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Source: Bulletin of the British Ornithologists' Club, 139(3) : 189-204

Published By: British Ornithologists' Club

URL: <https://doi.org/10.25226/bboc.v139i3.2019.a2>

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Old World vagrants on Fernando de Noronha, including two additions to the Brazilian avifauna, and predictions for potential future Palearctic vagrants

by Andrew Whittaker, João Paulo Ferreira da Silva, Breno Lucio & Guy M. Kirwan

Received 31 August 2018; revised 1 September 2019; published 20 September 2019

<http://zoobank.org/urn:lsid:zoobank.org:pub:E2A6478A-85A5-46B3-B2F5-202F05EA2C03>

SUMMARY.—The archipelago of Fernando de Noronha off north-east Brazil is well known to ornithologists as a hotspot for transatlantic vagrants, primarily for Palearctic-African migrants, but also for its two endemic passerines, Noronha Vireo *Vireo gracilirostris* and Noronha Elaenia *Elaenia ridleyana*. We present important new vagrant records including two species not previously recorded in Brazil, both of them from the Palearctic, of which one—Common Cuckoo *Cuculus canorus*—represents a first record for South America. We list c.50 Palearctic species documented from mid-Atlantic islands, the Caribbean region, Trinidad & Tobago or from other mainland South American countries, which are potential future vagrants to Brazil, particularly given improved ornithological coverage of Fernando de Noronha or the even less well-watched archipelago of São Pedro e São Paulo (St Peter and St Paul).

The archipelago of Fernando de Noronha (c.03°52'S, 32°25'W) comprises 21 islands and islets of volcanic origin, and are the still-visible peaks of a range of submerged mountains that form part of the Mid-Atlantic Ridge. The archipelago lies in the equatorial Atlantic Ocean c.350 km off the coast of north-east Brazil, the nearest mainland being the state of Rio Grande do Norte (for a general description see Teixeira *et al.* 2003, MMA / IBAMA 2005, Silva e Silva 2008). The islands' total area is 26 km². The largest and only inhabited island (Fernando de Noronha) has fewer than 3,000 residents.

The resident avifauna, especially breeding seabirds, is well known (Silva e Silva 2008, Mancini *et al.* 2016), but the archipelago is best known ornithologically for its two endemic passerines, Noronha Vireo *Vireo gracilirostris* and Noronha Elaenia *Elaenia ridleyana*.

The islands' remoteness between the African and South American continents make the archipelago also an ideal vagrant trap. The vast majority of vagrants recorded have been European–African migrants such as Purple Heron *Ardea purpurea*, Grey Heron *A. cinerea*, Western Reef Heron *Egretta gularis*, Squacco Heron *Ardeola ralloides*, Eurasian Spoonbill *Platalea leucorodia*, Corncrake *Crex crex*, Eurasian Whimbrel *Numenius p. phaeopus* and Bar-tailed Godwit *Limosa lapponica* (Olson 1982, Ebels 2002, Schulz-Neto 2004, Silva e Silva & Olmos 2006, Davis 2010, Burgos & Olmos 2013, Ferreira *et al.* 2019). Most recently, an immature Allen's Gallinule *Porphyrio alleni* (an intra-tropical African migrant) was photographed there by L. P. Plotecya on 20 February 2018 (www.wikiaves.com.br/2897860), constituting another Brazilian first. This gallinule has also been recorded on multiple occasions on Ascension and St Helena in the equatorial Atlantic (Olson 1971, Bourne & Simmons 1998, Rowlands *et al.* 1998, Prater 2012), as well as far south as South Georgia (Prince & Croxall 1996). Vagrants have possibly also included some overshooting boreal migrants coming from North America such as several Northern Pintails *Anas acuta* (Antas *et al.* 1992, Silva e Silva & Olmos 2006, Burgos & Olmos 2013), although the possibility

exists that some of these may originate from Eurasia too. Nevertheless, the islands do receive a regular annual passage of North American breeding shorebirds that do not nest in Europe (Olson 1982, Oren 1982, Teixeira *et al.* 1987, Nacinovic & Teixeira 1989, Soto *et al.* 2000, Schulz-Neto 2004, Silva e Silva & Olmos 2006). Here, we report some important opportunistic observations made mainly during a visit to Fernando de Noronha by AW, guided by JPFS, on 27–30 March 2018.

Species accounts

SQUACCO HERON *Ardeola ralloides*

First reported in Brazil on Fernando de Noronha in June 1986 (Teixeira *et al.* 1987), when a single adult was seen. No further records were made until November–December 2004, when up to five were present at Açude do Xaréu (Silva e Silva & Olmos 2006). Since then, a growing population has been photographed annually since 2008 (Davis 2010, Wikiaves 2018). During March 2019 we had a peak daily count of 22, comprising both adults and immatures, at three different freshwater wetlands and along the coast, where they were observed feeding on crabs on the rocky shoreline; in early August 2019, GMK *et al.* recorded up to 16 per day. JPFS has observed adults carrying nest material on several occasions, but has yet to prove breeding. The colonisation and breeding by this heron on the islands were predicted by Silva e Silva & Olmos (2006).

Squacco Heron appears to represent a rare example of a successful transatlantic colonisation event, with the first mainland Brazilian record reported in March 2018 (see



Figure 1. Adult Squacco Heron *Ardeola ralloides*, Fernando de Noronha, Pernambuco, Brazil, March 2018; now a common sight along rocky coasts of the main island and at freshwater pools (Andrew Whittaker)

www.wikiaves.com.br/2915623), an adult in full breeding plumage, found by J. Amaya, on a lake in Fortaleza, Ceará. The breeding-plumage colours of its bare parts are clearly visible in the photographs, including the bright blue bill (www.wikiaves.com.br/2916775). D. Almeida (pers. comm.) noted that the individual was very territorial and chased off any small white egrets. We suspect it migrated the relatively short distance of 680 km from Fernando de Noronha, rather than coming directly from Africa, although the latter cannot be discounted. The increasing Fernando de Noronha population may well act as a nucleus to aid the colonisation of suitable habitat on the South American mainland. Two other Old World herons have also colonised the New World: firstly Cattle Egret *Bubulcus ibis*, but more recently and less spectacularly Little Egret *Egretta garzetta*. In April 1954 the first Little Egret was found on Barbados (Bond 1966) and breeding was first reported in December 1994, at Graeme Hall Swamp, also on Barbados, the first colony in the Western Hemisphere (Massiah & Frost 1998, Buckley *et al.* 2009). Since then, the number of sightings in the Caribbean has grown, and in 2008 nesting occurred on Antigua (Kushlan & Prosper 2009). More recently, Little Egret has been recorded with increasing frequency in Trinidad & Tobago, where the species is now present year-round in small numbers (Hayes & White 2001, Kenefick *et al.* 2019), and has occurred in all three of the Guianas, with at least 18 records in French Guiana and interbreeding with Snowy Egret *E. thula* reported in Suriname (Ryan 1997, Renaudier & Comité d'Homologation de Guyane 2010, Ottema 2015). In addition, Grey Heron is now effectively resident in the southern Lesser Antilles, principally on Barbados, although there is no evidence of breeding yet (Buckley *et al.* 2009, Kirwan *et al.* 2019), and Black-crowned Night Heron *Nycticorax n. nycticorax* (the Old World race) is known to be nesting on Fernando de Noronha (Silva e Silva & Olmos 2006; pers. obs.).

GREY HERON *Ardea cinerea*

AW & JPFS encountered an adult on Ilha do Chapéu in the evening of 29 March 2019, perched at the edge of the island in the sun c.300 m away. Subsequently, the bird took off, gaining height as it flew around the coastal inlet, and was photographed as it flew off west.



Figure 2. Adult Grey Heron *Ardea cinerea*, Fernando de Noronha, Pernambuco, Brazil, March 2018; the main field marks separating it from Great Blue Heron *A. herodias* are the white (vs. cinnamon) carpal joint, yellow bill and white forehead (Andrew Whittaker)

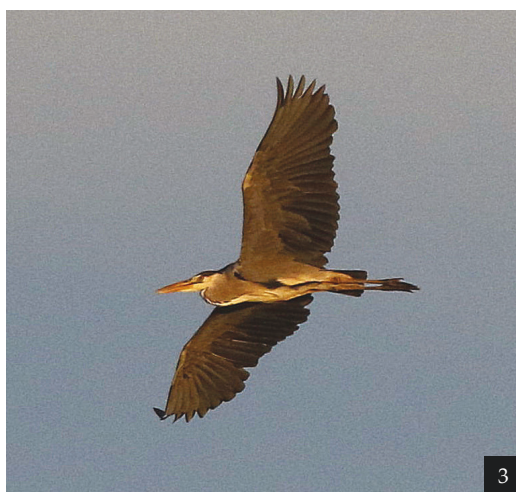


Figure 3. Adult Grey Heron *Ardea cinerea*, Fernando de Noronha, Pernambuco, Brazil, March 2018; lacks the cinnamon on the thighs, separating it from Great Blue Heron *A. herodias* (Andrew Whittaker)

JP was unfamiliar with this Old World species but had almost certainly seen the same bird on 14 March, at Açude do Xaréu, but thought it was a Cocoli Heron *A. cocoi*. On that occasion no photograph could be taken. However, we subsequently discovered that presumably the same bird had been photographed in the same place on 20 February by L. P. Plotecya (www.wikiaves.com/2895530). Subsequently, JPFS presumably observed our bird again at the same lake on 1 July and the same bird was in the general area until at least 7 August 2018 (GMK *et al.*).

The bird was clearly not a Cocoli Heron given the presence of a distinct white forehead (Fig. 2) and grey neck (unlike Cocoli, which has a white neck). It was distinguished from Great Blue Heron *A. herodias* in lacking the cinnamon wing bend (Fig. 2) and thighs (Fig. 3) of the latter. Instead these parts are both white in Grey Heron. AW has extensive field experience with Grey Heron in Europe, as well as of Great Blue Heron in the USA.

Great Blue Heron (which is yet to be fully documented in Brazil; Piacentini *et al.* 2015) is a regular winter visitor in very small numbers to north-west South America, in Colombia, Ecuador and Venezuela (Ridgely & Greenfield 2001, Hilty 2003). Elsewhere, it has been recorded as a vagrant to, among others, the Azores, Spain, UK and the Netherlands (Martínez-Vilalta *et al.* 2019).

The first published record of Grey Heron in Brazil involved a bird ringed in France in May 1973 and captured in December 1973 at Ourém, Pará, at the mouth of the Amazon (Novaes 1978). Documented Brazilian records remain few, with the second record an immature photographed on Fernando de Noronha, at Açude do Xaréu, in September 2003 (Silva e Silva & Olmos 2006). These authors also noted several other records of large grey *Ardea*; singles in August 2000, February 2003, November and December 2004. However, as these were only presumed to be Grey Herons, the third definite record was a bird photographed by F. Schunck, also at Açude do Xaréu, in September 2013 (www.wikiaves.com/1123959). The record reported above becomes the fourth. The chronology of certain records suggests that, *contra* Silva e Silva & Olmos (2006), this heron is not an especially regular vagrant to Fernando de Noronha.

WOOD SANDPIPER *Tringa glareola*

On 29 March 2019, at 13.30 h, AW discovered an interesting shorebird on a sludge pool at a sewage treatment plant, which he quickly suspected to be a Wood Sandpiper. AW was aware that this species would be new for Brazil and, due to the light and similarity to other *Tringa* spp., especially Solitary Sandpiper *T. solitaria*, knew that he required better views and photographic evidence to confirm the identification. On closer approach, he was able to observe the bird in better light, take notes and photograph it. He could clearly see an obvious white supercilium reaching behind the eye (lacking in Solitary Sandpiper, which has a bold eye-ring), prominently white-spotted upperparts (smaller spots on Solitary), relatively longer yellowish-green legs (vs. greenish) and more obviously spotted and streaked upper breast than Solitary Sandpiper. Figs. 4–5 clearly show all of the characteristics diagnostic of Wood Sandpiper. JPFS & AW observed the bird for another 15 minutes before they had to leave. They returned at 14.45 h, when the bird was roosting on the same sewage pan, but it could not be relocated on the afternoon of 30 March. Overnight weather conditions had been clear and ideal for migration. Further visits by JPFS to the site during April and May were also negative.

Wood Sandpiper breeds in north and central Europe east through Siberia to Anadyrland, Kamchatka and the Commander Islands, as well as in north-east China and, occasionally, on the Aleutian Islands; it winters mainly in tropical and subtropical Africa, and across



Figures 4–5. Adult Wood Sandpiper *Tringa glareola*, Fernando de Noronha, Pernambuco, Brazil, March 2018; note the long bold white supercilium (reaching well behind the eye), boldly checkered upperparts, long yellowish-green legs, and prominently marked upper breast (Andrew Whittaker)

South and South-East Asia, the Philippines, Indonesia, New Guinea and Australia (van Gils *et al.* 2019).

The only other documented South American record was on Tobago, in December 1996–February 1997 (Hayes & White 2000, Petersen & McRae 2002, Kenefick & Hayes 2006). There are also nine records in the West Indies: seven from Barbados, all between October and April including one long-stayer, with the first in 1955 (Mazar Barnett & Kirwan 2000, 2002, Ebels 2002, Buckley *et al.* 2009, *N. Amer. Birds* 66: 188), and two on Guadeloupe, in September 2000 (Levesque & Jaffard 2002) and September 2014 (*N. Amer. Birds* 69: 169). Also reported once on Ascension, in October 1963 (Bourne & Simmons 1998).

Howell *et al.* (2014) noted that Wood Sandpiper records are very rare in the lower 48 states of the USA, with fewer than eight records at the time of compilation, contrasting with nearly 20 records from the Azores since the year 2000, and three records from Bermuda, the first in October 1981 (Amos & Wingate 1983), followed by two in spring, although whether all of these had crossed the Atlantic from east to west is perhaps doubtful.

Common Cuckoo *Cuculus canorus*

While at the north end of Fernando de Noronha on the afternoon of 27 February 2018, BL encountered an unfamiliar bird at Capela de São Pedro. He managed to photograph it with only a 50 mm lens, as it was obviously a tired migrant (Figs. 6–8). BL sent the photographs to JPFS, who in turn contacted Carlos Goulart. He identified the bird as a Common Cuckoo, a first Brazilian and South American record. JPFS also sent the images to AW, who has ample field experience with the species in Europe and was able to eliminate the faint possibility of a vagrant Oriental Cuckoo *C. optatus* given the pattern of the undertail-coverts (Fig. 8).

Figs. 6–8, although not high quality, clearly show the distinctive Common Cuckoo jizz, shape, brownish-grey upperparts and white underparts boldly barred black; Fig. 8 also



Figures 6–7. Common Cuckoo *Cuculus canorus*, Fernando de Noronha, Pernambuco, Brazil, February 2018; note long pointed wings and tail, the small amounts of grey plumage already appearing and lack of rufous wash to the upper breast, clearly confirming it to be a first-year male moulting into adult plumage (Breno Lucio)

Figure 8. Common Cuckoo *Cuculus canorus*, Fernando de Noronha, Pernambuco, Brazil, February 2018; the pure white undertail-coverts indicate the present species and eliminate Oriental Cuckoo *Cuculus optatus* in which these feathers are buff (Breno Lucio)

displays its characteristic long-winged and long-tailed, almost raptor-like, appearance in flight. The bird shows substantial rufous-brown feathering admixed with grey on its mantle and wings (Figs. 6–7) confirming that it was a first-year moulting to adult plumage.

The nominate form has a rufous morph found only in females. With good views female plumage can be separated from that of males by a small area of rufous wash on the upper breast extending to the neck-sides. Fig. 6 clearly demonstrates the absence of this feature, confirming the bird as a male. Also, on closer inspection, it is possible to see some grey feathers moulting in amongst the dominant rufous on its wings, mantle (Fig. 7) and tail confirming the bird as a first-year moulting into breeding plumage.

Common Cuckoo has four subspecies: *C. c. canorus* breeds from Ireland to Kamchatka and Japan, with western populations wintering in equatorial Africa; *C. c. bangsi* breeds in Iberia, the Balearics and north-west Africa, and probably winters in Africa south of the equator; *C. c. subtelephonus* breeds in Transcaspia to west Xinjiang (China) and central Mongolia, and south to Iran and Afghanistan, wintering in India; and *C. c. bakeri* breeds in northern India to northern Thailand and Indochina, south and east China, and winters in India and South-East Asia (Erritzøe *et al.* 2012).

The Fernando de Noronha record presumably refers to nominate *canorus* which is a long-distance migrant, with western populations migrating between Europe and equatorial Africa, in the Congo rainforest bloc. This race has already been recorded as a vagrant on Ascension (Bourne & Simmons 1998, Erritzøe *et al.* 2012).

The first vagrant Common Cuckoo for the Western Hemisphere was collected on Barbados in November 1958, where another was observed in November 2014 (Kirwan *et al.* 2019). These are the only other Neotropical occurrences, but there are two mainland North American records, an adult at Martha's Vineyard, Massachusetts, in May 1981, and a juvenile at Watsonville, California, in September–October 2012 (Howell *et al.* 2014). It is also a rare and infrequently recorded visitor to the western Aleutians in late spring and early summer, with all records involving the nominate (Howell *et al.* 2014).

Ongoing work by the British Trust for Ornithology using satellite-tags has, since May 2011, tracked 49 males and one female of the British breeding population of Common Cuckoo. UK cuckoos take different routes in spring and autumn between Europe and Africa. Irrespective of whether they move south via Spain, Italy or even further east, all of them head to West and Central Africa, where they mainly winter in and around the Congo

rainforest bloc. In spring they mostly return overland across the Sahara to Europe, however others fly almost due west along the southern edge of the Sahara to the coast, then head north to southern Europe (Hewson *et al.* 2016; <https://www.bto.org/science/migration/tracking-studies/cuckoo-tracking>). This could explain the appearance of a vagrant on Fernando de Noronha at this season; it presumably overshot the west coast of Africa and instead headed out into the Atlantic, possibly aided by strong tail winds, before finally making landfall in Brazil.

Recent satellite tracking of another subspecies, *C. c. subtelephonus* breeding around Beijing, China, led to the discovery that these birds make a non-stop flight of 3,300 km in autumn, crossing the Indian Ocean between the west coast of India to East Africa, making landfall in Somalia then moving south to winter in Tanzania (<https://www.bto.org/science/migration/tracking-studies/cuckoo-tracking/about/international-projects>). In spring, the return sea crossing follows a similar route. This confirms that Common Cuckoo is easily capable of a non-stop crossing of the Atlantic between West Africa and South America, which distance is less than 2,000 km. It also explains other reports of long-distance vagrancy by the nominate race, as far as Greenland, Iceland and the Azores (Erritzøe *et al.* 2012).

Discussion

Our understanding of avian transatlantic vagrancy to South America is still very poorly understood. Both Common Cuckoo and Wood Sandpiper are long-distance Palearctic migrants that move between breeding grounds in northern Europe and wintering areas in sub-Saharan Africa, even as far as South Africa in the case of *Tringa glareola*. This makes both likely candidates for vagrancy to north-east South America, especially Fernando de Noronha, where the chances of them being found are greater than on the even more under-watched coasts of mainland Brazil. Their arrival probably is due to several related factors combined: inexperience, especially among non-adults; storms; and especially wind-drift in the westerly trade winds that are commoner in more southerly regions off the Atlantic coast of Africa.

Despite the growing number of visiting photographers and birders, Fernando de Noronha is still under-watched and most Palearctic vagrants are probably missed, especially any passerines, due to the very dense vegetation covering much of the island. The sewage treatment ponds on Fernando de Noronha should, almost certainly, yield other new Palearctic shorebirds for Brazil if birders and photographers check them on a regular basis.

Observers in north-eastern and eastern Brazil should be aware of the possibility of finding other transatlantic vagrants, usually Eurasian–African migrants, but potentially intra-tropical African landbird migrants too. In Tables 1–2 we list 47 potential additions to the Brazilian avifauna that have already been recorded on the mid-Atlantic islands of Ascension, St Helena and the Tristan da Cunha group, or in the West Indies, more exceptionally elsewhere in South America, all of which are most likely to be encountered on either Fernando de Noronha or the São Pedro and São Paulo archipelago, rather than the Brazilian mainland. Transatlantic vagrancy is already fairly well documented from French Guiana, the southern West Indies and Trinidad & Tobago (Ebels 2002, Kenefick & Hayes 2006, Restall *et al.* 2006, Buckley *et al.* 2009, Kirwan *et al.* 2019). The majority of the Palearctic vagrants reported in Brazil on Fernando de Noronha and São Pedro e São Paulo have also been recorded in the Caribbean (including Trinidad & Tobago) or the South American mainland in French Guiana. As this list of vagrants already includes one of our two new Brazilian records, we briefly discuss other Brazilian first records from the offshore islands also documented from these other regions. However, we omit Little Egret as it is one of

the most frequently recorded Palearctic vagrants, with many records from the West Indies (Kirwan *et al.* 2019), Trinidad & Tobago (Hayes & White 2001), the Guianas (Haverschmidt 1983, Murphy 1992, Renaudier & Comité d'Homologation de Guyane 2010, Claessens & Comité d'Homologation de Guyane 2015), and even the USA (Murphy 1992).

Eurasian Spoonbill *Platalea leucorodia*.—First record on Tobago in early November 1986 (Hayes & White 2000), followed by one on Trinidad in November 2010 (Kenefick 2012) and, in Brazil, an immature photographed on Fernando de Noronha in early December 1996 (Schulz-Neto 1998) with another photographed there in January–February 1999 (K. Hazevoet *in* Ebels 2002). Caribbean records (some involving multiple individuals) are from Antigua, St Lucia and Barbados, all since 2007 (Buckley *et al.* 2009, Kirwan *et al.* 2019).

Grey Heron *Ardea cinerea*.—First record in the Caribbean in September 1959 on Montserrat and has been resident on Barbados since 1997, with multiple documented records north to St Kitts, and French-ringed birds recovered on Martinique and Montserrat (Bond 1962, Buckley *et al.* 2009, Kirwan *et al.* 2019). Also a French-ringed individual recovered on Trinidad in August 1959, followed by another nine records in Trinidad & Tobago by 2010 (Badouin-Bodin 1960, French & Kenefick 2003, Kenefick 2012), as well as those from Fernando de Noronha mentioned above.

Purple Heron *Ardea purpurea*.—First New World record an 'immature' on Fernando de Noronha in June 1986 (Teixeira *et al.* 1987), followed by a long-staying bird in the same place, in March 2017–April 2018, which was photographed (Ferreira *et al.* 2019). Six West Indian records, all since autumn 1998, most involving first-year birds, between September and April (Kirwan *et al.* 2019) and three from Trinidad & Tobago (Kenefick 2012, Kenefick *et al.* 2019); also recorded once on St Helena, October 2009 (Beard 2012), with several records from Ascension (Bourne & Simmons 1998).

Western Reef Egret *Egretta gularis*.—First record in the Caribbean on Barbados (June–July 1975), where recorded at least nine times subsequently, with other reports from Puerto Rico (first September 1999), St Lucia (February 1984, January 1985), the Grenadines (Mustique, February 2004), and a possible sight record in Cuba (Buckley *et al.* 2009, Kirwan *et al.* 2019). South American records: Trinidad, January 1986 (Murphy & Nana 1987), December 2000–January 2002 (Ebels 2002) and December 2014–June 2015 (Kenefick *et al.* 2019), and two in Brazil, both on Fernando de Noronha, a dark morph photographed in early December 1996 (Schulz-Neto 2004) and a white-morph photographed in late November 2004 (Silva e Silva & Olmos 2006).

Black Kite *Milvus migrans*.—First report in the Neotropics on Dominica in April 1999 (*N. Amer. Birds* 57: 132), since when there have been at least five additional records from the Bahamas, British Virgin Islands, Guadeloupe and Barbados (Kirwan *et al.* 2019), and one on Trinidad in December 2014 (Kenefick *et al.* 2019). The first Brazilian record was on the São Pedro e São Paulo archipelago, in April–May 2014 (Nunes *et al.* 2014).

Eurasian Kestrel *Falco tinnunculus*.—Two Caribbean records, on Martinique in December 1959 (Pinchon & Vaurie 1961) and Guadeloupe in April 2009 (Kirwan *et al.* 2019), while the first South American record was a subadult male present for ten days in French Guiana in Mar 1991 (LeDreff & Raynaud 1993). This was followed by an immature female photographed on Trinidad in December 2003–January 2004 (Kenefick & Hayes 2006), two records in Brazil, both on the São Pedro e São Paulo archipelago, the first in January 2005 (Bencke *et al.* 2005, Santana & Pinheiro 2010), and another five records in French Guiana, all between late December and late March (Renaudier & Comité d'Homologation de Guyane 2010, Claessens & Comité d'Homologation de Guyane 2015).

TABLE 1

List of Old World vagrants recorded on the mid-South Atlantic Ocean British Overseas Territory of St Helena (15°57'S, 05°42'W), Ascension (07°57'S, 14°22'W) and Tristan da Cunha (37°15'S, 12°30'W), but not yet recorded in Brazil. St Helena, Ascension and Tristan da Cunha are situated 1,950 km, 1,500 km and 2,432 km from the west African coast and 4,000 km, 2,250 km and 4,046 km from the nearest points of mainland South America, respectively. Unless otherwise stated information pertaining to occurrences on St Helena are taken from Rowlands *et al.* (1998) and Prater (2012), Ascension from Bourne & Simmons (1998) and Tristan da Cunha from Dowsett & Forbes-Watson (1993). Species also represented in the New World, sometimes by separate races, are omitted, even if there is evidence that the individuals concerned wandered from the Old World, e.g. Black-crowned Night Heron *Nycticorax n. nycticorax* has been recorded on St Helena. Where additional records are available from the Caribbean or elsewhere in the Neotropics, these are also listed in the comments column.

English name	Scientific name	Comments
African Comb Duck	<i>Sarkidiornis melanotus</i>	St Helena (Jan–Feb 2013; Kleinjan & Stevens 2016).
European Nightjar	<i>Caprimulgus europaeus</i>	Ascension (Nov 1973).
Common Swift	<i>Apus apus</i>	Ascension (at least 15 records, all Sep–Mar; Chapin 1954, Bourne & Simmons 1998, White 2002), Suriname (at sea, Jul 202; de Boer <i>et al.</i> 2014), Puerto Rico (Nov 2015; Ławicki & van den Berg 2016). Several possible records on St Helena, most recently in 2012/13 (Hillman <i>et al.</i> 2016). Bond (1973) considered a claim from Grenada, Aug 1971 (Lack & Lack 1973) to be erroneous.
Striped Crake	<i>Amaurornis marginalis</i>	St Helena (Jan 2007; Prater 2012).
African Swampphen	<i>Porphyrio madagascariensis</i>	St Helena (Oct 1989).
Common Moorhen	<i>Gallinula chloropus</i>	Ascension (Jun 1958, Feb 1993), St Helena (either a natural colonist or introduced, race <i>G. c. meridionalis</i>).
White Stork	<i>Ciconia ciconia</i>	Ascension (Apr 1987–Jan 1988), St Helena (Aug 1880, Jul–Aug 1958, Oct 2007, Mar–Apr 2011), Antigua (Aug 1993–March 1994; Gricks 1994a,b; perhaps also seen previously on Barbuda), Martinique (Feb 2007; Leblond 2007).
Dwarf Bittern	<i>Ixobrychus sturmii</i>	St Helena (Oct 2011–Jan 2012; Hillman & Clingham 2012).
Eurasian Oystercatcher	<i>Haematopus ostralegus</i>	Ascension (Jan 1986).
Common Ringed Plover	<i>Charadrius hiaticula</i>	Ascension (Jan–Nov 1987, Mar 1988, Nov 1988), Tristan da Cunha (Brooke 1979), Barbados, (Sep 1888; Buckley <i>et al.</i> 2009), Guadeloupe (Sep 2010, Jan 2019; <i>N. Amer. Birds</i> 65: 181, Kirwan <i>et al.</i> 2019). Hypothetical Trinidad (Oct 1962; French 1973, Kenefick & Hayes 2006).
Greater Sand Plover	<i>Charadrius leschenaultii</i>	Ascension (Aug–Sep 1989). A sand plover sp. in non-breeding plumage (either Lesser <i>C. mongolus</i> or <i>C. leschenaultii</i>) was photographed at Parque Nacional da Lagoa do Peixe, Rio Grande do Sul, Brazil, in December 2015 (Franz <i>et al.</i> 2018).
Blacksmith Plover	<i>Vanellus armatus</i>	St Helena (Jul 1995).
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	Tristan da Cunha (Jun 1950; Elliott 1957, Allport 2018), Bolivia (Nov 2014; Knowlton 2016), Panama (Oct 2016; Ławicki & van den Berg 2017).
Little Stint	<i>Calidris minuta</i>	Ascension (Oct–Nov 1990), Barbados (Apr–May 1997, May 1997 [another], May 1999 and May 2002; Buckley <i>et al.</i> 2009), Montserrat (Aug 2003; <i>N. Amer. Birds</i> 58: 159), South Georgia (Dec 1977; Prince & Croxall 1983). While this manuscript was in revision, a Little Stint was photographed on Fernando de Noronha, Oct 2018 (Gussoni 2019).

English name	Scientific name	Comments
Common Sandpiper	<i>Actitis hypoleucos</i>	Ascension (Feb 1962, Nov–Dec 1962, Feb 1964, Oct–Nov 1990, Feb 1991).
Green Sandpiper	<i>Tringa ochropus</i>	St Helena (two specimens from 19th century, but provenance uncertain). Possible, Guadeloupe (Sep 2014; <i>N. Amer. Birds</i> 69: 169).
Common Greenshank	<i>Tringa nebularia</i>	Ascension (Dec 1972), Tobago (Jul 1977, Trinidad, early 1987; Kenefick <i>et al.</i> 2019), Puerto Rico (Jul 1993; <i>Field Notes</i> 49: 204), Barbados (seven records, first in 1980; Buckley <i>et al.</i> 2009, <i>N. Amer. Birds</i> 67: 532), French Guiana (Feb 2006; Claessens & Comité d'Homologation de Guyane 2015). Hypothetical Trinidad (Jul 1977; Kenefick & Hayes 2006).
Common Redshank	<i>Tringa totanus</i>	Ascension (Jan 1997). There is a sight record for Fernando de Noronha (Schulz-Neto 2004).
European Roller	<i>Coracias garrulus</i>	Ascension (Dec 1989).
Amur Falcon	<i>Falco amurensis</i>	St Helena (Nov–Dec 1989).
Red-backed Shrike	<i>Lanius collurio</i>	Ascension (Nov 1990).
Common House Martin	<i>Delichon urbicum</i>	Ascension (Nov 1946, May 1963, Sep–Oct 1997, Apr and May 2002; Chapin 1954, Bourne & Simmons 1998, White 2002), Tristan de Cunha (Nov–Dec 2013; Hillman <i>et al.</i> 2016), Barbados (eight, Oct–Nov 1999, singles, Nov 2000 and Jun 2002; Buckley <i>et al.</i> 2009), Guadeloupe (Aug 2006).
Willow Warbler	<i>Phylloscopus trochilus</i>	Tristan de Cunha (Ryan 2008).

TABLE 2

List of Old World vagrants, or species whose provenance is potentially transatlantic, recorded in the West Indies or South America, but yet to be definitely recorded on any of the mid-Atlantic islands or in Brazil; seabirds are omitted, as are a suite of landbirds reported from Cuba that appear very unlikely to have reached the Caribbean in a wild state (Kirwan *et al.* 2019: 375–376). These are confirmed by either ringing recoveries of European origin, specimens or photographs. One species (Lesser Sand Plover *Charadrius mongolus*) has been recorded only in mainland South America. Most or all records of Northern Wheatear *Oenanthe oenanthe* in the region might involve birds migrating from their North American breeding grounds to their wintering areas in Africa, but the capacity for birds breeding in Europe that also winter in Africa to occur as vagrants in Brazil clearly exists. Glossy Ibis *Plegadis falcinellus* occurs in northern South America (Venezuela), but there is clear evidence of vagrancy, perhaps increasing (Kirwan *et al.* 2019), from the Old World to the Caribbean, and we consider that there is a clearly greater likelihood of the species wandering to the Brazil through transatlantic wandering.

English name	Scientific name	Comments
Common Shelduck	<i>Tadorna tadorna</i>	Barbados (first-year female, Nov 2013; <i>N. Amer. Birds</i> 68: 162), Martinique (Nov 2015; Belfan & Conde 2016).
Common Pochard	<i>Aythya ferina</i>	Barbados (one male and three females, Feb 2011; <i>N. Amer. Birds</i> 65: 356, Howell <i>et al.</i> 2014).
Tufted Duck	<i>Aythya fuligula</i>	Puerto Rico (female, Nov–Dec 2012; <i>N. Amer. Birds</i> 67: 356), Barbados (female, Mar 2017; eBird), Guadeloupe (female, Mar 2019; eBird).
Garganey	<i>Anas querquedula</i>	Puerto Rico (Jan–Mar 1978), Guadeloupe (male, Jan–Mar 2006, possibly two males, Mar 2007), Martinique (bird shot, c. Jan 2000), Barbados (Aug 1960, Dec 2000–Jan 2001, Nov 2006–Mar 2007, Dec 2007) (Kirwan <i>et al.</i> 2019).

English name	Scientific name	Comments
Eurasian Wigeon	<i>Mareca penelope</i>	Grand Bahama (Mar 2003; <i>Cotinga</i> 21: 82), Cuba (Mar 2014; Stott 2015), Hispaniola (early 1950s, Dec 1972, Dec 1997, Feb 2014, Mar 2015; Keith <i>et al.</i> 2003, eBird), Puerto Rico (Feb 1958, Jan 2015, Jan 2016; Bond 1959, <i>N. Amer. Birds</i> 69: 306, 70: 241), St Croix (Nov 2003; McNair <i>et al.</i> 2006), Anguilla (Dec 2014–Jan 2015; <i>N. Amer. Birds</i> 69: 306), Barbuda (Oct 1937; Cooke 1945), Martinique (c. Nov 2014; eBird), Barbados (records Oct–Mar; Buckley <i>et al.</i> 2009), Grenada (Jan–Feb 2001; eBird), Tobago (Jan 2016; Johnson 2018), Venezuela (Mar 2002; Williams & Beadle 2003).
Common (Eurasian) Teal	<i>Anas c. crecca</i>	Bahamas (Feb 2017; eBird), Puerto Rico (Mar 2016; eBird), Guadeloupe (Jan–Feb 2014; <i>N. Amer. Birds</i> 68: 290), Barbados (Jan–Mar 1996, Dec 1997–Mar 1998, Jan 1999, Jan 2004; Buckley <i>et al.</i> 2009).
Alpine Swift	<i>Tachymarptis melba</i>	Barbados (Sep 1955, Jun–Jul 2003, Jul 2005, Jul 2015; Frost & Burke 2005, <i>N. Amer. Birds</i> 69: 511), Guadeloupe (Apr 1987; Feldmann & Pavis 1995), Puerto Rico (Jul 1987; Meier <i>et al.</i> 1989), St Lucia (Aug 1992; Burke 1994), French Guiana (Jun 2002; Ottema 2004).
Spotted Crake	<i>Porzana porzana</i>	St Martin (Oct 1956; Voous 1957), Guadeloupe (Feb 2014; Chabrolle & Levesque 2015). Two doubtful records for St Helena (Rowlands <i>et al.</i> 1998).
Glossy Ibis	<i>Plegadis falcinellus</i>	Vagrant to Lesser Antilles, apparently in increasing numbers, at least some of which are definite transatlantic vagrants (<i>N. Amer. Birds</i> 65: 181, Buckley <i>et al.</i> 2009, Kirwan <i>et al.</i> 2019).
Black-winged Stilt	<i>Himantopus h. himantopus</i>	Guadeloupe (two, Aug 2014; Kirwan <i>et al.</i> 2019).
Little Ringed Plover	<i>Charadrius dubius</i>	Martinique (Apr 2005; Lemoine 2005).
Lesser Sand Plover	<i>Charadrius mongolus</i>	Argentina (Mar 2011; Le Nevé & Manzione 2011).
Northern Lapwing	<i>Vanellus vanellus</i>	Bahamas (Nov 1900; Fleming 1901), Puerto Rico (Dec 1978–Jan 1979; Bond 1984), Martinique (Feb 1976, Dec 2015; Pinchon 1976, Kirwan <i>et al.</i> 2019), Barbados (Dec 1886, Dec 1963; Buckley <i>et al.</i> 2009).
Eurasian Curlew	<i>Numenius arquata</i>	Argentina (Jan 2010; Vander Pluym & Sterling 2019). Hypothetical, Bahamas (Jan–Mar 1972; Connor & Loftin 1985).
Black-tailed Godwit	<i>Limosa limosa</i>	Trinidad (Sep 2000–Jan 2001; Hayes & Kenefick 2002). Hypothetical St Kitts (Sep 1988; Steadman <i>et al.</i> 1997)
Jack Snipe	<i>Lymnocyrtus minimus</i>	Barbados (Nov 1960; Buckley <i>et al.</i> 2009).
Spotted Redshank	<i>Tringa erythropus</i>	Puerto Rico (Aug 2000; eBird), Guadeloupe (Aug 1999; Levesque & Jaffard 2002), Barbados (six records, Oct–Mar, first 1963; Buckley <i>et al.</i> 2009), Tobago, Feb 1983 (Fisher 1998).
Slender-billed Gull	<i>Larus genei</i>	Hypothetical, Antigua (Apr 1976; Holland & Williams 1978).
Audouin's Gull	<i>Larus audouinii</i>	Trinidad (Dec 2016–Aug 2017; Lallsingh 2018).
Whiskered Tern	<i>Chlidonias hybrida</i>	Barbados (autumn 1847, Apr 1994, Nov 2004), Bahamas (Apr–May 2003; Buckley <i>et al.</i> 2009, <i>Cotinga</i> 21: 82), Paraguay (Jan 2016; Clay <i>et al.</i> 2017).
Western Marsh Harrier	<i>Circus aeruginosus</i>	Puerto Rico (Jan–Mar 2004, Jan–Feb 2006; Merkord <i>et al.</i> 2006), Guadeloupe (Nov 2002–Apr 2003, Oct 2015–Mar 2016; Levesque & Malglaive 2004, <i>N. Amer. Birds</i> 70: 129, 242), Barbados (Nov 2015–Jan 2016; <i>N. Amer. Birds</i> 70: 242).
European Bee-eater	<i>Merops apiaster</i>	St Lucia (Feb 2014; <i>N. Amer. Birds</i> 68: 291).

English name	Scientific name	Comments
Northern Wheatear	<i>Oenanthe oenanthe</i>	Bahamas (Oct 1976, Oct 1981; <i>Amer. Birds</i> 36: 224, Connor & Loftin 1985), Cuba (Oct 1903; Robinson 1905), Puerto Rico (Sep 1966, Sep 2011, Sep 2016; Bond 1967, eBird), Guadeloupe (Oct 2012; <i>N. Amer. Birds</i> 67: 175), Barbados (Dec 1955–Jan 1956, Oct–Dec 1994; Buckley <i>et al.</i> 2009), Leeward Antilles (Nov 1962, Dec 1975; Prins <i>et al.</i> 2009), French Guiana (Oct 2006; Renaudier & Comité d'Homologation de Guyane 2010).
White Wagtail	<i>Motacilla alba</i>	Barbados (Jan 1987; <i>Amer. Birds</i> 41: 335, Ingels <i>et al.</i> 2010), Trinidad (Dec 1987–Jan 1988, Sep 2009; Ingels <i>et al.</i> 2010, Kenefick <i>et al.</i> 2019), French Guiana (Oct 2009, Nov 2009; Claessens & Comité d'Homologation de Guyane 2015).

Final remarks

Transatlantic vagrancy of Palearctic migrants to South America and the Caribbean has been a relatively little-recognised and potentially under-recorded phenomenon, although as evidenced by Tables 1–2 it clearly occurs fairly regularly. By documenting two new Palearctic vagrants and providing a list of potential future Old World vagrants, this should encourage observers to be alert to the possibility of other Palearctic species occurring in Brazil and perhaps other South American countries too.

A few of these 'transatlantic' vagrants may in fact not reach South America by crossing the Atlantic, but instead arrive by flying over North America from north-east Asia. Some predominantly Palearctic species also nest in Alaska and Greenland, e.g. Common Ringed Plover *Charadrius hiaticula* and Northern Wheatear *Oenanthe oenanthe*, both of which have already been recorded in the Neotropics. However, other well-established principally Palearctic breeders such as Bluethroat *Luscinia svecica* and Eastern Yellow Wagtail *Motacilla tschutschensis* (Kessel & Gibson 1978, Kessel 1989, Renner & McCaffery 2006) and very rare breeders like Red-necked Stint *Calidris ruficollis* (DeCicco *et al.* 2013) and Red-throated Pipit *Anthus cervinus* (West 2008) have yet to be recorded in north-east South America, although the latter has been recorded as far south as north-west Ecuador (Brinkhuizen *et al.* 2010) and *C. ruficollis* has been claimed in coastal Peru (Hughes 1988, Schulenberg *et al.* 2007).

It will be nigh-on impossible to confirm how many ship-assisted passages occur. An example was a Redwing *Turdus iliacus* found aboard a seismic research vessel 150 km off the coast of Espírito Santo, Brazil, in December 2001 (Brito *et al.* 2013). On the other hand, as demonstrated by one of the most unexpected and most remarkable vagrants to the Americas, a species yet to be reported in Europe, Siberian Flycatcher *Muscicapa sibirica*, was collected on Bermuda in September 1980 (Wingate 1983), illustrating the potential for even eastern Palearctic migrants to appear in the western Atlantic.

Acknowledgements

The manuscript was significantly improved by the comments, additional information and ideas of Chris Sharpe, Alex Lees, Glayson Ariel Bencke and Jaqueline Rizzi Fortuna to whom we are extremely grateful. AW thanks John & Karen Shrader for the opportunity to travel to Fernando de Noronha, and GMK thanks his travel companions Neil Bostock and Andrew Marshall.

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