# HISTORY OF THE RED-NECKED STINT BREEDING IN NORTH AMERICA

LUCAS H. DeCICCO, U.S. Fish and Wildlife Service, Migratory Bird Management, 1011 East Tudor Rd., Anchorage, Alaska 99503; lhdecicco@gmail.com

NILS WARNOCK, Audubon Alaska, 441 West Fifth Ave., Suite 300, Anchorage, Alaska 99501

JAMES A. JOHNSON, U.S. Fish and Wildlife Service, Migratory Bird Management, 1011 East Tudor Rd., Anchorage, Alaska 99503

ABSTRACT: The largely palearctic Red-necked Stint has been documented breeding in the Nearctic Region only in Alaska, from which 12 records were published from 1909 to 1975. In summer 2012 we found a family of Red-necked Stints in the Kigluaik Mountains of the Seward Peninsula, in tundra of the dwarf shrub mat type with ≥50% cover of bare rock. The photographs obtained are the first published of the Red-necked Stint breeding in Alaska.

The Red-necked Stint (*Calidris ruficollis*) breeds in three disjunct regions, all in northern Russia: (1) the central and eastern portions of the Taimyr Peninsula, (2) the area south and upland of the Lena River delta, and (3) from the western side of the Kolyma lowlands east to the Chukchi Peninsula (the presumed core of the breeding range) and south to northern Kamchatka (Lappo et al. 2012, Figure 1). After breeding, Red-necked Stints from central Siberia are thought to migrate south by interior flyways, while those breeding in northeastern Russia and Alaska are thought to migrate south along the East Asian–Australasian flyway (Piersma et al. 1996). The winter range extends from India east to China and south to Australia and New Zealand (Morozov and Tomkovich 1984, Piersma et al. 1996). In the Nearctic Region, the Red-necked Stint occurs regularly only in Alaska, where it is a rare spring and fall migrant in southwestern Alaska, a rare spring migrant, rare breeder, and very rare fall migrant in western Alaska, and a very rare spring migrant and summer visitant in northern Alaska (Kessel and Gibson 1978, Kessel 1989). The last published record of breeding was in 1975 (Kessel and Gibson 1978).

Like most calidridine sandpipers, the Red-necked Stint generally lays a 4-egg clutch (Cramp and Simmons 1983, Piersma et al. 1996) in a small cup on the ground, lined with grass and willow leaves. Depending on location, the species begins laying eggs from late May to mid-June; eggs hatch from mid-June to early July (Portenko 1972, Kessel 1989).

In this paper, we report on the habitat and behavior of Red-necked Stints that nested on the Seward Peninsula in 2012 and review the status of the species' breeding in North America.

## 2012 BREEDING RECORD

On 30 June 2012, while searching for nests of the Red Knot (*C. canutus*) in the Kigluaik Mountains, about 45 km northwest of Nome, Seward Peninsula (64.50° N, 165.41° W; Figure 1), Warnock observed a small drab shorebird flush and give an alarm call. Given the Western Sandpipers

(*C. mauri*) in the area, he first assumed the bird was that species. Soon a second, more brightly colored bird (Figure 2), readily identified as a Red-necked Stint and presumably the male (Pavel Tomkovich pers. comm. 2012), appeared, calling. Subsequently, both adults performed a distraction display characterized by a low, hunched-over posture with slightly spread wings (Figure 3). We then observed four very young chicks (1 or 2 days old). We photographed the birds (still and video) and recorded their vocalizations. The audio recording is archived in and accessible through Cornell University's Macaulay Library (catalog number ML176409). On 4 July we observed a drab adult and a single chick, 1.5 km from the original location. Given that young Western Sandpiper chicks of a similar size can move over 0.5 km in a day (Ruthrauff and McCaffery 2005), we assumed these stints were from the brood we saw initially.

This family occurred on an alpine granitic ridge 16 km inland from Norton Sound and 300 m above sea level. The surrounding habitat was mainly dwarf shrub mat (Kessel 1979), comprising dwarf shrubs (*Empetrum nigrum*, *Salix* spp., *Dryas* spp.), lichens, and sedges (*Carex* spp.); ≥50% of the area was bare ground or rock-covered (Figure 4). This location lies within the transition zone between wet graminoid and shrub-dominated lowland tundra and granitic *Dryas*-dominated alpine tundra (Kessel 1979). Other breeding

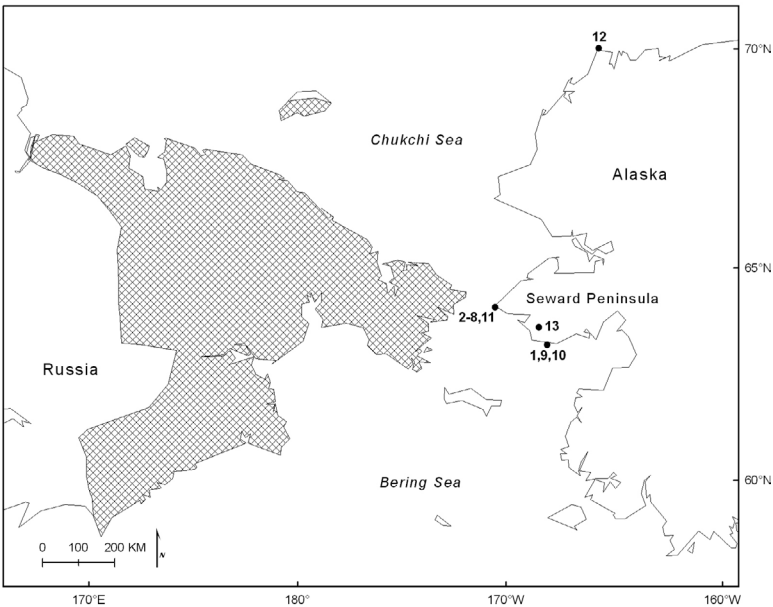


Figure 1. Locations of recorded breeding of the Red-necked Stint in Alaska; numbers correspond to records listed in Table 1. Hatched areas represent the eastern segment of the Red-necked Stint's breeding distribution in Russia.

birds observed in this area included the American and Pacific golden-plovers (*Pluvialis dominica* and *fulva*), Red Knot, Rock Sandpiper (*Calidris ptilocnemis*), Western Sandpiper, Horned Lark (*Eremophila alpestris*), and Lapland Longspur (*Calcarius lapponicus*).

## REVIEW OF NORTH AMERICAN BREEDING RECORDS

The Red-necked Stint was first recorded breeding in Alaska at Nome on 10 July 1908, when A. H. Dunham collected a pair of adults with two young (Thayer 1909). Thirteen attempts of the Red-necked Stint to nest in Alaska have now been recorded, including the one we describe here (Table 1). These observations are centered geographically on the Seward Peninsula, particularly near Cape Prince of Wales. The only record elsewhere is from Barrow (Table 1, Figure 1). Almost half of them, six of 13, were found in the 1930s and 1940s, a time when museum-funded exploration in the region was widespread. The largest temporal gap, 37 years, is between the ultimate and penultimate breeding records (Table 1). It is unclear if so long a lapse is due to population fluctuation or the dearth of visits by ornithologists to the Wales area during the intervening decades.

The breeding habitat of the Red-necked Stint in Alaska appears to be variable but consistently within dwarf shrub mat and dwarf shrub meadow (Kessel 1979). For example, Bailey (1926:32) reported birds "on the high tundra at the base of Wales Mountain," including a pair building a nest along a stream. Kessel (1989), in the same area three decades later, observed a Red-necked Stint nest at 150 m elevation along a creek draw dotted with large rocks. Other nests near Wales were found at a "mountain dry place" (Hanna 1940:123) and on flat tundra "plains" (Ford 1934:232). In the Palearctic, the highest densities of breeding Red-necked Stints tend to be close to the coast and by rivers (Lappo et al. 2012). Portenko (1972) and Piersma et al. (1996) described the species' typical breeding habitat as upland tundra at low elevations, often in drier, rocky areas.

With principal nesting areas in the eastern Palearctic and satellite nesting areas in Alaska, the distribution of the Red-necked Stint is not anomalous biogeographically. Other species that share this pattern include three other shorebirds—the Eurasian Dotterel (*Charadrius morinellus*), Lesser Sand-Plover (*C. mongolus*), and Common Ringed Plover (*C. hiaticula*); one passerine—the Red-throated Pipit (*Anthus cervinus*); and one loon—the Arctic (*Gavia arctica*). This pattern is bracketed by species of palearctic provenance that occur less regularly in western Alaska and have not been found breeding, such as the Terek Sandpiper (*Xenus cinereus*) and Great Knot (*Calidris tenuirostris*), and by those that have well-established breeding populations in Alaska, such as the Bluethroat (*Luscinia svecica*) and Eastern Yellow Wagtail (*Motacilla tschutschensis*) (Kessel and Gibson 1978, Kessel 1989). These distributional patterns may be a result of the current geographic proximity of North America and Asia, separated by only 80 km at the Bering Strait, or a remnant of a time when the continents formed one continuous landmass (Hopkins 1959).

Figure 2. Presumed male Red-necked Stint attending chicks (1 or 2 days old), Kigluaik Mountains, Seward Peninsula, Alaska, 30 June 2012.

*Photo by Lucas H. DeCicco*

Figure 3. Presumed female Red-necked Stint in distraction display posture, Kigluaik Mountains, Seward Peninsula, Alaska, 4 July 2012.

*Photo by Lucas H. DeCicco*

Figure 4. Granitic *Dryas*-dominated alpine tundra, habitat of a family of Red-necked Stints, Kigluaik Mountains, Seward Peninsula, Alaska, June 2012.

*Photo by Lucas H. DeCicco*

ACKNOWLEDGMENTS

We thank those who assisted in the 2012 field work: Fernando Diaz, Luke Eberhart-Phillips, Nicholas R. Hajdukovich, Andrea Minoletti, Daniel R. Ruthrauff, and Noah Warnock. We thank Pavel S. Tomkovich for providing information on the Russian breeding grounds. The editorial comments provided by Daniel D. Gibson, Daniel R. Ruthrauff, and Robert E. Gill improved this manuscript greatly, and they are much appreciated. The findings and conclusions in this article are those of the authors and do not necessarily represent the views of the U.S. Fish and Wildlife Service.

**Table 1** Documented Breeding of the Red-necked Stint in Alaska

| Record[a] | Date | Locality | Evidence | Reference |
|---|---|---|---|---|
| 1 | 10 Jul 1908 | Nome | Pair and 2 young | Thayer 1909 |
| 2 | 14 Jun 1922 | Cape Prince of Wales | Pair building nest | Bailey 1926 |
| 3 | 23 Jun 1933 | Cape Prince of Wales | Nest with 4 eggs | Ford 1934 |
| 4 | 15 Jun 1939 | Cape Prince of Wales | Set of eggs | Hanna 1940 |
| 5 | 16 Jun 1941 | Cape Prince of Wales | Set of eggs | Bailey 1948 |
| 6 | 14 Jun 1945 | Cape Mountain, Wales | Nest with 4 eggs | Bailey 1948 |
| 7 | 20 Jun 1945 | Cape Prince of Wales | Set of eggs | Bailey 1948 |
| 8 | 17 Jun 1946 | Cape Prince of Wales | Set of eggs | Bailey 1948 |
| 9 | 21 Jun 1968 | 24 km NW of Nome | Pair with 3 young | Kessel 1989 |
| 10 | 23 Jun 1968 | Safety Sound, Nome | Adult with brood | Kessel 1989 |
| 11 | 30 Jun 1974 | Cape Mountain, Wales | Nest with 4 eggs | Kessel and Gibson 1978 |
| 12 | 28 Jun 1975 | Barrow | Nest | Kessel and Gibson 1978 |
| 13 | 30 Jun 2012 | Kigluaik Mountains | Pair with 4 young | this publication |

[a]Numbers correspond with locations mapped in Figure 1.

## LITERATURE CITED

Bailey, A. M. 1926. A report on the birds of northwestern Alaska and regions adjacent to Bering Strait, part VII. Condor 28:31–36.
Bailey, A. M. 1948. Birds of arctic Alaska. Colo. Mus. Nat. Hist. Pop. Ser. 8:1–317.
Cramp, S., and Simmons, K. E. L. (eds.). 1983. The Birds of the Western Palearctic, vol. 3. Oxford Univ. Press, Oxford, England.
Ford, E. R. 1934. Rufous-necked Sandpiper nesting in Alaska. Auk 51:232.
Hanna, W. C. 1940. Rufous-necked Sandpiper nesting on Seward Peninsula, Alaska. Condor 42:122–123.
Hopkins, D. M. 1959. Cenozoic history of the Bering land bridge. Science 129:1519–1528.
Kessel, B. 1979. Avian habitat classification for Alaska. Murrelet 60:86–94.
Kessel, B. 1989. Birds of the Seward Peninsula, Alaska: Their Biogeography, Seasonality, and Natural History. Univ. Alaska Press, Fairbanks.
Kessel, B., and Gibson, D. D. 1978. Status and distribution of Alaska birds. Studies Avian Biol. 1.
Lappo, E. G., Tomkovich, P. S., and Syroechkovskiy, E. E., Jr. 2012. [Atlas of Breeding Waders in the Russian Arctic]. Institute of Geography, Russian Academy of Sciences, Moscow (in Russian with English summaries).
Morozov, V. V., and Tomkovich, P. S. 1984. [Distribution and breeding habitats of the Red-necked Stint *Calidris ruficollis* (Pall.)]. Biol. Sciences 4:42–48 (in Russian).
Piersma, T., van Gils, J., and Wiersma, P. 1996. Family Scolopacidae (sandpipers, snipes, and phalaropes), in Handbook of the Birds of the World (J. del Hoyo, A. Elliott, and J. Sargatal, eds.), vol. 3, pp. 444–487. Lynx Edicions, Barcelona.
Ruthrauff, D. R., and McCaffery, B. J. 2005. Survival of Western Sandpiper broods on the Yukon–Kuskokwim Delta, Alaska. Condor 107:597–604.
Portenko, L. A. 1972. Birds of the Chukchi Peninsula and Wrangel Island, vol. 1. Translation 1981 by Amerind Publishing Co. Pvt. Ltd., New Delhi.
Thayer, J. E. 1909. *Limonites ruficollis* in Alaska. Condor 11:173.

*Accepted 17 August 2013*