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The valid specific name of Sulawesi's Maroon-chinned Fruit Dove: *gularis* Quoy & Gaimard, 1832

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SUMMARY.—We present evidence demonstrating that the combination *Columba gularis* Quoy & Gaimard, 1832, is not preoccupied by *Columba gularis* Wagler, 1827, and is available. It should be used as the valid specific name of the taxon rather than the replacement name *Leucotreron epia* Oberholser, 1918.

The Maroon-chinned Fruit Dove of Sulawesi was originally described as *Columba gularis* Quoy & Gaimard, 1832¹, and for almost a century this name was invariably used for the taxon. However, a slightly earlier application of this same combination for an African bird was known, and because Quoy & Gaimard's name was thought to be preoccupied, the replacement name *epia* Oberholser, 1918, was introduced for the Sulawesi bird. The appropriateness of this action and the history of the case require examination to confirm the valid specific name for this taxon.

History of the names

In 1808, in his *Histoire naturelle des oiseaux d'Afrique* (pp. 116–118), François Levaillant described a new form of dove, accompanied by an attractive illustration, calling it 'Le Colombi-Caille', and stating that it came from Great Namaqualand. Levaillant was an adherent of Buffon and rejected the Linnaean naming system, considering that a vernacular French name was quite sufficient. He also remarked (p. 118) that he had made a special effort to complete the descriptions of his new pigeons so that Temminck could include them in his forthcoming monograph on the Columbidae.

Temminck (1811: 26–27) duly included Levaillant's 'Colombi-Caille' in the monograph, with a description almost identical to Levaillant's and a perhaps slightly inferior plate (Pl. XV). He called the bird 'Colombi-Galline Hottentot', but, more to the point, gave it a scientific name, *Columba Hottentotta*.

A few years later, Wagler (1827: [261]) listed within his genus *Columba* what was clearly the same bird, citing both Levaillant's and Temminck's names, again presenting a near-identical description, and naming it *C. gularis* (#90). Wagler was among those who considered that scientific names should be apt and that this outweighed the historically accepted principle of priority, which may explain why he provided a new name for a form that already had an apparently valid name. As a result, *gularis* Wagler, 1827, would have been a junior objective synonym of *hottentotta* Temminck, 1811.

Around the same time, during a French circumnavigation of the globe by the *Astrolabe* in 1826–29, a large number of specimens were collected including a new dove from near Manado, at the north-east tip of the Indonesian island of Sulawesi. When the ship's surgeons, Quoy and Gaimard, were writing up their results, they named the species *Columba gularis* (1832: 247), presumably unaware that Wagler had recently used the same name for a totally different bird in southern Africa.

¹ For dating to 1832, rather than 1830, see Mlíkovský (2012).

The best part of a century later, Oberholser (1918: 48) reached the conclusion that Quoy and Gaimard's name was preoccupied by Wagler's [objective] synonym of Temminck's name, despite noting that both names referred to 'a fictitious bird of Levaillant's'. At the time, the *Règles internationales de la nomenclature zoologique*, the forerunner of the present Code, had no provisions related to fictitious animals (see Hemming 1958). However, it was already accepted practice that such fabricated inventions had no place within the realms of zoological nomenclature, and such names were customarily ignored. Despite this, Oberholser went on to provide a replacement name for that of Quoy and Gaimard, calling the species *Leucotreron epia*².

Levaillant's bird

Levaillant's sparkling accounts of his travels in southern Africa caused an immediate sensation after his first publications in 1790, and he quickly became a celebrity in European society (Stresemann 1975: 88 ff., Bruce 2003: 21). However, from the outset there were sceptics, as revealed in a letter from Count von Hoffmannsegg to his sister, in 1797 (translation from Stresemann 1975: 89): 'It is quite possible that often in his tales he improves on nature as he observed it, but certainly not so vastly as many here [Paris] believe, and I do not know why all his stories should not basically be true.' At the same time, Hoffmannsegg also commented on how skilled and rapid Levaillant was at preparing skins.

As already noted, Wagler had renamed Levaillant's pigeon in his *Systema avium* of 1827. In the prologue to this book (p. [7]) he extolled Levaillant's work and criticised the small-mindedness and jealousy of those who cast doubt on its authenticity. But, just a few years later, by the time he was writing his *Monographia Psittacorum*, he too had become suspicious, having detected that some of Levaillant's birds were taken from plates in the works of Buffon and Edwards, skilfully altered and then claimed to occur in 'Lisbon, the Cape or some other remote location' (1832: 467). Perhaps he might have had more to say about the matter, and even the dove in question, but in August 1832 he died in an unfortunate accident (Gebhardt 2006: 375).

Some clear falsifications among Levaillant's birds were detected by Hartlaub and Jules Verreaux³, whilst Bonaparte (1857: 69) did not know what to make of '*Columba hottentotta*' and did not award it a species entry. It was left to Sundevall (1857) to reveal the true extent of Levaillant's falsehoods. As a child, Sundevall had been captivated by Levaillant's books, which had been important in his electing to become a zoologist. While working on collections of southern African birds made by Wahlberg and others, he was struck by the number of birds described by Levaillant as being common that were never encountered by subsequent visitors to apparently the same regions, in an area not notably given to local endemism. Amid growing doubts, Sundevall eventually examined all of Levaillant's 'species' one by one, checking various skins in Leiden with the help of Schlegel, and in Paris with Jules Verreaux. He concluded that of the 284 species covered by Levaillant, 134 were valid southern African species, but the rest consisted of large numbers found exclusively in other parts of the world (New Zealand, Australia, North and South America, China, India, Java, etc.), as well as false descriptions, composite species or artefacts (skins fabricated from

² Oberholser (1918) did not indicate the etymology of *epia*, but it is clearly the Latinized Greek adjective ἤπιος (-α, -ου) [gentle, kind] in its feminine form. Therefore, as the genus *Leucotreron* is masculine, the original combination *Leucotreron epia* requires a mandatory correction to *Leucotreron epius*.

³ Verreaux first visited South Africa when he was only 11, accompanying Delalande's expedition for the Paris museum and staying three years. After returning to France, he soon went back to the Cape in 1825, where he stayed for 13 years, thereby gaining vast first-hand knowledge of the southern African avifauna (Stresemann 1975: 162).

parts of more than one species), fictitious birds and some doubtful cases⁴. In his paper, he gave details of each case. His conclusion on 'Le Colombi-Caille' was that the bird was entirely fictitious.

After this landmark publication, Sundevall's careful and considered conclusions appear to have been universally accepted, and thereafter any references to Levaillant's dove have invariably described it as fictitious (e.g. Layard 1867: 264, Gray 1870: 240, Salvadori 1893: 644–645, Oberholser 1918: 48).

Application of the Code

Several articles of the *International code of zoological nomenclature* (hereafter the Code; ICZN 1999) are particularly relevant to this case and require comment.

Exclusions and availability.—The names *Columba hottentotta* Temminck, 1811, and *C. gularis* Wagler, 1827, were coined for a fictitious species. As a result, they are not regulated by the Code (see Art. 1.3.1, and Glossary: concept, hypothetical), and are not available (see Glossary: unavailable name). They are expressly excluded by the Code and have no standing in zoological nomenclature. Effectively, as scientific names they have never existed.

When Oberholser (1918) supplied a new replacement name for *Columba gularis* Quoy & Gaimard, 1832, he did so stating that their name was preoccupied by *Columba gularis* Wagler, 1827. But Wagler's name is unavailable, as it was based on a non-existent bird, a point noted by Oberholser himself⁵. Therefore, Oberholser's replacement name was completely unnecessary because *Columba gularis* Quoy & Gaimard, 1832, was perfectly valid and not preoccupied: it was at all times the correct name for the Sulawesi bird. The fact that Oberholser's new name was not needed does not make it unavailable; it was validly introduced but is a junior objective synonym of *gularis* Quoy & Gaimard⁶.

Had *Columba gularis* Wagler, 1827, been an available name, *Columba gularis* Quoy & Gaimard, 1832, would have been a primary homonym, and thus permanently invalid (Art. 57.2). But, because for the purposes of the Code Wagler's name has effectively never existed, Quoy and Gaimard's name has always been valid: there is no case of homonymy here⁷.

Usage—Having established that *gularis* Quoy & Gaimard, 1832, is available and has priority over *epia* Oberholser, 1918, it is worth checking to establish if this is a case where reversal of precedence (Art. 23.9) might be applicable. This article is the one place where the Code gives a reasonably precise and workable definition of 'prevailing usage', as can be seen here.

⁴ Sundevall remarked that confusion of the origins of skins was not unusual at the time, with many species being attributed to southern Africa because vessels from the East typically stopped off at the Cape, and often transferred their cargoes to other Europe-bound ships, with the result that a European collector on purchasing an undocumented series of birds might easily be erroneously led to believe that they had originated in the Cape. However, while most European collectors might not be expected to discover these errors, what was unforgivable in Levaillant's case was that he invariably stated that he had seen the species in southern Africa, providing a series of bogus details concerning the circumstances, as well as notes on their behaviour and even their nests and eggs.

⁵ Subsequent to its original introduction by Wagler (1827), it was never used as a valid name.

⁶ Oberholser's (1918) introduction of *epia* could well be considered insufficient for making the name available under Art. 11.5, as he cited the name but did not actually use it in his species heading (*Leucotreron gularis*); indeed, it might even be argued that he introduced the name conditionally, as he stated '...it may be called *Leucotreron epia*, nom. nov.'. However, the name would nonetheless have been made available (Art.11.6.1) through subsequent use, for example by Riley (1924); names proposed conditionally before 1961 are not automatically to be excluded (Art. 11.5.1).

⁷ It is worth noting, in passing, that Art. 59.3 talks of names that were replaced before 1961 becoming permanently invalid, but this article explicitly relates to secondary homonyms, which is not the case here.

'23.9.1. prevailing usage must be maintained when the following conditions are both met:

23.9.1.1. the senior synonym or homonym has not been used as a valid name after 1899, and

23.9.1.2. the junior synonym or homonym has been used for a particular taxon, as its presumed valid name, in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years.'

It is important to note the requirement that *both* conditions be met. In this case, if both are met, the junior objective synonym *epia* would overthrow the priority of the senior *gularis*, so we must examine the facts for each condition in turn.

For Art. 23.9.1.1 to be met, *gularis* Quoy & Gaimard must *not* have been used as a valid name after 1899. We found seven (arguably eight) publications post-1899 in which *gularis* was used as the valid name of this species: Forbes & Robinson (1900: 121), Dubois (1902: 736), Hose (1903: 81), Lampe (1905: 200), Mathews (1910: 100), Hartert (1927: 4), Stresemann (1936: 365), and perhaps arguably (see footnote 6) Oberholser (1918: 48). One such use would technically be sufficient, but there is evidence of at least seven or eight. The required condition is not met.

For Art. 23.9.1.2 to be met, *epia* Oberholser needs to have been used as the valid name for this dove in at least 25 works from the immediately preceding 50 years (i.e. 1971–2020). We undertook an exhaustive search but managed to find no more than 21 such uses: Wolters (1975: 53), Goodwin (1977: 341, 1983: 277), Howard & Moore (1980: 149, 1991: 92), White & Bruce (1986: 199), Rösler (1996: 271), Baptista *et al.* (1997: 207), Coates & Bishop (1997: 321), Clements (2000: 125, 2007: 124), Gibbs *et al.* (2001: 228), Dickinson (2003: 174), Rheindt *et al.* (2011: 429–440), Dickinson & Remsen (2013: 76), del Hoyo & Collar (2014: 206), Eaton *et al.* (2016: 52), Bahr (2016: 130), Martin *et al.* (2017: 75), Arlott (2018: 128), and del Hoyo (2020: 110). Indeed, six of these (Goodwin, Howard & Moore and Clements, each twice) might more appropriately be considered to amount to three cases of duplication, as in each case the second date listed above refers simply to an updated version of the same work, with the same authors, same combinations, and precisely the same information; it seems difficult to justify counting each member of these pairings as different 'works'⁸. Either way, again the required condition of the article is not met.

A few mentions of the name from this period are clearly excluded from the 'uses' stipulated in Art. 23.9 (see, especially, 23.9.6). For example, Martens & Bahr (2016: 218) is a serious scientific paper but, in line with the overall purpose of its series, it simply reports usage elsewhere (del Hoyo & Collar 2014) of a new combination, *Ramphiculus epius*. It is perfectly clear that the authors of this paper were not themselves using this as the correct name for the taxon.

Given the remarkably few uses of *epia* detected within the required timescale⁹, for interest we decided to extend our search back to the introduction of this name by Oberholser in 1918, although any earlier uses would have no bearing on Art. 23.9. In addition to Oberholser's paper, we found only seven other uses: Riley (1924: 12), Mathews (1927: 28), Peters (1937: 26), Stresemann (1941: 53), Kuroda (1953: 108) and Goodwin (1967:

⁸ In this vein, we have excluded the numerous reprints, translations and editions (sometimes 'revised' or 'annotated') of Wallace's (1869) classic *The Malay Archipelago* that have appeared regularly over the last 150 years or so; the original text (and presumably all others) uses the name *gularis* for this species on p. 431.

⁹ The minimal use of the name *epia* may well be related to the fact that for most of the last 100 years or so the taxon has been lumped with Banggai Fruit Dove *Ramphiculus subgularis* (Meyer & Wigglesworth 1896), which has priority over the name *epia* (but not *gularis*). As a result, unless referring to it at subspecific level, most ornithologists would have known the Sulawesi birds as *Ptilinopus subgularis*.

341, 1970: 341). This figure compares very unfavourably with at least 41 uses of *gularis* Quoy & Gaimard that we located from before the cut-off date for Art. 23.9.1.1 of 1899 (see Appendix).

Note that Goodwin (1967) is the first edition and Goodwin (1970) the second of the same work that is cited twice in the 1971–2020 list, above. Differences between the 1967 and 1970 versions appear minimal, and mostly related to details of life histories, while the ‘edition’ of 1977 is apparently simply a reprint with a different cover page, as already reported by Bock (1979: 646). The 1983 edition is much the same but with a different layout. The species account for *Ptilinopus subgularis* (including *epia* [sic]) is absolutely identical word-for-word and space-for-space across the four editions, apart from the two-column layout used in 1983, which appears to have had the unfortunate side effect of introducing two (very minor) typographical errors¹⁰. As such, it would seem against the spirit of the Code (see, e.g., Art. 23.9.6) to count four versions of the same book as four uses (only two are potentially relevant to Art. 23.9). In truth, for the purposes of Art. 23.9, it might be argued that perhaps the first (1967) edition should be considered the only valid use, and this falls outwith the relevant period of Art. 23.9.1.2.

Conclusions

The name *Columba gularis* Quoy & Gaimard, 1832, is valid and available. It is not, and never has been, preoccupied. The proposed replacement name *Leucotreron epia* Oberholser, 1918, is a valid and available name, but is an objective junior synonym of *Columba gularis* Quoy & Gaimard, 1832.

To qualify for reversal of precedence due to possible prevailing usage, both conditions of Art. 23.9 must be met. Having studied uses of both epithets as the valid name for the taxon, we find that the case for promoting *epia* over *gularis* fails on both counts, as neither of the required conditions is met.

Nowadays, this taxon is normally placed in either *Ptilinopus* or *Ramphicululus*, traditionally in a polytypic species but increasingly as a separate, monotypic species. Irrespective of its treatment, the correct name for this taxon is *gularis* Quoy & Gaimard, 1832.

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¹⁰ The word ‘tail’ is misspelt ‘tall’, and an en-dash is mistakenly replaced with a hyphen.

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Appendix

List of works using *gularis* Quoy & Gaimard, 1832 (1832–99; and after 1899), and list of works using *epia/epius* Oberholser, 1918 (1918–70; and 1971–2020). The lists present combinations used by the authors with indications of publication date and page. All cited authors are listed in the References.

Uses of *gularis* Quoy & Gaimard, 1832 (1832–1899)

- | | |
|---------------------------------|---------------------------------|
| <i>Columba gularis</i> | <i>Ptilonopus gularis</i> |
| Quoy & Gaimard (1832: 247) | Wallace (1860: 141) |
| Lesson (1837: 39) | Wallace (1861: 348) |
| Prévost (1838: 21) | Wallace (1865: 377) |
| <i>Carpophaga gularis</i> | Finsch (1865: 176) |
| Gray (1844: [469]) | Wallace (1866: 278) |
| <i>Leucotreron gularis</i> | Wallace (1869: 431) |
| Bonaparte (1854: 876) | <i>Laryngogramma gularis</i> |
| Bonaparte (1855a: 216) | Reichenbach (1861: 102) |
| Bonaparte (1857: 15) | Heine & Reichenow (1890: 282) |
| Verreaux & Des Murs (1862: 343) | <i>Ptilopus gularis</i> |
| Walden (1872: 83) | Schlegel (1863: 59) |
| Salvadori (1875: 670) | Schlegel (1873: 37) |
| Walden (1877: 214) | Giebel (1877: 364) |
| Meyer (1879: 135) | Elliot (1878: 570) |
| Blasius (1883: 138) | Rosenberg (1878: 275) |
| Blasius (1886a: 131) | Wallace (1880: 440) |
| Blasius (1886b: 207) | Jentink (1883: 141) |
| de Elera (1895: 301) | Salvadori (1893: 78) |
| Blasius (1897: 363) | Meyer & Wiglesworth (1895: 15) |
| Sharpe (1899: 56) | Meyer & Wiglesworth (1896: 19) |
| <i>Trerolaema gularis</i> | Meyer & Wiglesworth (1898: 605) |
| Bonaparte (1855b: 247) | <i>Ptilinopus gularis</i> |
| Gray (1870: 230) | Brüggemann (1876: 82) |
| | Hartert (1897: 165) |

Uses of *gularis* Quoy & Gaimard, 1832 (after 1899)

- | | |
|---------------------------------------|--|
| <i>Ptilinopus gularis</i> | <i>Ptilopus gularis</i> |
| Forbes & Robinson (1900: 211) | Hose (1903: 81) |
| Stresemann (1936: 365) | <i>Leucotreron gularis</i> |
| <i>Ptilopus (Leucotreron) gularis</i> | Mathews (1910: 100) |
| Dubois (1902: 736) | †Oberholser (1918: 48) |
| Lampe (1905: 200) | <i>Ptilinopus gularis mangoliensis</i> |
| | Hartert (1927: 4) |

Uses of *epia* Oberholser, 1918 (1918–70)

- | | |
|------------------------------------|-----------------------------------|
| <i>Leucotreron epia</i> | <i>Ptilinopus subgularis epia</i> |
| †Oberholser (1918: 48) | Stresemann (1941: 53) |
| Riley (1924:12) | Kuroda (1953: 108) |
| <i>Leucotreron subgularis epia</i> | # Goodwin (1967: 341) |
| Mathews (1927: 28) | # Goodwin (1970: 341) |
| Peters (1937: 26) | |

Uses of *epia/epius* Oberholser, 1918 (1971–2020)

- | | |
|--|------------------------------------|
| <i>Megaloprepia (Trerolaema) subgularis epia</i> | White & Bruce (1986: 199) |
| Wolters (1975: 53) | # Howard & Moore (1991: 92) |
| <i>Ptilinopus subgularis epia</i> | Rösler (1996: 271) |
| # Goodwin (1977: 341) | Baptista <i>et al.</i> (1997: 207) |
| # Howard & Moore (1980: 149) | Coates & Bishop (1997: 321) |
| # Goodwin (1983: 277) | # Clements (2000: 125) |

- Gibbs *et al.* (2001: 228)
 Dickinson (2003: 174)
 # Clements (2007: 124)
Ptilinopus epia
 Rheindt *et al.* (2011: 437)
Ptilinopus subgularis epius
 Dickinson & Remsen (2013: 76)
Ramphiculus epius
- del Hoyo & Collar (2014: 206)
 Bahr (2016: 130)
 Martin *et al.* (2017: 75)
 del Hoyo (2020: 110)
Ptilinopus epius
 Eaton *et al.* (2016: 52)
 Arlott (2018: 128)

†Note that Oberholser (1918) introduced the new name *epia*, but the heading for his species account used only the name *gularis*. In the main text, we have treated this primarily as a use for *epia*, but recognise that it is at the very least arguable that he actually used the name *gularis* for the species (see footnote 6). Accordingly, in this Appendix the reference is listed under both names.

The listed references Goodwin (1967, 1970, 1977, 1983), Howard & Moore (1980, 1991) and Clements (2000, 2007) might more appropriately be reduced to a single mention for each, as in each case the different dates refer to different editions of the same work (see main text and footnote 8; also Art. 23.9.1.2 of the Code).

