The correct scientific name of the Black Crake (Rallidae)

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The correct scientific name of the Black Crake (Rallidae)

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Summary.—The original scientific name of the Black Crake *Rallus niger* J. F. Gmelin, 1788, a diurnal species of African rail, was supplanted in the mid-19th century by William Swainson, who claimed the original description was unidentifiable. Swainson published two replacement names: *Rallus carinatus* Swainson, 1836, and *Gallinula flavirostra* Swainson, 1837, the latter of which is in prevailing usage. Here, I use historical and modern study skins to show that Swainson was confused by post-mortem colour changes and that the original description of *R. niger* J. F. Gmelin is not ambiguous as claimed. Therefore, according to the principle of priority, the oldest available name for the species is *Amaurornis niger* (J. F. Gmelin). To resolve this issue, a petition will be filed with the International Commission of Zoological Nomenclature, to request that the senior synonym be suppressed in the interest of nomenclatural stability.

During Cook's second voyage (1772–75), the expedition naturalist Johann Reinhold Forster (1729–98) collected the first specimens of an African rail that was then unknown to European naturalists. In November 1772, a few days after arriving at the Cape of Good Hope, Forster wrote in his journal: 'we daily brought home ample collections of vegetables and animals, and were much surprised to find a great number, especially among the latter, entirely unknown to natural historians, though gathered in fields adjacent to a town, from whence the cabinets and repositories of all Europe have been repeatedly supplied with numerous and valuable acquisitions to the science' (Forster 1777).

Cook's expedition returned to the Cape of Good Hope in 1775, en route to England, but Forster made no mention in his journal of collecting specimens during that period (Forster 1777). Within a month of his arrival in England, Forster prepared a manuscript in which he gave the name '*Rallus Aethiops*' to the new species from 'Prom. b. spei' (Promontorium Bonae Spei = Cape of Good Hope, South Africa). However, due to unforeseen circumstances, Forster's manuscript ('Descriptiones animalium') was not published until nearly a half century after his death (Forster 1844).

John Latham (1740–1837) studied Forster's specimens in the British Museum while preparing *A general synopsis of birds* (1781–85), but he was evidently unaware of Forster's unpublished manuscript. None of the specimens described by Latham (1785) has survived, with most believed to have perished by the early 19th century due to inferior taxidermy methods (Sharpe 1906). Latham (1785: 236) based his 'Black [Rail]' on multiple specimens in the British Museum that were collected at the Cape of Good Hope: 'size of the Spotted Gallinule: length nine inches. Bill yellow at the base; the tip brown: general colour of the plumage dusky black, deepest on the head: legs brown; in some birds red.' This description was likely based on Forster's material from 1772, because no specimens in the genus *Rallus* were collected at the Cape of Good Hope during Cook's third voyage (Stresemann 1950). Thus, Forster's specimens were *c*.12–13 years old when Latham studied them.

J. F. Gmelin (1788: 717) based the new name *Rallus niger* solely on Latham's (1785) account, after which Latham (1790: 759) adopted Gmelin's (1788) nomenclature. A half-

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century later, William Swainson (1789–1855) challenged this by claiming that Latham's (1785) account, and therefore the name *Rallus niger*, was ambiguous and unidentifiable (Swainson 1837). This created a nomenclatural vacancy that Swainson (1837) filled with his own name: *Gallinula flavirostra*. In his description of *G. flavirostra*, Swainson (1837) wrote: 'To this species, which is probably one of those which pass under the general name of Black Rail, we have not affixed the specific name of *Niger*, because Dr. Latham's account is too vague to be applied without doubt. He mentions, for instance, that the legs are either brown or red, that the end of the bill is brown, that the plumage in general is dusky-black, but deepest on the head, and that the claws are 'hooked'. As these discrepancies with our Senegal specimens lead to the suspicion that there may be more black species than one, we have distinguished this by a separate name.'

Specimen comparisons

To evaluate the identity of Latham's (1785) original description of the 'Black [Rail]', I studied a series of specimens from the Cape of Good Hope that were in the private collection of François Victor Masséna, second Duke of Rivoli, which was purchased by Thomas Bellerby Wilson in 1846, for the Academy of Natural Sciences of Philadelphia (ANSP). Like Forster's types in the British Museum during the 1780s, specimens in the Rivoli collection were originally mounted and displayed in glass cases until the mid-19th century, after which they were stored in dark cabinets and eventually dismounted. Forster's types were more than a decade old by the time Latham's (1785) description was published, long enough for plumage to fade and soft parts to change colour. For comparison, I also examined a modern specimen (ANSP 190276), collected in Equatorial Guinea in 2002 and prepared as a study skin by N. H. Rice. This specimen has been stored in darkness for 19 years, ever since it was prepared in the field (Fig. 1).

I compared study skins to colour patches in Smithe (1975) and hereafter use capitalised colour names and numbers from that work. The dorsal plumage of ANSP 190276 is Blackish Neutral Gray (82) and the crown is Jet Black (89). In the Rivoli specimens, the dorsal surface is Sepia (119) and the crown is a darker shade of sepia (no Smithe equivalent), approaching the intensity of Jet Black (89). The contrast between the crown and dorsal surface is more pronounced in the Rivoli specimens than ANSP 190276, but present in both. This may be a side effect of light exposure, if crown feathers fade more slowly because they are smaller and more tightly spaced than dorsal feathers. Irrespective of the cause of fading, Latham's (1785) comment that 'the plumage in general is dusky-black, but deepest on the head' is consistent with study skins of Black Crake, especially faded material that was previously mounted for display.

The orbital skin and feet of the Black Crake are bright red in life, but these parts rapidly change colour in study skins. Latham's (1785) comment that the claws were 'hooked' is sufficiently vague to match any degree of curvature and is therefore irrelevant. His comment 'that the legs are either brown or red' is consistent with differential post-mortem colour change. ANSP 190276 had 'reddish pink' tarsometatarsi when it was prepared in 2002, but now they are somewhere between Cinnamon (123A) and Yellow Ochre (123C), more like historical specimens (Fig. 1). The bill also undergoes post-mortem changes and some 'brownish' colour may be variably distributed on its surface, including the tip (Fig. 1). Therefore, Latham's (1785) comment about bill colour ('the tip [is] brown') is also consistent with specimens of the Black Crake and not ambiguous. Swainson's (1837) confusion was evidently caused by his ignorance of post-mortem colour changes, more than a lack of knowledge of geographic variation, as he supposed. Without fresh material from across its geographic range, I am currently unable to evaluate geographic variation in the species'

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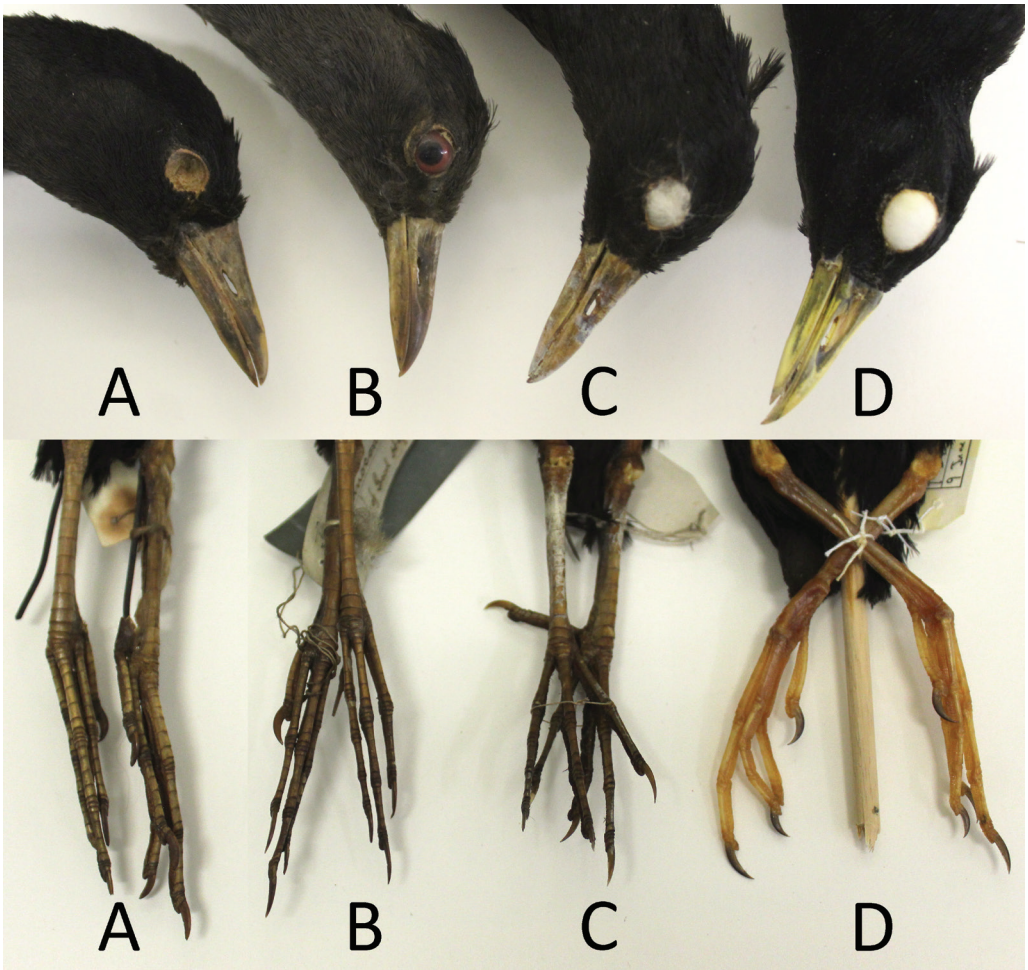

Figure 1. Digital photographs of the bills and feet of Black Crake *Amaurornis niger* specimens. The first three specimens (A–C) form part of the historic Rivoli collection, acquired by the Academy of Natural Sciences of Philadelphia in 1846: (A) ANSP 6278, collected at the 'Cape of Good Hope, South Africa'; (B) ANSP 6279, collected at the 'Cape of Good Hope, South Africa'; and (C) ANSP 6273, collected in 'South Africa'. The fourth specimen (D) is ANSP 190276, collected and prepared by N. H. Rice in Centro Sur, Equatorial Guinea, on 9 June 2002. The two digital images were taken on 17 January 2021 under the same light source, but a portion of the image lower left (A) was shifted to the right to make the figure compact (Matthew R. Halley)

plumage. Notwithstanding, Latham's (1785) description was based on faded specimens that were more than a decade old, whereas Swainson (1837) based his description on fresh material, evidently without older material for reference.

Another layer of synonymy

The name *Gallinula flavirostris* Swainson, 1837, is also a junior synonym of *Rallus carinatus* Swainson, 1836. Swainson (1836: 158, fig. 86) illustrated the head and toe of a specimen of 'a most singular rail from Senegal' and noted that it 'is our *Rallus carinatus* of the Appendix, and of the 'Birds of Western Africa'.' Although these works never materialised, Swainson (1836) already published 'a new species-group name in association with an illustration of the taxon being named', thereby meeting the criteria of availability in the Code (ICZN 1999, Art. 12.2.7). For aesthetic reasons, Swainson (1838) later changed his mind about the name

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R. carinatus, because he had 'reason to think the elevation of the bill, in the specimen figured as above quoted, [was] accidental, for another, since examined, had not this peculiarity.' He concluded: 'As the name of *carinatus* ['keeled, ridged'] would, therefore, lead to error, I now substitute that of *flavirostra*' (Swainson 1838).

Benson (1999: 39) claimed that 'there [was] no indication that [Swainson] had more than this one specimen', referring to a putative type of *G. flavirostra* Swainson, 1837, now in the University of Cambridge (UK) collection (15/Ral/27/a/3). However, Swainson (1837: 245) explicitly referred to 'two specimens now before us' in his description of *R. flavirostra* and two adult specimens ('a., b.') of *G. flavirostra* Swainson, 1837, collected by Mr. Rendall in Senegal, were listed in Gray's (1844: viii, 118) inventory of the British Museum collection. It appears likely that one of those specimens was Swainson's (1836) 'most singular rail from Senegal' (i.e., the holotype of *R. carinatus* Swainson, 1836) and the other was the second specimen, 'since examined', which alerted him to the aberrant bill structure in the first specimen (Swainson 1838). Type status of the specimen mentioned by Benson (1999), which was presumably in Swainson's private collection before it was acquired by the University of Cambridge, is therefore questionable.

Summary and taxonomic implications

There is no ambiguity in Latham's (1785) original description of the 'Black [Rail]' from the Cape of Good Hope, which served as the sole basis for the Linnaean binomial *Rallus niger* J. F. Gmelin, 1788. Therefore, the oldest available name of the Black Crake is *Amaurornis niger* (J. F. Gmelin), rendering *A. carinatus* (Swainson) and *A. flavirostra* (Swainson) junior synonyms. The name in prevailing usage (*A. flavirostra*, see del Hoyo *et al*. 1996) is not the oldest, or even second-oldest, available name. It was not a printing error or other inadvertent mistake that led to this confusion, but a deficit of knowledge that required specimen-based research to resolve. The correct synonymy (i.e., *niger* > *carinatus* > *flavirostra*) was used by at least one of Swainson's contemporaries (see Gray 1844: 118), only to be subsequently misinterpreted by many later authors, especially during the 20th century.

Under the Code (ICZN 1999, Art. 23.9.1), prevailing usage must be maintained, even when historically incorrect, if both of the two following conditions are met: (1) the senior synonym has not been used as a valid name after 1899, and (2) the junior synonym has been used '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.' In this case, the first condition is not met because the senior synonym was used as a valid name until the 1930s, including by Stone (1905: 757), Stark & Sclater (1906: 260), Grote (1912: 509), Sassi (1912: 354), Haagner & Ivy (1914: 253), van Someren (1916: 22), Miller (1924: 308), Moreau (1935: 29) and Coatney (1936: 96).

According to the Code (ICZN 1999, Art. 23.9.3), in cases where the above requirements are not met, an author may refer the case to the International Commission of Zoological Nomenclature, which may use its plenary power to suppress the senior synonym in the interest of nomenclatural stability. To resolve this issue, a petition will soon be submitted to the *Bulletin of Zoological Nomenclature*.

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