

BIRD MONITORING AT ZACKENBERG, NORTHEAST GREENLAND, 2011^{1,2}

JANNIK HANSEN³, LARS HOLST HANSEN, LARS O. MORTENSEN,
LINE ANKER KYHN AND NIELS MARTIN SCHMIDT

Department of Bioscience
Aarhus University
P.O. Box 358
DK-4000 Roskilde, Denmark

JEROEN RENEERKENS

Animal Ecology Group
Centre for Ecological and Evolutionary Studies
University of Groningen
PO Box 14
9750 AA Haren, The Netherlands

Abstract. The densities of common breeding birds in the Zackenberg valley, Greenland, such as Sanderling *Calidris alba* and Dunlin *C. alpina*, were relatively high compared to previous years. Breeding Long-tailed Skuas *Stercorarius longicaudus*, however, were again found in low numbers, most likely reflecting the observed low number of lemmings. Only two of the focal wader species (Sanderling and Ruddy Turnstone *Arenaria interpes*) initiated nests relatively early, while the dunlin was relatively late this season. Generally, the nest success of the wader species was low in 2011, though sanderlings were quite successful this season. The mean wader clutch size was 3.84, which is above average compared with previous seasons. For the Barnacle Geese *Branta leucopsis*, a record low number of three broods were observed. Despite the low lemming nest numbers found, breeding Arctic Fox *Vulpes lagopus* were observed in three breeding dens, with an estimated minimum number of only seven cubs. There was hardly any snowfall in winter. As a result, snow cover on flat areas was reduced to 50% on 31 May and melted off completely on 4 June. Ice broke up on major rivers on 7 June. In general the season was early, with a relatively wet and unstable summer.

Key words: Arctic, avian monitoring, climate, geese, Greenland, skuas, waders

MONITOREO DE AVES EN ZACKENBERG, NORESTE DE GROENLANDIA, 2011

Resumen. Las densidades de aves comunes reproductoras en el valle de Zackenberg, Groenlandia, como el correlimos tridáctilo *Calidris alba* y el correlimos común *Calidris alpina*, fueron relativamente altas comparadas con años anteriores. Sin embargo los números de págalos raberos *Stercorarius longicaudus* fueron bajos una vez más, seguramente debido a los bajos números de lemmings observados. Sólo dos de las especies focales de zancudas (correlimos tridáctilo y vuelvepedras común *Arenaria interpes*) iniciaron la nidificación relativamente pronto, mientras que

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³Corresponding author, email: jaha@dmu.dk

el correlimos común lo hizo relativamente tarde esta temporada. En general, el éxito de nidificación de las zancudas fue bajo en 2011, aunque los correlimos tridáctilos fueron bastante exitosos. La puesta media de las zancudas fue de 3.84, lo cual está por encima del promedio de temporadas anteriores. Para la barnacla cariblanca *Branta leucopsis* se registró un bajo número récord de tres pollos. A pesar del bajo número de lemmings, se observaron zorros árticos *Vulpes lagopus* en tres zorreras, con un número mínimo estimado de sólo siete cachorros. Casi no hubo nieve durante el invierno. Como resultado, la cobertura de nieve en las áreas planas se redujo al 50% el 31 de mayo y se fundió completamente el 4 de junio. El hielo se rompió en los principales ríos el 7 de junio. En general la temporada fue temprana, con un verano relativamente húmedo e inestable.

Palabras clave: Groenlandia, monitoreo, Artico, zancudas, gansos, clima

INTRODUCTION

The monitoring programme, Zackenberg Basic, based at the Zackenberg Research Station in central Northeast Greenland (Figure 1), was conducted for the 17th season. For details of the previous years, please refer to Hansen et al. (2010a). This paper presents a summary of the bird monitoring part of the Biobasis programme from the 2011 season. The results presented here will also be available in the 17th ZERO Annual Report (Jensen 2012). Similar reports from previous seasons are available for all previous field seasons (see www.zackenberg.dk/publications.htm).

Details on Biobasis methodology are available at the home page of the research station (<http://www.zackenberg.dk/monitoring/biobasis/>), the current sampling protocol (Schmidt et al. 2011) is available through the authors, while the database is available online: <http://www.zackenberg.dk/data/>.

METHODS

A complete initial census was performed between 11 and 23 June, which is a relatively late last day of census. The weather prevented census work on several days in the period. The completion of the survey took 35 'man-hours,' which is near average. Almost the entire 15.8 km² census area was snow free, and the entire census was performed in good weather conditions.

In addition to the initial census, large parts of the census area were covered regularly during June, July and most of August, exceptions being the closed goose moulting area along the coast and the Aucellabjerg slopes above 350 m a.s.l. The latter were covered on only five occasions

by the BioBasis staff, but by many visits by Reneerkens and colleagues, working on a sanderling breeding ecology project.

Compared with recent years, the total effort in June and July 2009 was average in June (135 hrs) and near average in July (70 hrs). The results of the initial census, supplemented with records from the rest of the season (see Schmidt et al. 2011), are presented in Table 1; and in Table 2, these are compared with the estimates of previous seasons.

RESULTS AND DISCUSSION

BREEDING POPULATIONS

The first Red-throated Diver *Gavia stellata* pair settled in a fen near the research station on day of year 152 (1 June), only a day after the first observation of the species. Three pairs attempted to breed within the census area and two nests were found. All fell victim to predation.

The number of Common Ringed Plover *Charadrius hiaticula* territories was a little below average.

Sanderling *Calidris alba* territories were recorded at comparatively high numbers (Table 2). After a few years with slightly falling numbers, 2011 saw a new rise. Dunlin *Calidris alpina* territories were found in high numbers again this year (cf. Hansen et al. 2012). In early years Dunlin territory numbers might have been underestimated (Meltøfte 2006).

Ruddy Turnstone *Arenaria interpres* territories were found in numbers just above average, as were Red Knot *Calidris canutus* territory numbers (Tables 1, 2).

No phalarope nests (Red-necked Phalarope

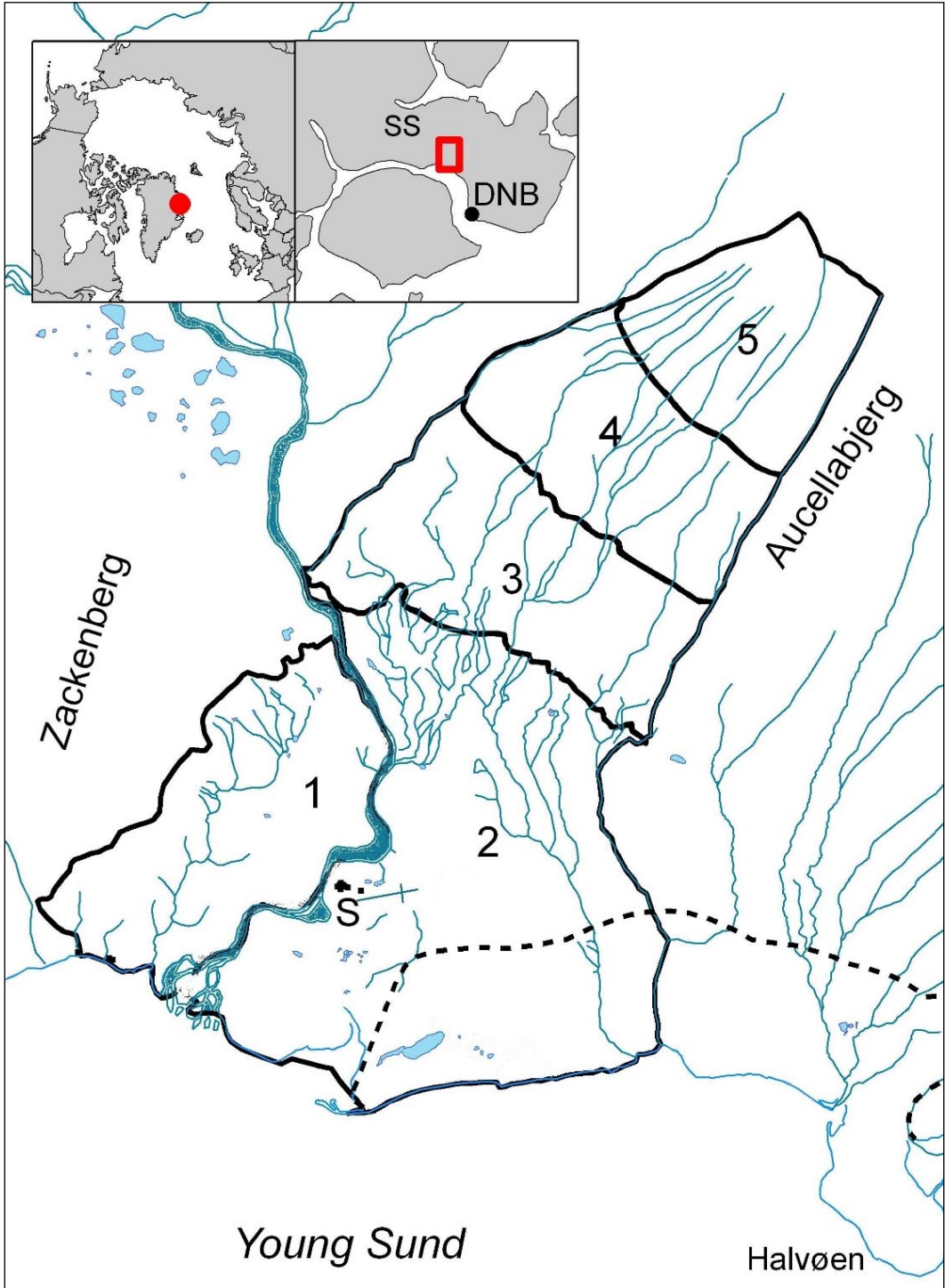


FIGURE 1. Map of the study area in Zackenberg, central Northeast Greenland, with sections 1-5 of the bird census area. Also shown, selected place names mentioned in the text, the research station (S) and the border of the closed goose moulting area, 1c (broken line).

TABLE 1. Estimated numbers of pairs/territories in four sectors of the 15.8 km² census area in Zackenberg, 2011.

Species	<50 m a.s.l. 7.77 km ²	50-150 m a.s.l. 3.33 km ²	150-300 m a.s.l. 2.51 km ²	300-600 m a.s.l. 2.24 km ²	Total
Red-throated Diver	3-4	0	0	0	3-4
King Eider	0	0	0	0	0
Long-tailed Duck	5-6	0	0	0	5-6
Rock Ptarmigan	0	1	1-2	0	2-3
Common Ringed Plover	8	3	5-6	8	24-25
Red Knot	9-13	21-22	1	0	31-35
Sanderling	32-33	6	18-20	6-7	62-66
Dunlin	74-80	22-23	0	0	96-103
Ruddy Turnstone	18-23	28-29	0	0	46-52
Red-necked Phalarope	0	0	0	0	0
Long-tailed Skua	8-10	5	2-3	0	15-18
Glaucous Gull	1	0	0	0	1
Arctic Redpoll	1-2	0	0	0	1-2
Snow Bunting	38	27	6	2	73

Phalaropus lobatus; Red Phalarope *P. fulicarius*) were found in 2011.

Long-tailed Skua *Stercorarius longicaudus* territories were found in numbers below average within the census area, although higher than the last few years (Table 2). Six pairs nested in the census area (see below). Another three nests were found in adjacent areas.

A Glaucous Gull *Larus hyperboreus* pair has had a nest on an islet in the same stretch of Zackenbergelven since at least 2004. 2011 was no exception. No chicks were seen, and the nest is thought to have fallen victim to surge flooding. This species was seen daily throughout the season and a very large flock of 43 were seen as early as day 131 (11 May). The species was still recorded in late September.

The number of Rock Ptarmigan *Lagopus muta* territories was average. Two broods were found – both on the slopes of Aucellabjerg – on day 192 (11 July).

Numbers of Snow Bunting *Plectrophenax nivalis* territories was the highest since 2005 (Table 2). Juveniles of Snow Bunting were seen both within the census area and in adjacent areas – in fair numbers. Fledgling success seemed quite high, although no systematic efforts were made. One to two Arctic Redpoll *Carduelis hornemanni* territories were recorded this year (Table 2).

It is likely that Lapland Bunting *Calcarius*

lapponicus bred in the study area. One pair and another singing male were recorded this season. Zackenberg had the Northernmost breeding record on the east coast of Greenland in 2010 (Hansen et al. 2012b; cf. Boertmann 2008).

REPRODUCTIVE PHENOLOGY IN WADERS

Among wader nests, 7.7% were initiated before day 161 (10 June) and 61.5% before day 171 (20 June). 36.5% of the nests were initiated after day 171 (Table 3).

The snow cover on day 161 (6 June) was 78% and nest initiation was relatively late for dunlin compared with previous seasons, although slightly earlier than average for sanderling and ruddy turnstone (Table 4).

REPRODUCTIVE SUCCESS IN WADERS

The all-wader nest success was low in 2011 – among the lowest during the BioBasis programme. Using the modified Mayfield method (Johnson 1979), 14.4% of the wader nests were successful.

Dunlin nests were hit less hard than other wader species, with 21.1% nest success. However, this is the lowest success rate through the years of BioBasis. The Sanderling nest success was the highest since 2004 (Table 5). Two Red Knot nests were found in 2011, both suffered predation. The Ruddy Turnstone nests were generally unsuccessful; 2.9% success only.

TABLE 2. Estimated numbers of pairs/territories in the 15.8 km² census area in Zackenberg, 2011, compared with the 1996-2010 averages.

REGULAR BREEDERS				
Species	No. of territories	Average min. and max no. territories 1996-2010	No. of nests found ¹	Comments
Red-throated Diver	3-4	2.4-2.8	0	
Common Eider	0	0.3-0.4	0	
King Eider	0	1.2-2	0	
Long-tailed Duck	5-6	5.3-6.3	1	
Rock Ptarmigan	2-3	2.5-3.5	0	
Common Ringed Plover	24-25	28.9-35.4	0	
Red Knot	31-35	24.7-31.5	3	
Sanderling	62-66	50.6-58.6	22	
Dunlin	96-103	74.9-84.9	13	
Ruddy Turnstone	46-52	40.9-46	8	
Red-necked Phalarope	0	0.8-1.6	0	
Long-tailed Skua	15-18	17.8-21.9		
Glaucous Gull	1	0.5	1	
Common Raven	2	-	-	Nests outside the census area.
Snow Bunting	73	42.4-47.3		Nests of passerines are only found opportunistically.
IRREGULAR BREEDERS				
Species	No. of territories	Average min. and max no. territories 1996-2010	No. of nests found ¹	Comments
Pink-footed Goose	0	0.13	0	Min. 3324 immatures migrated northwards over the area
Eurasian Golden Plover	0	0.06	0	
Red Phalarope	0	0.6-0.75	0	
Snowy Owl	0	0.06	0	
Northern Wheatear	0	0.08-0.16	0	Nests of passerines are only found opportunistically.
Arctic Redpoll	1-2	0.6-1.0	0	Nests of passerines are only found opportunistically.
Lapland Bunting	1-2	0.06	0	Nests of passerines are only found opportunistically.

¹ Within the census area

TABLE 3. Median first egg dates for waders at Zackenberg, 2011, as estimated from incomplete clutches, egg floating, hatching dates, as well as weights and observed sizes of pulli.

Species	Median date	Range	N	Average 1996-2010
Common Ringed Plover	-	-	-	166.4
Red Knot	163	162-175	5	166.6
Sanderling	166	159-183	35	168.3
Dunlin	173	159-179	14	166.5
Ruddy Turnstone	162	157-179	11	164.6

TABLE 4. Snow cover on 10 June together with median first egg dates for waders at Zackenberg, 2011, and the previous five years. Data based on less than ten nests/broods are marked with asterisks, less than five are omitted. The snow cover is pooled (weighted means) from section 1, 2, 3 and 4 (Sigsgaard et al. 2011), from where the vast majority of the egg laying phenology data originate. For data prior to 2005, please consult Hansen et al. (2012).

Species	2005	2006	2007	2008	2009	2010	2011
Snow cover on 10 June	28	85	48	71	4	72	78
Sanderling	166*	181	166	169	167	163	166
Dunlin	163	178	166	169	162	165.5	173
Ruddy Turnstone	162	172*	158	170	154	165	162

TABLE 5. Mean nest success (%) 2005-2011 according to the modified Mayfield method (Johnson 1979). Poor data (below 125 nest days or five predations) are marked with asterisks. Data from species with below 50 nest days have been omitted. If no nest was found, it is indicated by "-". Nests with at least one pipped egg or one hatched young are considered successful. Also given are total numbers of adult foxes observed by the bird observer in the bird census area during June-July (away from the research station proper), along with the number of fox dens holding pups. For data from 1995-2004, please consult Hansen et al. (2012).

Species	2005	2006	2007	2008	2009	2010	2011	1996-2011
Common Ringed Plover	-	0*	-	2*	-	-	-	47-51
Red Knot	-	-	100*	-	-	-	3*	15.8
Sanderling	-	7*	3	5	7.5	3	17	16-17
Dunlin	43*	47	48	17	80*	62*	21.1*	54-58
Ruddy Turnstone	-	-	36	22*	27*	34*	2.9*	33-38
Red-necked Phalarope	-	-	-	-	-	-	-	1*
Red Phalarope	-	-	-	-	-	-	42*	-
All waders	22	37	18	16	14	9	14.4	30-32
N nests	15	28	60	58	66	46	47	662
N nest days	104	332.2	532.7	423.5	508.5	306.5	349	5937
Fox encounters	18	22	23	20	11	9	20	-
Fox dens with pups	0	2	3	5	3	3	3	-

After years of low numbers of Arctic fox *Vulpes lagopus* encounters; 2011 had 20 encounters, which is close to average. Pups were recorded in three dens this season (Table 5). Three dens with pups combined with the low number of lemming winter nests (Table 6), could possibly be part of the reason for the high predation on wader eggs.

The mean wader clutch size was 3.84 in 2011; which is above the weighted mean for all years (Table 7). Nests containing fewer than four eggs were: Sanderling; two nests of two eggs – ruddy turnstone; one nest of three eggs – Dunlin; one nest of one egg.

Nests containing fewer than four eggs were: Sanderling, two nests of two eggs; Ruddy turnstone, one nest of three eggs; and Dunlin, one nest of one egg.

In July and early August, alarming parents –

and later juveniles – were found in the fens and marshes (Dunlins, Sanderling), and on the slopes of Aucellabjerg and in the dry lowlands (Common Ringed Plovers, Red Knots, Sanderlings, Dunlins, Ruddy Turnstones).

Data on chick survival is almost negligible, and as early as day 179 (28 June), flocks of Long-tailed Skuas roamed the lower slopes of Aucellabjerg and the lowlands fens and heath. The largest flocks held 21 individuals.

REPRODUCTIVE PHENOLOGY AND SUCCESS IN LONG-TAILED SKUAS *STERCORARIUS LONGICAUDUS*

Three Long-tailed Skua nests were found initiated before the census period, the others during the census period (the average of preceding years; Table 8). No Northern Collared Lemming *Dicrostonyx groenlandicus* was observed

TABLE 6. Annual numbers of collared lemming winter nests recorded within the 1.06 km² census area in Zackenberg, 2005-2011, together with the numbers of animals encountered by one person with comparable effort each year within the 15.8 km² bird census area during June-July. For data 1995-2001, please consult Hansen et al. (2012).

Year	Winter nests	Animals seen
2005	98	1
2006	161	3
2007	251	1
2008	80	4
2009	55	0
2010	27	0
2011	27	0

TABLE 7. Mean clutch sizes in waders at Zackenberg, 2011, compared with data from the previous five years. Samples of fewer than five clutches are marked with asterisks. Data 1995-2004 can be found in Hansen et al. (2012).

Species	2005	2006	2007	2008	2009	2010	2011	mean
Common Ringed Plover		3.75*		3.75*		4.00*		3.77
Red Knot			4.00*	4.00*	4.00*	4.00*	4.00*	3.43
Sanderling	3.75	3.63	3.73	3.77	3.91	3.92	3.85	3.84
Dunlin	4	3.13	3.79	3.67	4	4.00	3.70	3.80
Ruddy Turnstone	3.86	3.00*	4.00*	3.71	3.78	3.92	3.90	3.79
Weighted mean	3.89	3.33	3.76	3.74	3.91	3.80	3.84	3.78

TABLE 8. Egg-laying phenology, breeding effort and success in Long-tailed Skuas at Zackenberg, 2005-2011. Median egg laying date is the date when half the supposed first clutches were laid. Number of clutches found includes replacement clutches. Mean hatching success according to the modified Mayfield method (Johnson 1979). Poor data (below 125 nest days or five predations) are marked with asterisks. Nests with at least one pipped egg or one hatched young are considered successful. The 1995-2004 was published in Hansen et al. (2012).

Long-tailed Skua breeding	2005	2006	2007	2008	2009	2010	2011
Median 1st egg date	159	170	163	164	168	172	165
No. of clutches found	8	2	15	9	2	1	6
No. of young hatched	6	1	11	3	1	0	0
Nest success % (Mayfield)	51.8*	100*	23	33	25.9	0	0
Estimated no. of young fledged	1	0	1	2	1	0	0

by the bird observer, reflecting another season with very low numbers of lemming winter nests found (Table 6). As mentioned above, roaming flocks were seen early this season.

One observation of a third calendar year bird – day 173 (22 June) – is the only observation of immatures this season.

BARNACLE GEESE *BRANTA LEUCOPSIS*

Activity was seen at the Barnacle Goose colony on the southern face of the mountain

Zackenberg, with three individuals seen flying to and from the colony. For further recent details on the colony, see Hansen et al. (2009).

The first Barnacle Goslings in Zackenberg, were seen on day 197 (16 July), which is late. A record low three broods were seen this season (Table 9), and a maximum number of two goslings (in any one family) seen at any one time. That is the poorest number of Barnacle Goslings on record at Zackenberg.

Southward migrating Barnacle Geese were

TABLE 9. Average brood sizes of Barnacle Geese in Zackenberg during July and early August, 2005-2011, together with the total number of broods brought to the valley. Samples of fewer than ten broods are marked with asterisks. Average brood size data from autumn on the Isle of Islay in Scotland are given for comparison, including the percentage of juveniles in the population (M. Ogilvie pers. comm.). Data from 1995-2004 was published in Hansen et al. (2012).

Species	2005	2006	2007	2008	2009	2010	2011
Primo July	1.7*	2.0*	1.3	4*	1*	1.5*	0
Medio July	2.7	1.5*	1.5	1.6	1.33*	1.8*	1*
Ultimo July	2.2*	1.1*	3.3*	1.5*	1*	1.4*	0
Primo August		1.5*	-	1*	1.5*	1.6*	0
No. of broods	14	9	28	15	9	18	3
Scotland	1.67	1.15	2.14	1.9	1.9	2.26	2.1
Per cent juv.	6.3	3.23	9.8	8.2	3.8	11.2	11.2
Ruddy Turnstone	162	172*	158	170	154	165	162

seen from day 223 (August 11th), when 16 flew south. 192 Barnacle Geese were seen migrating southwards in 2011. The last Barnacle Goose was seen flying on day 275 (2 October).

The percentage of young in wintering flocks was relatively high on Isle of Islay, Western Scotland (Table 9; M. Ogilvie, pers. comm.).

Immature Barnacle Geese moulted in numbers far below average (1995-2010 average: 200; Table 10).

COMMON BIRDS, NOT BREEDING IN THE CENSUS AREA

Between day 162 (11 June) and day 189 (8 July), 3,324 individual immature Pink-footed Geese *Anser brachyrhynchus* were recorded (unsystematically) on their northbound moult migration.

This is a quite high number compared with recent years, but as these data have been collected unsystematically, we are cautious about making any concrete comparisons.

With only 21 immature Pink-footed Geese found moulting in the Zackenberg area in 2011, the numbers are still low and the trend of Pink-footed Geese avoiding the Zackenberg valley seem to continue (Table 10). Immature Pink-footed Geese on southward migration were recorded from mid-July to day 247 (4 October). A total of 784 Pink-footed Geese were recorded (unsystematically) on southward migration.

Only few Common Eiders *Somateria mollissima* were recorded in the study area during the 2011 season. The first observation was on day 165 (14 June), when a pair was seen flying over the

TABLE 10. Numbers of immature Pink-footed Geese and Barnacle Geese moulting in the study area at Zackenberg, 2005-2011. The close area is zone 1c (see http://www.zackenberg.dk/fileadmin/Resources/DMU/GEM/Zackenberg/pdf/mapzoner_stor_opl.jpg). Refer to Hansen et al. (2012) for data from previous seasons.

	2005	2006	2007	2008	2009	2010	2011
Pink-footed Goose							
Closed moulting area and further east	17	27	0	0	1	10	17
Coast west of closed area	0	3	2	0	0	0	0
Upper Zackenberg	0	1	0	2	1	0	6
Pink-footed Goose total	17	31	2	2	2	10	23
Barnacle Goose							
Closed area at Lomsø and Kystkærene	87	148	66	106	70	80	48
Coast east of closed area	2	218	46	125	77	13	0
Coast west of closed area	29	29	106	65	34	0	66
Upper Zackenberg	25	30	6	41	51	0	0
Barnacle Goose total	143	425	224	337	232	93	114

lower slopes of Aucellabjerg. No Eider Ducklings were seen at or near Zackenberg in 2011. The first King Eiders *Somateria spectabilis* was a pair on day 156 (5 June). No nesting attempts were recorded, and no ducklings were seen in 2011. For both eider species, flocks were seen from June, and for king eiders until ultimo July. Common Eiders were seen in flocks (up to 35 individuals) into late August, except for a very late flock of 35 common eiders, seen as late as day 265 (22 September).

Long-tailed Ducks *Clangula hyemalis* were seen from day 155 (4 June), after which pairs were seen almost daily until mid-July. One nest was found (having suffered predation), and no ducklings were seen in 2011. In late July, August and September, only a few birds, often females, were recorded. The last two Long-tailed Ducks were seen day 248 (5 September) at Lomsø.

As in recent years, two Common Raven *Corvus corax* pairs each occupy their part of our census area, with home ranges well beyond our census area. Nesting is believed to take place outside our study area. The first three juvenile birds were seen as early as day 176 (25 June) at Sydkærene. The three young Ravens were recorded twice since then. The last day was 192 (11 July) on the lower slopes of Aucellabjerg. However, a flock of six were seen as late as day 260 (17 September).

VISITORS AND VAGRANTS

In Table 11, we present data on avian visitors and vagrants. On 27 and 28 May a Lesser Yellowlegs *Tringa flavipes* was seen at a pond near the research station. This is only the fourth record of Lesser Yellowlegs in Greenland, and the first one in east Greenland (D. Boertmann, pers. comm.). This was the only actual rarity in 2011.

Two observations of single Canada Geese *Branta canadensis* – both in flocks of either Barnacle Geese or Pink-footed Geese were seen this year. The latest observation was a small goose from the Canada Goose *Branta canadensis*/*B. hutchinsii* complex, as opposed to all other, large bodied Canada Geese having been observed at Zackenberg (Hansen et al. 2009; unpubl.).

VALIDATION OF SIGHTINGS

The Rarities Committee for Denmark, Faroe Islands and Greenland (under BirdLife

Denmark) has officially recognised this season's observation of the Lesser Yellowlegs described above (Neergaard et al. 2013).

All submitted rarities from Zackenberg over the years are now officially recognised sightings.

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TABLE 11. Numbers of individuals and observations of avian visitors and vagrants at Zackenberg, 2011, compared with the numbers of individuals observed in the preceding seasons, 1995-2010. Multiple observations reasonably believed to have been of the same individual have been reported as one individual. Refer to Hansen et al. (2012) for data from previous seasons

Species	Visitors and vagrants						2011	
	2005	2006	2007	2008	2009	2010	No. of individuals	No. of observations
Great Northern Diver	0	0	2	2	0	1	0	0
Whooper Swan	0	0	0	0	0	0	0	0
Greylag Goose	0	0	0	0	0	1	0	0
Snow Goose	0	0	1	0	0	0 ^a	0	0
Canada Goose	0	4	3	0	1	0	2	2
Merlin	0	0	0	0	0	0	0	0
Gyr Falcon	2	0	3 ^b	2 ^c	4	3	3	2
Pintail Duck	0	0	3 ^d	0	0	3	0	0
Common Teal	0	0	0	0	0	0	0	0
Eurasian Golden Plover	1	1	1	1	2	2	0	0
White-rumped Sandpiper	1	0	0	0	0	0	0	0
Pectoral Sandpiper	0	1	1	0	1	1	0	0
Purple Sandpiper	0	0	0	0	0	0	0	0
Red Phalarope	2 ^e	11 ^e	0	2	0	2	0	0
Common Snipe	0	0	1	0	0	0	0	0
Whimbrel	1	0	1	2	0	0	0	0
Eurasian Curlew	0	0	0	0	0	0	0	0
Redshank	0	0	0	1	0	0	0	0
Lesser Yellowlegs	0	0	0	0	0	0	1 ^f	2
Pomarine Skua	0	0	0	0	0	0	0	0
Arctic Skua	0	1	0	0	0	0	0	0
Great Skua	0	0	0	0	0	0	0	0
Lesser Black-backed Gull	1	4	0	0	0	0	1	1
Iceland Gull	0	2	0	0	0	0	0	0
Great Black-backed Gull	0	0	0	0	0	0	0	0
Black-legged Kittiwake	0	0	0	0	0	0	0	0
Arctic Tern	0	0	0	57	0	0	0	0
Snowy Owl	0	0	1 ^b	0	0	0	0	0
Meadow Pipit	1 ^d	1 ^d	0	0	0	0	0	0
White Wagtail	0	0	1	0	0	0	0	0
Northern Wheatear	2	1	4 ^b	2	2	5 ^g	1	1
Lapland Longspur	1	0	0	0	0	2 ^e	3 ^e	10

^a Two outside census area

^b See Hansen et al. 2010

^c After regular season, 4 observations of 1-3 birds.

^d Northernmost records in East Greenland (cf. Bortmann 1994)

^e At least one territory, possible territory or breeding found

^f 4th record in Greenland, first in N.E. Greenland

^g Three juveniles, all from pair(s) outside the census area

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