



# First record of White-rumped Sandpiper (*Calidris fuscicollis*) at Esperanza/Hope Bay, Antarctica

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## Abstract

The White-rumped Sandpiper (*Calidris fuscicollis*) (Vieillot 1819) is one of the longest migrating birds that breeds in the high Arctic in Alaska and Canada and spends the post-breeding period in South America. This bird is a frequent vagrant visitor of Islas Georgias del Sur/South Georgia and the South Shetland islands. Here we provide the first record for the White-rumped Sandpiper at the Continental Antarctica. The individual was observed the 2 February 2019 at Esperanza/Hope Bay (63° 23' 56" S, 56° 59' 06" W), the north of the Antarctic Peninsula, in an ice-free rockery close to a melt-water-run-off area. At the moment of the observation, the temperature was above 0 °C and the wind calm. However, strong winds from the north-west and west directions were registered during the last week of January 2019 at Esperanza Station (peak 65 knots) and at the Drake Passage (peak 49 knots) which might explain the presence of the White-rumped Sandpiper individual at Hope Bay. Our report contributes to list the non-native species observed in Antarctica. One plausible explanation could be related to changes in migratory routes of flying birds.

**Keywords** Vagrancy · Antarctic Peninsula · Migrant birds · Charadriiformes · Scolopacidae

## Introduction

Several avian species were reported as vagrant birds in Antarctica, especially in the Antarctic Peninsula and in the islands of the Scotia Arc, during the Antarctic summer (Trivelpiece et al. 1987; Silva et al. 1995; among others).

These vagrant birds arrive to Antarctica influenced by biotic or abiotic factors such as storm events, disruption of their orientation system, human activity associated with the presence of vessels, among others (Golubev 2020). Among such reports of vagrant birds, the Magellanic (*Spheniscus magellanicus*) (Trivelpiece et al. 1987; Coria et al. 2011) and the Rockhopper (*Eudyptes chrysocome*) penguins (Trivelpiece et al. 1987), the Cattle Egret (*Bubulcus ibis*) (Trivelpiece et al. 1987; Aguirre 1995; Silva et al. 1995; Lumpe and Weidinger 2000; Coria et al. 2011), the Barn Swallow (*Hirundo rustica*) (Hahn et al. 1998; Korczak-Abshire et al. 2011a), the Chiloe Wigeon (*Anas sibilatrix*) (Trivelpiece et al. 1987), the Rosy-billed Pochard ducks (*Netta peposaca*) (Perchivale et al. 2016), the Yellow Billed Pintail (*Anas georgica*) (Trivelpiece et al. 1987; Aguirre 1995; Hahn et al. 1998) and the Black-necked Swan (*Cygnus melancoryphus*) (Aguirre 1995; Silva et al. 1995; Hahn et al. 1998; Milius 2000; Coria et al. 2011; among others) were reported for the South Shetland and the South Orkney islands. Despite the abundance of vagrant birds in the islands of the Scotia Arc, up to now only the Hudsonian Godwit (*Limosa haemastica*) (Juárez et al. 2010) and the Black-necked Swan (*Cygnus*

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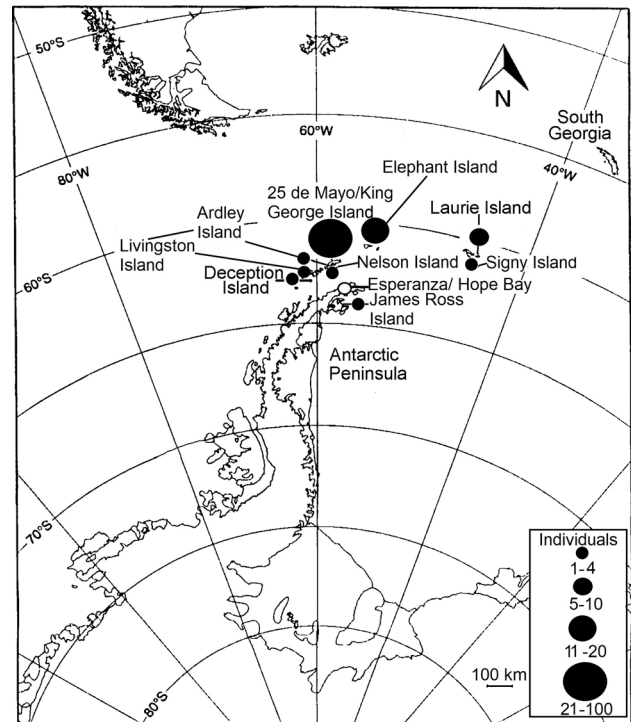
*melancoryphus*) (Coria and Montalti 1993; Quintana et al. 2000) were reported for its continental territory.

The White-rumped Sandpiper (*Calidris fuscicollis*) (Vieillot 1819) breeds in the high Arctic and performs one of the longest migrations covering about 12,000 km to spend the boreal winter in southern South America (Montgomery and Cantar 1985; Trivelpiece et al. 1987; Hayman et al. 1991). This monotypic (Wennerberg et al. 2002) and gregarious bird nests from June to August near the coast of the Arctic tundra of northern Canada and Alaska, and the southward passage is between July and early December returning to the north in March (Hayman et al. 1991). The common wintering areas are inland and coastal wet habitats of the Argentinian and Chilean Patagonia (Hayman et al. 1991; Korczak-Abshire et al. 2011b), where it feeds mainly invertebrates such as polychaetes, clams, amphipods, gastropods and insects (Hernández and Bala 2007).

The White-rumped Sandpiper is considered a regular visitor of Tierra del Fuego, the southernmost point of Argentina (Humphrey 1970), and a vagrant visitor of Islas Georgias del Sur/South Georgia (hereafter IGS) and the South Shetland islands (SSI) (Gajardo and Yañez 1982; Prince and Croxall 1983; Trivelpiece et al. 1987; Silva et al. 1995; Korczak-Abshire et al. 2011b; Pavel and Weidinger 2013; Petersen et al. 2015; among others). The first record for this bird in Antarctica was in 1981 at Ardley Island, SSI (Banasch 1984), and then in 1982 at Livingstone Island, also in the SSI (Gajardo and Yañez 1982). Subsequently, it was observed at the South Orkney islands (Hemmings 1985; Coria et al. 2011), at other localities of the SSI such as 25 de Mayo/King George Island (Trivelpiece et al. 1987; Aguirre 1995; Silva et al. 1995; Hahn et al. 1998; Korczak-Abshire et al. 2011b), Elephant Island (Sander et al. 1988; Petersen et al. 2015) and Nelson Island (Lumpe and Weidinger 2000) (Fig. 1). Despite the several and increasing records of this bird at the South Orkney and South Shetland archipelagos (Korczak-Abshire et al. 2011b; Pavel and Weidinger 2013), there exist only one record of the White-rumped Sandpiper at the Antarctic Peninsula area, which was obtained at James Ross Island (Pavel and Weidinger 2013). Thus, here we provide the record of the White-rumped Sandpiper at Esperanza/Hope Bay, the first report of this species at the continental Antarctica.

## Materials and methods

A single White-rumped Sandpiper was observed on 2 February 2019 near Esperanza Station, in the north of the Antarctic Peninsula (Fig. 2). The area where it was observed ( $63^{\circ} 23' 56''$  S,  $56^{\circ} 59' 06''$  W) is an ice-free rockery close to a meltwater runoff and to a Kelp gull *Larus dominicanus* breeding area. The individual was sighted 650 m east of

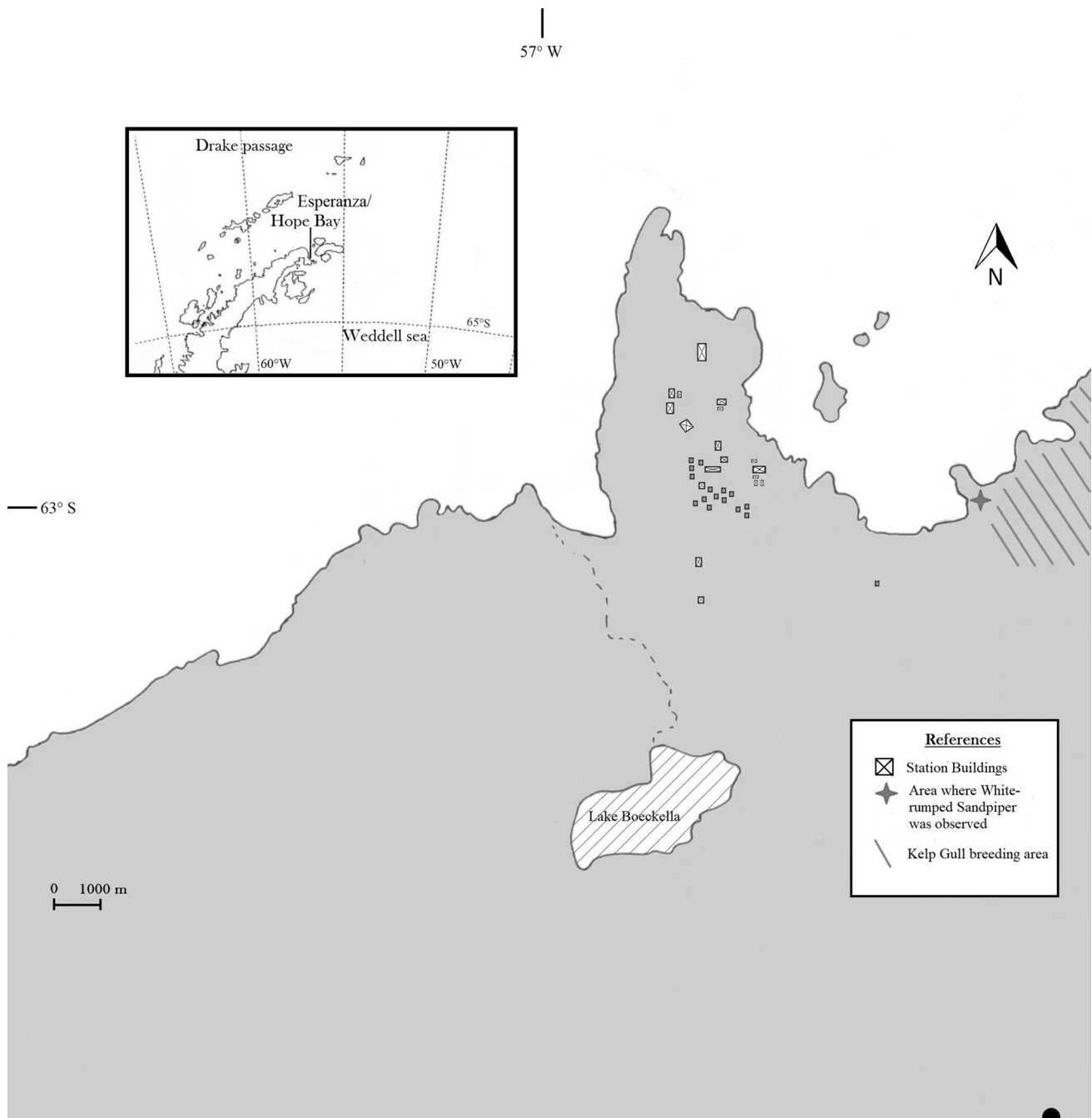


**Fig. 1** Map showing the localities of Antarctica where the White-rumped Sandpiper (*C. fuscicollis*) was observed. Filled circles represent previous records and the open circle indicates our new report



**Fig. 2** The White-rumped Sandpiper (*C. fuscicollis*) individual observed closed to Esperanza station at Esperanza/Hope Bay in the north of the Antarctic Peninsula

the station at 10 m from the coast (Fig. 3). At that moment the temperature was above  $0^{\circ}\text{C}$  and the wind calm but that night and during the next 2 days the wind reached maximum speeds of 41, 53 and 55 knots, respectively. Due to weather conditions, we were unable to continue the observations during 4 days and after that the individual was not sighted again.



**Fig. 3** Location of Esperanza/Hope Bay at the Antarctic Peninsula and the site where the White-rumped Sandpiper (*C. fuscicollis*) individual was sighted

### Results and discussion

Some authors have different hypothesis to explain the presence of vagrant birds in Antarctica, being the most common unusual weather conditions, such as storms, that drive birds away from the normal migration route (Favero and Silva 1998; Juárez et al. 2010; Coria et al. 2011; Petersen et al. 2015). Differently, KorczaK-Abshire (2010) proposed

that the increasing observations of this species in Antarctica and for longer periods (Trivelpiece et al. 1987; KorczaK-Abshire et al. 2011b; Pavel and Weidinger 2013) might be related to the climate warming in the Antarctic Peninsula region, which also implies higher food availability (KorczaK-Abshire 2010). In this sense, some authors proposed that this vagrant bird appears to be surviving on local food resources (Trivelpiece et al. 1987; KorczaK-Abshire et al. 2011b; Pavel

and Weidinger 2013; Petersen et al. 2015) allowing to extend southerly its wintering grounds.

Regarding the presence of the White-rumped Sandpiper at Esperanza/Hope Bay, strong winds from the north-west and west directions were registered during the last week of January 2019 both at Esperanza Station (peak 65 knots, Servicio Meteorológico Nacional Argentino) and at the Drake Passage (peak 49 knots, Windy App/Windy Weather World Inc.), but 3 days before the observation the wind speed at the station did not exceed 13 knots. Considering the information above, this pattern of wind force and direction might explain the presence of the White-rumped Sandpiper individual at Esperanza/Hope Bay. Our study provides the first report of the White-rumped Sandpiper for the continental Antarctica, and also contributes to understand how climate change might affect migratory routes of flying birds (see Petersen et al. 2015).

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**Author contributions** AS, KH and NK were in the field, saw the White-rumped Sandpiper and took the pictures. MS, MJ and ML were conducting the Antarctic campaign, providing a guide in the field and help with the figures. AS wrote the manuscript. RC helped with the taxonomic identification and corrected the manuscript. All authors read and approved the manuscript.

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**Data availability** Photographic record (as figure in the text).

## Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethical Approval** The research was permitted under Argentine Dirección Nacional del Antártico Environmental Office and was carried out according to the ethical standards defined by the Scientific Committee for Antarctic Research (SCAR).

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