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Why Bolle's Laurel Pigeon *Columba bollii* is not named Wagler's Laurel Pigeon *Columba lamprauchen*

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SUMMARY.—The Canary Islands endemic Bolle's Laurel Pigeon *Columba bollii* was described as a species in 1872 by Godman. A specimen of the same species collected more than 75 years earlier, during the 1796–98 expedition commanded by Baudin, was instead believed to be an example of the Jamaican endemic, Ring-tailed Pigeon *Patagioenas caribaea* (Jacquin, 1784). However, in 1827 its identity had been questioned by Wagler, who believed the specimen represented a separate Caribbean species that he named *Columba lamprauchen*. Although Wagler's name is senior to Godman's, we demonstrate that, following the *International code of zoological nomenclature*, *Columba bollii* should be used as the correct name for this Canarian species.

'The synonymy of the large [Laurel] Pigeons of the Atlantic Islands is involved in great confusion; and no author, so far as I am aware, has as yet assigned to their proper owners the various names that have been given' (Godman 1872: 214).

On 30 September 1796, Commander Nicolas-Thomas Baudin (1754–1803) and, among others, the naturalist René Maugé (1757–1802), sailed from La Havre, France, bound for the Caribbean. Due to problems with the ship, they docked at Puerto de la Cruz, Tenerife, on 6 November 1796, and remained there until 15 March 1797 (Jansen & Fuchs 2019). During this time they collected specimens in the vicinity of Puerto de la Cruz (Ledru 1810).

One of the expedition's goals was to collect natural history objects in the Caribbean, and following their return on 7 June 1798 (Jangoux 2009) these specimens were deposited in what is now the Muséum national d'Histoire naturelle, Paris, France (MNHN). A specimen collected on Tenerife by Maugé of what subsequently proved to be Bolle's Laurel Pigeon *Columba bollii* Godman, 1872, was however labelled as being from Puerto Rico. As a result of the erroneous locality data, the specimen (MNHN-ZO-2002-534; Fig. 1), still at MNHN, was incorrectly identified as a Ring-tailed Pigeon *Patagioenas caribaea* (Jacquin, 1784), which species is endemic to Jamaica. The confusion has led to doubts in the literature as to whether Ring-tailed Pigeon formerly occurred in Puerto Rico (e.g., Peters 1937: 66, del Hoyo & Collar 2014: 168), although Hellmayr & Conover (1942: 442) had mentioned that the species' inclusion in the avifauna of Puerto Rico rested solely on Maugé's specimen, noting that 'It is a well-known fact, however, that the collections of that naturalist were mixed up in the Paris Museum, and an error in labelling this particular specimen is very likely to have been made.' None of these authors appears to have examined the specimen; they would surely have noticed that it is not a Ring-tailed Pigeon and would perhaps have concluded that it was collected in either the vicinity of Puerto de la Cruz or La Orotava, the two localities visited by Maugé on Tenerife.

Together with Pauline Knip de Courcelles (1781–1851), the Dutch zoologist Coenraad Jacob Temminck (1778–1858), published the first monograph on pigeons (Temminck & Knip 1808). Knip executed the plates for this major work, mainly based on specimens in



Figure 1. Specimen of Bolle's Laurel Pigeon *Columba bollii*, and the holotype of *Columba lamprauchen* Wagler, 1827, collected by Maugé sometime between November 1796 and March 1797 on Tenerife, MNHN-ZO-2002-534; the specimen was wrongly labelled as being from Puerto Rico and until recently misidentified as Ring-tailed Pigeon *Patagioenas caribaea* but, as its characteristics obviously do not agree with that species, Wagler believed this was a new species from Puerto Rico that he named *Columba lamprauchen* (© Muséum national d'Histoire naturelle, Paris)

Temminck's own collection and others at MNHN. The specimen used to model for Ring-tailed Pigeon (see Fig. 2) was the specimen collected by Maugé on Tenerife of the as yet unnamed *Columba bollii*. Temminck provided a good description of the same specimen, which is therefore the first description of Bolle's Laurel Pigeon. As he believed it was collected on Puerto Rico, he called it 'Colombe a queue annelée' based on Sloane's Ring-tailed Pigeon (see Appendix) and used the scientific name *Columba caribaea* supposedly of Latham. In fact, Latham (1790: 603) mentioned a variety of *caribaea* with a wedge-shaped tail, as reported by Jacquin (1784: 30) in his somewhat inaccurate original description of *caribaea* (see Appendix); Latham was thus merely reporting Jacquin. Temminck remarked that Latham's variety (with the wedge-shaped tail) must be a different species, as the tail of the specimen used by him and Knip was square-ended (Temminck & Knip 1808: 22, pl. 10).

The German zoologist Johann Georg Wagler (1800–32) was familiar with Temminck's work and apparently had seen Maugé's specimen in Paris. He noted that the descriptions of the latter specimen did not match *Columba caribaea* and insisted that further examination



Figure 2. Plate 10, Ring-tailed Pigeon *Columba caribea* [sic], in Temminck & Knip (1808). The specimen that modelled for this plate is a Bolle's Laurel Pigeon *C. bollii* collected by Maugé, and this was the first illustration of the Canarian species more than 60 years before its formal description (Hein van Grouw, © Trustees of the Natural History Museum, London)

was required before considering them the same species. He specifically noted that he had not seen Latham's wedge-tailed variety but, in accord with Temminck, he thought the latter represented a different species (Wagler 1827: 244). Wagler too was led to believe that the specimen came from the Caribbean and, as this form had not previously been described, he named it *Columba Lamprauchen*, of which Maugé's specimen of Bolle's Laurel Pigeon from Tenerife (Fig. 1) is the holotype. This name, however, was never connected with *Columba bollii* Godman, 1872, by later workers as the specimen was believed to be from Puerto Rico. Nobody after Wagler appeared to take a close look at it, so for almost 200 years Maugé's specimen remained incorrectly identified as *Patagioenas caribaea* (Voisin *et al.* 2005: 845, Jansen & Fuchs 2019).

Which laurel pigeon is which?

Two endemic and very similar-looking laurel pigeon species occur on the Canary Islands: Laurel Pigeon *Columba junoniae* E. Hartert, 1916, and Bolle's Laurel Pigeon *C. bollii* Godman, 1872. A third, also similar species is endemic to Madeira, Madeira Laurel Pigeon *C. trocaz* Heineken, 1829. Due to their similarity they have been confused in the past and for many years only two species were recognised. For example, Webb & Berthelot (1841) thought that *C. trocaz* also occurred in the Canaries and renamed it *Columba laurivora*, as, in their opinion, *trocaz* was not a 'Latin name'. The description and accompanying plate (Webb & Berthelot 1841: pl. 3, top; see Fig. 3) is of a 'male' Madeira Laurel Pigeon. They added that the 'female' differed slightly from the male, but their description and plate of the 'female' (Webb & Berthelot 1841: pl. 3, bottom; see Fig. 4) match the then unnamed *C. junoniae* from the Canaries. As the name *laurivora* was based on the description and the plate of the male, it necessarily applies to the Madeira species, and *laurivora* is nowadays considered a junior synonym of *trocaz*. Nevertheless, the name *C. laurivora* was universally used for the laurel pigeon of the Canaries instead, even though it is now known not to be applicable to this species. Hartert (1916: 85–86) recognised this and named the Canarian species *C. junoniae*, after the old names for the islands of La Palma and Gomera; Junonia Mayor and Junonia Menor.

Partially as a result of Webb & Berthelot's mistake, Bonaparte (1857) confused matters even further. He realised that Webb & Berthelot (1841) had depicted two different species. The 'female' in Webb & Berthelot (1841: pl. 3, bottom) was indeed correctly identified to species but, in Bonaparte's opinion, was a 'male'. He therefore figured a 'female' (of *junoniae*) (Bonaparte 1857: pl. 69; see Fig. 5) under Webb & Berthelot's name *laurivora* (in fact, the species cannot be sexed using plumage). However, Bonaparte (1857) thought that the male illustrated by Webb & Berthelot (1841: pl. 3, top) was the male of a new species, which he thought occurred on both Madeira and the Canaries, as well as in Morocco, and which he had previously named *Trocaza bouvryi* (Bonaparte 1855: 658–659). Unaware that his 'new species' was, in fact, Heineken's *trocaz* from Madeira, he depicted a Madeira Laurel Pigeon under the name *bouvryi* (Bonaparte 1857: pl. 70; see Fig. 6).

Thus, in contrast to Webb & Berthelot (1841) who believed only one species of laurel pigeon (*laurivora* = *trocaz*) occurred on Madeira and the Canaries, Bonaparte (1857) recognised two species (*laurivora* = *junoniae* and *bouvryi* = *trocaz*) but thought both occurred in both archipelagos. By this point, Bolle's Laurel Pigeon had not been recognised as a third species, probably because it is very similar in appearance to Madeira Laurel Pigeon, most notably in the pale central tail-band (see Fig. 7), which surely explains why the latter was long believed to occur on Madeira and the Canaries. The tail of *C. junoniae* is very distinctively white at the tip, hence its other common name White-tailed Pigeon.

It was the German ornithologist Carl August Bolle (1821–1909), who had spent much time on the Canary Islands, that mentioned a potential third species of laurel pigeon. Although he had not seen it himself, he was told by local people that it was 'a smaller species' (Bolle 1858: 329). The English ornithologist and collector Frederick DuCane Godman (1834–1919) was first to confirm the third species, based on specimens he had procured on the Canaries (Godman 1872; Figs. 8–9). He named the species *C. bollii*, in honour of Bolle who, however, never did see a specimen. He might have named it after Wagler instead, as the latter had noticed that the specimen collected by Maugé differed from Ring-tailed Pigeon *C. caribaea* Jacquin, 1784, of which fact Godman seemed unaware.



Figure 3. Plate 3, top, male of *Columba laurivora* in Webb & Berthelot (1841), which according to them occurred on Madeira and the Canaries; the illustration matches *Columba trocaz* from Madeira (Hein van Grouw, © Trustees of the Natural History Museum, London)



Figure 4. Plate 3, bottom, female of *Columba laurivora* in Webb & Berthelot (1841), which according to them occurred on Madeira and the Canaries; the illustration matches *Columba junoniae* from the Canaries (Hein van Grouw, © Trustees of the Natural History Museum, London)



Figure 5. Plate 69, female of *Trocaza laurivora* in Bonaparte (1857), which according to Bonaparte occurred on Madeira and the Canaries; the illustration matches *Columba junoniae* from the Canaries (Hein van Grouw, © Trustees of the Natural History Museum, London)



Figure 6. Plate 70, male of *Trocaza bouvryi* in Bonaparte (1857), which according to Bonaparte was a new species that occurred on Madeira and the Canaries and in Morocco; the illustration matches *Columba trocaz* from Madeira (Hein van Grouw © Trustees of the Natural History Museum, London)



Figure 7. Tails, from above (top) and below, and left to right, of Ring-tailed Pigeon *Patagioenas caribaea*, Bolle's Laurel Pigeon *Columba bollii*, Laurel Pigeon *C. junoniae* and Madeira Laurel Pigeon *C. trocaz* (Jonathan Jackson, © Trustees of the Natural History Museum, London)

Conclusion

The name *Columba Lamprauchen* Wagler, 1827, was applied to a specimen of Bolle's Laurel Pigeon collected by Mauge on Tenerife, and is the senior name for this taxon. This name, however, has never been used for the Canarian species as it was always associated (erroneously) with a Caribbean species.

In principle the valid name of a taxon is the oldest available, unless, for example, its use would upset a long-accepted junior name, as articulated in Art. 23.2 of the *International code of zoological nomenclature* (ICZN 1999). In the case of Bolle's Laurel Pigeon, use of the junior synonym *bollii* is required to maintain stability and avoid confusion, but the Code dictates two conditions. Firstly, that the senior name has not been used as the valid name for the taxon post-1899 (Art. 23.9.1.1) and, secondly, the junior name has been used as the presumed valid name for the taxon in the last 50 years by at least ten different authors in at least 25 different works (Art. 23.9.1.2).

We have found several publications, all prior 1899, that cited the name *lamprauchen*, but only in the synonymy of *C. caribaea*, or in relation to an alleged species from Puerto Rico. Gosse (1847: 291) mentioned '*Columba lamprauchen* WAGL.' as a synonym of 'Ring-



Figure 8 (left). Syntype of Bolle's Laurel Pigeon *Columba bollii* Godman, 1872, NHMUK 1889.2.12.84; nine specimens were used for the original description, five of which are at NHMUK, one is in Manchester Museum (see Fig. 9) and one is in the Naturhistorischen Museums Wien, NMW 53.045 (Schifter *et al.* 2007: 151), but the whereabouts of the other two are currently unknown (Jonathan Jackson, © Trustees of the Natural History Museum, London)

tail pigeon *Columba caribaea* LINN.¹ from Jamaica. Hartlaub (1849) thought that Wagler's *Columba lamprauchen* was Temminck's (1807: 142, 248) 'Le Ramier blue à nuque écaillée' = Scaly-naped Pigeon *Patagioenas squamosa* (Bonnaterre, 1792), of which Temminck had a specimen from Trinidad, perhaps because Temminck (in Temminck & Knip 1808) later named the same species ('Colombe à nuque écaillée') *Columba portoricensis* and referred to specimens taken by Mauge in Puerto Rico. Another mention of *Columba lamprauchen* is by Bonaparte (1854: 1110) who believed it to be a synonym of '*Col. caribaea*, L.' from the Antilles and the Bahamas. Burmeister (1856: 294) considered *lamprauchen* was the name of a pigeon species allegedly from Puerto Rico. In the synonymy, Burmeister mentioned '*Columba caribaea*, plate 10' in Temminck & Knip 1808. Reichenbach (1851: index page [1]) mentioned *C. lamprauchen* Wagl. as a synonym of *Columba caribaea* plate 10 of Temminck. He also copied Temminck's plate 10 to illustrate Ring-tailed Pigeon, although the bird depicted

¹ Some contemporary authors considered Linnaeus to be the authority of the name *caribaea* for Ring-tailed Pigeon, as it is mentioned in Linnaeus's 13th and last edition of *Systema naturae*, completed by Gmelin in 1788. Gmelin (1788: 773) added the name there, referring to Jacquin, who had named the species four years earlier and is thus the true authority.



Figure 9. Plate 459 in Dresser (1875) of Bolle's Laurel Pigeon *Columba bollii*, based on a specimen collected by Godman on Tenerife in 1871 and donated to Henry Dresser; it is one of nine syntypes and is held in Manchester Museum, BD09098 (Hein van Grouw, © Trustees of the Natural History Museum, London)



Figure 10. Plate 230b, fig. no. 3362, *Patagioenas caribaea*, synonym *Columba lamprauchen*, in Reichenbach 1851; clearly a copy of plate 10 in Temminck & Knip (1808) and thus not *Patagioenas caribaea* but rather the then unnamed *Columba bollii* (Hein van Grouw, © Trustees of the Natural History Museum, London)

was a Bolle's Pigeon (Fig. 10), as discussed above. About a decade later, Reichenbach (1861–62) erected the genus *Patagioenas* including the Ring-tailed Pigeon *Patagioenas caribaea*, referring to Temminck's *Columba caribaea* and again mentioned *Columba lamprauchen* in the synonymy. The latest mention of Wagler's *Columba lamprauchen* we found was by Gundlach (1878: 346), also in the synonymy of *Columba caribaea* Temminck (Temminck & Knip 1808: 22, pl. 10, Temminck 1813: 114), but he doubted that the species occurred on Puerto Rico. No use of Wagler's name *lamprauchen* is found in works post-1899.

To satisfy Art. 23.9.1.2, the following list of 25 works use the junior synonym *bollii* as the valid name: Löhrl (1981), Goodwin (1983), Huizinga (1984), Cramp (1985), Emmerson *et al.* (1986), Martín (1987), Sibley & Monroe (1990), Gonzalez (1995), Uhlig & Uhlig (1996), Baptista *et al.* (1997), Beaman & Madge (1998), Snow & Perrins (1998), Hernández *et al.* (1999), Gibbs *et al.* (2001), Martín & Lorenzo (2001), Martí & del Moral (2003), Clarke (2006), Lorenzo (2007), Schifter *et al.* (2007), García-del-Rey (2011), Dickinson & Remsen (2013), Padrón (2013), del Hoyo & Collar (2014), García-del-Rey (2015) and García-del-Rey (2018).

Based on the above, and to the best of our knowledge, the senior name *lamprauchen* is *never* used as a valid name for Bolle's Pigeon from Tenerife, and in our opinion the condition in Art. 23.9.1.1 of the *International code of zoological nomenclature* (ICZN 1999) is met. Furthermore, the list of 25 works mentioned above demonstrates that the junior name *bollii* has been used for the last 50 years as the valid name for Bolle's Pigeon from Tenerife, satisfying Art. 23.9.1.2. Therefore, the junior name, *Columba bollii* Godman, 1872, is valid, in accordance with Art. 23.9.2. As a result, *Columba bollii* Godman, 1872, becomes a *nomen protectum*, and *Columba Lamprauchen* Wagler, 1827, a *nomen oblitum*.

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Appendix: Pigeon tails, the true story

The Jamaican endemic Ring-tailed Pigeon *Patagioenas caribaea* (Jacquin, 1784) was first mentioned and described by Ray (1713: 63, 183). Ray based his information on Hans Sloane, who had visited Jamaica in 1687–88, and had encountered the species there. Later, Sloane (1725: 302–303) referred to it as the 'Ring-tailed Pigeon *Columba cauda torquate*'. Next to mention the species (Le pigeon a queue annelée de la Jamaïque) was Brisson (1760: 138–139), who referred to Sloane and Ray, mentioned the white vent and black tail-band, and named it '*Columba cauda annulo cincta jamaicensis*'. Neither of these names is nomenclaturally available.

Finally, in 1784 Joseph von Jacquin, an Austrian naturalist, named the species *Columba caribaea*. Between 1755 and 1759 his father, Nikolaus von Jacquin, a botanist, visited the West Indies, Central America, Venezuela and 'New Granada' (mainly present-day Colombia and Panama) to collect plants and animals for the Schönbrunn Zoo (Vienna), founded in 1752 by King Franz I and Queen Maria Theresia (Fitzinger 1853). Among the many animals Nikolaus brought back in 1759 were several Ring-tailed Pigeons which survived for several years (Fitzinger 1853: 388) but did not breed (Jacquin 1784: 30). Joseph must have seen them in 1759, but when he described them 25 years later it appears he relied on his memory rather than a specimen. Incorrectly he stated that the species had a wedge-shaped tail ('*cauda cuneata*'; Jacquin 1784). Although he referred to Brisson, Jacquin in his very poor description did not mention the tail pattern. In fact, Jacquin specifically stated that the black tail-band and white vent mentioned by Brisson differed from his description, but nevertheless thought the same species was involved. Ignoring earlier names based on the distinctive black tail-band (Fig. 7), Jacquin named it the Caribbean Pigeon *Columba caribaea*. Despite its errors, Jacquin's work is the original description of the species.

Temminck's mistake, using the incorrect species for his illustration of Ring-tailed Pigeon, is understandable as both species have a black tail-band and are otherwise rather nondescript; and, being reliant on museum specimens, the bare-part colours were indeterminate. The tail-band in Ring-tailed Pigeon, however, is in the middle of the tail, and is best seen from above, whilst in Bolle's Laurel Pigeon the band is at the tip of the tail and most visible from below (see Fig. 7).