Records of Brown Booby Sula leucogaster in the Pitcairn Islands with additional observations during 2015–19

Authors: Bond, Alexander L., and Lavers, Jennifer L.

Source: Bulletin of the British Ornithologists' Club, 140(1) : 99-102

Published By: British Ornithologists' Club

URL: https://doi.org/10.25226/bboc.v140i1.2020.a11

Records of Brown Booby *Sula leucogaster* in the Pitcairn Islands with additional observations during 2015–19

by Alexander L. Bond & Jennifer L. Lavers

Received 12 September 2019; revised 5 January 2020; published 19 March 2020

http://zoobank.org/urn:lsid:zoobank.org:pub:810B0CE2-091D-4EFD-BB25-1A99FAF04922

The Pitcairn Islands are a UK Overseas Territory comprising four islands (Oeno, Pitcairn, Henderson and Ducie) spanning >600 km in eastern Polynesia, in the South Pacific Ocean. Oeno and Ducie are low coral atolls, Henderson is a large raised coral island, and Pitcairn is volcanic in origin (Spencer 1995).

The islands' avifauna have received considerable scientific attention, mainly focused on Henderson Island, beginning in the early 20th century (North 1908, Ogilvie-Grant 1913), followed by the Whitney South Seas Expedition (Murphy 1924, Murphy & Mathews 1929). There was some work in the late 1980s on Henderson's landbirds (Graves 1992). The Sir Peter Scott Memorial Expedition in 1991–92 stationed researchers on Henderson Island for more than a year, and thoroughly studied the birds (Brooke 1995a,b, Brooke & Jones 1995, Imber *et al*. 1995, Jones *et al*. 1995, Trevelyan 1995). This was followed in the early 21st century by studies into the effect of introduced Pacific Rats *Rattus exulans* on Henderson's native fauna (Brooke *et al*. 2011, Amos *et al*. 2016, Oppel *et al*. 2016, Bond *et al*. 2019b), and of the abundance of various species (Oppel *et al*. 2017, Bond *et al*. 2019a). There are far fewer studies of the avifauna of Pitcairn (Williams 1960, Schofield & Bond 2016), Oeno (Brooke *et al*. 2018) and Ducie, although all were reviewed by Brooke (1995b) and Bourne & David (1983).

Ducie and Oeno possess no endemic species of birds, whilst Pitcairn is home to the endemic Pitcairn Reed Warbler *Acrocephalus vaughani* (Brooke 1995b), and Henderson supports five endemic species—Henderson Petrel *Pterodroma atrata*, Henderson Crake *Zapornia atra*, Henderson Fruit Dove *Ptilinopus insularis*, Henderson Lorikeet *Vini stepheni* and Henderson Reed Warbler *Acrocephalus taiti* (Graves 1992, Brooke 1995b, Oppel *et al*. 2017, Bond *et al*. 2019a). The avifauna of the group as a whole has been described largely in three works (Williams 1960, Brooke 1995b, Thibault & Cibois 2017), and one review (Bourne & David 1983).

Of the 41 species recorded from the islands (Williams 1960, Bourne & David 1983, Brooke 1995b), a handful are vagrants or possible breeders, and could become established as breeding populations in the Pitcairn Islands, based on range and suitable habitat—Wedge-tailed Shearwater *Ardenna pacifica*, White-tailed Tropicbird *Phaethon lepturus* and Brown Booby *Sula leucogaster*.

Here we summarise records of Brown Booby across the island group and add three additional sightings from 2015–19.

Previous records

Williams (1960) described Brown Booby as the rarest of the sulids in the island group and mentioned two records. The first he observed himself: two birds at the north-western end of Pitcairn 'between (Down) Rope and St Paul's (Pool)' on 21 October 1956, and in relation to which he explicitly eliminated the possibility of dark-phase Red-footed Booby *Sula sula*, which also occurs in the group (Brooke 1995b). The other is a second-hand report from Pastor L. Hawkes, who ostensibly observed an individual at Henderson Island in

ISSN-2513-9894 (Online)

January 1957, but no further details are given. The Henderson record was repeated by Bourne & David (1983) and Fosberg *et al*. (1983).

During the Sir Peter Scott Commemorative Expedition in 1991–92, Brown Booby was not recorded on Henderson, or during any of the short visits to Oeno or Ducie (Brooke 1995b), with reference being made only to the earlier records of Williams (1960).

In their landmark work on the avifauna of eastern Polynesia, Thibault & Cibois (2017) described the extensive range of Brown Booby through the Line, Cook, Society, Tuamotu, and Marquesas archipelagos, and highlighted vagrant records from Rapa Nui (Flores *et al*. 2013) and the 1957 record from Henderson, but did not mention the bird observed directly by Williams on Pitcairn in 1956. They also included a report of a single at Oeno in 2014 (Scott 2014).

Recent records

In August–November 2015, as part of a Royal Society for the Protection of Birds (BirdLife in the UK) expedition to Henderson (Lavers *et al*. 2016), a single female Brown Booby was observed at North Beach regularly in September and November 2015 (Fig. 1).

During a birding tour, 'a couple' of Brown Boobies were observed at Pitcairn during the period 3–17 October 2017 (Morris & Beaman 2017). Unfortunately, no other details were noted at the time (M. Beaman pers. comm.).

During a three-week expedition to Henderson Island, including three days at Pitcairn, in June 2019, an adult female Brown Booby was observed soaring over North Beach, Henderson Island, on 10, 13, 16, 17 and 18 June 2019 (Fig. 2). Despite spending considerable time (12 days) on East Beach, Henderson Island, and on Pitcairn (three days), no others were seen.

Figure 1 (left). Adult female Brown Booby *Sula leucogaster*, North Beach, Henderson Island, 20 September 2015 (N. Duffield & S. Havery)

Figure 2 (right). Adult female Brown Booby *Sula leucogaster*, North Beach, Henderson Island, 19 June 2019 (A. L. Bond)

ISSN-2513-9894 (Online)

In the South Pacific Ocean, Brown Boobies breed throughout French Polynesia, although in the Gambier Islands they are recorded only in small numbers at Manui, in the south-east of the group, where no more than 15 nests were recorded annually from the 1990s to 2010 (Thibault & Bretagnolle 2001, Waugh *et al*. 2015), Kamaka (Ghestemme 2016) and Motu Teiku (Thibault & Cibois 2017), all of which are uninhabited. Brown Boobies are not historically common in eastern Polynesia, and are largely absent from the archaeological remains and early accounts of the islands (Thibault & Cibois 2012). They are much more common in northern Polynesia (Line, Marquesas, and Society Islands), and the northern Tuamotus, with the largest colony at Malden Island, in the Line Islands, which was home to 2,000 pairs in 1988 (Kepler *et al*. 1994), but most others are declining significantly or represented by just tens of breeding pairs (Thibault & Cibois 2017). Their high sensitivity to human disturbance often restricts colonies to uninhabited islets or inaccessible cliffs (Thibault & Cibois 2017).

Henderson is also home to breeding Masked *Sula dactylatra* and Red-footed Boobies, with 50 and 100–200 pairs estimated, respectively (Brooke 1995b), and boobies often breed sympatrically (Nelson 2005). To date, there is no evidence of breeding Brown Boobies in the Pitcairn Islands, however. This could be because of relatively high disturbance from human habitation, introduced mammals, and the islands' isolation (Brooke 1995b, Amos *et al*. 2016).

Acknowledgements

We are indebted to S. Havery and S. O'Keefe for providing details of the 2015 sightings on Henderson, D. Scott for information on the 2014 sighting on Oeno, and M. Beaman for details of the 2017 Pitcairn records. We thank the 2019 Henderson Island Plastics Expedition team members for assistance and camaraderie during the voyage, the government of the Pitcairn Islands, and Pitcairn Dept. of Environmental, Conservation, and Natural Resources (M. Christian) for permission to visit Henderson. Valpak, Toughsheet Environmental, the Pew Trusts, CEFAS, the UK Foreign and Commonwealth Office (Blue Belt Team and Pitcairn Island Office), Architectural and Community Planning Inc., the Zoological Society of London, Howell Conservation Fund and Schwab International funded this expedition. Comments from A. Cibois improved this manuscript.

References:

Amos, W., Nichols, H. J., Churchyard, T. & Brooke, M. d. L. 2016. Rat eradication comes within a whisker! A case study from the South Pacific. *Roy. Soc. Open Sci*. 3: 160110.

Bond, A. L., Brooke, M. d. L., Cuthbert, R. J., Lavers, J. L., McClelland, G. T. W., Churchyard, T., Donaldson, A. H., Duffield, N. D., Forrest, A. K., Harrison, G., MacKinnon, L., Proud, T., Skinner, A., Torr, N., Vickery, J. A. & Oppel, S. 2019a. Population status of four endemic landbird species after an unsuccessful rodent eradication on Henderson Island. *Bird Conserv. Intern*. 29: 124–135.

Bond, A. L., Cuthbert, R. J., McClelland, G. T. W., Churchyard, T., Duffield, N. D., Havery, S., Kelly, J., Lavers, J. L., Proud, T., Torr, N., Vickery, J. A. & Oppel, S. 2019b. Recovery of introduced Pacific rats (*Rattus exulans*) following a failed eradication attempt on subtropical Henderson Island, south Pacific Ocean. Pp. 167–174 *in* Veitch, C. R., Clout, M. N., Martin, A. R., Russell, J. C. & West, C. J. (eds.) *Island invasives: scaling up to meet the challenge*. IUCN, Gland.

Bourne, W. R. P. & David, A. C. F. 1983. Henderson Island, central South Pacific, and its birds. *Notornis* 30: 233–252.

Brooke, M. d. L. 1995a. The breeding biology of the gadfly petrels *Pterodroma* spp. of the Pitcairn Islands: characteristics, population sizes and controls. *Biol. J. Linn. Soc*. 56: 213–231.

Brooke, M. d. L. 1995b. The modern avifauna of the Pitcairn Islands. *Biol. J. Linn. Soc*. 56: 199–212.

Brooke, M. d. L. & Jones, P. J. 1995. The diet of the Henderson Fruit-dove *Ptilinopus insularis*. I. Field observations of fruit choice. *Biol. J. Linn. Soc*. 56: 149–165.

Brooke, M. d. L., Cuthbert, R. J., Mateo, R. & Taggart, M. A. 2011. An experimental test of the toxicity of cereal pellets containing brodifacoum to the snails of Henderson Island, South Pacific. *Wildl. Res*. 38: 34–38.

Brooke, M. d. L., Bonnaud, E., Dilley, B. J., Flint, E. N., Holmes, N. D., Jones, H. P., Provost, P., Rocamora, G., Ryan, P. G., Surman, C. & Buxton, R. T. 2018. Seabird population changes following mammal eradications on islands. *Anim. Conserv*. 21: 3–12.

Flores, M., Lazo, P. & Hucke-Gaete, R. 2013. Estado del conocimiento de los piqueros pantropicales (Sulidae) en las islas oceánicas chilenas y primer registro de piquero café *Sula leucogaster* en Isla de Pascua. *Rev. Biol. Mar. Oceanogr*. 48: 667–672.

ISSN-2513-9894 (Online)

Fosberg, F. R., Sachet, M.-H. & Stoddart, D. R. 1983. Henderson Island (southeastern Polynesia): summary of current knowledge. *Atoll Res. Bull*. 272: 1–47.
Ghestemme, T. 2016. *Diagnostic préliminaire de l'avifaune des iles Gambier*. Societé d'Ornithologie de Polynésie, Tahiti.
Graves, G. R. 1992. The endemic landbirds of Henderson Island, southeastern Polynesia: notes on natural history and conservation. *Wilson Bull*. 104: 32–43.
Imber, M. J., Jolly, J. N. & Brooke, M. d. L. 1995. Food of three sympatric gadfly petrels (*Pterodroma* spp.) breeding on the Pitcairn Islands. *Biol. J. Linn. Soc*. 56: 233–240.
Jones, P., Schubel, S., Jolly, J. N., Brooke, M. d. L. & Vickery, J. A. 1995. Behaviour, natural history, and annual cycle of the Henderson Island Rail *Porzana atra* (Aves: Rallidae). *Biol. J. Linn. Soc*. 56: 167–183.
Kepler, C. B., Kepler, A. K. & Ellis, D. H. 1994. The natural history of Caroline Island, southern Line Islands. Part II. Seabirds, other terrestrial animals, and conservation. *Atoll Res. Bull*. 398: 1–61.
Lavers, J. L., McClelland, G. T. W., MacKinnon, L., Bond, A. L., Oppel, S., Donaldson, A. H., Duffield, N. D., Forrest, A. K., Havery, S. J., O'Keefe, S., Skinner, A., Torr, N. & Warren, P. 2016. *Henderson Island expedition report: May-November 2015*. RSPB Res. Rep. 57. Royal Society for the Protection of Birds, Sandy.
Morris, P. & Beaman, M. 2017. Pitcairn, Henderson, and the Tuamotus, 3–17 October 2017. BirdQuest Tours, Stonyhurst, UK.
Murphy, R. C. 1924. Birds collected during the Whitney South Sea Expedition. II. *Amer. Mus. Novit*. 124: 1–13.
Murphy, R. C. & Mathews, G. M. 1929. Birds collected during the Whitney South Sea Expedition. VI. *Amer. Mus. Novit*. 350: 1–21.
Nelson, J. B. 2005. *Pelicans, cormorants, and their relatives: The Pelecaniformes*. Oxford Univ. Press.
North, A. J. 1908. On three apparently undescribed birds from Henderson or Elizabeth Island, Paumotu group. *Rec. Austr. Mus*. 7: 29–32.
Ogilvie-Grant, W. R. 1913. On a small collection of birds from Henderson Island, South Pacific. *Ibis* 55: 343–350.
Oppel, S., Bond, A. L., Brooke, M. d. L., Harrison, G., Vickery, J. A. & Cuthbert, R. J. 2016. Temporary captive population and rapid population recovery of an endemic flightless rail after a rodent eradication operation using aerially distributed poison bait. *Biol. Conserv*. 204: 442–448.
Oppel, S., Lavers, J. L., Donaldson, A. H., Forrest, A. K., McClelland, G. T. W., Bond, A. L. & Brooke, M. d. L. 2017. Population status, breeding success and ecology of the Henderson Petrel after a failed rat eradication on Henderson Island. *Emu* 117: 151–159.
Schofield, A. & Bond, A. L. 2016. Kermadec Petrels (*Pterodroma neglecta*) breed on Pitcairn Island, and suffer breeding failure from introduced predators. *Marine Orn*. 44: 225–228.
Scott, D. 2014. French Polynesia, Pitcairn, and Henderson, 4/12–28/31 October 2014. BirdQuest Tours, Stonyhurst, UK.
Spencer, T. 1995. The Pitcairn Islands, South Pacific Ocean: plate tectonic and climatic contexts. *Biol. J. Linn. Soc*. 56: 13–42.
Thibault, J.-C. & Bretagnolle, V. 2001. Breeding seabirds of Gambier Islands, eastern Polynesia: numbers and changes during the 20th century. *Emu* 99: 100–107.
Thibault, J.-C. & Cibois, A. 2012. From early Polynesian settlements to the present: bird extinctions in the Gambier Islands. *Pacific Sci*. 66: 271–281.
Thibault, J.-C. & Cibois, A. 2017. *Birds of eastern Polynesia: a biogeographic atlas*. Lynx Edicions, Barcelona.
Trevelyan, R. J. 1995. The feeding ecology of Stephen's Lory and nectar availability in its food plants. *Biol. J. Linn. Soc*. 56: 185–197.
Waugh, S. M., Champeau, J., Cranwell, S. & Faulquier, L. 2015. Seabirds of the Gambier Archipelago, French Polynesia, in 2010. *Marine Orn*. 41: 7–12.
Williams, G. R. 1960. The birds of the Pitcairn Islands, central South Pacific Ocean. *Ibis* 102: 58–70.

Addresses: Alexander L. Bond, Bird Group, Dept. of Life Sciences, Natural History Museum, Akeman Street, Tring, Herts. HP23 6AP, UK, e-mail: a.bond@nhm.ac.uk. Alexander L. Bond and Jennifer L. Lavers, Institute for Marine and Antarctic Studies, University of Tasmania, Castray Esplanade, Battery Point, Tasmania, 7004, Australia.

ISSN-2513-9894 (Online)