820 (Winge 1898). – Saarloq, 2 Aug 1985, shot, ringed as pull. on the Isle of Rhum, Scotland, 7 Sep 1984 (ZMUC).

SUBSPECIES: The records refer to ssp. *puffinus*, whose nearest breeding grounds are in Iceland and the British Isles.

STORM-PETRELS HYDROBATIDAE

Leach's Storm-petrel Oceanodroma leucorrhoa

STATUS: Vagrant. **West Greenland:** Rather rare, but occurs annually off-shore in the region between Qaqortoq/Julianehåb and Qeqertarsuup Tunua/Disko Bugt, sometimes in numbers particularly in the southern part of the area. Scarce further north as far as Upernavik. Storm driven specimens occur in-shore and sometimes inland. Recorded almost year round with peak Oct/Nov (Hørring & Salomonsen 1941; Salomonsen 1981).

ORIGIN: The nearest breeding grounds are in Newfoundland and Iceland.

GANNETS AND BOOBIES *SULIIDAE*

Northern Gannet Sula bassana

STATUS: Regional, mainly low arctic visitor during summer and autumn in off-shore areas and along the outer coast. **West Greenland:** Occurs annually in small numbers during summer and autumn (June-Sep) in the region between Qaqortoq/Julianehåb and Nuuk/Godthåb, be-

comming rarer further north as far as Upernavik (e.g. Kristensen 1979; Salomonsen 1981). Northeast Greenland: Liverpool Land: Off Ittaajimmiit/Kap Hope, late July 1966 (E. Nielsen in litt.), 2y, skin in ZMUC. – Jameson Land: Off Kangertertivarmiit/Sydkap, 1934, ad. (Hørring & Salomonsen 1941), skin in ZMUC. Southeast Greenland: Only three records from the region between 60° and 64°N are known (Berland 1961; Glahder 1993), but the Gannet occurs probably as a regular summer visitor outside the drift ice.

ORIGIN: The nearest breeding grounds are in Iceland and Newfoundland.

REMARK: Now much more common than described by Salomonsen (1967), who only mentioned 15 records.

CORMORANTS PHALACROCORACIDAE

Great Cormorant Phalacrocorax carbo

STATUS: Regional low arctic breeder and intraregional migrant. West Greenland: Colonies are found in Maniitsoq/Sukkertoppen (Kangerlussuatsiaq/Evighedsfjorden and Kangerlussuaq/Søndre Strømfjord), Aasiaat/Egedesminde (Nassuttooq/Nordre Strømfjord and Afersiorfik), the Qeqertarsuup Tunua/Disko Bugt-area and in southern Upernavik (GM & OC 1993). Recently (1986), reestablished in Nuup Kangerlua/Godthåb Fjord in Nuuk/Godthåb (own observation) and might have bred in western Qaqortoq/Julianehåb in 1992 (K. Kampp pers. comm.). Common winter visitor and rare summer visitor south of the breeding range. Southeast Greenland: Bred in former times in the Ammassalik-area, and also reported as winter visitor (Helms 1926). However, absent now.

SUBSPECIES: The Cormorant population in Greenland refers to ssp. *carbo*, which also breeds in Iceland, the British Islands, Norway and the Gulf of St. Lawrence in Canada.

HABITAT: Strictly coastal, but sometimes seen in lakes. Colonies are located on steep cliffs facing the sea, rarely on low islands.

POPULATION: 1,000–2,500 pairs are estimated to breed in Greenland.

MOVEMENTS: Migratory. The total population winters along the coasts of the Open Water Region. Arrives at the breeding grounds during Apr and early May and departs in Aug or Sep (Salomonsen 1967; Kampp & Kristensen 1980b).

BITTERNS AND HERONS ARDEIDAE

American Bittern Botaurus lentiginosus

STATUS: Accidental. West Greenland: Five records: Qaqortoq/Julianehåb: Narsaq Kujalleq/Frederiksdal, mid-July 1932 (Oldenow 1933), skin previously in I, but now probably lost. – Qassiarsuk, 25 Oct 1956, ad. ♂ (Salomonsen 1963), skeleton in ZMUC. – Aappilattoq, mid-Sep 1957, ad. Q, skin in Nanortalik school (Salomonsen 1963). – Nuuk/Godthåb: Nuuk town, early Oct 1963 (J. Kreutzmann in litt.), 1y Q, skin in ZMUC. – Aasiaat/ Egedesminde: 1869 (Winge 1898), legs preserved in ZMUC. Southeast Greenland: The region between 62° and 63°N: Timmiarmiit, Jan 1963, skin in Museum of Natural History, Århus (Mortensen 1965; RC 1965–69).

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland and Quebec.

Black-crowned Night Heron Nycticorax nycticorax

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: Sallit, Nanortalik, 29 May 1926, 3y (Scheel 1927; Oldenow 1933), skin in I.

SUBSPECIES and ORIGIN: The specimen belongs to the Nearctic ssp. *hoactli* (Salomonsen 1963), whose nearest breeding grounds are in southeastern Canada.

Striated Heron Butorides striatus

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Kangeq, 19 July 1948, ad. Q (Salomonsen 1963), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimen refers to the Nearctic ssp. *virescens*, whose nearest breeding grounds are in southeastern Canada (Salomonsen 1963).

Cattle Egret Bubulcus ibis

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Sea off Nuuk, 29 Oct 1987, two found on trawler, one dead (K. Nygaard in litt.), Q or 1y, skin in NKA.

ORIGIN: An old world species, which has spread to South America and later to North America. The nearest breeding grounds are now in southern Ontario in Canada.

Little Blue Heron Egretta caerulea

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: Qunnermiut, Nanortalik, Sep 1942, 1y (Salomonsen 1963), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in northeastern USA.

Grey Heron Ardea cinerea

STATUS: Rare, mainly autumn vagrant. West Greenland: Eleven records: Salomonsen (1967) mentioned nine records: six from Qagortoq/Julianehåb and three from Nuuk/Godthåb. They occurred in Aug, Oct (two), Jan, 'autumn' (four) and 'spring'. The six specimens in ZMUC, NKA and I are all 1ys or 2ys. Since then two records: Qaqortoq/Julianehåb: Alluitsup Paa/Sydprøven, 29 Jan 1969, 2y, skin in ZMUC. - Nuuk/Godthåb: Kangerluarsoruseq/Færingehavn, 12 Nov 1976 (RC 1977-78), 1y, skin in private collection. Northeast Greenland: Liverpool Land: Uunarteg/Kap Tobin, 28 Sep 1928, but not identified with certainty (Pedersen 1930). Southeast Greenland: Four records: Ammassalik-area: Kulusuk/ Kap Dan, 13 Oct 1918, 1y, skeleton in ZMUC (Hørring & Salomonsen 1941). - Ammassalik town, 19-20 Sep 1968, two indvs (I. Rahbek in litt.). - Same site, Nov 1976 (S. Jürgensen in litt.). - Same site, 25 Sep 1978 (S. Jürgensen in litt.).

SUBSPECIES and ORIGIN: The Greenland specimens refer to ssp. *cinerea* (Salomonsen 1967), whose nearest breeding grounds are in western Norway.

REMARK: There have been at least eight records of *Ardea sp.* since 1968: Qaqortoq/Julianehåb (Sep, two without data), Nuuk/Godthåb (Oct and two from Nov) and Sisimiut/Holsteinsborg (May, June).

Great Blue Heron Ardea herodias

STATUS: Rare autumn, winter and spring vagrant. West Greenland: Nine records: Salomonsen (1963) mentioned five autumn records (Sep/Oct), which all were 1ys, from the region between Qaqortoq/Julianehåb and Qeqertarsuaq/Godhavn. Four of these are kept as skins in ZMUC. New records: Paamiut/Frederikshåb: Avigaat, 22 Nov 1971 (P. Lomholt in litt.), 1y, skin in ZMUC. – Maniitsoq/Sukkertoppen: Maniitsoq town, Apr 1985 (T. Duch in litt.), 2y, skin in NKA. – Sisimiut/Holsteinsborg: Sisimiut town, 8 Oct 1975, 1y, skin in private collection (P. Grossmann in litt.). – Aasiaat/Egedesminde: Qasigiannguit/Christianshåb, c. 23 Oct 1990, 1y \heartsuit , skin in local museum (T.R. Larsen pers. comm.).

SUBSPECIES and ORIGIN: The Greenland specimens belong to ssp. *herodias* (Salomonsen 1967), whose nearest breeding grounds are in southeastern Canada.

IBISES AND SPOONBILLS THRESKIORNITHIDAE

Glossy Ibis Plegadis falcinellus

STATUS: Accidental. West Greenland: One record: Paamiut/Frederikshåb: Narsalik, Apr 1957, ad. O' (Salomonsen 1963), skin in ZMUC.

ORIGIN: The specimen refers to the widely distributed ssp. *falcinellus* (Salomonsen 1963), whose nearest breed-

ing grounds are in southeastern Europe and southeastern USA.

Eurasian Spoonbill Platalea leucorodia

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: Itilleq, Nanortalik, 4 Oct 1936, 1y (Hørring & Salomonsen 1941), skin in I.

SUBSPECIES and ORIGIN: The specimen belongs to ssp. *leucorodia*, whose nearest breeding grounds are in the Netherlands.

SWANS, GEESE AND DUCKS *ANATIDAE*

Tundra Swan Cygnus columbianus

STATUS and SUBSPECIES: Accidental and occasional breeder with two ssp.:

Ssp. columbianus: West Greenland: Sisimiut/Holsteinsborg: Isungua north of Kangerlussuaq/Søndrestrømfjord airport, 5 Aug 1988, ad. in moult (RC 1989, 1990; T. Fox in litt.). – Qeqertarsuaq/Godhavn: Nugarsuit, western Qeqertarsuaq/Disko, 11 Aug 1989, ad. in moult, in private collection (RC 1989, 1990; Bennike 1990; P. Grossmann in litt.). – Uummannaq, Nunavik/ Svartenhuk, northwest of Itsaku, pair with two pull., 9 Aug 1989 (H. Thing and H. Ettrup in litts, RC 1989). A pair with pull. were also seen in the same area in summer of 1988 (F. Pedersen in litt.).

Ssp. *bewickii*: West Greenland: One record: Nuuk/ Godthåb: Kangeq, 2 Jan 1962, ad. ♀ (Salomonsen 1963), skin in ZMUC.

HABITAT: The breeding locality was an extensive marsh area with shallow ponds and lakes.

ORIGIN: The nearest breeding grounds are on Baffin Island (ssp. *columbianus*) and in western arctic Russia (ssp. *bewickii*).

REMARK: The occurrence in Greenland (of ssp. *co-lumbianus*) is probably related to the substantial increase in the eastern Canadian population (Stewart & Bernier 1989), and further breeding records may appear.

Whooper Swan Cygnus cygnus

STATUS: Vagrant. West Greenland: Occurs probably annually (Feb-Oct) in small numbers in the region between Qaqortoq/Julianehåb and Sisimiut/Holsteinsborg, particularly in the inland areas. Bred in former times in northern Nuuk/Godthåb (Salomonsen 1950a). Northeast Greenland: At least nine summer (June-Sep) records in the region as far north as Germania Land (e.g. Pedersen 1930; Johnsen 1953; Meltofte 1976a; Meltofte et al. 1981a; Cabot 1984; Mortensen et al. 1988; Forchhammer 1990; Salomonsen unpubl.). Southeast Greenland: Salomonsen (1967) reported nine summer records (May-Sep) from the Ammassalik-area, including some small

flocks. Since then at least one record: two shot 31 May 1991 (P. Nielsen pers. comm.).

HABITAT: Usually at lakes and marshes in the inland areas.

ORIGIN: Palearctic species, with the nearest breeding grounds in Iceland.

REMARK: Since 1978, several swans have been recorded at the Kangerlussuaq/Søndrestrømfjord airport, for example May/June 1980, c. 9 indvs (H. Thing in litt.; S. Malmquist in litt.; K. Rosing-Asvid pers. comm.). Some of these may have been Whistling Swans.

Pink-footed Goose Anser brachyrhynchus

STATUS: Regional, mainly high arctic breeder and extralimital migrant. West Greenland: One record: Aasiaat/ Egedesminde: Naigornaarsuk, 30 May 1967, shot (Asvid 1974). North Greenland: Peary Land: Bliss Bugt, 26 June 1969, two indvs (Grant 1972). - Constable Bugt, 5 July 1969 (Grant 1972). - Kronprins Christian Land: Blåsø, Aug 1987, flock (C. Bay pers. comm.). Northeast Greenland: Breeds in the region from Sulussuutikajik/ Steward Ø and Orqummut Kangertiva/Gåsefjord northwards as far as Hochstetter Forland (Meltofte 1976a; Meltofte et al. 1981a), in recent years also in Germania Land as far north as Nordmarken (Forchhammer 1990; Bay in press). Reported densities: 3 nests/6.1 km² in 1979 in Hold With Hope (Elander & Blomqvist 1986); 24-30 pairs/18.2 km² in 1976 in Hochstetter Forland (Meltofte et al. 1981a). Numerous non-breeders including a large contingency from Iceland moult in the region (Boertmann 1991). Southeast Greenland: Breeding has been reported from Migip Kangersiva/Miki Fjord, from Nigertuluk and Sermilik in the Ammassalik-area (Degerbøl & Møhl-Hansen 1935; Ray 1973; Alerstam et al. 1984) and probably breeding from the Akerninnarmiit/Skjoldungenarea in 1992 (J. Rosing in litt.). A few moulting nonbreeders have been reported from the Ammassalik-area (Ray 1973) and the Akerninnarmiit/Skjoldungen-area (Gravlund 1991). Migrants are seen both spring and autumn in the Ammassalik-area (Salomonsen 1967).

HABITAT: Breeds in areas with rather lush vegetation, and nests on the top of riverbanks, large hummocks, etc. Non-breeders moult at sheltered coasts, lakes and rivers.

POPULATION: The number of breeding birds in Greenland is unknown, but hardly exceeds 10,000. The number of moulting birds surveyed in 1988 reached 30,000, but actual numbers are higher (Bay & Boertmann 1989; Boertmann 1991). The total Greenland/Iceland population numbered c. 172,000 birds in the winter 1987/88 and it is increasing (Fox et al. 1989).

MOVEMENTS: Migratory and winters in the British Isles mostly in Scotland. The breeders arrive in Northeast Greenland during May, and the non-breeders during late June and early July (e.g. Meltofte 1976a; Elander & Blomqvist 1986). The population departs in late Aug/ early Sep (Meltofte 1976a).

White-fronted Goose Anser albifrons

STATUS: Regional low arctic breeder and extralimital migrant. West Greenland: Breeds in the region from northern Nuuk/Godthåb to southern Upernavik (Salomonsen 1981; Bennike 1990). Occurs as vagrant south of this region. North Greenland: One record: Qaanaaq/ Thule-area: Tasersuit, 6–7 Aug 1989, three ads (Best & Higgs 1990). Northeast Greenland: Rare migrant and summer visitor with four or five records in region between Kangertiitivaq/Scoresby Sund and Hudson Land (Pedersen 1930; Hall & Waddingham 1966; Hjort 1976a; Madsen et al. 1984a) and one in Germania Land: Danmarkshavn, 27 Sep 1991, three indvs (J. Graugaard pers. comm.). Southeast Greenland: Occurs as migrant during spring and autumn in the Ammassalik-area (Salomonsen 1967).

SUBSPECIES: The Greenland population belongs to the endemic ssp. *flavirostris* (Dalgety & Scott 1948).

HABITAT: Breeds in or close to plains and marshes (Fencker 1950; Fox et al. 1983; Fox & Stroud 1988; Frimer & Nielsen 1990).

POPULATION: Slightly decreasing during the 1970s, but now increasing and numbered c. 29,400 in spring 1991 (Stroud 1992).

MOVEMENTS: Migratory and winters in Scotland and Ireland (Kampp et al. 1988). Arrives at the breeding grounds during late Apr and May. Departs in Sep and early Oct.

Greylag Goose Anser anser

STATUS: Accidental. Northeast Greenland: Four records: Jameson Land: Nerlerit Inaat/Constable Pynt, 20 Aug 1983. – Coloradodal, 6 Aug 1984, two ads (both Boertmann et al. 1985; RC 1982–84). – Hold With Hope: Badlanddal, 18 Aug 1988, three indvs (Dändliker 1988). – Germania Land: Danmarkshavn, summer 1992, five indvs (J. Graugaard pers. comm.).

SUBSPECIES and ORIGIN: These Greylag Geese were probably from Iceland, where ssp. *anser* is a common breeder.

Snow Goose Anser caerulescens

STATUS: Regional low and high arctic breeder and extralimital migrant. West Greenland: Probably regular, but scarce breeder in the region between Qeqertarsuaq/Godhavn and Upernavik. Recently (1989), found breeding with two pairs in northwestern Qeqertarsuaq/Godhavn (Bennike 1990) and bred in Nunavik/Svartenhuk 1961 (H. Fencker in litt.). Summer vagrants occur throughout the region, most common in Upernavik and with decreasing frequency southward. North Greenland: Breeds in the central and northern part of the Qaanaaq/Thule-area (Salomonsen 1967; Heyland & Boyd 1970) and recently found breeding in Nyeboe Land, Hall Land, Kronprins Christian Land (Kilen), Nansen Land and probably in

Wulff Land (Bennike & Kelly 1986; Aastrup et al. 1986; Hjort et al. 1987; Bay in press). Flocks, mostly nonbreeders, of up to several hundred have been recorded from some sites in the Qaanaaq/Thule-arca in July/Aug (Heyland & Boyd 1970; Thing 1976; Vaughan 1988; Best & Higgs 1990; L. Petersen in litt.). Northeast Greenland: A breeding pair found in Lambert land in 1990 (Bay in press). Elsewhere, rather rare but annual summer visitor southward to Jameson Land (e.g. Meltofte et al. 1981a; Boertmann et al. 1985; Elander & Blomqvist 1986; Forchhammer 1990; Lea at al. in prep.).

SUBSPECIES: The breeding population in the Qaanaad/Thule-area refer to the Greater Snow Goose (ssp. atlanticus). This ssp. has been considered as the most common summer visitor outside the breeding area. Lesser Snow Goose (ssp. caerulescens) has been reported as a rare summer visitor in the Qaanaaq/Thule-area, in West Greenland south as far as Qaqortoq/Julianehåb and in Northeast Greenland (Salomonsen 1967; Thing 1976; Forchhammer 1990; Best & Higgs 1990). Before 1968, all Lesser Snow Geese have been of the white morph. Since then, several blue geese have been reported from North and Northeast Greenland (Salomonsen 1933, 1935a; Thing 1976; Best & Higgs 1990; J. Graugaard pers. comm.). As the blue morph, which only occurs among Lesser Snow Geese (Cooke 1987), seems to be increasing in Greenland, many of the recent records of straggling white morph Snow Geese may have been the lesser ssp.

HABITAT: Breeds at lakes, coastal lagoons and marshes, sometimes also on rocky islets along the coast. Non-breeders usually moult at lakes.

POPULATION: The entire Greater Snow Goose population has increased dramatically since the mid-1970s (Reed et al. 1990). In Greenland this is reflected by the increased range extension seen in recent years.

MOVEMENTS: Migratory. The Greater Snow Geese winter in the mid-Atlantic coast of USA. Arrival at the breeding grounds takes place in early June and departure in Sep (Salomonsen 1967).

Emperor Goose Anser canagicus

STATUS: Accidental. West Greenland: One record: Qeqertarsuaq/Godhavn: Late Sep 1976, ad., skin in private collection (RC 1990; P. Grossmann and T. Duch pers. comm.).

ORIGIN: The nearest breeding grounds are in western Alaska and stragglers have previously been reported as far east as Victoria Island in arctic Canada (Godfrey 1986).

Canada Goose Branta canadensis

STATUS: Regional low arctic breeder and extralimital migrant. West Greenland: Locally common breeder and summer visitor in the region between Sisimiut/Holsteinsborg and southern Upernavik. Particularly common in

Qegertarsuup Tunua/Disko Bugt-area and Nunavik/Svartenhuk (Bennike 1990; Frimer & Nielsen 1990). In Maniitsoq/Sukkertoppen and Nuuk/Godthåb it occurs as a rather numerous summer visitor mainly inland, and breeding has been recorded at least twice: in 1976 on an island off Lille Narsaq, Nuuk/Godthåb (RC 1977-78) and in 1992 in the area southeast of Kangerlussuaq/Søndrestrømfjord airport, Maniitsog/Sukkertoppen (Dörnbach 1992). In Paamiut/Frederikshåb annual spring and autumn migrant (B. Knudsen pers. comm.). From Qaqortoq/ Julianehåb only a few records have been reported (e.g. Gravesen 1973). North Greenland: Probably regular summer visitor (July-Aug) in the Qaanaaq/Thule-area, with several records since 1984 (Vaughan 1988; Best & Higgs 1990). Northeast Greenland: Germania Land: Danmarkshavn, 8 June 1988 (Forchhammer 1990). Southeast Greenland: Ammassalik-area: Tasiilag Bugt, 25 May 1982 (Alerstam et al. 1984).

SUBSPECIES: Salomonsen (1967) mentioned two small ssp. occurring in West Greenland: *hutschinsii* and *parvipes*. However, also a larger ssp. occur: The breeding record from Nuuk/Godthåb was referred to ssp. *interior* (RC 1977–78), and a breeding record from Qeqertarsuaq/ Godhavn probably belonged to the same ssp. (Frimer & Nielsen 1990). In Sisimiut/Holsteinsborg and the Qaanaaq/Thule-area large pale indvs (probably *interior*) have also been recorded (Best & Higgs 1990; P. Grossmann in litt.). The breeders and post-breeders in Qeqertarsuaq/ Godhavn and Nuussuaq were probably ssp. *hutschinsii* (Bennike 1990), and the two records from East Greenland were probably also *hutschinsii*.

HABITAT: Breeds in lowland marsh areas both inland and along the coast.

POPULATION: The Canada Goose increases and expands the breeding range in West Greenland, and is now more common than White-fronted Goose in some areas (Bennike 1990).

MOVEMENTS: Ssp. *hutschinsii* has its main breeding distribution in eastern arctic Canada and winters on the Gulf coast of Mexico and USA. Ssp. *interior* breeds to the south and east of Hudson Bay and winters in southeastern USA. Ssp. *parvipes* breeds in western arctic Canada and winters in southern USA (Madge & Burn 1988). Canada Geese arrive in West Greenland in mid-May (Alerstam et al. 1986, B. Knudsen pers. comm.).

Barnacle Goose Branta leucopsis

STATUS: Regional high arctic breeder and extralimital migrant. West Greenland: Four records: Nuuk/Godthåb: Kangerluarsussuaq/Grædefjord, 8 May 1874 (Winge 1898). – Aasiaat/Egedesminde: Akunnaaq, late May 1937 (Hørring & Salomonsen 1941). – Nassuttooq/ Nordre Strømfjord, 11 Aug 1967, flock of which three were shot (Asvid 1974). – Upernavik: Upernavik town, 8 June 1989, three indvs of which one was shot (Lyngs 1989). North Greenland: One record: Kronprins Christian Land: Kilen, 31 July 1985, seven ads (Hjort et al.

1987). Northeast Greenland: Breeds in the region from Kap Dalton and Orqummut Kangertiva/Gåsefjord northwards as far as Nørre Mellemland in Hertugen af Orléans Land (Meltofte 1976a; Boertmann et al. 1991; Bay in press). The majority of the non-breeding population segment is found within the same region, with Jameson Land as the most important area (Madsen et al. 1984b; Boertmann 1991). Southeast Greenland: Rare migrant in the Ammassalik-area (Salomonsen 1967). A few non-breeders have been recorded from Tuttilik during summer (Chapman 1934; Ray 1973).

HABITAT: Breeds in small colonies on steep cliffs, exceptionally on level ground (Hansen undated). The non-breeders stay at lakes, rivers and river outlets.

POPULATION: The total population numbered c. 34,600 in Mar/Apr 1988 (Salmon 1989).

MOVEMENTS: Migratory and the population winters in the northeastern parts of the British Isles. Arrives at the breeding grounds during May and departs in late Aug and early Sep.

Brent Goose Branta bernicla

STATUS: Local high arctic breeder; widespread visitor and extralimital migrant. West Greenland: Occurs as migrant in late spring and in early autumn (e.g. Bennike 1990) and as rare summer visitor. Most frequent from Qegertarsuup Tunua/Disko Bugt and northwards (Salomonsen 1967). North Greenland: Early in this century common breeder (Salomonsen 1950a, 1967). Now very rare (Meltofte 1976b; Hjort et al. 1987). The only breeding sites known today are in northwestern Kronprins Christian Land (Håkansson et al. 1981; Hjort et al. 1987). Northeast Greenland: Bred early this century in small numbers dispersed throughout the region (Deichmann 1909; Pedersen 1930; Løppenthin 1932; Meltofte et al. 1981a), but now rare migrant and summer visitor (e.g. Meltofte 1976a; Dennis 1988; Forchhammer 1990; Andersen & Berg 1991). Southeast Greenland: Seen during spring and autumn migration in the Ammassalik-area. Now, probably in lesser numbers than during the beginning of the century (Alerstam et al. 1986).

SUBSPECIES: The Greenland population refers to ssp. *hrota*. Ssp. *bernicla* has been recorded once: Hochstetter Forland, 23 and 25 June 1976 (Meltofte et al. 1981a).

HABITAT: Breeds on low tundra with lakes (Hjort et al. 1987) and on small islands off the coast (Salomonsen 1967).

MOVEMENTS: Migratory and winters in Ireland. However, Hjort et al. (1987) suggested that the population in Kronprins Christian Land may be a part of the Svalbard population, which have winter quarters in Denmark and northeastern England. In spring (late May/early June) all Brent Geese from eastern arctic Canada migrate across the inland ice from the Ammassalik-area to the region between Sisimiut/Holsteinsborg and Qeqertarsuup Tunua/Disko Bugt (Alerstam et al. 1990; Gudmundsson

Meddelelser om Grønland, Bioscience 38 · 1994

1992). The much earlier occurrence during spring in the Ammassalik-area mentioned by Helms (1926) are obviously wrong: the original notes by J. Petersen only mentions sight-records of unidentified geese (except for one observation) during spring, and these were most likely White-fronted Geese. In autumn (late Aug/early Sep) the majority migrate along the same route, but ring recoveries show that at least a few may follow a route along the southwestern coast of Greenland (ZMUC).

Ruddy Shelduck Tadorna ferruginea

STATUS: Accidental. West Greenland: Only recorded in the summer of 1892 when four QQ were shot: Two in Upernavik, one in Ilulissat/Jakobshavn and one somewhere in Southwest Greenland (Winge 1898). All four specimens are in ZMUC.

ORIGIN: Palearctic species, with the nearest breeding grounds in southeastern Europe and northwestern Africa.

Eurasian Wigeon Anas penelope

STATUS: Rare vagrant, usually occurring at fresh water habitats. West Greenland: C. 25 records: Salomonsen (1967) reported 18 records (May-July and Sep-Dec) from the region between Qaqortoq/Julianehåb and Nuuk/Godthab, one from Sisimiut/Holsteinsborg and two from Uummannaq. Since then, two records (June) from Qagortoq/Julianehåb, three (Oct, Nov nine indvs, and undated) from Nuuk/Godthab and two (June and undated) from Sisimiut/Holsteinsborg (Dörnbach 1971; Hansen 1977; Salomonsen unpubl.). Northeast Greenland: Four records: Jameson Land: Ørsted Dal, 12 July 1963, 2y O' (Hall & Waddingham 1966). - Heden, 19 July-16 Aug 1983, O'. - Same site, 30 June 1984, Q (both Boertmann et al. 1985). - Hold With Hope: Myggbukta, 25 June 1939, skin in Stavanger Museum (Holgersen 1957). Southeast Greenland: Nine records: Ammassalik-area: Helms (1926) and Salomonsen (1963) reported eight records (one from july, six from Sep and Oct, one undated). Later records: Ammassalik town, 15 Oct 1978, ad. O' (S. Jürgensen in litt.).

ORIGIN: Palearctic species, with the nearest breeding grounds in Iceland.

American Wigeon Anas americana

STATUS: Accidental. West Greenland: Three records: Qaqortoq/Julianehåb: Alluitsup Kangerlua/Lichtenau Fjord, June 1898, ad. ° (Schiøler 1925), skin in ZMUC. – Qassiarssuk, 21 May 1980 (L. Motzfeldt in litt.), ad. °, skeleton in ZMUC. – Qaqortoq town, spring 1984, ad. °, in private collection (T. Duch pers. comm.).

ORIGIN: Nearctic species, with the nearest breeding grounds in northwestern and central Canada.

Gadwall Anas strepera

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianchåb, Nanortalik, 30 Nov 1909, 1y or (Schiøler 1912), skin in ZMUC.

ORIGIN: Holarctic species, with the nearest breeding grounds in Iceland.

Common Teal Anas crecca

STATUS: Annual vagrant and occasional breeder. West Greenland: Widespread vagrant: most frequent between Qaqortoq/Julianehåb and Sisimiut/Holsteinsborg: ads in Apr-July, 1ys in Sep-Dec (Salomonsen 1981). Breeding occurred probably in Nuuk/Godthåb 1974 (Boertmann 1979). North Greenland: One record: Qaanaaq/Thulearea: Qegertarsuag, 18 June 1985, O' shot (L.R. Olesen in litt.). Northeast Greenland: Annual summer visitor south of Kong Oscar Fjord; breeding has been confirmed twice in this area (e.g. Degerbøl & Møhl-Hansen 1935; Meltofte 1976a; N.O. Jensen 1982; Boertmann et al. 1985; Mortensen et al. 1988; Korte 1988). Further north two records: Clavering Ø: 1926, 1y (Salomonsen 1950a). - Germania Land: Danmarkshavn, 27 May to 2 June 1975, pair (Meltofte 1977). Southeast Greenland: Probably annual vagrant in the Ammassalik-area and perhaps elsewhere in the region (Helms 1926; Knudsen 1935a; Salomonsen 1950a; S. Jürgensen in litt.).

SUBSPECIES and ORIGIN: Two ssp. occur. Palearctic crecca is the most common. Its nearest breeding grounds are in Iceland, and this origin has been confirmed by at least two pull. or juvs ringed in Iceland and recovered in West Greenland (Cooke 1945; Salomonsen 1971). The record from the Qaanaaq/Thule-area belonged to this ssp. The other is the Nearctic carolinensis, whose nearest breeding grounds are in Newfoundland. Salomonsen (1963) reported 13 records of this ssp. Until 1992 at least six more were found (E. Hansen in litt.; T. Duch in litt.; P. Grossmann in litt.). All records were from West Greenland and it has been most frequent in the region south of Nuuk/Godthåb and in the Qegertarsuup Tunua/ Disko Bugt-area (Salomonsen 1963). A 1y specimen ringed in Maryland, USA has been recovered in Greenland (ZMUC).

HABITAT: Fertile pools and marshes, sometimes shallow coasts.

Mallard Anas platyrhynchos

STATUS: Widespread low arctic breeder and mainly intraregional migrant. **West Greenland:** Common breeder throughout the region except northern Upernavik; most numerous south of Qeqertarsuup Tunua/Disko Bugt (Salomonsen 1967). Reported densities: 11 pairs/20 km² in Nuuk/Godthåb in 1928 (Longstaff 1932); 20 pairs/350 km² in 1979 in interior Aasiaat/Egedesminde (Fox & Stroud 1981); 1 pair/1.52 km² in Ilulissat/Jakobshavn in 1965 (Joensen & Preuss 1972). **Northeast Greenland:** Jameson Land: South coast, 3 Aug 1891 (Bay 1894). -Pedersen (1930) mentioned that the species was seen in the southern part of Jameson Land by the inhabitants of Ittoqqortormiit. **Southeast Greenland:** Known as a breeder from Akerninnarmiit/Skjoldungen, the Ammassalik-area and Kangersittuaq (Helms 1926; Salomonsen 1981; Alerstam et al. 1986; Gravlund 1991), but it probably occurs in all suitable areas south of Kangersittuaq.

SUBSPECIES: The Greenland population refers to the endemic ssp. *conboschas*.

HABITAT: The breeding habitat is small lakes and sheltered coasts. In winter the Mallards stay along the coast.

MOVEMENTS: The Greenland population winters along the coasts of the Open Water Region. Alerstam et al. (1986) find it highly probable that Mallards undertake transglacial flights from winter quarters in West Greenland to Southeast Greenland. However, some also winter in the Ammassalik-area (Helms 1926). The Mallards arrive at the breeding grounds when lakes become ice free during May and depart in Sep and Oct (Christensen 1966; Salomonsen 1967).

Northern Pintail Anas acuta

STATUS: Annual vagrant and occasional breeder. West Greenland: Widespread annual vagrant (Mar-Oct): most frequent in Sisimiut/Holsteinsborg and the Qcgertarsuup Tunua/Disko Bugt-area. It bred in last mentioned area in 1947-52 and in 1989 (Salomonsen 1967; Bennike 1990). Northeast Greenland: Jameson Land and Liverpool Land: Probably annual summer vagrant (Pedersen 1930; Meltofte 1976a; Boertmann et al. 1985; Korte 1988). -Hold With Hope: Myggbukta 14-20 June 1937, ad. Q, skin in British Museum, Natural History (Bird & Bird 1941). - Same site, 12-17 June, two O'O' (Elander & Blomqvist 1986). Southeast Greenland: Two records: Ammassalik-area: Ammassalik town, 1910 or 1911, 1y O' (Hørring & Salomonsen 1941), skin in ZMUC. Same site, 13 May 1915, Q (Helms 1926; with date 14 May 1913), skin in ZMUC.

HABITAT: The breeding habitat has been extensive marsh areas with fertile pools and ponds (Bennike 1990).

ORIGIN: Holarctic species, with the nearest breeding grounds in Iceland and Newfoundland. Two specimens, ringed in Iceland and Canada have been recovered in Greenland (ZMUC).

Blue-winged Teal Anas discors

STATUS: Accidental. West Greenland: Four records: Qaqortoq/Julianehåb: Autumn 1944, 1y ° (Salomonsen 1963), skin in ZMUC. – Paamiut/Frederikshåb: 5 Oct 1911, 1y Q (Salomonsen 1963), skin in ZMUC. – Nuuk/ Godthåb: 17 Oct 1907, 1y ° (Salomonsen 1963), skin in ZMUC. – Sisimiut/Holsteinsborg: Kangerlussuaq/Søndrestrømfjord airport, 2 June 1977, pair (H. Thing in litt.).

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern and central Canada.

Northern Shoveler Anas clypeata

STATUS: Accidental. West Greenland: Five records: Qaqortoq/Julianehåb: Qinngua, Tunulliarfik, 15 May 1971, ad. pair (L. Motzfeldt in litt.), skins at ZMUC. – Nuuk/Godthåb: Kangerluarsussuaq/Grædefjord, 4 June 1973, ad. pair, skins in private collection (E. Hansen pers. comm.). – Maniitsoq/Sukkertoppen: Atammik, May 1977, \mathcal{O} shot from flock of three (E. Hansen in litt.), skin in ZMUC. – Sisimiut/Holsteinsborg: 15 km NW of Kangerlussuaq/Søndrestrømfjord airport, 4 July 1977, ad. pair (H. Thing in litt.). – Upernavik: Amitsorsuit, Kangersuatsiaq/Prøven, 27 June 1977, \mathcal{O} shot (S. Knudsen in litt.).

ORIGIN: Holarctic species, with the nearest breeding grounds in Iceland and southeastern and central Canada. The Greenland records probably have their origin in Canada, because the Shoveler population in Iceland is very small (Bárðarson 1986).

Redhead Aythya americana

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Itinnera, 10 June 1953, ad. Or (Rosing 1954b as Common Pochard A. *ferina*; Salomonsen 1955), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern and central Canada.

Ring-necked Duck Aythya collaris

STATUS: Accidental. Southeast Greenland: One record: Ammassalik-area: Isertoq, 23 May 1977, ad. Or shot, ringed at Slimbridge, England, 1 Mar 1977 (ZMUC).

ORIGIN: Nearctic species, with the nearest breeding grounds in Quebec and Newfoundland.

REMARK: Believed a wild bird, when ringed (ZMUC).

Tufted Duck Aythya fuligula

STATUS: Accidental. West Greenland: Seven records: Site unknown: 24 Feb 1901, ad. O, skin in ZMUC. – Qaqortoq/Julianehåb: Narsaq, mid-May 1948, ad. pair (Salomonsen 1963), skin of O in ZMUC. – Nuuk/Godthåb: Nuuk town, Oct 1899, four 1ys (Schiøler 1926), skins in ZMUC. – Qeqertarsuatsiaat/Fiskenæsset, 16 Oct 1899, 1y Q (Schiøler 1926), skin in ZMUC. – Kangeq, 10 Nov 1920, 1y O' (Schiøler 1926), skin in ZMUC. – Maniitsoq/Sukkertoppen: Atammik, 27 Apr 1992, ad. O' (P. Grossmann in litt.). – Ilulissat/Jakobshavn: Saqqaq, late May 1965, two ad. O'O' (H. Fencker in litt.), skins in ZMUC. Southeast Greenland: Ammassalik-area: Ammassalik town, 20 Oct 1991, 1y/Q (S. Jürgensen in litt.).

Meddelelser om Grønland, Bioscience 38 · 1994

ORIGIN: Palearctic species, with the nearest breeding grounds in Iceland.

Greater Scaup Aythya marila

STATUS: Rare vagrant. West Greenland: Seven records: Qaqortoq/Julianehåb: Nanortalik, c. 1860, two ad. O'O' and one Q (Winge 1898), skins in ZMUC. - Same site, May 1902, ad. Q (Hørring & Salomonsen 1941), skin in ZMUC. - Same site, 19 Nov 1909, 1y Or (Schiøler 1912), skin in ZMUC. - Igaliku Kujalleq/Søndre Igaliko, 28 June-9 July 1987, ad. O' (RC 1986-87). - Nuuk/Godthab: Utorgarmiut, Nov 1929, 1y Q (Hørring & Salomonsen 1941), skin in ZMUC. - Qegertarsuatsiaat/Fiskenæsset, 10 June 1964, ad. O' (J. Olsen in litt.), skin in ZMUC. - Maniitsoq/Sukkertoppen: Autumn 1940, 1y O* (Salomonsen 1963), a specimen without label in NKA refers probably to this record. Northeast Greenland: Four records: Jameson Land: Ørsted Dal, 11 July 1984 (Cabot 1984). - Ilimanngip Nunaa/Milne Land: Charcot Havn, 31 July 1969, ad. O' (Vrånes 1971; RC 1970). -Hochstetter Forland: 22 Sep 1929, five O'O' (Løppenthin 1932, but doubted by Salomonsen 1963). - Germania Land: Stormkap, 2 July 1907, pair (Manniche 1910), skin of ad. O' in ZMUC. Southeast Greenland: One record: Ammassalik-area: Ammassalik town, 12 May 1909, ad. O' (Helms 1926), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimens refer to the Palearctic ssp. *marila* (Salomonsen 1963), whose nearest breeding grounds are in Iceland.

Lesser Scaup Aythya affinis

STATUS: Accidental. West Greenland: Four records: Qaqortoq/Julianehåb: 1891, Q (Winge 1898), skin in ZMUC. – Maniitsoq/Sukkertoppen: Maniitsoq town, Feb 1917, 2y O (Helms & Schiøler 1917). – Sisimiut/Holsteinsborg: Amerloq, 12 May 1985, ad. pair, skins in private collection (RC 1986–87). – Aasiaat/Egedesminde: Innaarsulik, Kangaatsiaq, June 1872, ad. pair (Winge 1898), skins in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Quebec.

Common Eider Somateria mollissima

STATUS: Widespread breeder, intraregional to extralimital migrant and winter visitor. West Greenland: Breeds along the coast throughout the region (Salomonsen 1979b), but sparsely in some municipalities as for example Qaqortoq/Julianehåb and Paamiut/Frederikshåb. Numerous during winter in the Open Water Region and also in the drift ice further north. North Greenland: Common breeder in the Qaanaaq/Thule-area and western Avannarlit/Inglefield Land and occurs towards east to Hall Land (Møhl 1965; Salomonsen 1979b). However, not recorded in Hall Land in 1984 (Bennike & Kelly, 1986). In the eastern part of the region recently found breeding on the east coasts of Holm Land and Kronprins Christian Land (Hjort et al. 1983, 1988) and on Henrik Krøyer Holme (Kristensen & Kristensen 1993). **Northeast Greenland:** Widespread breeder at least as far north as Germania Land. Seen regularly during summer on Île de France in 1988 and 1989, but breeding did not occur (Andersen & Berg 1991). Large concentrations seen in June 1985 around Kangikajik/Kap Brewster in the northern part of the Kialiip Kialia/Blosseville Kyst (Kampp et al. 1986). **Southeast Greenland:** Probably widespread breeder (Helms 1926; Knudsen 1935a; Degerbøl & Møhl-Hansen 1935; Hørring 1939; Molenaar 1982; Glahder 1992), for example common in Akerninnarmiit/Skjoldungen-area in 1992 (J. Rosing in litt.).

SUBSPECIES: The breeding population in Greenland refers to ssp. *borealis*. Ssp. *v-nigrum* from northwestern North America is a scarce winter and spring vagrant in West Greenland. Since Salomonsen (1967), it has been recorded on 15 May 1967 (Asvid 1974) and several times since 1972 (Salomonsen unpubl.). Ssp. *dresseri* from the northeast coast of North America has been recorded once in West Greenland: Nuuk/Godthåb: Apr 1907, ad. O^{*} (Schiøler 1907b), skin in ZMUC.

HABITAT: Breeds in archipelagoes, on small islands and sometimes on mainland coasts. In Qeqertarsuaq/Godhavn and eastern North Greenland found breeding at lakes (Kampp & Kristensen 1980b; Hjort et al. 1983). Large colonies are known from Upernavik, the Qaanaaq/ Thule-area, Avannarliit/Inglefield Land and Northeast Greenland (Salomonsen 1967; Joensen & Preuss 1972; Meltofte 1978; A. Rosing-Asvid pers. comm.). During winter along coasts and off-shore as far as 40 km (Maclaren Marex 1979) or more.

POPULATION: In West Greenland the breeding population has declined seriously during the present century mostly due to hunting (Salomonsen 1967; Vibe 1967; Frimer & Nielsen 1990).

MOVEMENTS: Migratory. The Eiders from West and North Greenland and the eastern parts of Canadian high arctic winter mainly in the Open Water Region (Salomonsen 1967; Abraham & Finney 1986), a few may also stay in open leads in the Qaanaaq/Thule-area (Vibe 1950). Those from Northeast Greenland winter in Iceland (Meltofte 1978), although a few probably winter in open water areas as far north as Wollaston Forland (Schaanning 1933). The Eiders arrive at the breeding grounds during May and early June, but they often occur much earlier in open waters close to the breeding areas. Spring migration occurs in May and first half of June in the Qegertarsuag/ Disko-area (Frimer 1993b). Aggregations of moulting males are not as pronounced as in King Eider. However, concentrations are known from Qegertarsuaq/Disko (3,200-4,800 in 1990-1992, Frimer 1993b) and in western Qaqortoq/Julianehåb (GERI unpubl.).

King Eider Somateria spectabilis

STATUS: Widespread high arctic breeder, regional low arctic summer visitor, interregional to extralimital migrant and winter visitor. West Greenland: Numerous summer visitor from Aasiaat/Egedesminde and northwards. Post-breeding males and non-breeders gather there in bays and fiords to moult. Rather scarce summer visitor south of this region. Very numerous during winter in the Open Water Region, for example were 244,000 estimated along the ice edge off central Nuuk/Godthab in Feb 1989 (Durinck & Falk in prep.) and 20,000-30,000 seen in a single small opening in the ice 60 km off the mouth of Nassuttooq/Nordre Strømfjord in mid-Mar 1993 (M.P. Heide-Jørgensen pers. comm.). Breeding occurred occasionally in the northern municipalities during last century (Salomonsen 1950a). North Greenland: Fairly common breeder throughout the region, but missing in large areas for example the eastern coast of Kronprins Christian Land where only pre-breeders occur (Manniche 1910; Pedersen 1942; Meltofte 1976b; Hakansson et al. 1981; Hjort et al. 1983; Bennike & Kelly 1986; Aastrup et al. 1986; Vaughan 1988; Bennike & Higgins 1989). At Jørgen Brønlund Fjord in Peary Land 3 pairs/8.6 km² were found in 1973 (Meltofte 1976b). Moulting males probably also occur in the Qaanaaq/ Thule-area (Falk & Kampp 1992). Northeast Greenland: Widespread and fairly common breeder. Reported densities: 2 pairs/10 km² in Traill Ø in 1990 (Sittler et al. 1991); 10 nests/6.1 km² in Hold With Hope in 1979 (Elander & Blomqvist 1986); 1 nest/0.5 km² in Wollaston Forland in 1964 (Rosenberg et al. 1970); 14 pairs/18.2 km² in Hochstetter Forland in 1976 (Meltofte et al. 1981a); 3 pairs/4.49 km² in 1986 and 3-9 pairs/7.7 km² in 1989, both in Germania Land (Forchhammer 1990; Boertmann et al. 1991). Southeast Greenland: Probably migrant and summer visitor. However, very little information: Helms (1926) and Chapman (1932, 1934) reported four records from the Ammassalik-area. Pedersen (1930) stated that it occurs regularly on migration at Ammassalik and Kangersittuag and Glahder (1992) that it is rare at Kangersittuaq and only when Common Eiders are present in large numbers.

HABITAT: Usually solitary breeder at lakes and along the coast, but sometimes in colonies on small islands in fiords (Meltofte 1976). Moulting males and non-breeders occur in fiords and bays.

POPULATION: The population of moulting King Eiders in the Qeqertarsuaq/Disko-area were estimated at 15,000–20,000 during 1990–1992, and it seems to have declined in recent years (Frimer 1993b).

MOVEMENTS: Migratory. The Greenland breeders winter probably in the Open Water Region and in Iceland waters. A few have been reported in winter from open water areas as far north as Wollaston Forland (Schaanning 1933). Large numbers of northeastern Canadian King Eiders arrive from mid-July (O'O') and mid-Aug (QQ) to moult in the northern part of West Greenland

(Salomonsen 1967; Frimer 1993b). Many King Eiders from Canadian breeding grounds winter in the Open Water Region (Abraham & Finney 1986). Arrival at the breeding grounds takes place during late May and June and departure during early July and early Sep.

Steller's Eider Polysticta stelleri

STATUS: Accidental. West Greenland: Two records: Nuuk/Godthåb: Qaqqaliak, Nov 1954, 1y ° (Salomonsen 1963), skin in ZMUC. – Qeqertarsuaq/Godhavn: Kangerluk/Diskofjord, 15 June 1878, ad. ° (Winge 1898). Northeast Greenland: Wollaston Forland: Sabine Ø, 14 June 1922, pair (Knudsen 1933), skin of ad. ° in ZMUC.

ORIGIN: The breeding grounds are in northern and western Alaska and in arctic Siberia.

Harlequin Duck Histrionicus histrionicus

STATUS: Widespread low arctic breeder and mainly intraregional migrant. West Greenland: Uncommon breeder throughout the region (Salomonsen 1981). It is rare in some areas for example the Qegertarsuup Tunua/ Disko Bugt-area (Salomonsen 1950a) and parts of Qaqortoq/Julianehåb. The northernmost breeding records are from Eqalugaarsuit Sulluat/Prøvens Laksefjord in Upernavik (E. Isakson in litt.) and southwestern Nunavik/ Svartenhuk (Bennike 1990). Probably most common in Paamiut/Frederikshåb and southern Nuuk/Godthåb. Northeast Greenland: Liverpool Land: Ittaaiimmiit/Kap Hope, 10 June 1929, ad. O' (Pedersen 1930), skin in ZMUC. Bay (1894) mentioned a sight record from Vestfjord in 1891, but this seems doubtful. Southeast Greenland: Breeding has been reported from Kangerlussuatsiaq/Lindenow Fjord (Helms 1910; Knudsen 1935a) and the Ammassalik-area (Helms 1926), and probably breeding from the Akerninnarmiit/Skjoldungen-area in 1992 (J. Rosing pers. comm.). J. Andersen (1981) reported sightings along the coast of southern Kialiip Kialia/Blosseville Kyst (Wiedemann Fjord and Migip Kangersiva/ Miki Fjord) in July/Aug 1980.

HABITAT: The breeding habitat is turbulent rivers. Exposed rocky coasts are the habitat during winter and for moulting males and non-breeders during summer.

MOVEMENTS: Migratory or partially migratory. Winters along the coasts in the Open Water Region. Arrive at the breeding grounds in early June (Salomonsen 1981).

Long-tailed Duck Clangula hyemalis

STATUS: Widespread breeder and intraregional to extralimital migrant. **West Greenland:** Widespread and common breeder (Salomonsen 1967). Reported densities: 13 pairs/20 km² in 1928 in Nuuk/Godthåb (Longstaff 1932); 15 pairs/15 km² in 1979 in interior Aasiaat/Egedesminde (Fox & Stroud 1981) and presumably absent in the Nunap

Meddelelser om Grønland, Bioscience 38 · 1994

Isua/Kap Farvel-area in Qaqortoq/Julianehåb (Nørrevang 1973). Common winter visitor in the Open Water Region. North Greenland: Breeds probably throughout the region, but only reported from the Oaanaaq/Thule-area, Hall Land, Nyeboe Land, Peary Land and Kronprins Christian Land (Meltofte 1976b; Thing 1976; Bennike & Kelly 1986; Hjort et al. 1988; Vaughan 1988). Northeast Greenland: Common breeder throughout the region. Reported densities: 1-3 pairs/6.1 km² in 1979 in Hold With Hope (Elander & Blomqvist 1986); 2 nests/0.5 km² in 1964 in Wollaston Forland (Rosenberg et al. 1970); 9-11 pairs/18.2 km² in 1976 in Hochstetter Forland (Meltofte et al. 1981a); 5 pairs/10.5 km², 15-16 pairs/7.7 km² in 1989, 1 pair/4.5 km² in 1990, all in Germania Land (Forchhammer 1990; Boertmann et al. 1991). Southeast Greenland: Reported as breeder from the Migip Kangersiva/Miki Fjord-area, the Ammassalik-area and Kangerlussuatsiaq/Lindenow Fjord (Helms 1926; Knudsen 1935a; Salomonsen 1967).

HABITAT: The breeding habitat is lakes, sheltered coasts and small islands in fiords and archipelagoes. Males and non-breeders moult during summer in flocks along sheltered coasts and in fiords.

MOVEMENTS: Migratory. Most of the Greenland birds probably spend winter in the Open Water Region, but ring recoveries indicate that a part of the population migrates to western Europe and northeastern North America (Salomonsen 1967). Some winters in the Ammassalik-area (Helms 1926) and a few in the mouth of Kangertiitivaq/Scoresby Sund when ice conditions are favourable (A. Rasmussen in litt.). Some Icelandic birds migrate to the Open Water Region (Salomonsen 1967), and maybe across the Inland-Ice (Alerstam et al. 1986). Arrival at the breeding grounds takes place during May and June when lakes become ice free and departure during Aug and early Sep.

Common Scoter Melanitta nigra

STATUS: Accidental. West Greenland: Two records: Qaqortoq/Julianehåb: Nanortalik, Feb 1902, ad. O' (Salomonsen 1963), skin in ZMUC. – Alluitsoq Fjord, 9 May 1950, pair (Salomonsen 1963), skin of ad. O' in ZMUC. Northeast Greenland: Two records: Germania Land: Danmarkshavn, 8 July –3 Aug 1975, pair (Meltofte 1977). – Danmarkshavn, 13–18 June 1976, pair (Meltofte 1977). Southeast Greenland: One record: Ammassalikarea: Tuttilik, July 1933, pair (Chapman 1934).

SUBSPECIES: The specimens in ZMUC are ssp. *ni-gra*. The East Greenland records probably refer to this ssp., whose nearest breeding grounds are in Iceland.

Surf Scoter Melanitta perspicillata

STATUS: Accidental. West Greenland: Winge (1898) mentioned five records, all before 1880 and all in the region between Qaqortoq/Julianehåb and Qeqertarsuaq/ Godhavn. Only one of these with date: Qeqertarsuaq/

Godhavn: Kangerluk/Diskofjord, June 1879, ad. \circ (reported as being in company with a Q and two pull.), skin in ZMUC. Since then, only one record. Qaqortoq/Juliane-håb: Nanortalik, 1967 or 1968 (C. Vibe in litt.), ad. \circ , skin in ZMUC. **Southeast Greenland:** Region between 64° and 65°N: Kangerajik, late July 1830, ad. \circ (Winge 1898).

ORIGIN: Nearctic species, with the nearest breeding grounds in Quebec and Newfoundland.

Velvet Scoter Melanitta fusca

STATUS and SUBSPECIES: Accidental with two ssp. occurring in coastal habitats.

Ssp. *fusca*: West Greenland: Salomonsen (1967) mentioned six records all from Nuuk/Godthåb and Sisimiut/Holsteinsborg and all from the winter and the spring (Dec-May). However, one of these records from 1945 correctly was from 1949, and another is ssp. *deglandi* (see below). New record: Nuuk/Godthåb, Kitsissut/Kook Øerne, 3 Apr 1965 (F.O. Kapel in litt.), ad. °, skin in ZMUC. Northeast Greenland: Liverpool Land: Uunarteq/Kap Tobin, Sep and Oct 1963, at least three °° (A. Rasmussen in litt.).

Ssp. *deglandi*: West Greenland: Four records: Maniitsoq/Sukkertoppen: Portussoq, 21 Dec 1948, 1y Q (as ssp. *fusca* in Salomonsen 1963, 1967), skin in ZMUC. – Qeqertarsuaq/Godhavn: 15 Nov 1970 (Aa. Meyer pers. comm.), 1y Q, in private collection. – Aqajarua/Mudderbugten, 6–21 June 1977, at least one ad. \bigcirc , one specimen shot 21 June at Aamaruutissat/Skansen (Kristensen 1979) and skin in ZMUC. – Uummannaq: Nuussuaq, July 1944, ad. \bigcirc (Salomonsen 1945a), skin in ZMUC.

Ssp. unknown: West Greenland: Qeqertarsuaq/Godhavn: Kangersooq/Nordfjord, 18 Sep 1978, three $\bigcirc \bigcirc$ and four $\bigcirc \bigcirc$ (Kampp & Kristensen 1980b). – Same site, 4 July 1979, \bigcirc (Kampp & Kristensen 1980b; RC 1981).

ORIGIN: The nearest breeding grounds are in northern Ontario (ssp. *deglandi*) and in Scandinavia (ssp. *fusca*).

Bufflehead Bucephala albeola

STATUS: Accidental. West Greenland: Two records: Frederikshåb/Paamiut: 1891, ad. ♂ (Winge 1898), skin in ZMUC. – Qeqertarsuaq/Godhavn: Oct 1827, ad. ♀ (Winge 1898), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Ontario.

Barrow's Goldeneye Bucephala islandica

STATUS: Previously local breeder. West Greenland: Now probably absent. It occurred annually; was recorded in all months with peak in winter, and was known from the region between Qaqortoq/Julianehåb and Sisimiut/ Holsteinsborg, most frequent in Nuuk/Godthåb. Breeding has only been proved once: in Nuuk/Godthåb in 1840 (Salomonsen 1950a, 1981). Recorded once in Uummannaq. **Southeast Greenland:** One record: Ammassalikarea: Qingeq, 23 Sep 1913, ad. ♂ (Helms 1926).

MOVEMENTS: The Greenland population was supposed to be more or less stationary.

ORIGIN: Mainly a Nearctic species, with the nearest breeding grounds in northern Newfoundland and Iceland.

REMARK: The most recent information regarding this species in Greenland is from 1951 (Rosing 1954a), 1955 (Maniitsoq/Sukkertoppen: Atammik, 19 Nov, skin in NKA) and 1966 (Maligiaq in Sisimiut/Holsteinsborg, L. Rydeng in litt.).

Common Goldeneye Bucephala clangula

STATUS and SUBSPECIES: Accidental with two ssp. West Greenland: Four records. Qaqortoq/Julianchåb: Qaqortoq town, winter 1930–31, ad. O, ssp. *clangula* (Rafn 1933), skin in ZMUC. – Narsarsuaq, 15 June 1986, ad O' (RC 1986–87). – Nuuk/Godthåb: Qoornoq, 20 Nov 1903, 1y O, ssp. *americana*, skin in ZMUC. – Qoornoq, 16 Jan 1906, ad. O, ssp. *americana* (Schiøler 1907a), skin in ZMUC.

ORIGIN: Holarctic species, with the nearest breeding grounds in Scandinavia (ssp. *clangula*) and Newfoundland (ssp. *americana*).

Red-breasted Merganser Mergus serrator

STATUS: Widespread low arctic breeder and mainly intraregional migrant. West Greenland: Fairly common breeder throughout the region, and with decreasing frequency from Uummannaq and northwards (Salomonsen 1967; 1979b). During winter in the Open Water Region. North Greenland: Two records: Qaanaaq/Thule-area: 15 km south of Neqi, summer 1975, pair (Thing 1976). -Peary Land: Constable Bugt, 2 July 1979, Q (Hjort 1982). Northeast Greenland: Rare breeder in the inner parts of Kangertiitivaq/Scoresby Sund (Pedersen 1930; Salomonsen 1967; Meltofte 1976a; Korte 1988). Summer vagrant as far north as Germania Land (e.g. Manniche 1910; Pedersen 1942; Elander & Blomqvist 1986). A few breeding records have been reported from this region: Vega Sund in 1937 (Bird & Bird 1941) and Haslum Øer in Kong Oscar Fjord in 1979 (Kempf undated). Southeast Greenland: Breeds probably throughout the region as far north as the Ammassalik-area (Helms 1926; Hørring 1939; Molenaar 1982; Gravlund 1991). Not mentioned from Kangersittuaq in a wildlife questionnaire survey with locals in 1991 (Glahder 1992).

HABITAT: The breeding habitat is lakes and sheltered coasts.

MOVEMENTS: Migratory or partially migratory. West Greenland birds winter probably in the Open Water Region, while East Greenland birds might migrate to Iceland and the British Isles (Salomonsen 1967). However, Alerstam et al. (1986) suggest that some Southeast Greenland Red-breasted Mergansers winter in Southwest

Greenland. Arrival at the breeding grounds takes place during late May and early June and departure during Sep (Salomonsen 1967).

Goosander (Common Merganser) Mergus merganser

STATUS: Accidental. West Greenland: One record: Sisimiut/Holsteinsborg: Sarfannguaq, 10 Mar 1906, ad. ° (Schiøler 1926), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimen belongs to the North American ssp. *americana*, whose nearest breeding grounds are in Newfoundland.

HAWKS AND EAGLES ACCIPITRIDAE

White-tailed Eagle Haliaeetus albicilla

STATUS: Regional low arctic breeder and resident or intraregional migrant. West Greenland: Fairly common breeder in the region from Qaqortoq/Julianehåb to southern Aasiaat/Egedesminde (Hansen 1979; Kampp & Wille 1990). Further north, only one breeding record known: in Ilulissat/Jakobshavn (Bennike & Feilberg 1982). Stragglers are recorded as far north as Uummannaq (Salomonsen 1967). Northeast Greenland: Johnsen (1953) reported that a skull was found on Clavering Ø, but it was not secured. Southeast Greenland: Stragglers have been recorded in the southernmost parts (Knudsen 1935a). Helms (1926) reported that the eagle was known to the inhabitants of Ammassalik.

SUBSPECIES: The Greenland population is often regarded as an endemic ssp. *groenlandicus* (e.g. Salomonsen 1979a). This is, however, not generally accepted (Cramp & Simmons 1979).

HABITAT: Breeds usually close to the coast, both at the outer coast and in the fiords, sometimes inland near lakes (Christensen 1979; Kampp & Wille 1990).

POPULATION: Now estimated at 150–170 pairs (Kampp & Wille 1990).

MOVEMENTS: The adults are more or less stationary. Juvs and imms are migratory or partially so, and winter along the coasts in the Open Water Region.

OSPREYS PANDIONIDAE

Osprey Pandion haliaetus

STATUS: Accidental. West Greenland: Two records: Nuuk/Godthåb: Saarloq, 2 Oct 1918, 1y O' (Schiøler

Meddelelser om Grønland, Bioscience 38 · 1994

1931), skin in ZMUC. – Qeqertarsuaq/Godhavn: Qeqertarsuaq town, 25 Sep 1872, 1y (Winge 1898), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimens belong to ssp. *carolinensis* (Salomonsen 1967), whose nearest breeding grounds are in Newfoundland.

FALCONS FALCONIDAE

Common Kestrel Falco tinnunculus

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: Off Nunap Isua/Kap Farvel, late Sep or early Oct 1820 (Sabine 1823).

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia and Scotland.

REMARK: Winge (1898) did not accept the record as Greenlandic, because he considered the falcon captured too far from Greenland. It was included in Salomonsen's (1950a, 1963, 1967) lists. The position of the ship during the period mentioned above was mostly within the 200 mile limit (Parry 1821), why the record is accepted here.

Merlin Falco columbarius

STATUS: Rare vagrant with two ssp. West Greenland: Four records: Qaqortoq/Julianehåb: Nunap Isua/Kap Farvel, 3 May 1875, 2y O' (Winge 1898). - Off Nunap Isua/Kap Farvel: 58°45'N, 40°15'W, 22 May 1949, ad. Q ssp. aesalon (Salomonsen 1950b), skin in ZMUC. -Same area, 59°50'N, 36°00'W, 6 May 1952, 2y Q and 2y O, skins in ZMUC and both ssp. subaesalon. -Nuuk/Godthåb: Kangeq, 21 Sep 1931, 1y Q (Oldenow 1933), skin previously in I, but now probably lost. Southeast Greenland: Five records: Region between 60° and 61°N: Kangerlussuatsiaq/Lindenow Fjord, Oct 1925 (Knudsen 1935a). - Ammassalik-area: Ammassalik town, 2 or 3 July 1914, 2y Q, ssp. subaesalon (Helms 1926 as aesalon; Schøiler 1931), skin in ZMUC. - Same site, 20 Aug 1930, O' (Chapman 1932). - Kuummiit, 12 May 1933, ad. O' (Tinbergen 1939). - Off the coast: c. 66°10'N, 29°20'W, 5 May 1986, ringed as pull. in Iceland 10 July 1983 (ZMUC), ssp. subaesalon.

SUBSPECIES and ORIGIN: Ssp. aesalon from northern Europe and ssp. subaesalon from Iceland are recorded as mentioned above. The rest of the records probably refer to ssp. subaesalon (Salomonsen 1963). However, the record from Nuuk/Godthåb probably refer to the Nearctic ssp. columbarius. A photograph of the specimen in Oldenow (1933) shows characters typical for this ssp.

REMARK: Winge (1898) mentioned one more offshore record (May 1867). This was, however, recorded outside the 200 mile limit, and cannot be considered as Greenlandic. Kolthoff (1903) reported a rectrice found in Aasiaat/Egedesminde in 1883. This record was doubted by Schiøler (1931) and not mentioned by Salomonsen (1963).

Gyr Falcon Falco rusticolus

STATUS: Widespread breeder and resident to extralimital migrant. West Greenland: Sparse breeder throughout the region. Reported densities: 4 active nests/2,300 km² in 1973 in interior Sisimiut/Holsteinsborg (Burnham et al. 1974); 3 occupied nests/750 km² in interior Aasiaat/Egedesminde in 1979 (Fox & Stroud 1981). North Greenland: Widespread but sparse breeder. No observations from the region between Hall Land and Nares Land (Dietz & Andersen 1984; Bennike & Kelly 1986). Northeast Greenland: Sparse breeder throughout the region. Reported densities: 5–10 pairs estimated to breed in the region 76°-78°N (Meltofte 1975); 1–2 pairs/400 km² in Northern Germania Land in 1987 (Cabot et al. 1988). Southeast Greenland: Probably widespread but sparse breeder.

SUBSPECIES: No ssp. recognized today. Two colour morphs with intermediates occur in Greenland: a dark or grey ('ssp. *obsoletus*') and a white ('ssp. *candicans*'). The dark or grey morph breeds mostly in the low arctic, while the white morph is widespread. Dark or grey specimens have been recorded as far north as Germania Land (Meltofte 1977).

HABITAT: The breeding habitat is steep cliffs both inland and at coasts. During migration and winter often in settlements and towns.

POPULATION: Has decreased in Northeast Greenland both as a breeder and as a migrant at the weather stations since the 1930s (Meltofte 1975; Elander & Blomqvist 1986).

MOVEMENTS: The high arctic population is migratory (at breeding sites early May-late Sep). The winter quarters are in southern parts of Greenland, in Iceland and stragglers are recorded in Northwest Europe. The low arctic population is stationary, partially migratory or dispersive. Irruptions occur in connection with Ptarmigan peak years.

Peregrine Falcon Falco peregrinus

STATUS: Widespread mainly low arctic breeder and extralimital migrant. West Greenland: Fairly common breeder as far north as Qeqertarsuup Tunua/Disko Bugt, becomming scarcer further north. Reported densities: 11 occupied territories/2,336 km² in Qaqortoq/Julianehåb (Falk & Møller 1988); 9 active nests/2,300 km² in interior Maniitsoq/Sukkertoppen/Sisimiut/Holsteinsborg in 1973 (Burnham et al. 1974) or 1 pair/92 km² in 1985 (Mattox & Seegar 1988); 5 active nests/750 km² in interior Aasiaat/Egedesminde in 1979 (Fox & Stroud 1981). North Greenland: Regular, but very scarce breeder in the southern Qaanaaq/Thule-area (K. Kampp in litt.). Northeast Greenland: Rare vagrant to Jameson Land and Liverpool Land (Petersen 1941; Meltofte 1976a; Campbell undated). Two records further north: Th. Thomsen Land: Blåbærdal, 29 July 1990, ad. (Lea et al. in prep.). – Germania Land: Danmarkshavn, 21 June 1992, 2y (J. Graugaard pers. comm.). **Southeast Greenland:** Breeds in small numbers in the Ammassalik-area (Helms 1926; Pedersen 1930) and probably in the region southwards to Nunap Isua/Kap Farvel (Knudsen 1935a; Gravlund 1991).

SUBSPECIES: The population refers to ssp. *tundrius* (White 1968; Burnham & Mattox 1984).

HABITAT: Breeds on steep cliffs mainly inland (Falk & Møller 1988; Burnham & Mattox 1984).

POPULATION: The Greenland population was estimated at 400–500 occupied territories (Falk & Møller 1988), but recent surveys make a higher estimate at 500–1,000 more likely (K. Falk pers. comm.). The population in Greenland is stable or possibly slightly increasing (Mattox & Seegar 1988).

MOVEMENTS: Migratory and winters in Central and South America (Burnham & Mattox 1984). However, Oldenow (1933) reported winter records. Arrives during May and departs during late Aug until early Nov.

GROUSE TETRAONIDAE

Rock Ptarmigan Lagopus mutus

STATUS: Widespread breeder and resident to interregional migrant. All regions: Common breeder everywhere even in the northernmost areas and on remote islands as for example Île de France in Northeast Greenland (Salomonsen 1967; Higgins 1984; Andersen & Berg 1991). Reported densities: 28 pairs/20 km² in Nuuk/Godthåb in 1928 (Longstaff 1932); 1 pair/1.52 km² in Ilulissat/ Jakobshavn in 1965 (Joensen & Preuss 1972); 6 territories/10 km² in Traill Ø in 1990 (peak year) (Sittler et al. 1991); 1 pair/6.1 km² in Hold With Hope in 1979 (Elander & Blomqvist 1986); 4 pairs/3 km² in Wollaston Forland in 1964 (Rosenberg et al. 1970); 3 pairs/18.2 km² in Hochstetter Forland in 1976 (Meltofte et al. 1981a); 7-9 territorial pairs/4.49 km² in 1975, 3-4 pairs in same area in 1988 in Germania Land (Meltofte 1977; Forchhammer 1990); 0-1.5 territorial pairs/km² in 14 survey sites in Germania Land in 1989 (Boertmann et al. 1991).

SUBSPECIES: Ssp. *rupestris* in Southeast Greenland and the southern half of West Greenland, *saturatus* in the northern half of West Greenland and *captus* in North and Northeast Greenland (Salomonsen 1963).

HABITAT: Occurs in nearly all kind of terrestrial habitats in Greenland, except for the highest mountains. In interior Aasiaat/Egedesminde the preferred habitats are above 300 m asl. (Fox & Stroud 1981).

POPULATIONS: Fluctuates markedly, and most recent peak year in Northeast Greenland occurred in 1990 (Bay in press).

MOVEMENTS. The northernmost populations are mi-

gratory and winter in southern Greenland. Occurs in Germania Land from late Jan/early Feb until early Nov (Meltofte 1975; Forchhammer 1990) and in Peary Land from Feb until Oct (Johnsen 1953). The populations in the low arctic region and the southern part of the high arctic region (as far north as Wollaston Forland and the Qaanaaq/Thule-area) usually resident, but may migrate in years with high population density (Salomonsen 1950a, 1967). Transglacial migration occurs (Salomonsen 1979a).

RAILS AND COOTS RALLIDAE

Water Rail Rallus aquaticus

STATUS: Accidental. West Greenland: Three records: Qaqortoq/Julianehåb: Qaqortoq town, Oct 1906, 1y (Schiøler 1908). – Qassiarsuk, 7 Dec 1942 (Salomonsen 1963), 1y, skin in ZMUC. – Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, 20 Nov 1928, 1y ♂ (Oldenow 1933), skin in I. Southeast Greenland: One record: Ammassalik-area: Kulusuk/Kap Dan, autumn 1902, 1y (Schiøler 1908; Helms 1910), skin in ZMUC.

SUBSPECIES and ORIGIN: The Greenland specimens belong to the Icelandic ssp. *hibernans* (Salomonsen 1963).

Virginia Rail Rallus limicola

STATUS: Accidental. **West Greenland:** One record: Nuuk/Godthåb: 8 Oct 1907, ad. (Hørring & Salomonsen 1941), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimen refers to ssp. *limicola* (Hørring & Salomonsen 1941), whose nearest breeding grounds are in southeastern Canada.

Spotted Crake Porzana porzana

STATUS: Rare, mainly autumn vagrant. West Greenland: Eleven records: Of the nine records mentioned by Salomonsen (1963), the eight are from the region between Qaqortoq/Julianehåb and Maniitsoq/Sukkertoppen and they occurred July until early Nov. However, the 9th record (from Aasiaat/Egedesminde) was actually a Sora Crake (see below). Five skins in ZMUC are all from the autumn and all are 1ys. New record: Maniitsoq/Sukkertoppen: Maniitsoq town, 30 May 1966 (A. Hansen in litt.), skin in ZMUC.

ORIGIN: Palearctic species, with the nearest breeding grounds in southern Scandinavia.

Sora Crake Porzana carolina

STATUS: Rare, mainly autumn vagrant. West Greenland: 17 records in Apr-Oct. Salomonsen (1963) men-

Meddelelser om Grønland, Bioscience 38 · 1994

tioned nine records from the region between Qaqortoq/ Julianehåb and Maniitsoq/Sukkertoppen and two from Uummannaq. Nine of these are in ZMUC and all are 1ys and from the autumn. Since then: Qaqortoq/Julianehåb: Alluitsup Paa/Sydprøven, 1 June 1967 (W.J. Christensen in litt.), 2y Q, skin in ZMUC. – Nuuk/Godthåb: Utoqqamiut, 7 May 1962 (F.O. Kapel in litt.), ad. Q/2y, skin in ZMUC. – Maniitsoq/Sukkertoppen: Atammik, 9 July 1970 (Hansen 1971; RC 1975), ad. Q/2y, skin in ZMUC. – Atammik, 1 Oct 1976 (H.J. Laursen in litt.), skin in ZMUC. – Aasiaat/Egedesminde: without data, skin in local school (Hansen 1968b). – Aasiaat town, summer 1944, skin in ZMUC (previously ascribed to Spotted Crake).

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern and central Canada.

Corn Crake Crex crex

STATUS: Rare, mainly autumn vagrant. West Greenland: 19 records: The majority are from the region between Qagortoq/Julianehåb and Maniitsoq/Sukkertoppen and single records are from Aasiaat/Egedesminde and Ilulissat/Jakobshavn (Bay 1894; Salomonsen 1967). Most frequent in Sep and Oct, single records in Feb, May and July. All records listed by Salomonsen (1967) occurred before 1961. Since then only one: Paamiut/Frederikshåb: Paamiut town, c. 10 Oct 1985 (H. Christoffersen in litt.). Southeast Greenland: Six records: Ammassalik-area: Sep 1901, Oct 1912 and 1921 (Hørring & Salomonsen 1941). - Ammassalik town, 21 Sep 1939, shot (J. Rosing pers. comm.). - Kulusuk/Kap Dan, c. 25 Sep 1939, captured alive (J. Rosing pers. comm.). - Ammassalik town, 6 Sep 1966, Q, skin in Rijksmuseum Leiden (Molenaar 1982).

ORIGIN: Palearctic species, with the nearest breeding grounds in southern Scandinavia and the British Isles, where populations are seriously decreasing (Cramp & Simmons 1979).

Common Moorhen Gallinula chloropus

STATUS: Accidental. West Greenland: Six records: Qaqortoq/Julianehåb: Qassimiut, 22 Sep 1908 (Salomonsen 1963, probably the same as mentioned by Schiøler 1926), 1y, skin in ZMUC. – Nanortalik, May 1928, 2y O' (Oldenow 1933; Salomonsen 1963), skin in ZMUC. – Narsaq, early Oct 1972 (R. Færk in litt.), 1y, skin in ZMUC. – Narsarsuaq, autumn 1984, 1y, skin in private collection (T. Duch pers. comm.). – Nuuk: Nuuk town, early Nov 1993, 1y, (H. Korning in litt.). – Maniitsoq/ Sukkertoppen: Napassoq, Oct 1991, 2y (P. Grossmann in litt.).

SUBSPECIES and ORIGIN: All the specimens are the Nearctic ssp. *cachinnans*, whose nearest breeding grounds are in northeastern USA and southeastern Canada.

American Purple Gallinule *Porphyrula* martinica

STATUS: Accidental. West Greenland: One record: Paamiut/Frederikshåb: Paamiut town, 20 Apr 1964 (Salomonsen 1967), ad. \circ , skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern USA.

Common Coot Fulica atra

STATUS: Rare vagrant. West Greenland: Ten records from spring (Apr/May) and autumn (Oct-Dec): the majority are from Qaqortoq/Julianehåb and single records are from Nuuk/Godthåb and Uummannaq (Salomonsen 1967). Eight skins in ZMUC are two ads (Nov and undated) and six 1y/2y (May, Oct, Dec, autumn, spring and undated). Southeast Greenland: Ammassalik-area: Ammassalik town, 5 May 1914, ad. (Helms & Schiøler 1917), skin in ZMUC.

SUBSPECIES and ORIGIN: Salomonsen (1967) assigned the specimens to ssp. *atra*, whose nearest breeding grounds are in southern Scandinavia and the British Isles.

American Coot Fulica americana

STATUS: Rare, mainly late autumn vagrant. West Greenland: Twelve records: Salomonsen (1967) mentioned seven autumn (Sep-Nov) records from the region between Qaqortoq/Julianehåb and Nuuk/Godthåb and from Aasiaat/Egedesminde. Five of these are in ZMUC as skins. Five new records: Paamiut/Frederikshåb: Paamiut Isblink, 29 May 1976, ad. (E. Hansen in litt.), skin in private collection. – Paamiut town, 9 Nov 1991 (B. Knudsen pers. comm.). – Nuuk/Godthåb: Kitsissut/Kook Øerne, 21 Oct 1970 (Hansen 1971; RC 1975), skin in ZMUC. – Nuuk town, 7 Nov 1975 (Hansen 1977; RC 1976;), skin in private collection. – Sisimiut/Holsteinsborg: Sisimiut town, late Nov 1991, 1y (P. Grossmann in litt.).

SUBSPECIES and ORIGIN: Salomonsen (1967) assigned the specimens to ssp. *americana*, whose nearest breeding grounds are in central and southeastern Canada.

CRANES GRUIDAE

Common Crane Grus grus

STATUS: Accidental. **Northeast Greenland:** One record: Th. Sørensen Land: Graben Land, 7 Aug 1988, 2y (RC 1990).

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia.

Sandhill Crane Grus canadensis

STATUS: Accidental. North Greenland: One record: Qaanaaq/Thule-area: Tasersuit 29 July and I Aug 1985, 2y (Vaughan 1988; RC 1989).

SUBSPECIES and ORIGIN: The nearest breeding grounds are on Baffin and Devon Islands, where ssp. *canadensis* occurs.

OYSTERCATCHERS HAEMATOPODIDAE

Eurasian Oystercatcher Haematopus ostralegus

STATUS: Rare vagrant. West Greenland: C. 25 records (Apr-Oct). Most frequent in Qaqortoq/Julianchåb, and recorded with decreasing frequency northwards as far as Ilulissat/Jakobshavn (Salomonsen 1981). Most frequent in Qaqortoq/Julianchåb. Nine skins in ZMUC are all in ad. plumage. Northeast Greenland: One record: Germania Land: Danmarkshavn, 27 June to 29 July 1975 (Meltofte 1977). Southeast Greenland: Four records: Ammassalik-area: Saputit in Sermilik, mid-July 1968 (Molenaar 1982). – Ammassalik town 1982–1986 two records without data (S. Jürgensen in litt.). – Kangersittuaq: Aug 1991, ad. shot, ringed as 3y in Norfolk, England, Aug 1979 (ZMUC).

SUBSPECIES: Salomonsen (1967) assigned the Greenland records to the Icelandic ssp. *malachophaga*. This ssp. is, however, not generally accepted (Cramp & Simmons 1983).

ORIGIN: Palearctic species, with the nearest breeding grounds in Iceland.

AVOCETS AND STILTS *RECURVIROSTRIDAE*

American Avocet Recurvirostra americana

STATUS: Accidental. West Greenland: One record: Maniitsoq/Sukkertoppen: Uummannarsuaq/Kin of Sal, 2 Nov 1937, 1y (Hørring & Salomonsen 1941), skin previously in I, but now probably lost.

ORIGIN: Nearctic species, with the nearest breeding grounds in southern central Canada and eastern USA (Scott 1983; Godfrey 1986).

PLOVERS CHARADRIIDAE

Great Ringed Plover Charadrius hiaticula

STATUS: Widespread breeder and extralimital migrant. West Greenland: Probably fairly common breeder throughout the region. However, only known as common in the head of Nassuttooq/Nordre Strømfjord, the Kan-

gerlussuag/Søndre Strømfjord-area, the Qegertarsuup Tunua/Disko Bugt-area and Nuussuaq (Salomonsen 1981; Fox 1987; Bennike 1990; Frimer & Nielsen 1990; Frimer 1992; K. Rosing-Asvid pers. comm.). During spring and autumn migrants are seen in small numbers throughout the region. North Greenland: Common breeder in the Qaanaaq/Thule-area and central Peary Land, very few in western Peary Land and coastal areas of Kronprins Christian Land, and apparently missing in the region between Avannarliit/Inglefield Land and Nares Land (Salomonsen 1981; Meltofte 1976a; Håkansson et al. 1981; Hjort et al. 1983, 1988; Dietz & Andersen 1984; Bennike & Kelly 1986; Vaughan 1988). Reported density: 5 pairs/8.6 km² at Jørgen Brønlund Fjord in Peary Land in 1973 (Meltofte 1976a). Northeast Greenland: Abundant and widespread breeder with densities of up to 8.2 territorial pairs/km². Most numerous in Wollaston Forland and Germania Land (Meltofte 1985; Boertmann et al. 1991). Southeast Greenland: Breeding has been reported from the Ammassalik-area (Helms 1926; Hørring 1939) and it breeds probably in small numbers along the coast between Ammassalik and Nunap Isua/Kap Farvel (Salomonsen 1967). However, Knudsen (1935a) did not report the species from Kangerlussuatsiag/Lindenow Fjord.

SUBSPECIES: The breeding population in Greenland refers to the nominate ssp. *hiaticula* (Salomonsen 1963).

HABITAT: High arctic populations breed in tundra areas, particularly where vegetation-less areas alternate with more lush areas (Meltofte 1985). In West Greenland usually in riverbeds and inland dunes (e.g. Fox 1987).

POPULATION: Meltofte (1985) estimated the high arctic breeding population in Greenland at 24,500 pairs.

MOVEMENTS: Migratory with winter quarters in tropical western Africa (Meltofte 1985). They arrive in the high arctic region late May and depart early July through early Sep, ads first (Meltofte 1985). In the low arctic arrival is some weeks earlier and departure is during Aug (Frimer 1992); juvs may stay until late Oct (e.g. Pihl 1976).

Semipalmated Plover Charadrius semipalmatus

STATUS: Accidental. West Greenland: One record: Maniitsoq/Sukkertoppen: Maniitsoq town, 4 July 1901, ad. Q (Salomonsen 1963), skin in ZMUC.

REMARK: Salomonsen (1950a) reported two more records, but later he recognized (unpubl.) that these specimens were wrongly identified.

ORIGIN: Nearctic species, with the nearest breeding grounds on southern Baffin Island.

Killdeer Charadrius vociferus

STATUS: Accidental. West Greenland: One record: Qeqertarsuaq/Godhavn: Qeqertarsuaq town, 13 Nov 1940 (Salomonsen 1963), 1y, skin in ZMUC.

Meddelelser om Grønland, Bioscience 38 · 1994

SUBSPECIES and ORIGIN: The specimen refers to ssp. *vociferus* (Salomonsen 1963), whose nearest breeding grounds are in central and southeastern Canada.

Oriental Plover Charadrius veredus

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: Narsaq, 23 May 1948, ad. O (Salomonsen 1963), skin in ZMUC.

ORIGIN: Palearctic species, with the nearest breeding grounds in northwestern China (Hayman et al. 1986).

Pacific Golden Plover Pluvialis fulva

STATUS: Accidental. West Greenland: One record: Qeqertarsuaq/Godhavn: 16 Sep 1940, 1y, skin in Museum of Natural History, Ottawa (Rand 1947). Northeast Greenland: One record: Liverpool Land: Ittaajimmiit/Kap Hope, 2 Sep 1928, 1y h (Pedersen 1930), skin in ZMUC. Southeast Greenland: One record: Ammassalik-area: 1 Oct 1932, 1y h, skin in Museum of Natural History, Leiden (Hørring & Salomonsen 1941).

ORIGIN: Mainly Palearctic species, with the nearest breeding grounds in western Alaska and on Yamal Peninsula in arctic Siberia (Hayman et al. 1986).

American Golden Plover Pluvialis dominica

STATUS: Vagrant and occasional breeder. West Greenland: Rare, but probably annual vagrant particularly in the Oegertarsuup Tunua/Disko Bugt-area (May-early July, occasionally -Aug), and in the region from Nuuk/ Godthab to Paamiut/Frederikshab (Sep) (Salomonsen 1981). North Greenland: Salomonsen (1981) reported only one record, from Avannarliit/Inglefield Land: Iita/ Etah 1935. Now, several records including one breeding record are known: Qaanaaq/Thule-area: Uummannaq/ Dundas, 12 June 1974, ad. (B. Gisselø in litt.). - Narsaarsuk, Aug 1982, two ads with pull. (M. Andersen in litt.). -Tasersuit, 3 July 1984, ad. in display (Vaughan 1988). -Same site, 27 and 29 July 1985, two ads (Vaughan 1988; M. Lea in litt.). - Same site, 31 July 1986 (Vaughan 1988). Northeast Greenland: One record: Hold With Hope: Myggbukta, 24 May 1982, ad. (Elander & Blomqvist 1986; RC 1982-84).

ORIGIN: Nearctic species with the nearest regular breeding grounds on Baffin and Devon Islands.

European Golden Plover Pluvialis apricaria

STATUS: Vagrant and local breeder. West Greenland: Fairly frequent vagrant in the region between Qaqortoq/ Julianehāb and Nuuk/Godthāb. More irregular and rare further north to the Qeqertarsuup Tunua/Disko Bugt-area. In Apr-June (occasionally -Aug) ad. birds and in Sep/Oct (occasionally -Dec) 1ys (Salomonsen 1967). North Greenland: One record: Peary Land: Kølen, near Jørgen Brønlund Fjord, 20 June 1979, pair (Hjort 1982). Northeast Greenland: Local breeder in Jameson Land and Liverpool Land (Korte 1975; Hansen undated) and probably in southwestern Scoresby Land (Hall 1966; Boertmann et al. 1985). Summer vagrant as far north as Hochstetter Forland and Germania Land (Meltofte 1975; Meltofte et al. 1981a; Elander & Blomqvist 1986; Boertmann et al. 1991). Southeast Greenland: Annual spring and summer vagrant (late Apr-Aug) at least in the Ammassalik-area (Helms 1926; Salomonsen 1967; Alerstam et al. 1984; S. Jürgensen in litt.).

HABITAT: The breeding habitat in Jameson Land is rather dry slopes with dwarf-shrub vegetation (Korte 1975).

MOVEMENTS: Migratory. The Greenland Golden Plovers probably spend the winter in western Europe.

ORIGIN: The vagrants probably have their origin in Iceland, where the species is a common breeder.

Grey Plover Pluvialis squatarola

STATUS: Vagrant and occasional breeder. West Greenland: Until 1981 c. 50 records (Salomonsen 1981). In spring and summer ads are particularly frequent (sometimes in flocks) in the Qegertarsuup Tunua/Disko Bugtarea and southern Uummannaq. In autumn lys are recorded in the region from Qaqortoq/Julianehåb to Sisimiut/Holsteinsborg (Salomonsen 1981). In eastern Qegertarsuag/Godhavn territorial birds have been seen in the summers of 1989 and 1990, and breeding was proved in 1991 (Frimer & Nielsen 1990; Frimer 1991b). North Greenland: Two records from the Oaanaaa/Thule-area (Vaughan 1988; M. Lea in litt.): Pituffik/Thule air base, 24 July 1983. - Tasiussaq/Drown Bugt, 10 July 1984, three indvs. Northeast Greenland: Six records: Jameson Land: Heden, July 1983, ad. Q/2y. - Same site, Aug 1983, 2y. - Same site, 26 July 1984 (all Boertmann et al. 1985; RC 1982-84). - Geographical Society Ø: Kap MacClintock, 8 June 1984 (B. Sittler pers. comm.). -Adam af Bremen Dal, 9 July 1984 (B. Sittler pers. comm.). - Hold With Hope: Carlshavn, 24 June 1923, ad. O' (Salomonsen 1935a), skin in ZMUC. Southeast Greenland: One record: Region between 63° and 64°N: Akerninnarmiit/Skjoldungen, 18 Sep 1887, 1y, wing preserved in NKA. Pedersen (1930) mentioned a record without date from 66°N lat. This was not accepted by Salomonsen (1935a or later).

HABITAT: The breeding habitat was a poorly vegetated plain close to salt marsh and a coastal lagoon (Frimer 1991b).

ORIGIN: Ne- and Palearctic species, with the nearest breeding grounds on Baffin and Devon Islands and western arctic Russia.

Northern Lapwing Vanellus vanellus

STATUS: Rare vagrant. West Greenland: C. 23 records (Oct-Apr) until 1981. Most frequent in Qaqortoq/Juliane-håb, but recorded as far north as Maniitsoq/Sukkertoppen

(Salomonsen 1981; T. Duch in litt., B. Knudsen pers. comm.). Some records concerned flocks of up to 15 indvs. **Northeast Greenland:** One record: Germania Land, Danmarkshavn, 20–26 June 1969 (Meltofte 1975). **Southeast Greenland:** Three or four records: Ammassa-lik-area: Ammassalik town, 11 Dec 1902 (Helms 1926; but not identified with certainty). – Same site, 8 Dec 1933, ad. O^{*} (Salomonsen 1935b), skin in ZMUC. – Same site, 8 Mar 1991, ten indvs (S. Jürgensen in litt.). – Same site, 30 Oct 1991 (S. Jürgensen in litt.).

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia and the British Isles.

SANDPIPERS AND SNIPE SCOLOPACIDAE

Red Knot Calidris canutus

STATUS: Widespread high arctic breeder, widespread passage visitor and extralimital migrant. West Greenland: Widespread but sparse migrant in spring (June) and autumn (mid-July until late Aug). Most common from Qegertarsuaq/Godhavn and northwards (e.g. Dyck 1965; Ballegård 1979; Boertmann 1979; Kampp & Kristensen 1980b; Frimer 1992). North Greenland: Breeds in most parts of the region, usually in rather small numbers (Meltofte 1976a; Håkansson et al. 1981; Aastrup et al. 1986; Bennike & Kelly 1986; Hjort 1986; Vaughan 1988). Northeast Greenland: Breeds from Liverpool Land and Jameson Land and northwards. However, the southern limit of the breeding range in the interior parts of Kangertiitivaq/Scoresby Sund is not known. Absent from large areas and only locally common for example on the south coast of Germania Land (Meltofte 1975; Boertmann et al. 1990). Breeding densities of up to 0.49 pairs/km² are recorded (Meltofte 1985; Boertmann et al. 1991). Southeast Greenland: Migrants have been recorded in spring, summer and autumn at Akerninnarmiit/Skjoldungen, in the Ammassalik-area, in Kangersittuag and in Migip Kangersiva/Miki Fjord (Helms 1926; Degerbøl & Møhl-Hansen 1935; Hørring 1939; Ray 1973; Molenaar 1982; Alerstam et al. 1986; Gravlund 1991; Glahder 1992).

SUBSPECIES: The Greenland population belongs to ssp. *islandica* (Cramp & Simmons 1983).

HABITAT: Breeds in dwarf-shrub heath. Sometimes at higher elevations than other waders (Håkansson et al. 1981; Bennike & Kelly 1986).

POPULATION: The Greenland breeding population is estimated at 10,000 pairs (Meltofte 1985).

MOVEMENTS: Migratory and winters in Northwest Europe. Arrives at the breeding grounds during late May and early June, and departs from late July until late Aug, ads first (Meltofte 1985). Populations from northeastern arctic Canada migrate during spring across the icecap between the Ammassalik-area and the Qeqertarsuup Tunua/Disko Bugt-area (Alerstam et al. 1990).

Sanderling Calidris alba

STATUS: Widespread high arctic breeder, widespread passage visitor and extralimital migrant. West Greenland: In spring, migrants occur north of Nuussuaq, while summer visitors and autumn migrants are widespread. However, most frequent from Qegertarsuag/Godhavn and northwards (Dyck 1965; Pihl 1976; Hansen 1977; Ballegård 1979; Salomonsen 1981; Frimer 1992). North Greenland: Probably widespread breeder: Common in Peary Land where the density in 1973 was 0.35 pairs/km² in an area in the southern part (Meltofte 1985); more scarce in the western region and in the Qaanaaq/Thulearea (Håkansson et al. 1981; Salomonsen 1981; Hjort et al. 1983, 1988; Bennike & Kelly 1986; Vaughan 1988). Northeast Greenland: Abundant breeder in the region from Jameson Land and Liverpool Land and northwards (Salomonsen 1981; Meltofte 1985). The southern limit of the breeding range in the interior parts of Kangertiitivaq/ Scoresby Sund is not known. Densities in selected areas have been recorded at 0.07-3.2 pairs/km² (Meltofte 1985; Boertmann et al. 1991). Southeast Greenland: Rare spring migrant in the Ammassalik-area (Salomonsen 1981). Alerstam et al. (1984) mentioned two records from May and June 1982. During autumn migration common south as far as Kangersittuaq (Degerbøl & Møhl-Hansen 1935; Hørring 1939), rare further south (Salomonsen 1981). One record from the Ammassalik-area in Aug (Ray 1973).

HABITAT: Breeds often on dry fell-fields, solifluctous soils etc., but also in more fertile and moist habitats.

POPULATION: Meltofte (1985) estimated the Greenland breeding population at 17,000 pairs.

MOVEMENTS: The majority of the population probably winter in tropical West Africa (Meltofte 1985). Arrival at the breeding grounds takes place during late May and early June and departure during late July and late Aug (Meltofte 1985). See also Gudmundsson & Lindstrøm (1992) for spring migration in SW Iceland. In West Greenland ads are seen mid-July through late Aug and juvs mid-Aug through Sep (Frimer 1992); an unusual late record occurred in Nov in Nuuk/Godthåb (Hansen 1977).

Semipalmated Sandpiper Calidris pusilla

STATUS: Accidental. West Greenland: One record: Aasiaat/Egedesminde: Angissat, Kitsissunnguit/Grønne Ejland, 30 June-13 July 1980, 1–3 indvs (RC 1981).

ORIGIN: Nearctic species, with the nearest breeding grounds on southern Baffin Island.

Temminck's Stint Calidris temminckii

STATUS: Accidental. Northeast Greenland: Two records from Jameson Land: Innakajik/Kap Steward, 21 July 1974 (Meltofte 1976a; RC 1975). – Same site, 12 July 1988, two indvs (Korte 1988).

Meddelelser om Grønland, Bioscience 38 · 1994

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia.

Least Sandpiper Calidris minutilla

STATUS: Accidental. West Greenland: Three records: Aasiaat/Egedesminde: Ikamiut, 1 June 1961, ad. O' (Salomonsen 1963), skin in ZMUC. – Qeqertarsuaq/Godhavn: Kangerluk/Diskofjord, Aug 1878 (Kumlien 1879). – Uummannaq: Niaqornaq, spring 1867, ad. (Winge 1898), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland and central Canada.

White-rumped Sandpiper Calidris fuscicollis

STATUS: Summer and autumn vagrant usually at low coasts and lagoons. **West Greenland:** Regular summer visitor (June/July) at least in the Qeqertarsuup Tunua/Disko Bugt-area, where flocks of up to 25 indvs have been reported (Ballegård 1979; Salomonsen 1981; Bennike 1990; RC 1977–78, 1981, 1982–84; Frimer 1993a). Elsewhere recorded throughout the region until Oct, most frequent in Paamiut/Frederikshåb. Until 1991 c. 33 records concerning at least 66 indvs have been reported. Of the 16 skins in ZMUC, 13 from autumn are all 1ys and three from June are ads.

ORIGIN: Nearctic species, with the nearest breeding grounds on Baffin and Devon Islands.

Baird's Sandpiper Calidris bairdii

STATUS: Local high arctic breeder and extralimital migrant. West Greenland: Only a few records: Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, 14 Sep 1902, 1y (Hørring & Salomonsen 1941). – Nuuk town, 27 Sep 1970 (O.B. Hansen in litt.). – Qeqertarsuaq/Godhavn: Qaamassoq/Flakkerhuk, 24 July 1983, ad. (Nordin 1985; RC 1982–84). North Greenland: Breeds in the Qaanaaq/ Thule-area, Avannarliit/Inglefield Land and perhaps in southern Washington Land (Salomonsen 1950a; Vaughan 1988; Dörnbach undated). Very rare outside this region: Peary Land: Jørgen Brønlund Fjord, 27 June and 16 July 1973, two indvs (Meltofte 1976b; RC 1973). – Kronprins Christian Land: Kilen, 23 Aug 1985, two 1ys (Hjort et al. 1988).

MOVEMENTS: The winter quarters are in South America. In Qaanaaq/Thule migrants (probably juvs) occur during Sep until mid-Oct (RC 1989).

Pectoral Sandpiper Calidris melanotos

STATUS: Rare vagrant and occasional breeder. West Greenland: Hørring & Salomonsen (1941) mentioned twelve records: four in Qaqortoq/Julianehåb, four in Paamiut/Frederikshåb, two in Nuuk/Godthåb, one in Maniitsoq/Sukkertoppen and one in Upernavik; all from June or Sep and with the most recent record in 1907. Since then: Qeqertarsuaq/Godhavn, Qaamassoq/Flakkerhuk, 18–19 July 1983, pair with pull. (Nordin 1985; RC 1982–84). – Røde Elv, Qeqertarsuaq town, 14 Aug 1984 (RC 1982– 84). Northeast Greenland: Four records: Hold With Hope: Myggbukta, 4 June 1979 (Elander & Blomqvist 1986; RC 1981). – Same site, 24 May-10 June 1982, one or two indvs (Elander & Blomqvist 1986; RC 1982–84). – Germania Land: Danmarkshavn, 13 June 1975 (Meltofte 1977; RC 1975). – Same site, 9 June 1990, ad. (J. Graugaard pers. comm.).

ORIGIN: The nearest regular breeding grounds are on Devon Island in Canada.

Curlew Sandpiper Calidris ferruginea

STATUS: Accidental. **North Greenland:** One record: Peary Land: Jørgen Brønlund Fjord, 12 June 1966, ad. shot (Just 1967; RC 1965–69).

ORIGIN: Palearctic species, with the nearest breeding grounds on Taimyr Peninsula in arctic Siberia.

Purple Sandpiper Calidris maritima

STATUS: Widespread mainly low arctic breeder and intraregional to extralimital migrant. West Greenland: Fairly common breeder throughout the region and common winter visitor in the Open Water Region. Reported densities: 20 pairs/20 km² in Nuuk/Godthåb in 1928 (Longstaff 1932); 8 pairs/750 km² in interior Aasiaat/ Egedesminde in 1979 (Fox & Stroud 1981); 7-9 pairs/1.52 km² in Ilulissat/Jakobshavn in 1964 (Joensen & Preuss 1972). North Greenland: Scarce breeder in the southern and central parts of the Qaanaaq/Thule-area. Stragglers have been recorded as far north as Washington Land and perhaps Hall Land (Bessels 1879; Salomonsen 1950a). Rare vagrant to the eastern part: Peary Land: Kap København, 17 July 1986 (Bennike & Higgins 1989). -Kronprins Christian Land: Station Nord, 11 Aug 1978, two ads (Håkansson et al. 1981). Northeast Greenland: Vagrant and irregular breeder along the outer coast as far north as Germania Land (Meltofte et al. 1981a). Southeast Greenland: Probably widespread, but scarce breeder as far north as Kangersittuaq.

HABITAT: Breeds on heath and marsh. In the high arctic, usually close to the coast where the birds often feed in the intertidal zone (Meltofte et al. 1981a). In continental parts of Aasiaat/Egedesminde breeding habitats were found at elevations between 400 and 600 m asl. (Fox 1987).

MOVEMENTS: Migratory or dispersive. Many winter in the littoral zone of the Open Water Region. Some migrate to the British Isles and Iceland. Arrives at the low arctic breeding grounds in early Apr/early May (Salomonsen 1950a; Kampp & Kristensen 1980b) and on the high arctic breeding grounds in late May/early June (Meltofte 1985). Departs breeding grounds during Aug (Salomonsen 1967).

Dunlin Calidris alpina

STATUS: Regional high and low arctic breeder and extralimital migrant. West Greenland: Vagrant and occasional breeder. Salomonsen (1967) mentioned five records from May and June (four in the region Oagortog/ Julianehåb to Paamiut/Frederikshåb, one in Uummannaq). New records: Qaqortoq/Julianehåb: Narsarsuaq airport, June 1970, three indvs (Dörnbach 1971). - Same site, five records concerning 16 indvs and one breeding record in the months June, July and Aug 1985-87 (RC 1986-87). - Aasiaat/Egedesminde: Off the coast, 11 May 1972, dead on ship (L. Danver in litt.). - Kitsissunnguit/ Grønne Ejland, several records af ads in July 1974, 1975 and 1980 (Ballegård 1979; RC 1977-78, 1981). - Qegertarsuaq/Godhavn: Qullisat, 14 Aug 1978, two indvs (Kampp & Kristensen 1980b). - Qaamassoq/Flakkerhuk, 24-30 June and 9 July 1991, ad. (Frimer 1993a) - Uummannaq: Kuussuaq, Nuussuaq, 6 July 1989, ad. and breeding suspected (Bennike 1990). North Greenland: Rare but probably annual summer vagrant to Peary Land (Meltofte 1976b; Hjort 1986), also recorded in J.C. Christensen Land (Bennike & Higgins 1989). Northeast Greenland: Common breeder between Barclay Bugt on the northern Kialiip Kialia/Blosseville Kyst and Hertugen af Orléans Land, with densities in selected areas ranging from 0.13 to 5.7 pairs/ km² (Degerbøl & Møhl-Hansen 1935; Meltofte 1985; Boertmann et al. 1991). Southeast Greenland: Breeds in the Ammassalik-area (Hørring 1939; Salomonsen 1981), and migrants occur during autumn in northern part of region.

SUBSPECIES: The Northeast Greenland population is ssp. *arctica* (Schiøler 1922). The population in the Ammassalik-area is referred to ssp. *schinzii* (Helms 1926; Hørring 1939; Salomonsen 1950a), as were the breeding birds in Qaqortoq/Julianehåb (RC 1986–87). Most of the vagrants in Aasiaat/Egedesminde and Qeqertarsuaq/Godhavn have been the Nearctic ssp. *hudsonia* (*pacifica* in a wide sense) (Salomonsen 1981; RC 1977–78; Frimer 1993a; K. Kampp pers. comm.), whose nearest breeding grounds are on the Melville Peninsula in arctic Canada.

HABITAT: The breeding habitat is luxuriant marshes (Meltofte 1985). Vagrants occur at low coasts and lagoons.

POPULATION: Meltofte (1985) estimated the high arctic population in Greenland at 5,000 pairs.

MOVEMENTS: Both the high arctic and the low arctic populations winter in tropical West Africa. Arrival at the breeding grounds takes place during late May/early June and departure late July through late Aug, ads first (Meltofte 1985).

Buff-breasted Sandpiper Tryngites subruficollis

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Nuuk town, 21 Oct 1977 (E. Hansen in litt.), skin in private collection.

ORIGIN: Nearctic species, with the nearest breeding grounds on Devon Island.

Ruff Philomachus pugnax

STATUS: Accidental. West Greenland: Five records: Qaqortoq/Julianehåb: Nanortalik, late 19th century, Q (Salomonsen 1963). – Narsaq, 1 Oct 1950, 1y O' (Salomonsen 1963), skin in ZMUC. – Nuuk/Godthåb: Kangeq, autumn 1919, 1y O' (Salomonsen 1963). – Sisimiut/ Holsteinsborg: Ikertooq, 11 June 1957 (Salomonsen 1963), ad. O', skin in ZMUC. – Upernavik: June 1925, ad. O' (Salomonsen 1963). Northeast Greenland: One record: Traill Ø, Karupelv, 20 Aug 1982, Q (B. Sittler pers. comm.). Southeast Greenland: One record: Ammassalik-area: Kulusuk, 25 Aug 1989, ad. O' (RC 1990).

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia.

Common Snipe Gallinago gallinago

STATUS and SUBSPECIES: Vagrant with three ssp. West Greenland: Eleven records: Salomonsen (1967) mentioned six (June-Nov) from the region between Qaqortoq/Julianehåb and Maniitsoq/Sukkertoppen and from Upernavik. Only one was ssp. gallinago and the rest ssp. delicata. Since then: Qagortoq/Julianehab: Qagortoq town, 3 Nov 1970, ssp. delicata (Zobbe 1973; RC 1971), skin in ZMUC. - Narsaq town, 12-13 July 1993, displaying (H. Korning pers. comm.). - Nuuk/Godthab: Qegertarsuatsiaat/Fiskenæsset, spring or summer 1986, skin in private collection (T. Duch in litt.). - Maniitsog/Sukkertoppen: Maniitsoq town, 12 May 1967, ssp. delicata (A. Hansen in litt.), skin in ZMUC. - Sisimiut/Holsteinsborg: Eqalummiut Nunaat, summer 1979, several indvs, some displaying, ssp. faeroensis/gallinago (Fox & Stroud 1981; T. Fox pers. comm.). Northeast Greenland: Three records: Liverpool Land: Rosenvinge Bugt, 26 May 1929, ssp. gallinago (Pedersen 1930), skin in ZMUC . -Ittoqqortoormiit/Scoresbysund, mid-Oct 1976, several indvs (B. Christensen in litt.; N. Kromann in litt.). -Germania Land: Danmarkshavn, 31 May 1988, probably ssp. faeroensis (Forchhammer 1990). Southeast Greenland: More or less annual vagrant (May and Sep-Nov) in the Ammassalik-area and probably elsewhere in the region (Knudsen 1935a, 1935b; Gitz-Johansen 1938; Salomonsen 1981; S. Jürgensen in litt.). Salomonsen (1967) mentioned eleven records of which three were delicata, three faeroensis and one gallinago (Hørring & Salomonsen 1941). S. Jürgensen (in litt.) reported nine observations of at least eleven indvs in the years 1974-1979: one specimen, in ZMUC, from 9 May 1975 was gallinago. However, he saw none during 1982-1988.

ORIGIN: The Palearctic ssp. *gallinago* has its nearest breeding grounds in the British Isles and Scandinavia, ssp. *faeroensis* in Iceland and the Nearctic ssp. *delicata* in Newfoundland.

HABITAT: Usually fertile marshes (e.g. Fox & Stroud 1981).

Long-billed Dowitcher *Limnodromus* scolopaceus

STATUS: Accidental. West Greenland: Qeqertarsuaq/ Godhavn: Kangerluk/Diskofjord, Sep 1967 (Aa. Meyer pers. comm.), juv., skin in private collection.

ORIGIN: Nearctic species, with the nearest breeding grounds in Alaska and the extreme northwestern Canada.

Eurasian Woodcock Scolopax rusticola

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: 1940, 1941 or 1942 (Salomonsen 1963), 1y, skin in ZMUC. Southeast Greenland: Two records: Ammassalik-area: Sermilik, 5 Oct 1906 (Helms 1926), 1y, skin in ZMUC. – Ammassalik town, 17 Nov 1974 (S. Jürgensen in litt.).

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia and the British Isles.

Black-tailed Godwit Limosa limosa

STATUS: Accidental. West Greenland: Six records: Qaqortoq/Julianehåb: Nanortalik, 23 June 1969, ad. (J. Bovin in litt.). – Qaqortoq town, spring 1982, ad. (K. Nielsen in litt.). – Nuuk/Godthåb: Narsaq, 17 May 1955, ad. Q (Salomonsen 1963), skin in ZMUC. – Nuuk town, late Mar 1964, ad. (J. Kreutzmann in litt.), skin in ZMUC. – Nuuk town, 8 May 1978, ad. (E. Hansen in litt.), skin in private collection. – Sisimiut/Holsteinsborg: 2 July 1928, ad. O (Oldenow 1933), skin previously in I, but now probably lost. Northeast Greenland: One record: Jameson Land: Nerlerit Inaat/Constable Pynt, 2–4 Sep 1987, ad. (Mortensen et al. 1988; RC 1990). Southeast Greenland: One record: Ammassalik-area: Ammassalik town, 25 May 1988 (S. Jürgensen in litt.).

SUBSPECIES and ORIGIN: Specimens in ZMUC are all ssp. *islandica*, which breeds in Iceland and winters in the British Isles.

REMARK: Winge (1898) mentioned two more records from southern West Greenland. They were, however, considered as dubious by Salomonsen (1963).

Eskimo Curlew Numenius borealis

STATUS: Previously accidental. **West Greenland:** Five autumn records (Aug and Sep) are known from the region between Qaqortoq/Julianehåb and Aasiaat/Egedesminde; the most recent in 1882 (Winge 1898). All are kept as skins in ZMUC and all are 1ys.

ORIGIN: Nearctic species, with the nearest breeding grounds in northwestern Canada. Considered extinct, but Hayman et al. (1986) referred to recent sightings of migrants in the USA.

Whimbrel Numenius phaeopus

STATUS: Vagrant and local breeder. West Greenland: Rather frequent vagrant (May-Aug occasionally -Oct) in the region between Qaqortoq/Julianehåb and Nuuk/Godthåb, more scarce northwards as far as Uummannaq (Salomonsen 1981). North Greenland: One record: Qaanaaq/ Thule-area: Siorapaluup Kangerlua/Robertson Fjord, summer 1932, 1y (Hørring & Salomonsen 1941), skin in ZMUC. Northeast Greenland: Local breeder in Jameson Land and rare summer vagrant as far north as Hold With Hope (Hall & Waddingham 1966; Meltofte 1976a; Boertmann et al. 1985; Elander & Blomqvist 1986; RC 1982–84). Southeast Greenland: Probably annual vagrant (late Apr-early June, occasionally -July and Oct), at least in the Ammassalik-area (Hørring & Salomonsen 1941; S. Jürgensen in litt.).

SUBSPECIES and ORIGIN: Two ssp. occurs. The Westpalearctic ssp. *phaeopus* is the most frequent and the breeding population belongs to this. The Nearctic ssp. *hudsonicus*, whose nearest breeding grounds are along the southern and eastern coast of Hudson Bay, has been recorded six times in West Greenland in the region between Qaqortoq/Julianehåb and Ilulissat/Jakobshavn. The record from the Qaanaaq/Thule-area refer also to this ssp. The most record of this ssp. occurred in 1932.

HABITAT: The breeding habitat in Jameson Land is moist dwarf-shrub heath (Boertmann et al. 1985).

POPULATION: Less than 50 pairs breed in Jameson Land.

MOVEMENTS: Migratory and winters probably in West Africa, like the Icelandic population.

Eurasian Curlew Numenius arguata

STATUS: Accidental. West Greenland: Two records: Qaqortoq/Julianehåb: Nanortalik, 16 Nov 1915 (Helms & Schiøler 1917), ad., skin in ZMUC. – Aasiaat/Egedesminde: Ikamiut, 2 Sep 1963 (J. Petersen in litt.), ad. °, skin in ZMUC. Northeast Greenland: One record: Wollaston Forland: Zackenberg, 15 Aug 1980 (Sellar et al. 1980; W.J. Higgs in litt.). Southeast Greenland: One record: Ammassalik-area: Ammassalik town, 23 Aug 1913, 1y ° (Helms & Schiøler 1917), skin in ZMUC.

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia and the British Isles.

Upland Sandpiper Bartramia longicauda

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Nuuk town, 21 May 1923, ad. Q (Jørgensen 1923), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in central and southeastern Canada.

Common Redshank Tringa totanus

STATUS: Spring and summer vagrant. West Greenland: Four records: Qagortoq/Julianehåb: Alluitsup Paa/Sydprøven, 4 Apr 1975 (Pihl 1976; RC 1976). - Narsarsuaq, 6 June 1987 (RC 1986-87). - Aasiaat/Egedesminde: Ikamiut, 23 June, 1964 (J. Petersen in litt.), ad., skin in ZMUC.- Qegertarsuaq/Godhavn: Agajarua/Mudderbugten, 10 June 1949, ad. O' (Salomonsen 1963), skin in ZMUC. Northeast Greenland: Nine records: Liverpool Land: Nuua/Kap Swainson, 11 Aug 1973 (Korte et al. 1981). - Kærelv, 21-22 July 1975 (Korte et al. 1981). -Jameson Land: Innakajik/Kap Steward, 24-25 June 1973 (Korte 1973). - Nerlerit Inaat/Constable Pynt, 14 June 1975 (Korte et al. 1981). - Same site, 21 Aug 1987, four indvs (Mortensen et al. 1988). - Scoresby Land: Mestersvig, 19 May 1976 (Meltofte et al. 1981a). - Hold With Hope: Myggbukta, 24 June 1937 (Bird & Bird 1941). -Same site, 19 May 1947, skin in Stavanger Museum (Holgersen 1957). - Wollaston Forland: Zackenberg, 25 Aug 1947 (Møhl-Hansen 1949). Southeast Greenland: Three records: Ammassalik-area: Amitsuarsik, 29 May 1902 (Helms 1926). - Ammassalik town, 24 Apr 1909 (Helms 1926). - Qeertaalanngivaq in inner Sermilik, 31 May 1982 (Alerstam et al. 1984).

SUBSPECIES and ORIGIN: Both specimens in ZMUC are ssp. *robusta*, which breeds in Iceland. One of these has previously been assigned to ssp. *totanus* (Salomonsen 1963). The 1939 specimen from Hold With Hope is also ssp. *robusta* (Holgersen 1957).

Common Greenshank Tringa nebularia

STATUS: Accidental. West Greenland: One record: Qerqertarsuaq/Godhavn: 24 May 1979, ad., skin in private collection (Kampp & Kristensen 1980b; RC 1985).

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia and Scotland.

Greater Yellowlegs Tringa melanoleuca

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Qoornoq, 2 Sep 1931, ad. \circ (Salomonsen 1963), skin in ZMUC. North Greenland: Two records from the Qaanaaq/Thule-area: Uummannaq/Dundas, 29 July 1917, ad. \circ (Hørring & Salomonsen 1941), skin in ZMUC. – Same site, 24 May 1961, ad. \circ , skin in Museum of Natural History, Århus (Mortensen 1965).

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

Lesser Yellowlegs Tringa flavipes

STATUS: Accidental. West Greenland: Two records: Qaqortoq/Julianehåb: Nanortalik, late 19th century, 1y

(Winge 1898), skin in ZMUC. – Nuuk/Godthåb: 16 Aug 1916, ad. O' (Hørring & Salomonsen 1941), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in central and northwestern Canada.

Solitary Sandpiper Tringa solitaria

STATUS: Accidental. West Greenland: Two records: Nuuk/Godthåb: Kangeq, 1 Aug 1878, Q (Winge 1898). – Nuuk town, 9 Aug 1931 (Salomonsen 1963), ad., skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

Wood Sandpiper Tringa glareola

STATUS: Accidental. Northeast Greenland: One record: Hold With Hope: Myggbukta, 17 June 1979 (Elander & Blomqvist 1986; RC 1981).

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia.

Spotted Sandpiper Actitis macularia

STATUS: Accidental. West Greenland: Five records: Qaqortoq/Julianehåb: Nanortalik, Tuapaat, 18 Apr 1901, ad. (Hørring & Salomonsen 1941), skin in ZMUC. – Nuuk/Godthåb: Saarloq, 27 Sep 1902, 1y (Hørring & Salomonsen 1941), skin in ZMUC. – Nuuk town, 1 Nov 1973, 1y (RC 1975), in private collection. – Nuuk town, 27 Oct 1976 (RC 1977–78), 1y Q, skin in ZMUC. – Maniitsoq/Sukkertoppen: 25 Sep 1963, 1y, skin in private collection (A. Hansen in litt.).

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

REMARK: An observation from Qaqortoq/Julianehåb: Itilleq at Igaliku/Igaliko, 6 Sep 1989 concerned this species or the European Common Sandpiper Actitis hypoleucos (RC 1990).

Ruddy Turnstone Arenaria interpres

STATUS: Widespread mainly high arctic breeder, widespread passage visitor and extralimital migrant. West Greenland: Spring migrant and summer visitor (May-July) in the Qeqertarsuup Tunua/Disko Bugt-area and northwards (Salomonsen 1967). Usually common and widespread autumn (late July-Sep) migrant (e.g. Pihl 1976; Frimer 1992). One winter record: Nuuk/Godthåb: Nuuk town, 11 Jan 1979 (E. Hansen in litt.). Local breeder in eastern part of Qeqertarsuaq/Godhavn and in Uummannaq (Salomonsen 1967; Nordin 1985; Frimer 1993a). North Greenland: Breeds throughout the region but is probably scarce in the Qaanaaq/Thule-area (Thing 1976; Salomonsen 1981; Håkansson et al. 1981; Dietz & Andersen 1984; Bennike & Kelly 1986; Hjort 1986; Vaughan 1988; Dörnbach undated). A census was carried out in southern Peary Land: 8 pairs/8.6 km² in 1973 (Meltofte 1976b). **Northeast Greenland:** Breeds throughout the region, with densities in selected areas of up to 4.4 pairs/km² (Meltofte 1985; Boertmann et al. 1991). The southern limit of the breeding range in the interior parts of Kangertiitivaq/Scoresby Sund is not known. **Southeast Greenland:** Common autumn migrant on the Kialiip Kialia/Blosseville Kyst (Degerbøl & Møhl-Hansen 1935; Hørring 1939) and occurs as spring and autumn migrant in the Ammassalik-area (Helms 1926; Ray 1973; Alerstam et al. 1986). Populations from northeastern arctic Canada migrates during spring across the icecap between the Ammassalik-area and the Qeqertarsuup Tunua/Disko Bugt-area (Alerstam et al. 1990).

SUBSPECIES: The high arctic population belongs to the nominate ssp. *arenaria*. The population in Qeqertarsuaq/Godhavn belongs probably to ssp. *morinella* (Salomonsen 1967; Frimer & Nielsen 1990).

HABITAT: Breeds in tundra areas with high vegetation cover and occurs during migration along the shore.

POPULATION: The high arctic population in Greenland has been estimated at 11,300 pairs (Meltofte 1985), but this number is probably too low (Boertmann et al. 1991).

MOVEMENTS: Migratory and the high arctic population spends winter mainly in Northwest Europe (Meltofte 1985). The population from West Greenland probably winters in North America (Salomonsen 1967). The high arctic birds arrive at the breeding grounds during late May and early June and depart during early July and late Aug, the ads first (Meltofte 1985).

Red-necked Phalarope Phalaropus lobatus

STATUS: Widespread mainly low arctic breeder and extralimital migrant. West Greenland: Abundant to fairly common breeder northwards to Uummannaq and very scarce breeder in Upernavik (Salomonsen 1981). Reported densities: 24 pairs/20 km² in Nuuk/Godthåb in 1928 (Longstaff 1932); >100 pairs/750 km² in interior Aasiaat/Egedesminde in 1979 (Fox 1987); 2 pairs/1.52 km² in Ilulissat/Jakobshavn in 1964 (Joensen & Preuss 1972); absent from the Nunap Isua/Kap Farvel-area in Qaqortoq/Julianehåb (Nørrevang 1973). North Greenland: Very scarce breeder and rare summer vagrant in the Qaanaaq/Thule-area (Salomonsen 1981; Vaughan 1988). Very rare summer vagrant to Peary Land (Meltofte 1976b). Northeast Greenland: Scarce breeder in Jameson Land and Liverpool Land (Korte 1988), occasional breeder as far north as Hold With Hope (Elander & Blomqvist 1986) and occasional summer vagrant as far north as Germania Land (Rosenberg et al. 1970; Meltofte 1977; Forchhammer 1990). Southeast Greenland: Common breeder in the Ammassalik-area (Helms 1926; Hørring 1939). Occur as migrant at least in the northern part (Chapman 1934; Degerbøl & Møhl-Hansen 1935).

HABITAT: Breeds at ponds surrounded by lush vegetation. During migration off-shore and along coasts.

MOVEMENTS: Migratory and spends the winter in tropical and subtropical seas. Arrival at the breeding grounds in West Greenland takes place from mid-May (Salomonsen 1967) and in southern Northeast Greenland in early June (Meltofte 1985). Alerstam et al. (1986) describes migration in late May in the Ammassalik-area. Ads depart during early July and early Aug; juvs may stay until Sep (Salomonsen 1967; Brown et al. 1975; Frimer 1992; J. Durinck in litt.).

Grey (Red) Phalarope Phalaropus fulicarius

STATUS: Regional high and low arctic breeder and extralimital migrant. West Greenland: Uncommon breeder from the Qeqertarsuup Tunua/Disko Bugt-area and northwards. Occurs as migrant and rare summer visitor south of the breeding range (Salomonsen 1967; Frimer 1993a). North Greenland: Scarce but probably annual summer vagrant to Peary Land (Meltofte 1976b). Several were seen in Kilen, Kronprins Christian Land, in July and Aug 1985, but without indications of breeding (Hjort et al. 1988). Northeast Greenland: Uncommon breeder in fluctuating numbers in the region between Kangertiitivaq/Scoresby Sund and Germania Land. Locally common, and breeding densities in selected areas of up to 0.55 pairs/km² have been reported (Meltofte 1975; Meltofte et al. 1981a; Elander & Blomqvist 1986; Boertmann et al. 1991). Southeast Greenland: Ammassalik-area: rare autumn migrant and summer vagrant (Helms 1926; Salomonsen 1967).

HABITAT: Breeds in West Greenland on small islands and at coast lagunes often associated with Arctic Tern colonies (Salomonsen 1981; Frimer 1993a). An inland summer record from Sisimiut/Holsteinsborg was reported by Fox & Stroud (1981). In Northeast Greenland it breeds in lush marsh habitats with pools and ponds (Meltofte 1985). During migration along the coasts and off-shore.

MOVEMENTS: Migratory and winters in tropical and subtropical seas. Arrive at the breeding grounds in mid-June, although the Phalaropes probably stay in polynyas and other ice free waters off the coast somewhat earlier (Meltofte 1985). Ads leave from late July, while juvs can remain until late Sep, Oct and occasionally Nov (Salomonsen 1967; Brown et al. 1975; Meltofte 1985; Glahder 1993). Several phalaropes (probably Grey) were seen on the fishing banks off Paamiut/Frederikshåb and Nuuk/ Godthåb during Oct 1993 (GERI unpubl.). A remarkable observation was made 9 Sep 1977 c. 100 km off-shore Sisimiut/Holsteinsborg, when 118 phalaropes (probably Grey) in several flocks migrated towards west (Biokon 1977).

SKUAS STERCORARIIDAE

Pomarine Skua (Jaeger) Stercorarius pomarinus

STATUS: Widespread summer and autumn visitor. West Greenland: Occurs in fluctuating numbers late June through late Oct. Most frequent in the region between Nuuk/Godthåb and Uummannaq (e.g Brown et al. 1975). North Greenland: Salomonsen (1967) described it as rare visitor to the Qaanaaq/Thule-area, but it may be more common, for example Dörnbach (undated) observed at least 15 in 1987. - One record in the eastern part of the region: Peary Land: Bliss Bugt, 26 June 1969, ad. (Grant 1972). Northeast Greenland: Common summer visitor in the mouth of Kangertiitivaq/Scoresby Sund (Meltofte 1976a) and occurs at least as as far north as Île de France (Forchhammer 1990; Andersen & Berg 1991; Søder 1991). Southeast Greenland: Summer visitor at least in waters off the Ammassalik-area (Joiris 1976; S. Jürgensen in litt.; Glahder 1993).

HABITAT: Along the outer coast and off-shore.

MOVEMENTS: Migratory with major winter quarters in the tropical Atlantic (Furness 1987).

ORIGIN: The nearest breeding grounds are on Baffin Island.

REMARK: Several sources have described the Pomarine Skua breeding in central and northern West Greenland during the late 19th and the early 20th century (Salomonsen 1950a). However, no decisive proof was given. As microtines, the main prey of Pomarine Skua during breeding, do not occur in West Greenland, it is possible that confusion with Arctic Skua took place.

The pale morph is predominant in Greenland, where c. 10% dark morph birds have been recorded as maximum (Salomonsen 1967; Boertmann 1979; Glahder 1993).

Arctic Skua (Jaeger) Stercorarius parasiticus

STATUS: Widespread mainly low arctic breeder and extralimital migrant. West Greenland: Breeds as far north as southern Upernavik. Common between central Paamiut/Frederikshåb and central Maniitsog/Sukkertoppen, in central Sisimiut/Holsteinsborg and in the Qegertarsuup Kangerlua/Disko Bugt-area (Salomonsen 1967; Boertmann 1979; Frimer & Nielsen 1990; K. Kampp in litt.; K. Falk pers. comm.; GERI unpubl.). Six pairs/20 km² were found in Nuuk/Godthåb in 1928 (Longstaff 1932). Occur as migrant outside the breeding areas (e.g. Pihl 1976). North Greenland: Scarce breeder in the Qaanaaq/Thulearea between Uummannaq/Dundas and Iterlassuaq/Mac Cormick Fiord (Salomonsen 1967; Thing 1976; Vaughan 1988). Rare summer visitor in the eastern part of the region: Peary Land: Bliss Bugt, 26 June and 1 July 1969, one or two ads (Grant 1972). - Kronprins Christian Land: Kilen, 12 and 17 Aug 1985, both ads (Hjort et al. 1988). -Also seen in the drift ice off the coast in 1992 (Kristensen & Kristensen 1993). Northeast Greenland: Breeds from

Sulussuutikajik/Steward Ø on the Kialiip Kialia/Blosseville Kyst to Hochstetter Forland (Salomonsen 1967; Meltofte 1976a): common in Jameson Land, scarce further north. Meltofte et al. (1981a) observed Arctic Skuas in southern Hochstetter Forland, but found no evidence of breeding. Rosenberg et al. (1970) found no breeding in Wollaston Forland. The northernmost annual breeding areas seem now to be Hold With Hope and Hudson Land (Hjort 1976a; Elander & Blomqvist 1986; Sittler 1988; Dennis 1988; Dörnbach 1990). Vagrants have been recorded as far north as Germania Land (Forchhammer 1990). Southeast Greenland: It occurs at least in the northern part of the region as a regular migrant (Pedersen 1930; S. Jürgensen in litt.), Seen several times in Aug 1990 off-shore between Nunap Isua/Kap Farvel and Ammassalik (Glahder 1993) and in summer 1991 in Ternebugt, c. 61°40'N (Gravesen 1991).

HABITAT: Breeds in archipelagoes and on low coasts. During migration along the outer coast and off-shore.

MOVEMENTS: Migratory with winter quarters in coastal waters on the southern hemisphere (Furness 1987). Arrival at the breeding grounds takes place in late May/early June and departure during late Aug/Sep (Salomonsen 1981). Pihl (1976) reported late records (late Oct and early Nov) from southern Qaqortoq/Julianehåb. Four immatures ringed as pull. in northwest Europe have been recovered during summer in West Greenland (ZMUC).

REMARK: Salomonsen (1967) reported that south of Maniitsoq/Sukkertoppen c. 25% of the population were dark morph birds and further north that 3–4 % were dark morph birds. However, a survey in 1992 (own observation) resulted in 39% dark morph birds south of Maniitsoq/Sukkertoppen (n = 59) and 11% dark morph birds between Maniitsoq/Sukkertoppen and Aasiaat/Egedesminde (n = 38). In the high arctic the dark morph is almost absent (Salomonsen 1967; Elander & Blomqvist 1986). Glahder (1993) reported 45% (n = 24) dark morph birds off Southeast Greenland in Aug 1991.

Long-tailed Skua (Jaeger) *Stercorarius longicaudus*

STATUS: Widespread mainly high arctic breeder and extralimital migrant. West Greenland: A small population breeds in the Qegertarsuup Tunua/Disko Bugt-area (Kampp 1982), and the species is also irregular and scarce breeder in Upernavik (Salomonsen 1967; Evans 1984). Rather rare migrant and summer visitor in rest of the region (e.g. Dyck 1965; Boertmann 1979; K. Nygaard in litt.). North Greenland: Rather common breeder throughout the region. However, may be missing in large parts of Kronprins Christian Land (Korte 1977; Håkansson et al. 1981). Northeast Greenland: Common breeder in the most of the region. Population densities in selected areas range from 0.1 to 1.7 territorial or nesting pairs/km2 (Manniche 1910; Hall 1966; Hall & Waddingham 1966; Korte 1977, 1988; Ferns 1978; Meltofte et al. 1981a; Hansen 1984; Elander & Blomqvist 1986; Forchhammer 1990; Boertmann et al. 1991). Southeast Greenland: Rare autumn migrant (Helms 1926; Degerbøl & Møhl-Hansen 1935), but probably more common off-shore, where Glahder (1993) saw several in early Aug 1991.

SUBSPECIES: The Greenland population refers to ssp. *pallescens* (Løppenthin 1932, 1943).

HABITAT: In West Greenland the Long-tailed Skua breeds in archipelagoes and on low coasts associated with terneries (Kampp 1982). In North and Northeast Greenland it breeds in lowlands where the lemming *Dichrostonyx torquatus* occur. During migration off-shore.

POPULATION: Breeding numbers in the high arctic vary with the occurrence of the lemming (Korte & Wattel 1987).

MOVEMENTS: Migratory with winter quarters on the southern hemisphere, in particular off Namibia and Argentina (Furness 1987). Arrives at the breeding grounds during late May and early June and departs during Aug, juvs occasionally along the coast until early Oct (Korte 1984).

REMARK: A dark morph seems to be very rare (e.g. Furness 1987). Recent reports from Greenland have been non-breeders (Kampp 1982; Dändliker 1988). The two dark morph skins in ZMUC (both from West Greenland) both show some immature plumage characters, although they both have fully elongated tail streamers.

Great Skua Stercorarius skua

STATUS: Widespread summer and autumn visitor. West Greenland: Occurs (May-Oct, occasionally Nov and Feb) throughout the region, and is fairly common south of Qeqertarsuup Tunua/Disko Bugt (Brown et al. 1975; Salomonsen 1981; Kampp & Lyngs 1989). North Greenland: One record: Kronprins Christian Land: Ingolf Fjord, 31 July 1980 (Hjort et al. 1983). Northeast Greenland: Annual summer visitor in Kangertiitivaq/ Scoresby Sund (e.g. Meltofte 1976a) and along the coast at least as far north as Île de France (Andersen & Berg 1991). Southeast Greenland: Probably fairly common in summer and autumn off the coast and outside the drift ice (e.g. Cottam & Hanson 1938; Berland 1961; Glahder 1993; S. Jürgensen in litt.; J. Rosing in litt.).

HABITAT: Off-shore, along outer coast and in larger fiords and bays.

SUBSPECIES and ORIGIN: The Greenland birds belong to the Northatlantic ssp. *skua*, whose nearest breeding grounds are in Iceland. Several birds ringed as pull. in Iceland, on the Shetlands and the Faeroe Islands have been recovered in Greenland (Salomonsen 1967; 1971; ZMUC). The occurrence in Greenland have increased strongly over the last 30 years (Salomonsen 1981).

South Polar Skua Stercorarius maccormicki

STATUS: Accidental. West Greenland: Two records: Nuuk/Godthåb: Nuup Kangerlua/Godthåb Fjord, 31 July

1975, shot, ringed as nestling on North Humble Island, Antarctic, 20 Jan 1975 (Salomonsen 1976; E. Hansen in litt.). – Qeqertarsuaq/Godhavn: Ujarasussuk, mid-July 1902 (Salomonsen 1976), skin in ZMUC.

ORIGIN: The nearest breeding grounds are Graham Land in the Antarctic. A part of the population undertake a transequatorial migration to the northern Pacific and some birds also to the northern Atlantic (Salomonsen 1976; J.-K. Jensen 1982; Furness 1987).

GULLS LARIDAE

Laughing Gull Larus atricilla

STATUS: Accidental. West Greenland: Two records: Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, 20 June 1928, 2y ♂ (Oldenow 1933), skin in ZMUC. – Nuuk town, 9 Nov 1952, 1y (Salomonsen 1963), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Northeastern USA.

Franklin's Gull Larus pipixcan

STATUS: Accidental. West Greenland: Three records: Nuuk/Godthåb: Ilulialik in Nuup Kangerlua/Godthåb Fjord, 18 July 1974, ad. (RC 1975), skin in ZMUC. – Nuuk town, May 1980, ad ♂ (RC 1982–84), skin in private collection. – Sisimiut/Holsteinsborg: Ikertooq Fjord, 20 May 1983, ad. Q, skin in private collection (RC 1986–87).

ORIGIN: Nearctic species, with the nearest breeding grounds in central Canada.

Little Gull Larus minutus

STATUS: Accidental. West Greenland: Two records: Nuuk/Godthåb: Kapisillit, 25 Apr 1929, 2y Q (Oldenow 1933), skin in NKA. – Maniitsoq/Sukkertoppen: Napassoq, 15 June 1932, 2y O' (Hørring & Salomonsen 1941), skin in ZMUC.

ORIGIN: Palearctic species, with the nearest breeding grounds in eastern Scandinavia, and since 1962 sporadically in North America (Godfrey 1986).

Sabine's Gull Larus sabini

STATUS: Widespread high arctic breeder, widespread passage visitor and extralimital migrant. West Greenland: Rather rare migrant and summer visitor (Salomonsen 1967), most common in Aug and early Sep (e.g. Brown et al. 1975). Bred probably in southeastern Qeqertarsuup Kangerlua/Disko Bugt late 19th century (Salomonsen 1950a). North Greenland: Known breeding sites: Saattut/Sabine Øer in Qimusseriarsuaq/Melville Bugt; Qeqertat/Lion Øer and Qimmiuneqarfik/Ptarmigan Ø both in Kangerlussuaq/Inglefield Bredning in the Qaanaaq/Thule-area; Marshall Bugt in Avannarliit/Inglefield Land; Kilen and Henrik Krøyer Holme in Kronprins Christian Land (Vibe 1948; Salomonsen 1950a; Sinding 1953; Hjort et al 1983, 1988; Forchhammer 1990; Kristensen & Kristensen 1993). There is a possible breeding record from Hall Land in 1872 (Bessels 1879). Two summer records of non-breeders are reported from Peary Land (Just 1967) and Kronprins Christian Land (Håkansson et al. 1981). Northeast Greenland: Known breeding or probable breeding sites: Heden and Gurreholm in Jameson Land; Haslum Øer in Kong Oscar Fjord; Vinter Øer off Ymer Ø; Magrethedal on Gauss Halvø; Arundel Ø and Ternholme off Hold With Hope; Sandøen in Young Sund; islands south of Danmarkshavn in Dove Bugt (Bird & Bird 1941; Andersen 1956; Salomonsen 1967; Meltofte et al. 1981a; Boertmann et al. 1985; GREA 1985; Elander & Blomqvist 1986; Forchhammer 1990; Sittler et al. 1991; Kempf undated; L. Stemmerik pers. comm.). Scarce summer visitor in most of the coastal areas. Southeast Greenland: Probably rare migrant and summer visitor. The only published record is: Ammassalikarea: Tuttilik, 28 Aug 1967, five ads (Ray 1973).

HABITAT: Breeds in small colonies (up to 50 pairs) on small islands or on low coasts, usually associated with terneries; sometimes solitary (Forchhammer 1990). During migration usually off-shore and along the outer coast.

POPULATION: Forchhammer & Maagaard (1990) reckon about 200 pairs breeding in Greenland.

MOVEMENTS: Migratory. The eastern Nearctic population probably winters in the Atlantic off southern Africa (Blomqvist & Elander 1981). The Sabine's Gulls arrive at the breeding grounds during June and depart in late Aug/early Sep, juvs may occur along the coast until Oct (Salomonsen 1967; Brown et al. 1975; Forchhammer & Maagaard 1991).

Bonaparte's Gull Larus philadelphia

STATUS: Accidental. **West Greenland:** One record: Maniitsoq/Sukkertoppen: Kangaamiut, 10 May 1903, ad. (Salomonsen 1963), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in central and northwestern Canada.

Black-headed Gull Larus ridibundus

STATUS: Vagrant and local low arctic breeder. West Greenland: Breeds in small numbers in Qaqortoq/Julianehåb, particularly in the interior parts (Salomonsen 1979a; Evans 1984; K. Falk in litt.). A few breeding records are known from Paamiut/Frederikshåb (probably) and Nuuk/Godthåb (Salomonsen 1979a; B. Knudsen pers. comm.; own observation). Annual visitor as far north as Qeqertarsuup Tunua/Disko Bugt, recorded all months with peak in summer and autumn. Northeast Greenland: Since 1960 have at least 26 indvs been recorded from Liverpool Land and as far north as Danmarkshavn in Germania Land, all late May until early Aug (Meltofte 1972; Korte 1973, 1974; Korte & Bosman

1975; Elander & Blomqvist 1986; Dennis 1988; Forchhammer 1990; O.B. Poulsen in litt.; A. Nielsen pers. comm.). All aged birds have been ads. **Southeast Greenland:** Three records are known: Ammassalik-area: Ammassalik town, 23 May 1977 (S. Jürgensen in litt.). – Same site, 15–17 July 1987, two indvs (S. Jürgensen in litt.). – Kangersittuaq: Ittaasiarteq/Skærgårdshalvø, 26 July 1991, ad. (Glahder 1992).

HABITAT: Breeds on small islands in lakes, rivers, in-shore waters and occasionally in archipelagoes.

POPULATION: Probably less than 100 pairs breed in Greenland.

MOVEMENTS: Migratory and the Greenland population winters probably in western Europe, although some may stay in the Open Water Region, in Iceland or even like some Icelandic birds in eastern North America (Cramp & Simmons 1983). Arrives at the breeding grounds late Apr through late May (Salomonsen 1981).

Ring-billed Gull Larus delawarensis

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Nuuk town, 26 Nov 1976, 1y (RC 1986–87), skin in private collection and sternum in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

Common (Mew) Gull Larus canus

STATUS: Accidental. West Greenland: Six records: Qaqortoq/Julianehab: Narsaq, late Sep 1928, 1y (Oldenow 1933 as Laughing Gull; Salomonsen 1963), skin in ZMUC. - Nuuk/Godthåb: Qegertarsuatsiaat/Fiskenæsset, summer 1892, ad. (Hørring & Salomonsen 1941), skin in ZMUC. - Narsaq, 27 Oct 1895, 1y (Hørring & Salomonsen 1941), skin in ZMUC. - Same site, 6 Dec 1904, 1y (Hørring & Salomonsen 1941), skin in ZMUC. - Nuup Kangerlua/Godthåb Fjord, 26 Oct 1930, 1y (Oldenow 1933), skin in NKA. - Inner Nuup Kangerlua/Godthåb Fjord, 6 July 1974, two ads (Boertmann 1979). North Greenland: Two records: Kronprins Christian Land: Prinsesse Ingeborg Halvø, 12-15 Aug 1980, ad. (Stemmerik et al. 1981). - Station Nord, 4 Aug 1982, ad. (Bennike & Higgins 1989). Northeast Greenland: One record: Hochstetter Forland: Nanok, 7-10 June 1976, ad. (Meltofte et al. 1981a).

SUBSPECIES and ORIGIN: All birds identified to ssp. have been the Palearctic ssp. *canus*, whose nearest breeding grounds are in Iceland.

Lesser Black-backed Gull Larus fuscus

STATUS: Increasing summer vagrant and occasional breeder. West Greenland: Vagrants, which are fairly common have been recorded Apr-Aug in the region between Qaqortoq/Julianehåb and Qeqertarsuup Tunua/ Disko Bugt (e.g. Fox & Stroud 1981; RC 1985, 1988, 1989). A pair probably bred in Qaqortoq/Julianehåb in

Meddelelser om Grønland, Bioscience 38 · 1994

1986 and 1989 and with certainty in 1990 and 1991 (RC 1990; K. Falk in litt.). In 1992 breeding was proved near Atammik (one pair) in Maniitsoq/Sukkertoppen and breeding was suspected in Sisimiut/Holsteinsborg (one pair) and on several island in southern Maniitsoq/Sukkertoppen (at least eight pairs) (Boertmann & Mosbech 1992). Northeast Greenland: Four records known: Liverpool Land: Off Uunarteq/Kap Tobin, 15–16 July 1969, ad. (Vrånes 1971; RC 1970). – Scoresby Land: Mestersvig, 29 June 1974, ad. (Ferns 1978). – Germania Land: Danmarkshavn, summer 1985, ad. (Forchhammer 1990). – Same site, early June 1993, ad. (J. Graugaard pers. comm.).

SUBSPECIES and ORIGIN: Most records including the breeding records have been pale mantled birds viz. the British/Icelandic ssp. *graellsii*. This is confirmed by the recovery of a bird ringed as pull. on the Faeroe Islands and a skin in ZMUC. However, specimens with darker mantle and upper wings (ssp. *intermedia* or *fuscus* from Scandinavia) occur as well (Ferns 1978; Fox & Stroud 1981; own observation).

HABITAT: Along coasts and fiords. The breeding or probable breeding occurred on small islands usually among other gulls.

REMARK: Since 1968, an increasing vagrant to the east coast of USA and Canada (Godfrey 1986; Kaufman 1990).

Herring Gull Larus argentatus

STATUS: Increasing vagrant and occasional breeder. West Greenland: Vagrants, which are fairly common in summer, occur throughout the region (e.g. Dyck 1965; Pihl 1976; Boertmann 1979; Salomonsen 1981; RC 1986–87, 1989), most frequent between Qaqortoq/Julianehåb and Nuuk/Godthåb. Breeding was proved in Qaqortoq/Julianehåb in 1986 (RC 1986–87, 1988). Probable breeding occurred again on the same island in 1989 (K. Falk in litt.) and on two islands in southern Maniitsoq/ Sukkertoppen in 1992 (Boertmann & Mosbech 1992). Northeast Greenland: Rare summer vagrant as far north as Germania Land, most frequent in the Kangertiitivaq/ Scoresby Sund-area (e.g. Hansen undated; Korte 1973; Meltofte 1976a; Meltofte et al. 1981a; Elander & Blomqvist 1986; Forchhammer 1990).

SUBSPECIES and ORIGIN: Salomonsen (1963) referred all records to the Nearctic ssp. *smithsonianus*, whose nearest breeding grounds are on southern Baffin Island. However, recent records in West and Northeast Greenland were probably ssp. *argentatus* or *argenteus* from Northwest Europe (Elander & Blomqvist 1986; own observation). A bird in first winter plumage photographed 1 Sep 1982 in Paamiut/Frederikshåb (H. Korning in litt.) showed typical *smithsonianus* characters. Four specimens in ZMUC are two imm. *argentatus/argenteus*, a 1y *smithonianus* and an ad. probably *argentatus/argenteus*. Specimens ringed as pull. in Newfoundland (2) and Scotland (1) and recovered in Greenland (ZMUC) confirm that both Nearctic and Palearctic Herring Gulls occur. An ad. specimen, Nanortalik 1850, which was published as var. *affinis* (see Winge 1898) and as ssp. *smithonianus* (Hørring & Salomonsen 1941), is a 4y *Larus fuscus graellsii*, in autumn moult.

HABITAT: Along coasts and in fiords. The breeding or probable breeding habitats have been small islands with colonies of Great Black-backed Gulls and Iceland Gulls.

REMARK: A mixed territorial pair Herring × Glaucous Gull was seen in northern Paamiut/Frederikshåb 1993 (own observation).

Thayer's Gull Larus thayeri

STATUS: Local high arctic breeder and extralimital migrant. West Greenland: Rare summer and autumn visitor, with only a few confirmed records: Maniitsog/Sukkertoppen: Napassoq, 5 July 1992, ad. (Boertmann & Mosbech 1992). - Sisimiut/Holsteinsborg: 29 Oct 1898, ly, skin in ZMUC. - Aasiaat/Egedesminde: west of Store Hellefiskebanke (67°35'N, 57°18'W), 24 July 1992, 3y. - Same general area (67°48'N, 58°19'W), 25 July 1992, ad. (J. Nymand & M. Køie pers. comm.). - Upernavik: Upernavik town, 4 and 7 June 1989, ad. (Lyngs 1989; RC 1989). May be more frequent as the observations in 1992 indicate. North Greenland: Scarce breeder in the Qaanaaq/Thule-area between Iterlassuaq/Granville Fjord and Kangerluarsuk/Olrik Fjord (Salomonsen 1967). The only recent information available is some autumn observations in the period 19 Aug to 19 Sep 1987 when seven (four ads and three 1ys) were seen at Pituffik/Thule air base (RC 1989). A few observations in western North Greenland outside the breeding area have been reported: Qimusseriarsuag/Melville Bugt: Saattut/Sabine Øer, July 1951, ad. (C. Vibe pers. comm.). - Kane Bassin: summer 1986, two ads (C. Vibe pers. comm.).

MOVEMENTS: Migratory, with winter quarters along the westcoast of North America.

REMARK: The 1898 specimen from Sisimiut/Holsteinsborg was ascribed to Kumliens Gull (*L. glaucoides kumlieni*) by Hørring & Salomonsen (1941), but it is too dark to be this form, and is like a 1y Thayer's Gull as described by Grant (1986) and Zimmer (1990).

On Baffin and Southampton Islands in Canada interbreeding between Kumlien's Gull and Thayer's Gull seems to be common (Gaston & Decker 1985; Snell 1989) and Thayer's Gull are probably better treated as a ssp. of Iceland Gull (Godfrey 1986; Gantlett 1991). However, Thayer's Gull is maintained here as a full species largely as a matter of convenience.

Iceland Gull Larus glaucoides

STATUS: Widespread low arctic breeder and mainly intraregional migrant. **West Greenland:** Common and widespread breeder, but colonies sparse in Qaqortoq/ Julianehåb, Sisimiut/Holsteinsborg and Upernavik. Northernmost colony recorded at 73°30'N (Joensen & Preuss 1972). Abundant during winter in the Open Water Region. North Greenland: Rare summer vagrant in the Qaanaaq/Thule-area (Salomonsen 1967). Northeast Greenland: Summer and autumn vagrant as far north as Hochstetter Forland (Meltofte 1976a). Records from the central part of the region (Manniche 1910; Pedersen 1934) are doubtful (Salomonsen 1950a). Southeast Greenland: Sparse breeder in small numbers probably not further north than the Ammassalik-area (Hørring 1939; Ray 1973), although Salomonsen (1950; 1967) reports it as breeding as far north as Kangersittuaq.

SUBSPECIES: The breeding population in Greenland is the endemic ssp. glaucoides. Ssp. kumlieni (Kumlien's Gull), which breeds on southern Baffin Island in Canada occur as vagrant to West Greenland. Salomonsen (1967) mentioned two records of typical specimens (type 1 or 2 sensu Fjeldså & Jensen 1985) from Apr and Oct. New are: Paamiut/Frederikshåb: 4 Jan 1983, ad. (H. Korning in litt.). - Nuuk/Godthåb: Nuuk town, Feb 1989, ad. (J. Durinck in litt.). - Sisimiut/Holsteinsborg: Nordre Isortoq, 16 May 1985, ad., skin in private collection (P. Grossmann in litt.). - Uummannaq: Ukkusissat, 7 Aug 1987, ad. shot (GERI unpubl.), wings in ZMUC. - Upernavik: 7 June 1988, one or two ads (Lyngs 1989; RC 1989). However, there are several winter specimens in ZMUC of the types 4 to 6, indicating that Kumlien's Gulls are annual winter visitors to the Open Water Region (Fjeldså & Jensen 1985).

HABITAT: Occurs in most marine habitats, inclusive far off-shore areas (e.g. Brown et al. 1975). Breeds in colonies often situated very high on steep cliffs, but in areas with low human disturbance also on low islands.

POPULATION: The breeding population probably does not exceed 80,000 pairs (estimate based on GM & OC 1993).

MOVEMENTS: Migratory to dispersive. The majority winter in the Open Water Region, but a fluctuating number, mostly 1ys and immatures, migrate to Iceland and Northwest Europe.

REMARK: See remark about Thayer's Gull.

Glaucous Gull Larus hyperboreus

STATUS: Widespread breeder, interregional migrant and winter visitor. **West Greenland:** Common and widespread breeder. During winter abundant in the Open Water Region. **North Greenland:** Common to sparse breeder except from Hall Land to J.P. Koch Fjord, where it occurs as summer visitor (Thing 1976; Dietz & Andersen 1984; Håkansson et al. 1981; Hjort et al. 1983; Bennike & Kelly 1986; Kampp 1990). **Northeast Greenland:** Widespread and a rather common to sparse breeder (Hjort 1976; Boertmann et al. 1990). **Southeast Greenland:** Widespread and common breeder (Helms 1926; Hørring 1939).

SUBSPECIES: Recently, Banks (1986) referred northern Canadian and Greenland populations to ssp. *leuce-*

retes. However, this fact should be better documented regarding the Greenland population.

HABITAT: Occurs in most marine habitats. Solitary or colonial breeder, usually on steep cliffs facing the sea (rarely a lake) or on small islands in fiords or archipelagoes.

MOVEMENTS: High arctic populations migratory, low arctic dispersive or resident. Birds from East Greenland may winter in Iceland. In North and Northeast Greenland arrival at the breeding grounds takes place mid-Apr through late May, and departure in Sep/Oct (Meltofte 1975; Forchhammer 1990). Glaucous Gulls from Svalbard winter in the Open Water Region (Salomonsen 1967; Norderhaug 1989).

Great Black-backed Gull Larus marinus

STATUS: Widespread low arctic breeder and intraregional migrant. West Greenland: Widespread as far north as Nuussuaq (Salomonsen 1979b), most abundant in the extensive archipelagoes in Nuuk/Godthåb, Maniitsoq/Sukkertoppen and Sisimiut/Holsteinsborg and rather sparse in southern and northern part of the range. Summer visitor further north, and a few breeding records have been reported from southern Upernavik in recent years (Evans 1984; K. Kampp pers. comm.). During winter, common in the Open Water Region. North Greenland: Two records: Qaanaaq/Thule-area: Uummannaq/Dundas, Aug 1967, ad. (Zobbe 1973; RC 1972). - Kronprins Christian Land: Kilen, 9 Aug 1985, imm. (Hjort et al. 1988). Northeast Greenland: Annual summer vagrant and has been recorded as far north as Germania Land (Vrånes 1971; Meltofte 1975; Meltofte et al. 1981a; Elander & Blomqvist 1986; Korte 1988; Bay & Boertmann 1989; Forchhammer 1990); most frequent in mouth of Kangertiitivaq/Scoresby Sund (Meltofte 1976a). Southeast Greenland: Small numbers breed at least in the Ammassalik-area (Helms 1926). Occurs also as winter visitor.

HABITAT: Occurs in most marine habitats. Breeds solitary or in small colonies, usually on low islands, sometimes on steep cliffs or on islets in lakes.

POPULATION: Has increased and expanded the breeding range northwards since the development of a modern fishery in West Greenland (Salomonsen 1967, unpubl.).

MOVEMENTS: Northern populations migratory and they winter in the Open Water Region, while southern populations resident. Some birds from Iceland and northern Europe winter in southern Greenland.

Ross's Gull Rhodostethia rosea

STATUS: Vagrant and occasional breeder. West Greenland: Rare spring and summer visitor (May-July, occasionally in Aug and Sep). Kampp & Kristensen (1980a) review c. 25 records, nearly all from Nuuk/Godthåb and the southern part of Qeqertarsuup Tunua/Disko Bugt. All

Meddelelser om Grønland, Bioscience 38 · 1994

have been ads except for one juv. in Aug. Five more records have appeared: Nuuk/Godthåb: Jakobsholm, Sep 1983, ad., skin in NKA. - Maniitsoq/Sukkertoppen: Napassoq, July 1973, ad. shot (F. Sørensen in litt.). - Aasiaat/Egedesminde: Between Kitsissunnguit/Grønne Ejland and Savik, 18 June 1968, ad. (S. Krogh in litt), skin in ZMUC. - West of Store Hellefiskebanke (67°28'N, 57°25'W), 24 July 1992, ad. (J. Nymand & M. Køie pers. comm.). - Qeqertarsuaq/Godhavn: Vaigat, 18 May 1948, ad., skin in ZMUC. Three breeding records: 1880, 1885 and 1979 all from Qegertarsuup Tunua/Disko Bugt, and one possible from Nuup Kangerlua/Godthab Fjord 1927 were reported by Kampp & Kristensen (1980a). A new breeding record is from Upernavik: Aavertuut, 1984 (P.A. Jensen pers. comm. to K. Kampp). North Greenland: Summer visitor and occasional breeder. Occurs probably regularly in the drift ice east of Kronprins Christian Land and around Nordøstvandet Polynya. Reported records: Qimusseriarsuaq/Melville Bugt: 19 June 1873 ad. (Bessels 1879). - Qaanaaq/Thule-area: Aug 1981, ad., skin in Qaanaaq school (T. Duch pers. comm.). - Peary Land: Kap Eiler Rasmussen, 15 July 1979, breeding pair (Hjort 1980). - Frederick E. Hyde Fjord, 10 Aug 1979, ad. (Hjort 1980; Bennike & Higgins 1989). - Kronprins Christian Land: Several observations (late July-early Sep) since 1980 in the drift ice and on Henrik Krøyer Holme (Meltofte et al. 1981b; Hjort et al. 1983; Kristensen & Kristensen 1993). Northeast Greenland: Four records: Jameson Land: Innakajik/Kap Steward, 19 May 1974, ad. (Korte 1974). - Scoresby Land: Mestersvig, 4 Aug 1988, ad. (Higgs 1988). - Hold With Hope: Myggbukta, 4 July 1979, ad. (Elander & Blomqvist 1986). -Young Sund: Sandøen, early summer 1947, ad. (Møhl-Hansen 1949), skin in ZMUC.

HABITAT: The breeding habitat in West Greenland was archipelagoes with many terneries (Kampp & Kristensen 1980a), and in North Greenland a poorly vegetated and windswept plain (Hjort 1980).

MOVEMENTS: Migratory. The winter quarters are unknown, but presumed to be along the ice edge of the Arctic Ocean (Cramp & Simmons 1983) or in the northern Pacific south of Bering Strait (Vaughan 1992). A few birds may winter in the East Greenland current or in the Barents Sea (Glutz von Blotzheim & Bauer 1982). Nonand failed breeders numerous in the pack ice between Greenland and Svalbard in Aug and Sep (Meltofte et al. 1981b).

Black-legged Kittiwake Rissa tridactyla

STATUS: Widespread breeder and mainly extralimital migrant. West Greenland: Common breeder throughout most of the region. The majority of the colonies are found in Maniitsoq/Sukkertoppen, southern Aasiaat/Egedes-minde, Ilulissat/Jakobshavn, Uummannaq and Upernavik. (Salomonsen 1979b; Boertmann 1979; Kampp 1985). Numerous off the coast during summer. A few winter in the Open Water Region. North Greenland:

Qaanaaq/Thule-area: Four large colonies (>1000 pairs) with the northernmost on Appaarsuit/Hakluyt Ø (Kampp 1990; GM & OC 1993). Outside the breeding area common along coast (Salomonsen 1967; Thing 1976) and recorded as summer vagrant as far east as Hall Land (Bessels 1879). In the eastern part of the region only one colony (in Holm Land) is known (Manniche 1910; Pedersen 1942). This numbered in 1993 c. 500 nests (Falk 1993), but the numbers might be fluctuating as no Kittiwakes were seen on the site in 1980 (Hjort et al. 1983). Occurs as a summer visitor in the drift ice off the coast (Mehlum 1989; Kristensen & Kristensen 1993). Northeast Greenland: Only a few colonies. Northern Kialiip Kialia/Blosseville Kyst: colonies at Kangikajik/Kap Brewster and Dunholm (Meltofte 1976a). - Liverpool Land: Small colonies on Immikkeertikajik/Rathbone Ø and Appalik/Raffles Ø (Meltofte 1976a). - Dove Bugt: Maroussia, a small colony was established with c. eight pairs in 1989, in 1990 15 pairs were nesting and in 1993 c. 15 pairs (J. Graugaard & L. Maagaard pers. comm.). Visitor off-shore and along the coast, common during late summer, exceptionally during winter (Meltofte et al. 1981a; Dändliker 1988; Forchhammer 1990; Søder 1991). Southeast Greenland: Known as a breeder at Ammassalik (Helms 1926), at Umiivik (64°15'N 40°30'W) (Hørring 1939) and at the mouth of Kangerlussuatsiag/Lindenow Fiord (Knudsen 1935a). Also depicted on map or mentioned as breeder at Kangersittuag (Salomonsen 1979b; Siegstad 1989), but this was not confirmed in 1990 and 1991 during research in the area (Glahder 1992). Occurs along the coast during autumn and winter as long as there is open water.

HABITAT: Occurs along coasts and in off-shore areas. Breeds usually in large colonies on steep sea facing cliffs.

POPULATION: 150,000–250,000 pairs are estimated (based on GM & OC 1993) to breed in Greenland.

MOVEMENTS: Migratory with winter quarters in the northern part of the Atlantic. The Kittiwakes arrive at the breeding grounds during late Mar through May and depart during Aug (Salomonsen 1981). Many non-breeders from European populations spend the summer in Greenland waters (Salomonsen 1981).

Ivory Gull Pagophila eburnea

STATUS: Local, mainly high arctic breeder and widespread winter visitor. **West Greenland:** Annual and widespread winter visitor (until Apr/May) in few numbers along the coast (e. g. Hansen 1971; N. Andersen 1981). However, common and sometimes abundant offshore year round in drift ice areas (Brown et al. 1975; Biokon 1977; Renaud & Mclaren 1982), for example c. 1,000 seen 8 May 1979 in the drift ice west of Qeqertarsuaq/Godhavn (Kampp & Kristensen 1980b). Also summer and autumn visitor (July-Sep) in Upernavik (Kampp & Lyngs 1989). **North Greenland:** Breeding or supposed breeding are reported from: Washington Land (Salomonsen 1961); Hall Land (Bessels 1879); northern Peary Land (Bennike & Kelly 1986); and along the coast of Kronprins Christian Land several colonies are found (Håkansson et al. 1981; Hjort et al. 1983, 1988). Common in the drift ice and at the ice edge off the Qaanaaq/ Thule-area (Thing 1976) and off Kronprins Christian Land and Holm Land (Hjort et al. 1983; Mehlum 1989; Kristensen & Kristensen 1993). Northeast Greenland: The only proved breeding occurred in the archipelago south of Danmarkshavn in 1908 (Manniche 1910). In 1993 a territorial pair was seen on the same island (J. Graugaard pers. comm.). A probable breeding was reported from St. Koldewey in 1976 (Meltofte et al. 1981a). May breed on the coast and the islands between Germania Land and Holm Land (Manniche 1910; Hjort 1976b; Hjort et al. 1983), although none were seen during a botanical and archaeological survey there during the summer of 1990 (C. Bay pers. comm.). Occur as migrant (sometimes numerous) and summer visitor along the outer coast and in the drift ice (e.g. Meltofte 1976a; Meltofte et al. 1981a; Elander & Blomqvist 1986; Kampp et al. 1986; Andersen & Berg 1991; Søder 1991). Southeast Greenland: Three colonies are known in the region between Ammassalik and Kangersittuag (Wright & Matthews 1980). During summer common along the coast of the northern part of the region (e.g. J. Andersen 1981; Glahder 1992), more scarce in southern part (J. Rosing pers. comm.).

HABITAT: The rather small colonies (less than 50 indvs) are situated either on steep cliffs, on coastal plains or on small islands. The colonies in Southeast Greenland are remarkable by being situated on nunataks up to 60 km from the sea (Wright & Matthews 1980). Off the breeding season the Ivory Gulls usually stay in the drift ice or along coasts, sometimes in West Greenland harbours.

MOVEMENTS: The Ivory Gulls probably spend the winter along the edge of the pack ice in Davis Strait (Renaud & Mclaren 1982) or in the waters off Labrador or Southwest Greenland (Hjort 1976b). They arrive at the breeding grounds in June and depart during late Aug (Salomonsen 1981; Renaud & Mclaren 1982). Large scale migration was recorded in the drift ice off Northeast Greenland in Sep (Hjort 1976b).

TERNS STERNIDAE

Arctic Tern Sterna paradisaea

STATUS: Widespread breeder and extralimital migrant. West Greenland: Many colonies in Nuuk/Godthåb, southern Qeqertarsuup Kangerlua/Disko Bugt and Upernavik (GM & OC 1993). Missing as breeder or sparse elsewhere. Summer visitor in the region where breeding is absent (e.g. Pihl 1976; Boertmann 1979). North Greenland: Widespread, but sparse breeder (Salomonsen 1967; Thing 1976; Meltofte 1976b; Håkansson et al. 1981; Hjort et al. 1983, 1988; Dietz & Andersen 1984;

Bennike & Kelly 1986; Hjort 1986; Aastrup et al. 1986; Vaughan 1988; Kampp 1990; Kristensen & Kristensen 1993). Northeast Greenland: Widespread, but sparse and only locally common breeder (e.g. Rosenberg et al. 1970; Meltofte 1975, 1976a, 1977; Hjort 1976a; Meltofte et al. 1981a; Elander & Blomqvist 1986). Southeast Greenland: Breeds in a few colonies dispersed between Akerninnarmiit/Skjoldungen and the Ammassalik-area, on Paatuulaajivit south of Kangersittuaq and along the Kialiip Kialia/Blosseville Kyst (Salomonsen 1950a; J. Andersen 1981; Molenaar 1982).

HABITAT: Colonial sometimes solitary breeder on small islands, low coasts, or inland at lakes.

POPULATION: The breeding population today probably do not exceed 80,000 pairs (estimate based on GM & OC 1993). It seems to be seriously decreasing in West Greenland, perhaps because terns eggs are very popular for consummation and are collected in large numbers (F. Wille pers. comm.).

MOVEMENTS: Migratory with winter quarters in Antarctic waters. They arrive at the breeding grounds in West and Southeast Greenland in late May and early June and in Northeast Greenland during June. Depart during Aug and Sep (Helms 1926; Salomonsen 1967; Brown et al. 1975; Meltofte 1975, 1976a; Forchhammer 1990).

AUKS ALCIDAE

Common Guillemot (Murre) Uria aalge

STATUS: Local low arctic breeder. West Greenland: Known as breeder in Brünnich's Guillemot colonies in Qaqortoq/Julianehåb (Kitsissut Avalliit, 900 indvs), in Nuuk/Godthåb (off Kangerluarsunnguaq/Buksefjord) and in Maniitsoq/Sukkertoppen (Sermilinnguaq) (Kampp 1985; Boertmann & Mosbech 1992). Breeding or supposed breeding also recorded in two sites in Qeqertarsuup Tunua/Disko Bugt (Kampp 1985).

SUBSPECIES: The Greenland Guillemots refer to ssp. *aalge* (Salomonsen 1967).

HABITAT: Breeds in colonies among Brünnich's Guillemots, often on broader ledges or in holes below large stones (Kampp 1985).

MOVEMENTS: Several autumn and winter records (e.g. Oldenow 1933; Hørring & Salomonsen 1941; Falk & Durinck 1990) indicate that at least a part of the population winters in the Open Water Region (Salomonsen 1981; Kampp 1985).

Brünnich's Guillemot (Thick-billed Murre) Uria lomvia

STATUS: Widespread breeder, intraregional to extralimital migrant and winter visitor. **West Greenland:** Colonies: one with 7,700 indvs in Qaqortoq/Julianehåb; one with 2,300 indvs in Paamiut/Frederikshåb; one with 3000 indvs in Nuuk/Godthåb; three fiords with several colo-

Meddelelser om Grønland, Bioscience 38 · 1994

nies holding in total 22,700 indvs in Maniitsoq/Sukkertoppen; one with 4,500 indvs in Ilulissat/Jakobshavn; previously one very large now exterminated colony in Uummannaq and eight with in total 214,000 indvs in Upernavik (Evans & Kampp 1991, Boertmann & Mosbech 1992). During winter (from Oct) numerous along the outer coasts and on the fishing banks in the Open Water Region. The harvest there in winter 1988/89 were estimated at 283,000-386,000 guillemots (Falk & Durinck 1992) and more than 200,000 were estimated to stay in the waters off Nuuk/Godthåb town in Feb 1989 (Durinck & Falk in prep.). North Greenland: Qaanaaq/ Thule-area: Five large colonies in the region between 76°00'N and 77°30'N with a total of 285,000 indvs counted in 1987 (Kampp 1990). Summer visitor in few numbers to Nordøstvandet Polynya off Holm Land (Mehlum 1989). Northeast Greenland: A few colonies are situated around the mouth of Kangertiitivaq/Scoresby Sund: one with 4,000 indvs on Appalik/Raffles Ø off Liverpool Land (Korte 1973) and one on Kangikajik/Kap Brewster on the Kialiip Kialia/Blosseville Kyst with 30,000 pairs (Meltofte 1976a). Vagrant as far north as Germania Land (Manniche 1910; Løppenthin 1932; Søder 1991). Southeast Greenland: Visitor year-round, most numerous in autumn (Helms 1926; Joiris 1976; Molenaar 1982). Several ads in company with juvs seen off-shore between 61°30'N and 67°15'N in Aug 1990 (Glahder 1993).

SUBSPECIES: The Greenland population refers to the Atlantic ssp. *lomvia* (Salomonsen 1963).

HABITAT: The colonies are situated on steep cliffs, at the outer coast and in fiords. During early autumn the guillemots usually stay well off-shore; later in autumn (Oct-Nov) and during winter they are in coastal waters and in the archipelagoes along the coast (Falk & Durinck 1991).

POPULATION: The total breeding population is, after a serious decline in West Greenland, mainly in Upernavik and Uummannaq, estimated at 500,000–600,000 indvs (Evans & Kampp 1991). The winter population numbers at least several million.

MOVEMENTS: Kampp (1988) showed that Greenland Guillemots winter in the northern part of the Open Water Region and off Newfoundland, and that Guillemots from Spitsbergen, Murmansk and probably East Greenland winter in the southern part of the Open Water Region, while birds from Novaya Zemlya are stragglers to Greenland. Arrival at the breeding sites takes place Apr/May and departure late July and Aug (Falk & Kampp 1992).

Razorbill Alca torda

STATUS: Regional low arctic breeder and probably intraregional to extralimital migrant. West Greenland: Rather common from Nuuk/Godthåb and northwards. Only a few colonies in Qaqortoq/Julianehåb and Paamiut/ Frederikshåb. North Greenland: Qaanaaq/Thule-area: Small numbers seen at three sites in the region between Issuvissuup Appai/Parker Snow Bugt and Appaarsuit/ Hakluyt Ø in 1987 indicating that the species is a widely dispersed but rare breeding bird in the area (Kampp 1990). An observation from the eastern part of the region. Kronprins Christian Land: Mallemukfjeldet, 9 June 1907 (Manniche 1910) seems questionable. **Northeast Greenland:** A few records from the mouth of Kangertiitivaq/ Scoresby Sund (Pedersen 1926; Meltofte 1976a). **Southeast Greenland:** No records are published, but the species occurs probably as a rare summer visitor.

SUBSPECIES: The Greenland Razorbills are referred to ssp. *torda* (Salomonsen 1963).

HABITAT: Breeds usually in small colonies (from less than five to some hundred pairs) at the outer coast and in fiords, on steep sea facing cliffs or on low rocky islands. Nests in holes or below stones and usually among gulls or other auks.

POPULATION: 1,500-5,500 pairs are estimated (based on GM & OC 1993), which is in accordance with Evans' (1984) estimate.

MOVEMENTS: Migratory, but winters quarters unknown. Some migrates to the waters off Labrador indicated by a ring recovery (Salomonsen 1967). A few seen in the Open Water Area and offered at local markets in Nuuk town and Maniitsoq town during winter 1987/88 (J. Durinck & K. Falk pers. comm.). However, such winter birds may have their origin in northwestern Europe, because two birds ringed as nestlings in Eire and in the White Sea-area have been recovered the following winter in Qaqortoq/Julianehåb and in Maniitsoq/Sukkertoppen, respectively (ZMUC). Arrival at the breeding sites takes place during late Apr and departure during Aug (Salomonsen 1981).

Black Guillemot Cepphus grylle

STATUS: Widespread breeder and resident to interregional migrant. West Greenland: Widespread common breeder, and common during winter in areas with open water (Salomonsen 1967; 1979b). North Greenland: Common breeder in the western part as far north as Washington Land (Salomonsen 1967; Thing 1976; Kampp 1990) and summer visitor to Hall Land (Bennike & Kelly 1986). Summer visitor in the eastern part as far north as Nordøstrundingen in Kronprins Christian Land (Manniche 1910; Mehlum 1989). However, a few pairs probably bred in Holm Land in 1993 (K. Falk pers. comm.). Northeast Greenland: Common breeder on the outer coast of southern Liverpool Land and on the northern part of the Kialiip Kialia/Blosseville Kyst (Degerbøl & Møhl-Hansen 1935; Korte 1973; Meltofte 1976a). Scarce breeder in the inner parts of Kangertiitivaq/Scoresby Sund (Meltofte 1976a). Further north only one colony: on Hvalros Ø off Wollaston Forland (Rosenberg et al. 1970; Meltofte et al. 1981a; Stemmerik 1990). Manniche (1910) reported breeding in the archipelago south of Danmarkshavn, but now Black Guillemot occur as summer vagrant there (Meltofte 1975; Forchhammer 1990). Visitor throughout the region when open water occurs, even in winter (Knudsen 1933). **Southeast Greenland:** Widespread and common breeder (Hørring 1939; Salomonsen 1979b; Molenaar 1982; Glahder 1992; J. Rosing in litt.).

SUBSPECIES: In Greenland the high arctic ssp. mandtii and the low arctic ssp. arcticus breed. Salomonsen (1944) described the population of high arctic North America and northern West Greenland as a separate ssp. ultimus. This is, however, not generally accepted (Cramp 1985). Ssp. islandicus from Iceland is a winter visitor in the Open Water Region (Petersen 1977).

HABITAT: Breeds in small colonies on coasts and islands, where the nest is located in holes and cracks. During summer usually in coastal waters, and during autumn and winter also in off-shore areas.

POPULATION: According to the information in the seabird database (GM & OC 1993) 25,000–100,000 pairs should breed in Greenland.

MOVEMENTS: More or less resident. However, northern populations forced to migrate by the ice cover. The Black Guillemots winter where open water is found, even as far north as the Qaanaaq/Thule-area (Vibe 1950). Arrival at the breeding sites takes place during Apr and May and departure during Aug (Salomonsen 1981).

Little Auk (Dovekie) Alle alle

STATUS: Local, mainly high arctic breeder; interregional to extralimital migrant and winter visitor. West Greenland: At present a few colonies in Upernavik and in southern Qeqertarsuup Tunua/Disko Bugt. These colonies are small, for example c. 200 pairs on Kitsissunnguit/ Grønne Ejland in 1980 and 6000 pairs on Appalersalik/ Horse Head in 1971 (Evans 1981, 1984; GM & OC 1993). Previously, small numbers have been breeding as far south as Qaqortoq/Julianehåb (Salomonsen 1950a). In mid-July 1992 several Little Auks were seen near the islands off Nanortalk (J. Rosing pers. comm.), indicating that they still may breed in southern Qagortog/Julianehåb. A few indvs were heard in a small seabird colony in central Nuuk/Godthåb in July 1992 (Boertmann & Mosbech 1992). Numerous during winter (from Oct) in the Open Water Region. North Greenland: Qaanaaq/Thulearea: Many and often huge colonies between northwestern part of Qimusseriarsuaq/Melville Bugt and Uummannap Kangerlua/Wolstenholme Fjord, on Kiatak/Northumberland Ø and between Siorapaluup Kangerlua/Robertson Fjord and Iita/Etah in Avannarliit/Inglefield Land (Salomonsen 1967; Roby et al. 1981). Summer visitor to Hall Land (Bessels 1879) and to Nordøstvandet Polynya off Holm Land (Hjort et al. 1988; Mehlum 1989). Northeast Greenland: Huge colonies around the mouth of Kangertiitivaq/Scoresby Sund on outer coast of Liverpool Land and on Volquart Boons Kyst (Kampp et al. 1986). Early reports of breeding on Shannon could not be confirmed by Meltofte et al. (1981a). Small numbers may

be breeding on Hvalros Ø (Stemmerik 1990). Recorded as a sometimes numerous summer visitor off-shore and along the coast as far north as 79°N (e.g. Meltofte et al. 1981a; Elander & Blomqvist 1986; Forchhammer 1990; Søder 1991) and probably further north. **Southeast Greenland:** Migrant and occurs probably throughout the region (Helms 1926; Degerbøl & Møhl-Hansen 1935; S. Jürgensen in litt.).

HABITAT: The high arctic colonies are usually in loose talus rocks and scree; the low arctic usually in crevices on low islands. The Little Auk feeds mostly in the pack ice and along ice edges.

POPULATION: The colonies around Kangertiitivaq/ Scoresby Sund are estimated at more than 3.5 million pairs (Kampp et al. 1987). Freuchen & Salomonsen (1958) guessed the Qaanaaq/Thule population at 30 million indvs, a figure which later was changed to 30 million pairs (Salomonsen 1981). However, this order of magnitude is supported by spring surveys carried out in western Baffin Bay, where at least 14 million indvs were estimated 14–18 May 1978 (Renaud et al. 1982).

MOVEMENTS: Migratory. The Open Water Region is winter quarter for Little Auks from Svalbard, Northeast Greenland and probably the Qaanaaq/Thule-area (Norderhaug 1989; Falk & Kampp 1992). However, many from the last mentioned area also migrate to waters off Newfoundland (Salomonsen 1967). Arrival at the breeding sites takes place during early May and departure during Aug (Salomonsen 1981).

Crested Auklet Aethia cristatella

STATUS: Accidental. **West Greenland:** One record: Probably Nuuk/Godthåb: between 1968 and 1972 (J. Kreutzmann in litt.), ad. Q, skin in ZMUC.

ORIGIN: The nearest breeding grounds are islands in the Bering Sea.

Atlantic Puffin Fratercula arctica

STATUS: Regional high and low arctic breeder and winter visitor. West Greenland: Several colonies in central Nuuk/Godthåb, in southern Qeqertarsuup Tunua/Disko Bugt and in Upernavik. Elsewhere, one or two colonies in Qaqortoq/Julianehåb, two small (<5 pairs) colonies in southern Nuuk/Godthåb, two probable in Maniitsoq/Sukkertoppen, two or three small in Sisimiut/Holsteinsborg and one or two small in southern Aasiaat/Egedesminde (GM & OC 1993). Glahder (1993) saw in Aug 1991 Puffins carrying food off the southeast coast of southern Qagortog/Julianehåb, indicating an unknown breeding site. Rare during winter in the Open Water Region. However, unusually numerous along the coasts and on the fishing banks between Maniitsoq/Sukkertoppen and Paamiut/Frederikshåb in Oct 1993 (GERI unpubl.). North Greenland: Three or four small colonies in the Qaanaaq/

Meddelelser om Grønland, Bioscience 38 · 1994

Thule-area with the northernmost on Appaarsuit/Haklyut Ø (Salomonsen 1950a; Kampp 1990). Summer visitors recorded north as far as Avannarliit/Inglefield Land (Salomonsen 1950a). **Northeast Greenland:** The only known breeding site is Appalik/Raffles Ø off southern Liverpool Land, but very few breed there (Meltofte 1976a). Might also breed on Kangikajik/Kap Brewster (Meltofte 1976a). Rare summer visitor as far north as Mackenzie Bugt (Elander & Blomqvist 1986). **Southeast Greenland:** Rare visitor in the Ammassalik-area (Chapman 1934; Salomonsen 1950a). Several seen off-shore during a cruise from Nunap Isua/Kap Farvel to Kangersittuaq in Aug 1990 (Glahder 1993), and one 20 July 1992 in mouth of Inussuarmiut/Skjoldeungesund (J. Rosing in litt.).

SUBSPECIES: The Atlantic population was previously separated in three ssp. defined on size, but the variation is clinally (Cramp 1985). In Greenland, the large high arctic Puffins were referred to ssp. *naumanni* and the lesser low arctic Puffins to ssp. *arctica*. Ring recoveries show that birds from Iceland (Æ. Petersen in litt.), the Shetlands, the Faeroe Islands (ssp. *grabae*) and Norway occur as winter visitors (Salomonsen 1967).

HABITAT: Occurs usually along the outer coast and in off-shore areas. Breeds usually in small colonies. In the low arctic on islands off outer coast and here nest holes are excavated in the soil. In the high arctic Puffins often breed on steep cliffs and place nests in crevices or below stones.

POPULATION: 1,500–3,000 pairs are estimated to breed in Greenland today (based on GM & OC 1993).

MOVEMENTS: Migratory, but winter quarters unknown. Arrival at the breeding sites takes place during May and departure during Aug and early Sep (Salomonsen 1981).

REMARK: Salomonsen (1979a) mentions a possible colony in northern Paamiut/Frederikshåb. This site has been visited several times during the recent decade without any records of Puffins (B. Knudsen pers. comm.; own observation).

DOVES AND PIGEONS COLUMBIDAE

Mourning Dove Zenaida macroura

STATUS: Accidental. West Greenland: Two records: Paamiut/Frederikshåb: Narsalik, 10 July 1901, 1y (Hørring & Salomonsen 1941), skin in ZMUC. – Maniitsoq/ Sukkertoppen: 14 Oct 1946 (Salomonsen 1963), 1y, skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

SUBSPECIES: The specimens are referred to ssp. *caroliniensis* (Salomonsen 1963).

CUCKOOS CUCULIDAE

Common Cuckoo Cuculus canorus

STATUS: Accidental. **West Greenland:** One record: Qaqortoq/Julianehåb: Qassiarsuk, 16 June 1968 (L. Motzfeldt in litt.), specimen in alcohol in ZMUC.

ORIGIN: Palearctic species, with the nearest breeding grounds in Scandinavia and the British Isles.

Black-billed Cuckoo Coccyzus erythrophthalmus

STATUS: Accidental. West Greenland: Three records: Qaqortoq/Julianehåb: c. 1900, 1y/2y (Hørring & Salomonsen 1941), skin in ZMUC. – Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, 24 Aug 1944, ad. φ (Salomonsen 1963), skin in ZMUC. – Maniitsoq/Sukkertoppen: Kangaamiut, Oct 1893, 1y (Hørring & Salomonsen 1941), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

Yellow-billed Cuckoo Coccyzus americanus

STATUS: Accidental. **West Greenland:** One record: Qaqortoq/Julianehåb: 1874 (Winge 1898), 1y, skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeasternmost Canada.

SUBSPECIES: The specimen is referred to ssp. *americanus* (Salomonsen 1963).

OWLS STRIGIDAE

Snowy Owl Nyctea scandiaca

STATUS: Widespread high arctic breeder and widespread vagrant. West Greenland: Vagrant in fluctuating numbers to the entire region. Most frequent during winter and from the Qegertarsuup Tunua/Disko Bugt-area and northwards. North Greenland: Sparse breeder throughout the region except for the area west of Sermersuaq/Humboldt Gletscher, where it occurs as vagrant (e.g. Salomonsen 1950a; Meltofte 1976b; Håkansson et al. 1981; Bennike & Kelly 1986; Hjort et al. 1988). Northeast Greenland: Breeds in fluctuating numbers in the region north of Kangertiitivaq/Scoresby Sund (e.g. Meltofte 1975; Meltofte et al. 1981a; Elander & Blomqvist 1986). However, exact southern limit is not known. In the peak year 1990 a density of 14 pairs/50 km² was recorded on Traill Ø (Sittler et al. 1991). Southeast Greenland: Vagrant in the region mainly during winter (Helms 1926; Salomonsen 1950a).

HABITAT: Breeds in lowland valleys and plains (e.g. Håkansson et al. 1981). Vagrants and non-breeders also along coast, near bird colonies and sometimes in drift ice far from the coast (Kampp & Kristensen 1980b; Aa. Meyer pers. comm.).

POPULATION: The number of breeding pairs are dependent on the abundance of the lemming *Dicrostonyx torquatus*. In years with a low lemming population, the Snowy Owls do not breed and only a few non-breeders are present in the breeding areas. The most recent lemming peak year in Northeast Greenland with abundant breeding (best breeding year for many decades) of Snowy Owls was 1990 when breeding was recorded in Jameson Land, Scoresby Land, Traill Ø, Th. Thomsen Land, Germania Land and Lambert Land (Sittler at al. 1991; Bay in press; Lea et al. in prep., J. Graugaard pers. comm.).

MOVEMENTS: Partially migratory, nomadic or eruptive. The northernmost areas are left for the winter.

Short-eared Owl Asio flammeus

STATUS: Vagrant. West Greenland: Until 1991 c. 40 records (Salomonsen 1967; Fox & Stroud 1981; K. Kampp in litt.; W.G. Mattox in litt.). Known from all municipalities with the major part of the records from Qagortoq/Julianchåb and the Qegertarsuup Tunua/Disko Bugt-area. Recorded May-Dec with peak in May/June. Northeast Greenland: Two records: Liverpool Land: Ittoggortoormiit/Scoresbysund, a record without details (Salomonsen 1963). - Hochstetter Forland: Kap Rink, June 1931 (Løppenthin 1932; Pedersen 1934), skin in ZMUC. Southeast Greenland: Four records: Ammassalik-area: Ammassalik town, 28 May 1908 (Helms 1910). - Same site, 1922 (Pedersen 1930). - Same site, 28 Sep 1978 (S. Jürgensen in litt.), skin in ZMUC. - Off coast of Ammassalik, Oct 1982, two settled on trawler (A: Petersen in litt.).

ORIGIN: Holarctic species, with the nearest breeding grounds in Iceland and Newfoundland. Salomonsen (1967) assumed that the West Greenland records from Qeqertarsuup Tunua/Disko Bugt and northwards had a Nearctic origin, and that the spring records from southern West Greenland and all East Greenland records had Icelandic origin. However, the Short-eared Owl is a sporadic breeder in Iceland, and a Scandinavian origin is more likely (Petersen 1983).

NIGHTJARS CAPRIMULGIDAE

Common Nighthawk Chordeiles minor

STATUS: Accidental. West Greenland: Two records: Paamiut/Frederikshåb: Paamiut town, early Sep 1933 (Salomonsen 1935a). – Maniitsoq/Sukkertoppen: Kangaamiut, 10 Oct 1927 (Oldenow 1933). Both skins previously in I, but now probably lost.

ORIGIN: Nearctic species, with the nearest breeding grounds in southern Newfoundland.

SUBSPECIES: The Greenland specimens refer to ssp. *minor* (Salomonsen 1963).

SWIFTS APODIDAE

Chimney Swift Chaetura pelagica

STATUS: Accidental. West Greenland: Two records: Maniitsoq/Sukkertoppen: Maniitsoq town, 1863 (Winge 1898), skin in ZMUC. – Ilulissat/Jakobshavn: Qullissat, 20 June 1950 (Salomonsen 1963), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

KINGFISHERS ALCEDINIDAE

Belted Kingfisher Ceryle alcyon

STATUS: Accidental. West Greenland: Three records: Qaqortoq/Julianehåb: Sermilik, Nanortalik, Nov 1945, 1y Q (Salomonsen 1963), skin in ZMUC. – Maniitsoq/ Sukkertoppen: Søndre Isortoq, May 1932, ad. Q (Salomonsen 1963), skin in ZMUC. – Qeqertarsuaq/Godhavn: Røde Elv at Qeqertarsuaq town, 29 Sep 1983, Q (Feilberg 1985).

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

SUBSPECIES: The Greenland specimens refer to ssp. *alcyon* (Salomonsen 1963).

WOODPECKERS PICIDAE

Yellow-bellied Sapsucker Sphyrapicus varius

STATUS: Accidental. West Greenland: Four records: Southwest Greenland: c. 1857–58, Q (Winge 1898), skin in ZMUC. – Qaqortoq/Julianehåb: Qaqortoq town, July 1845, Q (Winge 1898), skin in ZMUC. – Ammassivik/ Sletten, spring 1926, ad. Or (Scheel 1927; Oldenow 1933), skin previously in I, but now probably lost. – Qaqortoq town, 6 May 1934, ad. Or (Hørring & Salomonsen 1941), skin in ZMUC.

SUBSPECIES and ORIGIN: The Greenland specimens refer to ssp. *varius* (Salomonsen 1963), whose nearest breeding grounds are on Newfoundland Island.

TYRANT FLYCATCHERS TYRANNIDAE

Yellow-bellied Flycatcher Empidonax flaviventris

STATUS: Accidental. West Greenland: Two records: Qaqortoq/Julianehåb: Off Nunap Isua/Kap Farvel, Sep

Meddelelser om Grønland, Bioscience 38 · 1994

1878 (Kumlien 1879). – Nuuk/Godthåb: Nuuk town, summer 1853, two indvs (Winge 1898), one skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

Olive-sided Flycatcher Contopus borealis

STATUS: Accidental. **West Greenland:** One record: Qaqortoq/Julianehåb: Nanortalik, 29 Aug 1840 (Winge 1898), 1y, skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

Eastern Kingbird Tyrannus tyrannus

STATUS: Accidental. West Greenland: Four records: Paamiut/Frederikshåb: Arsuk, early Sep 1900 (Helms 1904), 1y, skin in ZMUC. – Paamiut town, 5–6 June 1990 (B. Knudsen pers. comm.). – Nuuk/Godthåb: Nuuk town, 23 June 1961, ad. Q (Salomonsen 1963), skin previously in I, but now probably lost. – Maniitsoq/ Sukkertoppen: Maniitsoq town, 18 July 1952, ad., previously in private collection, but now lost (Salomonsen 1963; E. Mortensen in litt.).

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern and central Canada.

LARKS ALAUDIDAE

Horned Lark Eremophila alpestris

STATUS: Vagrant and probably occasional breeder. West Greenland: Probably annual, but uncommon vagrant. Recorded throughout the region (May-Oct occasionally in Dec), most frequent in Nuuk/Godthåb and Maniitsoq/ Sukkertoppen (Salomonsen 1981; N. Andersen 1981; RC 1979–80; F. Wille in litt.). North Greenland: Qaanaaq/ Thule-area: Several records in recent years, some of which indicated breeding (Salomonsen 1981; S. Norup in litt.). Vaughan (1988) reported, on second hand, a breeding record from Pituffik/Thule air base, 30 July 1969, but it has not been confirmed.

SUBSPECIES and ORIGIN: According to Salomonsen (1963) the Greenland specimens can be referred to ssp. *alpestris*, which breeds in Quebec and Newfoundland. However, the records from North Greenland may be the high arctic ssp. *hoyti*, which breeds on Baffin and Devon Islands.

SWALLOWS AND MARTINS *HIRUNDINIDAE*

Tree Swallow Tachycineta bicolor

STATUS: Accidental. West Greenland: Seven records: Qaqortoq/Julianehåb: Qassiarsuk, 28 May 1948 (Salomonsen 1963), skin in ZMUC. – Paamiut/Frederikshåb: Danas Banke, 26 June 1970, skin in Zoological Museum, Berlin (Lambert 1972; RC 1971). – Nuuk/Godthåb: Itinnera, late May 1958 (Salomonsen 1963), skin in ZMUC. – Sisimiut/Holsteinsborg: Sisimiut town, Apr 1941 (Salomonsen 1963), skin in ZMUC. – Off Sisimiut town, late June 1977, caught on trawler, skin in private collection (P. Grossmann in litt.). – Aasiaat/Egedesminde: without data, skin in local school (Hansen 1968b). – Qeqertarsuaq/Godhavn: Qeqertarsuaq town, 13 July 1864, skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Quebec and Newfoundland.

Barn Swallow Hirundo rustica

STATUS: Rare vagrant. West Greenland: Salomonsen (1981 and unpubl.) mentioned 32 records: ads May-July, later 1ys. Most frequent south of Qeqertarsuup Tunua/ Disko Bugt and recorded once in each of the two municipalities Uummannaq and Upernavik. Southeast Greenland: Two records: Ammassalik-area: Sermilik, summer 1904 (Helms 1926). – Ammassalik town, one record in the period 1982–1986, without data (S. Jürgensen in litt.).

SUBSPECIES and ORIGIN: Two ssp. are recorded in Greenland (Salomonsen 1967): the European ssp. *rustica* has occurred 14 times in May/June occasionally in Aug. The Ammassalik 1904 record belonged to this ssp. The North American ssp. *erythrogaster* has been recorded 19 times in May-Sep occasionally in Nov. The records from Uummannaq and Upernavik belonged to this ssp. Nearest breeding grounds in Europe are in Scandinavia and the British Isles and in North America on Newfoundland Island.

Cliff Swallow Hirundo pyrrhonota

STATUS: Accidental. West Greenland: One record: Maniitsoq/Sukkertoppen: Maniitsoq town, spring 1936, ad. O', in private collection (Hørring & Salomonsen 1941). North Greenland: One record: Qaanaaq/Thule-area: Uummannaq/Dundas, 1 July 1984 (RC 1988).

SUBSPECIES and ORIGIN: Salomonsen (1963) assigned the first record to ssp. *pyrrhonota*, whose nearest breeding grounds are in southeastern Canada.

House Martin Delichon urbica

STATUS: Accidental. West Greenland: One record: Sea off Sisimiut/Holsteinsborg, spring 1989; found dead on trawler, skin in private collection (RC 1990). Northeast Greenland: One record: Hold With Hope: Myggbukta, 17 Sep 1937 (Bird & Bird 1941). Southeast Greenland: One record: Ammassalik-area: Sermilik, 13–26 June 1902 (Helms 1926), skin in ZMUC.

SUBSPECIES and ORIGIN: Salomonsen (1963) assigned the first two records to ssp. *urbica*, whose nearest breeding grounds are in Scandinavia and the British Isles.

WAGTAILS AND PIPITS *MOTACILLIDAE*

Meadow Pipit Anthus pratensis

STATUS: Local low arctic breeder and extralimital migrant. West Greenland: One record: 1844, without locality (Salomonsen 1950a). Northeast Greenland: Probably annual summer vagrant and very scarce breeder south of Kong Oscar Fjord particularly in inner parts of Kangertiitivaq/Scoresby Sund (Vibe 1960; Hall 1966; Salomonsen 1967; Mortensen et al. 1988; Korte 1988). Only one record further north: Payer Land: Revet, 25 May 1964 (Rosenberg et al. 1970). Southeast Greenland: Scarce breeder in the Ammassalik-arca (Helms 1926; Hørring 1939; S. Jürgensen in litt.), and territorial birds seen in the Akerninnarmiit/Skjoldungen-arca in 1992 (J. Rosing pers. comm.).

SUBSPECIES: The population refers to ssp. *pratensis*, which is a common breeder in Iceland (Cramp 1988).

MOVEMENTS: Migratory and the winter quarters are probably the same as for the Icelandic Meadow Pipits, in the western Mediterranean. The Meadow pipits arrive mid-May through early June and stay until late Aug through mid-Sep.

Buff-bellied Pipit Anthus rubescens

STATUS: Regional passage visitor and irregular breeder. West Greenland: Irregular and scarce breeder in the region from Nuuk/Godthab to Upernavik. However, breeding only proved a few times: Close to mouth of Kangerlussuag/Søndre Strømfjord, Qegertarsuag/Godhavn town and southwestern Nunavik/Svartenhuk where it was quite common in 1989 (Woodell 1979; Kampp & Kristensen 1980b; Bennike 1990; F. Wille in litt.). Territorial pairs were seen in Upernavik in 1934 (Dalgety 1936). An observation in Qagortoq/Julianehab in 1979 indicated breeding (Kampp 1985). Occurs as widespread but sparse migrant both spring and autumn (Salomonsen 1981; Kampp 1985). In autumn (late Aug/early Sep) sometimes in considerable numbers (P. Grossmann in litt.). North Greenland: One record: Qaanaaq/Thulearea: Annikitsupaluk east of Tasersuit, Aug 1989, two pairs probably breeding (Best & Higgs 1990).

SUBSPECIES and ORIGIN: The nearest regular breeding grounds are on Baffin Island where ssp. *ru-bescens* occurs.

HABITAT: Breeds in coastal dwarf-shrub heath with scattered cliffs and boulders (Woodell 1979; Bennike 1990). During migration often along the outer coast and on off-shore islands.

MOVEMENTS: Migratory with the winter quarters in

the southern USA and Central America. Arrives during May/early June and departs during Aug/Sep.

REMARK: Previously treated as a ssp. of Rock Pipit Anthus spinoletta (Knox 1988).

Pied Wagtail Motacilla alba

STATUS: Local low arctic breeder and extralimital migrant. West Greenland: Uncommon summer vagrant. Recorded as far north as Qeqertarsuaq/Godhavn, most frequent in the southern municipalities. Breeding has been attempted at Kangerlussuaq/Søndrestrømfjord airport in 1980 (Salomonsen 1981; H. Thing in litt.) and it probably bred in Qaqortoq/Julianehab in 1962 and 1964 (Zobbe 1973). Northeast Greenland: Probably annual summer vagrant south of Kong Oscar Fjord and perhaps irregular breeder in Ittoqqortoormiit/Scoresbysund (Pedersen 1930; Salomonsen 1950a). Vagrant as far north as Danmarkshavn, Germania Land (e.g. Meltofte et al. 1981a; Forchhammer 1990). Southeast Greenland: Annual autumn migrant and irregular breeder in the Ammassalik-area (Helms 1926; Salomonsen 1950a; Molenaar 1982; S. Jürgensen in litt.).

SUBSPECIES: The Greenland White Wagtails refer to ssp. *alba* (Salomonsen 1967), whose nearest regular breeding grounds are in Iceland.

HABITAT: Breeds usually close to human settlements.

MOVEMENTS: Migratory with winter quarters probably in West Africa, where also the Icelandic birds winter. Arrival takes place in early May and departure in Aug (Salomonsen 1967).

WAXWINGS BOMBYCILLIDAE

Bohemian Waxwing Bombycilla garrulus

STATUS: Accidental. Northeast Greenland: Two records: Liverpool Land: Uunarteq/Kap Tobin, 13–14 June 1931, four indvs, one skin in Zoological Museum, Berlin (Salomonsen 1935a). – Germania Land: Danmarkshavn, Apr 1967 (A. Nielsen pers. comm.). Southeast Greenland: Ammassalik-area: Ammassalik town, 14–24 Nov 1974 (S. Jürgensen in litt.). – Same site, 30 Oct 1976, two indvs (S. Jürgensen in litt.).

ORIGIN: The 1931 record refers to ssp. *garrulus* (Salomonsen 1967), whose nearest breeding grounds are in northern Scandinavia. The later records have probably been the same ssp.

WRENS TROGLODYTIDAE

Marsh Wren Cistothorus palustris

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, Oct 1820 (Reinhardt 1824).

SUBSPECIES and ORIGIN: The specimen was lost

Meddelelser om Grønland, Bioscience 38 · 1994

before 1898 (Winge 1898), so it cannot be assigned to ssp.

REMARK: The description given by Reinhardt (1824) leaves no doubt on the identification.

THRUSHES AND CHATS *TURDIDAE*

Northern Wheatear Oenanthe oenanthe

STATUS: Widespread mainly low arctic breeder and extralimital migrant. West Greenland: Abundant breeder throughout the region. Recorded population densities: 61 pairs/20 km² in Nuuk/Godthåb in 1928 (Longstaff 1932); 7 pairs/km² in a coastal area in Qeqertarsuaq/Godhavn in 1990 (Frimer 1991a); 11-12 pairs/1.52 km² in Ilulissat/ Jakobshavn in 1964 (Joensen & Preuss 1972). North Greenland: Breeds scarcely in the western part as far north as Iita/Etah in Avannarliit/Inglefield Land (Salomonsen 1967). Rare summer visitor to the eastern part with five records from Peary Land (Salomonsen 1967; Grant 1972; Håkansson et al. 1981; Bennike & Higgins 1989) and one from Kilen in Kronprins Christian Land (Hjort et al. 1988). Northeast Greenland: Sparse but annual breeder probably as far north as Dove Bugt (Meltofte et al. 1981a) and irregular breeder further north to Nordmarken (Cabot et al. 1988) and Hertugen af Orléans Land (Bay in press). A survey carried out in western Liverpool Land in 1979 resulted in 4 pairs/18.5 km² (Hansen undated). Southeast Greenland: Probably widespread breeder (Hørring 1939). Common in the Ammassalik-area (Helms 1926; S. Jürgensen in litt.).

SUBSPECIES: The Greenland, Icelandic and northeast Canadian populations refer to ssp. *leucorrhoa*.

HABITAT: Breeds in dry areas with boulders and rocky outcrops.

MOVEMENTS: Migratory with the winter quarters in tropical Africa. Arrives late Apr through late May and most have left at the end of Sep, indvs sometimes present until late Oct (Salomonsen 1981; Frimer 1991a).

White's Thrush Zoothera dauma

STATUS: Accidental. **Northeast Greenland:** One record: Wollaston Forland, Daneborg, Oct 1954 (Salomonsen 1963), 1y(?), skin in ZMUC.

SUBSPECIES and ORIGIN: The record refers to ssp. *aurea* (Salomonsen 1963), whose nearest breeding grounds are in the Ural Mountains in Russia.

Hermit Thrush Chatarus guttata

STATUS: Accidental. West Greenland: Five records: Qaqortoq/Julianehåb: Off-shore, 58°48'N, 49°16'W, 9 June 1867 (Salomonsen 1967). – Nanortalik, May 1908 (Hørring & Salomonsen 1941), 2y, skin in ZMUC. – Paamiut/Frederikshåb: Qeqertarsuaq/Storøen, 2 May 1923 (Olsen 1925), ad., skin in ZMUC. – Maniitsoq/ Sukkertoppen: Maniitsoq town, 27 Oct 1966 (Salomonsen 1967), 1y, skin in ZMUC. – Sisimiut/Holsteinsborg: Sisimiut town, 23 Oct 1970 (O. Loland in litt.), 1y, skin in ZMUC.

SUBSPECIES and ORIGIN: Salomonsen (1963) assigned the records to ssp. *faxoni*, whose nearest breeding grounds are in southern Newfoundland.

Grey-cheeked Thrush Chatarus minimus

STATUS: Accidental. **West Greenland:** Two records: Site unknown: 1854, 1y/2y (Winge 1898), skin in ZMUC. – Nuuk/Godthåb: Ameralik Fjord, 28 June 1845, 1y/2y (Winge 1898), skin in ZMUC.

SUBSPECIES and ORIGIN: Salomonsen (1963) assigned the records to ssp. *minimus*, whose nearest breeding grounds are in Newfoundland.

Common Blackbird Turdus merula

STATUS: Rare vagrant. West Greenland: Three records: Qaqortoq/Julianehåb: Alluitsup Paa/Sydprøven, 29 Nov 1915 (Helms & Schiøler 1917), 1y O', skin in ZMUC. -Prins Christian Sund Radiostation, 5-21 Jan 1970 (Nørrevang 1973). - Narsaq, c. 1985 (K.L. Egede in litt.). North Greenland: One record: Kronprins Christian Land: Station Nord, 1964 (Røen 1965), mummified Q found in June, in ZMUC. Northeast Greenland: Five records: Liverpool Land: Uunarteg/Kap Tobin, 8 Apr 1928 (Pedersen 1930), 2y O', skin in ZMUC. - Scoresby Land: Antarctic Havn, 1984, mummified 1y/2y O' found in Aug, (W.J. Higgs in litt.). - Wollaston Forland: Sabine Ø, Nov 1922, six indvs (Knudsen 1933). - Germania Land: Danmarkshavn, 18-19 Dec 1984. - Same site, 23 June 1987 (both Forchhammer 1990). Southeast Greenland: Three records: Ammassalik-area: 15 km NE of Ammassalik town, 1971 (B. Fristrup in litt.), mummified 1y/2y Q found in July, in ZMUC. - Ammassalik town, 26 Nov-20 Dec 1977 (S. Jürgensen in litt.). - Same site, Nov 1985, two lys (S. Jürgensen in litt.).

SUBSPECIES and ORIGIN: The Greenland records refer to the West European ssp. *merula*, whose nearest breeding grounds are on the Faeroe Islands, the British Isles and in Scandinavia.

Fieldfare Turdus pilaris

STATUS: Vagrant and local low arctic and resident breeder. West Greenland: A small breeding population established in Qaqortoq/Julianehåb following a large influx in Jan 1937. However, very scarce since the snowrich winter of 1966/67 (Salomonsen 1951, 1979a, 1981). The species still present in Qanassiassat in the head of Tunulliarfik Fjord, Qaqortoq/Julianehåb in 1987 (K. Høegh in litt.) and in 1990 (N.H. Lynge pers. comm.). Vagrant as far north as Nuuk/Godthåb, where breeding has occurred near head of Ameralik Fjord (Salomonsen 1979a). North Greenland: One record: Kronprins Christian Land: Station Nord, 1979, mummified specimen found in Aug (Hjort 1982). Northeast Greenland: Five or more records: Liverpool Land: Ittoqqortoormiit/Scoresbysund, mid-Oct 1976, several 100 indvs after snowstorm (B. Christensen in litt.; N. Kromann in litt.). – Ymer Ø: 20 Jan 1937, several indvs of which one in British Museum, Natural History (Bird & Bird 1941). – Germania Land: Danmarkshavn, 3–14 Oct 1970 (Meltofte 1975). – Same site, 18–19 Dec 1984. – Same site, 26 June-12 Aug 1988 (both Forchhammer 1990). Southeast Greenland: Ammassalik-area: Ammassalik town, 1 Dec 1935 (Hørring & Salomonsen 1941). – Same site, 7–17 Nov 1976, three indvs (Salomonsen 1979a).

HABITAT: The breeding habitat in Greenland is the lush *Betula* and *Salix* shrubs in the interior part of the fiords.

MOVEMENTS: The breeding population in Greenland is resident.

ORIGIN: Palearctic species with the nearest regular breeding grounds in Scandinavia.

REMARK: New immigration may very well occur, as indicated by the large numbers of Fieldfares recorded in East Greenland in 1976. Cf. the occurrence of Redwings in West and Northeast Greenland the same year.

Song Thrush Turdus philomelos

STATUS: Accidental. Northeast Greenland: One record: Clavering Ø: Dahls Skær, 1982 (J. Ladegård in litt.), mummified 1y/2y found in June, in ZMUC.

SUBSPECIES and ORIGIN: The specimen belongs to the continental European ssp. *philomelos*, which has its nearest breeding grounds in Scandinavia.

Redwing Turdus iliacus

STATUS: Vagrant and occasional breeder. West Greenland: Rather frequent vagrant (Oct-May) as far north as Qegertarsuag/Godhavn, sometimes in large numbers as in Nov 1976 in Qegertarsuaq/Godhavn (Kristensen 1979). Breeding has been recorded in 1948 and 1967; and in 1990-1991 a small population seems to have been established in the plantation of Qanassiassat in Qaqortoq/ Julianehåb (Salomonsen 1979a, 1981; N.H. Lynge pers. comm.). Northeast Greenland: Two or more records: Liverpool Land: Ittoqqortoormiit/Scoresbysund, 6 Oct 1934 (Petersen 1941). - Same site, mid-Oct 1976, several 100 indvs after snowstorm (Salomonsen 1981; B. Christensen in litt.; N. Kromann in litt.). Southeast Greenland: Rather frequent visitor in the Ammassalik-area in Oct/Nov and in Apr/May (Salomonsen 1981; S. Jürgensen in litt.).

SUBSPECIES and ORIGIN: The records from Northeast Greenland, Qeqertarsuaq/Godhavn and one from Qaqortoq/Julianehåb (Aappilattoq, 25 Jan 1925) refer to ssp. *iliacus* from Scandinavia (Hørring & Salomonsen 1941; Kristensen 1979; Salomonsen 1979a, 1981). All other

specimens identified were ssp. *coburni* from Iceland and the Faeroe Islands (Salomonsen 1981).

HABITAT: The breeding habitat is the lush *Betula* and *Salix* shrubs in the interior part of the fiords (Salomonsen 1981).

American Robin Turdus migratorius

STATUS: Accidental. West Greenland: Six records: Nuuk/Godthåb: Qoornoq, c. 1865 (Winge 1898), 1y \circ , skin in ZMUC. – Kangerluarsussuaq/Grædefjord, 26 Sep 1899 (Hørring & Salomonsen 1941), 1y Q, skin in ZMUC. – Kangeq, mid-Oct 1944, \circ , skin in Museum of Natural History, Ottawa (Rand 1947). – Maniitsoq/Sukkertoppen: Maniitsoq town, c. 1881 (Winge 1898), 1y Q, skin in ZMUC. – Atammik, early Oct 1939 (Salomonsen 1963), 1y \circ , skin in NKA. – Kangaamiut, summer 1946 (Salomonsen 1963), ad. \circ , skin in ZMUC.

SUBSPECIES and ORIGIN: Nearctic species, of which two ssp. have occurred in Greenland (Salomonsen 1963): ssp. *migratorius* (the three early records from 19th century), whose nearest breeding grounds are in central and northern Canada and ssp. *nigrideus* (the three later records) from Newfoundland and Quebec.

OLD WORLD WARBLERS SYLVIIDAE

Blackcap Sylvia atricapilla

STATUS: Accidental. Southeast Greenland: One record: Ammassalik-area: Ammassalik town, 15 Nov 1916 (Salomonsen 1963), 19 °, in alcohol in ZMUC.

SUBSPECIES and ORIGIN: The record refers to ssp. *atricapilla* (Salomonsen 1963), whose nearest breeding grounds are in Scandinavia and the British Isles.

Willow Warbler Phylloscopus trochilus

STATUS: Accidental. **Northeast Greenland:** One record: Hold With Hope: Myggbukta, 18 Sep 1937, skin in British Museum, Natural History (Bird & Bird 1941).

SUBSPECIES and ORIGIN: Bird & Bird (1941) referred the specimen to the Scandinavian ssp. *acredula*, while Williamson (1962) assigned it to the British and central European ssp. *trochilus*.

Ruby-crowned Kinglet Regulus calendula

STATUS: Accidental. West Greenland: Two records: Qaqortoq/Julianehåb: Nanortalik, 1860 (Winge 1898). –

Meddelelser om Grønland, Bioscience 38 · 1994

Nuuk/Godthāb: Nuuk town, 2 Oct 1956, \circ and \circ (Salomonsen 1963), skins in ZMUC.

SUBSPECIES and ORIGIN: The Greenland records refer to ssp. *calendula* (Salomonsen 1963), whose nearest breeding grounds are in Newfoundland.

CROWS AND JAYS CORVIDAE

Eurasian Jackdaw Corvus monedula

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Nuuk town, summer 1973, stayed in the town for a long period (T. Duch pers. comm.). Southeast Greenland: Off-shore: Dohrn Banke, 65°09'N, 29°08'W, 6 Nov 1955, settled on trawler and was later released in Reykjavik (Æ. Petersen in litt.).

ORIGIN: Palearctic species, with the nearest breeding grounds on the British Isles and in Scandinavia.

Rook Corvus frugilegus

STATUS: Accidental. **Southeast Greenland:** One record: Ammassalik-area: Kulusuk/Kap Dan, 20 Mar 1901 (Helms 1926), ad., skin in ZMUC.

SUBSPECIES and ORIGIN: The Greenland record refers to ssp. *frugilegus* (Salomonsen 1963), whose nearest breeding grounds are on the British Isles and in southern Scandinavia.

Carrion Crow Corvus corone

STATUS: Accidental. **Southeast Greenland:** Two records: Ammassalik-area: Kulusuk/Kap Dan, 19 Mar 1897 (Helms 1926), ad., skin in ZMUC. – Sermilik Fjord, late May 1907 (Helms 1926), ad., skin in ZMUC.

SUBSPECIES and ORIGIN: The Greenland records are Hooded Crows ssp. *cornix*, whose nearest breeding grounds are in Scandinavia and the northern parts of the British Isles.

Common Raven Corvus corax

STATUS: Widespread and mainly resident breeder. West Greenland: Common breeder throughout the region. Reported population densities: 1 pair/20 km2 in Nuuk/Godthåb in 1928 (Longstaff 1932); 7 probable pairs/750 km² in interior Aasiaat/Egedesminde in 1979 (Fox & Stroud 1981). North Greenland: Breeds in the western part of the region as far north as western Avannarliit/Inglefield Land (Salomonsen 1967). In 1876 found breeding in Hall Land (see Bennike & Kelly 1986). In central and eastern part of the region only one record: Nansen Land, 10 July 1984 (Bennike & Higgins 1989). Northeast Greenland: Sparse breeder as far north as Ymer Ø (Meltofte 1976a; Sittler 1988, Sittler et al. 1991). Further north, breeding or probable breeding has been recorded in recent years from Hold With Hope, Hochstetter Forland and Bessel Fjord (Meltofte et al. 1981a; Elander & Blomqvist 1986;

Dennis 1988; Boertmann et al. 1991). Visitor (Mar-Oct) or probable breeder at least af far north as Germania Land (Meltofte 1975; Forchhammer 1990; J. Graugaard pers. comm.). **Southeast Greenland:** Widespread breeder (Hørring 1939; Salomonsen 1967; Gravlund 1991).

SUBSPECIES: The Greenland population belongs to the Nearctic ssp. *principalis* (Salomonsen 1963).

HABITAT: The nest is located on steep cliffs. The Ravens occur in nearly all kinds of habitats, sometimes even in the drift ice far off the coast (Duc d'Orleans 1907; Kampp & Kristensen 1980b; J. Durinck in litt.; Aa. Meyer pers. comm.).

POPULATION: Early in this century the Raven was more common in Northeast Greenland than today (Manniche 1910; Elander & Blomqvist 1986). It seems, however, to be slowly increasing again.

MOVEMENTS: Dispersive, resident or partially migratory (1ys). Even during winter Ravens are recorded in the high arctic.

STARLINGS STURNIDAE

Common Starling Sturnus vulgaris

STATUS: Rare vagrant. West Greenland: C. 29 records (May; Aug-Nov, occasionally -Dec) until 1989: two in Paamiut/Frederikshåb, three in Nuuk/Godthåb, the rest in Qaqortoq/Julianehåb (Salomonsen 1967; 1981, unpubl.; T. Duch in litt.; B. Knudsen pers. comm.). One indv. stayed in Paamiut town for several years. The three skins in ZMUC are all from the autumn and all are 1ys. Northeast Greenland: Three records: Liverpool Land: Ittoqqortoormiit/ Scoresbysund, 17 Oct 1934 (Petersen 1941). - Hold With Hope: Myggbukta, 5 Oct 1935, five indvs of which one in British Museum, Natural History (Bird & Bird 1941). - Off-shore Jameson Land: 71°40'N, 15°00'W, 21 Mar 1952 (Berland 1961). Southeast Greenland: Eight records from the Ammassalik-area: May, two in Oct, Sep/Oct, Dec, spring and two undated (Hørring & Salomonsen 1941; S. Jürgensen in litt.).

SUBSPECIES and ORIGIN: The Greenland records refer to ssp. *vulgaris*, whose nearest breeding grounds are in Iceland, Scandinavia and the British Isles.

VIREOS VIREONIDAE

Red-eyed Vireo Vireo olivaceus

STATUS: Accidental. West Greenland: Four records: Site unknown, 1844 (Winge 1898), skin in ZMUC. – Qaqortoq/Julianehåb: Qorlortoq, Nallunaq/Skovfjord, early Nov 1967 (L. Motzfeldt in litt.), mummified specimen in ZMUC. – Narsaq, 3 Oct 1972 (B. Corfitz Sørensen in litt.), skin in ZMUC. – Paamiut/Frederikshåb: Kangilineq, Nov 1941 (Salomonsen 1963), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimens probably

refer to ssp. *olivaceus*, whose nearest breeding grounds are on Newfoundland Island.

Solitary Vireo Vireo solitarius

STATUS: Accidental. **West Greenland:** One record Qaqortoq/Julianehåb: Off Nunap Isua/Kap Farvel, Oct 1956, specimen in Icelandic Museum of Natural History (Æ. Petersen in litt.).

SUBSPECIES and ORIGIN: The specimen probably refers to ssp. *solitarius*, whose nearest breeding grounds are in southeastern Canada.

FINCHES FRINGILLIDAE

Chaffinch Fringilla coelebs

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: Narsaq, 14 May 1967 (Salomonsen 1967), ad. O, skin in ZMUC. Southeast Greenland: One record: Ammassalik-area: Ammassalik town, 17 Sep 1968 (I. Rahbek in litt.), 19 O, skin in ZMUC.

SUBSPECIES and ORIGIN: The Greenland specimens belong to ssp. *coeleps*, which have the nearest breeding grounds in Scandinavia and the British Isles.

Common Redpoll Carduelis flammea

STATUS: Widespread low arctic breeder and mainly extralimital migrant. West Greenland: Abundant breeder throughout the region. Reported population densities: 149 pairs/20 km² in Nuuk/Godthåb in 1928 (Longstaff 1932); 4 pairs/km² in a coastal area in Qegertarsuag/Godhavn in 1990 (Frimer 1991a); 4.6 pairs/1.52 km² in Ilulissat/Jakobshavn in 1964 (Joensen & Preuss 1972). North Greenland: Salomonsen (1967) stated that the Redpoll breeds as far north as Qimusseriarsuaq/Melville Bugt. However, the species has expanded the breeding area northwards, and Vaughan (1988) reported breeding in the Qaanaaq/Thule-area at Pituffik/Thule air base in 1983-1985. Northeast Greenland: Scarce breeder as far north as Kong Oscar Fjord (Waterson & Waterson 1970; Salomonsen 1981). Single birds have been recorded as far north as Hold With Hope (Dennis 1988) and breeding occurred at Danmarkshavn, Germania Land in 1988 (Forchhammer 1990). Southeast Greenland: Widespread breeder (Salomonsen 1967).

SUBSPECIES: The population in Greenland and northeastern Canada is recognized as ssp. *rostrata*. Lesser Redpoll (ssp. *cabaret*) has occurred once in East Greenland: Ammassalik-area: Kuummiit, 6 Sep 1933, ad. O^{*} (L. Svensson pers. comm.), skin in ZMUC.

HABITAT: Most common in inland areas in lush *Salix* and *Betula* shrub.

MOVEMENTS: Migratory. Small numbers winter in the inland from Nuuk/Godthåb and southwards, but the majority migrate to Canada. The Southeast Greenland populations migrate to Iceland and the British Isles. Ar-

rives at the breeding grounds late Apr through late May and stay in West Greenland until late Aug through Oct, in Southeast Greenland until early Dec (Helms 1926; Salomonsen 1967; Frimer 1991a; S. Jürgensen in litt.).

Arctic Redpoll Carduelis hornemanni

STATUS: Widespread high arctic breeder and interregional migrant. West Greenland: Very scarce breeder in Uummannaq and Upernavik. Bred probably in Qeqertarsuaq/Godhavn in 1978 (Kampp & Kristensen 1980b). Widespread winter visitor (Sep-Apr occasionally -June); most common from Sisimiut/Holsteinsborg and northwards (Salomonsen 1967; Hansen 1968a, 1968b; Hansen 1971; P. Grossmann in litt.). North Greenland: Scarce breeder in the Qaanaaq/Thule-area and in the eastern part as far north as Independence Fjord (Salomonsen 1967; Håkansson et al. 1981). Recorded several times at Jørgen Brønlund Fjord in Peary Land, but without indication of breeding (Meltofte 1976a; Bennike & Higgins 1989). Northeast Greenland: Scarce, but locally common breeder throughout the region from Kangertiitivaq/Scoresby Sund and northwards (Pedersen 1942; Salomonsen 1967; Meltofte et al. 1981a; Cabot et al. 1988; Boertmann et al. 1991). Densities of up to 7.8 territories/km² were found in selected areas in Dove Bugt and Germania Land (Boertmann et al. 1991). Southeast Greenland: Common winter visitor at least as far south as Ammassalik (Helms 1926; Degerbøl & Møhl-Hansen 1935).

SUBSPECIES: The Greenland population is referred to ssp. *hornemanni*; sometimes treated as a ssp. of Redpoll: *C. flammea hornemanni*.

HABITAT: Breeds in well vegetated inland areas (e.g. Håkansson et al. 1981; Boertmann et al. 1990), and is often just a visitor to coastal areas as Hochstetter Forland, Wollaston Forland and Hold With Hope (Rosenberg et al. 1970; Meltofte et al. 1981a; Elander & Blomqvist 1986).

MOVEMENTS: Migratory but the majority stay within Greenland. Recorded during winter as far north as Hold with Hope and the Qaanaaq/Thule-area (Salomonsen 1950a). Autumn migrants seen from early Aug in the Kangersittuaq-area in Southeast Greenland (Degerbøl & Møhl-Hansen 1935) and from Oct in Qeqertarsuaq/Godhavn (Frimer 1991a).

Two-barred Crossbill Loxia leucoptera

STATUS: Accidental. West Greenland: Four records: Site unknown, c. 1857, ad. \circ (Winge 1898), skin in ZMUC. – Qaqortoq/Julianehåb: Yderøerne, 1856, one Q and two 1y/2ys (Winge 1898), all skins in ZMUC. – Narsaq Kujalleq/Frederiksdal, spring 1900, ad. \circ (Hørring & Salomonsen 1941), skin in ZMUC. – Qaqortoq town, Feb 1947, ad. \circ (Salomonsen 1963), skin in ZMUC. Southeast Greenland: Site unknown, c. 1830, ad. \circ (Winge 1898).

Meddelelser om Grønland, Bioscience 38 · 1994

SUBSPECIES and ORIGIN: The specimens refer to the Nearctic ssp. *leucoptera*, whose nearest breeding grounds are in Newfoundland (Salomonsen 1963).

Common Crossbill Loxia curvirostra

STATUS: Accidental. West Greenland: Three records: Qagortog/Julianehåb: Mellemlandet near Narsarsuag airport, 16 July 1990 (K. Falk pers. comm.), 1y, specimen in ZMUC. - Maniitsoq/Sukkertoppen: Kangaamiut, autumn 1928, 1y O' (Oldenow 1933; Hørring & Salomonsen 1941), skin previously in I, but now probably lost. -Napassoq, 5 Aug 1933, 1y O' (Salomonsen 1935a), skin previously in I, but now probably lost. Northeast Greenland: One record: Wollaston Forland: Kap Herschell, 1 July 1953, Q, skin in Zoological Museum, Oslo (Hagen 1956). Southeast Greenland: Two records: Ammassalik-area: Between Ammassalik and Kangersittuag, 1930 or 1931, ad. O, skin in British Museum, Natural History (Salomonsen 1935a). - Ammassalik town, 1953, Q (Salomonsen 1963, but as Two-barred Crossbill), head preserved in ZMUC.

SUBSPECIES and ORIGIN: All specimens belong to the Palearctic ssp. *curvirostra*, whose nearest breeding grounds are in Scandinavia and Scotland (Hørring & Salomonsen 1941; Salomonsen 1963).

Pine Grosbeak Pinicola enucleator

STATUS: Accidental. West Greenland: Two records: Qaqortoq/Julianehåb: Narsaq, 23 Oct 1919, 1y (Hørring & Salomonsen 1941), fragments of a skin in ZMUC. – Qeqertarsuaq/Godhavn: Qivittut, 1 Mar 1954 (Salomonsen 1963), 1y Q, skin in ZMUC.

SUBSPECIES and ORIGIN: Salomonsen (1963) assigned the specimens to the Nearctic ssp. *leucura*, whose nearest breeding grounds are in Newfoundland. However, Hørring & Salomonsen (1941), could not identify the first specimen with certainty.

REMARK: The Narsaq specimen was published as originating from Alluitsup Paa/Sydprøven (Hørring & Salomonsen 1941; Salomonsen 1963, 1967). The label on the specimen, however, says Nordprøven which was an old Danish and now ceased name for the town of Narsaq.

NEW WORLD WARBLERS *PARULIDAE*

Golden-winged Warbler Vermivora chrysoptera

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: Alluitsup Paa/Sydprøven, autumn 1966, skeleton in ZMUC. ORIGIN: Nearctic species, with the nearest breeding grounds in northeastern USA.

Tennessee Warbler Vermivora peregrina

STATUS: Accidental. West Greenland: Three records: Nuuk/Godthåb: Narsaq, 1898, ad. O (Hørring & Salomonsen 1941), skin in ZMUC. – Qeqertarsuatsiaat/Fiskenæsset, 31 Aug 1840 (Winge 1898; Hørring & Salomonsen 1941 as Nashville Warbler), 1y, skin in ZMUC. – Itinnera, autumn 1991, 1y, (J. Rosing pers. comm.), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southern Newfoundland.

Orange-crowned Warbler Vermivora caelata

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Lichtenfels, Qeqertarsuatsiaat/Fiskenæsset, 14 Oct 1906, 1y (Hørring & Salomonsen 1941), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimen belongs to the eastern ssp. *caelata* (Hørring & Salomonsen 1941), whose nearest breeding grounds are in southern Newfoundland.

Nashville Warbler Vermivora ruficapilla

STATUS: Accidental. **West Greenland:** Two records: Site unknown, c. 1895, 1y/2y (Hørring & Salomonsen 1941), skin in ZMUC. – Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, 10 Oct 1823, 1y (Winge 1898), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimens belong to ssp. *ruficapilla* (Hørring & Salomonsen 1941), whose nearest breeding grounds are in southern Quebec.

REMARK: A specimen from 1840 has been re-identified as Tennessee Warbler.

Northern Parula Parula americana

STATUS: Accidental. West Greenland: Four records: Southwest Greenland: 1857, 1y \circ (Winge 1898), skin in ZMUC. – Qaqortoq/Julianehåb: Off shore 60°09'N, 46°05'W, 21 Sep 1992, 1y Q, settled on trawler and released in Qaqortoq town (C. Glahder pers. comm.). – Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, Aug 1900, ad.(?) \circ (Hørring & Salomonsen 1941), skin in ZMUC. – Nuuk town, 8 Oct 1952, \circ (Salomonsen 1963), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

Yellow Warbler Dendroica petechia

STATUS: Accidental. West Greenland: Two records: Maniitsoq/Sukkertoppen: Maniitsoq town, summer 1940, 2y (Salomonsen 1963), skin in ZMUC. – Same site, 12 Oct 1976, 1y Q^{*}, skin in ZMUC. SUBSPECIES and ORIGIN: The specimens belong to ssp. *aestiva* (Salomonsen 1963), whose nearest breeding grounds are in southern Quebec.

Chestnut-sided Warbler Dendroica pensylvanica

STATUS: Accidental. West Greenland: Three records: Qaqortoq/Julianehåb: Nanortalik, winter 1887, 1y Q (Winge 1898), skin in ZMUC. – Alluitsup Paa/Sydprøven, 12 Sep 1974, 1y (Pihl 1976; RC 1974). – Aasiaat/ Egedesminde: Aqisserniaq, summer 1955, 1y O' (Hansen 1968b; RC 1965–69), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

Black-throated Blue Warbler Dendroica caerulescens

STATUS: Accidental. West Greenland: Three records: Qaqortoq/Julianehåb: Sarloq, Sep 1964, ad. ° (L. Andreassen in litt.), skin probably in ZMUC. – Maniitsoq/ Sukkertoppen: Maniitsoq town, 25 Sep 1965 (A. Hansen in litt.), ad. °, skin in ZMUC. – Uummannaq: five nautical miles off Uummannaq town, 21 Oct 1988, 1y, skin in private collection (RC 1989; P. Grossmann in litt.).

SUBSPECIES and ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada (ssp. *caerulescens*).

Pine Warbler Dendroica pinus

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Nuuk town, 1 Oct 1899, 1y (Hørring & Salomonsen 1941), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimen belongs to ssp. *pinus* (Hørring & Salomonsen 1941), whose nearest breeding grounds are in southernmost Quebec.

Black-throated Green Warbler Dendroica virens

STATUS: Accidental. West Greenland: Three records: Qaqortoq/Julianehåb: Qaqortoq town, 1853 (Winge 1898). – Paamiut/Frederikshåb: 15 nautical miles west of Arsuk, 29 Sep 1949, 1y Q (Salomonsen 1950b), skin in ZMUC. – Maniitsoq/Sukkertoppen: Maniitsoq town, autumn 1933, ad. °, skin in private collection (Salomonsen 1935a).

SUBSPECIES and ORIGIN: The specimens belong to ssp. *virens* (Salomonsen 1963), whose nearest breeding grounds are in southern Newfoundland.

Blackburnian Warbler Dendroica fusca

STATUS: Accidental. West Greenland: Two records: Qaqortoq/Julianehåb: Off-shore Qaqortoq, autumn c. 1985, Q, skin in ZMUC. – Nuuk/Godthåb: Nuuk town, 20 Sep 1953, 1y Q (Salomonsen 1963), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

Magnolia Warbler Dendroica magnolia

STATUS: Accidental. West Greenland: Three records: Nuuk/Godthåb: Kangeq, autumn 1875, 1y O'(Winge 1898), skin in ZMUC. – Maniitsoq/Sukkertoppen: Appamiut, 6 Oct 1950, 1y (Salomonsen 1963), skin in ZMUC. – Aasiaat/Egedesminde: Aasiaat town, 20 May 1880, ad. O' (R. Müller leg.), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds on Newfoundland Island.

Yellow-rumped Warbler Dendroica coronata

STATUS: Accidental. West Greenland: Six records: Qaqortoq/Julianehåb: Qaqortoq town, 1847, 29 ° (Winge 1898), skin in ZMUC. – Nanortalik, 23 May 1880 (Winge 1898). – Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, 21 May 1841 (Winge 1898) 2y(?) °, skin in ZMUC. – Kangeq, 28 Oct 1937, Q or 1y (Hørring & Salomonsen 1941), skin previously in I, but now probably lost. – Maniitsoq/Sukkertoppen: Appamiut, 15 Oct 1931, Q or 1y (Oldenow 1933). – Qeqertarsuaq/Godhavn: Qeqertarsuaq town, 31 July 1878, ° (Kumlien 1879).

SUBSPECIES and ORIGIN: The specimens belong to the ssp. *coronata* (Hørring & Salomonsen 1941), whose nearest breeding grounds are in Newfoundland.

Blackpoll Warbler Dendroica striata

STATUS: Accidental. West Greenland: Seven records: Qaqortoq/Julianehåb: Alluitsoq Kangerlua/Lichtenau Fjord, 14 Oct 1911, 1y (Hørring & Salomonsen 1941), skin in ZMUC. – Alluitsoq/Lichtenau, late Oct 1911, two lys (Hørring & Salomonsen 1941), skins in ZMUC. – Isua copper mine, 15 Oct 1911, 1y (Hørring & Salomonsen 1941), skin in ZMUC. – Narsarsuaq airport, spring 1984, ad. O*, skin in private collection (T. Duch pers. comm.). – Nuuk/Godthåb: Summer 1853 (Winge 1898). – Nuuk town, 20 Oct 1951, 1y (Salomonsen 1963), skin in ZMUC. – Maniitsoq/Sukkertoppen: Narsarmiut, 18 Sep 1919, 1y Q (Hørring & Salomonsen 1941), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

Bay-breasted Warbler Dendroica castanea

STATUS: Accidental. West Greenland: One record: Nuuk/Godthåb: Narsaq, 15 Oct 1898, 1y (Hørring & Salomonsen 1941), skin in ZMUC.

Meddelelser om Grønland, Bioscience 38 · 1994

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

American Redstart Setophaga ruticilla

STATUS: Accidental. West Greenland: Five records: Qaqortoq/Julianehåb: Qaqortoq town, 18 Oct 1965, 19 ° (Zobbe 1966; RC 1965–69). – Paamiut/Frederikshåb: Paamiut town, Nov 1964, 19 ° (A. Hansen in litt.). – Nuuk/Godthåb: Nuuk town, 18 Oct 1946 (Salomonsen 1963), 19 °, skin in ZMUC. – Maniitsoq/Sukkertoppen: Atammik, 3 Oct 1952, 19 (Salomonsen 1963). – Kangaamiut, 27 Sep 1952, 19 Q (Salomonsen 1963), skin in ZMUC.

SUBSPECIES and ORIGIN: Salomonsen (1967) assigned the records to ssp. *tricolora*, whose nearest breeding grounds are in southern Newfoundland.

Ovenbird Seiurus aurocapillus

STATUS: Accidental. West Greenland: Four records: Nuuk/Godthåb: Narsaq, 15 Oct 1933 (Hørring & Salomonsen 1941), 1y, skin in ZMUC. – Maniitsoq/Sukkertoppen: Napassoq, 1943 (Salomonsen 1963). – Maniitsoq town, 25 Mar 1946 (Salomonsen 1963), 2y, skin in ZMUC. – Ilulissat/Jakobshavn: Saqqaq, 18 Oct 1954 (Salomonsen 1963), 1y, skin in ZMUC.

SUBSPECIES and ORIGIN: The records refer to ssp. *aurocapillus* (Salomonsen 1963), whose nearest breeding grounds are on Newfoundland Island.

Northern Waterthrush Seiurus noveboracensis

STATUS: Accidental. **West Greenland:** One record: Qaqortoq/Julianehåb: Nanortalik 1882 (Winge 1898), 1y, skin in ZMUC.

SUBSPECIES and ORIGIN: The specimen belongs to ssp. *noveboracensis* (Salomonsen 1963), whose nearest breeding grounds are in Newfoundland.

Louisiana Waterthrush Seiurus motacilla

STATUS: Accidental. West Greenland: One record: Maniitsoq/Sukkertoppen: Maniitsoq town, 1949 (Sałomonsen 1963), 1y, skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in northeastern USA.

Common Yellowthroat Geothlypis trichas

STATUS: Accidental. West Greenland: Three records: Nuuk/Godthåb: Narsaq, 20 Oct 1929, O' (Oldenow 1933), skin previously in I, but now probably lost. – Nuuk town, 22 Sep 1953 (Salomonsen 1963), 1y O', skin in ZMUC. – Same site, 6 Oct 1956 (Salomonsen 1963), 1y(?) Q, skin in ZMUC.

SUBSPECIES and ORIGIN: The specimens refer to ssp. *brachydactylus* (Salomonsen 1963), whose nearest breeding grounds are on Newfoundland Island.

Mourning Warbler Oporornis philadelphia

STATUS: Accidental. West Greenland: Three records: Qaqortoq/Julianchåb: Qaqortoq town, 1853 (Winge 1898). – Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, 1846 (Winge 1898). – Maniitsoq/Sukkertoppen: Atammik, 10 Sep 1953, 1y (Salomonsen 1963, 1967 with year 1956), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds on Newfoundland Island.

Wilson's Warbler Wilsonia pusilla

STATUS: Accidental. West Greenland: One record: Maniitsoq/Sukkertoppen: Atammik, 30 Sep 1975 (RC 1977– 78), 1y °, skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in Newfoundland.

Canada Warbler Wilsonia canadensis

STATUS: Accidental. West Greenland: Three records: Site unknown, 1875, 1y \circ (Winge 1898), skin in ZMUC. – Qaqortoq/Julianehåb: Qaqortoq town, 3 Oct 1943, 1y \circ (Salomonsen 1963), skin in ZMUC. – Uummannaq: Illorsuit, Sep 1981 (H. Fencker in litt.), 1y \circ , skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

Yellow-breasted Chat Icteria virens

STATUS: Accidental. West Greenland: Three records: Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, 21 Sep 1952 (Salomonsen 1963), Q, skin in ZMUC. – Nuuk town, 16 Oct 1952, 1y O' (Salomonsen 1963), skin in ZMUC. – Maniitsoq/Sukkertoppen: Atammik, 8 Oct 1952 (Salomonsen 1963).

SUBSPECIES and ORIGIN: The specimens refer to ssp. *virens* (Salomonsen 1963), whose nearest breeding grounds are in northeastern USA.

BUNTINGS AND GROSBEAKS EMBERIZIDAE

Fox Sparrow Zonotrichia iliaca

STATUS: Accidental. West Greenland: Two records: Maniitsoq/Sukkertoppen: Maniitsoq town, 13 Oct 1910 (Schiøler 1912), 1y °, skin in ZMUC. – Same site, c. 1945 (Salomonsen 1963), 1y, skin in ZMUC. SUBSPECIES and ORIGIN: The specimens refer to ssp. *iliaca* (Salomonsen 1963), whose nearest breeding grounds are in Newfoundland.

Lincoln's Sparrow Zonotrichia lincolnii

STATUS: Accidental. West Greenland: One record: Qaqortoq/Julianehåb: Tuapaat, Nanortalik, 1 Sep 1901, ad. (Hørring & Salomonsen 1941), skin in ZMUC.

SUBSPECIES and ORIGIN: The specimen refers to ssp. *lincolnii* (Hørring & Salomonsen 1941), whose nearest breeding grounds are in Newfoundland.

White-crowned Sparrow Zonotrichia leucophrys

STATUS: Accidental. West Greenland: Four records: Qaqortoq/Julianehåb: Off Nunap Isua/Kap Farvel, June 1894 (Winge 1898), ad., skin in ZMUC. – Nuuk/Godthåb: Ujarassuit, Nuup Kangerlua/Godthåb Fjord, 16 Aug 1824, ad. ° (Winge 1898), skin in ZMUC. – Nuuk town, 1824, small flock (Winge 1898). – Qeqertarsuatsiaat/ Fiskenæsset, 4 Oct 1840, ad. ° (Winge 1898), skin in ZMUC.

SUBSPECIES and ORIGIN: The records refer to ssp. *leucophrys* (Salomonsen 1963), whose nearest breeding grounds are in Newfoundland.

Dark-eyed Junco Junco hyemalis

STATUS: Accidental. West Greenland: One record: Maniitsoq/Sukkertoppen: Maniitsoq town, 7 Nov 1966 (Salomonsen 1967), 1y O, skin in ZMUC.

SUBSPECIES and ORIGIN: The record belongs to ssp. *hyemalis* (Salomonsen 1967), whose nearest breeding grounds are in Newfoundland.

Lapland Longspur Calcarius lapponicus

STATUS: Widespread mainly low arctic breeder and extralimital migrant. West Greenland: Abundant breeder throughout the region. Reported population densities: 321 pairs/20 km² in Nuuk/Godthåb in 1928 (Longstaff 1932); 128 nesting pairs/km² in 1979 and 42 nesting pairs/km² in 1984 in same general area in interior Aasiaat/Egedesminde (Fox et al. 1987); 17 pairs/km² in a coastal area in Qeqertarsuaq/Godhavn in 1990 (Frimer 1991a); 45-56 pairs/1.52 km² in Ilulissat/Jakobshavn in 1964 (Joensen & Preuss 1972). North Greenland: Breeds in the central parts of the Qaanaaq/Thule-area and vagrants are recorded in Avannarliit/Inglefield Land (Salomonsen 1967; Vaughan 1988). In the eastern part one record has been reported: Kronprins Christian Land: Station Nord, summer 1986, ad. O' (C. Bay pers. comm.). Northeast Greenland: Scarce breeder in the inner parts of Kangertiitivaq/Scoresby Sund and in Jameson Land (Hall 1966; Meltofte 1976a; own observations). Further north, more or less annual summer vagrant at least to Germania Land (e.g. Rosenberg et al. 1970; Meltofte et al. 1981; Elander

& Blomqvist 1986; Forchhammer 1990). **Southeast Greenland:** Breeds probably throughout the region as far north as Kangersittuaq (Pedersen 1930; Hørring 1939; Ray 1973).

HABITAT: Breeds in areas with lush vegetation of *Salix* or *Betula*, and usually avoids the outer coast (Salomonsen 1967; Madsen 1981).

MOVEMENTS: Migratory. The majority winter in central North America, but in mild winters small numbers may stay in the southern part of West Greenland. A part of the East Greenland population may migrate to northwestern Europe (Williamson & Davis 1956; Schekkemann 1989; Fox et al. 1992), although two birds ringed in Ammassalik have been recovered in North America (ZMUC). Arrival takes place during May and departure during mid-Aug, Sep or early Oct; late indvs occasionally in Nov (Helms 1926; Salomonsen 1967; Fox et al. 1987; Frimer 1991a).

Snow Bunting Plectrophenax nivalis

STATUS: Widespread breeder and mainly extralimital migrant. West Greenland: Abundant breeder throughout the region, and winter visitor in southern part (Salomonsen 1967; Pihl 1976). Reported population densities: 84 pairs/20 km² in Nuuk/Godthåb in 1928 (Longstaff 1932); 21 pairs/km² in a coastal area in Qeqertarsuaq/Godhavn in 1990 (Frimer 1991a); 17-20 pairs/1.52 km² in Ilulissat/ Jakobshavn in 1964 (Joensen & Preuss 1972). North and Northeast Greenland: Common breeder in both regions even in the northernmost parts (e.g. Bennike & Kelly 1986; Hjort 1986). Population densities in selected areas: 0.3 - 19 singing males/km² (Meltofte 1976b, 1977; Hansen undated; Boertmann et al. 1991) or 3.3 - 4.7 pairs or nests/km² (Rosenberg et al. 1970; Meltofte 1977; Ferns 1978). Southeast Greenland: Widespread and common breeder (Hørring 1939).

SUBSPECIES: The Greenland population refers to ssp. *nivalis* (Salomonsen 1967).

HABITAT: Nests in rocky outcrops etc. close to areas with more or less lush vegetation. Also in towns and settlements.

MOVEMENTS: Migratory. The West and Southeast Greenland populations winter in central North America. The Northeast Greenland population winters north of the Caspian Sea in central Russia (Salomonsen 1981; Meltofte 1983). Arrival takes place during late Mar through May, males two or three weeks before females, and departure during Sep/Oct. However, single indvs can remain until Nov/Dec (Bird & Bird 1941; Meltofte 1983; Frimer 1991a). In the southern parts, particularly Qaqortoq/Julianehåb many Snow Buntings winter near human settlements (Asmussen 1957; Pihl 1976; Meltofte 1983; L. Motzfeldt in litt.), but also as far north as Ilulissat/ Jakobshavn and Ammassalik can Snow Buntings stay throughout the winter, particularly when the weather is mild, or in places where the Snow Buntings are fed

Meddelelser om Grønland, Bioscience 38 · 1994

(Asvid 1974; H. Fencker in litt.; H. Brochmann in litt.; S. Malmquist in litt.).

Rose-breasted Grosbeak Pheucticus ludovicianus

STATUS: Accidental. West Greenland: One record: Maniitsoq/Sukkertoppen: Maniitsoq town, 1949 (Salomonsen 1963), 1y \circ , skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in central and southeasternmost Canada.

NEW WORLD BLACKBIRDS *ICTERIDAE*

Bobolink Dolichonyx oryzivorus

STATUS: Accidental. West Greenland: Two records: Paamiut/Frederikshåb: Arsuk, 1898 (Helms 1899), 1y °, skin in ZMUC. – Nuuk/Godthåb: Nuuk town, 17 Oct 1929, 1y ° (Hørring & Salomonsen 1941), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeastern Canada.

Rusty Blackbird Euphagus carolinus

STATUS: Accidental. West Greenland: Four records: Qaqortoq/Julianehåb: Qaqortoq town, spring c. 1977 (K. Nielsen in litt.). – Paamiut/Frederikshåb: Paamiut town, 13 July 1889 (Winge 1898), ad. °, skin in ZMUC. – Nuuk/Godthåb: Qeqertarsuatsiaat/Fiskenæsset, June 1922, ad. Q (Salomonsen 1945b), specimen in alcohol in ZMUC. – Maniitsoq/Sukkertoppen: Maniitsoq town, summer 1940 (Salomonsen 1963), 1y °, skin in NKA.

SUBSPECIES and ORIGIN: The specimens refer to ssp. *carolinus* (Salomonsen 1963), whose nearest breeding grounds are in Newfoundland.

Yellow-headed Blackbird Xanthocephalus xanthocephalus

STATUS: Accidental. West Greenland: Two records: Qaqortoq/Julianehåb: Nanortalik, 2 Sep 1840 (Winge 1898), 1y ♀, skin in ZMUC. – Nuuk/Godthåb: Saarloq, 7 Aug 1900, 1y ♂ (Hørring & Salomonsen 1941), skin in ZMUC.

ORIGIN: Nearctic species, with the nearest breeding grounds in central Canada.

Northern Oriole Icterus galbula

STATUS: Accidental. West Greenland: Two records: Nuuk/Godthåb: Kangerluarsoruseq/Færingehavn, Sep 1953, 1y Q (Salomonsen 1963), skin in ZMUC. – Maniitsoq/Sukkertoppen: Maniitsoq town, 27 Sep 1936, 1y O' (Hørring & Salomonsen 1941), skin in I.

ORIGIN: Nearctic species, with the nearest breeding grounds in southeasternmost Canada.

Some unaccepted records

Species, whose occurrence are not sufficiently documented, which have been wrongly mentioned as Greenlandic, or have been introduced or brought to Greenland by ship are listed below. However, many of the accepted rarities may have been partly or completely transported by ship to Greenland. Winge (1898) gives a list of very early erroneous records and there is no reason to repeat this. But it is worth to mention that some of the species in Winge's list actually have occurred in recent years.

European Storm-Petrel Hydrobates pelagicus. Winge (1898) mentioned this species in his list of erroneous or insufficiently documented records. Schiøler (1926) reported a probable record off Nunap Isua/Kap Farvel, 19 June 1926, but this has not been mentioned by Salomonsen. If the summer distribution of European Storm-petrel and Wilson's Storm-petrel Oceanites oceanicus are compared (Cramp & Simmons 1977; Brown 1986), the bird seen by Schiøler could just as well have been the latter species.

Bean Goose Anser fabalis. Fox (1987) mentioned an observation from Eqalummiut Nunaat in the summer of 1984. However, no details or documentation were given.

Red-breasted Goose Branta ruficollis. Wollaston Forland: Sabine Ø, May/June 1922, two indvs (Knudsen 1933). The record is not sufficiently documented and was never accepted by Salomonsen (1950a; 1963).

Western Sandpiber Calidris mauri. Mortensen et al. (1988) mentioned a record from Jameson Land, 4-7 Aug 1983. This is erroneous, as a photograph showed that the bird was a juvenile Dunlin.

Little Stint Calidris minuta. Chapman (1934) mentioned a record: Southeast Greenland: Ammassalik-area: Tuttilik, late Sep 1933, pair shot and secured. The record was not accepted by Salomonsen (1950a), and the specimens are not in British Museum, Natural History (P.R. Colston in litt.) and were not located in other collections.

Common Sandpiper Actitis hypoleuca. A record from Qaqortoq/Julianehåb, summer 1972 was mentioned by Ellis (1973). It was not documented in any way, and as the source gives other ornithological information which is obviously wrong, the record cannot be accepted.

Short-billed Dowitcher Limnodromus griseus. An old record: Nuuk/Godthåb: Qegertarsuatsiaat/Fiskenæsset, 1824 (Reinhardt 1838; Winge 1898; Salomonsen 1967), cannot be accepted as identified to species. The specimen disappeared before 1898, and until 1950 L. scolopaceus

by many authors were considered conspecific with L. griseus (Pitelka 1950). However, the description (Reinhardt 1838) leaves no doubt that it actually was a Limnodromus.

Turtle Dove Streptopelia turtur. A specimen is kept in NKA. The Dove arrived north of Scotland on a ship bound for Greenland in the summer of 1966. It was found dead when the ship arrived at Sisimiut town (Rosing 1988). As the Turtle Dove occurs annually in Iceland (e.g. Pétursson et al. 1991) it is a possible vagrant to Greenland. It has also been recorded 360 nautical miles southeast of Greenland in Sep 1981 (Æ. Petersen in litt.), and on a weathership just outside the 200 mile limit in June 1970 (Tuck 1973).

House Sparrow Passer domesticus was introduced to Ivittuut/Ivigtut in Paamiut/Frederikshåb c. 1880, but survived for a few years only (Salomonsen 1950a).

References

- Aastrup, P., Bay, C. & Christensen, B. 1986. Biological environmental investigations in North Greenland. - Grønlands Fiskeri- og Miljøundersøgelser: 113 pp. (Danish, with English summary).
- Abraham, K.F. & Finney, G.H. 1986. Eiders of the eastern Canadian Arctic. - In: Reed, A. (ed.). Eider ducks in Canada: 55-73. Canadian Wildlife Service, Rep. Ser. No. 46, Ottawa.
- Alerstam, T., Hjort, C., Högsted, G. & Karlsson, J. 1984. Spring observations of some less common birds in the Angmagssalik district, southeast Greenland, 1982. - Dansk Orn. Foren. Tidsskr. 78: 54-55
- Alerstam, T., Hjort, C., Högsted, G., Jönsson, P.E., Karlsson, J. & Larsson, B. 1986. Spring migration of birds across the Greenland Inlandice. - Meddr Grønland, Bioscience 21: 38 pp.
- Alerstam, T., Gudmundsson, G.A., Jönsson, P.E., Karlsson, J. & Lindström, Å. 1990. Orientation, migration routes and flight behavior of Knots, Turnstones and Brant Geese departing from Iceland in spring. - Arctic 43: 201-214. Andersen, H. 1956. Fuglelivet på Arundel Ø, NØ. Grønland. -
- Dansk Orn. Foren. Tidsskr. 50: 162.
- Andersen, J. 1981. Kaptajn Ejnar Mikkelsens Mindeekspedition 1980. Scoresbysund - Angmagssalik. - Report: 105 pp.
- Andersen, N. 1981. Observations from Maniitsoq/Sukkertoppen, Greenland. - Dansk Orn. Foren. Tidsskr. 75: 88. (Danish, with English summary)
- Andersen, R.B. & Berg, T.B. 1991. Bird observations from Île de France, Northeast Greenland, 1988 and 1989. - Dansk Orn. Foren. Tidsskr. 85: 179-180. (Danish, with English summary).
- Anonymous 1971. Sea and Land Bird Observations from British Ocean Weather Ships in the North Atlantic During 1968 and 1969. - Sea Swallow 21: 8-13.
- Anonymous 1993. The 'British Birds' list of English names of Western Palearctic birds. - British Birds: 10 pp.
- Asmussen, J.P. 1957. Ornithologiske optegnelser fra Arsukdistriktet i Sydvestgrønland. - Flora og Fauna 63: 113-117.
- Asvid, K. 1974. Sjældnere fugle i Diskobugtdistrikterne. Danske Fugle 8: 59.
- Ballegård, J. 1979. Mere om fuglelivet i Diskobugten. Danske Fugle 10: 217-223.

- Banks, R.C. 1986. Subspecies of the glaucous gull, Larus hyperboreus (Aves: Charadriiformes). - Proc. Biol. Soc. Wash. 99: 149-159.
- Bárðarson, H.R. 1986. Islands Fugle. H.R. Bárðarson, Reykjavik: 336 pp.
- Bay, E. 1894. Hvirveldyr. Meddr Grønland 19, 1: 1-58.
- Bay, C. 1992. A phytogeographical study of the vascular plants of northern Greenland north of 74° northern latitude. Meddr. Grønland, Bioscience 36: 102 pp.
- Bay, C. in press. Biologisk-arkæologisk kortlægning af Grønlands østkyst mellem 75°N og 79°30'N. Del 8: Mammals and birds in the region between Germania Land (77°N) and Lambert Land (79°10'N), 1990. - Greenland Home Rule, Dpt. Wildl. Mgmt., Technical report no. 26. (Danish, with English summary).
- Bay, C. & Boertmann, D. 1989. Biologisk-arkæologisk kortlægning af Grønlands østkyst mellem 75°N og 79°30'N. Del 1: Flyrekognoscering mellem Mestersvig (72°12'N) og Nordmarken (78°N). - Greenland Home Rule, Dpt. Wildl. Mgmt., Technical report no. 4: 63 pp. (Danish, with English summary).
- Bennike, O. 1990. Observations of geese and other birds in West Greenland, 1989 and 1990. - Dansk Orn. Foren. Tidsskr. 84: 145-150.
- Bennike, O. & Feilberg, J. 1982. White-tailed Eagle Haliaetus albicilla breeding at Disko Bugt, West Greenland. - Dansk Orn. Foren. Tidsskr. 76: 73. (Danish, with English summary).
- Bennike, O. & Higgins, A.K. 1989. Some notable bird records from North Greenland, 1979-1986.- Dansk Orn. Foren. Tidsskr. 83: 87-88.
- Bennike, O. & Kelly, M. 1986. Bird observations in central North Greenland. Dansk Orn. Foren. Tidsskr. 80: 29–34.
- Berland, B. 1961. Bird observations in the drift ice. Fauna (Norsk Zoologisk Forenings Tidsskrift) 14: 6-19. (Norwegian, with English summary)
- Berland, B. 1962. Storlire ved Øst-Grønland. Sterna 5: 36.
- Bertelsen, A. 1921. Fuglene i Umánaq distrikt. Meddr Grønland 62, 2: 139-214.
- Bertelsen, A. 1932. Meddelser om nogle af de i Vestgrønlands distrikter mellem 60° og 77° N br. almindeligere forekommende fugle, særlig om deres udbredelsesomraade, deres yngleomraade og deres træk. - Meddr Grønland 91, 4: 1-75. (Danish, with English summary).
- Berthelsen, C., Mortensen I.H. & E. Mortensen (eds.) 1989. Kalaallit Nunaat - Greenland - Atlas. - Pilersuiffik: 130 pp.
- Bessels, E. 1879. Die Amerikanische Nordpol-Expedition. -Verlag von Wilhelm Engelmann, Leipzig: 647 pp.
- Best, J.R. & Higgs, W.J. 1990. Bird population status changes in Thule district, North Greenland. - Dansk Orn. Foren. Tidsskr. 84: 159-160.
- Biokon 1977. Environmental studies offshore West Greenland, summer 1977. Observations of seabirds and marine mammals. - Field notes, Biokon aps.
- Bird, C.G. & Bird, E.G. 1941. The Birds of North-east Greenland. - Ibis 14: 118-161.
- Blomqvist, S. & Elander, M. 1981. Sabine's Gull (Xema sabini), Ross's Gull (Rhodostethia rosea) and Ivory Gull (Pagophila eburnea). Gulls in the Arctic: A Review. - Arctic 34: 122-132.
- Boertmann, D. 1979. Ornithological observations in West Greenland, 1972–77. Dansk Orn. Foren. Tidsskr. 73: 171– 176. (Danish, with English summary).
- Boertmann, D. 1988. Grønlandske Fugle/Kalaallit Nunaata timmiai. - Pilersuiffik: 48 pp.
- Boertmann, D. 1991. Distribution and numbers of moulting non-breeding geese in Northeast Greenland. - Dansk Orn. Foren. Tidsskr. 85: 77-88.
- Boertmann, D. & Mosbech A. 1992. Kortlægning af kystfuglekolonier i Vestgrønland mellem Aasiaat og Paamiut. - Technical Report, Greenland Environmental Research Institute: 30 pp.

Boertmann, D., Madsen, J. & Mortensen, C.E. 1985. Rare birds

Meddelelser om Grønland, Bioscience 38 · 1994

in Jameson Land, East Greenland, 1982-84. - Dansk Orn. Foren. Tidsskr. 79: 151-152. (Danish, with English summary).

- Boertmann, D., Forchhammer, M. & Meltofte, H. 1990. Biologisk-arkæologisk kortlægning af Grønlands østkyst mellem 75°N og 79°30'N. Del 2: Censuses of birds and mammals in 16 selected areas between 76°N and 78°30'N in the Northeast Greenland National Park. - Greenland Home Rule, Dpt. Wildl. Mgmt., Technical report no. 10: 102 pp. (Danish, with English summary).
- Boertmann, D., Meltofte, H. & Forchhammer, M. 1991. Population densities of birds in central Northeast Greenland. -Dansk Orn. Foren. Tidsskr. 85: 151-160.
- Brown, R.G.B. 1986. Revised Atlas of Eastern Canadian Seabirds. 1 Shipboard Surveys. - Canadian Wildlife Service: 111 pp.
- Brown, R.G.B., Nettleship, D.N., Germani, P., Tull, C.E. & Davis, T. 1975. Atlas of eastern Canadian seabirds. - Canadian Wildlife Service: 220 pp.
- Burnham, W.A. & Mattox, W.G. 1984. Biology of the peregrine and gyrfalcon in Greenland. - Meddr Grønland, Bioscience 14: 25 pp
- Burnham, W.A., Jenkins, M.A., Ward, F.P., Mattox, W.G., Clement, D.M. & Harris, J.T. 1974. Falcon research in Greenland 1973. - Arctic 27: 71-74
- Böcher, J. 1988. The Coleoptera of Greenland. Meddr Grønland, Bioscience 26: 1-100.
- Cabot, D. (ed.) 1984. Biological expedition to Jameson Land, Greenland 1984. - Barnacle Books, Dublin: 102 pp.
- Cabot, D., Goodwillie, R. & Viney, M. 1988. Irish expedition of North-east Greenland 1987. - Barnacle Books, Dublin: 150 pp
- Campbell, K. (ed.) undated. Trinity College East Greenland expedition, 1963. – Report: 31 pp. Chapman, F.S. 1932. Appendix VI. – Some field-notes on the
- birds of East Greenland. In: Watkins, H.G. The British Arctic Air Route expedition. - Geographical Journal 79: 493-496.
- Chapman, F.S. 1934. Appendix II. Preliminary account of the natural history work. In: Rymill, J.R. The Tugtilik (Lake Fjord) country, East Greenland. - Geographical Journal 83: 375-377.
- Christensen, S. 1966. Søndre Strømfjord 1965. Feltornithologen 8: 140-141.
- Christensen, J. 1979. The breeding habitat, nest-site and nest of the Greenland White-tailed Eagle Haliaeetus albicilla groenlandicus Brehm. - Dansk Orn. Foren. Tidsskr. 73: 131-156. (Danish, with English summary)
- Christensen, O. & Lear, W.H. 1977. Bycatches in salmon driftnets at West Greenland in 1972. - Meddr Grønland 205, 5: 38 pp.
- Cooke, M.T. 1945. Transoceanic Recoveries of Banded Birds. -Bird-Banding 16: 123-129.
- Cooke, F. 1987. Lesser Snow Goose: A long-term population study. - In: Cooke, F. & Buckley P.A. (eds). Avian Genetics: 407-432. Academic Press.
- Cottam, C. & Hanson, H.C. 1938. Food Habits of some Arctic Birds and Mammals. - Zool. Ser. of. Field Mus. of Nat. Hist. 20: 405-426.
- Cramp, S. (ed.) 1985. The Birds of the Western Palearctic, Vol. 4. - Oxford University Press: 960 pp.
- Cramp, S. (ed.) 1988. The Birds of the Western Palearctic, Vol. 5. -Oxford University Press: 1063 pp. Cramp, S. & Simmons, K.E.L. (eds.) 1977. The Birds of the
- Western Palearctic, Vol. 1. Oxford University Press: 722 pp.
- Cramp, S. & Simmons, K.E.L. (eds.) 1979. The Birds of the Western Palearctic, Vol. 2. Oxford University Press: 695 pp.
- Cramp, S. &. Simmons, K.E.L. (eds.) 1983. The Birds of the Western Palearctic, Vol. 3. - Oxford University Press: 913 pp.
- Dalgety, C.T. 1936. Notes on birds observed in Greenland and Baffin Land, June - September 1934. - Ibis 13th ser. vol. 6: 580-591

- Dalgety, C.T. & Scott, P. 1948. A new race of the White-fronted Goose. – Bull. Br. Orn. Club 68: 109–121.
 Degerbøl, M. & Møhl-Hansen, U. 1935. The Scoresby Sound
- Degerbøl, M. & Møhl-Hansen, U. 1935. The Scoresby Sound Committee's East Greenland Expedition in 1932 to King Christian IX's Land. Birds. – Meddr Grønland 104, 18: 1–30.
- Deichmann, H. 1909. Birds of East Greenland. In: Carlsbergsfondets Expedition til Østgrønland, udført i Aarerne 1898– 1900. – Meddr Grønland 29, 4: 143–155.
- Dennis, R. 1988. Bird Report 1988 Hold-With-Hope Expedition. – Field report.
- Dietz, R. & Andersen, O.G.N. 1984. Status over dyre- og plantelivet i Nordgrønland. Del 1: Pattedyr & fugle. – Danbiu Aps., Copenhagen: 133 pp.
- Duc d'Orléans 1907. Croisiere océanographique accomplie a bord la Belgica dans la mer du Grönland. – Bruxelles: 567 pp.
- Durinck, J. & Falk, K. in prep. Seabird distribution along West Greenland, fall 1988 and winter 1989.
- Dyck, J. 1965. Observations on birds made during a journey to Greenland, summer 1958. – Dansk Orn. Foren. Tidsskr. 59: 35-37. (Danish, with English summary).
- Dändliker, G. 1988. Preliminary report on the CIFFEN expedition to NE-Greenland 1988. – Field Report: 10 pp.
- Dörnbach, R. undated. Field notes from Thule (N W Greenland). - Field Report: 6 pp.
- Dörnbach, R. 1971. Bird list, South west Greenland, holiday 23-30 June, 1970 (Narssarssuaq). Field Report: 2 pp.
- Dörnbach, R. 1990. Field notes from Hold With Hope (N E Greenland). Field Report: 8 pp.
- Dörnbach, R. 1992. Field notes from Ammalortup Nunaa (W. Greenland). Field Report: 5 pp.
- Elander, M. & Blomqvist, S. 1986. The avifauna of central Northeast Greenland, 73°15'N.-74°05'N., based on a visit to Myggbukta, May-July 1979. – Meddr Grønland, Bioscience 19: 44 pp.
- Ellis, P. 1973. Ornithological report. In: Barbier, A. (ed.). The Leicester Polytecnic Students Greenland expedition 1972: 114–116. Report.
- Evans, P.G.H. 1981. Ecology and behavior of the Little Auk Alle alle in West Greenland. – Ibis 123: 1–18.
- Evans, P.G.H. 1984. The Seabirds of Greenland: Their status and conservation. – In: Croxall, J.P., Evans, P.G.H. & Schreiber, R.W. (eds). Status and Conservation of the World's seabirds: 49–84. ICBP Technical Publication No. 2, Cambridge.
- Evans, P.G.H & Kampp, K. 1991. Recent changes in Thickbilled Murre populations in West Greenland. – In: Gaston A.J. & Elliot, R.D. (eds.). Studies of high-latitude seabirds. 2. Conservation biology of Thick-billed Murres in the Northwest Atlantic: 7–14. Can. Wildl. Serv., Occ. paper No. 69.
- Fabricius, O. 1780. Fauna Groenlandica, Pattedyr og Fugle. Danish translation by O. Helms 1929. – Det Grønlandske Selskabs Skrifter 6: 168 pp.
- Falk, K. 1993. Seabird exploitation of the NEW polynia: Foraging strategies, energetics and reproduction in the Fulmar. – Preliminary field report, 1993: 3 pp.
- Falk, K. & Durinck, J. 1991. The by-catch of thick-billed murres (Uria lomvia) in salmon drift-nets in West Greenland. – In: Gaston, A.J. & Elliot, R.D. (eds.). Studies of high-latitude seabirds. 2. Conservation biology of Thick-billed Murres in the Northwest Atlantic: 23–28. Can. Wildl. Serv., Occ. paper No. 69.
- Falk, K. & Durinck, J. 1992. Thick-billed Murre hunting in West Greenland, 1988–89. – Arctic 45: 167–178.
- Falk, K. & Kampp, K. 1992. Havfugle ved Vestgrønland en opdateret oversigt. – Unpubl. report, Ornis Consult/Zoological Museum, Copenhagen: 24 pp. + maps.
- Falk, K. & Møller, S. 1988. Status of the Peregrine Falcon in South Greenland: Population Density and Reproduction. In: Cade, T.J., Enderson, J.H., Thelander, C.G. & C.M. White (eds.). Peregrine falcon populations: Their management and recovery: 37–43. Proc. 1985 Peregrine Conf., Sacramento, The Peregrine Fund, Inc.

- Feilberg, J. 1985. Belted Kingfisher Ceryle alcyon in Godhavn, W Greenland, 1983. – Dansk Orn. Foren. Tidsskr. 79: 154. (Danish, with English summary).
- Fencker, H. 1947. Bird life in Sarqaq, North Greenland, in winter 1946–47. – Dansk Orn. Foren Tidsskr. 41: 161–168. (Danish, with English summary).
- Fencker, H. 1950. The Greenland White-fronted Goose (Anser albifrons flavirostris Scott & Dalgety) and its breeding-biology. – Dansk Orn. Foren. Tidsskr. 44: 61–65. (Danish, with English summary).
- Ferns, P.N. 1978. General ornithological notes. In: Green, G.H. & Greenwood, J.J.D. (eds.). Joint biological expedition to North East Greenland, 1974: 152–164. Dundee University.
- Fjeldså, J. 1973. Distribution and Geographical Variation of the Horned Grebe *Podiceps auritus* (Linnaeus, 1758). – Orn. Scand. 4: 55–86.
- Fjeldså, J. & Jensen, J.-K. 1985. An 'invasion' of Iceland and Kumlien's Gulls *Larus glaucoides glaucoides* and *kumlieni* to Nólsoy in the Faeroes. – Dansk Orn. Foren. Tidsskr. 79: 103-106. (Danish, with English summary).
- Forchhammer, M. 1990. Ornithological observations in Germania Land and Dove Bugt, Northeast Greenland, 1986–1988. – Greenland Home Rule, Dpt. Wildl. Mgmt., Technical report no. 12: 29 pp.
- Forchhammer, M. & Maagaard, L. 1990. Distribution of breeding Sabine's Gulls in Greenland. – Dansk. Orn. Foren. Tidsskr. 84: 162–164. (Danish, with English summary)
- Forchhammer, M. & Maagaard, L. 1991. Breeding biology of Sabine's Gull *Larus sabini* in Northeast Greenland. – Dansk Orn. Foren. Tidsskr. 85: 53–62.
- Fox, A.D. 1987. Observations on the Waders of Eqalungmut nunaat, West Greenland. – Wader Study Group Bulletin 49: 11-17.
- Fox, A.D. & Stroud, D.A. (eds) 1981. Report of the 1979 Greenland White-fronted Goose Study Expedition of Eqalungmiut Nunat, West Greenland. – GWGS Aberystwyth: 319 pp.
- Fox, A.D. & Stroud, D. 1988. The breeding biology of the Greenland White-fronted Goose (*Anser albifrons flaviro*stris). – Meddr Grønland, Bioscience, 27: 13 pp.
- Fox. A.D., Madsen J. & Stroud, D.A. 1983. A review of the summer ecology of the Greenland White-fronted Goose Anser albifrons flavirostris. – Dansk Orn. Foren. Tidsskr. 77:43–55.
- Fox, A.D., Francis, I.S., Madsen, J. & Stroud J.M. 1987. The breeding biology of the Lapland Bunting *Calcarius lapponicus* in West Greenland during two contrasting years. – Ibis 129: 541–552.
- Fox, A.D., Gitay, H., Owen, M., Salmon, D.G. & Ogilvie, M.A. 1989. Population dynamics of Icelandic-nesting geese, 1960-1987. – Ornis Scand. 20: 289–297.
- Fox. A.D., Feilberg, J., Salvig, J & Ettrup, H. 1991. Biologisk registrering på Naternaq (Lersletten), Vestgrønland juli 1991.
 Report: 16 pp.
- Fox. A.D., Francis I.S., McCarthy, J.P. & McKay, C.R. 1992. Body mass dynamics of the Lapland Bunting *Calcarius lapponicus* in West Greenland. – Dansk Orn. Foren. Tidsskr. 86: 155–162.
- Franeker, J.A. van & Wattel, J. 1982. Geographical variation of the fulmar *Fulmarus glacialis* in the North Atlantic. – Ardea 70: 31–44.
- Freuchen, P. 1915. Report of the First Thule Expedition. Scientific Work. – Meddr Grønland, 51, 12: 389–411.
- Freuchen, P. & Salomonsen, F. 1958. The Arctic year. G.P. Putnam's Sons: 438 pp.
- Friend, C.R.L. 1991. Northerly extension of the breeding range of the Great Northern Diver *Gavia immer* in East Greenland. – Dansk Orn. Foren. Tidsskr. 85: 178–179.
- Frimer, O. 1991a. Densities and distribution of passerine birds in a coastal area of Disko Island, West Greenland, with notes on breeding performance. – Dansk Orn. Foren. Tidsskr. 85: 161–167.

- Frimer, O. 1991b. Strandhjejlen, en ny ynglefugl i Grønland. -Forskning i Grønland/tusaat 4/1991: 15-16.
- Frimer, O. 1992. Observations on the autumn migration of waders at Qaamassoq, Disko, West Greenland. - Dansk Orn. Foren. Tidsskr. 86: 267-269.
- Frimer, O. 1993a. Breeding and summering North American waders on Qaamassoq, Disko, West Greenland. – Dansk Orn. Foren. Tidsskr 87: 255–257.
- Frimer, O. 1993b. Occurrence and distribution of King Eiders Somateria spectabilis and Common Eiders S. mollissima, West Greenland. - Polar Research 12: 111-116.
- Frimer, O. & Nielsen, S.M. 1990. Bird observations in Agajarua Sullorsuaq, Disko, West Greenland, 1989. - Dansk Orn. Foren. Tidsskr. 84: 151-158.
- Furness, R.W. 1987. The Skuas. T. & A.D. Poyser, Calton: 363 pp
- Gantlett, S. 1991. The rise and fall of Thayer's Gull. Birding World 4: 84-86.
- Gaston, A.J. & Decker, R. 1985. Interbreeding of Thayer's Gull, Larus thayeri, and Kumlien's Gull, Larus glaucoides kumlieni, on Southampton Island, Northwest Territories. - Canadian Field-Naturalist 99: 257-259.
- Gitz-Johansen 1938. Skitzebogsblade fra Angmagssalik 1935–36. Publikationer om Østgrønland 7: 29 pp. Glahder, C. 1992. Hunting in Kangerlussuag, East Greenland,
- 1951-1991. Greenland Environmental Research Institute: 201 pp.
- Glahder C. 1993. Havfugle langs Syd- og Sydgrønland, august 1990. Dansk Orn Foren. Tidsskr. 87: 252–255.
- Glutz von Blotzheim, U.N. & Bauer, K.M. 1982. Handbuch der Vögel Mitteleuropas, band 8/1, 3. teil. - Akademische Verlagsgesellschaft, Weisbaden: 699 pp.
- GM & OC 1993. Database over Grønlands havfuglekolonier. -Greenland Environmental Research Institute and Ornis Consult.
- Godfrey, W. E. 1986. The birds of Canada. Revised edition. -Ottawa: 595 pp.
- Grant, C.T. 1972. Ornithology Report. In: Joint Services Expedition, North Peary Land 1969. - Report: 6 pp.
- Grant, P.J. 1986. Gulls, a guide to identification. Second ed. T. & A.D. Poyser, Calton: 352 pp. Gravesen, P. 1973. Fuglenotater fra Kap Farvel-området 1966. –
- Feltornithologen 15: 138-140.
- Gravlund, P. 1991. Artsliste for fugle observerede på "Projekt Skjoldungen 1991". Report, 1 p.
- GREA 1985. Preliminary report on the 1985 North East Greenland GREA expedition 12 - 30 August, 1985. - Groupe de Recherches en Ecologie Arctique: 3 pp.
- Gräfe, F. 1973. Verbreitung des Grossen Sturmtauchers (Puffinus gravis) vor der SE-Küste Grönlands im August 1966. -Die Vogelwelt 94: 175-182.
- Gudmundsson, G.A. 1992. Flight and migration strategies of birds at polar latitudes. - Doctoral thesis, Lund University (195 pp).
- Gudmundsson, G.A. & Lindström, Å 1992. Spring migration of Sanderlings Calidris alba through SW Iceland: wherefrom and whereto ? - Ardea 80: 315-326.
- Hagen, Y. 1956. The Common Crossbill (Loxia curvirostra L.) in North-East Greenland. - Nytt Magasin for Zoologi 4: 107-108.
- Hall, A.B. 1966. The breeding birds of an East Greenland valley, 1962. – Dansk Orn. Foren. Tidsskr. 60: 175-185.
- Hall, A.B. & Waddingham, R.N. 1966. The breeding birds of Ørsted Dal, East Greenland, 1963. - Dansk Orn. Foren. Tidsskr. 60: 186-197
- Hansen, J.M. undated. Hurry Fjord Ekspeditionen 1979. Naturhistorisk Museum, Århus: 42 pp.
- Hansen, P.S. 1968a. Grønlandsk Hvidsisken. Feltornithologen 10: 14-15.
- Hansen, P.S. 1968b. Breve fra Grønland 4. Feltornithologen 10: 158-162.
- Hansen, E. 1971. Fra Grønland. Feltornithologen 13: 126.

- Hansen, E. 1977. Usædvanlige iagttagelser fra Godthåb distrikt, Grønland. - Dansk Orn. Foren. Tidsskr. 71: 66.
- Hansen, K. 1979. Population status for the Greenland Whitetailed Eagle Haliaeetus albicilla groenlandicus Brehm covering the years 1972-74. - Dansk Orn. Foren. Tidsskr. 73: 107-130. (Danish, with English summary).
- Hansen, J.M. 1984. The population of Long-tailed Skuas Stercorarius longicaudus at Kærelv, Scoresby Sund, East Greenland, 1979. - Dansk Orn. Foren. Tidsskr. 78: 99-104.
- Harrison, P. 1983. Seabirds an identification guide. Croom Helm Ltd: 448 pp.
- Hayman, P., Marchant, J. & Prater, T. 1986. Shorebirds. -Croom Helm: 412 pp.
- Helms, O. 1899. Ornithologiske Meddelelser fra Grønland. -Vidsk. Meddr dansk naturh. Foren. 1899: 231-237.
- Helms, O. 1904. Fortsatte ornithologiske Meddelelser (1903) fra Grønland. - Vidsk. Meddr dansk naturh. Foren. 1904: 79-135.
- Helms, O. 1910. Nye arter for Østgrønland. Dansk Orn. Foren. Tidsskr. 4: 130–131.
- Helms, O. 1926. The birds of Angmagssalik. Meddr Grønland 58, 4: 205-274.
- Helms, O. & Schiøler, E.L. 1917. Om nogle for Grønlands Østog Vestkyst nye og sjældne arter. – Dansk Orn. Foren. Tidsskr. 11: 172–175.
- Heyland, J.D. & Boyd, H. 1970. Greater Snow Geese (Anser caerulescens atlanticus Kennard) in Northwest Greenland. -Dansk Orn. Foren. Tidsskr. 64: 198-199.
- Higgins, A.K. 1984. Ptarmigan Lagopus mutus in northernmost Greenland. - Dansk Orn. Foren. Tidsskr. 78: 53-54. (Danish, with English summary).
- Higgs, W.J. 1988. Report on Erskine expedition to Mestersvig Northeast Greenland, 1988. - Field Report: 5 pp.
- Hjort, C. 1976a. Notes on the bird fauna of Hudson Land and Hold With Hope, Northeast Greenland, 1973. Dansk Orn. Foren. Tidsskr. 70: 35-44.
- Hjort, C. 1976b. An observation of Ivory Gull Pagophila eburnea migration along the East Greenland current. - Dansk Orn. Foren. Tidsskr. 70: 72-73.
- Hjort, C. 1980. Ross's Gull Rhodostethia rosea breeding in Peary Land, North Greenland, 1979 - Dansk Orn. Foren. Tidsskr. 74: 75-76.
- Hjort, C. 1982. Red-breasted Merganser, Golden Plover and Fieldfare in Eastern North Greenland, 1979. - Dansk Orn. Foren. Tidsskr. 76: 71.
- Hjort, C. 1986. Fåglar och landskab i Johannes V. Jensen Land världens nordligsta landområde. - Vår Fågelvärld 45: 476-482
- Hjort, C., Håkansson, E. & Stemmerik, L. 1983. Bird observations around the Nordøstvandet polynya, Northeast Greenland, 1980. - Dansk Orn. Foren. Tidsskr. 77: 107-114.
- Hjort, C., Håkansson, E. & Mølgaard, P. 1987. Brent Geese Branta bernicla, Snow Geese Anser caerulescens and Barnacle Geese Branta leucopsis on Kilen, Kronprins Christian Land, Northeast Greenland, 1985. - Dansk Orn. Foren. Tidsskr. 81: 121-128.
- Hjort, C., Håkansson, E. & Mølgaard, P. 1988. Bird observations on Kilen, northeasternmost Greenland, 1985. - Dansk Orn. Foren. Tidsskr. 82: 19-24.
- Holgersen, H. 1957. Icelandic Redshank (Tringa totanus robustus (Schiöler)) in Greenland. - Dansk Orn. Foren. Tidsskr. 51: 73-74. (Danish, with English summary).
- Holbøll, C. 1842-43. Ornithologiske bidrag til den grønlandske fauna. - Naturhistorisk Tidsskrift 1. række 4 bind: 361-457.
- Hørring, R. 1939. Birds. In: 6. og 7. Thule expedition til Sydøstgrønland 1931-33. - Meddr Grønland 108, 6: 44 pp
- Hørring, R. & Salomonsen, F. 1941. Further records of rare or new Greenland birds. - Meddr Grønland 131, 5: 86 pp.
- Håkansson, E., Bennike, O., Mølgaard, P. & Frykman, P. 1981. Bird observations from northern Greenland in the summers of 1976 and 1978. - Dansk Orn. Foren. Tidsskr. 75: 51-57. (Danish, with English summary).

- Jensen, A.S. 1928. Grønlands Fauna, et forsøg på en oversigt. -University of Copenhagen: 88 pp. Jensen, J.-K. 1982. Possible wintering quarters for MacCor-
- mick's Skua Stercorarius maccormicki on the New Foundland Bank. - Dansk Orn. Foren. Tidsskr. 76: 148. (Danish, with English summary).
- Jensen, N.O. 1982. Breeding record of Teal Anas crecca in NE-Grønland, 1979. - Dansk Orn. Foren. Tidsskr. 76: 147. (Danish, with English summary). Joensen, A.H. & Preuss N.O. 1972. Report on the ornithological
- expedition to Northwest Greenland 1965. Meddr Grønland 191. 5: 58 pp
- Johnsen, P. 1953. Birds and mammals of Peary Land in North Greenland. Including notes from Northeast Greenland. Meddr Grønland 128, 6: 135 pp. Joiris, C. 1976. Seabirds seen during a return voyage from
- Belgium to Greenland in July. Le Gerfaut 66: 63-87.
- Just, J. 1967. Ornithological Observations on the 4th Pearyland Expedition in the summer of 1966. - Dansk Orn. Foren. Tidsskr. 61: 133-137.(Danish, with English summary).
- Jørgensen, A. 1923. Bartrams Klire (Bartramia longicauda) og Brushane (Machetes pugnax) i Grønland. - Dansk Orn. Foren. Tidsskr. 17: 118.
- Kampp, K. 1982. Notes on the Long-tailed Skua Stercorarius longicaudus in West Greenland. - Dansk Orn. Foren. Tidsskr. 76: 129-135.
- Kampp, K. 1985. Lomvier og andre havfugle på Ydre Kitsigsut, Sydgrønland 1985. - Zoologisk Museum, København: 26 pp.
- Kampp, K. 1988. Migration and winter ranges of Brünnich's Guillemots Uria lomvia breeding or occurring in Greenland. -Dansk Orn. Foren Tidsskr. 83: 117-130.
- Kampp, K. 1990. The Thick-billed Murre population of the Thule District, Greenland. Arctic 43: 115–120.
- Kampp, K. 1991. Mortality of Thick-billed Murres in Greenland inferred from band recovery data. - In: Gaston, A.J. & Elliot, R.D. (eds.). Studies of high-latitude seabirds. 2. Conservation biology of Thick-billed Murres in the Northwest Atlantic: 15–22. Can. Wildl. Serv., Occ. paper No. 69. Kampp, K. & Kristensen, R.M. 1980a. Ross's Gull Rhodo-
- stethia rosea breeding in Disko Bay, West Greenland, 1979. Dansk Orn. Foren. Tidsskr. 74: 65–74.
- Kampp, K. & Kristensen, R.M. 1980b. Fugle på Disko Vestgrønland. - Report: 27 pp.
- Kampp, K. & Lyngs, P. 1989. Polarlomvier i Upernavik 1989. -Field report from det grønlandske fuglefjeldsprojekt: 39 pp.
- Kampp, K. & Wille, F. 1990. The White-tailed Eagle population in Greenland. - Dansk Orn. Foren. Tidsskr. 84: 37-44. (Danish, with English summary).
- Kampp, K., Meltofte, H. & Mortensen, C.E. 1986. Little Auks in Scoresby Sund. - Zoological Museum and Greenland Environmental Research Institute, Copenhagen: 60 pp. (Danish, with English summary).
- Kampp, K., Meltofte, H. & Mortensen, C.E. 1987. Population size of the Little Auk Alle alle in East Greenland. - Dansk Orn. Foren. Tidsskr.81: 129-136.
- Kampp, K., Fox, A.D. & Stroud, D.A. 1988. Mortality and movements of the Greenland White-fronted Goose Anser albifrons flavirostris. - Dansk Orn. Foren. Tidsskr. 82: 25-36.
- Kaufman, K. 1990. Advanced Birding. Houghton Mifflin Company, Boston: 299 pp.
- Kempf, C. undated. Nouvelles données sur l'avifaune de la côte N.E. du Groenland (Traill Ø) - 1979. - Rapport Scientifique de l'Expedition 1979 au Groenland (Traill Ø, côte Nord-Est): 45-49.
- Knox, A. 1988. Taxonomy of the Rock/Water Pipit superspecies Anthus petrosus, spinoletta and rubescens. - Brit. Birds 81: 206-211
- Knox, A. 1989. Proposed changes to the Voous List. Brit. Birds 82: 119-120.
- Knudsen, K. 1933. Ornithologiske notitser fra Nordøstgrønland. - Dansk Orn. Foren. Tidsskr. 27: 93-95.

- Knudsen, K. 1935a. Noter om Lindenowfjords fuglefauna. -Dansk Orn. Foren. Tidsskr. 29: 37-41.
- Knudsen, K. 1935b. Sangsvane Cygnus cygnus (islandicus) og Horsegøg Capella gallinago (faeroeensis), ved Angmagssalik. - Dansk Orn. Foren. Tidsskr. 29: 112.
- Kolthoff, G. 1903. Bidrag till kännedom om Norra Polartraktarnes däggdjur och fåglar. - Kungl. Svenska Vetensk. Akad. Hand, 36, 9: 104 pp.
- Korte, J. de 1973. Nederlandse Groenland expeditie, Scoresbysund-1973. Preliminary report on fieldwork. - Report: 10 pp.
- Korte, J. de 1974. Nederlandse Groenland expeditie, Scoresbysund-1974. Preliminary report on fieldwork. - Report: 8 pp.
- Korte, J. de 1975. Golden Plover Pluvialis apricaria breeding in Jameson Land, East Greenland. - Dansk Orn. Foren. Tidsskr. 69: 129-134.
- Korte, J. de 1977. Ecology of the Long-tailed Skua (Stercorarius longicaudus Vieillot, 1819) at Scoresby Sund, East Greenland. Report of the Nederlandse Groenland Expeditie Scoresbysund 1973, 1974 and 1975. Part one: Distribution and Density. - Beaufortia 25 no. 328: 201-219.
- Korte, J. de 1984. Ecology of the Long-tailed Skua (Stercorarius longicaudus Vieillot, 1819) at Scoresby Sund, East Greenland. Part two: Arrival, site tenacity and departure. -Beaufortia 34 no. 1: 1-14.
- Korte, J. de 1988. Observations of birds and mammals. Hurry Inlet area, Scoresby Sund, Northeast Greenland, 1988. - Cir-
- cumpolar Journal 3(4): 1–15. Korte, J. de & Bosman, C. 1975. Nederlandse Groenland Expeditie 1975. Preliminary Report on fieldwork. - Verslagen En Technische Gegevens. Instituut voor Taxonomische Zoologie (Zoologisch Museum). No. 6: 10 pp.
- Korte, J. de & Wattel, J. 1987. Food and breeding succes of the Long-tailed Skua at Scoresby Sund, Northeast Greenland. Ardea 76: 27-41.
- Korte, J. de, Bosman, C.A.W. & Meltofte, H. 1981. Observations on waders (Charadriidae) at Scoresby Sund, East Greenland. - Meddr Grønland, Bioscience 7: 21 pp.
- Kristensen, R. M. 1979. Observations on some rare birds on Disko island, West Greenland, 1976-77. - Dansk Orn. Foren. Tidsskr. 73: 181-184. (Danish, with English summary).
- Kristensen, N.M. & Kristensen, R.M. 1993. Nordøstvandspolynya - ørken eller oase i havet ud for Nordøstgrønland. Forskning i Grønland/tusaat 1/93: 14-20
- Kumlien, L. 1879. Birds. In: Contribution to the natural history of Arctic America made in connection with the Howgate Polar Expedition, 1877-78. - Bull. U.S. National Museum 15: 69-105.
- Lambert, K. 1972. Observations of Blackheaded Gull, Whiterumped Sandpiber and Tree Swallow in Greenland Waters Dansk Orn. Foren. Tidsskr. 66: 72. (Danish, with English summary)
- Longstaff, T.G. 1932. An ecological reconnaissance in West Greenland. - Journal of Animal Ecology 1: 119-142.
- Lyngs, P. 1989. Fugle i Upernavik og umiddelbare omegn, 7/5-14/6 1989. - Field report: 4 pp.
- Løppenthin, B. 1932. Die Vögel Nordöstgrönlands zwischen 73°00' und 75°30'N. Br. - Meddr Grønland 91, 6: 127 pp.
- Løppenthin, B. 1943. Systematic and biologic notes on the Long-tailed Skua Stercorarius longicaudus Vieill. - Meddr Grønland 131, 12: 25 pp.
- Maclaren Marex 1979. Report on aerial surveys of marine mammals and birds in southern Davis Strait and eastern Hudson Bay in March 1978 for Esso resources Canada ltd., Aquitaine Co. of Canada ltd. and Canada Cities Services ltd. Arctic petroleum operators association. Project no. 146. - Maclaren Marex Inc.: 43 pp. + appendices. Madge, S. & Burn, H. 1988. Wildfowl: an identification guide to
- the ducks, geese and swans of the world. Cristopher Helm, London: 298 pp.
- Madsen, J., 1981. Lapland Bunting (Calcarius lapponicus). In: Fox, A.D. & D.A. Stroud (eds) 1981: Report of the 1979 Greenland White-fronted Goose Study Expedition to Eqa-

lungmiut Nunât, West Greenland: 183-186. GWGS Aberystwyth.

- Madsen, J., Boertmann, D. & Mortensen, C.E. 1984a. Goose investigations in Jameson Land, 1983. – Grønlands fiskeri- og miljøundersøgelser: 67 pp. (Danish, with English summary).
- Madsen, J., Boertmann, D. & Mortensen, C.E. 1984b. The significance of Jameson Land, East Greenland, as a moulting and breeding area for geese: results of censuses 1982–1984. – Dansk Orn. Foren. Tidsskr. 78: 121–131.
- Manniche, A.L.V. 1910. The terrestrial Mammals and Birds of North-East Greenland. – Meddr Grønland 45 (1): 1–200.
- Marris, R. & Webbe, A.H.F. 1969. Observations of birds in East Greenland. – Dansk Orn. Foren. Tidsskr. 63: 161–170.
- Mattox, W.G. & Seegar, W.S. 1988. The Greenland peregrine falcon survey, 1972–1985, with emphasis on recent population status. In: Cade, T.J., Enderson, J.H., Thelander, C.G. & White, C.M. (eds). Peregrine falcon populations: Their management and recovery: 27–36. Proc. 1985 Peregrine Conf., Sacramento, The Peregrine Fund, Inc.
- Mehlum, F. 1989. Summer distribution of seabirds in northern Greenland and Barents Seas. – Norsk Polarinstitutts Skrifter Nr. 191: 56 pp.
- Meldgaard, M. 1988. The Great Auk *Pinguinus impennis* (L.) in Greenland. Historical Biology 1: 145–178.
- Meltofte, H. 1972. Ornithological observations in the Norwegian Sea, the Greenland Sea, and NE Greenland, July-August 1972. – Dansk Orn. Foren. Tidsskr. 66: 108–112.
- Meltofte, H. 1975. Ornithological observations in Northeast Greenland between 76°00' and 78°00'N. lat. 1969–71. – Meddr Grønland 191, 9: 72 pp.
- Meltofte, H. 1976a. Ornithological observations from the Scoresby Sund area, East Greenland, 1974. – Dansk Orn. Foren. Tidsskr. 70: 107–122. (Danish, with English summary).
- Meltofte, H. 1976b. Ornithological observations in Southern Peary Land, North Greenland 1973. – Meddr Grønland 205, 1: 57 pp.
- Meltofte, H. 1977. Ornithological observations in Germania Land, Northeast Greenland, 1975. – Dansk Orn. Foren. Tidsskr. 71: 81–94. (Danish, with English summary).
- Meltofte, H. 1978. A breeding association between Eiders and tethered huskies in North-east Greenland. – Wildfowl 29: 45-54.
- Meltofte, H. 1983. Arrival and pre-nesting period of the snow bunting *Plectrophenax nivalis* in East Greenland. – Polar Research 1 n.s.: 185–198.
- Meltofte, H. 1985. Populations and breeding schedules of waders Charadrii, in high arctic Greenland. – Meddr Grønland, Bioscience 16: 44 pp.
- Meltofte, H., Elander, M. & Hjort, C. 1981a. Ornithological observations in Northeast Greenland between 74°30' and 76°00'N. lat., 1976. – Meddr Grønland, Biosci. 3: 53 pp.
- Meltofte, H., Edelstam, C., Granström, G., Hammer, J. & Hjort, C. 1981b. Ross's Gull in the Arctic pack-ice. – Brit. Birds, 74: 316–320.
- Molenaar, J. de 1982. Bird observations in central Southeast Greenland. – unpubl. manuscript: 8 pp.
- Mortensen, P.H. 1965. Some records of rare birds in Denmark. Dansk Orn. Foren. Tidsskr. 59: 106.
- Mortensen, C.E., Glahder, C. & Mosbech, A. 1988. The Geese in Jameson Land 1987. – Greenland Environmental Research Institute: 68 pp. (Danish, with English summary).

Møhl, J. 1965. Notes from Grant Land, 1965. - Field report.

- Møhl-Hansen, U. 1949. The Bird-life in Pearyland, North Greenland. Observations on "Dansk Pearyland Ekspedition" in the summer 1947. – Dansk. Orn. Foren. Tidsskr. 43: 109– 129. (Danish, with English summary).
- Norderhaug, M. 1989. Svalbards Fugler. Dreyer, Oslo: 102 pp. Nordin, T. 1985. Birds on Disko Island. – Fauna och flora 80:
- 159-168. (Swedish, with English summary).
- Nørrevang, A. 1973. Birds in the Kap Farvel Area, 1970. Dansk Orn. Foren. Tidsskr. 67: 95–104. (Danish, with English summary).

- Oldenow, K. 1933. Fugleliv i Grønland. Det grønlandske Selskabs Aarsskrift 1932–33: 17–224.
- Olsen, R.J. 1925. Sumpdrossel, *Turdus pallasii*, Cabanis, Ny for Grønland. Dansk Orn. Foren. Tidsskr. 19: 41-42.
- Parry, W.E. 1821. Journal of a voyage for the discovery of a North-west passage from the Atlantic to the Pacific; performed in the years 1819–20, in his Majesty's ships Hecla and Griper, under the orders of William Edward Parry, R.N., Frs., and commander of the expedition. – John Murray, London: 310 pp. + appendices.
- Pedersen, A. 1926. Beiträge zur Kenntnis der Säugetier- und Vogelfauna der Ostküste Grönlands. – Meddr Grønland 68, 3: 151–249.
- Pedersen, A. 1930. Forgesetzte Beitrage zur kenntnis der Säugetiere- und Vogelfauna der Ostküste Grönlands. – Meddr Grønland 77, 5: 343–507.
- Pedersen, A. 1934. Die Ornis des Mittleren Teiles der Nordostküste Grönlands. – Meddr Grønland 100, 11: 35 pp.
- Pedersen, A. 1942. Säugetiere und Vögel. Meddr Grønland 128, 2: 119 pp.
- Petersen, J. 1941. Dagbogsoptegnelser om fuglenes forekomst ved Scoresbysund Station fra efteråret 1934 til sommeren 1935. – Dansk Orn. Foren. Tidsskr. 35: 123–125.
- Petersen, A. 1977. Icelandic black guillemots (*Cepphus grylle islandicus*) recovered in Greenland and Mandt's guillemot (*C. g. mandtii*) recorded in Iceland. Náttúrufræðingurinn 47: 149–153. (Icelandic, with English summary.).
- Petersen, A. 1983. An influx of Short-eared Owls Asio flammeus in Iceland, autumn 1982. – Bliki 1: 12–16. (Icelandic, with English summary.).
- Peterson, R., Mountfort, G.R. & Hollom, P.A.D. 1985. Europas Fugle, 7th ed. – G.E.C. Gads Forlag: 312 pp.
- Pétursson, G., Gunnlaugur, Th, & Ólafsson, E. 1991. Rare birds in Iceland in 1988. – Bliki 10: 15–50. (Icelandic, with English summary.).
- Pihl, S. 1976. Observations of birds in Southwest Greenland, 1973–75. – Dansk Orn. Foren. Tidsskr. 70: 103–106. (Danish, with English summary).
- Pitelka, F.A. 1950. Geographic variation and the species problem in the shorebird genus Limnodromus. – Univ. Calif. publ. Zool. 50: 1–108.
- Rafn, A. 1933. Lidt om fuglene i og omkring Julianehaab. Dansk Orn. Foren. Tidsskr. 27: 19–25.
- Rand, A.L. 1947. Notes on some Greenland Birds. Auk 64: 281-284.
- Ray, H.P.C. 1973. Some Notes on the Birds Observed in the Kungmiut and Tuglilik Areas of East Greenland during the Summer of 1967. – Dansk Orn. Foren. Tidsskr. 67: 43–52.
- RC 1965-69: Dyck, J., Ramsøe-Jacobsen, J., Kramshøj, E., & Rabøl, J. 1970. Report of the Rarity-Committee for 1965-69.
 Dansk Orn. Foren. Tidsskr. 64: 126-151. (Danish, with English summary).
- RC 1970: Jacobsen, J.R., Nielsen, B.P. & Rabøl, J. 1971. Report of the Rarity-Committee for 1970. – Dansk Orn. Foren. Tidsskr. 65: 133–139. (Danish, with English summary).
- RC 1971: Bruun, J.B., Jacobsen, J.R., Kramshøj, E. & Nielsen, B.P. 1972. Report of the Rarity-Committee for 1971. – Dansk Orn. Foren. Tidsskr. 66: 123–131. (Danish, with English summary).
- RC 1972: Andersen, T., Bruun, J.B. & Nielsen, B.P. 1973. Report of the Rarity-Committee for 1972. – Dansk Orn. Foren. Tidsskr. 67: 139–144. (Danish, with English summary).
- RC 1973: Hansen, E., Hansen, P.S. & Nielsen, B.P. 1974. Report of the Rarity-Committee for 1973. – Dansk Orn. Foren. Tidsskr. 68: 138–144. (Danish, with English summary).
- RC 1974: Hansen, E. & Nielsen, B.P. 1975. Report of the Rarity- Committee for 1974. – Dansk Orn. Foren. Tidsskr. 69: 135–139. (Danish, with English summary).
- RC 1975: Hansen, P.S. 1976. Report of the Rarity-Committee for 1975. – Dansk Orn. Foren. Tidsskr. 70: 131–138. (Danish, with English summary).

- RC 1976: Hansen, P.S. 1977. Report of the Rarity-Committee for 1976. - Dansk Orn. Foren. Tidsskr. 71: 139-144. (Danish, with English summary)
- RC 1977-78: Pedersen, B.B. 1980. Report from the Rarity-Committee for 1977 and 1978. - Dansk Orn. Foren. Tidsskr. 74: 127-140. (Danish, with English summary).
- RC 1979-80: Pedersen, B.B. 1982. Report from the Rarity-Committee for 1979 and 1980. - Dansk Orn. Foren. Tidsskr. 76: 111-122. (Danish, with English summary).
- RC 1981: Pedersen, B.B. 1984. Report of the Rarity-Committee for 1981. - Dansk Orn. Foren. Tidsskr. 78: 81-92. (Danish, with English summary).
- RC 1982-84: Boertmann, D., Olsen, K.M. & Pedersen, B.B. 1986. Rare birds in Denmark and Greenland in 1982, 1983 og 1984. - Dansk Orn. Foren. Tidsskr. 80: 35-57. (Danish, with English summary).
- RC 1985: Olsen, K.M. 1987. Rare birds in Denmark and Greenland in 1985. - Dansk Orn. Foren. Tidsskr. 81: 109-120. (Danish, with English summary)
- RC 1986-87: Olsen, K.M. 1988. Rare birds in Denmark and Greenland in 1986 and 1987. - Dansk Orn. Foren. Tidsskr. 82: 81-100. (Danish, with English summary).
- RC 1988: Olsen, K.M. 1989. Rare birds in Denmark and Greenland in 1988. - Dansk Orn. Foren. Tidsskr. 83: 131-149. (Danish, with English summary).
- RC 1989: Olsen, K.M. 1991. Rare birds in Denmark and Greenland in 1989. - Dansk Orn. Foren. Tidsskr. 85: 20-34. (Danish, with English summary).
- RC 1990: Frich, A.S. & Nordbjærg, L. 1992. Rare birds in Denmark and Greenland in 1990. - Dansk Orn. Foren. Tidsskr. 86: 107-122. (Danish, with English summary).
- Reed, A., Boyd, H., Chagnon, P. & Hawkins, J. 1992. The number and distribution of Greater Snow Geese on Bylot Island and near Jungersen Bay, Baffin Island, in 1988 and 1983. – Arctic 45: 115–119. Reinhardt, J.H. 1824. Grønlands fugle efter de nyeste erfaringer.
- Tidsskr. for Naturvidenskaberne 3: 52-80.
- Reinhardt, J.H. 1838. Fugle. In: Ichtyologiske bidrag til den grønlandske fauna. - Vidensk. Selsk. Skr. 7: 88-105.
- Reinhardt, J. 1861. List of the birds hitherto observed in Greenland. - Ibis 3: 1-19.
- Renaud, W.E. & Mclaren, P.L. 1982. Ivory Gull (Pagophila eburnea) distribution in late summer and autumn in eastern Lancaster Sound and western Baffin Bay. - Arctic 35: 141-148
- Renaud, W.E., McLaren, P.L. & Johnson, S.R. 1982. The dovekie, Alle alle, as a spring migrant in Eastern Lancaster Sound and Western Baffin Bay. - Arctic 35: 118-125. Roby, D.D., Brink, K.L. & Nettleship D.N. 1981. Measure-
- ments, chick meals and breeding distribution of Dovekies (Alle alle) in Northwest Greenland. - Arctic 34: 241-248. Rosenberg, N. Th., Christensen, N.H. & Gensbøl, B. 1970.
- Birdobservations in Northeast Greenland. Meddr Grønland 191, 1: 87 pp.
- Rosing, J. 1954a. Islandsk Hvinand (Bucephala islandica (GM.)) i Godthåbsfjorden. - Dansk Orn. Foren. Tidsskr. 48: 241 - 242
- Rosing, J. 1954b. Taffeland (Aythya ferina (L.)) ny for Grønland. - Dansk Orn. Foren. Tidsskr. 48: 242-243.
- Rosing, J. 1988. Fuglestreger. Gullanders bogtrykkeri.
- Rosing, J. 1993. Hvis vi vågner til havblik. Borgen, Copenhagen.
- Røen, U. 1965. Ornithological Observations on the 3rd Pearyland Expedition in the Summer of 1964. - Dansk Orn. Foren. Tidsskr. 59: 85-91. (Danish, with English summary)
- Sabine, E. 1823. Birds. Pp. CXCIII-CCX in Parry, W.E. A supplement to the appendix of captain Parry's voyage for the discovery of a north-west passage, in the years 1819-20. -John Murray, London, 126 pp.+ 5 plates.
- Salmon, D.G. 1989. Wildfowl Counts in the U.K. Wildfowl 40: 142-145.
- Salomonsen, F. 1933. The status of the Greenland Snow Goose,

Anser caerulescens atlanticus (Kenn.), Miscellaneous notes on Greenland ornithology 1. - Meddr Grønland 92, 5: 1-11.

- Salomonsen, F. 1935a. Some records of Birds New or Rare to Greenland. - Meddr Grønland 93, 6: 1-16.
- Salomonsen, F. 1935b. Vibe, Vanellus vanellus, og Smaaspove, Numenius phaeopus islandicus, fra Angmagssalik. førstnævnte ny for Østgrønland. - Dansk Orn. Foren. Tidsskr. 29: 112 - 113
- Salomonsen, F. 1944. The Atlantic Alcidae. Meddelanden från Göteborgs Musei Zoologiska Avdelning 108: 138 pp.
- Salomonsen, F. 1945a. Amerikansk Fløjlsand (Melanitta fusca deglandi (Bonaparte)) ny for Grønland - Dansk Orn. Foren. Tidsskr. 39: 254-258.
- Salomonsen, F. 1945b. Fra Zoologisk Museum III. Ny forekomst af Euphagus carolinus (Müll.) i Grønland. - Dansk Orn. Foren. Tidsskr.39: 265-266.
- Salomonsen, F. 1950a. Grønlands Fugle, The Birds of Greenland. - Munksgaard, København: 609 pp.
- Salomonsen, F. 1950b. Fra Zoologisk Museum XV. A Collection of Birds from the North Atlantic. - Dansk Orn. Foren. Tidsskr. 44: 223-226. (Danish, with English summary)
- Salomonsen, F. 1951. The Immigration and Breeding of the Fieldfare (Turdus pilaris) in Greenland. - Proc. Xth Int. Ornit. Congr., Uppsala 1950: 515-526.
- Salomonsen, F. 1955. Amerikansk Taffeland (Aythya americana) på Grønland. - Dansk Orn. Foren. Tidsskr. 49: 260.
- Salomonsen, F. 1961. The Ivory Gull (Pagophila eburnea (Phipps)) as a breeding-bird in Greenland. – Dansk Orn. Foren. Tidsskr. 55: 177–180. (Danish, with English summary).
- Salomonsen, F. 1963. Systematisk oversigt over Nordens fugle. Vol. 7 in: Blædel, N. (ed.). Nordens fugle i farver. -Munksgaard, Copenhagen: 459 pp.
- Salomonsen, F. 1965. The geographical variation of the Fulmar (Fulmarus glacialis) and the zones of the marine environment in the North Atlantic. - Auk 82: 327-355.
- Salomonsen, F. 1967. Fuglene på Grønland. Rhodos, København: 341 pp.
- Salomonsen, F. 1971. Recoveries in Greenland of birds ringed abroad. - Meddr Grønland 191, 2: 52 pp.
- Salomonsen, F. 1974. Fuglene i menneskenes land/Tingmissat kalâtdlit nunane. 1. - Det Grønlandske Forlag: 127 pp.
- Salomonsen, F. 1976. The South Polar Skua Stercorarius maccormicki Saunders in Greenland. - Dansk Orn. Foren. Tidsskr. 70: 81-89.
- Salomonsen, F. 1979a. Ornithological and ecological studies in S.W. Greenland (59°46'-62°27'N. Lat.). - Meddr Grønland 204, 6: 214 pp
- Salomonsen, F. 1979b. Marine Birds in the Danish Monarchy and Their Conservation. - In: Bartonek, J.C. & Nettleship, D.N. (eds). Conservation of Marine Birds of Northern North America: 267-287. United States Department of the Interior. Fish and Wildlife Service. Wildlife Research Report 11.
- Salomonsen, F. 1979c. Fuglene i menneskenes land/l'ingmissat
- kalâtdlit nunane. 2. Det Grønlandske Forlag: 211 pp. Salomonsen F. 1981. Fugle. In: Salomonsen, F. (ed.): Grønlands Fauna: 161-360. Gyldendal, København.
- Sandell, H.T. & Sandell, B. 1991. Archaeology and environment in the Scoresby Sund Fjord. Ethno-archaeological investigations of the Thule culture of Northeast Greenland. - Meddr Grønland, Man & Society 15: 150 pp.
- Schaanning, H.T.L. 1933. A contribution to the bird fauna of East-Greenland. - Skrifter om Svalbard og Ishavet 49: 2-24.
- Scheel, H. 1927. Nathejre, Nycticorax griseus, og Sjagger, Turdus pilaris, nye for Grønland. Med bemærkninger om forskellige sammesteds sjældne arter. - Dansk Orn. Foren. Tidsskr. 21: 76-81.
- Schekkemann, H. 1989. Autumn migration and biometrics of Lapland Bunting Calcarius lapponicus at Castrium (Noord-Holland). - Limosa 62: 29-34. (Dutsch, with English summary).

- Schiøler, E.L. 1907a. Hvinand, Clangula glaucon americana BP., ny for Grønland. - Dansk Orn. Foren. Tidsskr. 1: 37-38.
- Schiøler, E.L. 1907b. Dressers Ederfugl, Somateria mollissima dresseri Sharpe, ny for Grønland. - Dansk Orn. Foren. Tidsskr. 1: 164-167.
- Schiøler, E.L. 1908. Vandrixen, Rallus aquaticus L., ny for Grønland. - Dansk Orn. Foren. Tidsskr. 2: 45-46.
- Schiøler, E.L. 1912. Om nogle for Grønlands Fuglefauna sjældne samt to nye arter, Chaulelasmus streperus (L.) og Passerella iliaca (Merrem.) typica. - Dansk Orn. Foren. Tidsskr. 6: 65-80.
- Schiøler, E.L. 1922. Nogle tilføjelser og bemærkninger til listen over Danmarks fugle. - Dansk Orn. Foren. Tidsskr. 16: 1-55.
- Schiøler, E.L. 1925. Danmarks Fugle. Med Henblik paa de i Grønland, paa Færøerne og i Kongeriget Island forekommende arter, Vol. 1. - Gyldendalske Boghandel, København: 552 pp.
- Schiøler, E.L. 1926. Danmarks Fugle. Med Henblik paa de i Grønland, paa Færøerne og i Kongeriget Island forekommende arter, Vol. 2. - Gyldendalske Boghandel, København: 338 pp
- Schiøler, E.L. 1931. Danmarks Fugle. Med Henblik paa de i Grønland, paa Færøerne og i Kongeriget Island forekommende arter, Vol. 3. - Gyldendalske Boghandel, København: 413 pp.
- Scott, S.L. (ed.) 1983. Field Guide to the Birds of North America. – National Geographic Society: 464 pp. Sellar, P.J., Higgs, W.J. & Muston, A.J. 1981. Ornithology.
- General report. British North-east Greenland Expedition 1980. - Report, University of Lancaster: 28-35.
- Siegstad, H. 1989. Kangerlussuaq en aktiv fangstplads. -Forskning i Grønland/tusaat 1-2/1989: 55-56.
- Sinding, E. 1953. Sene yngleforekomster i Nordgrønland. -Dansk Orn. Foren. Tidsskr. 47: 140.
- Sittler, B. 1988. Preliminary report of the GREA expedition to N-E Greenland (June 22 to August 12, 1988). - Field Report: 18 pp.
- Sittler, B., Cordier S., Gilg, O., & Spitznagel, A. 1991. Karupelv valley project. Preliminar report of the Northeast Greenland expedition 23. June - 3. August 1990. - Field Report: 40 pp.
- Smidt, E.L.B. 1989. Min tid i Grønland Grønland i min tid. Fiskeri, biologi, samfund 1948-1985. - Nyt Nordisk Forlag Arnold Busk: 214 pp.
- Snell, R.R. 1989. Status of Larus gulls at Home Bay, Baffin Island. - Colonial Waterbirds 12: 12-23.
- Stemmerik, L. 1990. Hvalrosø a new breeding site for Fulmar Fulmarus glacialis and possibly for Little Auk Alle alle in East Greenland. - Dansk Orn. Foren. Tidsskr. 84: 161. (Danish, with English summary).
- Stemmerik, L., Hakansson, E. & Mølgård, P. 1981. Common Gull Larus canus for the first time in North Greenland. -Dansk Orn. Foren. Tidsskr. 75: 147-148. (Danish, with English summary).
- Stewart, D.B. & Bernier, L.M.J. 1989. Distribution, habitat, and productivity of Tundra Swans on Victoria Island, King William Island, and Southwestern Boothia Peninsula, N.W.T. -Arctic 42: 333-338.
- Stroud, D.A. 1992. Greenland White-fronted Goose Anser albifrons flavirostris, international conservation plan. - National parks and wildlife service of the office of public works, Ireland/IWRB, draft: 184 pp.

- Søder, R. 1991. Rapport over biologiske observationer i Nordøstgrønland ved marine seismiske undersøgelser aug. - sept. 1991. - Greenland Environmental Research Institute: 22 pp. + app.
- Thing, H. 1976. Field notes on birds in Thule district, Greenland, 1975. - Dansk Orn. Foren. Tidsskr. 70: 141-143.
- Tinbergen, N. 1939. The Behavior of the Snow Bunting in Spring. - Trans. Linn. Soc., New York. 5: 1-94.
- Tuck, G.S. 1973. Ocean weather ship observations. Landbird observations 1970/71. - Sea Swallow 22: 27.
- Ulloriaq, I. 1976. Beretningen om Qillarsuaq og hans lange rejse fra Canada til Nordgrønland i 1860erne. - Det grønlandske selskabs skrifter 27: 204 pp.
- Vaughan, R. 1988. Birds of the Thule District, Northwest Greenland. - Arctic 41: 53-58.
- Vaughan, R. 1992. In search of arctic birds. T. & A.D. Poyser, Calton: 431 pp.
- Vibe, C. 1948. Langthen og nordpaa. Gyldendal, København: 199 pp.
- Vibe, C. 1950: The marine mammals and the marine fauna in the Thule District (Northwest Greenland) with observations on the ice conditions in 1939-41. - Meddr Grønland 150, 6: 117
- pp. Vibe, C. 1960. Zoology. In: Danish Arctic Research 1955–59. Report from Arktisk Institut 1–5: 51–53.
- ations. Meddr Grønland 170, 5: 227 pp.
- Voous, K.H. 1977. List of Recent Holarctic Birdspecies. -Academic Press, London: 85 pp.
- Voous, K.H. & J. Wattel 1963. Distribution and Migration of the Greater Shearwater. - Ardea 51: 143-157.
- Vrånes, E. 1971. Ornithological Observations from Scoresby Sund, Summer 1969. Dansk Orn. Foren. Tidsskr. 65: 191-192. (Danish, with English summary).
- Waterson, G. & Waterson, I. 1970. Greenland Redpoll (Carduelis flammea rostrata (Coues)) breeding in high arctic Greenland. - Dansk Orn. Foren. Tidsskr. 64: 93-94.
- White, C.M. 1968. Diagnosis and relationships of the North American tundra-inhabiting Peregrine Falcons. - Auk 85: 179-191.
- Williamson, K. 1962. Identification for ringers 2. The Genus Phylloscopus. - British Trust for Ornithology: 86 pp.
- Williamson, K. & Davis, P. 1956. The autumn 1953 invasion of Lapland Bunting and its source. - Brit. Birds. 49: 6-26.
- Winge, H. 1898. Grønlands Fugle. Meddr Grønland 21: 1-316.
- Woodell, S.R.J. 1979. Nesting of the American Water Pipit Anthus spinoletta rubescens (Tunstall) at Godhavn, West Greenland. - Dansk Orn. Foren. Tidsskr. 73: 177-179
- Wright, N.J.R & Matthews, D.W. 1980. New nesting colonies of the Ivory Gull Pagophila eburnea in southern East Greenland. - Dansk Orn. Foren. Tidsskr. 74: 59-64.
- Zimmer, K.J. 1990. The Thayer's Gull complex. In Kaufman, K. Advanced Birding: 114-130. Houghton Mifflin Company, Boston.
- Zobbe, B. 1966. American Redstart (Setophaga ruticilla) in Julianehåb, Greenland, October 1965. - Dansk Orn. Foren. Tidsskr. 60: 201. (Danish, with English summary).
- Zobbe, B. 1973. Observations from West Greenland. Dansk Orn. Foren. Tidsskr. 67: 65-66. (Danish, with English summary).

Instructions to authors

Two copies of the manuscript, each complete with illustrations, tables, captions, etc. should be sent to the Secretary, Kommissionen for videnskabelige Undersøgelser i Grønland. Manuscripts will be forwarded to referees for evaluation. Authors will be notified as quickly as possible about acceptance, rejection, or desired alterations. The final decision on these matters rests with the editor.

Manuscripts corresponding to less than 16 printed pages (of 6100 type units) including illustrations are not accepted, unless they are part of a special theme issue. Manuscripts that are long in relation to their content will not be accepted without abridgement.

Manuscript

Language. – Manuscripts should be in English (preferred language), French, or German. Authors who are not writing in their native language must have the language of their manuscript corrected before submission.

Place names. – All Greenland place names used in the text and in illustrations must be names authorised by The Greenlandic Language Committee. Authors are advised to submit sketch-maps with all required names to the Secretary for checking before the manuscript is submitted. Names of Greenland localities outside the area with which the paper is concerned should be accompanied by co-ordinates (longitude and latitude).

Title. – Titles should be as short as possible, with emphasis on words useful for indexing and information retrieval.

Abstract. – An abstract in English must accompany all papers. It should be short (no longer than 250 words), factual, and stress new information and conclusions.

Typescript. – Typescripts must be clean and free of handwritten corrections. Use double spacing throughout, and leave a 4 cm wide margin on the left-hand side. Avoid as far as possible dividing words at the right-hand end of a line. Consult a recent issue for general lay-out.

Page 1 should contain 1) title, 2) name(s) of author(s), 3) abstract, 4) key words (max. 10), 5) author's full postal address(es). Manuscripts should be accompanied by a table of contents, typed on separate sheet(s).

Underlining should only be used in generic and species names. The use of italics in other connections can be indicated by a wavy line in pencil under the appropriate words.

Use at most three grades of headings, but do not underline. The grade of heading can be indicated in soft pencil in the left hand margin of one copy of the typescript. Avoid long headings.

Floppy disc. – It may be helpful in the printing procedure if, in addition to the hard copies, the manuscript is also submitted on a DOS-formatted floppy disc. However, editing will be made on the hard copy, and the text file on the disc must be identical to the final version of the manuscript.

References. – References to figures and tables in the text should have the form: Fig. 1, Figs 2–4, Table 3. Bibliographic references in the text are given thus: Shergold (1975: 16) ... (Jago & Daily 1974b).

In the list of references the following style is used:

Boucot, A. J. 1975. Evolution and extinction rate controls. – Elsevier, Amsterdam: 427 pp.

- Sweet, W. C. & Bergström, S. M. 1976. Conodont biostratigraphy of the Middle and Upper Ordovician of the United States midcontinent. – In: Bassett, M. G. (ed.). The Ordovician System: Proceedings of a Palaeontological Association symposium, Birmingham, September 1974: 121–151. University of Wales Press.
- Tarling, D. H. 1967. The palaeomagnetic properties of some Tertiary lavas from East Greenland. – Earth and Planetary Science Letters 3: 81–88.

Meddelelser om Grønland, Bioscience (Geoscience, Man & Society) should be abbreviated thus: Meddr Grønland, Biosci. (Geosci., Man & Soc.).

Illustrations

General. – Submit two copies of all diagrams, maps, photographs, etc., all marked with number and author's name. Normally all illustrations will be placed in the text.

All figures (including line drawings) must be submitted as glossy photographic prints suitable for direct reproduction, and preferably have the dimensions of the final figure. Do not submit original artwork. Where appropriate the scale should be indicated on the illustration or in the caption.

The size of the smallest letters in illustrations should not be less than 1.3 mm. Intricate tables are often more easily reproduced as text figures than by type-setting; when lettering such tables use "Letraset" or a typewriter with carbon ribbon.

Colour plates may be included at the author's expense, but the editor must be consulted before such illustrations are submitted.

Size. – The width of figures must be that of a column (76.5 mm), 1½ columns (117 mm), or a page (157 mm). The maximum height of a figure (including caption) is 217 mm. Horizontal figures are preferred. If at all possible, fold-out figures and tables should be avoided.

Caption. – Captions to figures must be typed on a separate sheet and submitted, like everything else, in duplicate.

Proofs

Authors receive two page proofs. Prompt return to the editor is requested. Only typographic errors should be corrected in proof; the cost of making alterations to the text and figures at this stage will be charged to the author(s).

Twenty-five copies of the publication are supplied free, fifty if there are two or more authors. Additional copies can be supplied at 55% of the retail price. Manuscripts (including illustrations) are not returned to the author after printing unless specifically requested.

Copyright

Copyright in all papers published by Kommissionen for videnskabelige Undersøgelser i Grønland is vested in the Commission. Those who ask for permission to reproduce material from the Commission's publications are, however, informed that the author's permission must also be obtained if he is still alive.

Meddelelser om Grønland

Bioscience Geoscience Man & Society Published by The Commission for Scientific Research in Greenland