

DET KONGELIGE DEPARTEMENT
FOR HANDEL, SJØFART, INDUSTRI, HÅNDVERK OG FISKERI

NORGES SVALBARD- OG ISHAVS-UNDERSØKELSER
LEDER: ADOLF HOEL

SKRIFTER OM SVALBARD OG ISHAVET

Nr. 49

ZOOLOGICAL RESULTS
OF THE NORWEGIAN SCIENTIFIC EXPEDITIONS
TO EAST-GREENLAND. I.

H. THO. L. SCHAANNING

1.

A CONTRIBUTION TO THE BIRD FAUNA
OF EAST-GREENLAND

2.

A CONTRIBUTION TO THE BIRD FAUNA
OF JAN MAYEN



OSLO
I KOMMISJON HOS JACOB DYBWAD
1933

Results of the Norwegian expeditions to Svalbard 1906—1926 published in other series. (See Nr. 1 of this series.)

The results of the Prince of Monaco's expeditions (Mission Isachsen) in 1906 and 1907 were published under the title of 'Exploration du Nord-Ouest du Spitsberg entreprise sous les auspices de S. A. S. le Prince de Monaco par la Mission Isachsen', in *Résultats des Campagnes scientifiques, Albert Ier, Prince de Monaco*, Fasc. XL—XLIV. Monaco.

- ISACHSEN, GUNNAR, Première Partie. Récit de voyage. Fasc. XL. 1912. Fr. 120.00.
With map: Spitsberg (Côte Nord-Ouest). Scale 1:100 000. (2 sheets.) Charts: De la Partie Nord du Foreland à la Baie Magdalena, and Mouillages de la Côte Ouest du Spitsberg.
ISACHSEN, GUNNAR et ADOLF HOEL, Deuxième Partie. Description du champ d'opération. Fasc. XLI. 1913. Fr. 80.00.
HOEL, ADOLF, Troisième Partie. Géologie. Fasc. XLII. 1914. Fr. 100.00.
SCHETELIC, JAKOB, Quatrième Partie. Les formations primitives. Fasc. XLIII. 1912. Fr. 16.00.
RESVOLL HOLMSEN, HANNA, Cinquième Partie. Observations botaniques. Fasc. XLIV. 1913. Fr. 40.00.

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With chart: Waters and anchorages on the west and north coast. Publ. by the Norw. Geogr. Survey, No. 198.
HOEL, A. et O. HOLTEDAHL, Les nappes de lave, les volcans et les sources thermales dans les environs de la Baie Wood au Spitsberg. 1911, No. 8. Kr. 4,00.
GOLDSCHMIDT, V. M., Petrographische Untersuchung einiger Eruptivgesteine von Nord-westspitzbergen. 1911, No. 9. Kr. 0,80.
BACKLUND, H., Über einige Olivinknollen aus der Lava von Wood-Bay, Spitzbergen. 1911, No. 16. Kr. 0,60.

HOLTEDAHL, OLAF, Zur Kenntnis der Karbonablagerungen des westlichen Spitzbergens. I. Eine Fauna der Moskauer Stufe. 1911, No. 10. Kr. 3,00. II. Allgemeine stratigraphische und tektonische Beobachtungen. 1912, No. 23. Kr. 5,00.

HOEL, ADOLF, Observations sur la vitesse d'écoulement et sur l'ablation du Glacier Lilliehöök au Spitsberg 1907—1912. 1916, No. 4. Kr. 2,20.

VEGARD, L., L'influence du sol sur la glaciation au Spitsberg. 1912, No. 3. Kr. 0,40.
ISACHSEN, GUNNAR, Travaux topographiques. 1915, No. 7. Kr. 10,00.

With map: Spitsberg (Partie Nord-Ouest). Scale 1:200 000 (2 sheets).
GUNNAR ISACHSEN has also published: Green Harbour, in *Norsk Geogr. Selsk. Aarb.*, Kristiania, 1912—13, Green Harbour, Spitsbergen, in *Scot. geogr. Mag.*, Edinburgh, 1915, and, Spitsbergen: Notes to accompany map, in *Geogr. Journ.*, London, 1915.

All the above publications have been collected into two volumes as *Expédition Isachsen au Spitsberg 1909—1910. Résultats scientifiques. I, II. Christiania 1916*.

As the result of the expeditions of ADOLF HOEL and ARVE STAXRUD 1911—1914 the following memoir has been published in *Videnskapsselskapets Skrifter. I. Mat.-Naturv. Klasse*.

HOEL, ADOLF, Nouvelles observations sur le district volcanique du Spitsberg du Nord. 1914, No. 9. Kr. 2,50.

The following topographical maps and charts have been published separately:

- Bjørnøya (Bear Island). Oslo 1925. Scale 1:25 000. Kr. 10,00.
Bjørnøya (Bear Island). Oslo 1925. Scale 1:10 000. (In six sheets.) Kr. 30,00.
East Greenland, Eirik Raudes Land from Sofiasund to Youngsund. Oslo 1932. Scale 1:200 000. Kr. 5,00.
Chart of Bear Island. (No. S1). Oslo 1929. New edition 1932. Scale 1:40 000. Kr. 4,00.
Bear Island Waters. (No. S2). Oslo 1930. Scale 1:350 000. Kr. 5,00.
Spitsbergen. Chart, Bellsund—Forlandsrevet including Isfjorden. (No. S3). Oslo 1932. Scale 1:200 000. Kr. 5,00.

A preliminary edition of topographical maps on the scale of 1:50 000 covering the regions around Kings Bay, Ice Fjord, and Bell Sound, together with the map of Bear Island, scale 1:25 000, is published in:

Svalbard Commissioner [Kristian Sindballe], Report concerning the claims to land in Svalbard. Part I A, Text; I B, Maps; II A, Text; II B, Maps. Copenhagen and Oslo 1927. Kr. 150,00.

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1.

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2.

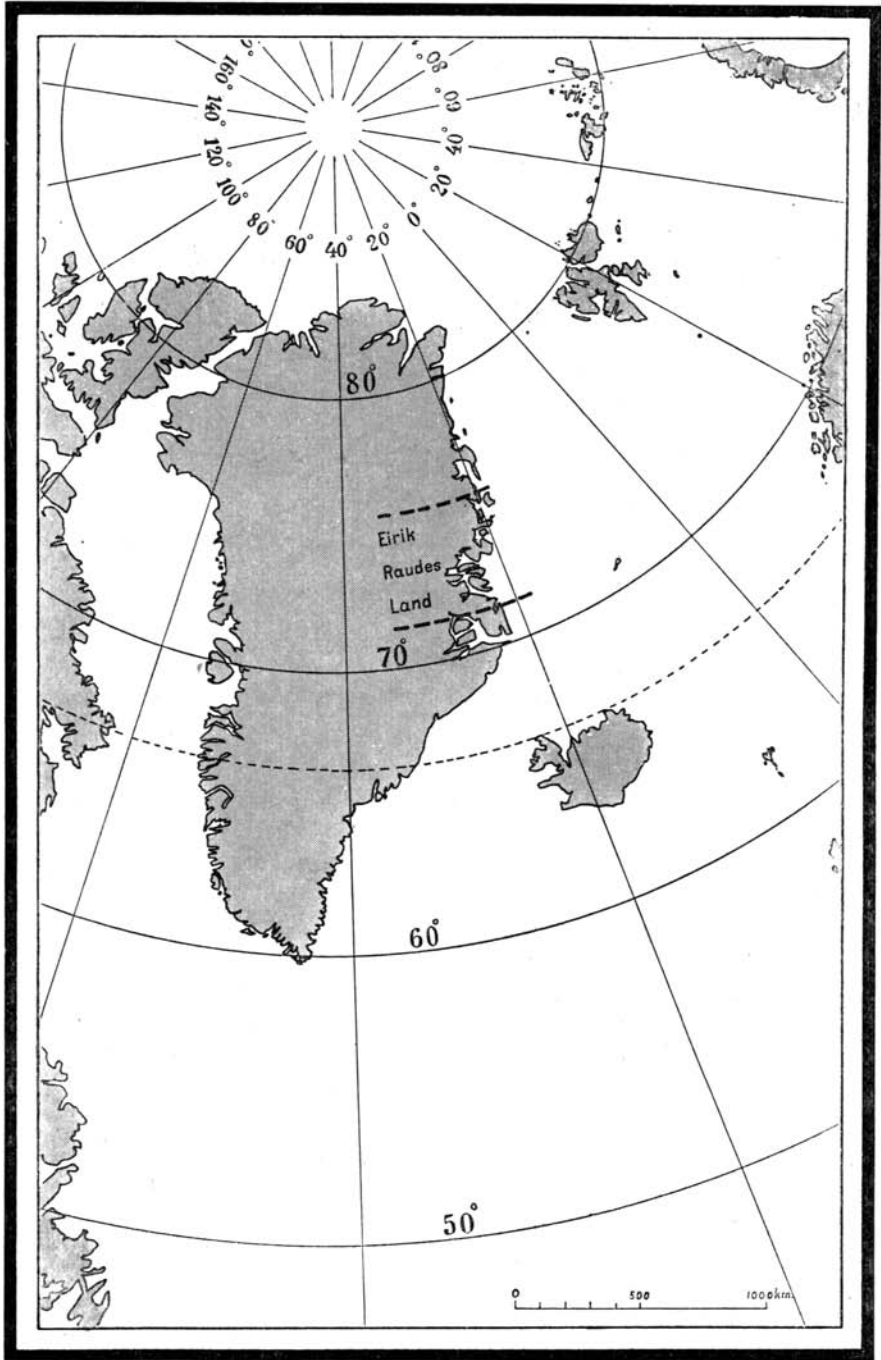
A CONTRIBUTION TO THE BIRD FAUNA
OF JAN MAYEN



OSLO

I KOMMISJON HOS JACOB DYBWAD

1933



A. W. BRØGGERS BOKTRYKKERI A/S

1. A Contribution to the Bird Fauna of East-Greenland.

The three summer expeditions sent out by *Norges Svalbard- og Ishavs-undersøkelser* in the years 1929—1931 collected a quantity of birds and eggs from the tracts *Davy Sound—Pendulum Island*, between ca. 72°—74°40' N. These collections, which have been handed to me for description — comprise in all 106 specimens, representing 19 distinct bird species, and have been made principally by Messrs. P. Løyning and E. Siggeson, attached to the Zoological Museum, Oslo (three specimens only in the 1929 collection were secured by Mr. N. Knaben). In the preparation of this paper I also have used a number of records from Mr. Siggeson's diary (kept from July 17 to August 30, 1930), and also sundry reports relating to the catches of birds made in Eirik Raudes Land by the Norwegian hunting expeditions wintering there in the years 1928—1931. The latter material has been collected by Mr. A. Hoel.

As an appendix to the description of the material of the said expeditions I have given (in section II) a survey of the Bird Fauna of East-Greenland with particular reference to the 39 species which are so far known from Eirik Raudes Land, and a list of the literature available on the subject.

I.

Species of Birds collected in Eirik Raudes Land in the years 1929—1931.

| | 1929 | | 1930 | | 1931 | | |
|---|-------|------|-------|------|-------|------|-------|
| | Skins | Eggs | Skins | Eggs | Skins | Eggs | Nests |
| 1. <i>Carduelis linaria rostrata</i> (Coues) . . . | - | - | 2 | - | - | - | - |
| 2. <i>Carduelis linaria hornemanni</i> (Holbøll) | - | - | 1 | - | - | - | - |
| 3. <i>Plectrophenax nivalis subnivalis</i> (Brehm) | - | 1 | 1 | 1 | - | 1 | 1 |
| 4. <i>Oenanthe oenanthe leucorrhoea</i> (Gmelin) | - | - | 2 | - | - | - | - |
| 5. <i>Nyctea scandiaca</i> (L.) | - | - | - | - | 1 | 6 | - |
| 6. <i>Anser brachyrhynchus</i> Baillon | - | - | 4 | - | - | - | - |
| 7. <i>Branta leucopsis</i> (Bechstein) | - | - | 1 | - | - | - | - |
| 8. <i>Clangula hyemalis</i> (L.) | - | - | 5 | 4 | - | - | 1 |
| 9. <i>Somateria spectabilis</i> (L.) | - | - | 1 | - | 2 | - | - |
| 10. <i>Colymbus stellatus</i> Pontoppidan | - | - | 2 | - | - | - | - |
| 11. <i>Stercorarius longicaudus</i> Vieillot | - | - | 2 | - | - | 10 | - |
| 12. <i>Sterna macrura</i> Naumann | - | - | 3 | 2 | - | - | - |
| 13. <i>Charadrius hiaticula psammudroma</i> Salomonsen | - | - | 1 | - | - | - | - |
| 14. <i>Arenaria interpres interpres</i> (L.) | - | - | 1 | - | - | 3 | - |
| 15. <i>Calidris alpina arctica</i> (Schjølter) | - | - | - | - | - | 3 | - |
| 16. <i>Calidris canutus canutus</i> (L.) | - | - | 4 | - | - | 2 | - |
| 17. <i>Crocethia alba</i> (Pallas) | - | - | 2 | - | - | 1 | - |
| 18. <i>Phalaropus fulicarius jourdaini</i> Iredale | - | - | 2 | - | - | - | - |
| 19. <i>Lagopus mutus groenlandicus</i> Schjølter | 1 | 2 | 21 | - | 2 | - | - |

Corvus corax principalis Ridgway. The raven is not represented in the collections, but occurs all the more frequently in the reports of the wintering Norwegian hunting expeditions as well as in those of Greenland expeditions. According to J. Giæver, it is wholly stationary and is met with all the year round in Eirik Raudes Land; but its numbers vary in the different localities, and it causes hunters a great deal of damage in that it tears to pieces the foxes in the traps. In Clavering Fjord about 100 ravens were shot by four men in the years 1928—1930, and in Dusén Fjord about 20 ravens by one man in 1929—1930. In the past year (1931—1932) a large number (abt. 70) were killed there: 20 in Dusén Fjord, 20 in Myggbukta, 16 in Segelsällskapets Fjord, 4 in Antarctic Harbour, 2 on Ella Is., and 2 north of Clavering Fjord (A. Hoel). In 1929 the Greenland Expedition found a dead specimen "full of fly larva" at Cape Wynn (July 29), and two specimens were shot at Scott Keltie Is. (Aug. 10) by Orvin, who also relates how a bold raven was photographed on the same occasion barely three metres away: "While the botanist of the party lay on the ground busy at work taking up plants a passing raven suddenly came down beside him and walked close up to him, evidently in the belief that he was in his last throes." Also in the summer of 1930 this species was observed on comparatively frequent occasions by the Greenland Expeditions, e. g., at Revet on July 22 (1 spec.), in Myggbukta on July 30 (2 spec.), at Cape Humboldt on Aug. 3 (1 spec.), at Röhss Fjord on Aug. 14 (2 spec.), and in Vega Sound on Aug. 17, 2 spec. (Siggesson).

Carduelis linaria rostrata (Coues) and *Carduelis linaria hornemanni* (Holbøll). Both these coarse-billed and big-built *Redpoll*-forms are represented, each with its old ♀ in worn summer plumage, and both were shot in Segelsällskapets Fjord on Aug. 10, 1930. Of the former species there is also a young bird (nestling) from the same locality and date (No. 165). However, the *rostrata* specimen (No. 163) has in this instance a decidedly lighter coloured back than the *hornemanni* specimen (No. 164), which is also slightly smaller. It is not impossible that this is an instance of a bastard product between these two races. A comparison of size will be seen from the following measurements:

| | Total | | Length of | | Bill | |
|--|--------------|---------------|------------|--------------|--------------|--------------|
| | Length mm | Weight gr. | Wing mm | Tarsus mm | Length mm | Height mm |
| No. 163. Full-grown ♀ Segelsällskapets Fjord, Aug. 10, 1930 | 150 | 18 | 81 | 16 | 10 | 7 |
| - 164. Full-grown ♀ Aug. 10, 1930 | 148 | 17.5 | 79 | 17 | 8.7 | 7.5 |
| - 165. Young ♀ Aug. 10, 1930 | 98 | 11 | 56 | 15 | 6 | 5.2 |

Another conspicuous difference between the two above-mentioned specimens Nos. 163 and 164 is the shape and size of the claws.

Whereas No. 163 (*rostrata* specimen) has short and thick strong claws with the claw of the middle toe = 5 mm, and that of the back toe = 7 mm, No. 164 (*hornemanni* specimen) has long and slender claws with the claws of both middle and back toes = 8 mm. Seeing that the material available is so limited, these measurements may be of minor importance, but the difference is nevertheless so characteristic that it is questionable whether it is only individual.

Neither of the races have been observed in winter by the Norwegian hunting expeditions wintering there; in 1929 as well as in 1930 the species was observed in the middle of April at the earliest (J. Giæver). The Greenland Expedition of 1930 observed a family ♂ ♀ + 4 young ones at Revet on July 22, 2 birds in Muskox Fjord on Aug. 6, a small flock in Segelsällskapets Fjord on Aug. 9, and 3 birds in Vega Sound on Aug. 17 (Siggeson).

Plectrophenax nivalis subnivalis (Brehm). Of snow-bunting there is only one specimen (No. 175), a young bird shot in Vega Sound on July 17, 1930. Total length 160 mm, weight 79 grammes; Wing = 87 mm, Tarsus = 20 mm, Bill = 11 mm. Two eggs from Ymer Is. in June 1929 and Antarctic Harbour in the summer 1930 respectively measure $23 \times 21,7$ mm and $22,2 \times 17,2$ mm. A nest (No. 52) from Muskox Fjord in the spring of 1931 consists of dry straws, with a thick inside lining of hare hair and ptarmigan feathers. The species was observed by the wintering Norwegian hunting expeditions in the middle of april at the earliest, in both 1929 and 1930 (J. Giæver). It breeds numerously everywhere, and was noted by the Greenland Expedition in the summer of 1930 as breeding more or less numerously at the following points: C. Wynn, July 20 (3 pairs); Revet, July 22 (in pairs); Loch Fine Fjord, July 24 (4 pairs + young); Myggbukta, July 31 (many pairs); C. Humboldt, Aug. 3 (many pairs); Segelsällskapets Fjord, Aug. 9 (in flocks); C. Petersens, Aug. 10 (in flocks); Polheims dal, Aug. 11 (3 birds); Dickson Fjord, Aug. 13 (in flocks); Röhss Fjord, Aug. 14 (flock); Vega Sound, Aug. 17 (large flock).

Oenanthe oenanthe leucorrhoea (Gmelin). Of wheatear there are two skins in the collections (Nos. 174 and 175), both of young ♀ ♀; they show the following measurements:

| | Total | | Length of | | |
|---------------------------------------|--------------|---------------|------------|------------|--------------|
| | Length mm | Weight gr. | Wing mm | Bill mm | Tarsus mm |
| Young ♀ Vega Sound July 17, 1930..... | 145 | 16.5 | 100 | 12.5 | 27 |
| Young ♀ Myggbukta Aug. 20, 1930..... | 143 | ? | 98 | 11.5 | 28 |

In 1930 this species was observed by Mr. Siggeson of the Greenland Expedition at the following places: Myggbukta, July 31 (4 breeding pair); Muskox Fjord, Aug. 6 (2 birds); C. Petersen, Aug. 10 (1 bird);

Dickson Fjord, Aug. 13 (4 birds); Vega Sound, Aug. 17 (1 bird); Myggbukta, Aug. 20 (a small flock).

Nyctea scandiaca (L.). Of the snow-owl there is one skin (No. 27), and a clutch of 6 defective eggs (No. 61). The bird is a young ♀, not yet full-grown, with downy head and neck. Weight = 1.75 kgs. Length of wing = 378 mm. It was shot in Clavering Fjord on Aug. 7, 1931, and the clutch of six eggs ready for hatching was taken in Myggbukta on June 21, 1931. A single measurable egg is 54 × 44 mm.

This species is otherwise stationary in these tracts, and about 40 specimens have been killed in the years 1928—1931 by Norwegian hunting expeditions that have wintered here. According to information furnished by Docent A. Hoel, 5—6 birds were shot in Clavering Fjord in 1928—1930 and 4 and 7 birds respectively in Dusén Fjord and Myggbukta in 1929—1930. And in the past year (1930—1931) 18 birds (of which 13 full-grown + 2 broods) were killed in Antarctic Harbour alone, and, in addition, 1 bird in Dusén Fjord, 1 bird in Vega Sound, and 1 north of Clavering Fjord.

The species was observed by the Greenland Expedition at Sophia Sound on Aug. 6, 1929 (1 bird shot), at C. Stosch on June 28, 1930 (brooding), and at Myggbukta on July 30, 1930 (3 birds).

Falco rusticolus candicans Gmelin. The gerfalcon is also missing in the collections, despite the fact that it has frequently been seen by the various Norwegian expeditions in summer as well as winter. Docent Hoel states that, at the two Norwegian hunting stations of Krogness and Moskusheimen in Clavering Fjord alone, four men shot close upon one hundred gerfalcons in the years 1928—1930; and according to Orvin (in *Norsk Geografisk Tidsskrift* 1930, p. 115) as many as about 70 birds were shot by Finn Devold on the wireless masts in Myggbukta during two autumn months of 1928. This "wholesale slaughter" has, to say the least of it, of a certainty decimated the stock. At all events, the Norwegian hunting expeditions that have since wintered there, in 1930—1931 report that only 3 gerfalcons have been shot in the tracts around Myggbukta, besides an only bird shot the same year in Antarctic Harbour.

The Greenland Expedition of 1929 (Orvin) observed a brooding pair at C. Humboldt on Aug. 4, and in 1930 the species was observed (by Siggeson) at Herschelhus on July 21 (a brooding pair); at Myggbukta on July 31 (1 bird); at C. Humboldt on Aug. 3 (1 bird); in Røhss Fjord on Aug. 14 (1 bird); in addition, Orvin mentions several brooding pairs with young ones just fledged at C. Stosch on July 28, 1930.

Anser brachyrhynchus Baillon. Of the pinkfooted goose there are 3 skins and the feet of a fourth specimen. The old females are casting their remiges (Eclipse), the young ♀ still have downy head and neck, and blackish-grey legs.

| | Total | | Length of | | |
|--|--------------|---------------|------------|--------------|------------|
| | Length mm | Weight gr. | Wing mm | Tarsus mm | Bill mm |
| Full-grown ♀ Muskox Fjord, Aug. 5, 1930 .. | 740 | 2750 | 308 | 71 | 47.5 |
| — — — — — .. | 750 | 2800 | 295 | 77 | 47 |
| Young ♀ — — — — — .. | 530 | 1440 | 165 | 63 | 30 |
| Full-grown ♂ Myggbukta, May 23, 1930 | - | - | - | 72 | - |

Report from the Norwegian hunting expedition are to the effect that the species is of general occurrence and broods at the coast as well as in the inland districts. Spring migration took place about May 20 in both 1929 and 1930 (J. Giæver). In the latter year Mr. Siggeson of the Greenland Expedition noted it at the following places: Myggbukta, July 30 (several birds); Muskox Fjord, Aug. 6 (small flock); Segelsällskapets Fjord, Aug. 10 (small flock); Røhss Fjord, Aug. 14 (small flock); and at Vega Sound, Aug. 17 (large flock).

Branta leucopsis (Bechstein). Of the barnacle goose there is only one skin (No. 158) from C. Petersens, Aug. 10, 1930. The measurements were as follows: Length of wing: 363 mm, tarsus 71 mm, bill 33 mm; total length 690 mm, and total weight 2150 gr.

Reports from the Norwegian hunting expeditions state that this species breeds in comparatively large numbers over the whole district, spring migration occurred about May 20 in 1929 and 1930 (J. Giæver). In the years 1928—1930 approximately 200 geese were shot by two hunters at Moskusheimen in Clavering Fjord, of which the majority were this goose. The species was also observed by Siggeson in 1930 in the following localities: C. Wynn, July 20 (6 birds); Revet, July 22 (family + 5 young); Loch Fine Fjord, July 24 (family with young); Segelsällskapets Fjord, Aug. 10 (small flock); C. Petersens, Aug. 10 (small flock); Polheims dal, Aug. 11 (small flock); Vega Sound, Aug. 17 (small flock). In Muskox Fjord 10 birds were shot by two hunters in 1931.

Branta bernicla hrota (Müller). The brent goose is not represented in the collection. The reports from the Norwegian hunting expeditions give 5 birds shot at Antarctic Harbour and 6 birds shot at C. Petersens in Segelsällskapets Fjord in 1930—1931.

Clangula hyemalis (L.). The longtailed duck is represented by a family (♀ + 4 nestlings) shot in Loch Fine Fjord on July 23, 1930; also by two clutches of eggs and some nest down, taken respectively at Revet on July 22, 1930 (4 eggs) and in Myggbukta on July 3, 1931 (7 eggs). The measurements are as follows:

Full-grown ♀: Total length, 400 mm; total weight, 650 grammes. Length of wing 211 mm; bill, 28 mm; tarsus, 32 mm.

The four young birds: Total length, 125—130 mm; total weight, 28—29 grammes; bill, 10 mm; tarsus, 20 mm.

1. Clutch of 4 eggs (slightly brooded), July 22, 1930:

| | |
|---------------|---------------|
| 51.5×38.2 mm. | 53.0×38.3 mm. |
| 52.2×39.2 — | 53.0×38.5 — |

2. Clutch of 7 eggs, July 3, 1931:

| | |
|---------------|---------------|
| 51.0×37.5 mm. | 56.4×38.2 mm. |
| 53.0×35.7 — | 58.3×36.5 — |
| 53.8×37.6 — | 60.8×34.6 — |
| 56.4×37.8 — | |

Average size of 11 eggs: 54.5×37.5 mm.

Reports from the Norwegian hunting expeditions state that the species is very numerous everywhere. It makes its appearance in the spring immediately the ice begins to break up in the estuaries (latter part of May 1929 and 1930), and leaves the country again in September (J. Giæver). It was observed by Siggeson of the Greenland Expedition in the summer 1930 at the following points: Revet, July 22 (brooding); Loch Fine Fjord, July 24 (brooding); Myggbukta, July 30 (many pairs); Muskox Fjord, Aug. 6 (2 pairs).

Somateria mollissima islandica Brehm. The eider is not represented in the collection, but is commonly referred to in the reports from the hunting expeditions wintering there. According to J. Giæver, it is stationary throughout the year, and small flocks are observed in mid-winter in the open leads off Wollaston Foreland (in 1929 and 1930). It is not however numerous anywhere. In the years 1928—1930 the number secured in Clavering Fjord was only 50—60, and north of the same fjord in 1930—1931 about 20. Siggeson of the Greenland Expedition observed the species in the summer of 1930: At Herschelhus, July 17—19 (several small flocks, brooding); C. Wynn (small flocks, brooding); Revet (large flock, brooding); Loch Fine Fjord, July 24 (brooding pair, also large flock of younger birds); Segelsällskapets Fjord, Aug. 10 (small flock); C. Petersens, Aug. 10 (small flock); Dickson Fjord, Aug. 13 (small flock).

Somateria spectabilis (L.). Of the king eider there are 3 skins, all of full-grown ♂♂ in full plumage, viz.:

| | Length of | | |
|--|------------|------------|--------------|
| | Wing mm | Bill mm | Tarsus mm |
| Full-grown ♂ Myggbukta, July 1, 1931 | 285 | 30 | 48 |
| — ♂ — July 1, 1931 | 281 | 30 | 47 |
| --- ♂ (No. 85), April 28, 1930 | 281 | 31 | 46 |

According to reports from the Norwegian hunting expeditions this species is stationary throughout the year in Eirik Raudes Land, and

small flocks are observed at the mid-winter in the open leads off Wollaston Foreland in company with common eider (in 1929 and 1930) (J. Giæver). It was observed by the Greenland Expedition in the summer of 1930 (by Siggeson) at Herschelhus, on July 17 (1 ♂), and at Myggbukta on July 31 (1 ♂).

Fulmarus glacialis glacialis (L.). The fulmar petrel has been observed only by the Greenland Expedition in the summer of 1930 in the drift ice off Herschelhus, July 16 (a small flock), and daily in the latter part of July 1931 in the drift ice between 74°—75° N. (P. Løyning).

Colymbus stellatus Pontoppidan. Of the red-throated diver there are two skins (Nos. 65 and 66) from Revet July 22, 1930. The birds are a pair, in full summer plumage. Iris, chestnut brown. *Testes* of male, 20 × 5.5 mm. Other measurements were as follows:

| | Total length mm | Length of | | | Total weight gr |
|--------------|--------------------|------------|------------|--------------|--------------------|
| | | Wing mm | Bill mm | Tarsus mm | |
| Full-grown ♂ | 660 | 280 | 51 | 71 | 1780 |
| — ♀ | 635 | 283 | 49 | 68 | 1550 |

According to reports from the Norwegian hunting expeditions, this species is numerous from the end of May to early September (J. Giæver). At Moskusheimen in Clavering Fjord alone, 30—40 birds were shot in the years 1928—1930, and in Segelsällskapetets Fjord about 25 birds in 1930—1931 (A. Hoel).

By the Greenland Expedition it was observed in the summer of 1930 at Herschelhus, July 19 (2 pairs); Revet, July 22 (2 specimens); Loch Fine Fjord, July 24 (in pairs); Myggbukta, July 31 (many brooding pairs); Muskox Fjord, Aug. 6 (2 pairs); Segelsällskapetets Fjord, Aug. 9 (2 birds); C. Petersens, Aug. 10 (2 birds + 1 small flock); Polheims dal, Aug. 11 (2 birds).

Alle alle alle (L.). The little auk has been observed only by the Greenland Expedition (by Siggeson) at Herschelhus on July 19, 1930 (one bird), also daily in the latter half of July 1931 in the drift ice between 74°—75° N. (Løyning.)

Uria lomvia lomvia (L.). Brünnichs guillemot has been observed only by the Greenland Expedition in the drift ice off the coast between 74°—75° N. (practically every day) in the latter part of July 1931 (Løyning).

Uria grylle mandtii Mandt. The arctic black guillemot has been observed by the Greenland Expedition in 1930 at Herschelhus on July 19 (one bird) and at C. Wynn on July 20 (one bird) (Siggeson). Beyond these localities it has occasionally been seen in mid-winter by Norwegian hunting expeditions (J. Giæver).

Stercorarius pomarinus (Temminck). The pomatorhine skua is stated to have been observed on two occasions in the summer of 1931 at Herschelhus (by Løyning).

Stercorarius parasiticus parasiticus (L.). The arctic skua has only been observed occasionally by the Norwegian hunting expeditions in 1928—1930 (J. Giæver).

Stercorarius longicaudus Vieillot. The long-tailed skua is represented by two skins of full-grown ♂ ♀ (Nos. 67 and 68) from Revet, July 22, 1930, also 5 clutches of 2 eggs each from Myggbukta and Muskox Fjord in June 1931. In the case of the old birds the iris was dark-brown. Weights and measurements were as follows:

| | Total length mm | Length of | | | Total weight gr. |
|--|--------------------|------------|------------|--------------|---------------------|
| | | Wing mm | Bill mm | Tarsus mm | |
| Full-grown ♂ Revet, July 22, 1930..... | 525 | 282 | 27 | 39 | 250 |
| ♀ — — — — — | 575 | 302 | 27 | 39 | 270 |

5 clutches of 2 eggs, June 14, 1931:

| | | |
|---------------|---------------|--------------|
| 56.4×40.0 mm. | 56.0×38.7 mm. | 55.8×37.6 mm |
| 56.0×38.8 — | 54.0×38.8 — | 53.2×37.0 — |
| 54.3×38.3 mm. | 54.2×37.0 mm. | |
| 53.0×38.3 — | 53.0×36.8 — | |

Average size of 10 eggs, 54.6×38.1 mm.

According to reports from the Norwegian hunting expeditions wintering there the species was very common in Eirik Raudes Land in 1928—1930. Spring migration occurred at the end of May, autumn migration in the middle of September; egg-laying early in June (J. Giæver).

It was also observed by the Greenland Expedition in 1930 at Revet, July 22 (small flock, in pairs); in Myggbukta, July 30 (many nesting pairs); C. Humboldt, Aug. 3 (2 birds); Muskox Fjord, Aug. 6 (small flock); Ella Is., Aug. 8 (3 birds); Vega Sound, Aug. 17 (small flock).

Larus hyperboreus Gunnerus. The collection does not contain any material of the glaucous gull, but this bird was commonly met with by the Greenland Expeditions, in the summer of 1930 as follows (by Siggeson): At Herschelhus, July 16 (2 birds); at C. Wynn, July 20 (brooding); Revet, July 22 (2 brooding pairs); Loch Fine Fjord, July 24; Myggbukta, July 31 (2 pairs); C. Humboldt, Aug. 3 (many brooding pairs); Muskox Fjord, Aug. 6 (many brooding pairs); Ella Is., Aug. 8 (small flock); Segelsällskapets Fjord, Aug. 10 (2 birds); C. Petersens, Aug. 10 (2 birds); Polheims dal, Aug. 11 (1 bird); Dickson Fjord, Aug. 13 (many pairs). In the summer of 1931 it was observed daily along the coast and in the fiords (by Løyning). By the Norwegian hunting expeditions wintering it has also been commonly observed in 1928—1930, e. g., in

colonies at Robertson Is., Kvalross Is., and C. Kolthoff, which it occupies in the beginning of April. In Myggbukta it has been observed in the spring, late in March at the earliest (J. Giæver).

Larus leucopterus Vieillot. The Iceland gull is also missing from the collections, but was observed by the Greenland Expedition in 1930 at Herschelhus, on July 17 (3 birds).

Rissa tridactyla tridactyla (L.). The kittiwake was only observed by the Greenland Expedition in the summer of 1931, in the drift ice off the coast in 74° — 75° N., where it was daily noted between July 17—30 (by Løyning).

Xema sabinii (Sabine). Sabine's gull was only observed by the Greenland Expedition in the summer of 1930 at Herschelhus, July 18 (a small flock).

Sterna macrura Naumann. The arctic tern is represented by 2 skins (Nos. 172 and 173), full-grown ♂ ♀ from Röhss Fjord on Aug. 14, 1930, also a newly-hatched nestling (No. 118 in formalin-solution) from Myggbukta, Aug. 1, 1930; and a clutch of 2 eggs from Revet, July 24, 1930. Measurements are as follows:

| | Total length mm | Length of | | | Total weight gr. |
|--------------|--------------------|------------|------------|--------------|---------------------|
| | | Wing mm | Bill mm | Tarsus mm | |
| Full-grown ♂ | 372 | 285 | 32 | 16.5 | 102 |
| — ♀ | 370 | 275 | 31 | 15.5 | 97 |
| Nestling | 75 | 0 | 9 | 12.0 | 11 |

Clutch, 2 eggs: Size 43×29 mm and 42.8×30.4 mm.

Total weight 18 grammes. 19 grammes.

The species was further observed by the Greenland Expedition in 1930 at the following points: Herschelhus, July 17 (small flock) and July 19 (one flock); Revet, July 22 (in pairs, brooding); Loch Fine Fjord, July 24 (brooding); Tennholmen in Myggbukta, July 30 (large flock, brooding); Muskox Fjord, Aug. 6 (many pairs, brooding); C. Petersens, Aug. 10 (small flock); Röhss Fjord, Aug. 14 (2 birds); Vega Sound, Aug. 17 (large flock). Also in the summer 1931 it was observed almost daily after July 20 along the coast and in the fiords (Løyning).

Charadrius hiaticula psammodroma Salomonsen. The ringed plover is represented by one skin (No. 63), full-grown ♀ from Herschelhus, July 17, 1930. The measurements are as follows:

Full-grown ♀: Total length 190 mm, length of wing 125 mm, bill 14 mm, tarsus 25 mm; total weight 58 grammes.

The species was observed by the Greenland Expedition in 1930 at the following points: Herschelhus, July 17 (small flock, brooding); C. Wynn, July 20 (brooding); Revet, July 22 (in pairs); Myggbukta,

July 30 (many brooding pairs); Muskox Fjord, Aug. 6 (many brooding pairs); Ella Is., Aug. 8 (4 brooding pairs).

Arenaria interpres interpres (L.). The turnstone is represented by one specimen (No. 161), a full-grown ♂ from Myggbukta, July 31, 1930; also 3 eggs from Myggbukta, and Muskox Fjord, June 1 and 27, 1931 respectively. The measurements are:

Full-grown ♂: Length of wing 157 mm, bill 22.5 mm, tarsus 25.5 mm.

Size of eggs: 41.5×29.5 mm, 41.0×28.5 mm, and 39.3×29.2 mm.

This species was observed by the Greenland Expedition at the following places in the summer of 1930: Loch Fine Fjord, July 24 (3 brooding pairs); Myggbukta, July 31 (many pairs); Muskox Fjord, Aug. 6 (many brooding pairs). Ella Is., Aug. 8 (small flock, brooding); C. Petersens, Aug. 10 (1 specimen).

Calidris alpina arctica (Schiøler). Of the arctic dunlin there are 3 eggs from Myggbukta, June 27, 1931. Measurements are: 38.3×24.8 mm, 38×25 mm, and 37.2×25.2 mm. This species was observed by the Greenland Expedition in 1930 in the following localities: Revet, July 22 (a brooding pair); Loch Fine Fjord, July 24 (in pairs); Myggbukta, July 30 (many brooding pairs); Muskox Fjord, Aug. 6 (many pairs); C. Petersens, Aug. 10 (2 birds); Vega Sound, Aug. 17 (1 bird).

Calidris maritima maritima (Brünnich). The purple sandpiper was observed only once by the Greenland Expedition in 1930, on July 22 at Revet (1 bird). The Norwegian hunting expeditions wintering there, state, on the other hand, that the species was common from end of May to early October. It has never been seen in winter (J. Giæver).

Calidris canutus canutus (L.). Of the knot there are 4 skins and 2 eggs. In all these birds the iris was dark brown.

| | Length of | | | Total | |
|---|------------|------------|--------------|--------------|---------------|
| | Wing mm | Bill mm | Tarsus mm | Length mm | Weight gr. |
| No. 81. Full-grown ♂ Loch Fine Fjord, July 24, 1930 | 167 | 34 | 30.5 | 256 | 133 |
| „ 124, — ♂ Myggbukta, Aug. 1, 1930. . . | 160 | 30 | 31 | 260 | 119 |
| „ 153, Young ♂ Muskox Fjord, Aug. 6, 1930. . . . | 148 | 27 | 31 | 238 | 116 |
| „ 125 — ♀ Myggbukta, Aug. 1, 1930. | 135 | 27 | 30 | 220 | 110 |

Two eggs taken by J. Giæver in Muskox Fjord in June 1, 1931 measure 42.2×28.7 mm, and 40.5×29 mm.

Testes in No. 81, full-grown ♂, 9.5×3 mm.

This species was observed by the Greenland Expedition in the summer 1930 in Loch Fine Fjord, July 24 (3 brooding pairs); in Myggbukta, Aug. 1 (one family: ♂ + 4 young birds); Muskox Fjord, Aug. 6 (flock of 4 young birds).

Crocethia alba (Pallas). The sanderling is represented by 2 skins (Nos. 61 and 62) and one egg. The iris was dark brown.

| | Length of | | | Total | |
|---|------------|------------|--------------|--------------|---------------|
| | Wing mm | Bill mm | Tarsus mm | Length mm | Weight gr. |
| Full-grown ♂ Herschelhus, July 18, 1930 | 119 | 25 | 25 | 195 | 64 |
| — ♀ — — — — — | 123 | 24.5 | 26 | 200 | 51 |

Size of *testes* in full-grown ♂, 7.5×2 mm.

The egg was taken in Myggbukta, June 29, 1931. The size is: 35.4×25 mm. The species was very commonly met with by the Greenland Expedition in Eirik Raudes Land in the summer of both 1930 and 1931; for instance, it was observed by Siggeson in 1930 at Herschelhus, July 18 and 19 (one small flock and two large ones, brooding); C. Wynn, July 20 (2 brooding pairs); Revet, July 22 (2 brooding pairs); Loch Fine Fjord, July 24 (many brooding pairs); Myggbukta, July 31 (many brooding pairs); Muskox Fjord, Aug. 6 (many pairs); Segelsällskapets Fjord, Aug. 10 (a small flock).

Phalaropus fulicarius jourdaini Iredale. Of the grey phalarope there are two skins (Nos. 112 and 126), both old birds in badly worn summer plumage. One of the birds is invalid with only one leg (No. 126).

| | Length of | | | Total | |
|--|------------|------------|--------------|--------------|---------------|
| | Wing mm | Bill mm | Tarsus mm | Length mm | Weight gr. |
| Full-grown bird (No. 126), Myggbukta, Aug. 2, 1930 | 128 | 24.5 | 23.5 | 210 | 47 |
| — ♂ (No. 112), Herschelhus, July 18, 1930 | 128 | 21.5 | 21 | 210 | 74.5 |

This species was not observed in other localities by the Greenland Expeditions in the summer of 1930.

Lagopus mutus groenlandicus Schiøler. Of the East-Greenland ptarmigan there is a somewhat mixed material comprising 5 full-grown birds and 19 chicks of three different sizes, also one egg and a quantity of egg-remains, in all, 26 specimens, collected by the three Greenland Expeditions in the summer of 1929, 1930, and 1931, and principally from the central coast districts of Eirik Raudes Land, between 73° and 74° N.

| Adult birds | Length of | | Bill from nostril mm | Total | |
|---|------------|------------|-------------------------------|--------------|---------------|
| | Wing mm | Tail mm | | Length mm | Weight gr. |
| No. 64 ♂ Hudson Land, July 21, 1930 | 200 | 125 | 10 | 390 | 510 |
| „ 80 ♂ C. Stosch, July 25, 1930 | 201 | 115 | 10.5 | 390 | 510 |
| „ 38a ♂ C. Franklin, Aug. 14, 1931 | 198 | 117 | 10 | 390 | 500 |
| „ 38b ♂ — — — — — | 194 | 115 | 11 | 385 | 550 |
| „ 151 ♀ Myggbukta, July 31, 1930 | 188 | 110 | 9.5 | 370 | 438 |

The length of the *testes* in males No. 38 a and 38 b was 5 mm.

The iris of both old birds and chicks was dark brown. The 19 chicks skins represent three broods, consisting of:

| Joung birds | Length of wing mm | Length of bill (from nostril) mm | Total length mm | Total weight gr. |
|---|----------------------|--|--------------------|---------------------|
| 1. One (single) juv. from Ymer Is., Aug. 3, 1929 | 128 | 7.5 | - | - |
| 2. 9 juv. from Myggbukta, July 31, 1930 | 134—140 | 7.3—8.7 | 240—260 | 150—202 |
| 3. 9 juv. from Loch Fine Fjord, July 26, 1930 | 105—112 | 6.0—6.7 | 190—205 | 98—122.5 |

A noteworthy fact is that there are 6 ♀♀ and only 3 ♂♂ in both of the 2 broods of nine young birds. The weight ratios between the chicks in each of these two broods are as follows:

| Brood of 9 chicks July 31, 1930 | Length (mm) | | Weight (grammes) | |
|------------------------------------|-------------|------|------------------|--------------|
| | Wing | Bill | Total length | Total weight |
| 1. ♂ | 140 | 8.7 | 240 | 182 |
| 2. ♀ | 136 | 7.7 | 260 | 199 |
| 3. ♀ | 135 | 8.4 | 250 | 202 |
| 4. ♀ | 140 | 7.7 | 250 | 168 |
| 5. ♀ | 137 | 7.5 | 260 | 187 |
| 6. ♀ | 136 | 7.5 | 253 | 188 |
| 7. ♀ | 136 | 7.3 | 260 | 192 |
| 8. ♀ | 134 | 8.5 | 240 | 175 |
| 9. ♀ | 134 | 7.7 | 250 | 150 |
| Average | 136.4 | 7.9 | 251.4 | 182.6 |
| July 26, 1930 | | | | |
| 1. ♂ | 112 | 6.4 | 205 | 107 |
| 2. ♀ | 106 | 6.5 | 200 | 117 |
| 3. ♀ | 106 | 6.5 | 190 | 98 |
| 4. ♀ | 112 | 6.7 | 195 | 114 |
| 5. ♀ | 112 | 6.5 | 200 | 117.5 |
| 6. ♀ | 110 | 6.7 | 200 | 122.5 |
| 7. ♀ | 110 | 6.4 | 190 | 101 |
| 8. ♀ | 106 | 6.5 | 195 | 114 |
| 9. ♀ | 105 | 6.0 | 190 | 101 |
| Average | 108.8 | 6.5 | 196.1 | 112.2 |

The smaller brood of the two still have down on parts of the head, only the middle stripe of the crown and the part around the ear being feathered.

Of the eggs only one is whole. It was found on Ymer Is. in the summer of 1929 and measures 42×29 mm. Another nest contained the remains of 6 hatched + 1 rotten egg. The last-named measures 42.4 × 30 mm.

In 1925 E. Lehn Schiøler described (in *Dansk Ornith. Forenings Tidsskr.* XIX, pp. 108—115) the East-Greenland ptarmigan as a new race, and entirely different from those of South-Greenland and West-Green-

land (*Lagopus mutus reinhardti* and *Lagopus mutus rupestris*). The few skins of full-grown birds which are available are indeed somewhat distinctive in their light greyish-yellow, almost *sandy yellow* plumage, with some of the shaft stripes of the remiges quite white and others light horny brown.

The Greenland Expedition observed the species in the summer of 1930 at C. Wynn, July 10 (1 bird); Revet, July 22 (1 bird); Loch Fine Fjord, July 24 (brooding); Myggbukta, July 31 (brooding); and Muskox Fjord, Aug. 6 (5 birds, brooding). According to reports from the Norwegian hunting expeditions wintering there the ptarmigan appears to have occurred in exceptionally large numbers in 1929—1930, as about 1000 birds were shot in Vega Sound alone (by two men), whilst one man in Dusén Fjord accounted for 164 birds in the same period. In Clavering Fjord approximately 800 birds were shot (by 4 men) in the course of that and the preceding winter (1928—1930). Last year (1930—1931) a total of only 676 ptarmigan (by 15 men) were shot: around Clavering Fjord (100 birds), Myggbukta (300), Dusén Fjord (86), Ella Is. and Vega Sound (130), Muskox Fjord (30), C. Petersens (20), and Antarctic Harbour (10) (A. Hoel).

According to J. Giæver the ptarmigan ♀ ♀ begin to put on their spring plumage as early as May, whereas ♂ ♂ keep their entirely white winter plumage considerably longer, and wholly white ptarmigan have been shot in the middle of July as well as late in August (1928—1930). In winter they migrate through wide areas in large and small flocks of from 6—10 up to 50 birds, showing a preference for ground from which the wind has drifted the snow; in clear weather they make for the mountains and in snowy weather for the lowlands. As a rule they show very little shyness.

II.

Whereas the entire bird fauna of the whole of Greenland comprises 170 distinct species, of which only 23 species are stationary, and 63 species in all have been proved in brood here, the species for North-East-Greenland proper — or the tracts from Scoresby Sound and northward to Navy Cliff (70°—81° 30' N. B.) — number the 56 different birds enumerated below, and of these 39 species are known with absolute certainty to occur in Eirik Raudes Land:

1. *Corvus corax principalis* Ridgway. Stationary and common occurrence right up to Navy Cliff (81° 30' N.) (5).
2. *Carduelis linaria rostrata* (Coues). Casual; migratory; nests in South-East-Greenland up to north of Angmagsalik (20).
3. *Carduelis l. hornemanni* (Holbøll). Stationary; nests in scattered areas.
4. *Plectrophenax nivalis subnivalis* (Brehm). Nests annually in large numbers right up to Navy Cliff (81° 30' N.) (5). Migratory.

5. *Calcarius lapponicus groenlandicus* (Brehm). Casual; migratory. Nests at Angmagsalik (20). In Eirik Raudes Land only observed on Sabine Is., May 9 and 16, 1870, and on Shannon Is., July 25, 1870 (3).
Northernmost location: 1 bird observed on Little Koldewey Is., 76°40' N., on June 17, 1907 (15).
? *Motacilla alba alba* L. Has not been met with in Eirik Raudes Land, but several specimens are observed and shot in Scoresby Sound: at Cape Steward on August 24, 1924, at Cape Hope on June 3, 1925 (4 specimens) and several times in 1928 (21—22).
? *Turdus merula merula* L. Not observed in Eirik Raudes Land, but one single specimen was shot at Cape Tobin, Scoresby Sound, on April 8, 1928 (22).
6. *Oenanthe oenanthe leucorrhoea* (Gmelin). Breeds annually and commonly; migratory.
7. *Nyctea scandiaca* (L.). Stationary; periodically numerous.
8. *Falco rusticolus candicans* Gmelin. Stationary; breeds sparsely northward to Navy Cliff in 81°30' N. (5).
? *Falco rusticolus islandus* Brünnich. Has not with certainty been met in Eirik Raudes Land, but several specimens were observed and one junior specimen shot during the autumn 1928 in Scoresby Sound (22).
9. *Anser brachyrhynchus* Baillon. Broods annually; migratory, common everywhere.
? *Anser albifrons gambelli* Hartl. Has not with certainty been met with in Eirik Raudes Land (stated to have been "observed" during the German North Pole Expedition in 1869—70 (3) also by Kolthoff at Mackenzie Bay, Aug. 2, 1900 (9). Kolthoff himself subsequently said he was uncertain as to whether he had observed it (10). The species breeds numerously in West-Greenland, however, and has often been seen in Angmagsalik (20). In 1928, September 4, an *adult* ♀ was shot in Cape Tobin on the Liverpool-coast (22).
10. *Branta leucopsis* (Bechstein). Breeds annually; migratory; common everywhere.
11. *Branta bernicla hrota* (Müller). Breeds in small numbers and hardly every year; migratory. Occurs more numerously in the districts to the north up to 81—82° N., also on the north-west coast (7). Formerly only observed by Nathorst, who saw 2 birds at Sabine Is. on July 7, and shot 1 bird at C. Borlase Warren, on July 14, 1899 (8); also by Deichmann (11), who in the year after, on the same date (July 14, 1900) and at the same place, observed 1 ♀ with 2 nestlings. In Scoresby Sound the bird was breeding at Cape Hope on July 8, 1928 (22).



12. *Cygnus cygnus islandicus* Brehm. Casual; met with only once, in a fiord on the south side of Gael-Hamkes Bay, where two were shot and eaten on Aug. 21, 1821 during the visit of the Clavering Expedition (2); seen on several occasions in Angmagsalik (20), and one specimen observed at Cape Grey on Liverpool-coast (71° N.) June 15, 1928 (22). Nested in earlier times in Kuksuk in South-Greenland, but was exterminated (7).
- ? *Dafila acuta acuta* (L.). Not observed in Eirik Raudes Land, but 2 specimens have been met with in Scoresby Sound on June 1 and June 2, 1929 (22).
- ? *Querquedula crecca crecca* (L.). Not observed in Eirik Raudes Land, but several times during the spring 1928 in Scoresby Sound, where 3 specimens (2 ♂♂ and 1 ♀) were shot at Cape Hope on May 31, and June 3 (22).
- ? *Anas platyrhynchos boschas* Brehm. Has not been proved with certainty in Eirik Raudes Land. On the other hand, a family with young birds was observed at Jameson Land in Scoresby Sound on Aug. 3, 1891 by Bay (6), and a breeding pair at Cape Hope on June 5, 1928 by Pedersen (22). This species breeds commonly in Angmagsalik (20).
- ? *Nyroca marila marila* (L.). Not observed in Eirik Raudes Land, but a single pair ♂ ♀ was observed and the ♂ shot at Danmarks-havn (abt. 76° 50' N.) on June 21, 1907 by Manniche (15). South of that point only one specimen is known, from Angmagsalik (20).
13. *Clangula hyemalis* (L.). Breeds numerous everywhere. Stationary at Angmagsalik.
- ? *Histrionicus histrionicus histrionicus* (L.). Has not for certain been seen in Eirik Raudes Land; but a family with young birds was observed by Ryder in West Fjord, Scoresby Sound, Aug. 16, 1891 (6), and an *adult* ♂ was shot at Cape Hope on June 10, 1929 (22). It breeds in small numbers in Angmagsalik, and is stationary in West-Greenland.
14. *Somateria mollissima islandica* Brehm. Partly stationary; breeds commonly everywhere.
15. *Somateria spectabilis* (L.). Stationary and of comparatively common occurrence.
16. *Mergus serrator serrator* L. Casual; migratory. Only a single specimen, a full-grown ♂, is known to have been shot, on Sabine Is., June 17, 1922 (18). On the other hand, it appears to breed in certain years both north and south of Eirik Raudes Land. Manniche observed a full-grown ♀ several times at Renskjær in Danmarks-havn on July 21, 1908 (15), and Bay mentions two occurrences in Scoresby Sound: One flock, Sept. 11, 1891, and a pair, June 17, 1892 (6). During the last years several specimens too are observed

- here by Alwin Pedersen: Aug. 22, 1925, Sept. 14, 1927, May 29, 1928, and May 27—July, 1929 (21—22). In Angmagsalik it breeds sparsely (20).
17. *Fulmarus glacialis glacialis* (L.). Occurs in large numbers in the drift ice off the coast, but is rarely met with near land. The only known nesting places on the east coast is Mallemukfjellet, in $80^{\circ}12' N.$, and Raffles Island at the Liverpool-coast in $70^{\circ}35' N.$, where nearly 30 pair of breeding birds were observed by Alwin Pedersen on July 1927 and 1929, but no one in 1928 (21—22). Migratory. The dark form seems to be the common one here and outside of North-East-Greenland (15). Breeds numerously in West-Greenland (7).
 18. *Colymbus immer* Brünnich. Occurs in the main casually, the northern limit of the nesting area of the species in East-Greenland extending up to Scoresby Sound, where it breeds more or less generally. Was observed on Danmark Is. on June 17 to Sept. 18, 1892, and at Hurry Inlet on Aug. 5, 1898, Aug. 1, 1900, June 1925 and on May 18, 1928. Cf. Bay (6), Nathorst (8), Deichmann (11), and Alwin Pedersen (21—22). In Eirik Raudes Land the species is known to have been met with only twice, by Nathorst: 1 bird at the head of Frans Josefs Fjord and 2 birds in Röhss Fjord in August 1898 (8). Farther north 5 birds were daily observed together by Manniche on Walrus Pt. (abt. $77^{\circ} N.$), between Aug. 20 and Sept. 2, 1906 (15). Migratory.
 19. *Colymbus stellatus* Pontoppidan. Breeds generally everywhere; migratory.
 20. *Alle alle* (L.). Occurs in large numbers in the drift ice off the coast up to 74° — $75^{\circ} N.$, but is met with extremely seldom close to land. Nathorst observed one specimen near Åkerbloms Is. in Segelsällskapet's Fjord on Aug. 19, 1899 (8). The nearest nesting colony is Carlsbergfjord, north of the Liverpool Coast. Migratory.
 21. *Uria lomvia lomvia* (L.). Occurs, like the preceding species, only in the drift ice off the coast, and is rarely seen close to land. Nearest nesting place are Raffles Is. on the Liverpool Coast and C. Brewster, in company with *Alle alle*. Farthest north 2 birds were shot in Danmarkshavn (near $77^{\circ} N.$) on July 13, 1908 by Manniche; migratory.
 22. *Uria grylle mandtii* Mandt. Partly stationary in occasional cuts in the ice between Herschelhus and C. Wynn. Breeds in small numbers on Sabine Is., and sparsely northward to Mallemukfjellet in $80^{\circ}10' N.$ (15).

? *Alca torda* L. Of this species, which is unknown in the whole of East-Greenland, one specimen was met with as far north as Mallemukfjellet in $80^{\circ}10' N.$ on June 9, 1907 by the Denmark

Expedition (15). As is known, it breeds in large numbers in West-Greenland up to 74° N. and winters off South-Greenland (7).

? *Fratercula arctica naumanni* Norton. Only one single specimen seems to have been met with in North-East-Greenland, an *adult* male shot at Raffles Island on the Liverpool-coast, June 20, 1929 (22).

? *Stercorarius skua skua* Brünnich. Not observed in Eirik Raudes Land, but two specimens (*adult* ♀ ♀) were shot in Scoresby Sound on May 26 and June 10, 1928 (22).

23. *Stercorarius pomarinus* (Temminck). Only scattered specimens are known from the drift ice off the east coast: Observed by Bay (6) off Scoresby Sound (two birds in August 1892); by Manniche (15) at 75° 49' N. (one bird Aug. 6, 1906); by Løyning of the Norwegian Greenland Expedition off Herschelhus in the summer of 1931 (several specimens). On the other hand, this species breeds commonly on the west coast of Greenland:
24. *Stercorarius parasiticus parasiticus* (L.). Like the preceding species, this bird nests commonly on the West Coast, but is rarely met with in East-Greenland. Kolthoff found one pair with a very young brood in Mackenzie Bay in Eirik Raudes Land on July 2, 1900 (10), and the summer before Nathorst observed one bird off the coast (*vide* Kolthoff 10 p. 71). Farther north, Manniche thinks that he saw 2 birds in the drift ice at 77° 20' N. on Aug. 15, 1906 (15). Scoresby also mentions this species as having been observed off Liverpool-coast in 1822 (1).
25. *Stercorarius longicaudus* Vieillot. Breeds periodically in large numbers; migratory.

? *Larus marinus* L. Only one single specimen observed near Raffles Island on the Liverpool-coast by Alwin Pedersen on June 15, 1928 (22).
26. *Larus hyperboreus* Gunnerus. Breeds very commonly everywhere; migratory.
27. *Larus leucopterus* Vieillot. Is of rare occurrence and has not been proved brooding. From Eirik Raudes Land only 2 specimens are previously known (one young and one old ♀), shot on Sabine Is. in September 1869 and end of April 1870 respectively (Finsch 3). At Danmarkshavn, two degrees farther north, Manniche observed some few birds, e. g., 2 on Aug. 17 and 1 on Sept. 25—30, 1906, also 5 birds on June 20 and 1 on Aug. 8, 1907 (15). This species nests commonly in West-Greenland.
28. *Pagophila eburnea* (Phipps). Occurs regularly and commonly in the drift ice off the east coast, but can hardly breed south of C. Marie Valdemar (77° 20' N.) (15). Stationary.

29. *Rissa tridactyla tridactyla* (L.). Observed annually in both large and small numbers in summer in the drift ice off the east coast. It was observed by Deichmann at C. Borlase Warren on July 14, 1910 (11). The nearest nesting places are Mallemukfjellet in the north at 80°10' N. (15), and Raffles Island at the Liverpool-coast in the south at 70°35' N. (21). Migratory.
30. *Xema sabinii* (Sabine). Casual. From Eirik Raudes Land there is recorded only the observation of a small flock at Herschelhus on July 18, 1930 by the Norwegian Greenland Expedition. Farther north it has been found nesting (one clutch two eggs) at Renskjæret near Danmarkshavn, abt. 77° N., on July 18, 1908 Manniche (15). This species was previously known in Greenland as a nesting bird only from the northern part of the west coast, Sabine Is. in Melville Bay, 75° N. (7).
31. *Sterna macrura* Naumann. Breeds commonly everywhere; migratory.
 ? *Pluvialis apricarius* (L.). Has not been met with in Eirik Raudes Land, but several specimens are observed and shot in Scoresby Sound during the spring and summer 1928 and 1929 by Alwin Pedersen (22).
 ? *Pluvialis dominicus fulvus* (Gml.). Only once been met with in Scoresby Sound, where a young bird was shot at Cape Hope on Sept. 2, 1928 (22).
32. *Charadrius hiaticula psammodroma* Salomonsen. Breeds very commonly; migratory.
33. *Arenaria interpres interpres* (L.). Breeds commonly; migratory.
34. *Calidris alpina arctica* (Schiøler). Breeds commonly; migratory.
35. *Calidris maritima maritima* (Brünnich). Breeds sparsely; migratory; observed in the nesting season in June 1870 at Shannon Is., Pendulum Is., Cape Broer Ruys, and other places by the 2nd German Polar Expedition (3), on Pendulum Is. also by Nathorst on July 6, 1899 (8). Stationary in South-Greenland and West-Greenland (20).
36. *Calidris canutus canutus* (L.). Breeds sparsely here and there in Eirik Raudes Land. Migratory. Farther north it was proved nesting comparatively common in the summer of 1907 around Storm Cape near Danmarkshavn, 77° N. (15).
37. *Crocethia alba* (Pallas). Breeds very commonly in suitable localities spread over Eirik Raudes Land. The 2nd German North Pole Expedition brought home young birds and eggs from Sabine Is. in the summer of 1870 (3 and 4). Migratory.
38. *Phalaropus fulicarius jourdaini* Iredale. Nests sparsely and in small numbers. Migratory. Observed nesting by Kolthoff at Mackenzie Bay on Aug. 2, 1900 (10). Appears to occur more numerously

farther north; around Storm Cape in 77° N. Manniche found it nesting very commonly in the summer of 1907 (15).

? *Lobipes lobatus* (L.). So far not observed in Eirik Raudes Land; but one pair ♂ ♀ was shot in the breeding season on Denmark Is. in Scoresby Sound, June 27, 1892 (6). Here are two several specimens shot or observed by Alwin Pedersen during the summers 1928 and 1929 (21—22). Breeds commonly on both the west and the east coast up to Angmagsalik (20). Migratory.

? *Capella gallinago* (L.). Only once been met with in Scoresby Sound, where an *adult* ♀ was shot at Roseninge Bay on May 26, 1929 (22).

39. *Lagopus mutus groenlandicus* Schiøler. Stationary and numerous.

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Natural History Section, Stavanger Museum, August 1932.

H. Tho. L. Schaanning.

2. A Contribution to the Bird Fauna of Jan Mayen.

I.

One of the expeditions sent out in 1930 by *Norges Svalbard- og Ishavs-undersøkelser* proceeded in S/S *Veslekari* to East-Greenland, calling at Jan Mayen on July 14. In this island a quantity of ornithological material totalling forty-four specimens of skins and eggs was collected under the guidance of Messrs. P. Løyning and E. Siggeson, the two zoologists accompanying the expedition. In addition to this material the expedition received gifts of six specimens, mainly mummified birds, which had been collected in the island by the head of the Norwegian wireless station, so that the ornithological material secured from Jan Mayen in the summer of 1930 totals fifty specimens representing twelve distinct species. Two of these are *new* in the fauna of the island, viz., the teal (*Querquedula crecca crecca*) and the great skua (*Stercorarius skua skua*). Another interesting acquisition is a specimen of the common crossbill (*Loxia c. curvirostra*), caught at sea on board the *Veslekari* about midway between Norway and Jan Mayen.

An extract is appended of Mr. Siggeson's notes related to bird species observed at sea between the Norwegian coast and Jan Mayen (July 11—14) and at sea between Jan Mayen and East Greenland (July 15—16).

Finally, a brief summary is added (II) of the ornithology of the island, and also a revised list of the literature available on the subject, prepared by the author.

The following species of birds are represented in the collection:

1. *Loxia curvirostra curvirostra* L. One specimen (skin No. 5). Two specimens came flying on board the *Veslekari* about 305 nautical miles from land, approximately midway between Norway and Jan Mayen (abt. 67° N.) on July 12. The one specimen, a full-grown ♀ was shot. Total length 170 mm, weight 57.5 grammes. Length of wing 94 mm, bill 18 mm, tarsus 17 mm.
2. *Plectrophenax nivalis subnivalis* (Brehm). One specimen (mummified). A full-grown ♂ in full summer plumage. It was found dead on the northwestern part of Jan Mayen on August 5, and was then

- rather defective. The race *subnivalis*¹ appears, however, to be certain. Length of wing 112 mm, bill 10 mm, tarsus 21.5 mm.
3. *Turdus musicus coburni* Sharpe. One specimen (mummified and very defective). The bird was found dead in Havhestberget on August 21; it must have succumbed some time in the previous winter. Remiges, rectrices, also feet and bill were missing.
 4. *Oenanthe oenanthe schiöleri* Salomonsen. One specimen (mummified). The bird was found dead at *Vallbjørg* on July 20. It was a full-grown ♀ with plumage somewhat worn, but breast and abdomen distinct with yellowish tinge². Length of wing 101 mm, bill 13.5 mm, Tarsus 28 mm.
 5. *Falco rusticolus candicans* Gmelin. One specimen (partly mummified). Remains of a gerfalcon were found at *Grønna i Ekeroldalen* on July 26, and the head and feet were sent in. Bill defective (could not be measured), but length of tarsus 62 mm. The bird must have perished in the previous winter.
 6. *Querquedula crecca crecca* (L.). One specimen (mummified). The bird was found dead outside the wireless station in May 1930, and was quite well preserved. It is a ♀ clearly in its first winter plumage. Length of wing 178 mm, bill 34 mm, tarsus 29 mm. As far as is known, this is the first time it has been met with in Jan Mayen.
 7. *Alle alle alle* (L.). Four specimens (skins Nos. 37—40). All these specimens are old birds shot in full-coloured summer plumage on July 14. Iris dark brown. In the three ♂♂ the *testes* are from 8×2.5 mm and up to 9×3 mm in size. Other dimensions and weights as follows:

| | Length of | | | Total | |
|--|------------|------------|--------------|--------------|---------------|
| | Wing mm | Bill mm | Tarsus mm | Length mm | Weight gr. |
| Full-grown ♂ (No. 37) Jan Mayen, July 14.. | 116.5 | 14.5 | 20 | 230 | 140 |
| — ♂ (- 39) — — .. | 116.5 | 14 | 20 | 230 | 150 |
| — ♂ (- 38) — — .. | 119 | 14 | 20 | 230 | 160 |
| — ♀ (- 40) — — .. | 123 | 13 | 20 | 232 | 160 |

8. *Uria lomvia lomvia* (L.). 27 specimens, of which 12 skins and 15 eggs. Of the birds eight are full-grown specimens (Nos. 44—51) in full summer plumage, shot on July 14, and four nestlings (Nos. 1—4) caught at the same time. Of the eggs, nine were taken fresh on July 3—7, while six more or less incubated were taken on July 14. Iris in both old and young birds was dark brown. Testes in two *adult* ♂♂ (Nos. 50 and 51) measure 16×4 mm and 19×5 mm respectively. Dimensions and weight as in following measurements:

¹ Cf. Lehn Schiøler: "Danmarks Fugle". vol. 2, p. 48, and F. Salomonsen in "The Ibis" 1931, p. 57.

² Cf. Salomonsen in "The Ibis" 1927, p. 202.

| | Length of | | | Total | |
|---|------------|------------|--------------|--------------|---------------|
| | Wing mm | Bill mm | Tarsus mm | Length mm | Weight gr. |
| Full-grown ♂ (No. 50) Jan Mayen, July 14 .. | 220 | 35 | 36 | 430 | 1470 |
| — (- 51) — — .. | 211 | 33 | 36 | 430 | 1380 |
| — (- 48) — — .. | 220 | 35 | 37 | 430 | 1440 |
| — (- 45) — — .. | 220 | 34 | 37 | 415 | 1310 |
| — (- 49) — — .. | 217 | 32 | 35 | 420 | 1330 |
| — (- 46) — — .. | 217 | 37 | 36 | 420 | 1330 |
| — (- 44) — — .. | 215 | 34 | 34 | 415 | 1360 |
| — (- 47) — — .. | 213 | 31 | 34 | 427 | 1300 |
| Nestling (- 1) — — .. | 0 | 17 | 27 | 180 | 111.5 |
| — (- 2) — — .. | 0 | 12 | 24 | 165 | 76 |
| — (- 3) — — .. | 0 | 15 | 27 | 176 | 79 |
| — (- 4) — — .. | 0 | 16 | 24 | 170 | 81 |

For eight full-grown birds the average *weight* is thus 1360 grammes, average length of wing 216.6 mm, bill 33.9 mm, tarsus 35.6 mm. Of the four nestlings Nos. 2 and 4 are full "striped" down and hardly more than three days old, whilst Nos. 1 and 3 already have fully feathered cheeks and partially grown shoulder feathers and wing covers, and must certainly be two or three weeks old.

Dimensions and *total* weight of eggs (in fresh condition) are as follows:

| Length and breadth mm | Total weight grammes | Length and breadth mm | Total weight grammes | Length and breadth mm | Total weight grammes |
|--------------------------|-------------------------|--------------------------|-------------------------|--------------------------|-------------------------|
| 87.1 × 50.6 | 112.5 | 80.7 × 51.7 | 109.0 | 78.7 × 50.7 | 88.5 |
| 84.6 × 52.3 | 118.0 | 80.4 × 51.0 | 96.0 | 78.3 × 50.0 | 77.0 |
| 81.8 × 52.5 | 115.0 | 80.0 × 52.8 | 113.0 | 78.0 × 52.3 | 111.0 |
| 81.7 × 48.0 | 96.5 | 80.0 × 49.0 | 97.5 | 77.5 × 47.7 | 82.0 |
| ca. 80.0 × ? | 106.0 | ca. 80.0 × ? | 97.0 | ca. 77.0 × ? | 79.0 |

Average size of 12 eggs = 80.7 × 50.7 mm.

Average weight 15 eggs = 100 grammes (total weight).

9. *Fratercula arctica arctica* (L.). Nine specimens (Skins Nos. 28—36). All these are old, full-grown birds shot on July 14. Iris dark grey. The following measurements show that the puffin stock in Jan Mayen should unquestionably be classed under the race *F. a. arctica* (L.) and not under *F. a. naumanni*. Norton.

| | Length of | | Bill | | Total | |
|--|------------|--------------|--------------|--------------|--------------|---------------|
| | Wing mm | Tarsus mm | Length mm | Height mm | Length mm | Weight gr. |
| Full-grown ♂ (No. 29) Jan Mayen, July 14 | 177 | 30 | 54.0 | 44.2 | 360 | 600 |
| — ♂ (- 33) — — .. | 177 | 29 | 54.2 | 42.0 | 360 | 600 |
| — ♂ (- 34) — — .. | 176 | 30 | 53.6 | 44.0 | 360 | 530 |
| — ♂ (- 36) — — .. | 172 | 28 | 52.0 | 42.0 | 350 | 590 |

| | Length of | | Bill | | Total | |
|-----------------------------|------------|--------------|--------------|--------------|--------------|---------------|
| | Wing mm | Tarsus mm | Length mm | Height mm | Length mm | Weight gr. |
| Full-grown ♀ (No. 30) | 175 | 29 | 51.8 | 39.5 | 360 | 590 |
| — ♀ (- 31) | 174 | 28 | 52.3 | 39.3 | 340 | 560 |
| — ♀ (- 32) | 172 | 29 | 49.5 | 40.8 | 350 | 510 |
| — ♀ (- 28) | 170 | 28 | 49.2 | 34.5 | 340 | 570 |
| — ♀ (- 35) | 168 | 27 | 45.3 | 39.5 | 330 | 490 |

For four ♂♂ the average size
of wing is 175.5 mm, bill 53.5×43 mm, tarsus 29 mm.

For five ♀♀ the average size
of wing is 171.8 mm, bill 49.6×38.6 mm, tarsus 28 mm.

Testes in the above four ♂♂ show the following dimensions:

(No. 34): 15.5×5.0 mm (No. 33): 13×5.5 mm

(- 36): 14.5×5.5 - (- 29): 13×4.5 -

10. *Stercorarius skua skua* (Brünnich). One specimen (skin of adult bird). This is an old, full-coloured bird, shot in Ullereng lagoon in Jan Mayen on July 26. Length of wing 403 mm, bill 46 mm, tarsus 68 mm. This is the first time the species has been found here.
11. *Larus hyperboreus* Gunnerus. Two specimens (skins Nos. 57—58). Both birds were shot on July 14, a *full-grown* ♂ (No. 57) and a *younger* ♂ of the previous year (No. 58). Iris greyish brown. Dimensions and weight as follows:
 - ♂ (No. 57): Wing 472 mm, bill 68 mm, tarsus 77 mm, total length 760 mm, total weight 2240 gr.
 - ♂ (No. 58): Wing 455 mm, bill 63 mm, tarsus 79 mm, total length 740 mm, total weight 1710 gr.
12. *Rissa tridactyla tridactyla* (L.). One specimen (skin No. 6). This bird is a nestling caught on July 14, scarcely more than ten days old. Head, neck, underparts and upper part of the rump are still in full downy plumage. Only the hind neck and the mantle with respectively black and bluish grey feathers. Iris bluish-black. Length of bill 19 mm, tarsus 27 mm, total length 220 mm, total weight 177 gr.

Observations (from Mr. Siggeson's Diary).

A. Birds observed in the Norwegian skerryguard off Ålesund in Sunnmøre (ca. 62°30' N.) during departure:

- July 10. *Motacilla a. alba*, *Anthus spinoletta littoralis*, *Somateria mollissima norvegica*, *Phalacrocorax carbo*, *Phalacrocorax aristotelis*, *Fulmarus glacialis*, *Uria grylle grylle*, *Stercorarius parasiticus*, *Larus argentatus*, *L. marinus*, *L. canus*, *L. fuscus intermedius*, *Rissa tridactyla*, *Sterna hirundo* and *Haematopus ostralegus*.

(One specimen of *Larus ridibundus* also observed at the same place a few days earlier.)

B. Birds observed at sea between Norway
and Jan Mayen:

- July 11. Only small flocks of *Rissa tridactyla* and *Fulmarus glacialis*, also one specimen of *Stercorarius parasiticus*,
- July 12. Still saw single specimens of *Rissa tridactyla* and *Fulmarus glacialis*, also *Alca torda* (one or two), *Stercorarius pomarinus* (one), *Sterna macrura* (one), and two specimens *Loxia curvirostra* (abt. 305 nautical miles from land).
- July 13. Continued to see small flocks of *Rissa tridactyla* and *Fulmarus glacialis*, *Stercorarius pomarinus* (one), also a few *Stercorarius longicaudus* and *Larus hyperboreus*.
- July 14. Still observed small flocks of *Rissa tridactyla* and *Fulmarus glacialis*, *Larus hyperboreus* (three), *Sterna macrura* (two), also of new species *Uria lomvia* and *Fratercula arctica* (both in small flocks), and finally a family *Somateria mollissima islandica* (♀ + five nestlings). Near land also *Alle alle*.

C. Bird observed at sea between Jan Mayen
and East-Greenland:

- July 15. Large flocks of *Uria lomvia* and *Fratercula arctica*, also one or two *Sterna macrura* and *Stercorarius longicaudus*.
- July 16. (In the drift ice). One or two *Sterna macrura* and *Stercorarius longicaudus*, *Uria grylle* (three), *Larus hyperboreus* (two), *Larus leucopterus* (one), and a flock of *Fulmarus glacialis*.

II.

The bird fauna of Jan Mayen is otherwise but little known. As a result of the exposed position of the island and the complete absence of harbours, it has been visited only on comparatively rare occasions by scientific *land*-expeditions; and relatively little material is available respecting its ornithological conditions — at all events, compared with what has so far been published concerning the fauna of the Greenland area lying to the west, and that of the Svalbard area farther northward and to the east of Jan Mayen. The fauna of Jan Mayen is, however, of very special interest just because of the position of the island in the dividing line between these two great fauna areas, and moreover, as this former *No-man's-land* has recently gained recognition as Norwegian territory, a brief survey of the ornithology of the island in connection with a revision of the more important publications on the subject, should be of topical interest.

The fifty-two distinct species of birds enumerated below have with complete certainty been observed in the island, and, of these, approximately one—third, or sixteen or seventeen species have also been found nesting (the latter are given in black type):

1. *Carduelis linaria hornemanni* (Holbøll). Observed only in small numbers during autumn migration in 1882, and in May—June 1883. (7).
2. *Plectrophenax nivalis subnivalis* Brehm. Breeds annually. Occurs in large numbers during migration from March 25 to June 11, and in September—October. Observed also in winter on February 18—24, 1883. (7).
3. *Calcarius lapponicus groenlandicus* (Brehm). Casual; only one specimen, no doubt of this race — shot on May 17, 1883. (7).
4. *Anthus spinoletta rubescens* (Tunstall). Casual; only two specimens, no doubt of this race — shot on June 2, 1883. (7).
5. *Anthus trivialis trivialis* (L.). Casual. Only one specimen, shot early in July 1883. (7).
6. *Motacilla alba alba* L. Casual; two specimens shot on May 7, 1883. (7). One or two since been seen at the wireless station in the spring of 1922. (18).
7. *Turdus pilaris* L. Casual. A number, of which four were shot, were met with on May 4—5, 1883. (7).
8. *Turdus musicus coburni* Sharpe. Casual. It was no doubt this race which was observed on several occasions by Dr. Fischer during May 1883. (7). A specimen found dead by Mr. Musters in August 1921 (18), and one found in August 1930 by the Norwegian Greenland Expedition.
9. *Turdus merula merula* L. Casual; only one specimen (young ♂) shot on Dec. 23, 1882. (7).
10. *Oenanthe oenanthe schiøleri* Salomonsen. It is probably this race, and not *O. o. leucorrhoea*, which is seen annually and certainly also breeds here. In 1883 it was numerous during the spring migration as early as May 4, (7).
11. *Erithacus rubecula melophilus* Hartert, Casual; only two specimens, no doubt of this race, were met with on May 5—6, 1883, and one of them was shot. (7).
12. *Hirundo rustica rustica* L. Casual; only one specimen seen by E. Bessels¹ on June 8, 1869. (5).

¹ In his book: Die Amerikanische Nordpol-Expedition, Leipzig 1879, pp. 466—467, the author says in this connection: "Im Jahre 1869 sah ich selbst in der Nähe von Jan Mayen ein Exemplar von *Hirundo rustica*. Einem meiner Tagebücher entnehme ich darüber die folgende Notiz: Juni 7: Position um Mitternacht 71° 19' N), 8° 40' W., nach der Logge-Rechnung, stürmische Brise aus SW. z. W., die während der letzten neun Stunden geweht; neblige Luft, kreuzen zwischen losen Treibeis. Um 1 22 Uhr am Morgen des 8. bemerkten wir ein Exemplar von *Hirundo rustica*. Der

13. *Nyctea scandiaca* (L.). Casual. Several specimens were met with in the course of winter 1882—1883 by Dr. Fischer, e. g. on Oct. 19, and Dec. 13, 1882, also on Jan. 7 and March 14, 1883; the species was also seen repeatedly in April—June 1883. (7).
14. *Falco peregrinus anatum* Bonaparte. Casual; only two specimens, no doubt of this breed, observed by Dr. Fischer on April 6 and May 25, 1883. (7).
15. *Falco rusticolus candicans* Gmelin. Breeds uncertainly. Species observed as far back as April 9, 1883 by Dr. Fischer, who shot a full-grown ♂ on May 7 of that year, and several specimens were seen at the same place in the course of May—June. (7). A dead specimen was found in July 1930 by the Norwegian Greenland Expedition.
16. *Cygnus cygnus islandicus* Brehm. Casual; seen only once — two specimens having been observed in the summer of 1923 at the wireless station by Dr. Olav Mosby. (14).
17. *Branta bernicla hrota* (Müller). Casual; only two specimens seen, one by Dr. Fischer, who shot it on May 23, 1883 (7), and the other by Dr. Deichmann, who observed it in South Lagoon on June 28, 1900. (13).
18. *Dafila acuta acuta* (L.). Casual; one specimen found dead during the visit to the island of the Danish Amtrup Expedition on June 27, 1900. (13).
19. *Querquedula crecca crecca* (L.). Casual; met with only once — a ♀ found dead in May 1930 by the head of the wireless station and handed over to the Norwegian Greenland Expedition.
20. *Clangula hyemalis* (L.). Occurs more or less frequently, but has so far not been proved breeding. Dr. Fischer observed the species several times in pairs in the spring and summer of 1883, and also shot one bird on Dec. 12, 1882 (7). Nathorst also observed it in the middle of June 1899 (10), and Deichmann saw several old ♂♂ in South Lagoon on June 26—28, 1900. (13).
21. *Somateria mollissima islandica* Brehm. Breeds more or less commonly. Seen by Vogt as far back as August 1861 (3), but is stated to be "rare" by Mohn on the visit of the Norwegian Arctic Expedition at end of July 1877 (6). Dr. Fischer, on the other hand found the species comparatively numerous in 1882 and 1883, particularly in August—October. One specimen (a ♀) was shot on Dec. 6, 1882. In 1883 the spring migration began on April 4, and,

Vogel flog mehrmals um das Schiff und ließ sich dann, wahrscheinlich ermüdet, auf der Marsstenge nieder. Einer der Leute versuchte ihn zu greifen, allein er entwichte. Als er wieder erschien, schoß ich nach ihm; das Gewehr brannte nach; der Vogel führte eine Schwenkung aus und verschwand dann in nördlicher Richtung, ohne sich wieder blicken zu lassen."

- later, nests with eggs destroyed were found here. (7). In 1899 several specimens were shot in North Lagoon in the middle of June by Nathorst. (10). It was also commonly seen here on June 26—28, 1900 by Deichmann (13), and in August 1921 by Musters. (18). Finally, a family — ♀ with five nestlings — was seen off the coast on July 14, 1930 by the Norwegian Greenland Expedition.
22. *Somateria spectabilis* (L.). Casual; only two specimens, both ♂♂, observed in the summer of 1882 by Dr. Fischer (7).
 23. *Sula bassana bassana* (L.). Casual; only one specimen — an old full-coloured bird, observed on July 21, 1900 by Gustaf Kolthoff. (11 and 12).
 24. *Fulmarus glacialis glacialis* (L.). Breeds in large numbers and is practically stationary all the year round. The species is mentioned by Scoresby from the occasion of his visit here in 1817 (2), also by Vogt in 1861 (3), and by all later visitors. Whereas Dr. Fischer found the first eggs laid on June 17, 1883 (7), Deichmann saw young birds as early as June 26 in 1900 (13), and Musters found nests with young birds as late as the middle of August in 1921 (18). According to Kolthoff the stock in the summer of 1900 consisted solely of the light form which is found in Iceland and the Faroe Is. (11 and 12), while Deichmann, who visited the island the same summer, describes only four of the birds he shot as "light" and ten as "dark" (13).
 25. *Podiceps auritus* (L.). Casual; only one bird shot, June 23, 1883 (7).
 26. *Colymbus immer* Brünnich. Breeding uncertain. Observed on comparatively frequent occasions by Dr. Fischer in the summer of 1882 and 1883; one bird observed also on Dec. 18, 1882 and Jan. 11, 1883 (7). During the visit of the Amdrup Expedition on June 26—28, 1900 this species was met with (13), and Musters saw a bird here in the summer of 1921 which had just been shot (18).
 27. *Colymbus stellatus* Pontoppidan. Breeding uncertain, but seen comparatively often in the summer. Dr. Fischer saw it in pairs in North Lagoon throughout the autumn of 1882, and shot an old ♀ in full plumage on June 10, 1883 (7). Also Nathorst (10) and Deichmann (13) saw this species in the breeding season on June 12, 1899 and June 26—28, 1900.
 28. *Alle alle alle* (L.). Breeds in large numbers. Is mentioned by Scoresby (2) from his visit as far back as 1817. Vogt (3) shot one bird which was still feeding its young on August 23, 1861, whilst Kolthoff (11 and 12) found small nestlings on July 21, 1900. When Dr. Fischer wintered in the island in 1882—1883 the great mass of the birds left late in August 1882, but stray specimens were observed as late as Oct. 5 and Dec. 23, 1882, also on Jan. 13, 1883. In the latter year the spring migration occurred on April 21—23,

- and after May 2 all the nesting places were occupied; in the middle of June several nests contained brooded eggs (7).
29. *Uria lomvia lomvia* (L.). Breeds in exceptionally great numbers, and is mentioned by all visitors from Scoresby (2) in 1817 down to Musters (18) in 1921. Spring migration commences abt. April 20, and autumn migration takes place from the middle of August to Sept. 10. Dr. Fischer (7) found brooded eggs as early as June 14 in 1883, and the Norwegian Greenland Expedition found fresh eggs as late as the second week in July in 1930. Newly-hatched nestlings have been found from the middle of July (7) till the middle of August (18). In 1882 numerous migrating flocks were seen crossing from the north as late as Oct. 11, and later on odd birds were seen on Jan. 16 and 17, Feb. 20, and April 10, 1883 (7). One bird, the one side of whose head was coloured like that of *Uria ringvia*, whilst the other side was normal, was seen on June 26—28, 1900 by Deichmann (13).
 30. *Uria grylle grylle* (L.). Breeds sparsely. This species is mentioned by Scoresby (2), and Dr. Fischer (7) found in 1883 two nests of which the one contained two big nestlings on July 20. Mohn, however, says that the race *Uria grylle mandtii* was numerous in the island during the visit of the Norwegian Arctic Expedition in July 1877. The question of race may therefore still be regarded as uncertain.
 31. *Fratercula arctica arctica* (L.) Breeds in large numbers. Is referred to by Scoresby in 1817 (2), and by all subsequent land-expeditions (3—18). In 1883 the spring migration commenced on May 23, whilst egg-laying took place in the middle of July (7). In 1900 Kolthoff found nestlings as early as June 21 (11 and 12). Specimens shot by Nathorst (in June 1899) as well as by Kolthoff (in July 1900) confirm, in accordance with the material of the Norwegian Greenland Expedition of 1930, that the race *F. a. arctica* (L.) nests here, whereas Dr. Fischer gives the race *F. a. naumanni* Norton. As, however, Nathorst states that he has "observed" also *F. a. naumanni* in June 1899 along with *F. a. arctica*, it should perhaps be presumed that both these races occur at the same time in the island, at all events, in some years.
 32. *Stercorarius skua skua* (Brünnich). Casual; only one bird — an old one — was shot in Ullereng Lagoon on July 26, 1930, and brought home by the Norwegian Greenland Expedition.
 33. *Stercorarius pomarinus* (Temminck). Occurs more or less casually. Dr. Fischer observed the species several times in July—August 1882, and one bird was shot on Aug. 10, 1882 (7). Several specimens were seen by Deichmann in June 26—28, 1900 (13), and Fridtjof Nansen, who visited the island in the same year saw flocks of this species on Aug. 11 off the coast. (15).

34. *Stercorarius parasiticus parasiticus* (L.). Breeds commonly every year. Dr. Fischer found it to be numerous in 1882 and 1883, when spring migration occurred on June 2 (7). In 1900 several pairs were observed by Deichmann on June 26—28 (13), also a nest with two eggs was found by Kolthoff on July 21 (11 and 12). On Aug. 11 of the same year Fridtjof Nansen saw this species in quite unusually many and numerous flocks of the island (15). In 1921 Musters saw a pair with an almost fledged nestling at South Lagoon early in August (18).
35. *Stercorarius longicaudus* (Vieillot). Breeds more or less casually. Only two specimens observed and the one shot in July 1883 by Dr. Fischer (7). Since that time one pair has been proved brooding by Deichmann, who found a nest with one egg on June 27, 1900 (13).
36. *Larus hyperboreus* Gunnerus. Breeds in large numbers. Has been known as a stationary species here since the first Dutch expedition wintered in 1633—34. From a diary left by that expedition (1) it appears that "See-gulls" occurred in large numbers as late as Sept. 16; it is, however, further stated for Nov. 5 that these birds then "lately" have been absent from the island, but that they "again appear in large numbers on Nov. 25, when they again flew in the evening up into the cliffs". Finally, mention is made of a vast gull migration along the shore on Dec. 17, when the "noise and commotion from the flocks of birds" reminds the diarist of similar conditions in his homeland, Holland; on the same date the said diary closes the information about the birds with a remark that "the flocks of gulls return every night to the cliffs, which are their usual retreat".
- At later period this species is mentioned as being numerous by Scoresby (2) and Vogt (3) as well as by all those succeeding them. Dr. Fischer, too, found it stationary in the winter of 1882—83, and specimens were shot on Jan. 27 and March 17, 1883, whilst the spring migration proper did not commence until April. In the same year the first eggs were seen on June 20, and hatched nestlings on July 15 (7).
37. *Larus leucopterus* Vieillot. Breeds more or less commonly. Dr. Fischer found it almost as numerous as the preceding species in 1882 and 1883 (7). Since then it has of a certainty diminished considerably. In 1921 a number — but not many specimens — were observed, and one bird was shot early in August by Mr. Musters (18).
38. *Larus argentatus argentatus* Pontoppidan. Casual. Only one specimen — a young ♀ — was shot by Dr. Fischer on June 23, 1883; the same autumn, however, a large flock was seen migrating across in Fuglefjell crater (7).

39. *Pagophila eburnea* (Phipps). Occurs more or less casually. Dr. Fischer observed the species several times during the spring of 1883, the first occasion being on May 3 (7). Deichmann, too, saw some few birds in the island on June 29, 1900 (13). On the other hand, it is regularly met with in large numbers in the drift ice off the coast of Jan Mayen early in the spring. It was seen, for instance in March—May 1863, by Quennerstedt (4).
40. *Rissa tridactyla tridactyla* (L.). Breeds in large numbers here and there round the island. Scoresby mentions the species as early as 1817 (2), and Dr. Fischer found it numerous at certain points along the coast in 1882 and 1883; in the latter year two birds were observed as early as Feb. 20, and several on April 5 and May 3; whilst the spring migration proper did not set in until May 17. Brooded eggs were found on June 19 and hatched nestlings on July 25 (7). In 1930 the nestlings seem to have been hatched about July 1.
41. *Xema sabinii* (Sabine). Casual; only a few specimens observed; one bird — an adult ♂ in full-coloured plumage — was shot by Dr. Fischer in 1882—1883. (7).
42. *Sterna macrura* Naumann. Occurs more or less numerously, but has not yet been proved to breed there. Scoresby mentions this species as early as 1817 (2), and Dr. Fischer observed it singly, in pairs, and also in small flocks in the summer of 1883 (7). In 1891 two specimens were seen in the drift ice off the island on June 25 by Bay (9), and Deichmann also saw it in pairs here on June 26—28, 1900 (13). Further, it is referred to by Mosby in 1923 (16).
43. *Charadrius hiaticula psammodroma* Salomonsen. Breeds more or less commonly. Observed frequently during autumn migration end of August—September 1882, and in large numbers in May—July 1883 by Dr. Fischer (7). Several specimens were shot in the middle of June 1899 by Nathorst (10). Deichmann (13), too, found this species numerous on June 26—28, 1900, as did Musters (18), in August 1821.
44. *Pluvialis apricarius altifrons* (Brehm). Casual; seen only twice: Dr. Fischer (7) shot a pair (♂♀) on June 29, 1883, and Deichmann (13) observed two birds on June 26, 1900.
45. *Vanellus vanellus* (L.). Casual; observed only once, on April 8, 1883, when Dr. Fischer (7) shot a specimen out of a large flock in migration comprising about 30 birds.
46. *Arenaria interpres interpres* (L.). Is of comparatively common occurrence during migration. Dr. Fischer observed it frequently during spring migration late in May as well as in the autumn, in September (7). In 1899 a specimen came flying on board Nathorst's ship on June 11, the day before he landed on the island (10).

- 47 a. *Calidris alpina arctica* (Schiøler), Occurs in large numbers in migration spring and autumn (17). Dr. Fischer also noticed several birds that stayed the summer over (in flocks of up to 15 birds) in 1883 (7). Several specimens were shot by Nathorst on June 14, 1899 (10).
- b. *Calidris alpina alpina* (L.). Observed in flocks by Dr. Fischer (7) during spring migration in the middle of June and early July 1883.
48. *Calidris maritima maritima* (Brünnich). Of comparatively frequent occurrence in migration, and is given as "Strandlaufer" by Vogt, who observed it in the autumn of 1861 (3). Mohn states that the species was of uncertain occurrence during the visit of the Norwegian Arctic Expedition at the end of July 1877 (6). Dr. Fischer, however, observed it frequently during the spring migration end of May—June and during the autumn migration end of August—September 1882 and 1883 (7).
49. *Crocethia alba* (Pallas). Occurs in comparatively large numbers in migration. Dr. Fischer saw the species in small flocks during the spring migration in May—June, as well as in the autumn from end of September to middle of October 1882—83 (7). Nathorst shot one specimen on June 16, 1899 (10).
50. *Numenius phaeopus islandicus* Brehm. Occurs more or less casually, but possibly breeds in certain years. Dr. Fischer saw it on comparatively frequent occasions and mostly in pairs during June 1893 (7), and Nathorst shot two birds in "Engelske bukten" on June 23, 1899 (10). Further, two specimens were observed by Deichmann on June 26, 1900 (13). All these birds belong most probably to the Iceland stock.
51. *Haematopus ostralegus malacophaga* Salomonsen. Like the preceding species, it occurs more casually, and possibly breeds. It was first seen here by Nathorst's Expedition, and two birds were shot in "Walross Gat" (by Captain Forsblad, Nathorst's companion) on June 20, 1899 (10). Three specimens were observed daily by Mr. Musters during his stay here in August 1921 (18). These birds, too, belong most probably to the Iceland stock.
52. *Rallus aquaticus hibernans* Salomonsen. Casual; only one specimen — no doubt of this race — was caught by Dr. Fischer in October 5, 1882 (7).

The above list does not include the three species *Turdus philomelos*, *Colymbus arcticus* and *Alca torda*, the occurrence of which in earlier literature on the subject is, for the first two species, demonstrably due to misunderstandings on the part of the respective authors (see Literature List 14 and 18); nor, as regards the last named species, does there exist any confirmation of the statement by H. Winge in "Conspectus Fauna Groenlandica. Aves. Copenhagen 1896, p. 236", according to which this species breeds regularly in Jan Mayen.

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15. (1916) Nansen, Fridtjof: Friluftsliv. Kristiania 1916. [In pp. 107—151 an account is given of a voyage to Island and Jan Mayen in the summer of 1900, during which numerous flocks of *Stercorarius pomarinus* and *S. parasiticus* were observed off Jan Mayen.]
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Natural History Section, Stavanger Museum, 9th May, 1932.

H. Tho. L. Schaanning.

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Norges Svalbard- og Ishavs-undersøkelser Bygdø Allé 34, Oslo

A. W. BRØGGER'S BOKTRYKKERI A/S, OSLO