



First record of the Austral Negrito (Aves: Passeriformes) from the South Shetlands, Antarctica

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Abstract: The order Passeriformes is the most successful group of birds on Earth, however, its representatives are rare visitors beyond the Polar Front zone. Here we report a photo-documented record of an Austral Negrito (*Lessonia rufa*), first known occurrence of this species in the South Shetland Islands and only the second such an observation in the Antarctic region. This record was made at Lions Rump, King George Island, part of the Antarctic Specially Protected Area No. 151 (ASP 151). There is no direct evidence of how the individual arrived at Lions Rump, but ship assistance cannot be excluded.

Key words: Antarctica, King George Island, avifauna monitoring, *Lessonia rufa*, vagrant birds.

Introduction

Monitoring of the avifauna in Admiralty and King George Bays on King George Island (South Shetland Islands, Antarctica; Fig. 1) is an important part of the Polish Antarctic research, and has been conducted since 1977 (Jabłoński 1986; Trivelpiece *et al.* 1987; Sierakowski 1991; Lesiński 1993; Korczak-Abshire *et al.* 2013). The results of these studies have contributed to the designation of specially protected areas within both bays, due to high Antarctic fauna diversity and numbers. The Antarctic Specially Protected Area (ASP) No. 151, as an ice-free area at Lions Rump (King George Bay; Fig. 1), is one of the most valuable and most pristine areas on the island characterized by high biodiversity.

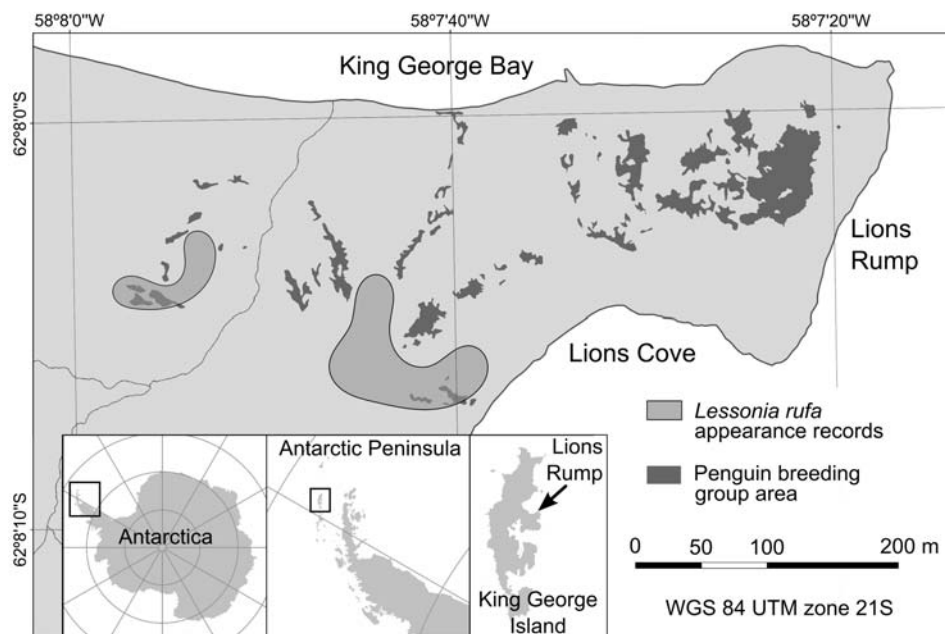


Fig. 1. Map of the Lions Rump, King George Island, Antarctic Specially Protected Area No. 151 (ASP 151) with marked Austral Negrito (*Lessonia rufa*) appearance record. The presented map was created using GIS tools, on the basis of data collected in the field seasons 2014/15, 2013/14 and SCAR Antarctic Digital Database (1993–2015). See also Battke and Cisak (1988).

One of the purposes of avifauna monitoring in this region is to record both migrants and vagrants, the latter category comprising birds found far outside their expected range. This is important for global studies on the macroecology of migratory birds (*e.g.* Lees and Gilroy 2014), but can also be very useful for considerations on the causes of vagrancy (*e.g.* De Souza Petersen *et al.* 2015). In addition to the eleven marine bird species breeding in the ASPA 151, twelve non-breeding, vagrant and migratory, species were observed by the authors in the investigated area. Among the vagrant birds, pelagic species from three orders, Sphenisciformes, Charadriiformes and Procellariiformes, were recorded. Here we report on the first documented occurrence of a passerine bird, the Austral Negrito, in the ASPA 151.

The Austral or Patagonian Negrito, *Lessonia rufa* (Gmelin, 1789), is a South American species whose breeding area extends from central Argentina and Chile to Wollaston Islands, near Cape Horn (Couve and Vidal 2003). It is a migratory species, wintering 1500–2000 kilometers north of the breeding area (see map in BirdLife International and NatureServe 2014), within an area with daily mean temperatures usually lower than 20°C (Joseph 1996). Joseph (1996) classified the Austral Negrito as a cool-temperate zone migrant species. This species has been repeatedly reported from the Falklands (Farnsworth and Lebbin 2004; Morrison

and Henry 2008; Morrison 2014) and once in Antarctica (at sea, “off” Adelaide Island – an observation in November 1999; see Shirihai and Jarrett 2002).

The Austral Negrito is a small (11.5–12.5 cm long), essentially terrestrial bird with a short, slender beak and very long claws on their hind legs, resembling a pipit (*Anthus* sp.). It belongs to Tyrannidae, a widespread family found throughout both North and South America. It is one of the two species (second is the Andean Negrito, *L. oreas*) within the formerly monotypic genus (Meyer de Schauensee 1970; Traylor 1977). In southern parts of its breeding area, the population of the Austral Negrito appears to be increasing in numbers (Stotz *et al.* 1996; Farnsworth and Lebbin 2004; BirdLife International 2012). For more details on the above species, consult papers by Ridgely and Tudor (1994), Couve and Vidal (2003), Jaramillo (2003) and Farnsworth and Lebbin (2004).

Observation details and discussion

The Austral Negrito was observed between 15 and 21 December 2014 in ASPA 151, in two different locations within Lions Rump, in the vicinity of groups of nesting Gentoo Penguins (longitudinal and latitudinal extension of both areas: 58°7'38.30" W to 58°7'58.01" W and 62°8'2.71" S to 62°8'7.18" S) (Fig. 1); see also Battke and Cisak (1988). This record of the Austral Negrito is the second observation of this species in Antarctica (see also Shirihai and Jarrett 2002) and one of the few representatives of this order spotted on King George Island (Santos *et al.* 2007; Korczak -Abshire *et al.* 2011).

An individual from ASPA 151 was determined as an adult (possibly immature) female Austral Negrito (Fig. 2) on the basis of the presence of the following characteristics: brownish-gray crown; white eyestripe; dark brown nuchal collar; rufous back and part of the scapulars; whitish outer web of outermost rectrix; buffy white underside of the body; streaked gray-brown breast and sides; white vent and undertail coverts; rufous (or cinnamon) edges of the secondaries, two narrow wingbars and an area on folded primaries (see Couve and Vidal 1993; Ridgely and Tudor 1994; Jaramillo 2003 and Farnsworth and Lebbin 2004). The only feature that is not entirely in line with the description used in literature, is the color of the tail and wings, which is dark brown, not black. In literature there is no exact description of the immature plumage of females. However, this brown color of wings was similar to the color of immature male wings plumage (Jaramillo 2003), which might suggest the observed female was an immature individual. However, the possible abrasion of the outer layer of female feathers or its specific lighting could have affected the visual perception. The possibility that the individual was a male was rejected due to the significant plumage sexual dimorphism present in this species (*e.g.*, males are characterized by black underside of the body, head and neck). The juvenile female plumage is similar to that



Fig. 2. Female Austral Negrigo (*Lessonia rufa*) observed at Lions Rump area, King George Island, South Shetlands, Antarctica. Image was taken by camera Canon EOS-7D and the Canon EF lens 100–400 mm f / 4.5–5.6 L IS USM. Photo by P. Gryz.



Fig. 3. Observed Austral Negrigo (*Lessonia rufa*) feeding on invertebrates, King George Island, South Shetlands, Antarctica. Image was taken by camera Canon EOS-7D and the Canon EF lens 100–400 mm f / 4.5–5.6 L IS USM. Photo by P. Gryz.

of an adult, but back is more rufescent and underparts more whitish, which was not observed in the described case. The presence of almost all the characteristics of an adult female indicates that the observed individual was such a bird, possibly immature.

It is certainly not the Andean Negrito (*Lessonia oreas*) due to the absence of the following characteristics: whitish inner sides of the flight feathers; blackish undertail and vent; a smaller amount of white on the outer sides of the extreme rectrix. In addition, the Andean Negrito, a sedentary species, is characterized by more northern and narrower range, and occurs at higher altitudes, mostly at 3000–4000 m (Farnsworth and Lebbin 2004).

The similarity of the female Austral Negrito to Spot-billed Ground Tyrant (*Muscisaxicola maculirostris*) was suggested by Ridgely and Tudor (1994). However, a number of traits prevent misidentification: less brown plumage on the upper side of the observed individual, clearly-off rufous back and scapulars, darker, buff-gray, gray-brown streaked bottom side (to a lesser extent than in white *M. m. maculirostris* and less rufous than in *M. m. rufescens*); completely black beak, without a clear, light field at the base of lower mandible.

The area where the Austral Negrito was seen was covered with mosses, algae, lichens and low grass (see Management Plan for ASPA 151 2013). A few times the bird was spotted in a penguin colony, but after a while it flew to another location. The individual was very restless and active; it anxiously moved its wings and tail and ran along the ground for short distances.

During most observations the individual was feeding on algae *Prasiola crispa*, but it also seemed to draw its prey from under the stones. The bird was not observed feeding on grass or in the penguin colony. The feeding individual behaved in a manner that is described in literature (e.g. Bell 1991; Ridgely and Tudor 1994; Farnsworth and Lebbin 2004), but without any fly-ups (which is characteristic of this species and probably caused by the lack of flying insects in the Antarctic ecosystem). Several times the bird was observed with prey items (Fig. 3), which were acarids, springtails – probably *Friesea grisea*, and dipteran insects – *Belgica antarctica*. The smaller prey (acarids and springtails) apparently caused some problems to the bird, which dropped it repeatedly. Despite the close presence of Lönnberg's Skua (*Stercorarius antarcticus lonnbergi*), the vagrant was not attacked by them.

During observation time, the atmospheric temperature ranged from -1.6°C to 5.4°C and wind was weak to very weak (or even imperceptible). The snow cover had been present from 16 to 18 December (before afternoon), and then quickly melted. It should be noted that two ships had been observed in the vicinity of King George Bay shortly before the vagrant bird was spotted for the first time.

Conclusions

The passerine birds are extremely rare visitors to Antarctica, especially south of the Polar Front zone (Shirihai and Jarrett 2002; Couve and Vidal 2003; Santos *et al.* 2007; Korczak-Abshire *et al.* 2011). Korczak-Abshire *et al.* (2011) indicated

four types of mechanisms of bird transportation from natural pastoral areas to Antarctica. The vagrant birds might be drifting off-course from their normal migration routes by austral gales or travelling on errant headings. They can also represent the vanguard of individuals pioneering new migration routes and/or may be ship-assisted for all or part of their journey.

In the case of the Austral Negrito discussed above, traveling by vessel (part or even all the way to King George Island) cannot be excluded, due to the observed increase in vessel traffic on the first day of recorded observation. Other mechanisms of transportation seem to be less possible, but not improbable. The Austral Negrito is a strongly migratory species and its representatives annually overcome more than the distance between King George Island (place of observation) and the nearest breeding grounds in Tierra del Fuego (which is 900 km one-way). However, usually a migration route of Austral Negritos passes over land, and so far no migration over the ocean has been documented. The published papers do not give any information about the length of migration distance overcome at one time (without stops) for this particular species. Some authors, for example Morrison and Henry (2008), suggested that the appearance of the Austral Negrito outside its natural range could have been related to the activity of vessels.

The Antarctic climate change can be responsible for the prolonged stay of vagrant birds in the area, as in the case of the observation discussed above, which lasted nearly a week. Recently, in the South Shetlands several breeding attempts by sub-Antarctic species, the King Penguin, *Aptenodytes patagonicus* (Petry *et al.* 2013; Juarez *et al.* 2014) and Light-mantled Albatross, *Phoebastria palpebrata* (Lisovski *et al.* 2009; Peter *et al.* 2013), were reported. However, the colonization of such a region by one of insectivorous passerine bird species does not seem possible in the near future. The harsh climate conditions and lack of proper kind of food especially in winter would force the birds to the annual winter migration. Despite the fact that other passerine species are known to overcome enormous migration distances by sea annually (*e.g.* Snow 1953; Bairlein *et al.* 2012), the colonization of less remote, and characterized by a milder climate, Falkland Islands seems to be more probable. This is also supported by quite frequent observations of the Austral Negrito, and other species of passerine birds, in the area of the Falkland Islands (*e.g.*, Ridgely and Tudor 1994; Couve and Vidal 2003; Farnsworth and Lebbin 2004; Morrison *et al.* 2006; Morrison and Henry 2007, 2008; Morrison 2014).

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