RECORDS OF VAGRANT SPECIES IN STINKER POINT, ELEPHANT ISLAND, ANTARCTICA

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Abstract: This paper presents all the vagrant species recorded in Stinker Point, Elephant Island during the austral summer. All the records were made during the years 1986 and 2013. A total of five vagrant species were recorded in the study area. White-rumped Sandpiper was the species with most individuals recorded followed by Cattle Egret. Most of species recorded in the area are long distance migrants and probably the presence of these species in Antarctica is influenced by different factors as winds, storms and climate changes.

Keywords: Species Distribution, Migratory Routes, Environmental Characteristics

Introduction

Vagrant species habitually show migratory behavior and are observed outside the migratory, winter and breeding routes (Newton, 2008). The vagrancy can occur through the increase and expansion of the population or home range change caused by climate factors (Woehler, 1992; Milius, 1999). Besides the climate factors, the species can modify their migratory routes due to natural factors, such as increasing home range and foraging areas trying to find abundant resource areas. The records of vagrant species are more evident when these are observed in high latitudes, away from the birds' home range. (Raya Rey *et al.*, 2007).

Elephant Island is the northern territory of South Shetland Islands, close to ice fields from the Weddell Sea and receives frequent cold fronts (O'Brian, 1974; Turner *et al.*, 2005; Steig *et al.*, 2009). It is considered an Important Bird Area according to the report "Important Bird Area in Antarctica" presented in IBA 072 (Harris *et al.*, 2011). This research aims to report the vagrant species in Stinker Point, Elephant Island, during the austral summer.

Materials and Methods

Records were made in Stinker Point (61°13'20.5"S, 55°21'35"W), Elephant Island. Previous data of vagrant

species were compiled during the 80's and 90's decades with the present information collected among 2009 and 2013 austral summer. Birds were observed during the seabirds monitoring census in the Island that correspond their breeding periods. The vagrants were recorded each five-day period when the Stinker Point area is totally monitored. To observe the vagrants direct observations were done with binoculars (10 × 42). All the birds were identified using field guides (La Peña *et al.*, 2001).

Results

A total of five vagrants species were observed in Elephant Island as one Sphenisciforme, one Procellariiformes, one Ciconiiformes and two Charadriiformes.

***Eudyptes chrysocome* (Rockhopper Penguin):** Rockhopper penguin was observed among Chinstrap (*Pygoscelis antarcticus*) and Macaroni penguin colonies (*Eudyptes chrysolophus*) for two hours on January 8th, 2012. This specie breeds in the Sub Antarctic region and this is the first record in Elephant Island (Figure 1).

***Macronectes halli* (Northern Giant Petrel):** The first record was registered in 1986 followed in December 2009. On January 23th, 2011, two individuals of Northern Giant

Petrel were registered. This is the giant petrel specie with its Northern distribution in South America. This specie breeds in South America and in Sub-Antarctic Islands.

***Bubulcus ibis* (Cattle Egret):** This specie has a large home range. It is observed in all continents. In Stinker Point three carcasses, two adults and a young individual were observed in 1986 on the beach in the beginning of the Antarctic seabirds breeding season.

***Bartramia longicauda* (Upland Sandpiper):** One individual was recorded foraging on three consecutive days, December 27th, 28th and 29th, 1987, near an Antarctic penguin colony for 32 hours. This specie is a boreal migrant that was observed in South America during the non- breeding period in coastal regions.

***Calidris fuscicollis* (White-rumped Sandpiper):** Ten individuals were observed foraging during January, 1986 near a lake defrost. Two years later, one individual was registered in the same area. In 1989 five individuals were observed foraging in a lake close to the beach and in previously mentioned areas. Three individuals were recorded close to a defrosted lake in January 5th, 2013 (Figure 2). The White-rumped sandpiper is a boreal migrant, considered the greater distance migrant and during the migratory period; it was observed in South America.

Figure 1. Rockhopper penguin recorded among Macaroni and Chinstrap mixed colony in the South of Stinker Point.

Discussion

Different factors can explain the records of vagrant species. Woehler (1992) proposed that storms, irregular ocean currents, climate change or navigator errors can elucidate why the birds are registered out of their home range. The marine currents and storms are the main causes of these new records (Pütz *et al.*, 2003). In migratory routes the individuals may be lost and use different marine and wind currents (Raya Rey *et al.*, 2007). Also, climate changes can modify the sea surface temperature resulting in a different distribution and abundance of prey; this can reflect the use of different areas with abundant resources of birds (Perón *et al.*, 2012; Petry *et al.*, 2013). In Antarctica, there are records of individuals, for example, *C. fuscicollis* that was registered in different islands of the South Shetlands, like Nelson and King George (Lupe & Weidinger, 2000; Korczak-Abshire *et al.*, 2011). In 1986 this specie was recorded in Elephant Island, in the same area of this research (Sander *et al.*, 1988). Currently, Pavel & Weidinger (2012) also registered the first recording of the specie in the Antarctic Peninsula.

Most of the recorded individuals are migrants and use the south of South America as a stopover during the winter period. The presence of these species in Antarctica suggests that they are susceptible to winds, storms, changes in surface temperature and to climate changes, suggesting the same factors that can influence the other species recorded as vagrant in the study area. Stinker Point is an ice-free area

Figure 2. A White-rumped sandpiper observed in January 2013 close to a defrosted lake.

during the austral summer, and maybe this region can be a safety area to vagrant birds. Also, Elephant Island is the first territory after the Drake Passage that presents a place to rest and food supply.

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