

ABBOTT'S BOOBY ON ASSUMPTION

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Records on Assumption

Abbott's Booby *Sula abbotti* was first described by Ridgway (1893, 599) from a specimen collected by Abbott in 1892, apparently on Assumption Island. Abbott's own description of Assumption (1893, 763) does not mention boobies at all, but Ridgway (1895, 521) quotes notes supplied by Abbott. Under *S. abbotti* he quotes: '"Fou boeuf". A few breed on Assumption. Said not to be found on any other island in these seas'. Abbott (in Ridgway 1895, 520) also records *Sula sula* (as *S. piscator*) and *S. dactylatra* (as *S. cyanops*) from the same island. Of the latter he comments: '"Fou general": 'A few breed in Assumption, laying a single egg on bare ground on sand dunes'.

In 1906 M.J. Nicoll visited Assumption. He collected *S. dactylatra* (Nicoll 1906, 697) and photographed *Sula sula* (1908, 112), but he does not mention *S. abbotti*, and in his general account of the island he does not mention boobies at all (1908, 107-113).

J.C.F. Fryer collected two specimens of *S. abbotti* in 1908, which he records 'inhabits the large dune, never descending to low parts of the island, and only going a few miles to sea to fish; it was never seen on Aldabra' (1911, 433). He further notes: 'This species is also recorded on Christmas Island. I have not compared my specimens with those from this island but if identical the distribution becomes even more curious'.

S. abbotti has not been seen on Assumption since.

Confusion with the Iles Glorieuses?

Gibson-Hill (1950) reviewed the literature on *S. abbotti* and suggested that there had been confusion over the labelling of the type specimen, which could have been obtained on Grande Glorieuse rather than Assumption. His argument was based partly on the apparent unsuitability of treeless Assumption compared with forested Grande Glorieuse for what is on Christmas Island an arboreal species, partly on what seemed to be ambiguities in Abbott's written accounts. Thus Abbott does not describe his booby in his account of Assumption itself; but in his description of Grande Glorieuse he mentions that 'Among sea-birds there is a booby, which seems to be peculiar to the island. They breed in large numbers upon the 'fouche' [*Ficus?*] trees, in company with frigates and common

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boobies' (Abbott 1893, 764). However, the only boobies he collected on the Iles Glorieuses were *S. sula* and *S. dactylatra* (Ridgway 1895, 524), locally called 'Capucin' and 'Fou général'. Gibson-Hill (1950) suggested that the 'peculiar' booby was in fact *S. abbotti*, and that Abbott's type specimen really came from Grande Glorieuse rather than Assumption. He adduced the further point that Nicoll did not find *S. abbotti* on Assumption, which was still uninhabited and undisturbed in 1906; whereas the fact that he did not find it on Grande Glorieuse either could be explained by the settlement and partial clearance of woodland on that island by the time of his visit. Nicoll (1906), however, stated that the most common booby on Grande Glorieuse was dark-phase *S. sula*. The *S. sula* collected by Abbott on the same island was also dark-phase (Ridgway 1895, 524), and this morph could equally be the 'peculiar' booby Abbott mentions, since white-phase *sula* are predominant on western Indian Ocean coral islands (other than Tromelin: Staub 1970, 203-205).

One further piece of published evidence, hitherto overlooked, is provided by R. Dupont (1907, 45), who visited Assumption in 1906. He lists only *S. dactylatra* (as *S. cyanops*) and *S. sula* (as *S. piscator*) from Assumption, while for the Iles Glorieuses he lists *S. sula* and *S. abbotti*. This latter he notes "exists only in Gloriosa" and gives as the Creole name 'Fou glorieuse'. However, there seems to be no record of Dupont visiting the Iles Glorieuses themselves.

Nelson (1974) repeats Gibson-Hill's habitat argument, and agrees with him that *S. abbotti* 'may have nested not on Assumption but on Glorioso'.

Further evidence on Assumption

This trend of argument tends to overlook the fact that in addition to Abbott's type, *S. abbotti* was also collected on Assumption in 1908 by Fryer (who did not visit the Iles Glorieuses). Fryer (1911, 433) refers to specimens, but these were not described until 1950 (Gibson-Hill 1950, 72). Bourne comments (1976, 122) that 'there really seems no need to question Abbott's specific statement... that his booby nested on Assumption', since nesting on Assumption and the Iles Glorieuses are obviously not exclusive possibilities. Nevertheless, it would be useful to have further confirmatory field evidence of the existence of *S. abbotti* on Assumption, and some rather fragmentary and allusive evidence is available.

The first additional notice of sulids on Assumption is provided by S.C.E. Baty in 1895. He states that '... to the North East of the big sand hills at about six hundred yards therefrom and close to the next [north] and lower sand hill... There is a camp of 'boobies' on the spot'. This appears to refer to a ground-nesting species, probably *S. dactylatra* as recorded by Abbott. Baty also says: 'Boobies or Fous of different kinds are to be found in the trees all over the island'. The implication of this is that there is more than one species of tree-nesting sulid: the only two possibilities would be *S. sula* and *S. abbotti*. Finally, he says: 'On the slopes of the big

sand hills the trees are much bigger, and on their branches the Frigate birds and 'fous' make their nests'. This last reference could be to a single species, either *sula* or *abbotti*; but we may recall that Fryer (1911, 433) found that *abbotti* 'inhabits the large dune, never descending to low parts of the island'. Dupont (1907, 12) noted that 'boobies flock together in a plain of 30 acres' in the north of the island; but he lists only *S. sula* and *S. leucogaster* (which to add to the confusion he calls the Black Gannet and the Red-footed Gannet, respectively), and does not mention either the high dune or *S. abbotti*.

Fryer's published references to Assumption boobies are slight, but his manuscript diary adds more detail. On 6 September 1908 he records: 'There was a fresh species of Fou (*S. leucogaster*) and on the guano beds [word illegible] of ordinary Fou were breeding being continually preyed upon by a regular flock of Frigates of both species' (Fryer, 1908, 73). Gibson-Hill (1950, 69) has already noted that in his account of Aldabra Fryer seems to use the name *leucogaster* for *sula* (as did Dupont); but in the Diary passage the 'ordinary Fou' must be *sula*, and the 'fresh species of Fou' presumably *dactylatra*. *Leucogaster* has not been recorded on Assumption; Fryer used the name '*S. capucina*' for it on Aldabra.

On 7 September 1908, Fryer writes: 'A fresh kind of Fou (Fou Boeuf) was found: it was larger than the ordinary with a grey back tinged with pink: dark eyes and wings and long coverts black: its cry was very like a cow (from which it takes its name)' (Fryer 1908, 75). This is very clearly *S. abbotti*, and Fryer's specimens must have come from this population. Unfortunately his diary makes no comment on breeding. However, his reference to voice is remarkable. Neither Abbott (1893) nor Ridgway (1895) mention voice, though Abbott (in Ridgway 1895, 521) uses the name 'Fou boeuf'. The only reference to voice prior to Fryer's observation, with which Fryer was certainly unfamiliar, is contained in an anonymous French account of Rodriguez, ca 1730, on 'The Boeuf', said to 'bellow like a bull'. This was published by Milne-Edwards (1875, 8); Bourne (1968) tentatively identified it as *S. dactylatra*, but Nelson (1974) used the evidence of voice to determine it as *abbotti*. Nelson at Christmas Island found *abbotti* to have 'the deepest and loudest voice of any sulid, resonant and commanding' (1971, 436).

Comment

There thus seems little question, in spite of the ambiguities in Abbott's account and the clear statement by Dupont, that *abbotti* was definitely present on Assumption in 1892, possibly in 1895, and definitely in 1908. It cannot be stated with certainty that the species was breeding; but equally it is clear that its presence on the island was not inhibited by the absence of tall forest, *contra* Gibson-Hill and Nelson.

Whether *abbotti* formerly existed on the Iles Glorieuses remains unclear. Benson *et al.* (1975) suggest that Abbott's 'peculiar' booby (Abbott 1893, 764) is not *abbotti* as Gibson-Hill suggests but the

'capuchin' of Ridgway (1895, 532), i.e. dark-phase *S. sula*. Abbott (1893, 764) identifies 'capucin' as *sula*, as does Dupont (1907, 55): Gibson-Hill (1950, 69) is mistaken in saying, when trying to identify Fryer's '*S. capucina*', that Abbott used 'capucin' for *S. leucogaster*.

It is certainly possible that *abbotti* inhabited the Iles Glorieuses in spite of the absence of positive evidence. Bourne (1971, 188) speculated that this species would be found somewhere between Assumption and its present breeding station on Christmas Island, possibly in the Chagos Archipelago, and there has been some confirmation of this by sightings at sea in that vicinity (Bourne 1971; Hirons *et al.* 1976; Bourne and Nelson 1976). Bourne has also identified fossil material of *abbotti* from Mauritius and possibly Rodriguez, and has quoted historical evidence (1968; Nelson 1974) for the latter island. Becking (1976) gives a record of a foraging bird from Java. Bourne (1976, 122) particularly notes that the vernacular name (Fou boeuf) on Rodriguez in the early eighteenth century was the same as that on Assumption in the early twentieth, suggesting a previous wider occurrence and more numerous population.

When did *abbotti* become extinct on Assumption? Vesey-FitzGerald (1941, 521) says 1926, and Betts (1940, 501) says 1936, and these dates are quoted by Gibson-Hill (1950) and later writers. Settlement began at Assumption in 1908, and guano was then mined on a major scale (Stoddart *et al.* 1970). By the time that R. Dupont visited the island for the second time in 1916, he reported that the boobies 'have been all destroyed'; and in 1929, during a later visit, he stated that the land and sea birds had been destroyed by 1909. It thus appears that man and his activities, plus introduced predators, caused massive extinctions within a very short time of the first settlement. No boobies of any kind now breed on Assumption, though a few individuals of *dactylatra* and *sula* have been seen in recent years (Stoddart *et al.* 1970).

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