

# THE BIRDS OF ROTI ISLAND, NUSA TENGGARA, INDONESIA

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## SUMMARY

This paper is based mainly on data gathered during surveys of Roti Island in October 1990 and September–October 1993. A total of 83 species of bird were recorded during these visits and 168 specimens collected. Additional data has been collated from the literature. The distribution, abundance and habitat preferences found for each species are described. Many observations and specimens represent new records for Roti Island.

## INTRODUCTION

Roti Island lies 10 km SW of Timor in the Indonesian province of Nusa Tenggara Timur (Figure 1). The Savu Sea is to the north and the Timor Sea to the south. It is a low limestone island about 90 km long and 25 km wide and covers an area of c. 1220 km<sup>2</sup>. It has a tropical monsoon type climate, characterised by moderate stable temperatures and high relative humidity. The wet season (northwest monsoon) begins in November and may continue until March. From April to November (dry season) the winds are predominantly from the south-east and are relatively dry.

Collections and observations in 1990 were made at the following sites:

Baa 10°44'S, 123°06'E;

Desa Oeseli 10°51'S, 123°05'E;

1. Two small islets namely Pulau Ndana (10°59'S, 122°53'E) and Batu Heliana (10°58'S, 122°53'E) off the SW coast of Roti were also visited. Seven major habitats were recognised on Roti.
2. Marine. Includes coastal seas, straits between islands and gulfs.
3. Mangal. Roti Island has many shallow bays and inlets which contain extensive stands of mangroves. Most blocks consist of a pioneer or seaward zone of *Rhizophora*, *Avicennia*, *Sonneratia* and *Bruguiera* and a landward zone of *Avicennia* and *Ceriops*. This habitat also includes small creeks running into the mangal and sandy, muddy and rocky coasts.
4. Cultivated areas. These include

- tailed Phascogale *Phascogale tapoatafa*. In *The Mammals of Australia* Strahan, R. (Ed). Reed Books: Sydney. 104–106.
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village gardens, rice fields, palm groves (coconut and lontar) and degraded pastures with castor-oil plant and lantana.

4. Monsoon or semi-deciduous vine forest, thicket and scrub. Small pockets of vine forest occur along watercourses, in gullies and on tallus slopes and bases of low cliffs. Most are regularly burnt and cut for firewood. Trees and shrubs include *Schleicha oleosa*, *Ficus* spp., *Pterocarpus indicus*, *Albizia*, *Erythrina*, *Melia*, *Myristica*, *Atalaya*, *Celtis*, *Randia*, *Zizyphus* and *Sterculia*.

5. Open woodland. Dry open woodlands with an understory of grass cover much of the island.

6. Grassland. Areas of rank grassland 'alang alang' *Imperata cylindrica* occur throughout the island.

7. Wetlands. There are several freshwater lakes on Roti, most of which have been severely degraded by domestic stock. One c. 20 km SSE of Baa contained about 4 ha of open water in October 1990 and was edged with grassland and in some places with patches of bulrush *Typha*.

Pulau Ndana. This is a flat limestone island about 5 km long and 3 km wide, covering about 1562 ha and lying 3 km off the southwest tip of Roti (see Figure 1). There is a sandy beach with a good landing on the north-east side with low coastal dune vegetated with *Spinifex longifolius* and scattered small patches of *Pandanus*. Grassy coastal flats ranging from 200–800 m wide

almost encircle the island. The central portions of the island are vegetated mainly with low vine forest including *Ficus* spp., *Schleicha oleosa*, *Pterocarpus*, *Sterculia* and *Zizyphus*. There is one large and two small lagoons near the centre of the island and a small spring near the northern end.

Batu Heliana. This is a circular limestone stack lying between Roti and P. Ndana. It consists of steep, shelving limestone covered with open vine scrub

#### ORNITHOLOGICAL HISTORY

The ornithological history of Roti Island is rather limited. The earliest reports come from the anthropologist H.F.C. ten Kate who visited the island from the 22 August to 9 September 1891. He collected six bird specimens representing five species which were listed in a paper by Büttikofer (1892). A further eight specimens were sent to the Leiden Museum by ten Kate in October 1892 and ten in 1893 (Mees 1975). Some of these specimens were lost and Mees (1975) lists a total of fifteen skins and one skeleton covering thirteen species, collected by ten Kate. Next came the Flores missionary J.A.J. Verheijen who visited Roti and neighbouring Dao and Doó islands in 1969 and made collections and observations. Mees (1975) gives details of both ten Kate's and Verheijen's collections covering 55 species for Roti and its satellite islands.

A few notes on birds seen on Pulau Ndana by a team from Balai Konservasi, from 10–15 August 1990, were included in a report on Rusa

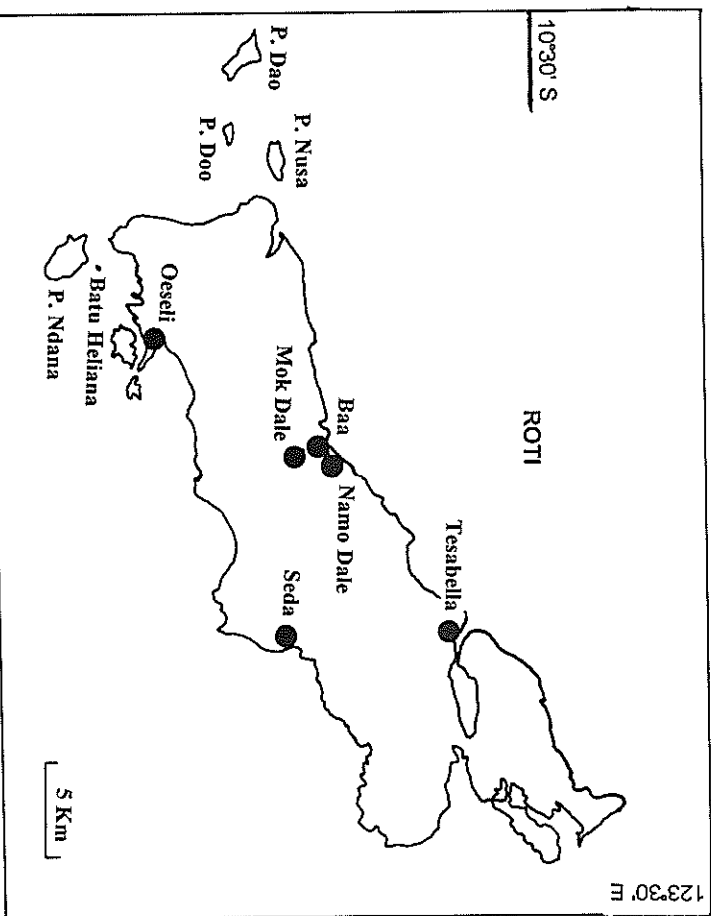
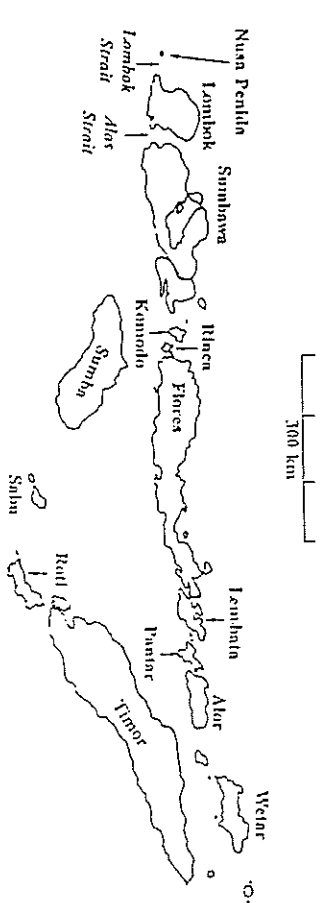


Figure 1. Map of Nusa Tenggara (Lesser Sunda), Indonesia, showing Roti Island.

Deer *Cervus timorensis* (Djodi Mochtar, 1990).  
 R.E. Johnstone visited the island with a combined Western Australian Museum – Museum Zoologicum Bogoriense expedition, from 5 October to 17 October 1990. A total of 168 specimens were collected and observations were made throughout the island. Short

visits were also made to Pulau Ndana and Batu Heliana. P. Jepson visited Roti from 28 September to 1 October 1993.

#### ANNOTATED SPECIES LIST

##### PROCELLARIIDAE

*Bulweria bulweria* Bulwer's Petrel – One in Roti Strait on 1 October 1993.  
*Puffinus pacificus* Wedge-tailed Shearwater – One in Roti Strait on 5 October 1990. Status in the region uncertain, very few published records.

##### PHALACROCORACIDAE

*Phalacrocorax melanoleucos* Little Pied Cormorant – One on rocks at mouth of a small creek near Baa on 16 October 1990.  
*Pelecanus conspicillatus* Australian Pelican – Moderately common irregular non-breeding visitor from Australia. Group of 150–200 listed as residing on large lake Danau Oendui from April to November (UNDP/FAO Report 1982). Also five listed and photographed on Pulau Ndana by Balai Konservasi team in August 1990.

##### ARDEIDAE

*Ardea purpurea manilensis* Purple Heron – Mees (1975) lists one collected by ten Kate on 3 or 4 September 1891.  
*Egretta picata* Pied Heron – Two adults at a small fresh water lake with *Typha* and sedges, near Baa on 7 October 1990.

*Egretta novaeollandiae* White-faced Heron – Scarce. Two on a small lake

20 km SSE of Baa on 16 October 1990. Mees (1975) lists a female with large gonads and a chick collected by Verheijen in March 1969.

*Egretta intermedia* Intermediate Egret – Only one record. Mees (1975) lists a female collected on Pulau Dao by Verheijen on 18 April 1969.

*Egretta garzetta nigripes* Little Egret – Locally moderately common. Two in mangal and 20 at small fresh water lake near Baa on 7 October; 15 on mudflats at creek mouth near Baa on 9 October; and 8 at small fresh water lake 20 km SSE of Baa on 16 October 1990.

*Egretta sacra* Reef Heron – Two white phase birds on mudflats near Baa on 7 October; one dark phase in bay near Oeseli; and one white and one dark phase on P. Ndana on 14 October 1990.

*Bubulcus ibis* Cattle Egret – Moderately common near Baa. Small groups (up to 12). Coastal flats, edges of mangal, lake edges and open woodland. Often associated with domestic stock. Some showing traces of breeding plumage in October.

*Butorides striatus javanicus* Striated Heron – Moderately common in mangal and along rocky coasts. Recorded near Baa, at Oeseli and on Batu Heliana.

*Nycticorax caldonicus hilli* Rufous Night-heron – Uncommon. A female collected from canopy of *Rhizophora* mangal near Baa on 11 October 1990. Mees (1975) lists a female with large gonads collected by Verheijen on 14 April 1969.

##### ACCIPITRIDAE

*Circus galliscus* Short-toed Eagle –

Only one record. Mees (1985) lists a female collected by Verheijen on 11 April 1969. Mees also discussed the status of this species in the Lesser Sundas, which may represent an endemic form.

*Accipiter fasciatus hellmayri* Brown Goshawk – Mees (1975) lists a juvenile male collected by ten Kate in 1891.

*Pernis ptilorhynchus* Oriental Honey-buzzard – One with worn flight feathers, flying over Danau on 29 September 1993.

##### FALCONIDAE

*Falco moluccensis microbalia* Spotted Kestrel – Scarce. Remains of a dead bird found in open woodland near Baa on 8 October, and one circling cliffs on Batu Heliana on 14 October 1990. Mees (1975) also lists an unsexed specimen collected by ten Kate in 1891 and an adult female from Pulau Dao collected by Verheijen on 14 April 1969.

##### ANATIDAE

*Dendrocygna arcuata* Wandering Whistling Duck – A flock of 15 on fresh water lake 20 km SSE of Baa on 16 October 1990. Mees (1975) lists a juvenile and three downy young collected at Namu-Dale by Verheijen in March 1969.

*Anas gibberifrons* Sunda Teal – A group of 35 on a small lake on the northern Pukuatu Peninsula in September 1993. Mees (1975) also lists two immatures collected at Namu-Dale by Verheijen on 24 April 1969.

*Anas superciliosa* Pacific Black Duck – A flock of 120 on a small lake on the northern Pukuatu Peninsula in September 1993.

##### PHASIANIDAE

*Coturnix ypsilophora* Brown Quail – Moderately common. Three at edge of a cut *Lantana* grove near Baa on 7 October; a female collected from open woodland near Baa on 10 October; 4 in open woodland at Oeseli on 14 October; and 6 in spinifex on a dune on P. Ndana on 14 October 1990. Mees (1975) also lists 6 specimens including half grown young collected at namo-Dale by Verheijen in March 1969.

*Gallus gallus* Red Junglefowl – Two flushed from a vine thicket on Batu Heliana (small islet off SE end of Roti Island) on 14 October 1990.

##### RALLIDAE

*Gallinallus philippensis* Buff-banded Rail – Mees (1975) lists a male from Mok-Dale and a juvenile from Namu-Dale collected by Verheijen in April 1969.

*Porzana cinerea* White-browed Crane – A male collected from rice field near Baa in October 1990; also recorded at Danau Kecil in September 1993. Nest with 5 eggs found at edge of a rice field near Baa on 10 October 1990. The nest was a shallow saucer of dried grass 130 mm wide and 25 mm deep. Four of these eggs measured 27.8 x 20.4, 26.4 x 21.1, 27.5 x 21.0 and 27.0 x 21.00 mm.

*Amaurornis phoenicurus lacomelanus* White-breasted Waterhen – Locally moderately common but generally scarce. One edge of mangal near Baa on 8 October and an adult female collected from rice field near Baa on 9 October 1990. Mees (1975) lists 3 females and a downy chick collected at Mengge-Lama and

Namo-Dale by Verheijen in March-April 1969.  
*Gallinula tenebrosa* Dusky Moorhen – Scarce. Recorded at Danau Kecil on 29 September 1993.  
*Porphyrio porphyrio* Purple Swamphen – Only one record. Mees (1975) lists a specimen collected on Roti by ten Kate in 1891.

#### JACANIDAE

*Irediparra gallinacea* Comb-crested Jacana – Only one record. Mees (1975) lists a specimen collected on Roti by ten Kate in 1891.

#### CHARADRIIDAE

*Pluvialis fulva* Pacific Golden Plover – Recorded near Baa on 28 September 1993.  
*Charadrius peronii* Malaysian Plover – Mees (1975) lists a male collected at Pulau Doo by Verheijen on 13 April 1969.  
*Charadrius mongolus* Lesser Sand Plover – Recorded in September-October 1993.

#### SCOLOPACIDAE

*Numenius phaeopus* Whimbrel – Moderately common in October. Ones, twos and small groups (up to 10). Recorded at Baa, Tesabela and on Pulau Ndana, Mangal, mudflats and sandy beaches.  
*Tringa totanus* Common Redshank – Recorded at Danau Besar on 30 September 1993.  
*Tringa stagnatilis* Marsh Sandpiper – Ten feeding on wet mudflats near Baa on 7 October 1990; two at a small freshwater lake 20 km SSE of Baa on 16 October 1990; and recorded at Danau Besar on 30

September 1993.  
*Tringa nebularia* Common Greenshank – Recorded at Danau Besar on 30 September 1993.  
*Tringa glareola* Wood Sandpiper – One edge of a fresh water lake 20 km SSE of Baa on 16 October 1990.

*Actitis hypoleucos* Common Sandpiper – Moderately common in October 1990. Recorded at Baa, Oeseli and Tesabela. Mudflats, edge of mangal and rocky coasts.  
*Heteroscelus brevipes* Grey-tailed Tattler – Moderately common in September-October. Mudflats, mangal, sandy beaches and edge of fresh water lake with *Typha*.

*Arenaria interpres* Ruddy Turnstone – Recorded at Baa on 29 September 1993.  
*Calidris subminuta* Long-toed Stint – Ten in short grass and mud at small fresh water lake near Baa on 7 October.  
*Calidris acuminata* Sharp-tailed Sandpiper – Recorded at Danau Besar on 30 September 1993.

*Recurvirostris* Sharp-tailed Sandpiper – Recorded at Danau Besar on 30 September 1993.

#### RECURVIROSTRIDAE

*Himantopus leucocephalus* Black-winged Stilt – Moderately common. Flock of 50 at a small fresh water lake near Baa on 7 October and another of 20 at a lake 20 km SSE of Baa on 16 October 1990. Mees (1975) lists three specimens collected by ten Kate in 1891. Also listed and photographed on Pulau Ndana in August 1990.

#### BURHINIDAE

*Esacus magnirostris* Beach Thick-knee – Five on sandy beach of Pulau Ndana on 14 October 1990.

#### GLAREOLIDAE

*Silvia isabella* Australian Pratincole – Single birds and small flocks (up to 10) on a grassy flat, edge of a small lake, near Baa on 7 October 1990. Mees (1975) lists one collected by ten Kate on 25 August 1891. Migrants from Australia.

#### LARIDAE

*Chlidonias hybridus* Whiskered Tern – Flock of c. 70 in Roti Strait on 5 October 1990.  
*Sterna sumatrana* Black-naped Tern – Six feeding in a bay on NE end of island on 14 October 1990.  
*Sterna anaethetus* Bridled Tern – Single birds and small groups (up to 6) off Roti in October 1990. Mees (1975) lists one collected on Pulau Dao by Verheijen on 21 April 1969.

*Sterna fuscata* Sooty Tern – Flock of 150 in Roti Strait and 2 just off Roti on 5 October 1990. Mees (1975) lists a female collected on Pulau Dao by Verheijen on 17 April 1969.  
*Sterna bergii* Great Crested Tern – Three single birds in Roti Strait on 5 October; flock of 20 at mouth of a creek near Baa on 7 October; and 3 off SW coast on 14 October 1990.  
*Anous stolidus* Brown Noddy – Mees (1975) lists a female collected at sea near Pulau Dao by Verheijen on 17 April 1969.

#### COLUMBIDAE

*Trogon psittacea* Timor Green Pigeon – Mees (1975) lists a male collected at Danau Bais by Verheijen on 20 March 1969.  
*Ptilinopus regina ewingii* Rose-crowned Fruit-dove – Moderately common in ones, twos and small groups (up to 4) on Roti; also

recorded on Pulau Ndana. Batu Heliana and Pulau Dao. Mangroves, *ficus* thickets and monsoon scrub with fruiting trees.

*Streptopelia chinensis tigrina* Spotted Dove – Moderately common and widespread. Mainly in and around cultivation, also monsoon thickets and open *Lontar* woodland. Also listed for Pulau Ndana and Dao.

*Geopelia striata maugei* Zebra Dove – Common and widespread. Ones, twos and small groups (up to 6). Mainly open woodland.

*Chalcophaps indica* Emerald Dove – Moderately common to common. Mainly in ones and twos. Monsoon thickets with *Ficus*, *Zizyphus* and *Randia*; also edges of cultivation with castor oil plants, lantana and *Lontar* palms; edges of mangal and open woodland. Mees (1975) lists nestlings collected by Verheijen on 16 and 19 March 1969.

Roti birds are intermediate in coloration between the brown and grey headed forms.

#### PSITTACIDAE

*Tangyrathus megalorhynchus* Great-billed Parrot – One in forest at Seda on the 30 September 1993. The first record for Roti.

*Aprosmictus jonquillaceus* Olive-shouldered Parrot – Scarce. Mees (1975) lists a male and female collected at Mok-Dale by Verheijen on 31 March 1969.

#### CUCULIDAE

*Chrysococcyx lucidus* Shining Bronze Cuckoo – Mees (1975) lists two females and one male collected on Pulau Dao by Verheijen in April 1969.

*Centropus bengalensis javanensis* Lesser Coucal – Mees (1975) lists two females and one male collected by Verheijen in 1969.

#### TYTONIDAE

*Tyto alba delicatula* Barn Owl – A male collected from a cave at Oeseli on 12 October. The first record for Roti.

#### STRIGIDAE

*Ninox* sp. – A female collected from open woodland at Tesabela on 17 October. A description of this new species – subspecies is in preparation.

#### CAPRIMULGIDAE

*Caprimulgus affinis* Savanna Nightjar – Locally common, eg. near Baa and Tesabela. Nine recorded at night along 1 km of track behind mangal near Baa on 6 October; 12 along 100 m of track on 8 October; and 6 edge of mangal at Tesabela on 16 October.

#### APODIDAE

*Aerodramus fuciphagus* Edible-nest Swiftlet – About 10 circling coast and caves near Baa on 6 October 1990.

*Collocalia esculenta neglecta* White-bellied Swiftlet – Moderately common. Small flocks (up to 30) over coasts, caves and limestone pinnacles. Breeding in caves near Oeseli. In October nests contained young ranging from newly hatched to fully feathered.

#### ALCEDINIDAE

*Alcedo arthis* Common Kingfisher – A male collected from a creek near Baa on 9 October.

*Halcyon sancta* Sacred Kingfisher – Moderately common in October. Ones and twos. Mangal and open woodland. Mainly a winter visitor from Australia. Mees (1975) also lists two males collected on Pulau Dao by Verheijen in April 1969.

*Halcyon chloris chloris* Collared Kingfisher – Moderately common in ones and twos. Mangal, woodland, monsoon forest and rocky coasts. Also recorded on Batu Heliana and Pulau Dao.

#### MEROPIDAE

*Meropis ornatus* Rainbow Bee-eater – Uncommon in October. Small groups (up to 13). Mainly open areas, edges of mangal and open woodland. Winter visitor from Australia.

#### HIRUNDINIDAE

*Hirundo tahitica* Pacific Swallow – Two over Pantai Baru on 5 October; 6 over a small lake near Baa on 7 October; and 10 over a small lake 20 km SSE of Baa on 16 October. Mees (1975) also lists a specimen collected on Pulau Dao by Verheijen on 3 April 1969.

#### MOTACILLIDAE

*Anthus novaeseelandiae* Richard's Pipit – Six on a grassy flat near Baa on 7 October and one on grassland at Oeseli on 16 October. Also two on burnt dune on Pulau Ndana on 14 October. Mees (1975) lists five females and one fledgling collected on Pulau Dao by Verheijen in April 1969.

#### CAMPEPHAGIDAE

*Coracina personata* *personata*

Wallacean Cuckoo-shrike – Uncommon. Mainly pairs in open woodland. Mees (1975) lists two nestlings collected at Namo-Dale by Verheijen on 26 March 1969.

*Coracina novaehollandiae* Black-faced Cuckoo-shrike – Scarce or uncommon. In ones and twos. Mainly open woodland and monsoon thickets. Also listed by Mees (1975) for Pulau Dao. Presumably migrants from Australia.

*Lalage suerrii suerrii* White-winged Triller – Uncommon. In ones and twos. Mainly coastal monsoon thickets, mangroves and open woodland. Stomach of one specimen contained *Ficus* fruits. Also listed by Mees (1975) for Pulau Dao.

#### TURKIDAE

*Saxicola caprata pyrrhonota* Pied Bush-chat – Moderately common. Mainly ones and twos. Open woodland with *Lontar*, *Ficus* and *Zizyphus*. Nest with 3 feathered chicks at Oeseli on 12 October 1990. Also listed by Mees (1975) for Pulau Dao.

*Saxicola gutturalis* White-bellied Bush-chat – Status uncertain. Not recorded in 1990 or 1993 but Mees (1975) lists two females collected by ten Kate in 1891.

*Zoothera peronii* Orange-banded Thrush – Two in a patch of monsoon forest near Baa on 7 October 1990 and one in forest at Seda on 30 September 1993. These represent the first records for Roti, previously known only from Timor, Semau, Wetar, Roma, Damar and Babar.

#### SYLVIIDAE

*Cisticola juncidis fuscicapilla* Zitting Cisticola – Scarce. Recorded in lakeside sedges, lantana thickets in open woodland, rice fields, and in *Spinifex longifolius* and *Pandanus* on beaches. Mees (1975) lists several fledglings collected in late March.

#### MUSCICAPIDAE

*Gyornis hyacinthinus* Timor Blue Flycatcher – Three in forest at Seda on 30 September 1993. Previously only known from Timor, Wetar and Semau.

#### ACANTHIZIDAE

*Gerygone inornata* Plain Gerygone – Moderately common. Monsoon thickets, open woodland and mangal. Also recorded on Pulau Ndana. Mees (1975) lists two small nestlings collected at Baa by Verheijen on 15 March 1969.

#### MONARCHIDAE

*Myiagra ruficollis ruficollis* Broad-billed Flycatcher – Moderately common. Confined to mangroves, mainly stands of *Rhizophora*, *Sonneratia* and *Ceriops*. Mees (1975) lists a female on a nest collected by Verheijen on 22 March 1969.

*Rhipidura rufiventris tenkatei* Northern Fantail – Uncommon. Single birds recorded in monsoon thicket and mangal. This subspecies is restricted to Roti.

*Rhipidura rufifrons semicollaris* Rufous Fantail – Moderately common in good stands of mangal especially *Rhizophora* forest. Mees (1975) lists a female collected on Pulau Dao by Verheijen on 14 April 1969 as having had a nest with young.

## PACHYCEPHALIDAE

*Pachycephala pectoralis calliope*  
Common Golden Whistler – Moderately common. Confined to mangroves especially stands of *Rizophora* and *Sonneratia*. Also recorded in low vine thicket on Pulau Ndana.

## DICAEDIDAE

*Dicaeum maugei maugei* Red-chested Flowerpecker – Scarce. Recorded near Baa and Oeseli. Open woodland.

## NECTARINIIDAE

*Nectarinia solaris* Flame-breasted Sunbird – Scarce. Observed in flowering *Lantana* near Baa; open woodland at Oeseli; and low scrub at Tesabela.

## ZOSTEROPIDAE

*Zosterops citrinellus citrinellus* Ashy-bellied White-eye – Common. Monsoon thickets, mangal, cultivated areas and open woodland. Also recorded on Pulau Ndana in vine thicket and from Pulau Dao.

## MELIPHAGIDAE

*Lichmera indistincta limbata* Brown honeyeater – Common to very common. Mainly mangroves and patches of monsoon thicket with *Ficus*, *Zizyphus* and *Kurrajong*. Also recorded by Verheijen on Pulau Dao.

*Myzomela erythrocephala* Red-headed Myzomela – Scarce or rare. Two records of two birds in vine thicket near Baa on 7 October 1990. The first record for Roti and appeared to be like the blackish

backed race *dammermani* of Sumba.

*Philemon buceroides buceroides* Helmeted Friarbird – Moderately common. Monsoon thicket, mangroves, open woodland and *Lontar* woodland. Nest with 2 chicks (almost fledged) at Oeseli on 12 October 1990. Mees (1975) also lists a nestling male collected at Namo-Dale on 31 March 1969.

## ESTRILIDAE

*Amandava amandava flaviventris* Red Avadavat – Moderately common in cultivated areas.

*Taeniopygia guttata* Zebra Finch – Moderately common in small flocks (up to 20). Mainly cultivated areas *Lontar* groves and open woodland, also grassy flats around lakes.

*Lonchura punctulata* Scaly-breasted Munia – Locally moderately common. Mainly small flocks (up to 8). Rice fields, grassland, lake edges and occasionally open woodland. First records for Roti.

*Lonchura quincolor* Five-coloured Munia – Locally moderately common. Small flocks in rice fields and grassland. Verheijen noted a nest with eggs near Baa on 24 March 1969 (Mees 1975).

*Lonchura molucca* Black-faced Munia – A flock of 6 birds, probably this species, flushed from open woodland near Baa on 7 October.

*Lonchura pallida* Pale-headed Munia – Mees (1975) lists a female collected on Pulau Dao by Verheijen on 10 April 1969.

## STURNIDAE

*Aplonis minor* Short-tailed Starling – Scarce. Adult male collected from open woodland near Baa on 10

October 1990. The first record for Roti.

## ORIOLIDAE

*Oriolus melanotis melanotis* Timor Oriole – Uncommon or scarce. Mees (1975) lists five specimens collected by ten Kate and Verheijen from Baa, Namo-Dale and Mok-Dale. A female was also collected from open woodland near Baa on 10 October 1990.

*Oriolus chinensis* Black-naped Oriole – Scarce. Recorded at Seda on 30 September 1993. The first record for Roti.

*Sphocotheres viridis viridis* Green Fig-bird – Uncommon. Mainly ones and twos but once a flock of 8. Recorded near Baa, Oeseli and Tesabela.

## DICURURIDAE

*Dicurus densus densus* Wallacean Drongo – Scarce. Ones and twos in open woodland and mangroves.

## ARTAMIDAE

*Artamus leucorhynchus albiventer* White-breasted Woodswallow – Moderately common in ones and twos. Mainly open woodland. Mees (1975) also lists a female collected on Pulau Dao by Verheijen on 3 April 1969.

## CORVIDAE

*Corvus macrorhynchus macrorhynchus* Large-billed Crow – Scarce. One record of a single bird over *Lontar* grove at Oeseli on 14 October 1990.

## DISCUSSION

Of the 101 species listed in this paper 37 are new records for Roti namely:

Bulwers Petrel, Wedge-tailed Shearwater, Pied Heron, Little Egret, Reef Heron, Oriental Honey-buzzard, White-browed Crane, Dusky Moorhen, Pacific Golden Plover, Lesser Sand Plover, Whimbrel, Common Redshank, Marsh Sandpiper, Common Greenshank, Wood Sandpiper, Common Sandpiper, Grey-tailed Tattler, Ruddy Turnstone, Long-toed Stint, Sharp-tailed Sandpiper, Whiskered Tern, Black-naped Tern, Great Crested Tern, Great-billed Parrot, Barn Owl, Ninox sp., Edible-nest Swiftlet, Black-faced Cuckoo-shrike, Orange-banded Thrush, Timor Blue Flycatcher, Broad-billed Flycatcher, Common Golden Whistler, Red-headed Honeyeater, Scaly-breasted Munia, Black-faced Munia, Short-tailed Starling and Black-naped Oriole.

A further 18 species are listed for Roti by White and Bruce (1986) namely: ? Red-throated Little Grebe, Great Frigatebird, Masked Booby, Brown Booby, Great-billed Heron, ? Black Bittern, Royal Spoonbill, Osprey, Brahminy Kite, White-bellied Sea Eagle, Little Falcon, Blue-breasted Quail, Red-backed Button-quail, Shining Bronze Cuckoo, ? Elegant Pitta, Golden-headed Cisticola and Timor Sparrow.

This gives a total of 119 species (83 non-passerine and 36 passerine) so far recorded for Roti and its satellite islands of P. Ndana, P. Heliana, P. Dao and P. Doö. As for many of the Lesser Sunda Islands non-passerine species outnumber passerines by a ratio of about 2:1.

Although we feel that most of the resident breeding species have been recorded for Roti further work will no doubt add other Palaearctic

migrants and additional wetland birds could be expected during visits after good seasons. Several other Australian migrants could also be expected including the Tree Martin (*Hirundo nigricans*) and Maggie Lark (*Grallina cyanoleuca*), both of which have been recorded on Timor.

Roti is situated only 10 kilometres off the south-western tip of Timor so it is not surprising that its avifauna is similar to that of south-western Timor. Roti is however much smaller than Timor, more arid, lacks elevation and thus lacks all species confined to montane forest. As a consequence its bird fauna of 119 species is quite depauperate compared to that of Timor with about 230 species, but comparable with that of nearby Semau Island with about 80 species.

Much of Roti has been heavily deforested and forest clearing and burning has had a major impact. Although there is little endemism on the island it contains a number of species that have particular conservation importance including the Nimox sp., also populations of Rose-crowned Fruit-dove (*Ptilinopus regina*), Emerald Dove (*Chalcophaps indica*), Wallacean Cuckoo-shrike (*Coracina personata*), Orange-banded Thrush (*Zoothera peronii*), Timor Blue Flycatcher (*Cyornis hyacinthinus*), Northern Fantail (*Rhipidura rufiventris*) and Red-headed Myzomela (*Myzomela erythrocephala*). The Nimox sp. may prove to be the only endemic found on Roti and its taxonomic status is currently under review.

The Rose-crowned Pigeon *Ptilinopus regina* is of interest because it undergoes considerable geographic variation in the Lesser Sundas. Johnstone (1981) recognised two

subspecies in the region namely: *Ptilinopus regina ewingii* occurring on Flores, Sabu, Roti, Semau and south-western Timor (also north-west Australia), and *P. r. xanthogaster* from Banda, Kai, Tanimbar, Luang, Sernata, Damar, Teun, Nila and Babar. *P. r. ewingii* has a reddish pink crown and greenish grey mantle whereas *xanthogaster* has the crown and mantle mostly grey. Birds from Wetar, Romang, Moa, Kisar, Leti and eastern Timor are intermediate in coloration. Further work is needed especially on Timor to clarify the status of both *ewingii* and *xanthogaster*.

White and Bruce (1986) mention that the two forms of the Emerald Dove (pale headed *Chalcophaps indica indica* and the dark headed *C. i. longirostris*) replace each other abruptly in Wallacea, with no apparent intermediates. This however is not the case and both Roti and Sabu Island populations are intermediate in coloration between the two forms i.e. with forehead pale purplish brown, crown and nape (sometimes just nape) dark bluish grey and mantle variable (purplish brown, a mixture of purplish brown and dark bluish grey or with a central zone of dark bluish grey).

The Orange-banded Thrush *Zoothera peronii* is a restricted-range species endemic to Timor, Wetar and islands east to Babar. Recent records from Semau and Roti are important extensions of range. The Timor Blue Flycatcher *Cyornis hyacinthinus* was also previously only known from Timor, Wetar and Semau Islands and its occurrence on Roti is another important extension of range. Further work is also needed to

clarify the subspecific status of the Roti populations of the Orange-banded Thrush, Timor Blue Flycatcher and Red-headed Myzomela. The Northern Fantail subspecies *Rhipidura rufiventris tenkatei* is endemic to Roti.

The list contains a number of species that are migrants or occasional visitors to Roti. For example the Pacific Golden Plover, Lesser Sand Plover, Whimbrel, Common Redshank, Marsh Sandpiper, Common Greenshank, Wood Sandpiper, Common Sandpiper, Grey-tailed Tattler, Ruddy Turnstone, Long-toed Stint and Sharp-tailed Sandpiper are all non-breeding winter visitors or passage migrants from the Palaearctic. The flyway between northern Asia and north-western Australia that is used by vast numbers of shorebirds and seabirds is of international importance. Although few shorebirds overwinter in Wallacea the region provides the last landfall for many migrants on their way to and from Australia. For the smaller species in particular islands such as Roti provide important staging and resting sites especially mangal, mudflats and wetlands.

The Australian Pelican, Pied Heron, Australian Pratincole, Shining Bronze Cuckoo, Sacred Kingfisher, Rainbow Bee-eater and Black-faced Cuckoo Shrike are all migrants from Australia.

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