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Black-capped Petrel (*Pterodroma hasitata*) occurrence near Guadeloupe, Lesser Antilles, 2001–2008

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Photo: Antoine Chabrolle

Black-capped Petrel (*Pterodroma hasitata*) occurrence near Guadeloupe, Lesser Antilles, 2001–2008

Anthony Levesque¹ and Pierre Yésou²

Abstract Coastal sea surveys off eastern Guadeloupe, French West Indies, in 2001–2008 showed the presence of Black-capped Petrel (*Pterodroma hasitata*). The species occurs in small numbers from October to March, peaking from November to January. Such a seasonal appearance coincides with the species' breeding calendar, suggesting that these birds may belong to the small breeding population recently rediscovered in nearby Dominica. The presence of this rare and endangered species in French waters off Guadeloupe has to be taken into account in national conservation policy.

Keywords at-sea records, Black-capped Petrel, Dominica, Guadeloupe, *Pterodroma hasitata*

Resumen Diablótín (*Pterodroma hasitata*) ocurrencia cerca Guadalupe, Antillas Menores, 2001–2008—Encuestas en el mar costero del este de Guadalupe, en las Antillas francesas en 2001–2008 han mostrado la presencia del Diablótín (*Pterodroma hasitata*). La especie ocurre en pequeños números de octubre a marzo, alcanzando un máximo de individuos entre noviembre y enero. Tal aparición estacional coincide con el calendario reproductivo de la especie, lo cual sugiere que estas aves pueden pertenecer a la pequeña población reproductora recientemente redescubierta en la cercana Dominica. La presencia de esta especie rara y en peligro de extinción en las aguas francesas frente a Guadalupe debe tenerse en cuenta en la política nacional de conservación.

Palabras clave Diablótín, Dominica, Guadalupe, observaciones marítimas, *Pterodroma hasitata*

Résumé Pétrel diablótín (*Pterodroma hasitata*) occurrence près de Guadeloupe, Petites Antilles, 2001–2008—Un suivi ornithologique des eaux côtières à l'est de la Guadeloupe, Antilles françaises, en 2001–2008 a mis en évidence la présence du Pétrel diablótín (*Pterodroma hasitata*). Cette espèce est présente en petit nombre d'octobre à mars, avec un pic d'abondance de novembre à janvier. Ce calendrier de présence coïncide avec le cycle reproducteur de l'espèce, suggérant que ces oiseaux pourraient appartenir à la petite population nicheuse récemment redécouverte sur l'île voisine, la Dominique. La présence de cette espèce rare et menacée dans les eaux territoriales françaises de la Guadeloupe doit être prise en compte dans la politique nationale de conservation.

Mots clés Guadeloupe, la Dominique, observations en mer, Pétrel diablótín, *Pterodroma hasitata*

While the Caribbean Sea is often considered devoid of pelagic seabirds (e.g., Ballance 2004), winged seafarers are not rare on the eastern, Atlantic-facing coasts of the Lesser Antilles. Particularly, regular sea-watching off the Guadeloupe archipelago, French West Indies, has refined the regional status of various petrel and shearwater species (Levesque and Yésou 2005). Our extensive sea-watching study off Guadeloupe generated numerous records of Black-capped Petrel (*Pterodroma hasitata*), which we present here due to the species' critical state of conservation (Endangered; BirdLife 2012, 2016) and our research site's

proximity to one of its remaining breeding locations, Dominica (Brown 2015). This species also bred in Guadeloupe where it was common in the early 19th century and subject to heavy exploitation for food. Its presence was not reported thereafter. The 1847 earthquake probably led to a loss of breeding habitat and, if still present, the species' demise may have been accelerated by depredation by the Indian mongoose (*Herpestes javanicus*) introduced in the 1880s. Black-capped Petrel remained unrecorded during the entire 20th century (Pinchon 1976, Goetz *et al.* 2012). The possibility of continued breeding by a small population, as in Dominica, needs to be investigated in Guadeloupe where seemingly favorable habitats exist (Chabrolle and Pavis 2017).

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Methods

Our study was carried out between April 2001 and June 2008 from the islet of Terre-de-Bas, part of the Petite Terre Nature

Reserve that lies between the islands of Désirade and Marie-Galante at the southeast corner of the Guadeloupe archipelago, specifically at 16°15'N, 61°7'W. The eastward continental shelf is rather steep, with ocean sea-floor depths of 88 m, 376 m, and 456 m at 2 nautical miles (NM), 3 NM, and 4 NM distance offshore, respectively. We chose the east (Atlantic Ocean) facing direction due to the prevalence of trade winds which give a marked eastern component to the wind direction year round, hence providing a favorable context for the observation of pelagic species. In 2001–2008, light winds from the west occurred 7% of the time, while trades blew from the north-east to south-east sector (80° to 120°) for 57% of the time, usually at more than 16 km/hr (Météo France Désirade Island).

Our sampling protocol required carrying out non-stop observations for 15 min every hour between 0600 to 1800 (plus additional early and late sessions from 0530 and up to 1830 in late spring and summer). We tried to obtain as even a distribution of observation periods as possible across days, months, and years for consistent coverage. When important passage was detected it was given extra coverage for better quantification. Sampling was done with the telescope pointed southward (180° ± 20° according to sun glare), allowing brief shifts to follow birds for identification or counting purposes. Simultaneous observations from the island and from a ship-based team at sea, using GPS positioning and GSM contact between observers, indicated that shearwaters were identifiable by telescope up to 4 NM offshore and that much of the perceived passage occurred within 1–3 NM from shore (Levesque and Yésou 2005). Specific identification was carried out from plumage and structural characteristics as given in the standard sources (Harrison 1985, 1987, Raffaele *et al.* 1998, Sibley 2000). A more detailed description of the survey protocol is given in Levesque and Yésou (2005). AL was responsible for most of the field work; PY joined for 10 days in April 2004 to evaluate the protocol and confirm the value of identification characters.

Results

From April 2001 to June 2008, we conducted 760 hr of sea-watching, during which 30 gadfly petrels (*Pterodroma* sp.) were recorded, 12 of them being identified as Black-capped Petrels. The remaining 18 individuals closely resembled Black-capped Petrels but were either too far away from the observers or were observed too briefly for identification.

At first, the temporal pattern of the birds' occurrence was erratic: no petrels were detected from April 2001 to the end of 2003. A total of seven individuals were logged in just 2 months, 7 January to 8 March 2004, including three positively identified as Black-capped Petrels. Gadfly petrels thereafter occurred every year, with on average one bird logged for every 30 hr of effort.

Gadfly petrels most often occurred during the period 10 October to 5 June, without a single sighting during the summer months (no bird observed from 6 June to 9 October). Twenty-two out of 30 birds (73%) were observed in November–February (7 November–16 February). Interestingly, the pattern of gadfly petrels matches that of Black-capped Petrels (Fig. 1). Sixteen out of 30 birds (53%) were recorded during the time period 1500 to 1759, when their occurrence averaged 0.07 birds/hr (and up to 0.09 birds/hr from 1700–1759). For the remainder of the day the

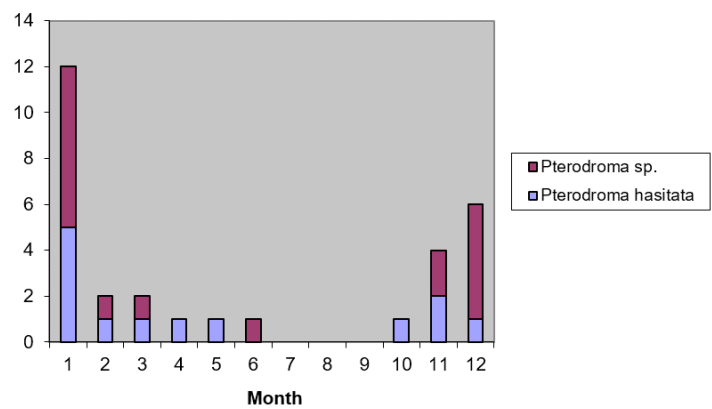


Fig. 1. Monthly distribution of Black-capped Petrel and unidentified gadfly petrels off eastern Guadeloupe, French West Indies, surveyed daily from April 2001 to June 2008.

occurrence averaged 0.03 birds/hr (varying from 0 to 0.05).

In addition to this survey, Black-capped Petrels have also been recorded in recent years from Pointe des Châteaux, at the eastern tip of the Guadeloupe main island: one on 20 November 2003 (Joss Deffarges), one on 30 April 2008 (Frédéric Fernex) and one on 13 December 2014 (Anthony Levesque). Another one was seen at sea from boat on 8 February 2014 (Antoine Chabrolle and Marion Diard). These records fit with the yearly pattern of occurrence depicted from our main observation site.

Discussion

Black-capped Petrels previously bred in Guadeloupe, were last observed in the early 19th century, and none have been recorded in nearby waters since breeding ceased. The observations reported here thus alter what we previously believed. Black-capped Petrels breed in the Greater Antilles on Hispaniola and possibly on Cuba (Simmons *et al.* 2013, BirdLife 2016). In the Lesser Antilles, the species is suspected to breed on Dominica. Recent radar surveys on Dominica, where grounded birds have been found over the last few decades, have suggested that breeding may still occur at various sites (Brown 2015). Data from the Hispaniolan population indicate that the breeding season begins in December, eggs are laid in January and hatch in March, and fledging occurs in June–July (Simmons *et al.* 2013). Nesting birds fly over large distances from their breeding to foraging areas, seem to mostly feed at sunset and by night, and are particularly attracted by nutrient-rich areas such as localized upwelling (Lee 2000, Simmons *et al.* 2013, BirdLife 2016). The satellite tracking of three breeding petrels from Hispaniola showed them moving to the coasts of Venezuela and Colombia during breeding, while they took advantage of the Gulf Stream during the nonbreeding period, without any movement detected toward the Lesser Antilles (Jodice *et al.* 2015). No recent Lesser Antillean record has been posted on eBird or published in *North American Birds*, and no birds were seen during a dedicated survey off Guadeloupe and Dominica in December 2009 (Shirihai *et al.* 2009).

In this context, we suspect that the birds observed off Guadeloupe very likely belong to the small population on Dominica. Some of these birds possibly are pushed close to the Guadeloupe coast due to the strong east-south-east component in wind di-

rection in the area. Their yearly pattern of occurrence covers the breeding period, from the presence of prospectors visiting the breeding sites in late autumn to fledging occurring in early winter. The proportionally greater abundance in the first part of the period could be explained in two ways, which are not mutually exclusive: (1) prospectors may spend less time on the nesting grounds and more time in nearby waters until the females have laid their eggs, and (2) the number of prospectors is larger than the number of actual breeders, and immature birds begin to visit colonies during this period.

Guadeloupe waters, specifically those situated south-east of the archipelago, are important for the likely small population of endangered Black-capped Petrel that are suspected to breed in Dominica. These birds likely use Guadeloupe waters when commuting between their breeding and foraging sites, and possibly forage in these waters as well. This represents a conservation challenge for the administrations in charge of marine biodiversity preservation on Guadeloupe and within the Lesser Antilles region.

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