

New Avian Breeding Records for Igloolik Island, Nunavut

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New breeding records for three tundra nesting species were documented on the Arctic island of Igloolik (Nunavut, Canada). The species are the Cackling Goose (*Branta hutchinsii*), the Tundra Swan (*Cygnus columbianus*), and the Pectoral Sandpiper (*Calidris melanotos*). These records refine their breeding range in the Canadian Arctic archipelago, while highlighting changes in detected bird communities at specific locations through time.

Key Words: Cackling Goose; *Branta hutchinsii*; Tundra Swan; *Cygnus columbianus*; Pectoral Sandpiper; *Calidris melanotos*; breeding; high Arctic; Igloolik

Introduction

We conducted fieldwork on Igloolik Island (Nunavut, Canada), about 25 km from the hamlet of Igloolik from early June to early August in 2012, 2013, and 2014. This island is located in northwest Foxe Basin next to the Melville Peninsula and south of the northern part of Baffin Island. Our main objective was to study the functioning and dynamics of an Arctic food web and measure shorebird sensitivity to perturbations.

We follow the recent example of Hussell *et al.* (2012), who highlighted the importance of reporting new breeding records in Nunavut to refine our knowledge of wildlife distribution in the Canadian Arctic and report changes in detected bird communities at specific locations over time. While mapping all birds nests in our intensive study area of 0.4 km² and surveying a larger area of 11.7 km², we documented new breeding records for the Cackling Goose (*Branta hutchinsii*), Tundra Swan (*Cygnus columbianus*), and Pectoral Sandpiper (*Calidris melanotos*).

Results

Cackling Goose

Although many Cackling Geese were seen during migration, only two nests were found in our survey area, on 24 June 2014. One nest and its female are pictured in Figure 1A. The two nests were located on tiny islands in ponds located within wetland patches. Both nests were successful, with four goslings each departing from their nest on 17 and 18 July.

Tundra Swan

Two flying pairs were seen in the spring of 2012 and 2013. On 15 June 2014, a territory was detected, with a male and female showing territorial displays. At about 100 m from the territorial pair, an active nest (Figure 1B) was found on 28 June 2014 together with three older nests. The active nest contained four eggs when discovered, but was predated two weeks later.

Pectoral Sandpiper

Three nesting territories were located in the survey area in June 2012 and June 2013, especially by moni-

toring the distinctive hooting calls of the males (Farmer *et al.* 2013) during all days of June. Unfortunately, the nests are somewhat difficult to find as females hide beside nearby rocks without making any alert calls or displays. Among the three territories located in 2013, one nest with four eggs was found in the intensive study area on 31 June 2014. The male associated with the active nest is pictured in Figure 1C. This nest was depredated a week and a half later. On 21 July, three families of Pectoral Sandpipers were observed in the intensive study area.

Discussion

Species breeding ranges are dynamic, especially with the ongoing global changes in climate and land use (Parmesan 2006). Although breeding ranges are often portrayed as continuous spatial units, except in the case of recognized disjunct ranges, in reality they are an interpolation of discontinuous observed breeding locations (Fortin *et al.* 2005). Hence, reporting new breeding locations through various means is important to ensure ongoing refinement and adjustment of ranges, both within and outside known boundaries.

The most recent detailed list of species nesting on Igloolik Island was recorded in 1985–1986, as a result of intensive observation efforts by Forbes *et al.* (1992), who documented three new breeding species. Together with our study, the list of breeding birds of Igloolik Island now stands at 33 species recorded since the first expedition of Captain Parry in the H.M.S. Hecla in 1821 (Lyon 1824).

The Cackling Goose is a recently recognized species, formerly known as *Branta canadensis hutchinsii*, a small subspecies of Canada Goose (*Branta canadensis*). According to the range shown in Mowbray *et al.* (2002), these tundra-nesting birds are typically found on the Melville Peninsula. Despite intensive harvesting and egg collection activities on Igloolik Island during spring, we found no previous breeding records for Cackling Goose or Canada Goose on the island in eBird (www.ebird.org). Birds seen on Igloolik Island fit the general description of this species: high-pitched calls, overall small size,



FIGURE 1. New breeding birds in Igloolik, Nunavut, Canada. A. Female Cackling Goose (*Branta hutchinsii*) with its nest as an insert, 24 June 2014 and 18 July 2014. B. The only Tundra Swan (*Cygnus columbianus*) nest discovered on the island, 28 June 2014. C. Male Pectoral Sandpiper (*Calidris melanotos*) in our study area just after a display flight and a territorial call, 5 July 2013. Photos: N. Lecomte.

light-coloured plumage, pale breast, and short bill (about a third of the head length). Cackling Geese were numerous in the area of Igloolik Island during spring migration and are known to nest further north (eBird*). There is even a nearby island called “plentiful Canada Geese” in Inuktitut (Nirlimaqtuuq). Forbes *et al.* (1992) reported that Canada Geese were uncommon, with only 13 birds observed in their two-year study compared with the hundreds we saw flying during migration every year (N. Lecomte and M.-A. Giroux, personal observations). Such an increase may reflect the steady population growth of this species since the 1970s, with the population doubling in only 20 years (Mowbray *et al.* 2002). Igloolik Island is located on the northern margin of the Tundra Swan’s distribution (BirdLife International 2012*). Given ongoing global warming, which is especially rapid in the Arctic (Stocker *et al.* 2013), such a range extension is not surprising (Chen *et al.* 2011). No breeding record of Pectoral Sandpipers on Igloolik or nearby islands has been documented in eBird. However, in the last two years, evidence of breeding by Pectoral Sandpipers has been documented further north on Baffin, Bylot, and Devon Islands (eBird*). The apparently disjunct distribution in the Arctic Archipelago may be due to a lack of observations in this area.

The paucity of observers in the North compared with southern latitudes hampers our ability to track new species in the North. We recommend reporting observations of breeding locations by completing government checklists such as the Canadian Wildlife Service Northwest Territories/Nunavut checklist survey (<https://www.ec.gc.ca/reom-mbs/default.asp?lang=En&n=60E48D07-1>), entering data into online databases such as eBird, to which the Canadian Wildlife Service contributes by entering the checklist surveys (Canadian Wildlife Service 2007*), or through formal scientific publication. This will help identify new species breed-

ing in the tundra and refine breeding ranges, e.g., Hus-sell *et al.* (2012). The necessity of consulting local communities to gather new observations, therefore, seems paramount to detecting new species arriving in this large Arctic area.

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