

**ANNOTATED CHECKLIST OF THE BIRDS
OF THE DUMOGA-BONE NATIONAL PARK,
NORTH SULAWESI**

By

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And

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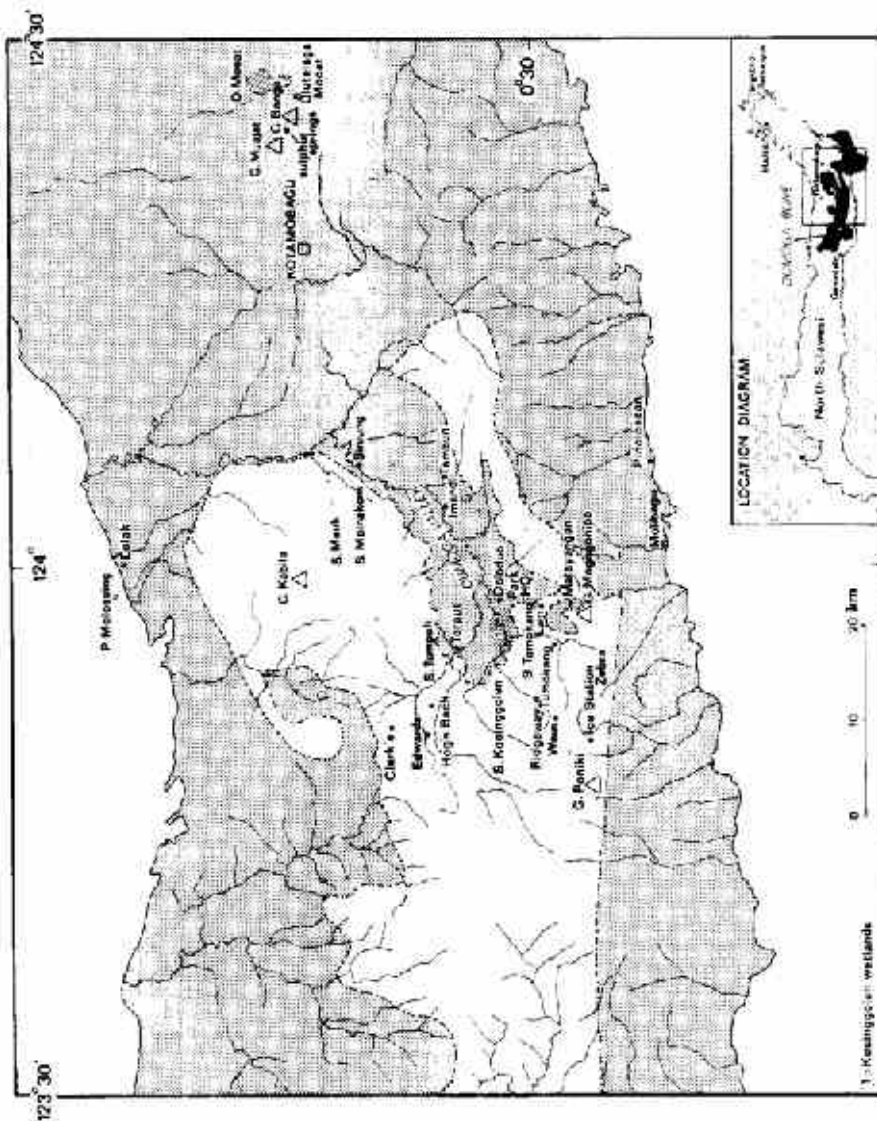
Introduction

The Dumoga-Bone National Park (hereafter referred to as 'Dumoga') is situated in the province of North Sulawesi. Declared a National Park in 1982, the reserve occupies an area of more than 300,000 ha, 90% of which is primary forest. Dumoga serves as a water-catchment area for the Dumoga, Bone and Mopusi valleys, each populated and of prime agricultural importance. For descriptions of Dumoga, see Rodenburg & Palate (1981), Wind (1984) and Knight (1988).

A preliminary checklist of the birds of Dumoga was produced by Mackinnon (in Rodenburg & Palate, 1981). This bare list of 128 species included a number of birds whose occurrence in Dumoga was inferred from their presence on nearby G. Ambang (see Fig. 1). Rather than using this list as a basis, we have preferred to compile a new list based on fieldwork by FGR during 1981, 1983 and 1985 and by RWD during 1985-1986. The list includes records from Gunung Muajat (near G. Ambang), which is now administratively treated as part of the National Park, providing relatively easy access to habitat above 1000 metres attitude. Also included is the Dumoga valley, an area of 30,000 ha of mainly agricultural land which is surrounded by the National Park on three sides (see Fig. 1). This area, which includes the 5000 ha Kosinggolan and 8000 ha Toraut irrigation schemes, provides a suitable habitat for ardeids and waders (see Vermeulen & Spaans, 1987), otherwise not present within the boundaries of the National Park. Where appropriate, occasional reference is made to observations from the Tangkoko-Batuangus Nature Reserve, located northwest of Bitung near the tip of the northern peninsula (see Fig.1). Records from Dumoga of special taxonomic or faunistic interest will be more fully covered by Rozendaal (in prep.).

FGR mainly worked in primary forest and consequently his observations and collections are strongly biased towards birds found in that habitat. RWD was involved in a conservation project on the Maleo *Macrocephalon maleo* and consequently spent most of his time at the Tambun nesting ground, situated on the edge of the forest. He was stationed at the Park Headquarters, beside the Kosinggolan wetlands, where both forest and aquatic habitat prevail. It is of interest to note that RWD, during his residence at Park HQ during March 1985 - May 1986, recorded 105 species from his house, accounting for 75% of the avifauna of Dumoga.

Fig. 1. Map of North Sulawesi, showing the eastern part of the Dumoga-Bone National Park, with localities mentioned in the text.



Information on the occurrence of ardeids is mainly derived from Vermeulen & Spaans (1987), based on observations by Charlotte Vermeulen (JV).

As interest in the Sulawesi fauna grows, additions to the avifauna of Dumoga will surely follow. We have considered it timely to compile this list as a working basis for future observers, who are urged to send additional records to the editors of *Kukila* for inclusion in future Sulawesi Bird Reports, the first of which is published with this issue.

Of the 280 species recorded from North Sulawesi (Stresemann, 1939-1941, Escott & Holmes, 1980), 140 have been recorded to date from Dumoga, including the Dumoga valley. Van Marle (1940: 66-69) enumerated 174 species as breeding in the Minahasa, with an additional 3 introduced species and 8 species breeding on small coastal islands. For the whole of Sulawesi, Stresemann (1939: 313) recorded 84 endemic species among a total of 220 breeding birds (38%; not 30.8%, as in Stresemann 1939: 313 and White, in White & Bruce, 1986: 53). After several deletions and additions, the current figure would now be 75 endemic species in 14 endemic genera recognized by White & Bruce (1986: 53-54) among a total of 221 resident, non-marine birds (33.9%). Of these, *Eurostopodus diabolicus* and *Cyornis sanfordi* only occur in the northern peninsula; the latter species has been recorded in Dumoga but the enigmatic Satanic Nightjar remains known only from the unique holotype collected at the foot of G. Klabat. Others, such as *Gymnocrex rosenbergii*, *Tyto inexpectata* and *Cittura cyanotis* appear to be more widespread and to occur in higher densities in the northern peninsula.

For excellent accounts of the history of ornithological collecting in Sulawesi, see Heyer & Wigglesworth (1898), Stresemann (1939), Junge (1954) and White & Bruce (1986).

With reference to the Bone mountains, which are part of Dumoga, it should be noted that Stresemann (1939: 306) considered that up to 1877 the montane avifauna of Sulawesi was only relatively well-known from mountains in the northern peninsula, i.e. the Minahasa and Gorontalo. Later, Gerd Heinrich made some striking discoveries in other parts of Sulawesi, where higher altitudes could be attained than mountains surveyed in the north, of which G. Klabat (1995m) is the highest. The northern peninsula is often referred to, both in text and on maps, as the 'Minahasa (or Minahassa) peninsula' (e.g. White & Bruce 1986: 18, map 3), but actually consists of the districts (kabupaten) Minahasa, Bolaang Mongondow and Limboto in the province of North Sulawesi (Sulawesi Utara) and Buol Tolitoli in Central Sulawesi province (Sulawesi Tengah). Of these, only kabupaten Minahasa, now heavily cultivated, may be considered as ornithologically well explored.

Appendix 1 gives a gazetteer of principal localities in Dumoga that are referred to in the systematic list. The nomenclature and sequence of species follows White & Bruce (1986).

The following abbreviations are used in the .text:

BLOWS = British Library of Wildlife Sounds
O. = Danau (Lake)
G. = Gunung (Mount)
g. = grannies
m = metres above sea-level
P. = Pulau (Island)
RMNH = Rijksmuseum van Natuurlijke Historie, Leiden.
S. = Sungai (River)
W&B, 1986 = White & Bruce, 1986.
ZMA = Zoologisch Museum, Universiteit van Amsterdam.

Systematic List

***Phalacrocorax melanoleucos* Little Pied Cormorant**

A single bird was observed and photographed by J. Wind in the Kosinggolan wetlands.

***Anhinga melanogaster* Darter**

Up to three birds were irregularly present in the Kosinggolan wetlands (RWD); one bird was seen at Toraut on 22 Mar 1985 (FGR). Two observations from D. Mooat: three birds on 13 Oct 1981 (FGR) and three during March 1986 (RWD).

***Ardea purpurea* Purple Heron**

Several pairs breed in the Dumoga valley. A nest with three nestlings was found in a mixed heronry in the Kosinggolan wetlands on 7 May 1985 (JV).

***Egretta alba* Great Egret**

Present year-round in small numbers in the Dumoga valley, but not found breeding (JV).

***Egretta intermedia* Short-billed Egret**

Seasonal visitor to the Dumoga valley in small numbers (JV).

***Egretta garzetta* Little Egret,**

Fairly common in the Dumoga valley. Observed breeding in March 1986 in a mixed heronry with Cattle Egrets and Javan Pond-Herons (JV).

***Bubulcus ibis* Cattle Egret**

Very common in the Dumoga valley, with many non-breeders present throughout the year. Breeding in small numbers with Purple Herons in a mixed heronry during April/May 1985 and with Javan Pond-Herons and Little Egrets during March/April 1986 (JV).

***Ardeola specioea* Javan Pond-Heron**

Common in the Dumoga valley and breeding throughout the year, but most nests found in March/April and in September. Nests in single species colonies, or in mixed heronries with Cattle and Little Egrets (JV).

***Butorides striatus* Little Heron**

Present in the Dumoga valley in small numbers (JV)

***Nycticorax caledonicus* Nankeen Night-Heron**

Several adults and immature were observed in the Kosinggolan wetlands, where one downy young was collected by local people at the end of April 1966, confirming local breeding (JV).

***Ixobrychus sinensis* Yellow Bitter**

Single birds were flushed from the reeds and wild sugar cane bordering S. Tumokang Lama on several occasions during January 1983 (FGR). Present in small numbers in the Dumoga valley, especially in the Kosinggolan wetlands, between October 1985 and March 1986 (JV).

***Ixobrychus cinnamomeus* Cinnamon Bittern**

Common resident in the Dumoga valley (JV).

***Ixobrychus flavicollis* Black Bittern**

A single record of a bird captured by villagers in the Dumoga valley on 22 Sep 1981 (FGR).

***Ciconia episcopus* Woolly-necked Stork**

Present throughout the year in low numbers in the Dumoga valley. Maximum numbers seen were even birds observed soaring over Toraut (FGR) and a flock of 12 birds in the Dumoga valley on 22 Jun 1985 (RWD).

***Pandion haliaetus* Osprey**

A few records : single birds at Toraut on 21 Mar 1985 (FGR) and 8 Mar 1986 (RWD) and at Kosinggolan on 28 Jan, 19 and 20 Mar 1986 (RWD).

***Aviceda jerdoni* Jordan's Baza**

A single record of a bird in a tree at the forest edge at Toraut on 10 Aug 1985 (RW).

***Pernis celebenais* Barred Honey-Buzzard**

Uncommon and separated with difficulty from *Spizaetus lanceolatus*. An immature Honey-Buzzard was seen at dose range on the forest edge at Siniung on 28 Oct 1981 (FGR). Two adult birds were present on 19 Jan 1983 at the forest edge at Tumokang-Lama (FGR).

***Elanus caeruleus* Black-shouldered Kite**

Present in small numbers in the cultivated Dumoga valley.

***Milvus migrans* Black Kite**

Present throughout the year in the Dumoga valley and locally common.

***Haliaeetus indus* Brahminy Kite**

Locally common, especially in the Kosinggolan wetlands.

***Haliaeetus leucogaster* White-bellied Sea-Eagle**

Regularly present at the Kosinggolan wetlands, both adult and immature birds. A pair was seen displaying and copulating on 14 -15 Dec 1985 (RWD).

***Ichthyophaga humilis* Lesser Fish-Eagle**

Observed over S. Tumpah on 14 Oct 1981 (FGR), and perched in a dead tree in a dammed-up part of S. Toraut, near base camp on 31 Mar 1985 (FOR, RWD).

***Spilornis rufipectus* Sulawesi Serpent-Eagle**

Common; conspicuous and vocal. Observed over G. Poniki (1817 m) in October 1985 (RWD).

***Circus assimilis* Spotted Harrier**

Present in small numbers in the Dumoga valley.

***Accipiter griseiceps* Sulawesi Goshawk**

Uncommon: one record of an adult male (wing length 180 mm, weight 220 g), mistnetted in primary forest at S. Moinakom on 28 Jan 1983 (FGR).

***Accipiter soloensis* Chinese Goshawk**

Common migrant and winter visitor, but unobtrusive and typically observed still hunting from perches along the forest edge. Most birds seen were in immature plumage. Migration over Park HQ observed on two dates: on 9 Mar 1985 60-70 birds flew NE and on 6 Oct 1985 more than 100 flew SW ahead of a thunderstorm (RWD).

***Accipiter trinitatus* Spot-tailed Goshawk**

Commonest of the four endemic *Accipiter* species, frequently heard and seen; mistnetted on four occasions. A male trapped and released at park HQ on 27 Apr 1985 had caught a large skink *Mabuya multifasciata*. Very vocal; however, the call of this species has been wrongly attributed to the Purple-bearded Bee-eater *Meropogon forsteni* (q.v.) by Watling (1983, cassette tape in BLOWS; see Rozendaal in prep).

***Accipiter nanus* Small Sparrowhawk**

Uncommon or rare, and difficult to separate from the next species. Two small accipiters without spots in the tail, observed on 6 Apr 1985 at dark's camp and on 18 Apr 1985 on G. Muajat, were tentatively identified as this species (FGR).

***Accipiter rhodogaster* Vinous-breasted Sparrowhawk**

Uncommon and difficult to separate from the preceding species. A pair observed in dense forest along S. Moinakom (625 m) on 30 Jan 1983 probably belonged to this species (FGR).

***Ictinaetus malayensis* Black Eagle**

Present in small numbers, often seen soaring over villages and along the forest edge. Observations over primary forest include a bird seen over the ridge near G. Kabila on 24 Oct 1981 (FGR) and one bird over G. Poniki in October 1985 (RWD).

***Hieraaetus kienerii* Rufous-bellied Eagle**

Uncommon; seen and heard on several occasions: 28 Jan 1983 one bird calling over our camp at S. Moinakom; 23 Mar 1985 heard calling over the rentis area at Toraut; 2 Apr 1985 over the ridge near Edwards' camp and 9 Apr 1985 two

birds at the edge of a small clearing at this camp (FOR). In addition, single birds were seen at Tambun on 12 Mar and 13 Jul 1985, at Park HQ on 22 Sep 1985 and at Tumokang on 26 Nov 1966 (RWD).

***Spizaetus lanceolatus* Sulawesi Hawk-Eagle**

Common, from lowland forest at c. 200 m to over 1850 m at G. Poniki; see also under Barred Honey-Buzzard *Pernis celebensis*.

***Falco moluccensis* Spotted Kestrel**

Present in small numbers in the Dumoga valley.

***Falco peregrinus cf emesti* Peregrine Falcon**

Irregular visitor; single birds were observed on six occasions: 21 Mar, 21 Jun and 9 Aug 1985 at Park HQ, 25 Nov 1985 at Kosio (Dumoga valley), 15 Mar 1986 near Sulphur springs, G. Muajat, and 28 Mar 1986 at Imandi (RWD). The species, previously only known in North Sulawesi from a single specimen collected by Heinrich at Rurukan, may breed locally.

***Dendrocygna arcuata* Diving Tree-Duck**

Common and usually present in large numbers in the Kosinggolan wetlands. Largest flock observed by RWD numbered over 400 birds, on 25 Aug 1985.

***Anas gibberifrons* Grey Teal**

Common in wet ricefields and Kosinggolan wetlands, also in shallow rivers.

***Anas querquedula* Garganey**

Uncommon winter visitor: on 22 Jan 1983 nine birds were present among a flock of c.100 Grey Teal in the shallow riverbed of S. Tumokang Lama near Park HQ (FOR); one or two birds on 8 Oct. and at least 15 birds on 26 Dec 1985 in the Kosinggolan wetlands (RMD).

***Megapodius cumingii* Philippine Scrubfowl**

Probably common, but difficult to find. Eggs are deposited among decaying roots of live trees. Egg laying observed at Tumokang in March 1986 (RWD). Apparently the species is more common in the Tangkoko-Batuangus reserve (but see Andrew, in prep.).

***Macrocephalon maleo* Maleo**

11 nesting grounds are present in Dumoga (Dekker *in prep*). Fieldwork was concentrated on monitoring the Tambun and Tumokang sites. Population size in 1985/1986 was estimated at 150-200 pairs at each site (Dekker & Mattel, 1987). Eggs are laid throughout the year, but peaking during October-April. Best sites for visits are Tambun and Tumokang.

***Coturnic chinensis* Blue-breasted Quail**

Birds were heard calling on a few occasions in dry tall grass at Toraut base camp during March-April 1985 (FGR). The species was very obvious in the Dumoga valley during June 1985 (RWD).

***Gallus gallus* Red Junglefowl**

Uncommon; seen or heard on few occasions only: 18 Oct 1981 a pair in primary forest along S. Kosinggolan at c.860 m; heard calling at Toraut on 22 Mar 1985 and a calling male recorded on tape at Hog's Back on 11 Apr 1985 (FGR). One pair was present in dry forest behind Park HO (RWD)

***Turnix suscitator* Barred Buttonquail**

Uncommon, recorded on two occasions at Tambun, on 3 Aug and 23 Dec 1985 (RWD). Also observed at Buntalo (near Lolak) on 17 Dec 1985 (RWD). Previously unrecorded from North Sulawesi.

***Gallirialus philippensis* Buff-banded Rail**

Very common, along roadsides and in rice-fields in the Dumoga valley.

***Gallirialus torquatus* Barred Rail**

Common in secondary growth and in ricefields in the Dumoga valley. Often betraying its presence by its loud cacophony of discordant screeches, erroneously ascribed by Watling (1983: 252, cassette-tape in BLOWS) to Isabelline Waterhen *Amaurornis isabellinus*.

***Gymnocrex rosenbergii* Bald-faced Rail**

Uncommon or rare, but possibly overlooked due to its secretive behaviour. A single observation on 16 Sep 1981 of a bird feeding in a dry tributary of S. Kosinggolan at 285 m, in dense primary forest. The muddy river banks were imprinted with numerous ralline footprints (FGR).

***Amaurornis isabellinus* Isabelline Waterhen**

Present in small numbers in secondary vegetation, often along the forest edge, in drier habitat than the next species. On 15 Apr 1985 c. five birds were present around guard post at D. Mooat (FGR). An adult with chicks was observed at Amurang on 10 Aug, 1985 (RWD).

***Amaurornis phoenicurus* White-breasted Waterhen**

Common in suitable habitat, especially in the Kosinggolan wetlands, but more often heard than seen. Several birds on 15 Apr 1985 around PHPA guard post at D. Mooat (PGR).

***Porzana cinerea* White-browed Crake**

Several birds were observed among aquatic vegetation in ponds at Toraut Base camp in March 1985 (FGR) and a single on 21 Jul 1985 (RWD). Two birds in a ricefield at Imandi on 14 Jan 1986 (RWD).

***Porphyrio Porphyrio* Purple Swanphen**

Several birds present in the Kosinggolan wetlands.

***Gallinula chloropus* Common Moorhen**

Present in very small numbers in the Kosinggolan wetlands and ricefields in the Dumoga valley. The Dusky Moorhen *G. tenebrosa* was looked for, but never positively identified.

***Pluvialis fulva* Pacific Golden Plover**

Common winter visitor in rice fields in the Dumoga valley.

***Tringa nebularia* Common Greenshank**

A single bird in a ricefield at Imandi on 14 Jan 1986 (RMO)

***Tringa stagnatilis* Marsh Sandpiper**

A single bird in a ricefield at Imandi on 4 Sep 1985 (RWD).

***Tringa glareola* Wood Sandpiper**

Abundant winter visitor in ricefields in the Dumoga valley (RWD).

***Actitis hypoleucos* Common Sandpiper**

Abundant winter visitor in ricefields in the Dumoga valley and common along rivers in the National Park.

***Galinago megala* Swinhoe's Snipe**

It is most likely this species that is commonly seen in winter in ricefields in the Dumoga valley (cf. MS, 1986: 174).

***Chlidonias hybridus* Whiskered Tern**

A few observations in the Kosinggolan wetlands: three birds in juvenile/winter plumage on 20 Sep, five on 7 Oct and three on 8 Oct 1985 (RWD).

***Streptopelia chinensis* Spotted Dove**

Common in cultivated areas.

***Macropygia amboinensis* Slander-billed Cuckoo-Dove**

Rather common, observed along the forest edge and in primary forest, from c. 200 m at Doloduo up to at least c. 1350 m altitude on the ridge above S. Mauk towards G. Kabila.

***Turacoena manodeneis* White-faced Cuckoo-Dove**

Frequently observed and heard, particularly in secondary forest and at the forest edge.

***Chalcophaps indica* Green-winged Pigeon**

Common in secondary forest, and also occurring in primary forest (*contra* Watling, 1983: 253), where found alongside the next species.

***Chalcophaps stephani* Stehan's Pigeon**

Observed in primary forest at Toraut; mistnetted in primary forest at S. Moinakom on 23 Jan 1983, where call tape-recorded (FGR).

***Gallicolumba tristigmata* Sulawesi Ground-Oove**

Uncommon, but unidentified birds flushed regularly in primary forest, especially at Toraut, presumably refer to this species. Seen well on a few occasions only one bird crossed the observer's view in primary forest along S. Kosinggolan at 900 m on 18 Sep 1981 (FGR); one seen at dose range in dry forest at Park HO on 18 Jul 1985 (RWD).

***Treron vernans* Pink-necked Green-Pigeon**

Usually seen in flocks along the forest edge.

***Treron griseicauda* Grey-cheeked Green-Pigeon**

Usually seen in flocks along the forest edge.

***Ptilinopus fischeri* Red-eared Fruit-Dove**

In hill and montane primary forest, recorded from the ridge above S. Mauk leading to G. Kabila at 1350 m (23-26 Apr 1981), dark's camp (5 Apr 1985) and the summit of G. Muajat (18 Apr 1985) (FOR) and G. Bangs in March 1986 (RMD).

***Ptilinopus subularis* Maroon-chinned Fruit-Owe**

Not uncommon in forest and along forest edge, often noted by its characteristic call. Recorded from Toraut and Kosinggolan (c. 200 m) to c. 800 m on G. Muajat (FGR).

***Ptilinopus superbus* Superb Fruit-Dove**

Not uncommon but unobtrusive. Small flocks observed in forest behind Siniung on 21 Oct 1981 (FGR) and at least two birds on G. Banga on 31 Mar 1986 (RMO).

***Ptilinopus melanospila* Black-naped Fruit-Dove**

Not uncommon, its melancholy call often betraying its presence. Recorded from Kosinggolan and Toraut up to 1140 m at dark's camp, where a pair was observed on 5 Apr 1985 (FGR).

***Ducula forsteni* White-bellied Imperial Pigeon**

Common in primary forest, its loud booming call heard from c. 220 m (Toraut) upwards.

***Ducula radiata* Grey-headed Imperial Pigeon**

Uncommon, but possibly overlooked due to unfamiliarity with its call. Feeding flocks observed at the forest edge at S. Tumpah on 14 Oct 1981 and S. Toraut 23 Mar 1985; several birds in dense primary forest along S. Kosinggolan at c. 750 m on 18 Sep. 1981 (FGR).

***Ducula aenea* Green Imperial Pigeon**

Common and vocal.

***Ducula luctuosa* White Imperial Pigeon**

Common and conspicuous in cultivation and along forest edge.

***Cryptophape poecilorrhhoa* Sombre Pigeon**

Uncommon, but possibly overlooked due to its very retiring behaviour. Observed along upper tributary of S. Mauk at 950 m on 22 Oct 1981 and nearby, on the ridge leading to G. Kabila at 1200 m; single birds on the summit of G. Muajat on 17 Apr 1985 (FGR) and at dark's camp on 30 Jun 1985 (RWD).

***Trichoglossus ornatus* Ornate Lorikeet**

Common.

***Trichogloesus flavoviridis* Yellow-and-green Lorikeet**

Replaces the preceding species at higher altitudes. Observed in numbers only at the forest edge and in isolated stands of trees at D. Mooat and foot of G. Muajat at Bongkudai Baru.

***Loriculus stigmatus* Sulawesi Hanging-Parrot**

Common, single individuals or small flocks usually seen flying overhead.

***Loriculus exilis* Green Hanging-Parrot**

Uncommon or rare, but difficult to separate from the preceding species and perhaps overlooked. A single bird on 8 Jan 1986 in the Matayangan enclave along Doloduo-Molibagu road (RWD).

***Prioniturus flavicans* Red-spotted Raquet-tail Parrot**

Less common than the next species and usually seen singly or in pairs. One bird collected at Toraut on 21 Jul 1966 (PUD).

***Prioniturus platurus* Golden-mantled Raquet-tail Parrot**

Common and usually in noisy parties, but few good views obtained at dose range and usually seen flying overhead. The beautiful melodious and varied calls of this species were attributed to *Tanygnathus sumatranus* by Watling (1983: 254, cassette tape in BLOWS) (pers. obs. and tape-recording, FGR).

***Tanygnathus sumatranus* Blue-backed Parrot**

Common, calls of flying birds often heard at night.

***Cuculus crassirostris* Sulawesi Hawk-Cuckoo**

Not observed but frequently heard in primary forest at S. Hoinakom, Edwards' camp, dark's camp. Hog's Back (FOR) and Wain camp (RWD). The call of a bird singing at midnight at Edward's camp on 9/10 Apr 1985 consisted of two notes ("ka-ku"), with the full call of three notes ("ka-ka-ku", the last at lower pitch) mixed in at irregular intervals (PGR).

***Cuculus saturatus* Oriental Cuckoo**

Single migrants were noted on three occasions: a predated bird on 16 Mar 1985 in reeds in the Kosinggolan wetlands, a dead adult female at Park HQ on 5 Apr 1985 and on 24 Nov 1985 at Toraut (RWD).

***Cuculus sepulcralis* Indonesian Cuckoo**

Not uncommon at the lower forest edge and in secondary and primary forest, up to 1400 m (FGR). A nestling was observed being fed by Olive-backed Sunbird *Nectarinia jugularis* at Park HQ on 21 Jul 1985 (RWD).

***Surniculus lugubris* Drongo Cuckoo**

The characteristic song was noted at Edwards' camp, Hog's Back and Toraut during Mar-Apr 1985 (PQR).

***Eudynamys melanorhyncha* Black-billed Koel**

Common and very vocal in forest and along forest edge.

***Scythrops novaehollandiae* Channel-billied Cuckoo**

Very noisy and conspicuous in the Dumoga valley from the end of February until May-June and rare

***Phaenicophaeus calyorrhynchus* Fiery-billed Malkoha**

Common in forest and along forest edge. A juvenile being fed by a Crimson Sunbird *Aethopyga siparaja* was observed on 8 Jan 1986 at the Matayangan enclave (RMD).

***Centropus bengalensis* Lesser Coucal**

Common in open secondary growth and cultivation.

***Centropus celebensis* Bay Coucal**

Locally common in forest, forest edge and dense secondary growth.

***Tyto rosenbergii* Sulawesi Owl**

A pair frequented tall dead trees in open country in the Toraut base camp area and was heard on many nights during March 1985 (FQR). One bird was observed by day along the roadside at Tambun on 30 Jul 1985, mobbed by Slender-billed Crows *Corvus anca* (RWD).

***Tyto inexpectata* Minahassa Owl**

In early October 1981, rangers at the Toraut post obtained an injured male in primary forest nearby, which was preserved as a skeleton (RMNH 80821) (Vide Bishop, 1989). On 21 Oct 1981 a primary feather was found on a trail in dense primary forest at 800 m between S. Mauk and S. Moinakom (FGR).

***Otus manadensis* Sulawesi Scope-Owl**

Common in primary forest and along forest edge.

***Ninox punctulata* Speckled Hawk-Owl**

Common; vocal at certain times of the year. During December 1985 three birds could be heard calling simultaneously at Park HQ (RWD). One bird was mistnetted over a tributary of S. Mauk in dense primary forest on 22 Oct 1981; it had killed a fruit bat *Thoopterus nigrescens* in the net (FGR). A male (wing-length 164 mm, weight 151 g) was found at Toraut on 9 Apr 1985 and died later, and is preserved as a study skin (RWD).

***Ninox scutulata* Brown Hawk-Owl**

An extraordinary observation was made of a calling bird seen very well using flashlights in primary forest at Edwards' camp on 30 Jun 1985 (RWD), well outside the wintering period in Sulawesi. Vocalisations described were compared with recordings made in Malaysia and field-characters noted include yellow irides, dark head and dark longitudinal streaking on pale underparts. This call was heard again by RWD at Wein camp on 21 Oct 1985.

***Ninox ochracea* Ochre-bellied Hawk-Owl**

Uncommon. Two adult birds observed at daytime, flushed in dense rattans - which Hawk-Owls seem to prefer in Sulawesi and the Moluccas (see also Meyer, 1879) - on the ridge beyond Edwards' camp on 9 Apr 1986. A bird mistnetted on 5/6 Apr 1985 at dark's camp (1140 m) was in a previously undescribed rufous phase (Rozendaal, in prep.). Disyllabic calls ascribed to this species were recorded at dark's camp and on the summit of G. Muajat during April 1985, and are discussed by Rozendaal (in prep.).

***Eurostopodus macrotis* Great Eared Nightjar**

Common: observed over open country and at the forest edge at Kosinggolan and Toraut, but also heard over primary forest along the upper reaches of 8. Kosinggolan at 900 m, along S. Moinakom at 626 m and at Edwards' camp at MO m (FOR). Especially vocal during March-May, with up to ten birds heard and seen simultaneously over Park HQ. A nest with one egg was found along the Poniki trail Just above Ridgeway can? on 21 Oct 1985 (RWD).

***Caprimulgus macrurus* Large-tailed Nightjar**

A caprimulgid egg found and photographed near Edwards' camp on 8 May 1985 does not fit the preceding species and can probably be attributed to this species or the Satanic Nightjar *Euroatopodus diabolicus* (see Rozendaal, in prep.).

***Hemiprocne longipennis* Grey-rumped Tree-Swift**

Common.

***Collocalia esculenta* white bellied Swiftlet**

Uncommon in the Dumoga valley, perhaps due to a lack of suitable breeding site.

***Aerodramus infuscatus* Moluccan Swiftlet**

A bird mistnetted over S. Tumokang Lama on 19 Jan 1983 (FOR) and several seen in a large flock of Uniform Swiftlets *Aerodramus vanikorensis* over S. Tumpah on 11 Sep 1965 (RMD), identified by a pale rump and measurements, represent a first record for North Sulawesi.

***Aerodramus vanikorensis* Uniform Swiftlet**

Very common in the Dumoga valley, :

***Hirundapus caudacutus* White-throated Needletail**

Migrants were observed at Kosinggolan: one bird on 7 Oct and two on 24 Dec 1985. Hundreds were observed heading north over Park HQ on 9 Feb 1986. Needletails commonly observed around Ice Station Zebra and the summit of G. Poniki in October 1985 were probably also this species (RMD).

***Hirundapus celebensis* Purple Needletail**

A flock of c. 50 birds, identified by black plumage (including throat) and white rump, was observed over primary forest along S. Kosinggolan on 21 Sep 1981 (FOR). About 20 birds were seen on 6 Oct 1986, passing over Park HQ ahead of a thunderstorm (RMD).

***Actenoides monachus* Blue-headed Wood-Kingfisher**

Rather common in secondary and primary forest. Two birds in breeding condition were mistnetted in the rentis area at Toraut on 22 Mar 1985. This species was very vocal before dawn and in the early morning at Park HQ during April/May; also heard during dark overcast weather at midday on 22 Mar 1985 in the rentis area at Toraut (FGR). A recently fledged juvenile was observed at Park HQ on 8 Jul 1985 (RWD).

***Actenoides princeps* Bar-headed Wood-Kingfisher**

This kingfisher replaces the preceding species at higher altitudes; the only record in Dumoga is of a male observed and mistnetted at dark's camp on 5/6 Apr 1985; several birds were calling here before dawn. The vocalizations of the two *Actenoides* species have been described by Heinrich (in Stresemann, 1940: 416, 418), Coomans de Ruiter (1950: 54) and van den Berg & Bosnian (1986: 10).

***Cittura cyanotis* Lilac Kingfisher**

Uncommon; one observation of a bird in primary forest along the upper reaches of S. Kosinggolan at c. 900 m on 19 Sep 1981 (FGR); present at Park HQ in forest on 18 and 25 Jul 1985 (RWD). The species was not netted in the lowland forest netting grid at Toraut during March 1985, but four birds were netted in a 6.5 ha plot in lowland monsoon forest in the Tangkoko-Batuangus reserve in February 1983.

***Halcyon coromanda* Ruddy Kingfisher**

Single birds, presumably of the resident subspecies *rufa*, were observed on a few occasions: on 21 Sep 1981 one bird was seen darting out of the forest and diving into S. Kosinggolan at c. 200 m and on 19 Oct 1981 a bird flew past over a small stream in secondary growth at Siniung (FGR). In addition, one bird flew past Park HQ on 6 Apr 1986 (RWD). A bird mistnetted and released on 10 Feb 1983 -in coastal forest at Parey (Tangkoko) with a wing length of 125 mm and a rump-patch of a few dark blue feathers is referable to the migrant subspecies *major* (FGR) (see also Andrew, in prep.).

***Halcyon melanorhyncha* Great-billed Kingfisher**

Common, regularly observed and seven birds were mistnetted, six over S. Tumokang Lama in January 1983 and one over a tributary of S. Tumpah in March 1985. In Dumoga, the species seems to prefer open waterside habitats (Kosinggolan wetlands) and broad rivers through forest but was also heard in primary forest along an upper tributary of S. Mauk at c. 980 m, on 7 Jan 1981.

***Halcyon chloris* Collared Kingfisher**

Common in open habitats. The Sacred Kingfisher *H. sancta* was not observed at any inland localities, but is a common visitor to coastal habitats, such as Tangkoko.

***Ceyx fallax* Sulawesi Kingfisher**

Uncommon, but likely overlooked due to its inconspicuous behaviour. One adult and two immatures mistnetted in lowland primary forest in the rentis

area at Toraut and others seen there during March and July 1985. In addition one bird was observed and photographed at Edwards' camp on 9 Apr 1985 (FGR).

***Alcedo atthis* Common Kingfisher**

A common waterside species at S. Tumokang Lama, S. Toraut and S. Tumpah and the Kosinggolan wetlands. Six birds were mistnetted and released over S. Tumokang Lama during January and March 1983. For a discussion of this species and the status of Blue-eared Kingfisher *A. meninting*, unrecorded from Dumoga to date, see Rozendaal, (in prep.). On 7 Sep 1981 a single individual of the subspecies *bengalensis* was seen along a tiny forest stream inland of Batuputih (Tangkoko-Batuangus), which also held a resident pair of the brighter subspecies *hispidooides* (FOR).

***Merops ornatus* Rainbow Bee-eater**

Rather common visitor during late April-August. The earliest date of this Australian migrant in 1985 was noted as 25 April.

***Meropogon forsteni* Purple-bearded Bee-eater**

Uncommon, but possibly overlooked. The only records are of three birds perched in a tree overlooking a small clearing on the ridge at Hog's Back on 2 Apr 1985 (FGR) and two birds at c. 600 m along the Poniki trail on 21 Oct 1985 (RWO). The often-heard call of the Spot-tailed Goshawk *Accipiter trinotatus*, well described by Heinrich (in Stresemann, 1940: 485), is erroneously attributed to this scarce bee-eater by Watling (1983, cassetts tape in BLOWS) and consequently an incorrect impression of its status is given.

***Coracias temmickii* Purple-winged Roller**

Locally common, especially along the forest edge. A flock of seven birds was observed at the forest edge at Kampung Tua (Doloduo-Toraut) in September 1981 (FOR). An observation of 4-5 birds in primary forest at dark's camp on 30 Jun 1985 is unusual (RMD).

***Eurystomus orientalis* Dollarbird**

Uncommon: single birds were observed at the forest edge at S. Tumokang Lama on 19 Jan 1983 (FGR) and at Park HQ on 10 and 12 Jun and 16 Jul 1986 (RMD). Status uncertain.

***Penelopides exarhatus* Sulawesi Hornbill**

Rather common and noisy in forest and along forest edge.

***Rhyticeros cassidix* Red-knobbed Hornbill**

Common and conspicuous. Nesting in isolated tree at Toraut base camp in March 1985.

***Picoidae teiminckii* Sulawesi Pygmy Woodpecker**

Uncommon, but possibly widely overlooked (cf. van den Berg (Bosnian, 1986: 11). Single birds observed in mixed species flocks, on G. Muajat on 18 Apr 1985 (FGR), at Tambun on 13 Jan 1986 and at Tumokang on 19 Mar 1986 (RWD). Observed at sea-level in Tangkoko (FGR).

***Muelleripicus fulvus* Ashy Woodpecker**

Locally common and frequently observed from c. 200 up to c. 950 m; drumming heard and recorded (cf. Short, 1982: 531). A male and female were mistnetted in the rentis area at Toraut during March 1985 (FOR). Two adults and one juvenile seen at Park HQ on 1 Aug 1965 (Rm3).

***Pitta erythrogaster* Blue breasted Pitta**

More often heard than seen. One bird mistnetted and released at S. Moinakom (026 m), on 20 Jan 1983. Frequently heard and observed in lowland forest plot .in the rentis area, Toraut, where at least three singing males held territories, and along the forest trail between Toraut and Hog's Back, during January and March 1985 (FOR); observed at Tumokang in January 1983 (FGR) and at Park HQ on 26 Jun 1985 (RWD).

***Pitta sordida* Hooded Pitta**

The 'only observations of this species, which is apparently uncommon in Sulawesi, were of a singing bird (and a second answering in the distance) at Edwards' camp (860 m) on 9 and 10 Apr 1985 and one bird singing at Hog's Back (480 m) the next day. Both birds were observed on a ridge in primary forest, with locally, more open forest due to treefalls (FQR). For a discussion of the status of the Hooded Pitta in Sulawesi, see Rozendaal (in prep.).

***Hirundo rustica* Barn Swallow**

A common winter visitor in the Dumoga valley.

***Hirundo tahitica* Pacific Swallow**

Common resident.

***Coracina temminckii* Caerulean Cuckoo-Shrike**

Uncommon or rare: one record only of a single bird in secondary growth at the edge of primary forest at Tambun, on 8 Nov 1985 (RWD).

***Coracina bicolor* Pied Cuckoo-Shrike**

Frequently heard and observed, usually in pairs, in lowland forest and forest edge around Toraut.

***Coracina leucopygia* White-rumped Cuckoo-Shrike**

Seen in small noisy parties in cultivation around Doloduo and Koeinggolan.

***Coracina abbotti* Pygmy Cuckoo-Shrike**

Uncommon: two birds at c. 1700 m on G. Poniki on 24 Oct 1985, in a mixed species flock with *Malia grata* and *Rhipidura teysmanni*, represent the first record from the northern peninsula east of the Matinan Mts. (cf. Stresemann, 1940: 125; Wt B, 1986: 304) (RWD).

***Coracina morio* Sulawesi Cicadabird**

Observed on several occasions in primary forest, often in mixed species flocks, at Park HQ, Tambun, Siniung, along S. Kosinggolan, Clark's cam and G. Muajat, between 435 and 1770m.

***Lalage nigra* Pied Truiller**

Common along forest edge, e.g. at Park HO and at Tairbun.

***Malia grata* Malia**

Two pairs were observed in mossy forest on the ridge leading to G. Kabila at c. 1350 m on 24 Oct 1981 (FOR) and several birds on G. Poniki at c. 1700 m on 24 Oct 1985, with *Rhipidura teysmanni* and *Coracina abbotti* (RWO). This species was tentatively placed with the bulbule Pycnonotidae by White (in N ft B, 1986: 313) on account of coloration and absence of bulbuls on Sulawesi, perhaps influenced by the Golden Bulbul *Ixos affinis* which occurs on Sangihe to the north, and Sula Islands and Moluccas to the east of Sulawesi. However, in the field the Malia bears no resemblance to this bulbul (pers, obs. on Sangihe, Halmahera and Bacan, FOR).

***Dicrurus bracteatus* Spangled Orcnga**

Uncommon, replaces the following species in primary forest at higher altitudes. Observed at Clark's camp (1140 m) on 5 Apr 1985 (FGR) and 29 Jun 1985 (RWD) in a mixed species flock, on G. Muajat (1770 m) on 17 Apr 1985 (FGR) and on G. Poniki on 24 Oct 1985 (RUD).

***Dicrurus hottentottus* Hair-crested Drongo**

A common and vocal species of primary and secondary forest.

***Oriolus chinensis* Black-naped Oriole**

Common, in cultivated areas, the forest edge and in primary forest up to at least 1000-1100 m.

***Corvus enca* Slender-billed Crow**

Common in open cultivated areas.

***Trichastoma celebensis* Sulawesi Babbler**

Common and vocal in forest and along forest edge.

***Zoothera erythronota* Red-backed Thrush**

Not observed in the field in Dumoga, but the species is probably quite common: three birds were mistnetted in lowland forest in the rent is area at Toraut during March 1985; on 22 and 23 Oct 1981 two birds were netted in primary forest along an upper tributary of S. Mauk at 950 m (FGR).

***Bradypterus caetaneus* Chestnut-backed Bush-Warbler**

First noted on the ridge to G. Kabila at c 1400 m on 24 Oct 1981. Common and vocal in forest undergrowth below the summit of G. Muajat during 15-18 Apr 1985 (FOR).

***Locustella fasciolata* Cray's Grasshopper-Warbler**

Uncommon winter visitor: two birds heard singing in waterside vegetation at Ulutelaga Moot (1000 m) on 14 Apr 1985 and one heard in dense weeds at Toraut base camp on 22 Apr 1985 (FGR).

***Acrocephalus orientalis* Eastern Great Reed-Warbler**

Winter visitor in suitable habitat (e.g. Kosinggolan wetlands, Park HQ). Birds were heard singing in reeds and wild sugarcane along S. Tumokang Lama near Park HO on 21 Jan 1983 (FGR).

***Phylloscopus borealis* Arctic Warbler**

One record of two birds seen in the canopy of primary forest at Edwards' camp on 9 Apr 1985; the song of one bird was recorded on tape. Arctic Warblers wintering in Sundaland and WaUacea are usually recorded up to 800 m in cultivation, deciduous forest and light rainforest (W & B, 1986: 345) and in mangroves and secondary forest (FGR, pers. Obs.).

***Phylloscopus sarasinorum* Sulawesi Leaf-Warbler**

Common in primary forest from c. 600 m upwards.

***Orthotomus cuculatus* Mountain Tailor-bird**

Frequently heard and observed above 1000 m (G. Kabila, G. Muajat and dark's camp). An adult and immature bird were mistnetted at dark's camp (1140 m) on 4 Apr 1985 (FGR).

***Cisticola exilis* Golden-headed Cisticola**

Not uncommon in open secondary vegetation, such as ricefields and grasslands around the Kosinggolan wetlands and Park HO.

***Ficedula hyperythra* Snowy-browed Flycatcher**

Common in primary forest from c. 1000 m upwards.

***Ficedula rufigula* Rufous-throated Flycatcher**

Common in primary forest, netted in numbers in the rentis area at Toraut (220 m) and in forest along S. Moinakom (625 m). Watling (1983) already noted that this tiny flycatcher is commonly mistnetted, but rarely observed, in the undergrowth of primary forest (FGR).

***Ficedula westermanni* Little Pied Flycatcher**

Rarely observed, but this species is easily overlooked: one male on 24 Oct 1981 in mossy forest on the ridge leading to G. Kabila at c. 1100 m (FGR) and single males along the trail to the Sulphur Springs at 1200-1400 m on 30 and 31 Mar 1986 (RWD).

***Cyomis sanfordi* Matinan Flycatcher**

Previously only known from nine specimens collected by Gerd Heinrich in the Matinan Mts. (Stresemann, 1940: 78). A bird mistnetted on the summit of G. Muajat on 18 Apr 1985 identifies a flycatcher previously observed and tape-recorded on the ridge to G. Kabila at c. 1400 m on 24 Oct 1981 (Rozendaal, in prep.).

***Cyomis rufigastra* Mangrove Blue Flycatcher**

Rather common in primary forest, from c. 500 m up to c. 1200m, mistnetted at S. Mauk (880 m) and dark's camp (1140 m).

***Cynornis panayensis* Island Verdi-bar Flycatcher**

Uncommon. Several birds were observed at c. 1200 m along the trail to the Sulphur Springs on 15 and 30 Mar 1986 (RWD).

***Muscicapa griseisticta* Grey-strayed Flycatcher**

Uncommon winter visitor. Single birds were recorded at Park HQ on 23/24 Sep, at Toraut baee camp on 24 Nov 1985 and along the Sulphur Springs trail on 30 Mar 1966 (HMD).

***Hypothymis azurea* Black-naped Monarch**

Common in forest and along the forest edge.

***Culicicapa helianthea* Citrine Flycatcher**

A common and lively flycatcher of the forest, observed from Toraut (220 m) upwards to dark's camp (1140 m) and in a mixed species flock on G. Muajat at c. 1800 in (FGR).

***Rhipidura teysmanni* Rusty-bellied Fantail**

Rather common in primary forest above c. 1000 m. Observed on the ridge to G. Kabila at c. 1300 m on 24 Oct 1981, on G. Muajat (1770m) during April 1985 (FOR) and at c. 1700 m on G. Poniki on 24 Oct 1985 (RWD). Usually observed singly or in pairs in mixed species flocks. For subspecific identity, see Rozendaal (in prep.).

***Pachycephala sulfuriventer* Sulphur-ball led Whistler**

A common and vocal species, noted from 200 m upwards to the summit of G. Muajat (1770 m); oommonest above c. 800 m.

***Hylocitrea bonensis* Yellow-flanked Whistler**

This unobtrusive whistler, described from specimens collected by the Sarasins in the Bone mountains, was observed in moss forest on the ridge to G. Kabila at c. 1300 m on 25 Oct 1981 (FGR), and at least two birds were seen feeding on berries along the trail to the Sulphur Springs at c. 1400 m on 30 Mar 1986 (RWD).

***Anthus gustavi* Petchora Pipit**

uncommon migrant/winter visitor. Single birds were observed low in dense *Lantana camara* scrub at Tambun on 19 Mar 1985 and 24 Jan 1986 (RMD).

***Motacilla flava* Yellow Wegtail**

Abundant migrant and winter visitor in ricefields in the Dumoga valley.

***Motacilla cinerea* Grey Wegtail**

Common migrant and winter visitor along streams in forest, observed up to c. 900 m

***Artamus leucorhynchus* White -breasted Woodswallow**

Cannon in open areas.

***Artamus monachus* Ivory-backed Woodswallow**

Frequently seen in flocks of up to 15-20 birds flying high overhead along the forest edge. Also observed in clearing in forest at the ridge at Hog's Back (480 m) on 11 Apr 1985 (FGR).

***Aplonis panayensis* Philippine Starling**

Rather common in open country, especially around human habitation.

***Basilornis celebensis* Sulawesi Crested Myna**

Least numerous of the four endemic mynas, usually seen in pairs or small parties. Regularly seen around Park HQ (RWD); one or two birds at the forest edge above Siniung (200 m) on 20 Oct 1981; 22 Mar 1985 single bird at Toraut; 5 Apr 1985 two birds in mixed species flock at dark's camp (1140 m); 11 Apr 1985 flock at Hog's Back (480 m) (FGR); also observed on top of G. Mogogoni-pa (RWD).

***Streptocitta albicollis* White-necked Myna**

Observed in pairs or small noisy parties, in lowland forest and forest edge; recorded in mixed species flocks at dark's camp (1140 m).

***Enodes erythrophris* Fiery-browed Myna**

Frequently seen, usually in flocks, from c. 1000 m upwards, with records of c. 15 birds on 5 Apr 1985 at dark's camp (1140 m) and several on the summit of G. Muajat (1770 m) on 17 Apr 1985 (FGR). Also recorded on G. Mogogonipa, G. Poniki and Sulphur Springs trail (RWD).

***Scissirostris dubium* Finch-billed Myna**

Common, occurring in large flocks and nesting in colonies in holes of dead trees in the Dumoga valley.

***Myza celebensis* Lesser Streaked Honeyeater**

Common in forest from c. 900 m upwards; mistnetted in large numbers in moss forest on the ridge to G. Kabila at c. 1400m during October 1981 and on the summit of G. Muajat (1770 m) during April 1985 (FGR). Common at Ice Station Zebra and summit of G. Poniki in October 1985 (RWD).

***Myzomela sanguinolenta* Scarlet Honeyeater**

uncommon; observed infrequently in moss-forest above 1000 m, a pair on the ridge to G. Kabila on 24 Oct 1981 and a male on the summit of G. Muajat (1770 m) on 16 Apr 1985 (FGR). Two birds were observed on G. Banga at 1200-1300 m (RWD). A record of a single adult male at Park HQ (200 m) on 7 Jul 1985 is unusual (RWD). An immature bird was attracted at night to a light trap for insects at dark's camp on 3/4 Apr 1985 (FGR).

***Anthreptes malacensis* Brown-throated Sunbird**

Uncommon: present in small numbers in cultivation and secondary growth, recorded at Tantoun and Park HQ (RWD).

***Nectarinia aspasia* Black Sunbird**

Uncommon, few observations only: several birds at Park HQ on 19 Mar 1986 (RWD). Two birds were observed in primary forest on the ridge above S. Mauk at c. 800 m on 21 Oct 1981 (FGR). This species appears to be much more common in Tangkoko.

***Nectarinia jugularis* Olive-backed Sunbird**

Very common in secondary growth and along forest edge.

***Aethopyga siparaja* Crimson Sunbird**

Present in small numbers and regularly observed around Park HQ. One seen feeding a juvenile Fiery-billed Malcoha at Matayangan on 8 Jan 1986 (RWD). A mate was observed in roadside *Lantana camara* scrub at 0. Mooat on 16 April 1966 (FOR).

***Dicaeum aureolimbatum* Yellow-sided Flowerecker**

Rather common in forest and at forest edge, noted up to 1140 m at dark's camp in April 1985.

***Dicaeum nehrkorni* Crimson-crowned Flowerpecker**

uncommon, but probably overlooked. Observed on the ridge to G. Kabila .in October 1981. Single males were observed in mixed species flocks at c. 1500 m on G. Muajat on 18 Apr 1985 (FGR) and at dark's camp (1140 m) on 29 Jun 1986 (RMQ).

***Dicaeum celebicum* Gey-sided Flowerpecker**

Common along the forest edge.

***Zoeterops atrifone* Black-fronted White-eye**

Common, along forest edge but also observed inside primary forest: two birds along a tributary of S. Mauk (980 m) on 25 Oct 1981 and two birds at dark's can? (1140 m) on 5 Apr 1985 (FGR).

***Lophozostarcops squamiceps* Streaky-headed White-eye**

Rather common in montane primary forest, on the ridge to G. Kabila at c. 1350 m on 24 Oct 1981, on the summit of G. Muajat (1770 m) 15-17 Apr 1986 (FOR) and at 1750 m on G. Poniki on 24 Oct 1985 (RWD). For subspecific identification, see Rozendaal (in prep.).

***Passer montanus* Eurasian Tree-Sparrow**

An observation of a single bird at Doloduo on 9 Dec 1985 is the only record on the west side of the Dumoga valley (RWD). The species is common in the towns of Manado, Tomohon and Kotamobagu (*J. Wind in litt*).

***Lonchura molucca* Black-faced Munia**

Common in the Dumoga valley, often in mixed flocks with the next species (RMD).

***Lonchura malacca* a mill nit Munia**

Very common in ricefields in the Dumoga valley (RWD).

Appendix 1

Gazetted of principal localities in Dumoga, refereed to in the species accounts (see also Fig. 1).

Locality	Coordinates	Altitude	Habitat
Clark's camp ("1440")	0°37" N 123° 51" E	1140 m	primary forest
Edward's camp	0°35" N 123° 51" E	664 m	primary forest
Hog's Back	0°35" N 123° 52" E	492 m	primary forest
Ice Station			
Zebra	0°26" N 123° 49" E	1520 m	primary forest
G. Kabila, (ridge to)	0°43" N 123° 59" E	c.1350 m	primary forest
S. Kosinggolan	0°31" N 123° 56" E	200-900 m	secondary & primary forest
Kosinggolan wetlands	0°31" N 123° 57" E	200 m	lake & swamps
S. Mauk, (upper tributary of)	0°41" N 124° 02" E	900 m	primary forest
G. Mogogonipa	0°27" N 123°57" E	1008 m	primary forest
S. Moinakom	0°40" N 124° 04" E	625 m	primary forest
G. Muajat (summit)	0°45" N 124°25" E	1780 m	primary forest
D. Mooat	0°45" N 124°28" E	1080 ID	secondary growth & forest edge
Park HQ	0°31" N 123°57" E	200 m	secondary growth
G. Poniki	0°26" N 123° 47" E	1817 m	primary forest
Ridgeway camp	0°29" N 123°52" E	740 m	primary forest
Siniung	0°38" N 124°05" E	200 m	cultivation
Toraut base camp & rentis area.	0°34 N" 123°54" E	211 m	secondary growth, river, forest edge
S. Tumpah	0°34" N 123°54" E	225 m	riverine forest
Wein camp	0°28" N 123°51" E	810 m	primary forest

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RINGKASAN

Daftar setiap jenis burung: yang diamati di Taman Nasional Dumoga-Bone, Sulawesi Utara beserta catatannya disajikan dalam tulisan ini. Pengamatan didasarkan pada hasil kerja lapangan yang dilakukan dalam tahun 1981, 1983 dan 1985-86. Daftar ini merupakan pangkalan data bagi penelitian burung lebih lanjut di daerah itu. Sejumlah 180 jenis burung penghuni Taman Nasional serta daerah perairan di dekatnya telah diberikan. Daftar burung ini meliputi daerah penyebaran yang lebih luas dan daerah penyebaran sebelumnya.

THE WATERBIRDS OF PULAU RAMBUT, JAVA

by F. Lambert and P. Erftemeijer
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Introduction

Pulau Rambut, in the Seribu Archipelago, Jakarta Bay (5° 38'S, 106° 42'E) is a small (25 ha) forested coral atoll which has been a nature reserve since 1937. Its present status is a strict Nature Reserve (Cagar Alam), and It has been identified as one of the most Important waterbird breeding sites of Java (Silvius *et al.* 1987). About half the Island's vegetation is tidal mangrove, dominated by *Rizophora* spp., but the southern part of the Island is covered with dryland forest with a tree canopy reaching 20 m. The south and south of the island is bordered by a narrow strip of dry beach forest dominated by *Casuarina equisetifolia*. A comprehensive description of the vegetation is provided by Kartawinata & Waluyo (1977: see also Figure 1).

The authors, with Pandu Hartoyo from the Indonesian Directorate General of Forest Protection and Nature Conservation (PHPA) visited P. Rambut between 11 and 14 January 1987. During this period rough estimates were made of the numbers of waterbirds present on the island, with a brief assessment of the threats to the nesting waterbird colony. This paper is a summary of our findings and a review of literature on the waterbirds of P. Rambut.

Methods

Estimates of the numbers of waterbirds using P. Rambut are based on counts of birds visible from the observation tower (which overlooks the breeding colony), and on observations of birds leaving and returning to the island at first light and after 1700 hrs. Unfortunately it was not possible to accurately record the numbers of any species involved in these movements because birds moved over a broad front encompassing the whole southern part