BioOne COMPLETE

The tangled nomenclatural history of Haplopelia forbesi Salvadori, 1904: were Forbes and Robinson right all along?

Authors: Wilson, John-James, Fisher, Clemency T., Senfeld, Tereza, Shannon, Thomas J., and Collinson, J. Martin

Source: Bulletin of the British Ornithologists' Club, 142(1) : 131-137

Published By: British Ornithologists' Club

URL: https://doi.org/10.25226/bboc.v142i1.2022.a7

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://bioone.org/journals/Bulletin-of-the-British-Ornithologists'-Club on 24 Aug 2024
Terms of Use: https://bioone.org/terms-of-use

The tangled nomenclatural history of *Haplopelia forbesi* Salvadori, 1904: were Forbes and Robinson right all along?

By John-James Wilson, Clemency T. Fisher, Tereza Senfeld, Thomas J. Shannon & J. Martin Collinson

Received 19 September 2021; revised 7 January 2022; published 11 March 2022

http://zoobank.org/urn:lsid:zoobank.org:pub:DE0BB39D-7893-4B36-B85A-CCEBF8F05F7A

Summary.—The specimen in Liverpool known as Forbes' Lemon Dove, collected pre-1844 purportedly in Cayenne (French Guiana), was catalogued by Forbes & Robinson in 1900 as *Haplopelia principalis*, despite this species having been described from the island of Príncipe in the Gulf of Guinea. As a result of the discrepancy in localities, the Liverpool specimen was subsequently described as a new species (*Haplopelia forbesi*) by Salvadori and suggested to be from West Africa. Over the course of the next century, the new taxon was subject to a variety of taxonomic treatments. To investigate the status and provenance of Forbes' Lemon Dove, we obtained a 472 bp *cyt-b* sequence from the specimen. This possessed 100% similarity with a Lemon Dove *Columba* (*Aplopelia*) *larvata* sequence from Príncipe and 99.79% similarity with a sequence of the same species from São Tomé. This suggests that Forbes & Robinson were correct that the specimen represents *A. larvata principalis* and was thus probably collected on Príncipe. However, more sequencing from across the Lemon Dove's range is required to resolve the taxonomy of this complex group and place Forbes' Lemon Dove more definitively.

The islands of the Gulf of Guinea are rich in endemic bird species and are covered by several Key Biodiversity Areas and Important Bird and Biodiversity Areas. De Lima & Melo (2021) recently compiled an updated checklist of birds known from these islands but predicted it would rapidly become outdated due to ongoing taxonomic changes, especially as a result of molecular work. More specifically, the taxonomy of Lemon Doves *Columba* (*Aplopelia*) on the islands, and their mainland allies, has been in constant flux. A case in point is *Haplopelia forbesi* Salvadori, 1904, the type specimen of which has been subject to a variety of taxonomic treatments since the mid 1800s (Table 1).

The holotype of what is now known as Forbes' Lemon Dove was purchased by the 13th Earl of Derby from the London dealers, Leadbeater, in September 1844. The specimen was unsexed, thought to be fully adult, and suspected of having been in captivity as its right wing was clipped and its tail feathers, except the central two, appeared worn at the tips. It bore the label 'interior of Cayenne' (French Guiana) but apparently no other information.

In the 13th Earl of Derby's museum stock books, a multi-volume register of specimens, compiled by his curators Louis Fraser and Thomas Moore in the late 1840s (Largen 1987) and now held at National Museums Liverpool, specimen NML-VZ D3567b was grouped (with a question mark) as a female (series no. '3567') with a specimen of Caribbean Dove *Leptotila jamaicensis*. A single specimen of Caribbean Dove (NML-VZ D3567a) had been in the Earl's menagerie before it was accessioned into the museum at Knowsley Hall on its death in August 1811. *Leptotila jamaicensis* is a very different species from Forbes' Lemon Dove (Fig. 1) but given their proximity in G. R. Gray's (1844–49) *Genera of birds*, and the locality on the label, this tentative grouping was understandable. These pigeons were subsequently bequeathed to the people of Liverpool upon the 13th Earl of Derby's death in

© 2022 The Authors; *This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.*

ISSN-2513-9894 (Online)

Downloaded From: https://bioone.org/journals/Bulletin-of-the-British-Ornithologists'-Club on 24 Aug 2024
Terms of Use: https://bioone.org/terms-of-use

TABLE 1
Scientific names used for Forbes' Lemon Dove *Haplopelia forbesi* Salvadori.

Source	Scientific name	Specimen examined	Action
Fraser & Moore (1844-51 in an unpublished stock book held by National Museums Liverpool)	*Leptotila jamaicensis*	Yes	incorrect determination
Forbes & Robinson (1900)	*Haplopelia principalis*	Yes	determination
Salvadori (1904)	*Haplopelia forbesi*	Yes	described as new species
Bannerman (1916)	*Haplopelia forbesi*	Yes	
Bannerman (1931)	*Aplopelia simplex forbesi*	Yes	*forbesi* treated as subspecies of *simplex*
Peters (1937)	*Aplopelia simplex plumbescens*		*forbesi* synonymised with *plumbescens*
Bannerman (1953)	*Aplopelia simplex plumbescens*		
Serle (1959)	*Aplopelia larvata*		*simplex* synonymised with *larvata* and subspecies considered indeterminate
Goodwin (1967)	*Aplopelia larvata plumbescens*		*simplex* synonymised with *larvata*
Goodwin (*in litt*. 1975 to W. Wagstaffe; *cf*. Wagstaffe 1978)	*Aplopelia larvata*	Yes	subspecies considered indeterminate
Wagstaffe (1978)	*Aplopelia larvata*	Yes	
Baptista *et al*. (1997)	*Columba larvata*		*Aplopelia* synonymised with *Columba*

Figure 1. Forbes' Lemon Dove *Haplopelia forbesi* (NML-VZ D3567b) (top) and Caribbean Dove *Leptotila jamaicensis* (NML-VZ D3567a) (bottom) bequeathed by the 13th Earl of Derby to the people of Liverpool and now in the Vertebrate Zoology collection at World Museum, National Museums Liverpool (© National Museums Liverpool [World Museum Liverpool] / John-James Wilson)

© 2022 The Authors; *This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.*

ISSN-2513-9894 (Online)

Downloaded From: https://bioone.org/journals/Bulletin-of-the-British-Ornithologists'-Club on 24 Aug 2024
Terms of Use: https://bioone.org/terms-of-use

Figure 2. Specimens of Lemon Doves *Columba* (*Aplopelia*) *larvata* in the Vertebrate Zoology collection at World Museum, National Museums Liverpool. From left to right (subspecies according to labels): *bronzina* (NML-VZ T13165), *forbesi* (NML-VZ D3567b), *larvata* (NML-VZ D4217), *johnstoni* (NML-VZ T18511), *larvata* (NML-VZ T16271), *larvata* (NML-VZ T8168) (© National Museums Liverpool [World Museum Liverpool] / John-James Wilson)

1851, along with most of his substantial natural history collection (World Museum 2021), founding what became the Derby Museum, Liverpool Museums (Morgan 1978) and now World Museum, National Museums Liverpool.

Henry Ogg Forbes, Director of the Liverpool Museums and his assistant, Herbert Christopher Robinson, published a catalogue of the pigeons in the Liverpool Museums in 1900. Identification of NML-VZ D3567b proved especially difficult. Firstly, Forbes & Robinson (1900) must have concluded that it was congeneric but not conspecific with other specimens grouped under *Haplopelia* as defined by Salvadori (1893). These included the taxa *larvata* (type locality, modern-day South Africa), *simplex* (São Tomé), *bronzina* (Ethiopia) and *johnstoni* (Malawi) (Fig. 2). Forbes & Robinson (1900) also noted the specimen's close agreement with *Columba erythrotorax* [*sic*] Temminck, 1811, said to be from Suriname, but with a key difference: 'under tail coverts are hoary grey, not cinnamon as in that species'. *C. erythrotorax* had already been synonymised under *H. larvata* from South Africa by Gray (1844–49) and Salvadori (1893). 'With assistance of the British Museum', Forbes & Robinson (1900) ultimately catalogued NML-VZ D3567b as *Haplopelia principalis* (Hartlaub 1866), noting that it differed from *H. simplex* by 'its more rufous breast' and from all other species of *Haplopelia* by 'its white under tail-coverts' (Forbes & Robinson 1900).

Peristera principalis Hartlaub, 1866, was described (in Dohne 1866) from a bird collected on Príncipe in 1865 (Jones & Tye 2006). Hartlaub noted that it was nearly allied to his own nomen, *simplex* Hartlaub, 1849, described from the nearby island of São Tomé. According to Salvadori (1893, 1904), there were no specimens of *principalis* at the then British Museum (Natural History) (BMNH), however, apparently unbeknownst to Salvadori (1904) a

© 2022 The Authors; *This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.*

ISSN-2513-9894 (Online)

Downloaded From: https://bioone.org/journals/Bulletin-of-the-British-Ornithologists'-Club on 24 Aug 2024
Terms of Use: https://bioone.org/terms-of-use

Figure 3. The second specimen identified as *Haplopelia forbesi* Salvadori, now at the Natural History Museum at Tring (NHMUK 1896.10.22.1) (© Trustees of the Natural History Museum, London / A. Bond)

principalis (NHMUK 1896.10.22.1) was accessioned there in 1896. This specimen (Fig. 3) said to be from 'W. Africa' and 'Presented [to BMNH] by the Committee of the Manchester Museum, The Owens College, Manchester', bears a strong similarity to Forbes' Lemon Dove. According to the register in Manchester, the specimen was given to Manchester Museum by 'A. Yarquar' in 1893. There is no indication of who determined the specimen to be *principalis* or when.

The wildly incongruous localities of both Príncipe and Cayenne for *H. principalis* had drawn the attention of Salvadori (1903, 1904) who described Forbes' Lemon Dove as a new species, *Haplopelia forbesi* Salvadori, 1904, and stated that the type (NML-VZ D3567b) must have originated from West Africa, not South America. A year earlier *Haplopelia poensis* Alexander, 1903, had been described from Bioko, while earlier in the same year *Haplopelia plumbescens* Sharpe, 1904, was described from Efoulen, Cameroon as 'a species very similar to *H. principalis*' (Sharpe 1904).

Bannerman (1916) revised *Haplopelia* in 1916, making a distinction between a *larvata* 'section' and a *simplex* 'section'; *larvata* being found in South and East Africa, and *simplex* centred on the islands and adjacent mainland of the Gulf of Guinea. Taxa listed under *simplex* were: *s. simplex* restricted to São Tomé; *s. inornata* from Cameroon; *s. poensis* from Bioko; *s. hypoleuca* from Annobón; *s. plumbescens* from southern Cameroon; and *s. jacksoni* from Uganda. Taxon *forbesi* (represented by NML-VZ D3567b and NHMUK 1896.10.22.1) from West Africa, was retained as a species and *principalis*, confined to Príncipe, and being pinkish instead of grey, was kept as a separate 'well differentiated race', i.e. not considered conspecific with *H. simplex* but part of the 'section'.

Fifteen years later, Bannerman (1931) still treated *principalis* as a species but was ready to include *forbesi* as a subspecies under *simplex* and, although hesitant to 'ally *forbesi* with *simplex plumbescens* due to the rusty-red tint to the plumage', mentioned the latter as a potential synonym. Peters (1937) tentatively did synonymise *forbesi*, whilst retaining all of Bannerman's other subspecies, but placed *principalis* (still treated as a species by Bannerman 1931) under *simplex*.

Until the 1950s, Bannerman's two 'sections', *simplex* and *larvata*, were generally followed, with the *simplex* group having greyish males and much paler brown females. However, a population with apparently overlapping characteristics was found by White (1948) in modern-day Zambia. From females, White (1948) had thought birds in this region

© 2022 The Authors; *This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.*

ISSN-2513-9894 (Online)

Downloaded From: https://bioone.org/journals/Bulletin-of-the-British-Ornithologists'-Club on 24 Aug 2024
Terms of Use: https://bioone.org/terms-of-use

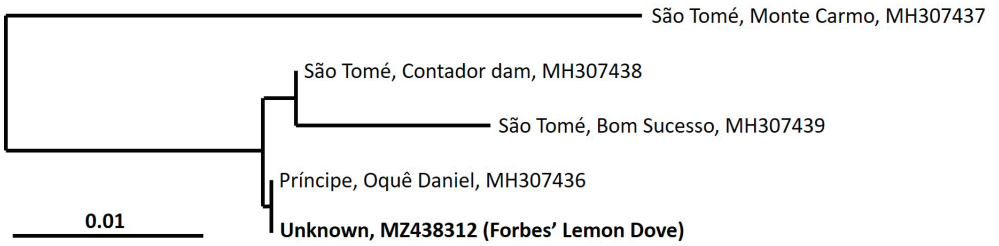

Figure 4. Sub-tree (of a larger tree produced by Neighbor Joining) showing the four Lemon Dove *Columba (Aplopelia) larvata* cytochrome sequences in NCBI GenBank aligned by BLAST with the sequence from Forbes' Lemon Dove *Haplopelia forbesi* (NML-VZ D3567b). Sequences are annotated with the collection locality followed by the GenBank accession no.

were akin to *larvata* (Amadon 1953), however on obtaining a male described it as *Aplopelia simplex samaliyae* (see White 1948), but subsequently (in a letter to J. Chapin seen by Amadon 1953) he concluded that this demonstrated that *larvata* and *simplex* were conspecific. Amadon (1953) recognised only two taxa in the Gulf of Guinea: *A. larvata simplex* (São Tomé) and *A. l. principalis* (Príncipe). Meanwhile Bannerman (1953) retained four 'races' of *simplex*, plus *principalis* as a species, in the *Birds of West and Equatorial Africa*, but made no mention of *forbesi*, presumably following Peters (1937) in lumping it with *plumbescens*. On the basis of overlapping plumage characters among specimens at BMNH, Serle (1959) made a strong case for synonymising *inornata*, *plumbescens* and *poensis* with *simplex* as the only subspecies under *larvata* (following Amadon 1953), but thought they were usefully retained as designators of geographic origin. Due to lack of precise locality information, *forbesi* was not included in his assessment, while the validity of *principalis* was not questioned.

By the 1960s the conspecificity of *larvata* and *simplex* was well accepted, and Goodwin (1967) treated all of the taxa in Bannerman's (1916) *simplex* 'section' under *larvata*, without mentioning *forbesi*. According to Wagstaffe (1978), Derek Goodwin examined NML-VZ D3567b in 1975 and had no doubt the specimen was an immature female of *larvata sensu lato*, but with subspecies indeterminate. To our knowledge, the type specimen of Forbes' Lemon Dove has not been taxonomically reassessed since then. Jones & Tye (2006) and de Lima and Melo (2021) listed *C. l. principalis* on Príncipe and *C. l. simplex* on São Tomé.

Recently, DNA analysis has been applied to the question of Lemon Dove taxonomy. Pereira (2013) sequenced three mitochondrial (*NADH dehydrogenase subunit 2*, *cyt-b*, *cyt-oxidase I*) and one nuclear gene (*β-fibrinogen intron 7*) from two individuals of Lemon Dove (*Aplopelia larvata sensu lato*) from São Tomé, two from Príncipe, and a museum specimen from Malawi. The sequences are unpublished, but the figured (Bayesian Inference) mitochondrial tree reveals each island population as monophyletic but highly similar to each other, and 4.3% distant (uncorrected 'p') from the mainland sequence.

The only sequences currently available on NCBI GenBank for Lemon Doves were generated as part of a global survey examining patterns of diversity in island bird communities by Valente *et al*. (2020). *Cyt-b* sequences were obtained from samples taken from three Lemon Doves on São Tomé (MH307437–439) and one on Príncipe (MH307436). The published tree showed the single sequence from Príncipe nested within those from São Tomé (note, sequence MH307437 from São Tomé is incorrectly labelled *principalis* on the published tree; see supplemental material in Valente *et al*. 2020).

To investigate the status and provenance of Forbes' Lemon Dove further, we obtained a 472 bp *cyto-b* sequence from NML-VZ D3567b. We designed four new pairs of primers specifically for *Haplopelia* (HapF1-3; HapR1-3; registered in the BOLD Primer Database

© 2022 The Authors; *This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.*
ISSN-2513-9894 (Online)
Downloaded From: https://bioone.org/journals/Bulletin-of-the-British-Ornithologists'-Club on 24 Aug 2024
Terms of Use: https://bioone.org/terms-of-use

www.boldsystems.org), each amplifying *c*.150 bp then concatenated the resulting sequences. Our molecular methods otherwise followed those of Senfeld *et al*. (2019). The sequence is published in NCBI GenBank (Sayers *et al*. 2021) under accession no. MZ438312. The Forbes' Lemon Dove sequence was 'blasted' against GenBank and showed 100% similarity with MH307436, from a Lemon Dove at Oquê Daniel, Príncipe. The next most similar sequence, MH307438, from a Lemon Dove at Contador Dam, São Tomé, showed 99.79% similarity (1 bp difference) to the sequence of *forbesi*.

As in the published tree of Valente *et al*. (2020), the *cyt-b* Neighbor Joining tree generated using the BLAST web app of the 100 sequences producing significant alignments (Zhang *et al*. 2000) showed the sequence from Príncipe (*principalis*) nested among sequences from São Tomé (*simplex*) (Fig. 4). The distance between the outlying *simplex* sequence (MH307437) and the cluster of the other four samples is relatively large (>2%) and of a magnitude generally seen between species, whilst the distance between *principalis* + *forbesi*, and the two other clustered *simplex* samples is relatively short (>1.5%) and more indicative of intraspecific variation at the mitochondrial locus (e.g. Johnsen *et al*. 2010). Although the 100% similarity of *forbesi* to the *principalis* sample tends to confirm its correct placement with the Príncipe population, the nesting of the morphologically distinct *principalis* within *simplex* is biogeographically counter-intuitive. More sequencing from across the range of *larvata* and *simplex* is ultimately required to resolve the taxonomy of this complex group.

Our result is, however, consistent with Forbes & Robinson's (1900) original determination that NML-VZ D3567b is a specimen of *principalis*. If so, given that *principalis* is restricted to Príncipe, it too would almost certainly have been collected there. Forbes' Lemon Dove matches females of *principalis* fairly well in size and colour, and some specimens of *principalis* have white/hoary grey undertail-coverts like those of NML-VZ D3567b (Bannerman 1931, Wagstaffe 1978). Based on the collection date we speculate very tentatively that NML-VZ D3567b was collected during the British Government Expedition to the River Niger 1841–42, which used the Gulf of Guinea islands as a base (Tye & Jones 2006). The provenances of many birds collected during this expedition were incorrectly recorded (Tye & Jones 2006) although how the specimen found its way to Leadbeater labelled 'Cayenne' is a mystery. De Lima and Melo's (2021) prediction of further taxonomic changes to the checklist of birds from the islands of the Gulf of Guinea seems well founded.

Acknowledgements

Alex Bond (NHMUK) and Rachel Petts (Manchester Museum) provided information about the only other specimen known to have been identified as *Haplopelia forbesi*. We are grateful to Martim Melo and Luís Lima Valente for access to Hugo José Eira Pereira's M.Sc. thesis and information about recent Lemon Dove samples collected in the Gulf of Guinea. We are indebted to Peter Jones for invaluable comments on the manuscript. Robert Prŷs-Jones, Alan Tye and an anonymous reviewer provided very helpful suggestions on the submitted draft.

References:

Amadon, D. 1953. Avian systematics and evolution in the Gulf of Guinea. *Bull. Amer. Mus. Nat. Hist*. 100: 393–492.

Bannerman, D. A. 1916. A revision of the genus *Haplopelia*. *Ibis* (10)4: 1–16.

Bannerman, D. A. 1931. *The birds of tropical West Africa with special reference to those of the Gambia, Sierra Leone, the Gold Coast and Nigeria*, vol. 2. Crown Agents for the Colonies, London.

Bannerman, D. A. 1953. *The birds of West and Equatorial Africa*, vol. 2. Oliver & Boyd, Edinburgh.

Baptista, L. F., Trail, P. W. & Horblit, H. M. 1997. Family Columbidae (pigeons and doves). Pp. 60–243 *in* del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) *Handbook of birds of the world*, vol. 4. Lynx Edicions, Barcelona.

Dohne, H. 1866. Synopsis of the birds of Ilha do Principe, with some remarks on their habits and descriptions of new species. *Proc. Zool. Soc. Lond*. 1866: 324–332.

Forbes, H. O. & Robinson, H. C. 1900. Catalogue of the charadriomorphic birds (Charadriiformes): auks (Alcidae), gulls (Laridae), and skuas (Stercorariidae) – Lari; lark-plovers (Thinocoridae), stone-curlews (Edicnemidae), jacanas (Jacanidae), sheathbills (Chionidae), crab-plovers (Dromadidae), coursers

© 2022 The Authors; *This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.*

ISSN-2513-9894 (Online)

Downloaded From: https://bioone.org/journals/Bulletin-of-the-British-Ornithologists'-Club on 24 Aug 2024
Terms of Use: https://bioone.org/terms-of-use

(Cursoriidae), plovers and snipes (Charadriidae) – Limicolae; pigeons (Columbae), and sandgrouse (Pterocles), in the Derby Museum (concluded). *Bull. Liverpool Mus*. 2: 117–150.
Goodwin, D. 1967. *Pigeons and doves of the world*. First edn. Brit. Mus. (Nat. Hist.), London.
Gray, G. R. 1844–49. *The genera of birds*, vol. 2. Longman, Brown, Green & Longmans, London.
Johnsen, A., Rindal, E., Ericson, P. G. P., Zuccon, D., Kerr, K. C. R., Stoeckle, M. Y. & Lifjeld, J. T. 2010. DNA barcoding of Scandinavian birds reveals divergent lineages in trans-Atlantic species. *J. Orn*. 151: 565–578.
Jones, P. & Tye, A. 2006. *The birds of São Tomé & Príncipe with Annobón: islands of the Gulf of Guinea*. BOU Checklist no. 22. British Ornithologists Union & British Ornithologists' Club, Oxford.
Largen, M. J. 1987. Bird specimens purchased by Lord Stanley at the sale of the Leverian Museum in 1806, including those still extant in the collections of the Liverpool Museum. *Archiv. Nat. Hist*. 14: 265–288.
de Lima, R. F. & Melo, M. 2021. A revised bird checklist for the oceanic islands of the Gulf of Guinea (Príncipe, São Tomé and Annobón). *Bull. Brit. Orn. Cl*. 141: 179–198.
Morgan, P. J. 1978. Historical introduction to the bird collections of the Merseyside Country Museums. Pp. 1–3 *in* Wagstaffe, R. (ed.) *Type specimens of birds in the Merseyside County Museums (formerly City of Liverpool Museums)*. Merseyside County Museums, Liverpool.
Peters, J. L. 1937. *Check-list of birds of the world*, vol. 3. Harvard Univ. Press, Cambridge, MA.
Pereira, H. J. E. 2013. Conservation genetics of the endemic pigeons of São Tomé and Principe. M.Sc. thesis. Faculdade de Ciências da Universidade do Porto.
Salvadori, T. 1893. *Catalogue of the birds in the British Museum*, vol. 21. Trustees of the Brit. Mus. (Nat. Hist.), London.
Salvadori, T. 1903. Uccelli dell'isola del Principe. *Mem. Accad. Sci. Torino* (2)53: 2–16.
Salvadori, T. 1904. Description of a new species of dove of the genus *Haplopelia*. *Ibis* (8)4: 367–369.
Sayers, E. W., Beck, J., Bolton, E. E., Bourexis, D., Brister, J. R., Canese, K., Comeau, D. C., Funk, K., Kim, S., Klimke, W., Marchler-Bauer, A., Landrum, M., Lathrop, S., Lu, Z., Madden, T. L., O'Leary, N., Phan, L., Rangwala, S. H., Schneider, V. A., Skripchenko, Y., Wang, J., Ye, J., Trawick, B. W., Pruitt, K. D. & Sherry, S. T. 2021. Database resources of the National Center for Biotechnology Information. *Nucleic Acids Res*. 49(D1): 10–17.
Serle, W. 1959. The West African races of the Lemon-Dove *Aplopelia larvata* (Temm. and Knip). *Bull. Brit. Orn. Cl*. 79: 38–41.
Senfeld, T., Shannon, T. J., van Grouw, H., Pajimans, D. M., Tavares, E. S., Baker, A. J., Lees, A. C. & Collinson, J. M. 2019. Taxonomic status of the extinct Canary Islands Oystercatcher *Haematopus meadewaldoi*. *Ibis* 162: 1068–1074.
Sharpe, R. B. 1904. On further collections of birds from the Efulen district of Cameroon, West Africa. *Ibis* (8)4: 38–106.
Valente, L., Phillimore, A. B., Melo, M., Warren, B. H., Clegg, S. M., Havenstein, K., Tiedemann, R., Illera, J. C., Thébaud, C., Aschenbach, T. & Etienne, R. S. 2020. A simple dynamic model explains the diversity of island birds worldwide. *Nature* 579: 92–96.
Wagstaffe, R. 1978. *Type specimens of birds in the Merseyside County Museums (formerly City of Liverpool Museums)*. Merseyside County Museums, Liverpool.
White, C. M. N. 1948. A new race of Lemon Dove from Northern Rhodesia. *Bull. Brit. Orn. Cl*. 69: 20–21.
World Museum, National Museums Liverpool (2021) Vertebrate Zoology collection. https://www.gbif.org/grscicoll/collection/225db9c9-16a8-47d4-a1a2-6940bb4a2da5 (accessed via GBIF.org 19 September 2021).
Zhang, Z., Schwartz, S., Wagner, L. & Miller, W. 2000. A greedy algorithm for aligning DNA sequences. *J. Computational Biol*. 7: 203–214.

Addresses: John-James Wilson, Vertebrate Zoology at World Museum, National Museums Liverpool, William Brown Street, Liverpool L3 8EN, UK, e-mail: john.wilson@liverpoolmuseums.org.uk. Clemency T. Fisher, Vertebrate Zoology at World Museum, National Museums Liverpool, William Brown Street, Liverpool L3 8EN, UK, and Bird Group, Dept. of Life Sciences, Natural History Museum, Tring, Herts. HP23 6AP, UK, e-mail: clem.fisher@liverpoolmuseums.org.uk. Tereza Senfeld, School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, Institute of Medical Sciences, Foresterhill, Aberdeen AB25 2ZD, UK, e-mail: t.senfeldova.17@aberdeen.ac.uk. Thomas J. Shannon, School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, Institute of Medical Sciences, Foresterhill, Aberdeen AB25 2ZD, UK, e-mail: r01ts17@abdn.ac.uk. J. Martin Collinson, School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, Institute of Medical Sciences, Foresterhill, Aberdeen AB25 2ZD, UK, e-mail: m.collinson@abdn.ac.uk

© 2022 The Authors; *This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.*
ISSN-2513-9894 (Online)
Downloaded From: https://bioone.org/journals/Bulletin-of-the-British-Ornithologists'-Club on 24 Aug 2024
Terms of Use: https://bioone.org/terms-of-use