

RECENT ORNITHOLOGICAL OBSERVATIONS FROM BURU

by

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Summary

The island of Buru was visited between 8 Nov and 10 Dec 1969 and surveys conducted from field stations in the north-west of the island. A total of 112 species was recorded, including six of Bum's ten endemic species. Four of the endemic species, *Pnoniturus mada*, *Monarcha loricatus*, *Rhipidura superflua* and *Zosterops buruensis* were found to be quite common, but *Lichmera deningeri* and *Cworacina fortis* are considered to be uncommon or rare. The mountains of Bum from where *Madanga ruficollis* and *Rhinomyias addita* have previously been collected were not visited. Concern is expressed concerning the status of two endemic parrots, *Chamosyna toxopei* and *Tanypiathus gramineus*, which were not conclusively recorded and which appear to have always been rare. Six species were recorded for the first time on Buru.

Introduction

The Manchester Indonesia Islands Expedition visited the island of Buru between 8 Nov and 10 Dec 1989. The aim of the expedition was to obtain data related to the conservation of bird faunas. The results of the analysis of data on the ecology and habitat preferences of the bird species will appear elsewhere.

The purpose of this paper is to present a systematic list of birds recorded on Bum by the expedition, and to publish notes collected for some of the species on moult, nests and vocalisations. During the last sixty years, Buru has received only one short visit from a conservationist (F. Smiet in 1980) and there is consequently little information on the current state of the island's avifauna.

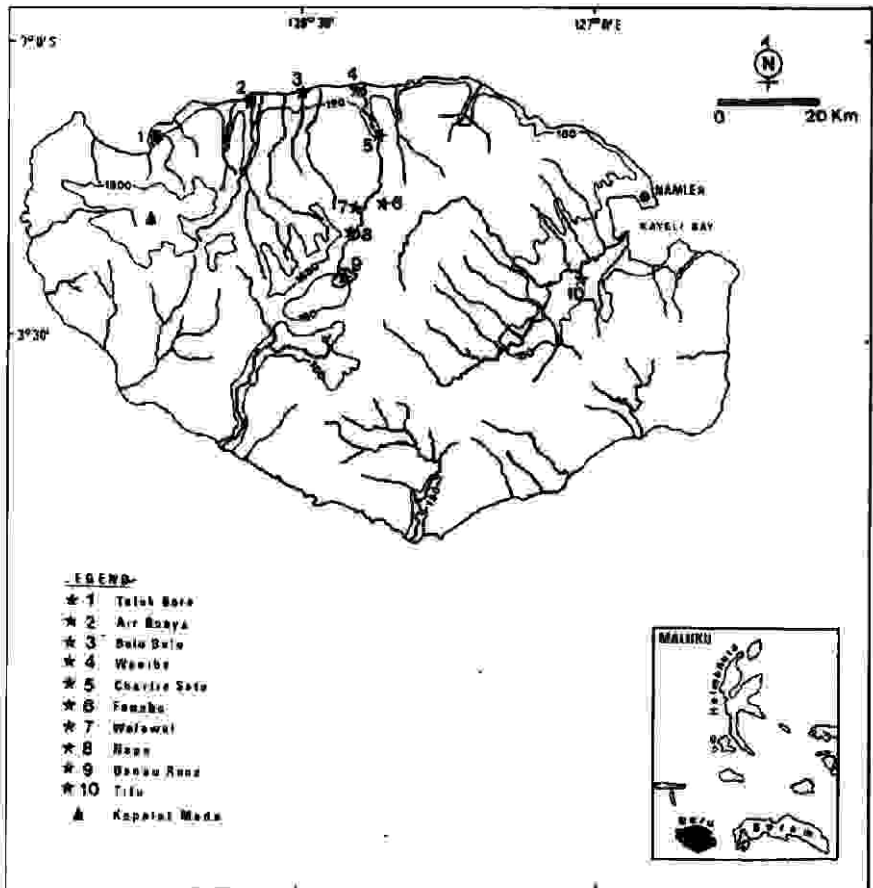
BURU

Location and Background

The island of Buru in the province of Maluku, Indonesia, is located 75 km west of the islands of Seram and Ambon, from which it is separated by the Manipa Strait. The island is some 143 km long and 88 km wide and has a land area of *ca.* 8,000 km². It still has substantial forest areas which are inhabited by the native Buruese people. Between 1969 and the mid-1980s the island served as a government "rehabilitation" centre and as a result a swathe of land around the island's main town, Namlea, is now devoid of trees. Today logging is Bum's principal industry, and the island's only surfaced road links Nanuea with a plywood factory at the village of Wanibe on the north coast.

Buru has rugged topography. The hills rise more or less straight from the sea with only narrow coastal plains. More extensive lowlands are found in the east, along the Wae (= river) Apo which drains into Teluk (= bay) Kayeli. Most of this lowland area is cleared of forest. Although most of the island is below 1,200 m, it is folded into many ridges and deep valleys. The highest area on the island is the Foghi mountains in the north-west, whose main peak, Kepalat Mada, reaches 2,760 m.

Buru Map



A brief History of Ornithological Exploration on Buru

The description of Bum's avifauna commenced during the 18th century when birds collected by staff of the East Indies Company began to reach European collections. In 1726 Valentijn described the first birds from Bum, namely Black-faced Friarbird, Maleo (Scrubfowl) and Brown Booby. Valentijn's accounts are plagiarised from the notes of G.E. Rumphius who worked for the East Indies Company on Ambon from 1652 to 1670. During the middle of the 18th century Wilhelm Graf Bentinck-Rhoon, the then curator of the Leidener High School, described further species from the island. The first scientist to visit the island was Commerson during 1768; a naturalist on the corvette L'Etoile, he is reputed to have made a collection of specimens from around Kayeli which included *Tanygnathus grammacus*. Unfortunately, his collection was never properly described, for after his death in 1773, his executor Buffon inexplicably neglected his specimens and notes. Lesson and Garnet, naturalists on L'CoquiUe, a French Government Expedition which visited Bum in 1823 and 1828, made moderate additions to the ornithology of the island.

The naturalist Alfred Russell Wallace arrived in Kayeli during 1861 and although he did not spend long on the island or venture far from Kayeli, the description of his collection forms the early basis of Buru ornithology. During the following 15 years four collectors from Leiden Museum (now National Museum of Natural History, Leiden) visited the island: Hoedt (1863, '64, '65 & '67), van Muschenbroek (1873), Bruijn (1875) and Teijsmann (1876). Ail collected around Kayeli and, with the exception of Hoedt who discovered *Coracina fortis* and *Prioniturus mada*, their collections were of no great significance. Henry Forbes arrived at Kayeli in 1882 and he was the first to venture deep inland, penetrating as far as Danau (= lake) Rana where he discovered *Myzomela dibapha*. Further collecting was conducted around Kayeli by Riedel during 1883 and independently by Vorderman and Doherty in 1897, but it was not until the following year that the interior was again visited.

The second ornithologist to explore the interior of Bum was Dumas, one of Everett's collectors, during 1897. He descended the west slope of Kepalat Mada in the Foghi mountains and collected ten new endemic forms, in the same year William Doherty collected around Kayeli; their specimens were mostly sent to the British Museum at Tring and described by Hartert (1900). The route of Dumas was subsequently followed in 1902 by Heinrich Kuhn who was based in the Kai Islands and also worked for Tring; he did *not* get as high as Dumas and his collection has never been fully described. The south-west and west of Buru was explored by the geologist Deuningcr during 1906-7, and he returned to Bum in 1912 with Stresemann for the fourth sortie into the interior. They were joined by Stalker who had visited Buni briefly in 1909 as part of the British Ornithologists' Union New Guinea expedition, and they visited Lake Wakalo (Danau Rana). unsuccessfully attempted the ascent of Bara mountain, but -successfully reached the summit of Kepalat Mada where they spent eight days collecting from a camp at 1,400 m.

Table 1. Summary of Previous Ornithological Exploration on Bum

Name	Date of Buru	Source of reference	Museum with specimens	Area collected
G.E. Rumpf (Rumphius) Resident of Ambon		Valentijn 1726	Unknown	Not known if he visited Buru
P. Commerson Voyage L'Boudeuse & L'Etoik	1766-1768	Buffon 1770	Paris	Presumed to be Kayeli
R.P. Lesson & P. Garnot on L'Ca Coquille	23 Sep to 1 Oct 1823	Lesson & Garnot 1830	Paris	Kayeli
Quoy & Gaimard & d'Urville on Voyage C'Astrolabe	30 June to 5 Jul 1828	[[Quoy & Gaimard 1830]	Paris	Kayeli
A.R. Wallace	May to Jun 1861	Wallace 1863 & 1869	Tring	Kayeli & Waepote
D.S. Hoedt (funded by RMNH)	1863, 1864, 1865, 1867	von Pelzeln 1872	Leiden & Vienna	Unclear
S.C.J.W. van Musschenbroek (Dutch Civil Service)	1873	van Musschenbroek 1876	Dresden & Leiden	Kayeli
A.A. Brujin (Ternate merchant)	Sep to Oct 1875	?	Leiden & Paris	East Buru
H.O. Forbes	Nov 1882	Forbes 1885	Tring	Central Buru and Danau Rana
J.E. Teijsmann	2- 15 Aug 1876	Teijsmann 1877	Leiden	Kayeli
K. Martin	Exact date unknown	Martin 1894	Leiden	Unknown
Riedel (resident of Ambon)	1883	?	?	May have only received
A.G. Vodermann (Dutch Civil Service)	1897	Voderman 1898	Bogor & Leiden	Kayeli
V. Doherty (Collector for Lord Rothschild)	Mar 1897	Hartert 1900	New York	Kayeli
M.J. Dumas (assistant to A.H. Everett funded by Lord Rothschild)	Aug to Oct 1898	Harlert 1900	Leiden	Fogha Mountains to c. 1000m (inc. west slopes of Kepalat Mada)
H. Kuhn (Assistant to C. Ribbe - from Dresden Museum)	Feb to Mar 1902	Stresemann 1975	Dresden & New York	Fohgi & Fogha Mountains
K. Deninger (First Freiburg Mollucan Expedition)	1906-1907	Stresemann 1914	Munich	South-west & West Buru
W. Stalker (BOU New Guinea Expedition)	1909	Stresemann 1914		Kayeli & ??
W. Stalker & E. Stresemann & W. Stalker (Second Freiburg Mollucan Expedition)	6 Jan to 6 Mar 1912	Stresemann 1914	Munich & New York	Central & West Buru
R.C. Andrews	1909	van Bemmel & Voous 1953. White & Bruce 1986	New York	Unknown
Denin	1912	Seibers 1930	Bogor	Unknown
L.I. Toxopeus	1921-1922	Seibers 1930	Bogor & Leiden	Central & Southern Buru
Pratt Brothers	1922	Hartert 1924a	New York	Central Buru
F. Kopstein	1922 - 1924	Stresemann 1934	Leiden	Unknown
F. Smiet	1980	Smiet 1985	No specimens (North & West collected tBuni)	North & West Buru

During 1921 the Dutch lepidopterist Toxopeus made a collection of some 600 bird skins around Danau Rana, which, together with his observations (see Siebere 1930), provides the most comprehensive notes published to date on the birds of Buru; they include the discovery of *Charmosyna toxopei*. The following year the Pratt Brothers visited the highlands of the Mada range and discovered the endemic *Madanga ruficollis*. Their collection of some 200 specimens was sent to the British Museum and described in Hartert (1924a). Kopstein also undertook some collecting on Buru between 1922 and 1924. The only subsequent ornithological observations were made by F. Smiet who visited the island for a week during 1980, to identify protected areas for the UNDP/FAO National Conservation Plan.

Table 1 and the above summary are compiled from Hartert (1900 & 1924a), Stresemanni (1914 & 1975) and Siebers (1930).

Itinerary and Location of Text Localities

It is difficult to accurately identify places on Buru as villages may have more than one name, and they move periodically in keeping with the shifting agriculture practiced in the interior. Some locations, e.g., Charlie Satu listed below, are transitory logging camps. The coordinates for each locality we visited are tabulated below, with survey altitude and the dates visited. "Base Altitude" refers to the height at which the expedition camped, and "Transect Altitude" is the range of altitudes covered by transects radiating from these camps. The habitats present at each site are denoted by a symbol and described in the next section. These are S (shore), G (grassland), CA (coastal agriculture), RF (rice fields), R (riverine), PF (primary forest), DF (disturbed forest), SF (swamp forest), and SU⁷ (selectively logged forest).

Locality	Latitude (south)	Longitude (east)	Altitude (m)		Dates (1989)	Habitat
			Base	Transect		
TelukBara	3̄y10'41"	126̄y13'54"	0	0-1000	6-9 Dec	S,CA,DF
Balabalu	3̄y04'49"	126̄y32'37"	110	110-1200	4-6 Dec	PF,DF,SLF
Wanibe	3̄y04'03"	126̄y36'03"	0	0-100	9-12 Nov & 28 Nov-3 Dec	S,CA,G,R
Charlie Satu	3̄y05'20"	126̄y36'20"	700	50-400	9-12, & 27 Nov-1 Dec	R,SLF
Wafawel	3̄y14'15"	126̄y37'26"	500	400-1100	14-26 Nov	A,R,G,PF,DF
Danau Rana (Nonh shore)	3̄y23'	126̄y34'	700	700-1200	18-21 Nov	A,L,G,DF,PF
Bara	3̄y08'55"	126̄y13'54"	0	-	7-9 Dec	S,CA
Air Buaya	3̄y05'00"	126̄y24'46"	0	-	9-10 Dec	S,CA
Fanabo either	3̄y13'50"	126̄y39'30"	500	-	12 & 26 Nov	A,DF
Neepa	3̄y18'07"	126̄y35'47"	700	-	17 & 21 Nov	DF
Namlea	3̄y18'	126̄y07'	0	-	8 & 9 Nov	G
Tifu	3̄y25'	126̄y55'	<100	-	4 Dec	G,RF

Bird Habitats

General descriptions of the broad habitat types surveyed during the expedition are summarised below.

1. Grassland

Grassland areas, originating from forest that was clear-felled for agriculture and later abandoned, occur throughout Bum. A large area around Namlea supports alang-alang (*Imperata* spp.) grassland, and this extends in a 1-2 km wide band along the north coast to Wanibe, up to an elevation of approximately 100 m. In the immediate environs of Namlea the grassland showed clear signs of regular burning and was virtually treeless. On the edges of Namlea there are areas of recently planted kayuputih oil trees, which produces an important export of Maluku. Relatively little time was spent in the grassland, which has low species diversity.

Around Wanibe plywood factory, the "coastal" grassland showed no sign of recent burning and was more diverse with isolated trees, bushes and patches of wet grassland. A similar mosaic was found around the villages of Warujara and Wahughari in the flat land 1 - 2 km west of Danau Rana (map 1), but here scrub and isolated trees were more frequent and the grassland was broken up with fields of cassava, maize and peanuts.

The traditional slash-and-bum agriculture of the indigenous people has produced a mosaic of small clearings in the forests of the interior. These were at various stages of cultivation and forest recolonisation, and were characterised by abrupt boundaries with forest and densely vegetated gullies.

2. Coastal Agriculture and Rice Fields

On the north coast, immediately behind the beach, lies a narrow band of mature trees comprising a mosaic of native species, and small groves of coconuts, cloves and other tree crops. Wetland rice fields occur around Tim.

3. Riverine

The River Wanibe, which drains Danau Rana (called Lake Wakalo in earlier literature) to Wanibe on the north coast, is a powerful water course. In the vicinity of Wafawel village the main water course is bordered by a band of tall herbs and pioneering tree species;. Lower down at Charlie Satu {ca. 10 km from the coast), the river passes through a steeper valley. Here, forest leads down to the water's edge. Below Charlie Satu the gradient becomes more gentle, and the river broadens, forming shallows and gravel banks. The expedition's only records of White-headed Shelduck *Tadoma radjah* were from this habitat.

4. Forest

Forest is the most widespread and probably the most important bird habitat on Bum. For present purposes it can be divided into four classes according to vegetation structure.

A) Primary forest

We rarely encountered undisturbed primary forest. However the ridge to the west of Danau Rana, at an elevation of approximately 800 m, supported forest with many trees over 5 m in girth and 30 m in height; this was considered to be primary forest. Elsewhere small patches of "disturbed" primary forest were located on ridge tops.

b) Disturbed forest

Most of the forest in the vicinity of Wafawel appeared to have regenerated from traditional slash-and-burn agriculture. Forest 'giants*' were rare and the proportion of small trees and saplings was high. This forest supported a denser ground cover of shrubs and herbs than primary forest'

c) Swamp forest

There was a band of forest characterised by numerous palms and a water-logged substrate surrounding the margins of Danau Rana to a width of 100-400 m.

d) Selectively logged forest

Extensive areas of selectively logged lowland forest extended inland from Wanibe and Teluk Bara. All trees with a girth > 0.6 m diameter had been removed. This forest was characterised by a high proportion of young trees, frequent openings and an abundance of climbers and creepers responding to the increased sunlight.

Systematic List

Sequence and nomenclature follow Andrew (1992). The suffix symbols ES, ESS, ph and sr refer to "endemic species" (ES), "endemic sup-species" (ESS), "photograph obtained" (ph) and "sound recording obtained" (sr). Copies of the latter are deposited with the Keeper of Zoology, Manchester Museum, and with the British Library of Wildlife Sounds.

For each species a brief summary of numbers, locations and preferred habitat type is given. This is followed by notes on general ecology, behaviour, breeding *etc.*, and a concluding sentence describes vocalisations where we consider relevant. Species or genera which were not conclusively identified are indicated with square brackets.

Tachybaptus ruficollis **Red-throated Little Grebe**

Five, counted from a boat on Danau Rana, on 21 Nov.

Fregata minor **Great Frigalebird**

Present in small numbers with *F. ariel* at Wanibe.

Fregata ariel **Lesser Frigatebird**

Over 100 regularly counted, 9-10 Nov. and 27 Nov-3 Dec, cruising along the coast at Wanibe. co. 220 frigatebirds were counted moving west at dusk on 27 Nov. Also present along the coast at Balabalu.

Phalacrocorax sulcirostris **Little Black Cormorant**

One record along the coast between Wanibe and Balabalu, 7 Dec.

Phalacrocorax melanoleucos **Little Pied Cormorant**

Uncommon but widespread - from coastal waters to small tributary rivers. Two adults and two juveniles recorded over the sea at Wanibe on 10 Nov and a single on the boat journey from this location to Bara on 7 Dec. Two recorded on the River Wanibe *ca.* 10 km from the coast on 29 Nov, one on the R Wanibe at Charlie Satu on 11 Nov, and an one recorded on 15 and 24 Nov on a 8 m wide forested tributary of the Wanibe at Wafawel. Not recorded at Danau Rana.

Sula leucogaster **Brown Booby**

Five seen while approaching Namlea on 8 Nov; 5-6 regularly observed from Wanibe.

Ardea purpurea **Purple Heron**

Two on riverine pools at Wanibe, 29 Nov, and two on roadside ponds at Tifu, 4 Dec.

Egretta garzetta **Little Egret**

The only record was of a single bird associating with the next species in rice fields at Tifu, 4 Dec.

Bubulcus ibis **Cattle Egret**

One at Wanibe, 3 Dec, and two groups totalling 20 birds in rice fields at Tiru, 4 Dec, This species occurs on several of the Moluccan islands (White & Bruce 1986), but these appear to be the first records for Bum.

Butorides striatus **Striated Heron**

The only record was of one in mangroves beside the road to Tifu *ca.* 10 km from Namlea. 4 Dec.

[Nycticorax caledonicus **Rufous Night-heron]**

Birds showing characteristics of this species were observed at Charlie Satu, 8 Nov and 2 Dec.

Ixobrychus flavicollis **Black Bittern**

One, on a pool surrounded by dense secondary forest, Balabalu, 5 Dec,

Pandion haliaetus **Osprey**

Individuals regularly recorded along the coast at Wanibe, Balabalu and Bara. Two to three different individuals were estimated to be present in the Wanibe area on 29 Nov.

Aviceda subcristata **Pacific Baza**

Individuals were recorded over the forested ridge above Wafawel on 23-24 Nov. also at Waoibe on 29 Nov and from the sea during the journey from Wanibe to Balabalu on 4 Dec.

Haliastur indus **Brahminy Kite**

A common and widespread species, recorded almost daily at all study sites. An immature bird was observed feeding on a dead turtle on the beach 1 km west of Wanibe on 7 Dec.

Haliaeetus leucogaster **White-bellied Sea-eagle**

A widespread species, not confined to the coast. Juveniles recorded at Nanuea and Danau Rana, an immature bird along the coastal strip at Wanibe, and adults at Wafawel, Wanibe and Teluk Bara.

Ichthyophaga humilis **Lesser Fish-eagle**

An individual (sub-adult) was present over Danau Rana, 21 Dec. This constitutes the first confirmed record for Maluku, but a bird seen by Toxopeus and listed as *I. ichsfiyaetus* (Siebers 1930) is presumed by White & Bruce (1966) to be this species.

[Accipiter fasciatus **Brow Goshawk ESS]**

The endemic sub-species *didinws* is known from only five specimens and its status remains uncertain (White & Bruce 1986). A large brown accipiter with dense dark barring on the underwing, seen soaring over the Wanibe valley below Wafawei on 26 Nov. was almost certainly this species.

Accipiter novaehollandiae **Grey Goshawk**

One at Namlea, 8 Dec and two in selectively logged forest at Teluk Bara, 10 Dec.

Ictinaetus malayensis **Black Eagle**

Widespread and frequently recorded over forested terrain at all localities except Teluk Bara,

[Hieraetus kienerii **Rufous-billed Eagle]**

A small eagle was observed soaring over the forested west ridge at Danau Rana on 20 Nov. From the following description it was tentatively identified as a juvenile *H. kienerii*.

Description: Watched soaring high overhead for approximately 15 minutes. Similar in size and shape to Booted Eagle *H. pennatus*. The leading edge to the wing was more or less straight, with a slight bulge to the secondaries, five primary slots; wings held just above the horizontal. Tail relatively long, longer than the wings were broad, held closed and narrower than breadth of wings and straight ended. White under wing coverts contrasting with black flight feathers. White breast and belly, with an impression of slightly darker head. Upper parts seen only briefly; appearance of dark flight feathers and pale brown coverts; pale leading edge.

White & Bruce (1986) considered this species to be very local and scarce, and questioned whether it is resident on Buru. Recent records from Sulawesi (White & Bruce 1986) and Taliabu (S. van Balen, pers. comro.) suggest it is much commoner than previously perceived.

Falco mohtccensis **Spotted Kestrel**

Two adults and a juvenile at Namlea on 8 Nov with a further three observed along the cultivated coastal strip between Namlea and Wanibe on the same day. A single bird recorded along the beach

at Wanibe, 28 Nov - 2 Dec. A pair with a nest and two chicks on the edge of the logging track co. 10km inland from Wanibe, 11-12 Nov. The only other inland record was of a single bird at Wafawel, 24 Nov.

Falco severus **Oriental Hobby**

One individual on 11 Nov on a dead tree at the edge of the logging trail *cu.* 10 km inland from Charlie Satu. This is only the second record of this species from Buru (White & Bruce 1986).

Dendrocygna guttata **Spotted Whistling-duck**

Two adults with five half-grown young on a stagnant pond in secondary forest near Balabalu, 4 Dec. Two calling at dusk on a pool at Teluk Bara, 9 Dec.

Tadorna radjah **White-headed Shelduck**

Two records only, a single on 10 Nov and 2 on 29 Nov, both at the shallow mouth of the River Wanibe. This and the preceding species were widely collected by earlier expeditions to Buru (Stresemann 1914) and *Toxopeus* found both on Danau Rana (Seibers 1930). Their absence from this latter locality in 1989 and general rarity on Buru suggests a possible decline in numbers.

Anas superciliosa **Pacific Black Duck**

Recorded once, Danau Rana, 16 birds on 21 Dec.

[*Megapodius reinwardt* **Orange-footed Scrubfowl**]

[*Eulipoa wallacei* **Moluccan Scrubfowl**]

Unfortunately we were unable to specifically identify scrubfowls. At Wanibe, up to four were recorded daily during censuses between 28 - 30 Nov. Several were recorded at Balabalu, and scrubfowl were heard calling around the rattan factory at Teluk Bara on 8 Dec. Additional individuals were flushed on a ridge above Wafawel on 15-16 Nov, and two mounds were present in forest close to the trail between Fanabo and Wafawel. Local people reported scrubfowls to be common "behind the beach" at Wanibe and eggs were seen on sale near the plywood factory. It is believed that these records refer to the Orange-footed Scrubfowl.

Amauromis olivacea **Common Bush-hen**

Two seen crossing a track in grassland at Wanibe, 9 Dec.

Amauromis phoenicurus **White-breasted Waterhen** One on a roadside pond at Tifu, 4 Dec.

Porphyrio porphyrio **Purple Swamphen**

One near Danau Rana, 20 Nov.

Irediparra gallinacea **Comb-crested Jacana**

A maximum of four birds on the southern sector of Danau Rana, 18 Nov and 21 Dec.

Pluvialis fulva **Pacific Golden Plover**

Small numbers (<5) regularly present on the beach at Wanibe, with 14 at the mouth of the River Wanibe on 29 Nov.

Charadrius lescherwuhii **Greater Sand-plover**

Three at Wanibe on 28 Nov, and singles on 29 Nov and 6 Dec.

Numenius phaeopus **Whimbrel Three,**

Air Buaya on 7 Dec, and singles at Teluk Bara on 8-9 Dec.

Numerous madagascariensis **Far Eastern Curlew**

One at Wanibe. 28-30 Nov. and 10 on 6 Dec.

Limosa japonica **Bar-tailed Godwit**

One at Teluk Bara on 7 Dec.

Tringa glarela **Wood Sandpiper Ten** feeding in

rice fields at Tifu on 4 Dec.

Actitis hypoleucos **Common Sandpiper**

Frequently observed at Wanibe, foraging among man-made constructions on the beach and the log store, also frequently seen along the River Wanibe at Charlie Satu-

Heteroscelus brevipes **Grey-tailed Tattler**

Five on the beach at Air Buaya, 7 Dec, and 5-8 roosting with other waders on branches of low trees at Teluk Bara, 8-10 Dec.

Calidris ferruginea **Curlew Sandpiper**

Four on the beach at Teluk Bara on 7 Dec apparently represent the first published record of this species for Buru (see White & Brace 1986).

Glareola maldivarum **Oriental Pratincole**

Three in flight over rice fields at Tifu, 4 Dec.

Chlidonias hybridus **Whiskered Tern**

A group of four feeding over flooded rice fields at Tifu. 4 Dec.

Chlidonias leucopterus **White-winged Tern**

co. 10 observed during the approach to Namlea on 8 Nov. There are apparently no previous records from Buru.

Sterna hirundo **Common Tern**

Common in the Manipa Strait on 8 Nov.

Sterna sumatrana **Black-naped Tern**

Three near Namlea on 8 Dec.

Sterna bergii **Great Crested Tern***Sterna bengaiensis* **Lesser Crested Tern**

Large terns were commonly observed at sea at all localities. Congregations of 30+ were recorded feeding over fish shoals in the Manipa Straits. Of those specifically identified, the majority were *bengaiensis*, but *bergii* was regularly recorded in small numbers (<6).

Treron pompadora **Pompadour Green Pigeon ESS**

Recorded on three days: singles at Wafawel, 16 and 23 Nov, and a pair and an individual in logged forest at Teluk Bara, 10 Dec.

Ptilinopus superbus **Superb Fruit-dove**

The only record was of a male and *two* females feeding in a fruiting tree alongside a logging trail co. 15 km inland from Wanibe on 11 Nov.

Ptilinopus rivoli **White-billed Fruit-dove**

Two males and a female present in the same fruiting tree as *P. superbus*. This species was recorded frequently on transects at Wanibe, usually in fruiting trees. Single birds were recorded at Charlie Satu and at Wanibe on 1 and 2 Dec. Present, but less common, on transects at Balabalu and Teluk Bara.

Ptilinopus viridis **Claret-breasted Fruit-dove**

Less numerous than the above species but regularly recorded on transects at Wafawel. Also recorded on two occasions on transects in the coastal strip at Wanibe, and single records from Balabalu and Teluk Bara

Ducula perspicillata **White-eyed Imperial Pigeon**

A common and widespread species recorded in all wooded habitats from the coastal strip to Danau Rana. Appeared to be most abundant in the selectively logged valley at Charlie Satu. Allo-preening recorded on 9 Nov» and an individual carrying a twig observed on 10 Nov.

Ducula bicolor **Pied Imperial Pigeon**

A common species on Bum and ranging inland. Very conspicuous in its behaviour, with flocks of up to a dozen (usually 4-8) regularly flying over the forest and perching on exposed, defoliated branches in the upper canopy. Flocks of ca. 20 and 50 seen respectively in coastal forest near Wanibe and in selectively logged forest behind Teluk Bara. Allo-preening observed. The typical call is a series of five descending and shortening notes, "whoo whoo whoo boo hoo".

Gymnophaps mada **Long-tailed Mountain-pigeon ESS**

Moderately common at Wafawel. Usually encountered singly or in pairs; a flock of 10 on 15 Nov was exceptional. Elsewhere, only recorded from Teluk Bara where a total of 8 was seen on 10 Dec.

Columba livia **Rock Pigeon**

Two in Namlea on 9 Nov and *ca.* 10 at Tehifc Bara on 7 Dec. A pigeon loft housing about 15 birds was noted at Airbuaya.

Columba vitiensis **Metallic Pigeon**

Single birds recorded on a ridge above Wafawel on 15 and 25 Nov, in scrub forest at the mouth of the Waoibe on 29 Nov, and at Balabalu on 6 Dec. AH but one of these birds were in mature forest and the two Wafawel records refer to an individual perched on the same branch of a large emergent tree.

Macropygia amboinensis **Slender-billed Cuckoo-dove** ph, sr

A common and widespread pigeon, recorded at all localities except Tifu and found in all types of forest habitat. Its distinctive call was one of the most familiar sounds of the forest: a medium pitched, "whop..whop..whop.-whop", the note repeated 10-20 times, at the rate of three per second. Most frequently encountered in pairs or small flocks of three to four. Two observed displaying on 11 Nov at Wafawel.

Reinwiirdtoena reinwardtii **Great Cockoo-dove**

A pair in forest on a ridge west of Wafawel on 16 Nov.

Streptopelia chinensis **Spotted Dove**

Two or three in coastal agriculture between Namlea and Wanibe. 9 Nov. A pair at Wanibe, and two calling from behind the plywood factory, were the only other records.

Chalcophaps indica **Emerald Dove**

Recorded on a ridge to the west of Wafawel on 16 Nov, and in heavily disturbed forest near the villages of Neepa and Warujara on 17 and 19 Nov respectively. Two separate individuals in secondary scrub near Balabalu on 6 Dec.

Eos bomea **Moluccan Red Lore ESS** ph: captive, sr

The commonest parrot on Bum. Noted as abundant in the selectively logged forest above Charlie Satu. 9-11 Nov, where a group of >50 was observed in a single fruiting tree. Maximum group size in flight at mis site was noted as 18. The call is a collection of short, harsh and disjointed screeches: "sqreep-sqreep, sqree-ee-ie, wecip, weep".

Trichoghssus haematodus **Rainbow lore** ph (in cage), sr

Confined to the coastal lowlands, not recorded at Wafawel or Danau Rana. Groups of 2-6 observed in selectively logged forest 1 km up the valley from Charlie Satu, where a group of six was watched prospecting nest holes in a tree supporting a colony of *Aplonis mysolensis*. Moderately common in the coconut groves and remnant band of forest behind the beach at Wanibe and very common at Teluk Bara. Five feeding on *Casuanna* sp. at Tifu on 4 Dec. The call is a strident, loud "peaow. peaow, peaow", repeated at one second intervals.

Charmosyna toxopei **Blue-troated Lorlkeet** ES

This species is only known from specimens collected by Toxopeus from the west side of Danau Rana in 1921 (Sieben 1930). However during 1980 Smiet (1985) found the species to be "quite common, in plantations, secondary and primary forest". The ensuing literature has served to confuse the situation regarding Smiet's observations. White & Bruce (1986) state that Smiet only observed one individual and Forshaw (1990) questions Smiet's identification, arguing that the habitat is more in keeping with that of Red-flanked Lorikeet *C. placentis* which he erroneously assumes occurs on Buru. Forshaw quotes van Bemmelen (1940) as his source for *C. placentis* occurring on Bum, but this author misquoted an earlier paper by Vordermann (1898a) who quotes a medical doctor who collected *placentis* on Arabian island near Buru. Smiet (pers.

comm.) confirms that he found *toxopei* to be "quite common" in the area and habitats stated in Smiet (1985).

The expedition visited Danau Rana where the type specimens were collected and the areas around Tetuk Bara where Smiet found this species to be "quite common". We failed to locate it around Danau Rana, but at Teluk Bara brief views were obtained of four small lorikeets flying through coastal agriculture. Within the limitations of such views we are confident that these were Blue-fronted Lorikeets.

Micrositta bruijnii **Red-breasted Pygmy Parrot**

Recorded on two occasions: a male in flight over the west ridge at Wafawel, 15 Nov, and a male in primary forest above Danau Rana on 19 Nov. The bird at Danau Rana was located by call, a high pitched "tsee-tsee" in the frequency range of bats. We were able to closely observe the bird feeding upside-down on a tree trunk. The tree had a smooth bark and the bird was seen constantly pecking at the surface in a regular mechanical fashion.

Eclectus roratus **Eclectus Parrot** ph: captive, sr

Uncommon. A nest located 3 km north of Charlie Satu, 9-12 Nov. At Wafawel this species was recorded on only 4 out of 14 days in secondary and primary forest interspersed with shifting agriculture, and on each occasion only a single bird was observed. A nesting pair was found between Wafawel and Fanabo on 26 Nov. At Balabalu it was found to be slightly commoner with three females and a male on 1 Dec and three females and several males recorded the following day. Small numbers (<3) were recorded each day at Teluk Bara, and an individual observed flying over rice fields at Tifu on 4 Dec.

The nesting pair at Charlie Satu occupied a hole located *ca.* 20m from the ground at the base of a branch on a dead tree. This tree, which also supported a colony of *Aplonis mysolensis*, was located on a slope. In contrast, the second nest was in a very large, living tree on a ridge in primary forest. The call heard from the aest hole was a single, far-carrying and metallic "neaow".

Geoffroyus geoffroyi **Red-cheeked Parrot**

A conspicuous species in moderate numbers at all forested sites and also recorded at Tifu on 4 Dec.

Prioniturus madu **Buru Racquet-tail** ES sr

Classified as threatened (Collar & Andrew 1988), and endemic to Buru, however we found it to be common and widespread with flocks of 4-10 individuals being regularly seen. Recorded on all but 3 of 14 days at Wafawel, with maximum flock size of 11, and maximum daily count of 15. Small numbers were seen daily at Danau Rana with a maximum of 8-10 on 19 Nov. Seen from the logging road south of Wanibe on 26 Nov. Very common in selectively logged forest south of Wanibe with a flock of 50+ counted on 2 Dec. Smaller numbers (*ca.* 4) at Balabalu on 4-6 Dec and at Teluk Bara. White & Bruce (1986) presumed this species to occur in mountains over 1.000 m,

occasionally in lowlands. From our observations it was found to be commonest at *ca.* 600 m. The call is a fairly musical collection of: "si-que", rapidly repeated "kwu, Icwil, kwii", and lower pitched "sqr-sqr" notes.

Tanygnathus megalorhynchus **Great-billed Parrot** sr

Two to four recorded on most days at Wafawel and Danau Rana- Found to be common on the coast around Wanibe and at Least 22 individuals were counted on a single transect on 30 Nov. Smaller numbers (<5) observed on 4-6 Dec at Balabalu, but it was numerous near Teluk Bara, 8-10 Dec. Observed feeding on Casuahna fruits near the coast at Wanibe. We found this species to be particularly conspicuous towards dusk when pairs flew high *over* the forest calling continuously. The call is a reedy, harsh "ke-rarr, ke-rarr".

Alisterus wnboinensis **Moluccan King Parrot** ESS ph; captive

Recorded while censusing on 6 of the 14 days spent at Wafawel with a maximum count of 7 on 15 Nov. At Balabalu and Teluk Bara this species was recorded on 2 out of the 3 days spent walking transects, with six at the former site on both days,

A villager at Neepa owned a captive individual, but the species was not recorded at the bird markets in Ambon. Behaviourally quite distinct from other parrot species on Bum, with similarities to trogons *Trogonidae*. It was invariably recorded in mid-canopy, and in pairs which sat quietly on horizontal branches.

[*Cacomantis sepulcralis* **Rusty-breasted Cuckoo**]

A high-pitched whistle, starting slowly and accelerating to a manic pitch, regularly heard in riverine scrub and forest at Wafawel and at Danau Rana on 1 Nov. was presumed to be from this species.

[*Eudynamys scolopacea* **Asian Koel**] . i

The only records of koels were of a male and two females in mature secondary forest at Wafawel on 17 Nov and a male at Teluk Bara on 9 Dec. The birds were calling and are presumed to be *scolopacea* rather than Australian Koel *E. cyanocephala*.

Centropus bengalensis **Lesser Coucal**

Regularly recorded in grass and scrub habitats at Wafawel, Wanibe, Balabalu and Teluk Bara.

[*Ninox* spp **Boobook Spp.**]

A "bur-ooop" call reminiscent of Brown Boobook *Ninox scutulata* was heard at dusk at Danau Rana on 18 Nov, and a boobook was seen in flight at Teluk Bara on 9 Dec. An endemic subspecies of Moluccan Boobook *N. squamipilla* occurs on Buru.

Caprimulgus macrurus **Large-tailed Nightjar**

One or two seen most evenings over the grasslands between Wanibe and Charlie Satu. Single record from Wafawel, 14 Nov, and singles recorded at Teluk Bara, 9-10 Dec.

Aerodramus infuscatus **Moluccan Swiftlet**

Regularly recorded in flocks of up to 25, foraging over the forest canopy during late afternoon after rains, along the logging road south of Charlie Satu. Also seen at Wafawel, Danau Rana, Balabalu and Teluk Baia.

Collocalia esculenta **White-bellied Swiftlet**

Possibly the commonest bird on Bum, foraging over all habitats from Namlea and the coast to forested hills inland.

[Collocalia spp. Swiftlet spp.]

From the logging road 1 km above Charlie Satu, 3-4 unidentified swiftlets observed foraging with *Collocalia esculenta* and *Aerodramus infuscatus* over the forest canopy on 9 and 11 Nov and 1 Dec. They were uniformly coloured small swiftlets, all brown, with paler fawn underparts, and a shallow fork to the tail. Our description resembles that of Uniform Swiftlet *Collocalia vamlcorensis* which has recently been seen on Scram (Bowler & Taylor 1991; Marsden in litt.).

Hirundapus caudacutus White-tufted Needletail co. 6 flying over the Manipa Strait, 8 Nov. The only other records were of one at Wafawel on 13 Nov, and an unidentified needletail at the same locality on 16 Nov. These are the first records for Maluku (Andrew 1992).

Apus pacificus **Fork-tailed Swift**

Individuals recorded over Wanibe on 29 Nov and 1 Dec constitute the first records for Bum.

Hemiprocne mystacea **Moustached Tree-swift sr**

Recorded at all sites except Balabalu and Tifu. A bird of forest clearings and secondary logged forest, and occurrence appeared to relate to the presence of tall exposed perches in these habitats. Aggressive and territorial. The call is a short hard "skip", or a buzzing "krerr".

Alcedo atthis **Common Kingfisher**

A pair present on the river at Charlie Satu. Additional records were of an individual on a tributary of the Wanibe at Wafawel, 15 Nov, a pair by the river at Wanibe, and a pair at Teluk Bara.

Halcyon chloris **Collared Kingfisher**

One or two birds recorded most days at Wafawel. Individuals also present at Neepa and Warujara (Danau Rana) on 18 Nov, at Charlie Satu on 9, 10 and 27 Nov, at Balabalu on 6 Nov. and Tifu on 4 Dec. Found in forest clearings or in wooded agricultural land.

Pitta erythrogaster **Red-bellied Pitta ESS ph.**

An incubating bird was flushed from a nest containing two eggs near Danau Rana on 19 Nov. A village boy brought an adult bird to us at Wafawel, which he caught off a nest in nearby forest on 24 Nov. We were unable to learn the call of this species and it may have been commoner than these isolated records suggest. A description of the Danau Rana nest is as follows: a round ball 25 cm in diameter located 1.5 m from the ground on a shelf between two buttresses of a massive emergent tree. Nest base constructed from twigs up to 20 cm long and 0.5 cm in diameter, dome of smaller twigs, leaves and Gne bark. Nest chamber lined with leaves, containing two white, blunt-ended

eggs. These were spotted towards the pointed end but it could not be ascertained whether this was pigmentation or dirt.

Hirundo rustica **Barn Swallow**

Locally distributed; small numbers present around Wanibe, and found to be quite common at Danau Rana.

Hirundo tahitica **Pacific Swallow**

Moderately common along the coast at Wanibe, Balabalu and Teluk Bara, also Namlea and Tifu. Incubating and feeding chicks at Wambe, 27 Nov.

Motacilla flava **Yellow Wagtail**

Common in short grass and dry rice fields at Namlea, Danau Rana, Wanibe and Tifu.

Motacilla cinerea **Grey Wagtail**

A widespread species; singly or in pairs along watercourses, logging tracks and around timber yards.

Coracina fortis **Buru Cuckoo-shrike ES**

The only record of this little known endemic was of two in selectively logged forest island from Teluk Bara on 10 Dec.

Coracina ceranensis **Pak Cicadabird**

Recorded in small numbers (< 5) at most localities. Individuals in the lowlands at Wanibe on 29 Nov and at Charlie Satu on 10-11 Nov. Recorded in selectively logged forest at Teluk Bara. Twice recorded at Wafawel with two in a mixed species flock on 25 Nov. Up to four recorded in scrub forest at Danau Rana, 18-20 Nov.

Hypsipetes affinis **Golden Bulbul ESS** ph: in hand, sr

A common and widespread species found in all types of forest, and usually in groups of 4-5 birds. Call comprised a descending "si-si-sceow seeow sceow", and typical bulbul chattering notes.

Bradypterus castaneus **Chestnut-backed Bash-warbler ESS**

Two to three observed in grasslands around Danau Rana on 19 Nov,

Locustella fasciolata **Gray's Warbler sr**

It was difficult to get good views of this species but positively identified birds were recorded in cultivation near the village of Wanibe, in a mosaic of grass, cloves, bananas and cassava on 10 Nov. and in grassland habitat at Danau Rana on 19 Nov. The call is a harsh, low "tuc tuc trrick".

Acrocephalus stentoreus **Clamorous Reed-warbler**

Four singing from emergent vegetation along the Wanipo River at Tifu on 4 Dec were the only birds conclusively identified, by their short and blunt primaries.

Cisticola exilis **Golden-headed Cisticola**

A very common bird of grasslands at all altitudes, and easily located by its song: two or three thin reedy notes followed by a finch-like "quieep".

Orthotomus cucutatus **Mountain Tailorbird**

Recorded on only 3 of the 14 days spent at Wafawel; moderately common in scrub near Danau Rana.

Phylloscopus borealis **Arctic Leaf-warbler**

A common, though inconspicuous and generally solitary species in all forest habitats. A regular member of mixed-species flocks. Call a short, quiet and somewhat nasal "zeet".

Muscicapa griseisticta **Grey-atreaked Flycatcher**

Individuals recorded at all sites where suitable perches present, in both forest and grassland habitats. Feeds from an exposed perch, making sallies after passing insects.

Ficedula hyperythra **Snowy-browed Flycatcher ESS**

One male in swamp forest along the edge of Danau Rana on 19 Nov.

Ficedula buruensis **Cinnamon-chested Flycatcher ESS**

Recorded on five days at Wafawel with a maximum count of 6 on 16 Nov. One in selectively logged forest south of Wanibe on 2 Dec, and a male at Danau Rana on 18 Nov, were the only records away from Wafawel. The call is a buzzing, nasal "tup tup tezeeew."

Monarcha pileatus **White-naped Monarch ESS**

Only recorded from Wafawel and Danau Rana, and usually encountered in groups of 3-5 birds, or in mixed species flocks. Recorded on five days at Wafawel, but moderately common in the transition zone of agriculture to swamp forest at Danau Rana.

Monarcha loricatis **Black-tipped Monarch ES ph; in hand + nest**

Moderately common in forest at Wafawel, Balabalu and Teluk Bara. Always encountered singly or in pairs in the under-storey. An individual trapped at Wafawel on 24 Nov was in body moult. A nest was found on 14 Nov. This was located 0.8 m from the ground in the fork of a 1.2 m high sapling. The nest was a woven cup, measuring 10 cm deep and 8.5 cm in diameter, constructed from a fine black creeper (called "ejuk" locally), with moss on the outside and occasional leaves woven into the structure. The nest contained a single white egg. This was speckled with fine brown spots which became denser towards the blunter end. The call of *loricatis* is a rich descending "teow", repeated 4-5 times in a phrase.

Myiagra galeata **Dark-grey Flycatcher ES5**

Uncommon but widespread. Three, including an imm. moulting into adult plumage at Wafawel on 16 Nov. Single females at Neepa and Danau Rana on 17 and 20 Nov respectively. Singles recorded in the coastal strip at Wanibe on 28-29 Nov and a male at Telu-k Bara on 9 Dec. The call, infrequently beard, was transcribed as "tue tue tue tue".

Rhipidura leucophrys **Willie Wagtail**

Moderately common along the coastal *stnp* in open scrub and grassland, and in garden/plantation habitats. A nest with two eggs at Wanibe on 29 Nov.

Rhipidura rufiventris **Northern Fantail ESS sr**

Common in all forest habitats, usually associating in small flocks of 2-6 individuals, and an invariable member of mixed species flocks. Observed nest building near Wanibe on 2 Dec and feeding fledged young at Teluk Bara on 10 Dec. The contact call is a double high pitched "tsip tsip" or "tsit tsit", also a louder "chuwop".

Rhipidura superflua **Tawny-backed FPantail ES**

Distribution and abundance as for White-naped Monarch, though usually seen singly or in pairs. Normally recorded in the under-storey up to *ca.* 4 m, whereas *Monorcha piteatus* was most frequently recorded foraging in the canopy (above 5 m). The call is a short, quiet series of tinkling notes.

Pachycephala pectoralis **Common Golden Whistler ESS sr**

Regularly recorded but never commonly, in forest in the vicinity of Wafawel, Danau Rana, Charlie Satu, BaLabalu and Teluk Bara. A canopy species, sometimes associating with mixed species flocks. The rarely heard song is a melodic composition of descending and ascending whistles.

Pachycephala griseonota **Drab Whistler ESS**

Uncommon; 1-6 recorded on 6 (out of 14) transect days at Wafawel. One other record of a single bird in scrub at Danau Raa. ,

Dicaeum erythrorhox **Flame-breasted Flowerpecker ESS ph: m and f.**

Common in scrub and riverine habitats at all sites, recorded in forest habitats where it was a regular participant in mixed species flocks. Three out of a total of 7 individuals trapped at Wafawel were in active moult; a male in body moult and a male and female in wing/tail moult.

Nectarwia aspasia **Black Sunbird ESS ph: female**

Moderately common in scrub and riverine habitats at Wafawel, WaruJara (Oanau Ranu). Balabalu, Teluk Bara and Tiru. Females trapped at Wafawel and Teluk Bara on 11 Nov and 12 Dec were in moult and two males observed at Neepa on 17 Nov were also moulting; these had a black patch on wing coverts, mantle and lower breast and were otherwise dirty brown with paler underparts.

Nectarinia jugularis **Olive-backed Sunbird ESS pb: female, sr**

Very common in scrub, riverine and agricultural habitats throughout the island. Five females trapped at Wafawel were all moulting wing and tail feathers. A pair seen feeding fledged young and a male displaying at Danau Rana on 19 Nov. The call is a high pitched trill "ti-ti-ip-trrrrr", and short "tsu, tsu, tsu" notes.

Zosterops buruensis **Buru Yellow White-eye ES sr**

Moderately common in scrub, selectively logged forest and secondary forest at Charlie Satu, Wafawel, Neepa, Danau Rana and Teluk Bara. While foraging, it gave a quiet, quickly repeated "tsu-tsu-tsu-tsu-tsu" call.

Lichmera deningeri **Buru Honeyeater ES** ph: fledgling

Uncommon. Only 3 sightings during 14 days of transects at Wafawel. Two were seen on 18 Nov and one on 29 Nov in scrub at Danau Rana. A village child at Neepa had a recently fledged captive bird. Despite its apparent rarity, 9 were counted on 10 Dec in recently logged forest at Teluk Bara.

Myzomela dibapha **Crimson Myzomela ESS**

Almost exclusively recorded in mixed species flocks at Wafawel. Elsewhere, one along the logging road south of Wanibe on 26 Nov, and 2 males and a female at Teluk Bara on 10 Nov.

Philemon moluccensis **Black-faced Friarbird ESS** sr

The most conspicuous land bird on Bum, found in all types of wooded habitat from coconut groves to primary forest. Very vocal with a wide vocabulary, which appeared to involve dueling. Two trapped at Teluk Bara on 12 Dec, one in active moult, the other in fresh plumage. Vocalisations, include a loud and fluid "yio-wheea" with variations; a shorter "ka-waha", and a hard "kawah".

Lonchura molucca **Black-faced Munia**

Small parties common in grassland habitats. Observed at Wanibe carrying nesting material on 28 Nov and nest building on 1 Dec.

Aplonis mysoksis **Moluccan Starling** sr

A nesting colony of 20-30 birds in a dead tree along the logging road 1 km inland from Charlie Satu. Few records elsewhere: 5 flying down the River Wanibe at Wafawel on 14 Nov, and at the same locality a pair and an individual, respectively, on 22 and 24 Nov. A single bird at Balabalu on 6 Dec and two pairs at Teluk Bara on 10 Dec. A contact call heard while feeding in a fruiting tree was a loud, reedy and high-pitched series of "teeck" notes. In flight they gave short "sqweow, sqweow" calls.

Aphnis metalica **Metallic Starling**

The only record was of a pair at Danau Rana, 20 Nov.

Dicrurus bracteatus **Spangled Drongo ESS** sr

Moderately common at Wafawel, both in feeding flocks and in territorial pairs. Numerous on transects at Wanibe, Balabalu and Teluk Bara. Pairs commonly heard dueling, encompassing a collection of disjointed phrases: a fluid "dew-dew-dew", a vibrating "knreeow" with varied pitch and volume, and a strident "chu-chu-seee-chu", comparable to a mixture of frog and bird tones.

Artamus leucorhynchus **White-breasted Wood-swallow**

Up to 5 regularly present at Wanibe, and common at Tifu on 4 Dec. Only one other record, one in a forest clearing above Wafawel on 12 Nov.

Discussion

Buru supports 10 endemic bird species, of which 7 were recorded by this expedition. The Black-tipped Monarch and Tawny-backed Fantail are moderately common in forest with a dense understorey, and in forest borders. The Buru Racquet-tail and Bum Yellow White-eye are common, the former in disturbed and selectively logged forest and the latter occupying forest borders, scrub and selectively logged forest.

The Bum Honeyeater and especially Bum Cuckoo-shrike appeared to be uncommon or rare, although both were recorded in disturbed forest habitats. Two of the endemic species not seen, Streaky-breasted Rhinomyias *Rhinomyias addita* and Rufous-throated Darkeye *Madanga ruficoUis*, are only known from the Foghi mountains- *At. ruficollis* has been recorded down to 900 m, which is within the range of altitudes surveyed by this expedition. However, we only visited the outer edges of the mountains and attribute no significance to missing these species.

The status of Blue-fronted Lorikeet and Black-lored Parrot *Tanygnathus grwnineus is* of concern. The Black-lored Parrot appears in only three collections and has always been regarded as very rare. Toxopeus considered it to be largely nocturnal in habits and is reputed to have heard it quite frequently at night (see Forsnaw 1990). Smiet (1985) recorded two perched in tree tops during the day-time and noted no nocturnal behaviour. During this expedition's four month period, members became well versed in parrot identification and most late evenings were spent watching over forest canopy. If this is a diurnal species, it is surprising that we did not record it, and we would recommend that future expeditions to Bum test the "nocturnal hypothesis" by visiting known fruiting trees with flash-lights at night.

The Blue-fronted Lorikeet remains enigmatic. There is no basis for Forshaw's (1990) assumption that *C. placewis* occurs in the lowlands, being replaced in the central highlands by *C toxopei*, because the former species does not occur on Buru. Toxopeus discovered *toxopei* around Danau Rana which lies in a valley of less than 1,000 m altitude, and Smiet (1985) recorded it as "quite common" in lowlands on the north coast near Teluk Bara; our unconfirmed record was from the same area.

The fact that only one out of the 24 collectors active on Buru recorded *C toxopei* suggests that it is either very rare, nomadic or has specific habitat preferences. Smiet (pers. comm.) recorded the species in disturbed lowland forest between the band of coastal agriculture and the base of the hills. Our observation in the same area sheds little light on the situation, however we did find that little forest remained in this lowland belt, which is now dominated by grassland. If this species is confined to lowland forest on Bum, it could be seriously threatened. Further surveys are urgently required and it is recommend that future surveys cover as much of the ground below 500 m as possible, and that the areas around Danau Rana and Teluk Bara are taken as starting points.

The expedition did not record seven endemic sub-species occurring on Buru. A variety of habitats was surveyed within the altitudinal range of Lesser Masked Owl *Tyto sororcula*, Moluccan Boobook *Ninox squamipila*, Variable Dwarf Kingfisher *Ceyx lepidus*, Common Paradise-kingfisher *Tanysiptera galalea*, and Black-faced Oriole *Oriolus bouroenis*. We presume that these species were either overlooked or rare. The endemic forms of Moluccan Thrush *Zoothera dumasi* and Island Leaf-warbler *Phylloscopus poliocephalus* are presumed to be confined to montane forest which was not visited.

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