

THE NORWEGIAN NORTH POLAR EXPEDITION WITH THE "MAUD"  
1918—1925, SCIENTIFIC RESULTS, VOL. V, No. 6

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# BIRDS

FROM

THE NORTH-EASTERN SIBERIAN ARCTIC OCEAN

BY

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WITH

AN APPENDIX BY H. U. SVERDRUP

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## FROM THE NORTH-EASTERN SIBERIAN ARCTIC OCEAN

BY

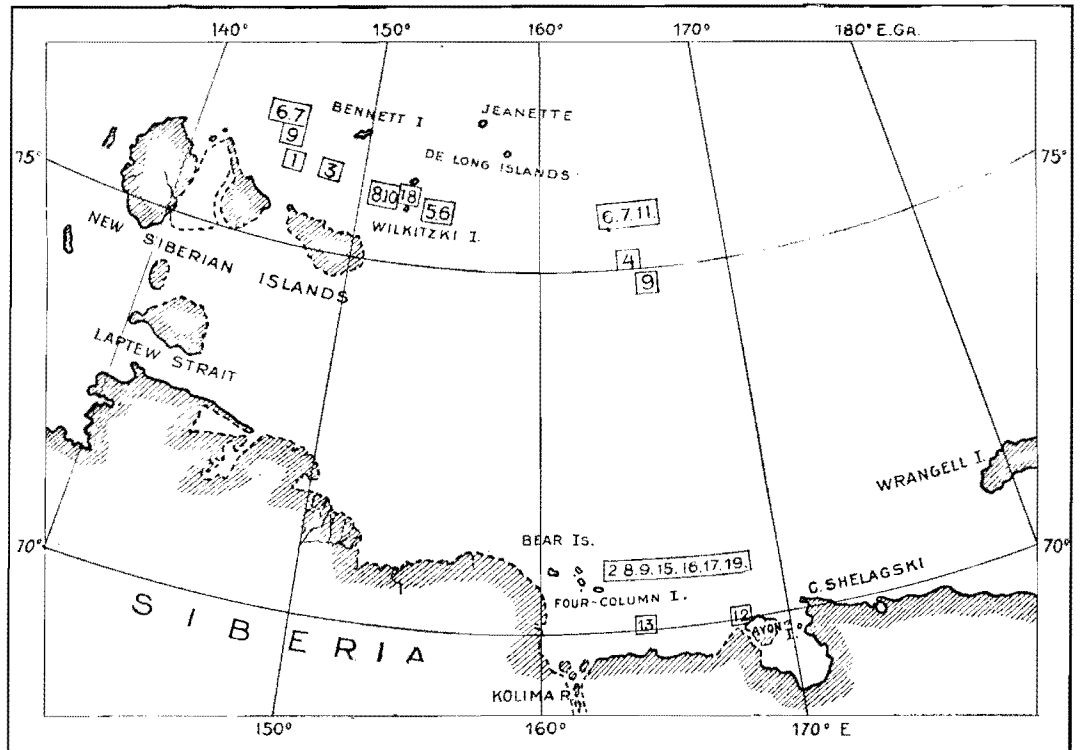
*H. THO. L. SCHAANNING*

WITH AN APPENDIX BY *H. U. SVERDRUP*.

The material of birds brought home by the "Maud"-Expedition and submitted to me by The Zoological Museum in Oslo to work upon, has mainly been collected in the Eastern part of the Siberian Arctic Ocean, more closely pointed out within or in the neighbourhood of the area between the New Siberian Islands, the Jeanette Island and the Wrangell Land, and during the years 1919--1925. A few specimens were shot at "Maudhavn" by Cape Chelyuskin. As will be seen from the list below, 19 species of birds are represented:

No.	Species	Skins	Eggs	Nests
1	<i>Emberiza pusilla</i> Pallas.....	1	—	—
2	<i>Plectrophenax nivalis</i> L. ....	2	—	—
3	<i>Motacilla flava thunbergi</i> Billberg .....	1	—	—
4	<i>Oenanthe oenanthe</i> L.....	2	—	—
5	<i>Uria lomvia</i> L.....	6	—	—
6	<i>Uria grylle mandtii</i> Mandt.....	4	—	—
7	<i>Stercorarius pomarinus</i> Temminck.....	3	—	—
8	<i>Larus hyperboreus</i> Gunnerus .....	3	—	—
9	<i>Pagophila eburnea</i> (Phipps).....	5	—	—
10	<i>Rissa tridactyla</i> (L.).....	1	—	—
11	<i>Rhodostethia rosea</i> (Macgillivray).....	11	—	—
12	<i>Xema sabini</i> (Sabine).....	8	3 (clutches)	1
13	<i>Sterna paradisaea</i> Brünnich.....	1	—	—
14	<i>Erolia maritima</i> Brünnich.....	1	—	—
15	<i>Clangula hyemalis</i> (L.) .....	6	—	—
16	<i>Polysticta stelleri</i> (Pallas).....	1	—	—
17	<i>Somateria mollissima V-nigrum</i> Gray..	1	—	—
18	<i>Somateria spectabilis</i> (L.).....	2	—	—
19	<i>Colymbus arcticus</i> (L.).....	1	—	—
		60	3 ( = 9 eggs)	1
	= 61 numbers in all <sup>1)</sup>			

<sup>1)</sup> Moreover there is a skin from a domestic pigeon (*Columba livia domestica*) hatched on board "Maud" in 1923 and accidentally killed there in May 1925.



Sketch of the North-Eastern Siberian Arctic Ocean.

(The noted numbers correspond to those attached to the species of collected birds on the list p. 3).

From Professor dr. H. U. Sverdrup—in charge of the scientific work of The Maud-Expedition—the Author has received a Diary-Extract of all the ornithological observations noted by the Expedition between August 13, 1922 and June 25, 1925. This Diary is added here in extenso as an Appendix, and it should be noted, that this Appendix contains several species of birds not represented on my list above, as those species only were to be “observed” and not collected. Among such only to be “observed birds” are the following species:

The Snow-Goose (*Anser caerulescens*),

A big swarm obs. at the Four-Column Island ( $70^{\circ} 43' N$ ,  $165^{\circ} 25' E$ ) on June 6, 1925.

„ Brent-Goose (*Branta bernicla*),

A big swarm obs. at  $74^{\circ} 37' N$ ,  $166^{\circ} 07' E$  on May 21, 1923.

A swarm obs. at  $75^{\circ} 53' N$ ,  $152^{\circ} 46' E$  on May 18, 1924.

„ Cormorant (*Phalacrocorax carbo*),

One specimen obs. at  $74^{\circ} 42'$ ,  $165^{\circ} 48' E$  on May 28, 1923.

Some specimens obs. at  $71^{\circ} 15' N$ ,  $155^{\circ} 18' E$ , on August 24, 1924.

„ Fulmar Petrel (*Fulmarus glacialis*),

One single specimen obs. at  $76^{\circ} 15' N$ ,  $145^{\circ} 51' E$  on June 11, 1924.

„ Snowy Owl (*Nyctea nyctea*),

One specimen obs. at  $71^{\circ} 15' N$ ,  $155^{\circ} 18' E$  on August 23, 1924.

Some specimens obs. at the Four-Column Island on May 16, 1925.

1. **Emberiza pusilla** Pallas, 1776.

One specimen (No. 1) taken on board "Maud" at 76° 15' N, 145° 51' E, June 11, 1924.

Appearance typical. Ad. ♂: Wing = 69 mm., Bill = 8.5 mm., Tarsus = 16 mm. (The specimen is dried up).

The bird came flying on board in strong wind about midway between the New Siberian Islands and Bennett Island.

2. **Plectrophenax nivalis** (Linne), 1758.

2 specimens (Nos. 2 and 3) were shot at the Four-Column Island, May 22, 1925.

Appearance typical. Ad. ♂ (No. 2) has the hind back, the rump, the upper tailcoverts, and the 3 outmost pairs of rectrices totally white, with only a small, narrow black spot at the tip of the outer web of the outmost pair. All the cubitals and upper wingcoverts were likewise spotless, white. The tip of the wing at a length of 6 cm. coal black, the rest white. Length of Wing = 113 mm., Bill = 11, Tarsus = 21 mm., Hindclaw = 10 mm.

Ad. ♂ (No. 3) has the longest primary coverts with brownish black tips, and the 3 outmost pairs of the white rectrices, with black-tipped outer web. The tip of the wing, moreover, at a length of 7 cm., quite brownish black. Length of Wing = 112 mm., Bill = 11 mm., Tarsus = 21 mm., Hind-claw = 10 mm.

In the spring of 1923 the first specimen was observed on May 7 (at 74° 43' N, 166° 23' E), and in 1925 on May 17 (at the Four-Column Island).

3. **Motacilla flava thunbergi** Billberg, 1828.

One specimen (No. 4) taken on board "Maud" at 76° N, 148 E, in the beginning of June, 1924.

Appearance typical. Ad. ♂: Head darkish slate grey with single interspersed olive green feathers, ear coverts blackish, and slightly indicated superciliar-stripe. The under parts yellow with a tinge of olive green on the breast. Length of Wing = 81 mm., Bill = 12 mm., Tarsus = 24.5 mm., Hind-claw = 11 mm.

The specimen cannot be distinguished from one Ad. ♂ from East Finnmark, except by its, perhaps, broader and brighter greyish brown brims on the upper wing coverts. (The specimen is dried up).

This bird, too, came flying on board "Maud" in strong wind about midway between the New Siberian Islands and Bennett Island.

4. **Oenanthe oenanthe oenanthe** (Linne), 1758.

2 specimens (Nos. 5 and 6) taken on board "Maud" at about 75° N, 165° E, June, 1923. No. 5 was taken the June 2, 1923.

Appearance typical. Ad. ♂ (No. 6) has the grey feathers of the upper parts with irregular, brownish brims. The scapulars black with grey brims. Throat and neck with a stronger, and the rest of the under parts with a brighter rusty tinge. —

Wing = 100 mm., Bill = 12 mm., Tarsus = 25 mm. Ad. ♀ (No. 5) has the grey colour of the upper parts especially on the crown somewhat brighter, moreover the scapulars are brownish (not black as in No. 6). The under parts as in No. 6. Wing = 97 mm., Bill = 12 mm., Tarsus = 28 mm.

### 5. *Uria lomvia* (Linne), 1758.

6 specimens (Nos. 7—12) shot at 75° 46' N, 153° 30' E, May 16, 1924.

All the 6 specimens, all of which have been shot within the area east of the New Siberian Islands, have the typical appearance of main form *lomvia*. At all events I have not been able to find any constant difference on comparing them with specimens from Novaya Zemlya and Spitsbergen<sup>1)</sup>.

The measurements of the above mentioned 6 birds, all of which are fully grown and coloured specimens, are as follows:

	Length of			Height of bill
	Wing	Tarsus	Bill	
Ad. (No. 7).....	219 mm.	37 mm.	38 mm.	15 mm.
Ad. (No. 8).....	218 "	38 "	33 "	13 "
Ad. (No. 9).....	218 "	40 "	33 "	16 "
Ad. (No. 10).....	218 "	36 "	34 "	13 "
Ad. (No. 11).....	211 "	37 "	33 "	15 "
Ad. (No. 12).....	216 "	36 "	35 "	14.5 "

In the spring of 1923 the first specimens were observed on May 5 (at 74° 42' N, 166° 22' E), and in 1924 on May 11 (at 75° 47' N, 153° 53' E).

### 6. *Uria grylle mandti* Mandt, 1822.

4 specimens: Ad. (No. 13) shot. at 75° 48' N, 154° 05' E, April 27, 1924.  
 Ad. (No. 14) ,, - 75° 22' N, 165° 30' E, June, 1923.  
 Ad. (No. 15) ,, - 76° 43' N, 144° 10' E, June 25, 1924.  
 Ad. (No. 16) ,, - 75° 50' N, 164° 55' E, August, 1923.

Appearance typical: Quite greenish black with a strong purplish sheen over the head, the neck and the upper parts the abdomen more brownish black. The specimens No. 13, 14 and 15 have the wing spot totally white, the specimen No. 16 has the upper wing coverts with black tips and the cubital remiges with white tips, and the lowest row of under wing coverts with brightly brownish brims. This specimen has, moreover, strongly worn, brownish black rectrices and remiges. In all the 4 specimens the white field on the inner web of the remiges extend beyond the tip of the longest cubital remex.

A particular aberration appears in the specimen No. 13: the feathering of the leg (on both legs) terminating in a greyish white whorl of feathers.

The measurements of the above mentioned specimens are:

<sup>1)</sup> Cf. Hartert: Die Vögel der palaearktischen Fauna. Berlin 1921—22, III, p. 1774. "Vermutlich ist es auch diese Form (*Uria lomvia arra*) die auf den Neu Sibirischen Inseln etc. etc. . . . brütet."

	Length of			Height of bill
	Wing	Tarsus	Bill	
Ad. (No. 13) .....	170 mm.	31 mm.	31 mm.	9 mm.
Ad. (No. 14) .....	168 "	31 "	28 "	9.5 "
Ad. (No. 15) .....	166 "	32 "	30 "	8 "
Juv. (No. 16) .....	160 "	30 "	29 "	7.5 "

In the spring of 1923 the first specimens were observed on April 22 (at 74° 26' N, 167° 52' E) and in 1924 on April 20 (at 75° 48' N, 154° 05' E).

#### 7. *Stercorarius pomarinus* Temminck, 1815.

3 specimens: 1 ad. (No. 17) shot at 76° 43' N, 144° 10' E, June 25, 1924.

2 ad. (Nos. 18—19 shot at 75° 48' N, 165° 20' E, August, 1923.

Appearance typical. The specimen no. 17 represents the dark phase, the specimens nos. 18 and 19 the bright one. All of them have black legs, but in the specimen no. 19 parts of the tarsus have bluish grey spots, as has also the hind toe with claw.

	Length of			
	Wing	Tarsus	Bill	Middle pair of rectrices (prolonged) tips only
Ad. (No. 17) .....	367 mm.	54 mm.	41 mm.	40 mm.
Ad. (No. 18) .....	357 "	52 "	40 "	90 "
Ad. (No. 19) .....	360 "	55 "	40 "	48 "

In the spring of 1924 the first specimen was observed on May 16 (at 75° 46' N, 153° 30' E).

#### 8. *Larus hyperboreus* Gunnerus, 1767.

1 ad. ♂ (No. 20) shot at 75° 55' N, 150° 49' E, June 1, 1924.

2 specimens (Nos. 21—22) shot at the Four-Column-Island May 25 and June 5, 1925.

Appearance typical. Probably 3 ad. ♂♂ in fully coloured summer plumage. No. 20 is a gigantic specimen, the unusual dimensions of which appear from the following measurements:

	Length of		
	Wing	Tarsus	Bill
Ad. (No. 20).....	512 mm.	83 mm.	71 mm.
Ad. (No. 21).....	482 "	78 "	65 "
Ad. (No. 22).....	478 "	75 "	66 "

In the spring of 1924 the first specimens were observed on May 27 (at 75° 54' N, 150° 37' E), and in 1925 on May 22 at Four-Column-Island; here a clutch of 3 eggs was found on June 12.

9. *Pagophila eburnea* (Phipps), 1774.

- 5 specimens: Ad. (No. 23) shot at "Maudhavn" (77° 33' N, 105° 40' E), July 1919.  
 Juv. (No. 24) shot 4 miles north of the Four-Column-Island, Oct. 19, 1924.  
 Juv. (No. 25) shot at 76° 28' N, 145° 58' E, June 19, 1924.  
 2 Juv. (Nos. 26—27) shot at 74° 50' N, 165° 45' E, on May 30, 1923.

Appearance typical. The fully coloured older specimen (No. 23) from July 1919 has a strongly worn plumage; especially all the remiges are much worn.—The younger individual (No. 25) from June 19, 1924 is still considerably dark-spotted; thus the region round the root of the bill and the eye is highly mixed with greyish brown feathers: the fore-most edge of the wing has dense brownish black spots, and the tips of all the primary coverts as well as the remiges and rectrices also have big brownish black spots; otherwise the bird is quite white.

	Length of		
	Wing	Tarsus	Bill
Ad. (No. 23).....	333 mm.	40 mm.	40 mm.
Ad. (No. 24).....	356 "	40 "	35 "
Ad. (No. 25).....	348 "	41 "	38 "
Ad. (No. 26).....	310 "	39 "	38 "
Ad. (No. 27).....	325 "	36 "	35 "

In the spring of 1923 the first specimens were observed on May 6 (74° 42' N, 166° 23' E), in 1924 on May 27 (at 75° 54' N, 150° 37' E), and in 1925 on May 22 (at Four-Column-Island).

10. *Rissa tridactyla* (Linne), 1758.

- 1 specimen (No. 28) shot at 75° 55' N, 150° 35' E, June 1, 1924.

Appearance typical<sup>1)</sup>. Ad. in fully coloured summer plumage with the length of the wing = 330 mm., the tarsus = 34 mm., the bill = 35 mm. No rudimentary hind-claw.

In the spring of 1923 the first specimen was observed on June 10 (at 75° 01' N, 165° 05' E), and in 1924 on June 1 (75° 55' N). In 1925 the first egg was found at the Four-Column-Island on June 21 (only a single egg); but 4 days later—on June 25—the Maud-Expedition got 88 eggs from this same place.

11. *Rhodostethia rosea* (Macgillivray), 1824.

- 11 specimens: 7 Ad. (Nos. 29—35) } shot at the Kolima Delta (no date).  
 1 Junior (No. 36) }  
 1 Juv. (No. 37) shot 30 miles north of Kolima Delta (no date).  
 1 Juv. (No. 38) shot at 75° 50' N, 165° 46' E, August 12, 1923.  
 1 Juv. (No. 39) shot at 76° 04' N, 164° 03' E, September 1, 1923.

<sup>1)</sup> The specimen in question has the abdomen plainly bluish grey, a colour which, however, undoubtedly is due to the circumstance that the bird (according to written information) had settled down on a heap of soot, shortly before it was shot.

7 of the 8 birds (Nos. 29—35) from Kolima are adult specimens in fully coloured summer plumage: Quite white with bluish grey mantle, black ring round the neck, and black bill, red legs and a rosy tinge especially on the under parts and the rump. The remiges and the wing-coverts—both the over- and underwings—are brightly greyish blue. In all the specimens the cubitals and the innermost 2—3 primaries, and the prolonged scapulars are white-tipped; moreover the under side of the shafts of the remiges are snow white. The outer web of the first primary remex is black as far as about 2.5—4.5 cm. from the tip (usually 3.5 cm.). The black ring on the neck is strongly marked, but of varying breadth, anteriorly 2—5 mm. broad, across the nape 5—12 mm. broad. Claws black, the red eyelid margin, originally present, is now dried up and blackish.

The specimen No. 36, also from Kolima, as a younger, not fully coloured bird, probably in its second year; the black ring on neck and the snow white tail as well as the upper and under parts of the body being fully coloured, but the upper side of the wing is strongly mixed up with brownish black. Thus all the primary and most of the secondary coverts are brownish black, partly with narrow, greyish white tips, the 5 outmost primaries are likewise brownish black and merely with greyish white margin to the inner webs till near the tips. The sixth to tenth of the primaries, however, are quite greyish white, the tips with brownish black spots.

The specimen No. 37, like those above mentioned, unfortunately have not been dated. Apparently, however, that have been shot at the same time as the following 2 young specimens (Nos. 38—39), or in August—September. All of them exhibit the transition plumage characteristic of the nest-young: The upper parts transversely spotted with dense brownish black spots, and with broad, strongly brownish yellow (No. 37 and No. 39) or faintly greyish brown feather margins, and single greyish blue feathers intermixed on the crown and the back (No. 38). Only the throat, the flanks, the abdomen, the lower tail coverts, and the 3 outmost pairs of rectrices are quite spotless, white; the remaining rectrices are white with broad, brownish black tips and brownish yellow margins.

Upper tail-coverts partly quite white (No. 39), partly white with narrow yellowish tips (No. 37), and partly white with faintly brownish black spots to the tips of the longest coverts only (No. 38). The wing mainly as in No. 36, but the greyish brown to brownish yellow margins of the coverts are broader.

Measurements of the above mentioned 11 specimens:

	Length of			
	Wing	Tarsus	Bill	Middle pair of rectrices
Ad. (No. 29).....	261 mm.	34 mm.	19 mm.	Defective
Ad. (No. 30).....	251 "	32 "	17.5 "	20 mm.
Ad. (No. 31).....	255 "	32 "	20 "	17 "
Ad. (No. 32).....	248 "	30 "	19 "	9 "
Ad. (No. 33).....	261 "	33 "	19 "	16 "
Ad. (No. 34).....	241 "	31 "	17.5 "	14 "
Ad. (No. 35).....	249 "	30 "	18 "	15 "
Junior (No. 36).....	245 "	30 "	20 "	14 "
Juv. (No. 37).....	245 "	32 "	17 "	14 "
Juv. (No. 38) <sup>12/4</sup> —23..	249 "	31 "	16 "	10 "
Juv. (No. 39) <sup>1/3</sup> —23....	255 "	32 "	19 "	14 "



Northwards and eastwards of the New-Siberian Island -- or between  $74^{\circ} 42'$ — $76^{\circ} 35'$  N lat., and  $136^{\circ} 24'$ — $166^{\circ} 20'$  E long -- the Maud-Expedition were met with ca. twenty specimens of these pretty birds during the year August 1923—August 1924. Of these birds only a few were adult specimens (1 a d. obs. Oct. 4, 1923, and 4 a d. obs. Aug. 12, 1924), the others were young birds in nesting plumage (single juv. obs. Aug. 10, 12, 14, 15 and 16, 1923, 6 juv. obs. Sept. 1, 1923, and 3 juv. obs. Aug. 1 and 2, 1924).

According to information gained by the "Maud"-Expedition from trustworthy spectators among the people at the Kolima district, wedge-tailed gulls are yearly seen there migrating further northwards in the month of May. At the river Big Baranicha, about 100 miles east of Kolima, a colony probably is breeding, as several wedge-tailed gulls have been met with here during the whole summer; moreover the young birds have been met with at the same place even early in the autumn.

## 12. *Xema sabini* (Sabini, 1818).

8 specimens, Ad. males and females in summer plumage (Nos. 40—47) shot at the Ayon Island ( $69^{\circ} 52'$  N,  $167^{\circ} 52'$  E), June 24, 1920.

1 nest (No. 48) taken on the Ayon Island, June 24, 1920.

3 clutches of eggs (in all 9 eggs; Nos. 49—51) taken on the Ayon Island, June 24, June 29 and July 1, 1920 respectively.

Appearance typical. Ad. ♂ ♀ in breeding plumage: Head and jugulum dusky greyish blue, and with a broad, marked black ring round the snow-white neck; the mantle brightly greyish blue; below the eye a white spot. Tail and tail-coverts sometimes quite white. The 5 outmost primaries black with white tips (more or less worn) and broad, white margins to the inner webs; the outer web of the sixth primary remex likewise black from the base up to a distance of about 4.5 cm. from the tip; otherwise white; the rest of the primaries and most of the cubitals are likewise white, the innermost with a greyish blue spot towards the tip; primary coverts black, the longest ones partly white-tipped; secondary coverts and scapulars brightly greyish blue (like the colour of the back), the longest ones with white tip margin. Bill black with intensely yellowish brown tip (in front of the nostrils). Legs blackish. The edge of the eyelids faintly reddish. Iris is said to have been "bluish black" in the fresh shot bird, and a fresh shot specimen presented a conspicuous "rosy tinge" on the breast.

Measurements of the above mentioned 8 specimens:

	Length of			Incision of the tail
	Wing	Tarsus	Bill	
Ad. (No. 40) .....	273 mm.	32 mm.	28 mm.	27 mm.
Ad. (No. 41) .....	275 "	33 "	21 "	25 "
Ad. (No. 42) .....	287 "	36 "	26 "	20 "
Ad. (No. 43) .....	273 "	34 "	26 "	12 "
Ad. (No. 44) .....	270 "	32 "	23 "	22 "
Ad. (No. 45) .....	281 "	36 "	27 "	23 "
Ad. (No. 46) .....	287 "	34 "	26 "	24 "
Ad. (No. 47) .....	290 "	35 "	27 "	26 "

### Breeding:

The 3 clutches of eggs were all placed in pits of tussocks in a swampy tract along a small river which opens out into the narrow sound which separates the Ayon

Island from the North Siberian coast. Only in a single case the pit contained a built-up support for the eggs; otherwise the eggs lay directly on the ground. The built-up nest is about 13 cm. in diameter and somewhat more than 2 cm. in thickness, it consists exclusively of dry stalks of plants (probably a year's growth of some species of heather), single dry straws, algae, and a pair of feathers.

Each of the nests contained 3 eggs. The first one (No. 49) was taken in June 24 (1920), and was practically quite fresh. The incubating bird was so offensive that it had to be struck down with a stick. In the second clutch (No. 50), which was taken some days later (June 29), the eggs were very unequally brooded; thus one egg was fresh, one was half brooded, and one was on the point of hatching. The breeding bird was in this case shy and flew away, so that it was not brought down. The eggs in the third clutch (No. 51) were taken on the first of July and all of them were much brooded.

As to shape and colour the eggs much remind of those of *Stercorarius longicaudus*, but naturally they are somewhat smaller. The ground colour varies between greyish brown (with a greenish tinge) and dark olive brown, with scattered bigger and smaller effluent dark stains and spots (on a couple of eggs single tar brown streaks and spots), and with a strong sheen.

Measurements of the eggs:

	Clutch I (No. 49)	Clutch II (No. 50)	Clutch III (No. 51)
Length × breadth	46.5 × 32.2 mm.	46.5 × 34 mm.	40.5 × 31.5 mm.
—, —	47 × 33 „	47 × 33 „	41.5 × 33 „
—, —	47 × 33 „	47 × 33.5 „	43 × 32.5 „
Average	46.8 × 32.7 mm.	46.8 × 33.5 mm.	41.7 × 32.5 „

Average of 9 eggs: 45.1 × 32 mm.

On the Ayon Island the habitat of this species seems to be rather limited; it seems breeding only along the above mentioned river, which opens out on the south-western side of the Island in a distance of about 20 km. from the outlet of the strait between the Island and the Mainland. This river curves through a broad, flat valley, filled with bogs and lakelets, and here all the nests were found. Outside the sound the bird was not observed at all; on the other hand a colony is said to inhabit also the eastern side of the Chaun Bay inside Cape Shelagski, where it is known among the Chukchi under the name of "Kakaha".

### 13. *Sterna paradisaea* Brünnich, 1764.

1 specimen (No. 52) shot 26 miles north of Kolima Delta (70° 02' N, 163° 59' E), August 29, 1924.

Appearance typical. Ad. in summer plumage. Length of wing = 275 mm., bill = 31 mm., tarsus = 15 mm. Middle toe with claw = 23 mm.

### 14. *Erolia maritima* Brünnich, 1764.

1 specimen (No. 53) shot at "Maudhavn" (77° 33' N, 105° 40' E), July 4, 1919.

Appearance typical. Ad. in summer plumage. Length of wing = 131 mm., bill = 33 mm., tarsus = 24 mm.

15. *Clangula hyemalis* (Linne), 1758.

6 specimens: 2 ♂♂ + 1 juv. (Nos. 54–56) found dead on the ice 1 mile north of the Four-Column Island in the autumn of 1924 (ca. October 1).

2 Ad. ♂♂ + 1 ♀ (Nos. 57–59) shot at the Four-Column Island May 29 and June 5, 1925.

Appearance typical.

Measurements of the 6 specimens:

	Length of			
	Wing	Tarsus	Bill	Tail
Ad. ♂ (No. 54) .....	226 mm.	34 mm.	26 mm.	172 mm.
Ad. ♂ (No. 55) .....	225 "	34 "	28 "	125 "
Juv. (No. 56) .....	213 "	34 "	defective	60 "
Ad. ♂ (No. 57) .....	218 "	35 "	27 "	194 "
Ad. ♂ (No. 58) .....	228 "	35 "	28 "	186 "
♀ (No. 59) .....	219 "	35 "	26 "	64 "

In the spring of 1923 the first specimens were observed on June 10 (at 75° 01' N, 165° 05' E), in 1924 on June 11 (at 76° 15' N, 145° 51' E), and in 1925 on May 29 (at Four-Column Island).

16. *Polysticta stelleri* (Pallas), 1769.

1 specimen (No. 60). Ad ♂ shot at the Four-Column Island, June 12, 1925.

Appearance typical. Ad. ♂ in fully coloured, splendid plumage. Length of wing = 213 mm., tarsus = 40 mm., bill = 41 mm.

17. *Somateria mollissima V-nigrum* Gray, 1855.

1 specimen (No. 61). Ad. ♂ shot at the Four-Column Island June 12, 1925.

Appearance typical. Ad. ♂ in fully coloured, splendid plumage. The green colour of the cheek extends as far as about to the root of the bill. The black lateral lobes of the cap with intense purple sheen. The V-shaped marking of the chin very conspicuous, 85 mm. in length. Length of wing = 300 mm., tarsus = 51 mm., bill = 49 mm., median lobe of bill = 13 mm., and the lateral one = 31 mm.

18. *Somateria spectabilis* (Linne), 1758.

2 specimens: Ad. ♂ (No. 62) shot at "Maudhavn" (77° 33' N, 105° 40' E) in July, 1919.

Ad. ♀ (No. 63) shot at 75° 53' N, 152° 31' E, May 19, 1924.

Appearance typical.

Measurements of the 2 specimens:

	Length of		
	Wing	Tarsus	Bill
Ad. ♂ (No. 62) .....	273 mm.	47 mm.	28 mm.
Ad. ♀ (No. 63) .....	268 "	45 "	34 "

19. *Colymbus arcticus* Linne, 1758.

1 specimen (No. 64) shot at the Four-Column Island in June, 1925.

Appearance typical. Ad. in summer plumage. This specimen cannot be distinguished from a specimen, Ad. ♀, shot in the neighbourhood of Stavanger in June 1927. Jugulum with intense purplish sheen. The grey colour of head and nape not brighter than in the specimen from Stavanger. Length of wing = 337 mm., bill = 67 mm., tarsus = 81 mm.

## APPENDIX.

From the Diary of Dr. H. U. Sverdrup.

13 August, 1922. 71° 43' N., 184° 52' E.—To-day we observed some Brünnich's Guillemots that had been out feeding and were now flying with fish in their beaks in the direction of Wrangell Island, others flew in the direction of Herald Island.

26 August, 1922. 72° 19' N., 185° 52' E.—No sign of life with the exception of some gulls.

7 September, 1922. 72° 14' N., 188° 31' E.—Observed to-day a small seal and 9 gulls.

22 September, 1922. 72° 48' N., 187° 10' E.—At 6 a.m. to-day, Wisting observed 3 large flocks of birds coming from the north. He could not decide what species they were, but he maintained they appeared to be too big for Brünnich's Guillemots, he thought they were Eider-ducks.

2 October, 1922. 72° 56' N., 183° 31' E.—Wisting went for a long trip to-day. He encountered a lane of open water about 4 kilometers from the vessel, and followed it for a long way in a SW direction. No seals were observed, but he saw a number of birds that were unknown to him. They were larger than Brünnich's Guillemots, white under the breast and grey backs. He shot a couple but could not get hold of them. (A couple of days later, Wisting tried to find the birds, but in vain).

6 October, 1922. 72° 51' N., 181° 18' E.—Wisting observed 3 Glaucous gulls this morning.

After 6 October, 1922, no birds were seen.

22 April, 1923. 74° 26' N., 167° 52' E.—To-day the first Black Guillemot was shot. Hansen saw four in an open lane and shot two.

5 May, 1923. 74° 42' N., 166° 22' E.—Wisting saw 8 Brünnich's Guillemots to-day coming from the NE, and Hansen saw two flocks, one of 10–12, and the other of "at least 50", both coming from N. Besides these, also some Black Guillemots.

6 May, 1923. 74° 42' N., 166° 23' E.—To-day observed two Ivory gulls.

7 May, 1923. 74° 43' N., 166° 23' E.—Spring seems to be arriving in earnest, to-day having a visit of a Snow-bunting.

14 May, 1923. 74° 41' N., 166° 10' E.—Wisting made a trip westwards to an open lane that opened up about midday. There were heaps of Brünnich's Guillemots, which however, were very shy, but otherwise no sign of life.

19 May, 1923. 74° 38' N., 166° 19' E.—Two large flocks of Brünnich's Guillemots flew close past us this morning.

21 May, 1923. 74° 37' N., 166° 07' E.—This morning about 6.30, Wisting saw a large flock of birds flying to the north. They were not Brünnich's Guillemots, possibly Brent-geese. They flew, however, so high that in the unclear weather it was not possible to make any decision.

28 May, 1923. 74° 42' N., 165° 48' E.—A Cormorant flew northwards to-day.

30 May, 1923. 74° 50' N., 165° 45' E.—Olonkin shot three Ivory-gulls to-day.

1 June, 1923. 74° 58' N., 165° 24' E.—Have a Wheatear on a visit this evening, poor little thing.

2 June, 1923, 74° 58' N., 165° 21' E.—Our little guest was found dead this morning. Syvertsen caught it last night, but let it go again. During the night it flew into the galley, where it was found dead this morning. It must have been driven out here by the wind.

6 June, 1923. 75° 03' N., 164° 53' E.—Wisting saw two Eider-ducks flying in a north-easterly direction.

9 June, 1923. 74° 57' N, 165° 05' E.—Hansen went for a trip along one of the open lanes to-day, but saw only a shy Black Guillemot.

10 June, 1923. 75° 01' N, 165° 05' E.—Saw a Kittiwake gull to-day and Hansen saw 4 Long-tailed ducks, of which he shot one. Wisting shot a Black Guillemot, which he will be able to skin, it was a good specimen.

18 June, 1923. 75° 20' N, 164° 28' E.—Wisting saw 2 geese this morning—probably Brent-geese.—He maintains that the large flock of birds he saw previously (21. V) was also Brent-geese. The two to-day flew towards NE. Had a visit again to-day of a small bird.

24 June, 1923. 75° 22' N, 165° 30' E.—Have observed several Glaucous gulls lately. 2 year old birds, plumage not wholly developed.

18 July, 1923. 75° 30' N, 166° 54' E.—Wisting has skinned another Black Guillemot.

10 August, 1923. 75° 40' N, 166° 20' E.—Observed to-day what appeared to be a young Wedge-tailed gull. Hansen fired at it, but missed.

12 August, 1923. 75° 50' N, 165° 46' E.—Wisting managed to shoot a young Wedge-tailed gull to-day, possibly the same that Hansen fired at on Friday. When Wisting and I first saw it, we thought it was a young Kittiwake gull. W. unfortunately hit it in the head, so half the head is shot to pieces, but all the same it ought to be a valuable addition to our little collection of birds.

16 August, 1923. 75° 43' N, 165° 04' E.—The day before yesterday, yesterday and to-day we have been visited by Wedge-tailed gulls, but in spite of repeated attempts, we have not succeeded in shooting any of them.

20 August, 1923. 75° 51' N, 164° 53' E.—Hansen and I went for a trip in the coble to-day. We saw a tiny seal and of other life a Pomatorhine skua and a solitary Black Guillemot.

1 September, 1923. 76° 04' N, 164° 03' E.—This morning two young Wedge-tailed gulls. Hansen managed to shoot the one, its plumage was that of quite a young bird. Very small. This afternoon, we have seen no less than 4, but it has not been possible to approach within range of them.

12 September, 1923. 76° 06' M. 163° 21' E.—This morning a large flock of birds flew over us from NW to SE. The flock was too high up to decide what species of bird it was, possibly Brünnich's Guillemots.

16 September, 1923. 75° 57' N, 163° 17' E.—Wisting saw a Glaucous gull and a young Black Guillemot. He also observed one of the grey birds he saw last year.

4 October, 1923. 74° 42' N, 164° 36' E.—To-day we observed a fully grown Wedge-tailed gull, a rare sight so late.

12 October, 1923. 74° 49' N, 165° 42' E.—Malmgren saw a Brünnich's Guillemot to-day.

16 October, 1923. 75° 00' N, 163° 36' E.—Hansen saw to-day a couple of the large grey birds in an open lane, he insists that they are Black Guillemots, whilst Wisting maintains not having seen them before.

17 October, 1923. 75° 7' N, 163° 22' E.—Saw a Black Guillemot to-day.

Last entry about birds in 1923.

20 April, 1924. 75° 48' N, 154° 05' E.—Up by one of the open lanes Wisting saw the first bird of the year, a Black Guillemot. Last year we saw the first on the 22nd.

3 May, 1924. 75° 42' N, 154° 51' E.—This afternoon a flock of 50 to 60 Eider-ducks (cocks only) flew past—approximately from SE to NW.

11 May, 1924. 75° 47' N, 153° 53' E.—Have observed some Brünnich's Guillemots and Black Guillemots.

13 May, 1924. 75° 46' N, 153° 54' E.—There was a great flock of Eider-ducks in the open lane to the east of us this afternoon, possibly a couple of hundred, cocks and hens.

16 May, 1924. 75° 46' N, 153° 30' E.—Hansen and Wisting took the coble to-day and went off to shoot Brünnich's Guillemots. They shot 15. They saw also a Pomatorhine skua.

17 May, 1924. 75° 48' N, 153° 03' E.—At noon to-day a great flock consisting of several hundred Eider ducks, settled on the ice close to us, but only for a few minutes, then they flew away again. W. has skinned 6 Brünnich's Guillemots for the collection. They were all strikingly thin and empty in their stomachs. One of them had just swallowed an 18 cm. long polar cod, which was lying in its gullet, but none of the others had anything but some slime in their stomachs.

18 May, 1924. 75° 53' N, 152° 46' E.—Wisting saw a flock of geese to-day, probably Brent-geese, flying in a northerly direction.

19 May, 1924. 75° 53' N, 152° 31' E.—Hansen shot a King Eider-duck to-day, which Wisting has skinned for the collection (No. 63). Besides this W. also skinned a couple of Brünnich's Guillemots.

27 May, 1924. 75° 54' N, 150° 37' E.—During the last week we have seen several Glaucous gulls and Ivory gulls hovering around us. They are very shy and impossible to shoot. Wisting saw a colossal flock of Eider-ducks, the biggest he yet has seen, flying over the vessel on a southerly course.

30 May, 1924. 75° 53' N, 150° 35' E.—Shot an Ivory gull to-day over by the ice thermometers, but it was too much shot to pieces for Wisting to skin it although I made use of a bullet. Wisting has looked through the bird-skins he has, of which there are 19, all are fine and dry, but the Ivory-gulls have turned yellow.

1 June, 1924. 75° 55' N, 150° 49' E.—I was lucky to-day as I managed to shoot one of the big Glaucous gulls. Shot it with bullet and hit it in its neck. A fine big specimen (No. 20). These gulls are so shy that it is impossible to approach them within range of a shot gun. Olonkin shot a small Kittiwake gull. It is black under its paunch—possibly because it has been sitting on the soot heap?

11 June, 1924. 76° 15' N, 145° 51' E.—To-day we have seen 2 Longtailed ducks, which we also saw some of last year, and also a Fulmar petrel that up to now has not been observed. Two small birds have hovered around here for some days. A third, a little Bunting, was found dead and then prepared.

25 June, 1924. 76° 43' N, 141° 10' E.—Hansen shot a Pomatorine skua (No. 17) to-day, which was almost black, only a little grey under the wings. Wisting will skin it to-morrow. W. has tried to procure for us representative specimens of the birds that are to be found here and has now several of most species. All the birds here have a thick layer of blubber and are very difficult to treat and Wisting is very critical. To me they appear quite all right, but he is not satisfied and often threatens to throw some away.

11 July, 1924. 76° 16' N, 142° 20' E.—Have seen several flocks of Eider-duck.

12 July, 1924. 76° 16' N, 142° 19' E.—To-day a flock of geese, Brent-geese?

20 July, 1924. 76° 38' N, 140° 52' E.—During the last few days we have seen no other birds than a few Black Guillemots, Brünnich's Guillemots and Pomatorine skuas.

1 August, 1924. 76° 35' N, 138° 24' E.—The first Wedge-tailed gull of the year.

2 August, 1924. 76° 36' N, 138° 32' E.—To-day Wisting succeeded in shooting a Wedge-tailed gull, probably one of last year's young, as it has only a faint touch of red in its breast, no definite ring round the neck and is only partly bluish-grey up on the wings. We saw two to-day.

3 August, 1924. 76° 44' N, 139° 04' E.—Saw a Wedge-tailed gull or perhaps it was a Sabine's gull this evening. W. and I saw it at a distance and it looked as if the head was black, so I would guess at it being a Sabine's gull. To-day a small bird has been blown out to us again.

12 August, 1924. 75° 38' N, 145° 45' E.—A flock of Purple Sandpipers cruised about the vessel and W. managed to shoot one. Saw 4 fully grown Wedge-tailed gulls.

13 August, 1924. 75° 42' N, 144° 53' E.—(Ashore on the north coast of Fadejev Island). Not much life to be seen. Down by the beach, some Purple Sandpipers jumped about, besides these we saw a Glaucous gull and two Wedge-tailed gulls or Sabine's gulls? They had very dark heads. Unfortunately Hansen missed.

19 August, 1924. 73° 23' N, 139° 39' E.—We have not seen much sign of life during these days. Of birds, there were a great many Brünnich's Guillemots by Bjelkov Island. Otherwise we have only seen a few gulls and Black Guillemots. Off Kotelnoj we caught sight of some geese. Geese surely abound on these islands, but of course it has no business out at sea.

24 August, 1924. 71° 15' N, 155° 18' E.—The bird life now offers a little more variety. We have seen a number of black Cormorants, a couple of Blackthroated Divers, which are white over the neck and in the breast, a couple of Sabine's gulls besides Glaucous gulls, Kittiwake gulls, Black Guillemots, Eider-ducks and Purple Sandpipers.

Yesterday we could almost have caught a large owl with our hands. It had been blown out by the strong SSW breeze. I, who was steering as we went against the wind, suddenly caught sight of something large and grey, that sailed past the fore-mast, struck against the shroud and fell down on the roof. It was a large grey-streaked owl, that for a moment fluttered about amongst bits of wood and cases. Wisting, who was standing by the fore-mast caught sight of it and tried to get hold of it, but another gust of wind blew it overboard. It regained its balance before it reached the water and disappeared.

26 August, 1924. 71° 09' N, 159° 46' E.—Many birds, chiefly Eiderducks and Brünnich's Guillemots.

29 August, 1924. 70° 02' N, 163° 59' E.—A couple of Arctic Terns visited us to-day and were shot. The one was so badly hit that it had to be thrown away, Wisting will skin the other.

22 September, 1924. 70° 43' N, 162° 25' E. (By Four-Column Island).—A big flock of birds flew eastwards to-day, Eider-duck or Brent-geese. Last week we saw several large flocks of Eider-duck heading towards east.

30 September, 1924. By Four-Column Island. In on the Island to-day we have seen Loons, Eider ducks, Black Guillemots and Purple Sandpipers.

19 October, 1924. By Four-Column Island. Wisting shot a fine Ivory gull, a this year's bird.

24 October, 1924. By Four-Column Island. Wisting has to-day gone through the birds he has skinned. It is impossible to preserve the white ones in a nice condition. The fat in the calamus which is impossible to remove, penetrates and makes the feathers yellow. W. has washed away some spots with benzine and discarded the two worst ones.

28 October, 1924. Four weeks ago, Hansen found 4 dead Long-tailed ducks on the ice. W. skinned them to-day, they were young birds. They must have been killed when flying. Their eyes were pecked out and they had evidently fallen from a great height as they were very much knocked about. In one of them there was scarcely an unbroken bone.

16 May, 1925. By Four-Column Island. Wisting went for a trip to the Island to-day to try to shoot some owls, but could not get within range of them, they were too shy. He maintains that he saw three kinds, some large white ones, some smaller and grey-streaked and one little grey-streaked one.<sup>1)</sup>

17 May, 1925. The first Snow-bunting visited us to-day.

22 May, 1925. Hansen returned from the Island with two Snow-buntings. He had seen a couple of Glaucous gulls. Saw an Ivory gull by the vessel this day.

25 May, 1925. Wisting and Dahl went over to the Island to-day. They saw a hawk (possibly *Falco peregrinus*), several Owls and Glaucous gulls. W. managed to shoot a fine Glaucous gull.

29 May, 1925. Hansen returned from shooting on the Island, but had only shot a Long-tailed duck.

5 June, 1925. H. came back with 4 Long-tailed ducks and 4 Glaucous gulls. To-day great quantities of birds have passed us. A large flock of Snow geese and 4—5 flocks of Eider-duck, all flying NE.

12 June, 1925. Yesterday afternoon H. went for a trip over to the Island and returned with an Eider-duck (cock) (No. 61)<sup>2)</sup>, 4 Long-tailed ducks and one duck of a species unknown to us (No. 60)<sup>3)</sup>. Besides these two Snow-buntings and a small wader, brown of breast, and also 3 Glaucous gull eggs. He related that the rocks on the west side of the Island abounded in Kittiwake gulls. There are also heaps of Purple Sandpipers there. Saw a couple of Arctic Terns by the vessel today.

21 June, 1925. Brought back an owl, that Olonkin had shot the 16th. O. went after Kittiwake gull eggs, but was too early abroad, found only one.

25 June, 1925. Hansen and Olonkin returned from nesting last night and had 88 fine Kittiwake gull eggs.

The last entry about birds by Four-Column Island.

<sup>1)</sup> Possibly a Short-eared owl (*Asio flammeus*). The others surely Snowy owls (*Nyctea nyctea*) of different ages.

<sup>2)</sup> A fine specimen of *Somateria mollissima* v. *nigrum*.

<sup>3)</sup> Stellers Eider (*Polysticta stelleri*).