



## First documented record of barn swallow (*Hirundo rustica*) in the Antarctic

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**Abstract:** Here we report a photo-documented record of a barn swallow (*Hirundo rustica*) from the South Shetland Islands. We also review previous records of passerine vagrants in the Antarctic (south of the Antarctic Convergence Zone). This barn swallow is the first recorded member of the Hirundinidae family on King George Island and is only the second passerine recorded in the South Shetland Islands. This sighting, along with previous records of austral negrito and austral thrush represent the southernmost sightings of any passerine bird anywhere in the world.

**Key words:** Antarctic, South Shetlands, barn swallow, vagrant birds, environmental monitoring.

### Introduction

The Antarctic has played temporary host to a diverse community of avian vagrants (e.g. Watson 1975; Trivelpiece *et al.* 1987; Rootes 1988; Aguirre 1995; Silva *et al.* 1995; Montalti *et al.* 1999; Shirihai 2008). There are several potential mechanisms by which “lost” individuals arrive in the Antarctic – they may have either been (1) drifted off-course from their normal migration routes by austral gales (e.g. Lazo and Yanez 1989) (2) travelling on errant headings (e.g. Alerstam 1990; Gilroy and Lees 2003; Lees and Gilroy 2009) or (3) may represent the vanguard of individuals pioneering new migration routes – “pseudo-vagrants” *sensu* Gilroy and Lees (2003), *cf.* Korczak-Abshire *et al.* (2011), or finally (4) may be ship-

-assisted for all or part of their journey (Shirihai 2008). A program to monitor bird species in the vicinity of the Polish *Arctowski* Station, on the western shore of Admiralty Bay, King George Island, South Shetlands, the Antarctic, has been conducted over the past 30 years (Myrcha and Teliga 1980; Jabłoński 1986; Trivelpiece *et al.* 1987; Sierakowski 1991; Lesiński 1993). Within this area a total of 34 species of birds have been recorded, of which 13 are regular breeding species, four are regular migrants and the remaining 17 are considered to be vagrants (2002 XXV ATCM Information Paper IP-001). Almost all vagrants were observed during the austral summer with most of them belonging to either pelagic families *e.g.* Sphenisciformes (Spheniscidae) and Procellariiformes (Procellariidae, Diomedidae) or otherwise freshwater aquatic Anseriformes (Anatidae). Sporadic occurrences of Pelecaniformes (Ardeidae) (cattle egret *Bubulcus ibis*, Sierakowski, unpublished data) and Charadriiformes (Stercorariidae, Scolopacidae) were also recorded (2002 XXV ATCM Information Paper IP-001). Here we report a photo-documented record of barn swallow (*Hirundo rustica*) from the South Shetland Islands and review previous records of passerine vagrants in the Antarctic (south of the Antarctic Convergence Zone) (Table 1).

Table 1

Previous records of vagrant passerine birds in the Antarctic

English name	Latin name	Distance to regular range* [km]	Latitude [S]	Island Group	Date	Distance to mainland [km]**	Authority
barn swallow	<i>Hirundo rustica</i>	ca 580	-60	at sea from 60°10'S, 61°15'W	November 1963	ca 580	Holdgate (1965)
barn swallow	<i>Hirundo rustica</i>	860	ca -62	"ship-assisted" to Adelaide Island	November 1993	ca 1100	Shirihai (2008)
white-crested elaenia	<i>Elaenia albiceps</i>	ca 450	ca -60	at sea half way between Argentina and the South Shetlands	–	450	Ridgely and Tudor (1994)
austral negrito	<i>Lessonia rufa</i>	ca 1100	ca -67	at sea "off" Adelaide Island	November 1999	ca 1100	Shirihai (2008)
barn swallow	<i>Hirundo rustica</i>	–	–	"ship-assisted" to the South Shetlands	–	–	Couve and Vidal (2003)
austral thrush	<i>Turdus falcklandii</i>	900	-62	South Shetland Islands	18 September 2002	920	Santos <i>et al.</i> (2007)

\* The distance to the nearest regular range, the wintering range for migrants or the resident breeding range for residents

\*\* The South American mainland and associated continental shelf islands

## Results and discussion

The Polish Antarctic research program monitoring bird and pinniped populations has been running since the austral summer of 1977. The observation area, Antarctic Specially Protected Area No. 128 (ASP 128), covers the western shore of Admiralty Bay, King George Island, the largest island (1 300 km<sup>2</sup>) in the South Shet-

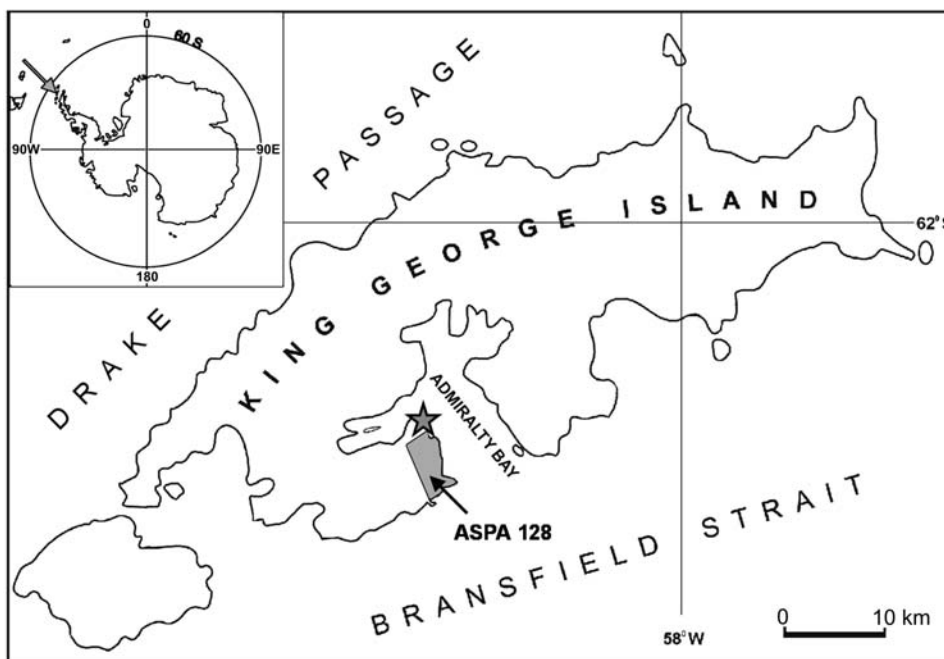


Fig. 1. A map of King George Island, South Shetland Islands, *Arctowski* Station marked with a star, ASPA 128 – Antarctic Specially Protected Area No. 128 arrowed.

land Island archipelago and is located 120 km north of the Antarctic Peninsula and 900 km south of Cape Horn, Chile (Fig. 1). A swallow of the genus *Hirundo* was recorded by the first author on 13 November 2006, when it flew inside a laboratory building at the *Arctowski* Station. Here it was photographed (Fig. 2) and after flying around the room several times it managed to escape and was never seen again. Initially tentatively reported as a welcome swallow (*H. neoxena*) by Korczak-Abshire *et al.* (2011), the bird was re-identified from photographs by A.C. Lees as an adult barn swallow *Hirundo rustica* of the New World subspecies *erythrogaster*. This observation was subsequently accepted by the Avifaunistic Commission (the Polish Rarities Committee) as an adult female *Hirundo rustica erythrogaster*. Subspecies diagnosis from nominate *H. rustica* was based on the following features: (a) an open black collar between the neck and chest, with black stripes from back to chest separated by a reddish gorget and (b) a black spot in the middle of the chest between the reddish gorget and the bright-buff lower breast. The bird was aged as an adult based on the intensely rust-coloured forehead and gorget and sexed as a female based on the pale buff lower breast and undertail-coverts. This barn swallow is the first documented and accepted by Avifaunistic Commission recorded member of the Hirundinidae on King George Island and only the second passerine record from the South Shetlands after an austral thrush (*Turdus falcklandii*) recorded on King George Island on 18 September 2002 (Santos *et al.* 2007).



Fig. 2. Barn swallow *Hirundo rustica* observed at a laboratory building at Arctowski Station, King George Island, South Shetlands, on 13 November 2006 (Photo M. Korczak-Abshire).

Couve and Vidal (2003) reported the occurrence of ship-assisted barn swallow transported to the South Shetland Islands but without any supporting details. These observations, along with an at-sea record of austral negrito (*Lessonia rufa*) and two “ship-assisted” barn swallows reported from near Adelaide Island in November 1993 (Shirihai 2008) represent the southernmost sighting of passerine birds anywhere in the world.

*Hirundo* is the most species-rich genus in the swallow family Hirundinidae, comprising 14 currently-recognised species (Turner 2004). Among *Hirundo* species, only the barn swallow (*Hirundo rustica* Linnaeus, 1758) has a pan-global distribution and can be divided into three genetically-distinct groups: Europe, East Asia, and North America together with Northwest Asia (Zink *et al.* 2006; Dor *et al.* 2010). The New World subspecies – “American” barn swallow *Hirundo rustica erythrogaster* breeds throughout most of North America, wintering across most of Central and South America, where an austral breeding population has recently become established in Argentina (Martínez 1983). *Hirundo rustica erythrogaster* is an uncommon visitor along the coast of the entire Patagonian region, occurring on Isla Grande de Tierra del Fuego, and occasionally southwards to Diego Ramirez and Staten Islands (Couve and Vidal 2003). They are accidental visitors to the Falkland Islands and South Georgia Island (Couve and Vidal 2003). Barn swallows are globally the most widely reported vagrant, individuals have reached oceanic islands as disparate as Hawaii, Tristan da Cunha and the Prince Edward Islands (Elliot 1957; Oosthuizen *et al.* 2009; Pyle and Pyle 2009). The relative rarity

of passerine vagrants in the Antarctic (Table 1) in comparison to Arctic islands, for example there are records of 61 species of passerine residents and migrants from Spitsbergen (J. van Franeker personal communication) might be attributable to a number of confounding factors. Given the cone-shaped geometry of the South American continent, the source land area for vagrants is smaller, such that the number of species and absolute number of individuals is limited in comparison to the Holarctic. The number of long-distance migrants in southern South America is proportionately less than at comparable Arctic latitudes and finally observer coverage may potentially be more sporadic than at Arctic latitudes which typically have a more permanent human presence.

**Acknowledgements.** — The authors wish to thank Magdalena Wojaczyńska for her fieldwork support and the Polish Antarctic research program participants who collected data during the 34 years of bird observations, especially Dr Bolesław Jabłoński and Mr. Kazimierz Sierakowski. The authors would also like to thank Mr. Tomasz Cofta for his professional opinion and comments.

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Received 15 July 2011

Accepted 5 October 2011