

# TAXONOMY OF THE NORTHERN TERRITORY FRIARBIRDS KNOWN AS *PHILEMON BUCEROIDES GORDONI*

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## SUMMARY

PARKER, S. A. 1971. Taxonomy of the Northern Territory friarbirds known as *Philemon buceroides gordonii*. Emu 71: 54-56.

Examination of all available material from the range of *Philemon buceroides gordonii* Mathews as defined by Salomonsen showed that two taxa were confused under the one name, true *gordonii* of Melville Island and coastal mangroves of the Northern Territory mainland, and nominate *buceroides* Swainson of the sandstone gorges of the Arnhem Land escarpment, the latter form previously known only from Timor and Savu. In view of their pronounced ecological differences on the mainland, *gordonii* is here elevated to rank of species. Vernacular names for both forms are discussed.

## INTRODUCTION

The populations of the *Philemon moluccensis* super-species in the Northern Territory are regarded as belonging to *Philemon buceroides gordonii*, while other subspecies of *P. buceroides* inhabit the Lesser Sunda Islands (Salomonsen 1967: 407-8). When the available material was gathered upon one bench, however, it became obvious that *two* forms of this superspecies occurred in the Northern Territory.

## MATERIAL

The name *gordonii* was based by Mathews (1912) upon four specimens collected 16 km east of Gordon Point (which places the locality on Maxwell Creek) on Melville Island by J. P. Rogers in 1911 and now in the American Museum of Natural History (AMNH). More specimens were obtained there by W. D. Dodd in 1913 (Zeitz 1914: 17). These were sent to the South Australian Museum, but according to W. G. Inglis (*in litt.*) can no longer be found there. In 1948 *gordonii* (*sensu lato*) was recorded from the Australian mainland by the American-Australian Scientific Expedition to Arnhem Land, when specimens, now in the United States National Museum (USNM), were collected at Nightcliff, Yirrkala and Oenpelli (Deignan 1964). The fifth phase of the Harold Hall Australian Expedition collected others, now in the British Museum (Natural History) (BMNH), at Noogoo Swamp near Darwin and at a point 14.4 km south-south-west of Oenpelli in 1968. Finally, in 1969, a faunal survey-team of the Northern Territory Administration, of which I was a member, obtained specimens, now in the Northern Territory Museum (NTM), on Deaf Adder Creek 88 km due south of Oenpelli.

Measurements of all specimens are listed in Table I, and localities are shown on Figure 1.

TABLE I  
Measurements (adults only)

No.	Sex	Locality	Wing	Tail	Tarsus	Bill	Wt
<i>Philemon gordonii</i>							
*AMNH 697086	♂	Melville I.	145	119	37	41.5	—
AMNH 697087	♂	Melville I.	141	118	35	39.5	—
USNM 406270	♂	Yirrkala	151	124	34	—	—
USNM 406271	♂	Yirrkala	148	121	36	—	—
USNM 406272	♂	Yirrkala	145	119	35	41.5	—
USNM 406274	♂	Yirrkala	144	122	35	—	—
USNM 406275	♂	Yirrkala	145	119	36	41	—
USNM 406276	♂	Yirrkala	145	124	34.5	41	—
USNM 406278	♂	Yirrkala	147	120	35.5	41.5	—
USNM 406279	♂	Yirrkala	145	120	36	40.5	—
USNM 406280	♂	Yirrkala	145	119	37	41	—
USNM 406281	♂	Yirrkala	146	121	36	41.5	—
USNM 406282	♂	Yirrkala	150	123	37	41	—
BMNH 1969.4.827	♂	Noogoo Swamp	142	121	34	41	98.8
USNM 406268	♀	Nightcliff	135	116	31.5	38	—
USNM 406277	♀	Yirrkala	137	117	34	38.5	—
BMNH 1969.4.828	♀	Noogoo Swamp	133	116	31.5	38.5	84.8
BMNH 1969.4.829	♀	Noogoo Swamp	138	119	32.5	38.5	91.2
AMNH 697088	♀	Melville I.	136	115	33	39.0	—
<i>Philemon buceroides buceroides</i> (Arnhem Land)							
USNM 406269	♂	Oenpelli	157	135	36	—	—
BMNH 1969.4.833	♂	nr Oenpelli	151	134	36	42	—
NTM 4881	♂	Deaf Adder Creek	157	137	36	45	117
NTM 4882	♂	Deaf Adder Creek	158	139	36	42	115
NTM 5059	♀	Deaf Adder Creek	151	131	36	43	92
BMNH 1969.4.832	♀	nr Oenpelli	146	124	33	39	—
<i>Philemon buceroides buceroides</i> (Timor, Savu)							
AMNH specimens	♂	Timor	—	132	38	46	—
	♂	Timor	157	—	40	45	—
	♂	Timor	152	135	41	—	—
	♂	Savu	152	130	41	46	—
	♂	Savu	142	127	36.5	43	—
	♂	Timor	147	126	37	42	—
	♂	Timor	147	—	38	43.5	—

\* Holotype of *gordonii*; the specimens from Melville Island, Timor and Savu were measured by Mrs M. LeCroy.

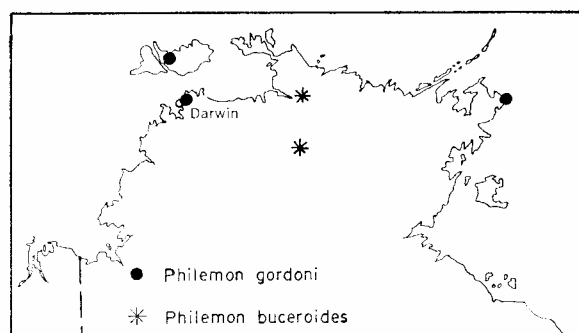


Figure 1. Map of part of Northern Territory showing where specimens have been collected.

### RESULTS

Examination of all the above specimens now available showed that the Australian mainland populations of *gordonii* (*sensu lato*) fall clearly into two groups:

1. Specimens from coastal and subcoastal mangroves. Twelve adult males measure: wing 142–151 mm, tail 119–124. The edges of crown-feathers have a pale buff tinge giving the crown a buffy hue; feathers of throat and nape are dull off-white. Localities: Nightcliff, Noogoo Swamp and Yirrkala.
2. Specimens from sandstone gorges of the Arnhem Land escarpment. Four adult males measure: wing (151) 157–158, tail 134–139. The edges of crown-feathers have a silvery tinge, giving the crown a silvery hue; feathers of throat and nape are silvery white. Localities: Oenpelli, 14.4 km south-south-west of Oenpelli and 88 km south of Oenpelli on Deaf Adder Creek.

Whereas the difference in coloration was small and discernible only by comparison of the series, the difference in size, especially in length of tail, was pronounced and suggested that two distinct forms were involved. Representative specimens and comparative notes were forwarded to Mrs M. LeCroy at the American Museum of Natural History, who confirmed that the birds from the mangroves were *gordonii* Mathews (the types of which were not available for loan). She compared the larger form inhabiting sandstone gorges with material of the Lesser Sunda subspecies of *P. buceroides* and sent me specimens of *P. b. buceroides* from Timor and Savu as being closest to the bird from sandstone areas. I see no differences, in the limited series examined, between birds from Timor and Savu and birds from the sandstone country of Arnhem Land, and accordingly refer the latter to *P. b. buceroides*.

### FIELD OBSERVATIONS

The specimens of *gordonii* obtained by Deignan at Nightcliff and Yirrkala were all taken in mangrove swamps, while the single specimen of nominate *buceroides* from Oenpelli was in a flowering fig tree. At Yirrkala, *gordonii* occurred in numbers with the Silver-crowned Friarbird *P. argenticeps* at a stand of blooming *Lumnitzera*. Like its congener, it was hard to find among the mangrove leaves, but could be located by its call, 'watch out, watch out', with the first syllable stressed (Deignan *loc. cit.*).

The specimens of *gordonii* from Noogoo Swamp collected by the fifth phase of the HHAE in 1968 were in mangroves at high-tide level, while those of *buceroides* from near Oenpelli were in a heavily overgrown sandstone gorge (D. Freeman *in litt.*).

In the sandstone gorge-country of Deaf Adder Creek during September and October 1969, D. Howe, B. L. Bolton and I encountered *buceroides* several times and secured three specimens. All observations but one of this huge friarbird were of single birds in dense thickets. The exception was a pair (seen by me) perched in a low open shrubby tree growing among gigantic boulders at the mouth of a gorge. One of the pair (♂, collected) was calling, and flying out, hawking for insects and returning to the tree, a common habit in friarbirds. I transcribed calls heard from *buceroides* as 'a metallic "chilanc chilanc" (second syllable stressed and slightly higher than first)' and 'a monotonous "chank chank chank" '.

The habitat of the Melville Island populations has not been recorded.

In the Lesser Sunda Islands *P. buceroides* has been recorded as plentiful in coconut groves, fruit gardens and other cultivated country, and light forest, from the lowlands up to 1,300 m, but mostly below 1,000 m (Rensch 1931; Dammerman 1926).

### DISCUSSION

The pronounced differences in ecology between *gordonii* and nominate *buceroides* on the Australian mainland poses the question of whether *gordonii* is specifically distinct from *P. buceroides*. In some areas of Arnhem Land the predominantly sandstone escarpment lies as little as 16–24 km inland from the coastal mangroves, and in many places the thickets in the gorges are linked to the mangroves by fairly dense riverine cover. Neither form, however, has been recorded by collectors who have worked these riverine corridors (Knut Dahl, W. D. Dodd, W. R. MacLennan, G. H. Wilkins). On the mainland, therefore, *gordonii* and *buceroides* appear to be restricted to their different areas by intrinsic factors, not at present understood. This, together with the pronounced difference in size between these forms, leads me to recognize *gordonii* as a separate

species and to regard *P. buceroides* and *P. gordonii* as allospecies within the *P. moluccensis* superspecies.

*P. buceroides* has clearly entered Australia from the Lesser Sunda Islands, while *P. gordonii* probably represents an earlier colonization from the same source. Mayr (1944) in his review of the Lesser Sundan elements in the Australian avifauna overlooked these examples.

#### *Other records of P. buceroides and P. gordonii in Australia*

I have not discussed the following records, which are unaccompanied by skins: Port Darwin, clutch of four eggs collected on 19 September (Le Souëf 1903: 148; Storr 1967: 58); Darwin area, sightings in 1966 and 1967 (Officer 1968: 216).

#### *Vernacular names*

For *Philemon gordonii*, Melville Island Friarbird, though not the most appropriate name, may be retained, while for *P. buceroides* I propose, for the Northern Territory populations at least, the name of Sandstone Friarbird.

#### *Statistics*

At a time when I was considering retaining *buceroides* and *gordonii* as subspecies of a single species, my colleague Dr W. Low volunteered to run a simple statistical test on specimens of the two forms. Now that I regard *buceroides* and *gordonii* as specifically distinct, the inclusion of these statistics may seem unnecessary, but I have retained them for those who may be interested:

'Data were compared using Bailey's (1959: 173) modified 't' test where population variance is assumed to be not equal. Highly significant differences exist between males of *gordonii* and Arnhem Land *buceroides* in wing ( $P < 0.01$ ) and tail ( $P < 0.001$ ) lengths in the samples tabulated. Differences in these measurements between males of *buceroides* from Arnhem Land and Timor-Savu were not significant. Females of *gordonii* and *buceroides* were not compared statistically, but inspection showed that the same separation exists in these measurements as was exhibited by the males.'

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#### POSTSCRIPT

While this paper was in press, I discovered in the South Australian Museum three more specimens of *P. gordonii*:

B9065 'Port Darwin. C. E. May' [imm. by plumage].

B9066 'Palmerston [= Darwin], N.T., 3.1891. [T.W.] Cornock' [ad. by plumage].

B9067 'N.T. 1891. Cornock' [ad. by plumage].

The measurements of these skins fall within the limits given above for *P. gordonii*.

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