PROBABLE VALIDITY OF *Rallus nigra* Miller, AN EXTINCT SPECIES FROM TAHITI

By MICHAEL WALTERS

The name *Rallus nigra* is known only from a plate by J. F. Miller, first published in his *Icon. Animalium* of 1784, which Lysaght (1956) believed depicted the rail currently known as *Porzana tabuensis* (Gmelin), the Spotless Crake or Sooty Rail, a widespread species occurring from Australia and New Guinea across the southern Pacific Ocean to the Marquesas Islands and south to New Zealand. She proposed to substitute Miller's name for Gmelin's on the grounds of priority, an action which seems unwise as circumstantial evidence suggests that *Rallus nigra* represents another, almost certainly extinct, species.

The plates of Miller and Forster

According to Lysaght's account, the Spotless Crake *(Porzana tabuensis)* was discovered at Tahiti and painted by Georg Forster on Cook's second voyage, and this plate was then copied by Miller. Lysaght continued:

> The interleaved text gave no particulars except for the name of the bird, *Rallus nigra*, and the locality, Otaheite [i.e. Tahiti]. Miller's plate is very close to Forster's save that the bird is depicted standing instead of crouching, that it is almost uniformly black and only slightly paler below, instead of having a grey head and undersurface contrasting with the back and wings, and that the iris and legs are bright chestnut brown instead of red.

Lysaght's account actually leans very heavily on the earlier note of Sherborn & Iredale (1921) who, in discussing Miller's *Icon. Animalium* (a very rare book, a copy of which had just come to light) said:

> *Rallus nigra* Miller is the bird long known as *Porzana tabuensis* (Gmelin), but the correct application of the latter name is not definitely ascertained. Thus J. R. Forster described a black bird, but noted that there was a brown variant. His son painted the Black Rail from "Taheitee" and this painting is preserved in the British Museum (Natural History), no. 130, with the native name "Maho" pencilled on it. The drawing was copied and published with little alteration by Miller under the name *Rallus nigra*. Forster's MS name was *Rallus minutus*, and his localities were "Otaheite et in Tonga-Tabu".

It is, however, quite clear that neither of these plates represents *Porzana tabuensis* as Lysaght claims. *P. tabuensis* has a very conspicuous brown mantle which is present on neither Forster's nor Miller's plates.

Forster's unpublished plate depicts a squatting rail, charcoal grey on the head and underparts, black on the back, wings and tail. The legs are red, the claws greyish. The face is longish and the bill thick and black. The eye is red with a dark pupil, surrounded by an area of black skin outlined in orange. It is a very carefully executed painting. In the bottom left-hand corner, "Taheitee" has been written in pencil, and "Ge. Forster" in ink. In the bottom right-hand corner is written "Maho".

Miller's plate in the *Icon. Animalium* is a hand-coloured engraving depicting a standing rail, charcoal black all over, with suggestions of darker and less dark areas; but this impression may be due to lines on the original

print. The bill is black but appears thinner than on Forster's plate, the head is rounder, and a pale yellowish-green line separates the mandibles. The eye and legs are duller, browner red than in Forster, and the claws are grey, outlined with thick black lines. There is no suggestion of any bare skin round the eye.

Miller died in 1796, in the same year that a revised edition of his work was published. This book, the *Cimelia Physica*, of which more copies survive than of the original edition, reproduced the original plates (hand coloured from the same engravings but executed with rather less care) and added an interleaved text by George Shaw, of which the paragraph relating to Miller's Rail runs:

> This bird, which the plate represents in its natural size, is a native of Otaheite and several other islands in the Pacific Ocean. The irides are red. It is a species which was first discovered during Sir Joseph Banks' voyage to the Southern Hemisphere. It is said to be subject to some variety in point of colour, being sometimes much browner than here expressed, with the vent barred with streaks of black.

Lysaght dismissed Shaw's statement that the rail was discovered on Banks' voyage as of "doubtful validity", but she seems to have overlooked the fact that Shaw's account is clearly taken from that of Latham (discussed later). Shaw was known to be flamboyant and careless, and in this instance he seems to have misinterpreted Latham's simple ascription of the species to Banks as meaning Banks had collected a specimen, when Latham probably meant no more than that the specimen or painting on which he based his description was in Banks' collection.

The most convincing note on Miller's Rail was that given by J. L. Peters (1934), who placed Miller's name with a query in the synonymy of the rail *Nesophylax ater* (North) from Henderson Island, and added in a footnote:

> Miller's plate represents a wholly black rail somewhat larger than *tabuensis*; it cannot be identified with any of the known forms of *tabuensis* and possibly represents the bird later named *Porzana atra* or at least a bird closely allied to it.

As Henderson Island was not discovered until long after Cook's voyages, Miller's Rail is not likely to have referred to the rail population from that island, but it may have been an allied form. Lysaght correctly pointed out that the question of size is irrelevant because the measurements of the rail on Miller's plate do not exceed those of *some* specimens of *Porzana tabuensis*. However, the incompatibility of colouring is an important one, and one which seems to have been overlooked by all previous writers except Peters.

The description of *Rallus minutus* by J. R. Forster

In addition to the two plates, there exists a description by J. R. Forster, written at the time of the voyage but not published till many years after the author's death. This description, which Forster calls *Rallus minutus*, was identified by Lichtenstein, the editor of the published account, as *Porzana tabuensis* and was clearly based on a specimen or specimens collected by the Forsters on their journey, and not on Georg's plate, with which it disagrees on several points. According to Forster, *minutus* was a glossy black rail, with white barring on the thighs, a dull black bill, and red feet and eyelids. It

inhabited Tahiti and adjacent islands, and Tonga-Tabu. The body was the size of "*Scolopacis gallinulae*", i.e. *Gallinago minima*. The bill was straight, conical, with the base thick, the upper mandible "flat and convex" and black. The mandibles were subequal and sharp, the upper with the point very little bent, the lower more slender.

The nostrils were oblong and at the base of the bill. The eyes were medium, near the bill; the irides and the margins of the eyelids blood-red. The feet were four-toed and "split" (i.e. not webbed), designed for walking, and fuscous red. The thighs were half naked, smooth and slender, the toes very slender, the three front ones longer than the shin, the middle toe longest, the lateral ones shorter and slenderer, the points touching the ground. The claws were very short, slender, sharp and glossy black. The head, neck, breast and abdomen were lead-black; the back, wings and tail glossy black but at the same time dark rusty-fuscous. The wings were of middle length, fuscous, the underside of the tail and wings being variegated with white and fuscous. The 10 tail feathers were black.

I compared this description with specimens of *Porzana tabuensis* and *Nesophylax ater* in the British Museum (Natural History) collection, and found that much of it could apply to either species, but the barring on the thighs, the variegations on the underside of the wings, and the "rusty-fuscous" back seem definitely to refer to *tabuensis*. It seems likely, therefore, that the Forsters collected specimens (none now extant) of both *nigra* and *tabuensis* but failed to distinguish between them, J. R. Forster's description probably referring to *tabuensis* and Georg Forster's plate being based on a specimen of *nigra*. As it does not agree with the description his father gives, it cannot possibly have been based on the same specimen. There appears to be no evidence that either specimen ever reached Britain (Medway, pers. comm.).

The descriptions of Latham

Much of the past confusion regarding these two rails seems to have arisen from a failure to interpret correctly the significance of the two descriptions by John Latham (1783) in his *General Synopsis of Birds* of his Tabuan Rail and Otaheite Rail, the origins respectively of Gmelin's names *Rallus tabuensis* and *Rallus tahitiensis*. These are as follows,

> Tabuan Rail
> Length six inches and a half. Bill black: eyelids and irides red: general colour of the plumage brownish black: beneath dusky: legs reddish brown. Inhabits Tonga-Taboo, Otaheite and the neighbouring isles in the South Seas. This varies in having the plumage more inclined to brown: the vent white, transversely barred with black lines: legs red. Inhabits the Island of Tanna. Sir Joseph Banks.

(This description was probably based on Georg Forster's plate, although I would describe the legs as red rather than reddish brown)

> Otaheite Rail
> Length six inches. Bill three-quarters of an inch, black: the head, neck, and all the underparts of the body, dark ash-colour; palest on the chin: the upper parts, and the wing coverts deep red brown, quills dusky, edged with white: edge of the wing, and the first quill feather, white: tail an inch and a half long, rounded in shape, and black: legs dusky yellow: claws black. Inhabits Otaheite, and the Friendly Isles [i.e. Tonga]. Sir Joseph Banks.

Although Wiglesworth (1871) separated *tahitiensis* from *tabuensis*, nearly all writers have correctly realised that there is no difference between the populations of the rails of the species now called *tabuensis* occurring on the islands of Tonga and Tahiti, but have therefore regarded *tahitiensis* as a synonym of *tabuensis* in the mistaken belief that Latham had separated the two populations. In fact Latham did no such thing. According to his accounts, quoted above, both rails occurred on both islands. Furthermore, his descriptions must refer to two different species. The pronounced reddish brown of the upperparts of the Sooty Rail is indicated by Latham's description of the Otaheite Rail, while Latham's Tabuan Rail accords reasonably well with Miller's Rail, and this bird was probably a now extinct species allied to *Nesophylax ater* of Henderson Island. Latham probably described the Otaheite Rail from specimens collected on Cook's third voyage (Medway 1979).

One other point from Latham's description remains to be cleared up. The final section of his description of the Tabuan Rail, beginning "This varies in having . . ." has confused later writers into believing that Latham was suggesting variability from black to brown in this form. However, in his later work, the *General History of Birds* (1824), Latham separated this as "Variety A", saying that it referred to a specimen from the Island of Tanna. This seems likely to be simply an immature specimen of the Sooty Rail from that island and can therefore be dismissed from consideration of Miller's Rail. This description may be derived from the Manuscript compiled by William Anderson, then in the possession of Banks and now in the BM (NH), to which Latham had access and of which he made use. Latham would have described it as a variety because "the vent white, transversely barred with black lines" is not visible in Georg's plate (Medway, pers. comm.).

The evidence from the Cook Islands

Further support for the existence of two small rails on the same island, one related to *Porzana tabuensis* or a form of it and the other related to *Nesophylax ater*, was provided by Steadman (1985) in a survey of the birds of Mangaia, southern Cook Islands. He referred to the bird called by the natives "Mo'o mo'o", a small black rail which lives near the taro swamps. Although he did not manage to see one alive, Steadman believed that it was probably *Porzana tabuensis* (bones similar to which he found on the island) or an endemic derivative thereof. The Mangaians described it as very rare. Steadman also found wing and leg bones referable to a different species, which he plans to describe as new (Steadman, in press). Based on the leg bones, this rail was larger than *P. tabuensis* but had wings too small for flight and seemed to be very similar to *N. ater* (which Steadman regards as congeneric with *Porzana*), but with even more reduced wings. He adds significantly:

> The Mangaian fossils suggest that perhaps two species of *Porzana* once inhabited many of the islands in eastern Polynesia, the smaller being *P. tabuensis* or its derivative, and the larger, more flightless one being very similar to *P. ater*.

Mangaia, with an area of 20 square miles and a maximum elevation of 170 m, is much smaller than Tahiti, the largest island in eastern Polynesia with a diameter of 33 miles and an elevation of 7321 feet, and so the

probability that two small rails occurred on Tahiti is considerably strengthened by the findings of Steadman. The discovery of bones of a rail of the *Nesophylax* group on Tahiti would strengthen the case still further.

CONCLUSION

It seems likely that the Otaheite Rail *Rallus tahitiensis* and *Rallus minutus* represent the rail now known as *Rallus tabuensis*, and in the interests of nomenclatural stability it would be unfortunate if the name were now altered. Probably Miller's *Rallus nigra*, Latham's Tabuan Rail, Gmelin's *Rallus tabuensis* and Georg Forster's plate all represent another species, now extinct, related to *Nesophylax ater* of Henderson Island. As Miller's name is the oldest one, the extinct bird from Tahiti is best called *Nesophylax niger* (Miller).

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MICHAEL WALTERS, *British Museum (Natural History), Tring, Herts HP23 6AP, England*