

Rediscovery of a long misattributed and misidentified Darwin Beagle bird specimen

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Steinheimer (2004) provided a most useful appendix that lists all bird specimens that Charles Darwin is known to have collected during the second voyage of *HMS Beagle* (1831–36), together with information on their then current status. As a result of their complicated post-Beagle history, this list reveals that the whereabouts of the majority of Darwin's specimens were unknown. Since then only two additional Darwin's Beagle birds have come to light: a mounted Cinereous Harrier *Circus cinereus* in Naturalis, Leiden, the Netherlands (van Grouw & Steinheimer 2008), and an egg of Spotted Nothura *Nothura maculosa* in the University Museum of Zoology, Cambridge, UK (Lowe *et al.* 2010).

During research into the bird specimens of Captain (later Vice-Admiral) Robert FitzRoy¹ from the same voyage, held at the Natural History Museum (NHM) (Sharpe 1906), we noted that an owl specimen (Fig. 1a) stored among specimens of Short-eared Owl *Asio*

A



B

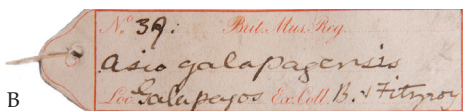


Figure 1(a). Specimen supposedly of Short-eared Owl *Asio flammeus galapagoensis* and collected by Captain Robert FitzRoy during the 1831–36 voyage of *HMS Beagle*, but actually an *A. f. suinda* collected by Charles Darwin on the same voyage; (b) NHM label on specimen; (c) metal tag, with appended mm scale, on specimen (Lucie Goodayle / © Natural History Museum, London)

C



¹ We follow Sulloway (1982) and McConnell (2004) in adopting this spelling of FitzRoy's name, except in direct quotes.

flammeus galapagoensis with an NHM label² stating '*Asio galapagensis* [sic] Galapagos B. & Fitzroy' (Fig. 1b—NB: no registration no. is given) also had a tiny metal tag attached, c.1 cm in diameter, concealed in the tarsal feathering and bearing the inscription '41.1.18.15' (Fig. 1c). The NHM register details for this 1841 registration number are '*Otus brachyotus* Maldonado (1270) Pres. by C. Darwin, Esq.'³. Steinheimer (2004, appendix p. 15) had noted the latter specimen, with a Darwin specimen number of 1270, as 'missing since 1875', based on the fact that Sharpe (1875) failed to mention it in his catalogue of owl specimens then present at NHM.

Going back even further, Darwin's specimen was also not mentioned in either of the first or second editions of the first published catalogue of owls present in NHM (Gray 1844, 1848), despite these being produced just a few years after the arrival of Darwin's specimen in 1841. In this context, Darwin had in early 1837 presented the great majority of his Beagle bird skins to the Zoological Society Museum of London (ZSM) for its curator, John Gould, to research. A substantial proportion of these subsequently ended up at NHM in 1855, when ZSM was disbanded. However, Darwin had previously donated 13 bird skins (reg. numbers: 1839.8.4.1 and 1841.1.18.15–26) to NHM, seemingly because he had requested G. R. Gray, then NHM bird curator, for his assistance in completing the bird sections of the zoology of the Beagle's voyage (Steinheimer 2004). The owl '41.1.18.15' formed part of the 1841 donation.

Unlike Darwin's Beagle specimens, those bird skins collected by or on behalf of FitzRoy were presented directly to NHM in 1837 by 'Sir W. Burnett and Captain Fitzroy R.N.' and registered in the series 1837.2.21.231–417, with a single egg registered as 1837.3.15.16 (*sic*—not 37.3.15.1 as given by Sharpe 1906: 323)⁴. Among FitzRoy's 187 bird skins, the register lists a minimum of two owls as donated by him; only a minimum figure can be given as some specimens are both unidentified in the register and have yet to be located during ongoing research. The first of these is listed as 1837.2.21.235 '*Strix* - ♂. 247 Falkland Islands', where 247 is FitzRoy's specimen number. Specimen 1837.2.21.235 is still at NHM and is an example of *Asio flammeus sanfordi* (modern taxonomy follows Dickinson 2003), endemic to the Falkland Islands.

The other specimen is listed in the register as 1837.2.21.244 '*Strix galapagoensis* ♀ 437 Galapagos. James Island', where the word '*galapagoensis*' is clearly a later insert, written in a different hand. Specimen 1837.2.21.244 is in fact FitzRoy's holotype of *Tyto alba punctatissima* from James Island, Galápagos (Warren 1966), the only specimen of this taxon collected during the Beagle's voyage (Darwin *in* Gould 1839). Indeed, Gray (1844: 54, 1848: 110) listed this specimen of Burnett & FitzRoy from the Galápagos as his sole entry under *Strix punctatissima*; furthermore, in Gray's personal copy of the latter publication, '37.2.21.244' has been pencilled in alongside the entry⁵.

² The NHM was still part of the British Museum when the label was attached, but is referred to as NHM throughout this paper. A synopsis of relevant name changes is given by Prŷs-Jones *et al.* (2014).

³ The first volume of the NHM Aves Register (1837–53) is a copy made in the 1900s of the sections relating to birds in the original Zoology Register, which covers a wider array of animal groups (Wheeler 1996). Because the copy suffers from omissions and obscures evidence obtainable from handwriting style, all register references here are from the original Zoology Register.

⁴ Although Sharpe (1906: 323) commented that 'Sir Wm. Burnett was the King's physician and what he had to do with the presentation of a collection made by the Admiral, I have never been able to discover', Kinnear (*in* Swarth 1931: 12) subsequently pointed out that 'Sir William Burnett was Physician-General to the Navy'. As such, he was the Royal Navy's senior scientist and empowered to disburse specimens collected by serving officers in the course of their duty (Sulloway 1982).

⁵ NHM published specimen catalogues from the 1800s unfortunately do not include specimen registration numbers.

By contrast, under *Otus galapagoensis* Gould, 1837, Gray (1844: 48; 1848: 108) listed a Burnett & FitzRoy specimen from each of the Galápagos and Falklands. Gould's (1837) name *Otus (Brachyotus) galapagoensis* had been based solely on the single specimen that Darwin brought back from the Galápagos and deposited at ZSM, but Gray (1844, 1848) reinterpreted this name to subsume Falklands specimens. It further seems clear that Gray incorrectly interpreted the two Burnett & FitzRoy register entries for 'Strix', from the Falklands and Galápagos respectively, to imply that they had donated two specimens of what he viewed as *Otus galapagoensis*, mistakenly assuming that Darwin's Maldonado specimen 1841.1.18.15 was the Galápagos one. In fact Darwin's type specimen of *Otus galapagoensis* (*sensu* Gould 1837) from James Island did not reach NHM until 1855, when the ZSM collection was dispersed; its NHM reg. no. is 1855.12.19.153 (Warren 1966). Although not explicitly stated by either Gould (1837) or Gould (1839), this was almost certainly the only Galápagos example of this taxon collected on the Beagle voyage.

Policies then current on labelling and mounting would have facilitated such confusion. Most Burnett & FitzRoy skins were mounted after receipt, with any original labels being discarded and such data as considered worthy of note being added on a label on the stand of each mount⁶. Darwin's specimens, if not already mounted at ZSM, received similar treatment, with few remaining as study skins. All specimens discussed above were certainly mounted, as noted by Sharpe (1875), though pencil annotations in Sharpe's personal interleaved copy of this volume show that all were demounted shortly thereafter. It was only at this point that the NHM label that each specimen currently carries was attached. The tiny metal tags seem to have been used during the 1830s / 1840s to keep track of specimens' identities during the process of either preparation or mounting, but could become concealed on birds with heavy tarsal feathering.

As a result of this misassignment, Gray (1844, 1848) overlooked that Darwin had in 1841 donated a Maldonado specimen of what was then referred to as *Otus brachyotus* and is now classified as *Asio flammeus suinda*. Indeed, he listed no specimens at all from continental South America. Sharpe (1875: 238) merely perpetuated Gray's error when he referred this specimen to his *Asio (accipitrinus) galapagoensis [sic]*.

Clearly the above argument depends on whether or not, on independent grounds of identification, the supposed Burnett & FitzRoy specimen of *A. f. galapagoensis* really is assignable to this taxon, which is confined to Galápagos. König *et al.* (2008) stated that individuals of *A. galapagoensis*, which they recognised as a separate species to *A. flammeus* on the grounds that 'it is genetically isolated on an archipelago ... and has developed behaviour distinguishing it from its continental counterparts', tend to be darker and smaller than *A. flammeus*. Whereas considerable individual variation in coloration and pattern within this complex means assignment of a single individual on this basis is likely to be less than definitive, size is more helpful. König *et al.* (2008) gave a wing length range of 310–323 mm for *A. f. suinda*, but only 278–288 mm for *A. f. galapagoensis*, i.e. not remotely overlapping. This very short wing of *A. f. galapagoensis* was confirmed by Swarth (1931: 83), who for a sample of 25 specimens gave a range of 268–285 mm (mean 276.7 mm). The supposed Burnett & FitzRoy *galapagoensis* has a wing length of c.315 mm, clearly far too large for this taxon, but appropriate for *suinda*.

⁶ No FitzRoy specimen that we have seen in NHM retains an original label. However, the eight Geospizinae specimens of Harry Fuller, FitzRoy's personal steward on the Beagle voyage, are now in the University Museum of Zoology, Cambridge, UK, and each bears a small numbered label that links it to FitzRoy's specimen list (DAR 29.3) (Sulloway 1982). It therefore seems probable that, like Darwin, FitzRoy merely appended a label with a number to each of his specimens, which he used to link the specimen to any additional data regarding it that he recorded elsewhere.

In conclusion, as a result of early confusion at NHM, what has for the past 170 years been considered to be a Burnett & FitzRoy specimen of *Asio flammeus galapagoensis* collected in October 1835 on James Island, Galápagos, is actually a Darwin specimen of *A. f. suinda* collected between April and July 1833 (Barlow 1963) from Maldonado, Uruguay, NHM registration number 1841.1.18.15.

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