

BIRDS OF THE BINTUNI BAY REGION, IRIAN JAYA

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Summary

A description is given of the birds encountered during an inventory of Bintuni Bay, Irian Jaya, in March-April 1989. The bay is surrounded by one of the most extensive and least disturbed mangrove swamps in Indonesia. Ninety bird species were encountered, and these are divided into those frequenting the open waters of the bay, intertidal flats, mangroves, nypa swamps and freshwater swamps.

The importance of the area for bird conservation is emphasized, and an urgent recommendation is made for the establishment of the planned nature reserve. An appendix provides details of observations of seven species and breeding records of six species, and a second appendix lists the habitats of every

Ringkasan

Diberikan pertelaan tentang jenis-jenis burung yang dapat dicatat selama inventarisasi di Teluk Bintuni, Irian Jaya, pada bulan Maret-April 1989. Teluk Bintuni dikelilingi oleh satu dari beberapa areal rawa hutan bakau yang paling luas dan masih utuh di Indonesia. Sembilan puluh jenis burung telah tercatat dan terbagi menjadi beberapa jenis yang hidup di daerah perairan terbuka, hamparan lumpur pasang surut, hutan bakau, rawa nipah dan rawa air tawar.

Kepentingan dari areal ini untuk konservasi burung telah diyakinkan, dan rekomendasi yang penting telah dibuat untuk rencana pengukuhan areal tersebut sebagai cagar alam. Dalam lampiran disajikan pengamatan rinci dari tujuh jenis burung dan Catatan perkembangbiakan dari enam jenis burung serta pada lampiran kedua disajikan daftar jenis habitat untuk masing-masing jenis burung.

Introduction

Although the birds of New Guinea are relatively well documented (Rand and Gilliard 1967, Beehler *et al.* 1986), there are few detailed regional studies, especially from Irian Jaya. Bintuni Bay is a large sheltered bay in the western part of Irian Jaya, situated between 133° 13'-134°02'E and 2°02'-2°30'S (Fig. 1). The bay is bordered by extensive brackish and freshwater swamplands, including 450,000 ha of mangrove forests, representing c. 10% of Indonesia's total mangrove area (Petocz 1983). It is widely regarded as one of the best developed, most extensive and least disturbed mangrove areas in Indonesia, and indeed in Asia generally.

A preliminary survey of Bintuni Bay was conducted during March-April 1989 by a joint team of the Indonesian Directorate General of Forest Protection and Nature Conservation (PHPA) and the Asian Wetland Bureau. The object of the survey was to determine the importance of the area for nature conservation and sustainable resource utilization (Ertemeijer *et al.* 1989). Part of the work included preparing an inventory of the birds of the area and a brief study of their ecology, of which the results are discussed in this paper.

Survey Area

Bintuni Bay has an equatorial climate with average annual rainfall exceeding 2500 mm. Mainly north-west winds from November to May bring the major proportion of the rain, while south-east winds from June to October are generally drier. Temperatures are relatively uniform throughout the year, averaging 26° C. Salinity of the bay is about 27 ppt, and salinities of over 5 ppt were found up to 30 km inland. The depth of the bay varies from shallow intertidal areas in the eastern part to 60 m in the west, where it continues as the MacCluer Gulf (Teluk Berau).

The mangrove forests are characterized by the following genera: *Rhizophora*, *Bruguiera*, *Sonneratia* and *Avicennia*. This community shows complex zonation patterns that follow gradients of salinity and inundation, and their growth is influenced by processes of erosion and siltation. In the north the mangroves are locally backed by freshwater swamp forests, dominated by *Metroxylon sagu*, *Pandanus* sp. and *Intsia* sp. An extensive zone of up to 5 km wide, dominated by the brackish water palm *Nypa fruticans*, lies between the mangroves and freshwater swamp forests. Moist tropical lowland forest then continues inland from the freshwater swamps, which have locally developed a considerable depth of peat.

This variety of habitats, together with the intertidal mudflats and sandbars, and the open waters of the bay, presented the opportunity to examine the habitat preferences of birds using the region.

Methods

A total of 38 days was spent surveying the area. Surveys were conducted with the help of a local fishing canoe. An additional 24 hours were spent on a large beam trawling shrimp fishing vessel on the open waters of the bay.

General Results

This study identified 90 species of birds (in 38 families), of which at least 18 species are endemic to New Guinea (incl. satellite islands) (see Appendix 2). Twenty species were

migrants, of which three (*viz.* Whiskered Tern, Sacred Kingfisher and Rainbow Bee-eater) are southern migrants from Australia, and the remainder are Palaearctic migrants.

English names are taken from Beehler *et al.* (1986), and scientific names are given in Appendix 2. This Appendix lists all species observed in the region, with details of habitat and protection status. An extensive annotated checklist is beyond the intended scope of the present paper but is included in the survey report (Erfemeijer *et al.* 1989).

Habitat Preferences

We identified six habitat types. Details of birds observed are enumerated within each category. Additional details for observations of especial interest are listed in Appendix 1.

1. Open waters of Bintuni Bay

A total of 7 species was recorded, of which the Common Tern and Lesser Frigatebird were most abundant. An interesting "artificial ecosystem" has evolved around ever-present shrimp trawlers. The boats are followed by large concentrations of seabirds, among which the Lesser Frigatebird (c. 60 birds at one vessel), Common Tern (c. 160 birds) and Crested Tern (c. 20 birds) were notable. The birds (and also sharks and dolphins) are attracted to the vessels by the trash-catch (mainly fish) which was thrown overboard after each net-hawl. Three Brown Boobies, one Common Black-headed Gull and two Great Frigatebirds (adult males) were also encountered during a 24-hour period aboard one of the trawlers.

2. Intertidal flats

Several areas along the bay are characterized by intertidal mudflats and sandbars, bordered by mangrove vegetation. These flats were frequented by migratory waders (nine species), terns (six species) and herons (two species), of which the Whimbrel and Gull-billed Tern were the most common.

Waders using the intertidal areas appeared to be more abundant on mud-dominated flats rather than on sandbars. No large high-tide roosting sites were discovered, and therefore counts of large flocks could not be made. It was estimated that c. 10,000 waders visit the area, but as this survey was conducted during the latter part of the migration season, it is possible that future surveys will reveal larger concentrations of birds. The following waders were encountered, in approximate order of abundance: Whimbrel, Common Greenshank, Common Sandpiper, Mongolian Plover, Large Sand-Plover, Terek Sandpiper, Lesser Golden Plover, Grey-tailed Tattler, Black-tailed Godwit and an unidentified sandpiper (*Calidris* sp.).

The Gull-billed Tern was mainly confined to intertidal flats, where it was frequently observed to pick up mudskippers and crabs from the surface of the mud during flight.

3. Mangroves

Mangrove forest, occupying the largest portion of the survey area, was intensively surveyed and showed the highest species diversity. A total of 64 species was encountered.

Species which we found only in mangrove habitat included the Darter, Gurney's Eagle, Orange-fronted Fruit-Dove, Orange-bellied Fruit-Dove, Papuan Frogmouth, Common Paradise Kingfisher, Dollarbird, White-bellied Cuckoo-Shrike, Boyer's Cuckoo-Shrike, Mangrove Gerygone, Northern Fantail, Lemon-bellied Flycatcher, Mangrove Robin, Common Golden Whistler, Papuan Flowerpecker, Black Sunbird, Yellow-bellied Sunbird, Meliphaga sp. (Mimic?), and the Spangled Drongo. With the exception, perhaps, of Gurney's Eagle and (Mimic) Meliphaga (which were only observed once (see also Appendix 1), all these species might be considered as characteristic mangrove species, although clearly several are not restricted to this habitat (see Beehler *et al.* 1986).

Species that were also observed in other habitats, but most frequently in mangroves, included Great-billed Heron, Eastern Reef-Egret, Sacred Ibis, Osprey, White-bellied Sea Eagle, White-headed Shelduck, Whimbrel, Common Sandpiper, Little Tern, Moustached Tree-swift, Biyth's Hornbill, Willie Wagtail, Shining Flycatcher, and Singing Starling.

A third group of species were equally common in mangroves and other habitats: Striated Heron, Brahminy Kite, Whiskered Tern, White-winged Black Tern, Brown Cuckoo-Dove, Pinon Imperial Pigeon, Collared Imperial Pigeon, Black Lory, Palm Cockatoo, Sulphur-crested Cockatoo, Red-cheeked Parrot, Eclectus Parrot, Glossy Swiftlet, Collared Kingfisher, Rainbow Bee-eater, Barn Swallow, Pacific Swallow, Helmeted Friarbird, Lesser Bird of Paradise and Torresian Crow.

Nests of the following species were found in mangrove forest during the present survey:

Orange-fronted Fruit-Dove, Orange-bellied Fruit-Dove, Pinon Imperial Pigeon, Collared Imperial Pigeon, White-bellied Cuckoo-Shrike and Helmeted Friarbird (see Appendix 1).

Large numbers of Biyth's Hornbill were observed in the upper mangrove forest (*Nypa-Sonneratia-Xylocarpus* zone). Along c. 20 km of the Jakati River >250 birds were counted on 1 April 1989 (around 15.00 hrs). They occurred singly, in pairs, and in flocks of up to c. 50 birds.

The White-headed Shelduck was also notably abundant along the Jakati River. A maximum daily count of c. 72 birds was made along c. 25 km of river, nearly all of these being encountered on muddy riverbanks in the tidal reaches.

4. Nypa swamps

Although the avifauna observed in the *Nypa fruticans* forest zone showed much similarity to that of mangroves, it contained a number of species which were particularly abundant, notably Western Crowned Pigeon, Pinks Imperial Pigeon, Collared Imperial Pigeon (including three occupied nests), and Sacred Kingfisher.

Species that were only observed in Nypa swamps include Long-tailed Buzzard, Swamp Harrier and Crested Hawk. However, these species are all known to occur in other habitats as well (Beehler *et al.* 1986).

Other species that were especially common in Nypa swamps, but were also common in mangroves, included the Sacred Ibis, Striated Heron, Brahminy Kite, Whimbrel, Common Sandpiper, Rainbow Bee-eater, Pacific Swallow and Willie Wagtail.

5. Freshwater swamp forests

Limited time was spent in this habitat, but our observations indicate that its associated bird community showed much similarity with that found in pure stands of Nypa. However, most observations in this habitat were made in riverbank vegetation which was often mixed to some extent with Nypa palms.

The numbers of parrots and cockatoos observed generally increased upstream as one proceeded from mangrove-Nypa towards the freshwater swamp and dryland forest. Species such as the White-headed Shelduck and Collared Kingfisher, however, appeared to become less common in the freshwater zone.

Species of interest included: Black Bittern, Greater Black Coucal, Sacred Kingfisher, Azure Kingfisher, Torrent Flycatcher, Yellow-faced Myna, and Twelve-wired Bird of Paradise.

In the freshwater swamps, the Sacred Kingfisher (a migrant) appears to replace the Collared Kingfisher, which was much more common in brackish environments. The Twelve-wired Bird of Paradise was observed in freshwater swamps near the base-camp of a logging company near Manimeri village (1 female and 4 male birds).

6. Dryland forests

The dryland forest lay outside the scope of the survey and received little attention. Species encountered are listed in Appendix 2.

Discussion

This study is the first detailed avifaunal survey conducted in mangrove forest in New Guinea and essentially the first in Bintuni Bay (see Wiriosepartho 1988). The region has a relatively rich bird fauna of c.90 species, most of which are well adapted to or, in some cases, largely dependent on swamp habitats.

The total number of species frequenting the area is no doubt greater than the 90 encountered. For example, Wiriosepartho (1988) reported 67 species for Bintuni Bay, of which 31 were not observed during our study. However, some of these species would appear to have been misidentified, as they have not been previously reported for Irian Jaya (i.e. Mangrove Blue Flycatcher *Cyomis rufigastrd*) or the Bird's Head Region (i.e. Dusky Myzomela *Myzomela obscura*. Brown Quail *Cotumix australis*, and Moluccan Red Lory *Eos squamatd*), or they are known to be confined to mountain habitats (e.g. Red Myzomela *Myzomela cruentata* and Goldie's Lorikeet *Trichoglossus goldiei*). Other species may have been confused with species of similar appearance, e.g. Metallic Starling *Aplonis metallica* (Wiriosepartho 1988) versus Singing Starling (present study). However, Wiriosepartho's observations include a number of species that might well occur in the area:

Glossy Ibis *Plegadis falcinellus*. Pied Imperial Pigeon *Ducula bicolor*. Hook-billed Kingfisher *Melidom macrorrhina*. Brush Cuckoo *Cacomantis variolosus*. Large-tailed Nightjar *Caprimulgus macrurus*, Papuan Nightjar *Eurostopodus papuensis*. White-bellied Thicket-Fantail *Rhipidura leucothorax*. Brown Oriole *Oriolus szalayi*. Hooded Butcherbird *Cracticus cassteus*, and an owl *Ninox* sp.

It is noted that Wiriosepartho (1988) reported *Ducula bicolor* as one of the most common species in the area, whereas it was not observed during the present study. However, it is known to undergo seasonal migration and sometimes gathers in huge flocks (Coates 1985). Wiriosepartho found the species breeding in *Sonneratia* trees.

A total of 64 species was encountered in the mangroves, represented by birds of the Charadriiformes, Ciconiiformes, Coraciiformes and Passeriformes. The Passeriformes, which often receive only little attention in wetland surveys, included a large number of different families, especially Campephagidae, Rhipiduridae, Eopsaltriidae, Nectariniidae and Meliphagidae. From mangroves on Java 167 species have been reported (Van Balen 1989), including a large number of occasional visitors and birds observed on the periphery, but in Java, Cuculidae, Picidae, Sylviidae and Nectariniidae were the dominant families of the Passeriformes.

Over 40 species encountered in the Bintuni Bay area are protected by Indonesian law (Petocz 1984), 18 are endemic to New Guinea and its satellite islands (Beehler *et al.* 1986), and 2 considered threatened or endangered (Collar & Andrew 1988) (see Appendix 2), thus emphasizing the importance of this area for bird conservation. The large scale logging operations that are planned in the area are likely to pose a serious threat to these birds through habitat loss. We sincerely hope that a reserve in the area will be established soon, as recommended in the survey report (Erftemeijer *et al.* 1989) and now under discussion by government officials.

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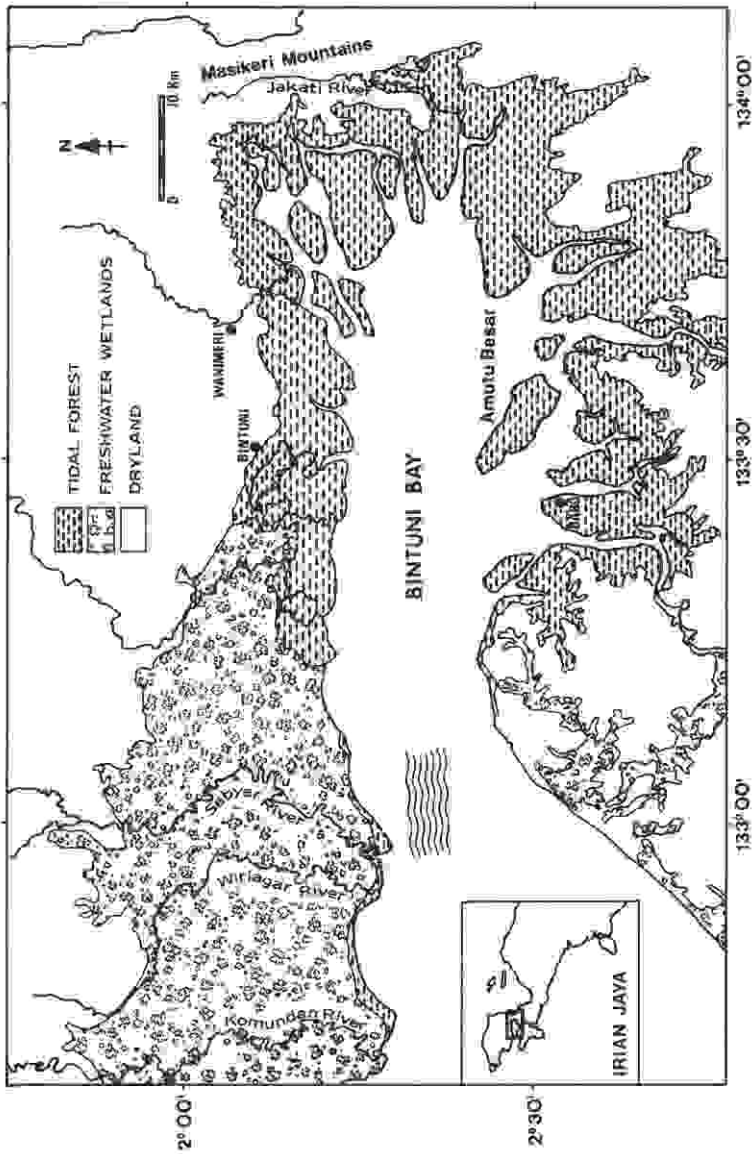


Figure 1.

Appendix 1. Detailed field descriptions and additional data on selected species.***LOTUS ridibundus* Common Black-headed Gull**

One bird observed on a beam of a trawling vessel operating in the open waters of the bay on 7 April (06.30 hrs). Slender red bill with black top, white head with some grey on top and black patch behind the eye, grey upperparts, pinkish red legs, a black bar on end of the tail, obscure white tips of wings and white shoulders, and faint brownish band across the scapulars, indicating that this was a first-year bird. There are few records of this species in Irian Jaya (see Bishop & Diamond 1987).

***Hydroprogne caspia* Caspian Tern**

One bird observed resting on a floating log off the coast of Amutu Besar island on 8 April. A large tern with stout red bill, tipped black, heavy black cap or crest, white underparts, grey wings. This is a scarce winter visitor to New Guinea (Beehler *et al.* 1986).

***Sterna hirundo* Common Tern**

Observed in large numbers (up to 160 birds) sitting on the beams of a trawling vessel in the open bay waters (6-7 April), foraging on the trash-fish shovelled overboard by fishermen after 2-hourly net hauls. They could be easily observed at close range, showing off characteristics of their non-breeding plumage: white forehead, black nape, grey above, white below. Shorter tail streamers and darker grey upperside distinguished them from Roseate Tern *S. dougallii* (which was not observed during the survey). Also observed along tidal flats on a few occasions in March and early April.

***Goura cristata* Western Crowned Pigeon**

Three birds observed in undisturbed *Nypa* forest along the Tembuni river (12 March), and two birds in riverine freshwater swamp forest along the Jakati River (30 March and 1 April). Three birds were held in captivity at a logging base camp near Manimeri village (15 March).

***Ptilinopus aurantiifrons* Orange-fronted Fruit-Dove**

Breeding record: 29 March, small nest with one white egg in rather low (15 m) *Sonneratia caseolaris* tree in the north-eastern section of the bay; one bird constantly present near the nest.

***Ptilinopus iozonus* Orange-bellied Fruit-Dove**

Breeding record: 21 March, nest in a mangrove tree along a narrow crevasse of the Bintuni River, situated too high for a description to be obtained. Nest construction still in progress.

***Ducula pinon* Pinon Imperial Pigeon**

Breeding record: 29 March, one bird on a nest in mangrove vegetation in north-east near Manimeri village, and 5 April, one nest in a *Sonneratia* tree.

Ducula muellerii **Collared Imperial Pigeon**

Breeding record: This was by far the most common pigeon in the area, occurring in all forested habitats. In *Nypa* forest, occupied nests were encountered on three occasions on 13 and 18 March. The nest consisted of a simple frail platform of branches loosely arranged between two overhanging *Nypa* leaves along riverbanks and contained one white egg.

Hirundo rustica **Barn Swallow**

Regularly observed in many parts of the bay, usually single individuals. Present throughout the mangroves, *Nypa* and freshwater swamps, sometimes in association with small flocks of Pacific Swallow *H. tahitica*, which was also common in the area.

Coradna papuensis **White-bellied Cuckoo-Shrike**

Breeding record: 26 March, two adults and one fledgling in mangroves (pioneering *Avicennia* and *Sonneratia*) on the coast near the Bintuni estuary, appeared loyal to a particular tree although no nest could be found.

Monachella muelleriana **Torrent Flycatcher**

Four birds were seen along the Manimeri River, near Manimeri village, on 28 March, in the freshwater swamp forest zone though close to the hills. They were white, with black cap, wings and tail. They were perched together on low shrubs along the sides of the river, which has strong currents at this point, and undertook conspicuous sallying flights. This habitat is at variance with that given in Beehler *et al* (1986): "only on swift-flowing, rocky rivers in hilly terrain, less commonly on smaller streams".

Philemon buceroides **Helmeted Friarbird**

Breeding record: 26 March, two adults with four flightless young near a small nest in a *Sonneratia* tree along the coast.

Paradisea minor **Lesser Bird of Paradise**

Several observations indicate that this species is locally rather common (e.g. one male and four females in *Sonneratia* mangroves along the Manimeri river on 27 March). Most observations concerned females, with males observed only twice.

Appendix 2. Checklist of bird species observed in the Bintuni Bay region during the present study (March/April 1989), with details on habitat preference, status of endemism and protection.

Nomenclature and English names taken from Beehler et al. (1986).

Status:

P: protected; **E:** endemic to New Guinea (including satellite islands, except Bismarcks and Solomons); **T:** threatened/endangered.

Habitat: 1 = open bay; 2 = tidal flats; 3 = mangroves; 4 = Nypa-zone; 5 = freshwater swamps; 6 = dryland forest

Scientific name	English name (+ status)	habitat
<i>Casuarus unappendiculatus</i>	Northern Cassowary (P,E)	5,6
<i>Fregata minor</i>	Great Frigatebird	1
<i>Fregata ariel</i>	Lesser Frigatebird	1
<i>Anhinga melanogaster</i>	Darter (P)	3
<i>Sula leucogaster</i>	Brown Booby (P)	1
<i>Ardea sumatrana</i>	Great-billed Heron (T)	3,4
<i>Egretta alba</i>	Great Egret (P)	45
<i>Egretta garzetta</i>	Little Egret (P)	45
<i>Egretta sacra</i>	Eastern Reef-Egret (P)	23
<i>Ardeola striata</i>	Striated Heron	2,3,4,5
<i>Ixobrychus flavicollis</i>	Black Bittern	5
<i>Threskiornis aethiopicus</i>	Sacred Ibis (P)	3,4,5
<i>Pandion haliaetus</i>	Osprey (P)	3,4,5
<i>Aviceda subcristata</i>	Crested Hawk (P)	4
<i>Henicopenis longicauda</i>	Long-tailed Buzzard (P,E)	4
<i>Haliastur indus</i>	Brahminy Kite (P)	2,3,4,5
<i>Haliaeetus leucogaster</i>	White-bellied Sea Eagle (P)	2,3,4
<i>Circus approximans</i>	Swamp Harrier (P)	4
<i>Aquila gurneyi</i>	Gurney's Eagle (P,E)	3
<i>Tadoma radjah</i>	White-headed Shelduck (P)	3,4,5
<i>Megapodius freycinet</i>	Common Scrubfowl (P)	6
<i>Talegalla cuvieri</i>	Red-billed Brush Turkey (E)	6
<i>Pluvialis dominica</i>	Lesser Golden Plover	2,3
<i>Charadrius mongolus</i>	Mongolian Plover	2,3
<i>Charadrius leschenaultii</i>	Large Sand-Plover	2,3
<i>Numenius phaeopus</i>	Whimbrel	2,3,4
<i>Tringa brevipes</i>	Grey-tailed Tattler	2,3

Scientific name	English name (+ status)	habitat
<i>Tringa hypoleucos</i>	Common Sandpiper	2,3,4,5
<i>Tringa nebularia</i>	Common Greenshank	2,3
<i>Tringa stagnatilis</i>	Marsh Sandpiper (unconfirmed)	5
<i>Tringa terek</i>	Terek Sandpiper	2,3
<i>Limosa limosa</i>	Black-tailed Godwit	2
<i>Larus ridibundus</i>	Common Black-headed Gull	1
<i>Chlidonias hybridus</i>	Whiskered Tern (P)	2,3,4,5
<i>Chlidonias leucopterus</i>	White-winged Black Tern (P)	2,3,4,5
<i>Gelochelidon nilotica</i>	Gull-billed Tern (P)	2,3
<i>Hydroprogne caspia</i>	Caspian Tern (P)	1
<i>Sterna hirundo</i>	Common Tern (P)	1,2
<i>Sterna albifrons</i>	Little Tern (P)	2,3
<i>Sterna bergii</i>	Crested Tern (P)	1,2
<i>Macropygia amboinensis</i>	Brown Cuckoo-Dove	3,4,5,6
<i>Goura cristata</i>	Western Crowned Pigeon (P,E,T)	4,5
<i>Ptilinopus aurantiifrons</i>	Orange-fronted Fruit-Dove (E)	3
<i>Ptilinopus iozonus</i>	Orange-bellied Fruit-Dove (E)	3
<i>Ducula pinon</i>	Pinon Imperial Pigeon (E)	3,4,5,6
<i>Ducula muellerii</i>	Collared Imperial Pigeon (E)	3,4,5,6
<i>Chalcopsitta atra</i>	Black Lory (E)	3,4,5,6
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	3,4,5,6
<i>Lorius lory</i>	Western Black-capped Lory (P,E)	5,6
<i>Pobosciger aterrimus</i>	Palm Cockatoo	3,4,5,6
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo (P)	3,4,5,6
<i>Micropsitta keiensis</i>	Yellow-capped Pygmy-Parrot (E)	3,4
<i>Geoffroyus geoffroyi</i>	Red-cheeked Parrot	3,4,5,6
<i>Eclectus roratus</i>	Eclectus Parrot (P)	3,4,5,6
<i>Centropus menbeki</i>	Greater Black Coucal (E)	5
<i>Podargus papuensis</i>	Papuan Frogmouth	3
<i>Hemiprocne mystacea</i>	Moustached Tree-Swift	3,6
<i>Collocalia esculenta</i>	Glossy Swiftlet	3,4,5,6
<i>Tanyiptera galatea</i>	Common Paradise-Kingfisher (P)	3
<i>Halcyon chloris</i>	Collared Kingfisher (P)	3,4,5
<i>Halcyon sancta</i>	Sacred Kingfisher (P)	4,5
<i>Alcedo azurea</i>	Azure Kingfisher (P)	5
<i>Merops ornatus</i>	Rainbow Bee-eater	3,4,5
<i>Eurystomus orientalis</i>	Dollarbird	3
<i>Rhyticeros plicatus</i>	Blyth's Hornbill (P)	3,4,5,6
<i>Hirundo rustica</i>	Barn Swallow	3,4,5
<i>Hirundo tahitica</i>	Pacific Swallow	3,4,5,6
<i>Coracina papuensis</i>	White-bellied Cuckoo-Shrike (E)	3
<i>Coracina boyeri</i>	Boyer's Cuckoo-Shrike (E)	3

Scientific name	English name (+ status)	habitat
<i>Malurus alboscapulatus</i>	White-shouldered Fairy-Wren (E)	6
<i>Gerygone levigaster</i>	Mangrove Gerygone	3
<i>Rhipidura rufiventris</i>	Northern Fantail	3
<i>Rhipidura leucophrys</i>	Willie Wagtail	3,4,5
<i>Myiagra alecto</i>	Shining Flycatcher	3,4
<i>Monachella muelleriana</i>	Torrent Flycatcher (E)	5
<i>Microeca flavigaster</i>	Lemon-bellied Flycatcher	3
<i>Eopsaltria pulverulenta</i>	Mangrove Robin	3
<i>Pachycephala</i> sp. (melanura?)	Mangrove (?) Golden Whistler	3
<i>Dicaeum pectorale</i>	Papuan Flowerpecker (E)	3
<i>Nectarinia aspasia</i>	Black Sunbird (P)	3
<i>Nectarinia jugularis</i>	Yellow-bellied Sunbird (P)	3
<i>Meliphaga</i> cf. <i>analoga</i>	(Mimic) Meliphaga (P,E)	3
<i>Philemon buceroides</i>	Helmeted Friarbird (P)	3,4,5,6
<i>Lonchura tristissima</i>	Streak-headed Mannikin (E)	6
<i>Aplonis cantoroides</i>	Singing Starling	3,4
<i>Mino dumontii</i>	Yellow-faced Myna	5,6
<i>Dicrurus hottentottus</i>	Spangled Drongo	3
<i>Seleucidis melanoleuca</i>	Twelve-wired Bird of Paradise (P,E)	5
<i>Paradisaea minor</i>	Lesser Bird of Paradise (P,E)	3,4,5,6
<i>Corvus orru</i>	Torresian Crow	3,4,5,6