

# The avifauna of Alor and Pantar, Lesser Sundas, Indonesia

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The status of birds on Alor and Pantar is reviewed based on the literature plus surveys in 1991, 2002, 2009 and 2010 totalling about five weeks and two weeks respectively. A total of 116 birds (86 resident landbirds) were recorded on Alor including 37 new island records (including 27 resident landbirds) and 97 birds were recorded on Pantar including 75 new island records (including 55 resident landbirds). The most significant records were the discoveries on Alor of a population of Timor Bush Warbler *Locustella timoriensis* which may represent an undescribed subspecies, an undescribed species or subspecies of honeyeater resembling Crimson Myzomela *Myzomela kuehnii*, and an undescribed subspecies of Timor Stubtail *Urosphena subulata*. The endemic subspecies of Southern Boobook *Ninox boobook plesseni* collected historically from Alor was found to be vocally distinct and may be a distinct species; it was recorded on both Alor and (a new population) Pantar. Vocalisations of a presumed scops owl *Otus* on Pantar are distinct from Moluccan Scops Owl *Otus magicus* and may also be an undescribed taxon. Alor appears to have an important population of the Critically Endangered Flores Hawk Eagle *Nisaetus floris* but populations of the heavily traded Critically Endangered Yellow-crested Cockatoo *Cacatua sulphurea* have declined greatly since 1991. The Vulnerable Flores Green Pigeon *Treron floris* was recorded regularly on Alor, which may be a stronghold. Other notable records are significant range extensions of Mees's Nightjar *Caprimulgus meesi* to both islands, new island records for Little Cuckoo Dove *Macropygia orientalis* and Ruddy Cuckoo Dove *M. emiliana*, and improved knowledge of the montane avifauna of Alor including the first records of Mountain White-eye *Zosterops montanus*. Our fieldwork shows that the avifauna of these islands contains more globally threatened species than previously thought, and a stronger representation of birds originating from Timor. Alor and Pantar are therefore of greater global conservation significance than previously highlighted.

## INTRODUCTION

The Flores island chain spans more than 1,000 km from Lombok in the west through to Alor in the east: these islands delineate the Northern Nusa Tenggara Endemic Bird Area (EBA) (Stattersfield *et al.* 1998). Most islands in this chain would have coalesced (joined) or have been briefly isolated during ice-ages and associated sea-level changes during the Pleistocene period (10,000 yrs BP and earlier) (Voris 2000). This global biological hotspot hosts at least 29 restricted-range bird species, including 17 endemic to the EBA (Stattersfield *et al.* 1998). These numbers are even greater when the recently described Mees's Nightjar *Caprimulgus meesi* (Sangster & Rozendaal 2004) and several taxonomic splits including the Critically Endangered Flores Hawk Eagle *Nisaetus floris* (Gjershaug *et al.* 2004) are included. Most of the avian endemics of the Flores island chain are found on the large islands of Flores (at least four island endemic birds and 24 restricted-range birds; 13,540 km<sup>2</sup>) and Sumbawa (22 restricted-range birds; 15,448 km<sup>2</sup>), and consequently most historical and modern-day fieldwork has concentrated on these islands (White & Bruce 1986, Butchart *et al.* 1996, Johnstone *et al.* 1996, Pilgrim *et al.* 2000, Hutchinson *et al.* 2007).

Despite recent efforts (Trainor 2002a, 2003, Schellekens *et al.* 2011), most other islands in the group have been neglected by ornithologists, with little published on the avifauna of Pantar (728 km<sup>2</sup>) since the nineteenth century (Hartert 1898, Johnstone 1994). Alor Island (2,800 km<sup>2</sup>, 1,825 m) is the fourth largest island in the EBA but has been visited rarely, and consequently its avifauna has also remained poorly known. A. H. Everett visited both islands in March–April 1897, collecting 64 bird species on Alor and 22 species on Pantar (Hartert 1898). The collecting on Alor ‘cannot be regarded as at all an exhaustive one’ because a lack of water and food hampered the visit, causing Everett to become feverish and then injure a leg which required hospitalisation on Sulawesi (Hartert 1898). The collection was enough to determine that Alor has a ‘Flores ornith’ (Hartert 1898) although a few species typical of Timor Island, such as Olive-headed Lorikeet *Trichoglossus euteles*, Bar-necked Cuckoo Dove *Macropygia magna* and the Alor-endemic subspecies of Southern Boobook *Ninox boobook plesseni* were collected on Alor, with the latter taxon being described as late as 1929 (Stresemann 1929,

White & Bruce 1986). V. von Plessen visited Alor in July–August 1927, collecting 68 bird specimens of 31 bird species (Rensch 1929).

A major study (1987–1993) of the avifauna of the Lesser Sundas and the islands of Maluku by the Western Australian Museum (WAM) and the Indonesian Institute of Sciences (LIPI) included a visit to Pantar and Alor in April–May 1991. This resulted in new information on the shorebirds and seabirds of Pantar and Alor (Johnstone 1994), the discovery and description of a new form of Sunda Bush Warbler *Horornis [Cettia] vulcanius kolichisi* (Johnstone & Darnell 1997a) on Alor, and a redescription of the Alor subspecies of Southern Boobook (Johnstone & Darnell 1997b). Substantial additional information on the landbirds of Alor and Pantar, including many new island records, has remained unpublished. The first published record of a montane bird on Alor (Lesser Shortwing *Brachypteryx leucophrys*) by Holmes (1995) was notable. Recent visitors to Alor include limited ornithological observations by Mason (1991, 1993) and Holmes (1995), and a status survey of the Critically Endangered Yellow-crested Cockatoo (Setiawan *et al.* 2000).

Following a failed attempt to reach Wetar Island by CRT, birds on Alor were surveyed at several locations over three weeks in April–May 2002, with an account of the birds at one location in the vicinity of Mt Koya Koya and Tanglapui Timur published (Trainor 2005a). A visit to Alor by PV and Veerle Dossche (VD) in June–July 2009, and to Pantar and Alor in September 2009 (PV), resulted in the discovery of a population of Timor Bush Warbler *Locustella timorensis* on Alor (Trainor *et al.* 2012), prompting further fieldwork by CRT on Alor and Pantar in December 2009 and January 2010.

The aim of this paper is to document the new general ornithological observations of REJ, PV and CRT, particularly significant new island records, and records of globally threatened and restricted-range bird species. Many of the supposed new island records mentioned in Holmes (1995) and Trainor (2005a) had actually been recorded during the WAM-LIPI expeditions, so we take the opportunity to correct the record. Recent discoveries by PV also prompted brief visits to Alor and Pantar by Peter Collaerts (PC) and a BirdTour Asia tour led by James Eaton (JE) and Rob Hutchinson (RH), with significant records from these ornithologists also noted in this paper.

## METHODS

We independently visited seven sites on Alor over about 40 field days, including visits to three islets (Kepa, Ternate and Sika off Alor), and five sites on Pantar Island over about 14 days. Details of the sites, survey dates and habitat are provided in Table 1 and Figure 1. The main sites were in the far east near Tanglapui Timur and Mt Koya Koya, and above Apui (near Subo village and Manmas hamlet): both these locations were surveyed over a total of about 14 field days.

To support bird identifications, and descriptions, CRT and PV took photographs using respectively a Canon 7D and a Canon 40D digital camera with a 100–400 mm lens. Sound recordings were made with an Olympus LS-10 recorder (CRT) and an Edirol R09 HR, and Olympus WS 331 M digital recorder and a Sony Minidisk HI-MD MZ-RH1 (PV)—all in combination with an ME-66 Sennheiser directional microphone, and playback was done with a RadioShack mini amplifier-speaker. A set of recordings will be uploaded to web databases such as xeno-canto and the Avian Vocalization Centre (AVoCet). REJ visited three sites on Alor and two sites on Pantar as part of the WAM-LIPI survey of the Nusa Tenggara islands. Birds were collected by trapping with mistnets and general observations. Specimens are housed at the WAM and LIPI.

Taxonomy and nomenclature follows Gill & Donsker (2012) except that we use Common Golden Whistler *Pachycephala*

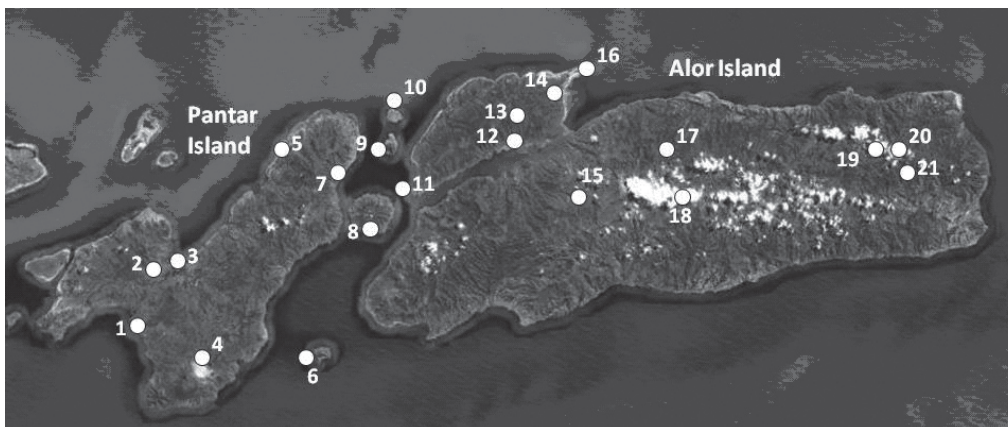
*pectoralis* instead of Rusty-breasted Whistler *P. fulvotincta* and Brown Honeyeater *Lichmera indistincta* instead of Indonesian Honeyeater *L. limbata*.

## ANNOTATED LIST

We recorded a total of 116 bird species on Alor including 37 new island records (27 resident landbirds) and a total of 97 bird species on Pantar including 75 new island records (55 resident landbirds). Only eight bird species, including one Australian migrant and several visiting waterbirds, appear to have not been recorded on Alor since the historical collections (Australasian Grebe *Tachybaptus novaehollandiae*, Pacific Baza *Aviceda subcristata*, Red-backed Buttonquail *Turnix maculosa*, White-headed Stilt *Himantopus leucocephalus*, Swinhoe's Snipe *Gallinago megala*, Channel-billed Cuckoo *Scythrops novaehollandiae*, Savanna Nightjar *Caprimulgus affinis* and Thick-billed Flowerpecker *Dicaeum agile*). On Pantar, only two species recorded historically (Australian Hobby *Falco longipennis* and Sunda Cuckoo *Cuculus lepidus*) went unrecorded in the current surveys. The following annotated list focuses on significant resident landbirds, but includes information on a few migrants. Many of the numerous new island records are unsurprising and these are denoted clearly, with the tabulated summary of all records in the appendix.

**Table 1.** Study site details, survey dates and habitat. Refer also to Figure 1.

Location (elevation range in m)	Coordinates	Dates	Habitat
<b>Pantar</b>			
Batu	8°15'16"S 124°17'59"E	17–19 April 1991 (REJ)	Regrowth forest; <i>Eucalyptus</i> woodland
Kabir	8°15'30"S 124°13'05"E	20–21 April 1991 (REJ)	Regrowth forest; <i>Eucalyptus</i> woodland; mangrove
Mt Washbila/Pantar Timur/ (400–800)	8°21'16"S 124°03'03"E	3,5,6 September 2009 (PV); 11–12 December 2009 (CRT)	Regrowth forest; <i>Eucalyptus</i> woodland; grassland
Mt Sirung/Pantar Tengah (500)	8°29'26"S 124°07'28"E	4 September 2009 (PV); 13 December 2009 (CRT)	<i>Eucalyptus</i> woodland; grassland
Baranusa	8°21'32"S 124°05'38"E	2–5 September 2009 (PV); 10–13 December 2009 (CRT)	Village; mangrove; <i>Eucalyptus alba</i> woodland
Puntaru	8°26'51"S 124°03'04"E	13–14 December 2009 (CRT)	Village; coastal woodland; grasslands and beach
<b>Alor</b>			
Pulau Kepa (c. 0.45 km <sup>2</sup> )	8°16'22"S 124°24'02"E	26 April 2002 (CRT); 28–30 June 2009 (PV & VD)	Coastal woodland; beach
Pulau Ternate (c. 3.7 km <sup>2</sup> )	8°13'21"S 124°22'30"E	27 April 2002 (CRT)	Secondary tropical forest; agricultural land
Pulau Sika (c. 0.9 km <sup>2</sup> ); also mainland at Mali	8°16'22"S 124°24'02"E	29 April 2002 (CRT)	Coastal strand; short grass
Wah Wah/Alor Barat Laut (400–800)	8°10'32"S 124°30'57"E	21 January 2010 (CRT)	Regrowth forest; tree crops
Mainang/Alor Tengah (400–1,100)	8°16'39"S 124°36'38"E	9–11 January 2010 (CRT)	Evergreen forest; <i>Eucalyptus alba</i> woodland
Apui-Subo-Manmas/Alor Selatan (700–1,250)	8°17'39"S 124°43'17"E	22–25 April 1991 (REJ); 1 July 2009 (PV & VD), 31 August 2009 & 9 September 2009 (PV), 4–6 December 2009 (CRT), 14 January 2010 (CRT)	Mixed tree crops; and regrowth forest; <i>E. urophylla</i> woodland
Tanglapui Timur (including Kunggwera, Lipa, Kobra, Mt Koya Koya/Alor Timur (400–1,200)	8°14'56"S 124°59'30"E	2–7 & 11–16 May 2002 (CRT); 21–27 June 2009 (PV & VD), 16–18 January 2010	Regrowth forest; <i>E. alba</i> woodland



**Figure 1.** Map of Pantar and Alor showing survey sites visited or localities mentioned in the text. Sites: 1 = Puntaru village; 2 = Mt Washbila; 3 = Baranusa 4 = Mt Sirung 5 = Kabir; 6 = Treweg Island; 7 = Batu village; 8 = Pura Island; 9 = Ternate Island; 10 = Buaya Island; 11 = Kepa Island; 12 = Kalabahi; 13 = Wahwah; 14 = Mali; 15 = Mainang; 16 = Sika Island; 17 = 10 km north of Apui; 18 = Apui-Subo-Manmas; 19 = Kunggwera; 20 = Mount Koya Koya; and, 21 = Tanglapui Timur (Lipa, Kobra hamlets). Source is Google Earth, 10 March 2012.

### Yellow Bittern *Ixobrychus sinensis*

**Alor:** An adult male (WAM A24495) was collected in rice fields at Apui-Subo on 24 April 1991 (REJ). The Yellow Bittern is poorly known in Wallacea. It was thought to be largely migratory, except on Sulawesi and Flores (Coates & Bishop 1997), but there appear to be no confirmed breeding records on Flores (Verheijen 1964, Mees 2006). Dated specimens range from September to April (White 1976). A nest with one chick was discovered on Sumbawa in May 1988 (Johnstone *et al.* 1996). The number of April, May, June and July records for East Timor, and a recent July record on Sumba (Trainor 2011), suggest that this bird either breeds widely in Nusa Tenggara or that some individuals occasionally overwinter in the region.

### Eastern Osprey *Pandion cristatus*

**Pantar:** The first island record was of a single bird observed in flight along the coast at Baranusa village on 10 December 2009 (CRT). Eastern Osprey appears to be uncommon to rare in the central Lesser Sundas (White & Bruce 1986). Everett observed one bird on Alor during April or May (Hartert 1898), and one bird was observed in the hills of Alor during December 1994 (Holmes 1995). During about 300 field-days in Timor-Leste, CRT has only observed a single bird (11 October 2004). These presumably refer to resident birds. Migratory Western Osprey *P. haliaetus* has been recorded in northern Wallacea (Sangihe, Talaud and Sulawesi) but none has been noted entering Wallacea from Bali (White & Bruce 1986, Germi 2005, 2006), suggesting that the migratory species is either very rare or does not enter Wallacea along the Continental Flyway (Germi 2009).

### Short-toed Snake Eagle *Circaetus gallicus gallicus*

**Alor:** One was observed and sketched over Apui-Subo on 24 April 1991 (REJ). One bird was observed above Apui-Subo on 1 July 2009 (PV and VD); a pair were seen at the same site on 9 September 2009 (PV), and one bird photographed at Mainang on 9 January 2010 (CRT). **Pantar:** One bird was observed by WAM staff near Kabir on 21 April 1991 (REJ). Singles were observed daily in September 2009, including one bird photographed, on the slopes of Mt Wasbila (PV). The resident Lesser Sundas population (Lombok to Timor/Roti) of Short-toed Snake Eagle is isolated by at least 2,500 km from the nearest resident populations in India and Nepal (Robson 2000). Migrant birds reach Bali at least (Coates & Bishop 1997). Despite the isolation of this population, there are few apparent morphological differences from the nominate subspecies (Mees 2006).

### Bonelli's Eagle *Aquila fasciata renschi*

**Alor:** One bird was observed about 12 km north-east of Mt Koya Koya (on the road to Tanglapui Timur) on 10 May 2002 soaring over tropical forest; a pair was seen on the slopes of Koya Koya on 13 May 2002, and a single bird was observed south of Lipa hamlet on 14 May 2002 (CRT). Two pairs and a single were observed near Mainang on 9 January 2010 flying over *Eucalyptus alba* woodland and secondary forest, with one pair photographed (CRT). A pair was photographed near Baifui village (5 km south-west of Apui-Subo) on 11 January 2009 (CRT). **Pantar:** One adult was giving a display flight on the slopes of Mt Wasbila on 3 September (PV). The isolated resident Lesser Sunda population of Bonelli's Eagle ranges from Lombok to the Tanimbar Islands (Debus *et al.* in press) with the nearest resident populations in north-west Thailand and northern Laos (Robson 2005). The photographs of birds near Mainang confirm the presence of this eagle on Alor. However, records of this eagle from Alor in 2002, and Pantar in 2009, may have been confused with Flores Hawk Eagle *Nisaetus floris*.

### Flores Hawk Eagle *Nisaetus floris*

**Alor:** A pair was seen daily giving a territorial display over evergreen forest at Kunggwera (23–25 June 2009) and two birds were

photographed in the hills above Apui-Subo on 9 September 2009 (PV). A pair and two singles were subsequently photographed at Apui-Subo on 6 December 2009 with a pair on 14 January 2010 (CRT). One was photographed in flight with a large bird (probably a rail) in its talons (CRT). A pair was photographed at Mainang at 800 m on 9 January 2010 (CRT) displaying over secondary tropical forest. One bird was seen in highly degraded forest in the hills near Kalabahi on 3 July 2011 (Collaerts *et al.* 2011). This critically endangered species was known from Lombok through to Flores (including Satonda, Sumbawa and Rinca islands) with a population estimated at fewer than 100 pairs (Gjershaug *et al.* 2004). Flores Hawk Eagle has not been recorded on Komodo Island (Raharjaningtrah & Rahman 2004). However, it was recently recorded in mangrove habitat on an unnamed islet 800 m off Komodo, apparently hunting amongst a fruit-bat colony (probably Large Flying Fox *Pteropus vampyrus*) (M. van Buuren pers. comm. 2001). Our Alor records are therefore an important range extension.

The use of matrix habitats on Alor including secondary tropical forest (about 10–20% cover) on valleys and slopes, mixed with more extensive *Eucalyptus* woodland and agricultural land, suggests that the species can persist in highly fragmented forest estates. The only extensive (>20 km<sup>2</sup>) area of tropical forest on Alor appears to be on the slopes of Mt Koya Koya, but tropical forest remnants are frequent throughout the island's mountains, especially in gullies and on slopes. The frequency of records on Alor suggests that a good population is likely to present, although repeat observations above Apui-Subo are likely to refer to the same pair. If the home range of birds on Alor is similar to the 38.5 km<sup>2</sup> estimated for Flores (Raharjaningtrah & Rahman 2004) then a maximum of 73 pairs could be present on the island (assuming that they can use all available habitat, which is unlikely). Flores Hawk Eagle is likely to be present on Pantar (where similar habitat was surveyed but the species went unrecorded), and perhaps Wetar, Lembata and Adonara. Although the Flores Hawk Eagle is a relatively large and distinctive raptor, in the field we (CRT, PV) initially assumed that these birds were Bonelli's Eagles, and relied on species identification from photos.

### Crested Honey Buzzard *Pernis ptilorhynchus*

**Alor:** One bird was photographed above Apui-Subo on 6 December at 900 m, and another near Mainang on 11 and 13 January 2010 at 700 m (CRT). **Pantar:** One bird was photographed in flight below Mt Wasbila over agricultural land on 10 December 2009 (CRT). Despite the lack of historical specimens (White 1976, White & Bruce 1986) this bird is a common migrant to Nusa Tenggara during the northern winter, with more than 1,000 birds sighted crossing the Lombok Strait during October–November 2004 (Germi 2005) and 7,717 birds sighted in September–November 2005 (Germi 2006). It should be expected in small numbers throughout Nusa Tenggara, and there are Christmas Island and recent Australian mainland records (Gregory 2007).

### Black-winged Kite *Elanus caeruleus hypoleucos*

**Alor:** A single bird was observed in *Eucalyptus alba* woodland in Lipa hamlet on 2 May 2002, and a pair of birds was seen on 7 May 2002, hovering over woodland and perched in an *E. alba* tree in the same area (CRT). One bird was also seen on 21 June 2009 in coastal *E. alba* woodland about 15 km north-west of Lipa (PV and VD). Three birds were also observed by Widodo (2009): one at Tanglapui and two at Tuti Adagae Nature Recreation Park. These appear to be the first Alor records since Everett's observation of one bird (Hartert 1898). **Pantar:** One adult perched in a *Tamarindus indicus* tree at the edge of mangroves at Kabir on 20 April 1991 (REJ). In Nusa Tenggara this species appears to be 'a local and sparsely distributed resident' (Coates & Bishop 1997) perhaps with the exception of the grassland and woodland habitats

on Sumba (Olsen & Trost 2007) and Sumbawa, where seven birds were seen including one sitting on a nest on 7 July 2000 (Trainor 2002b). A nestling has been recorded on Flores during July (Mees 2006). The only recent Lombok records appear to be the four birds seen in 1997 (Myers & Bishop 2005), and it appears to be uncommon and local on Flores (Butchart *et al.* 1994, Pilgrim 2000, Mees 2006).

#### Peregrine Falcon *Falco peregrinus ernesti*

**Alor:** The first island records were of a pair displaying over agricultural land at Kunggwera on 5 May 2002 (CRT). Subsequently one bird was photographed above Apui-Subo on 9 September 2009 (PV), one was seen on a tower in Apui-Subo village on 14 January 2010 (CRT) and one bird was photographed in a roadside tree about 4 km north of Mainang on 13 January 2010 (CRT). **Pantar:** The first island record was of one observed in Baranusa village on 10 December 2009 (CRT). The photographs confirm that these birds are the resident subspecies *F. p. ernesti*. Migrant *F. p. calidus* appears to migrate through Nusa Tenggara in low numbers, with seven birds noted on Bali flying towards Lombok (Germi 2006).

#### Red-legged Crake *Rallina fasciata*

**Alor:** The trill-like call (grebe-like chatter, see <http://www.xeno-canto.org/xc33425>) of Red-legged Crake was heard and sound-recorded from tall grass above Apui-Subo on 4 December 2009 (CRT). The first Alor record was of a bird killed by a catapult near Kalabahi on 9 December 1994 (Holmes 1995). Eggs were collected from a nest in central Flores on 25 February 1959, and specimens of adults were collected in December (Mees 2006). The eggs had similar dimensions to birds breeding on Java (Mees 2006). On neighbouring Timor, the first records in February and March included observations of breeding (Dymond 2011, Trainor 2011). These records suggest that Red-legged Crake migrates into the Lesser Sundas during the northern winter (wet season) to breed. Red-legged Crake has also been recorded recently from the east Lesser Sunda islands of Sermata and Romang (CRT unpubl. data).

#### Flores Green Pigeon *Treron floris*

Vulnerable. **Alor:** During 2002 there were about 10 records mostly of 1–2 birds in tropical forest, or feeding in figs at 580–780 m, and one flock of 40–50 birds feeding in figs in forest-lined ravines at 860 m on the slopes of Mt Koya Koya (CRT). In July 2009, Flores Green Pigeon was quite common in groups of up to 15 in fruiting trees about Kunggwera and calling from the forest canopy in ravines (PV and VD). A small party of 5–10 birds were observed feeding in a roadside fruiting tree near Mainang, at 700 m (CRT); one bird called from secondary forest at 1,050 m above Apui-Subo on 14 January 2010 (CRT); and two birds called from a gully 2 km west of Lipa at 720 m on 17 January 2010 (CRT), two birds were seen in tropical forest at about 230 m on the road to Apui on 9 September 2009 (PV). **Pantar:** The only records are two observations of single birds in flight on 3 September 2009 over tropical forest at c.400 m on Mt Wasbila (PV).

Alor appears to be a stronghold for the Flores Green Pigeon, which seems to be common around the sparsely populated Kunggwera village and on the slopes of Mt Koya Koya, which retains some of the most extensive tropical forest on the island. In western Alor our records were less frequent, and populations of the Flores Green Pigeon might be limited by intensive hunting. However, throughout inland Alor there are also many extensive steep forest-lined ravines that are relatively remote from villages. There is little recent information on the status of Flores Green Pigeon from Flores and Sumbawa apart from bird tour reports (Eaton 2009), and the last published Lombok record was from about 1909 (Myers & Bishop 2005).

#### Pied Imperial Pigeon *Ducula bicolor*

**Alor:** A flock of eight birds feeding in a fruiting *Garuga* tree and later a flock of four in a teak *Tectona* plantation near Kalabahi on 10 April 1991 (REJ) are the first Alor records. The Pied Imperial Pigeon is a small-island species that possibly visits islands nomadically (Coates & Bishop 1997) to access fruit resources. There are few Nusa Tenggara records, but most of these have come from Komodo, Rinca and West Flores, associated with extensive mangrove landscapes (apparently used for feeding and roosting) during July–November and January and March (Schellekens *et al.* 2009). It is frequent on the large island of Yamdena in the Tanimbar islands (Bishop & Brickle 1998). Pied Imperial Pigeon is clearly not resident on Alor, but the likely source of these birds is unclear. It typically breeds on small islets, but the islands around Alor (Treweg, Kepa, Pura, Ternate and Buaya) are relatively heavily populated and are unlikely breeding habitat. It might be expected to occur about the extensive mangrove stands on Pantar Island.

#### Green / Pink-headed Imperial Pigeon

##### *Ducula rosacea / aenea polia*

**Alor:** Pink-headed Imperial Pigeon *D. rosacea* was recorded in small flocks of up to five birds in coastal forest near Kalabahi, with Green Imperial Pigeon *D. aenea* also moderately common in flocks of up to 18 birds in the same area in April 1991 (REJ). Imperial pigeons were common in forest in Kunggwera at 600–900 m with up to 15 Green present in a fruiting fig, and occasional on the slopes of Mt Koya Koya (CRT). Green Imperial Pigeons were also recorded frequently in the forests around Kunggwera in June 2009 (PV). A few imperial pigeons, probably Pink-headed, were recorded a couple of times on Kepa Island and Ternate Island (CRT). **Pantar:** Green Imperial Pigeons were recorded in small flocks in forest and mangrove at Batu and Kabir in April 1991 (REJ). Pink-headed Imperial Pigeons were moderately common in small flocks up to nine at Batu and in mangrove at Kabir in April 1991 (REJ). Green were recorded relatively commonly in tropical forest on Mt Wasbila in September 2009 (PV) but were heard only a few times in December 2009 over two days at the same site (CRT). Small numbers of imperial pigeons (2–4), most probably Pink-headed, were observed and heard calling on 5 September 2009 in a stand of mature mangrove forests some 5 km from Baranusa (PV). Imperial pigeons appear to have been severely impacted by hunting on Alor: they were relatively common in remote forested areas in the east, but none was recorded at Apui-Subo or Mainang in west Alor, with only a few birds heard on two islets. A total of 13, 9 and 17 Green Imperial Pigeons were recorded at three Alor sites and seven Pink-headed were recorded at one site by Widodo (2009). Imperial pigeons may be more abundant in lowland coastal forests on Alor, especially those dominated by *Canarium* trees, although this habitat has not been covered in recent surveys.

#### Bar-necked Cuckoo Dove *Macropygia magna magna*

**Alor:** This dove was frequently seen and heard in tropical forest and sometimes adjacent *Eucalyptus* woodland at Kunggwera in 2002 and 2009 (CRT, PV and VD), and up to five birds were heard calling (and sound-recorded) in tropical forest at 250 m about 10 km north of Apui-Subo, and above Apui-Subo on 1 July 2009 and 9 September 2009 (PV). A few birds were also observed in degraded forest in the hills near Kalabahi on 3 July 2011 (P. Collaerts *in litt.* 2012). **Pantar:** Relatively commonly heard and seen (and sound-recorded) in tropical forest on Mt Wasbila (PV) with up to 20 birds calling at dusk from a small area there on 10 December 2009 (CRT). One bird was calling in beach forest at Puntaru (CRT). Bar-necked Cuckoo Dove occurs on the Flores Sea islands of Tanahjampea and Kalaotoa, and in

the Lesser Sundas from Pantar through to Tanimbar (White & Bruce 1986). Both Alor and Pantar probably host large populations of this dove but these may be impacted by hunting in heavily populated areas.

The localisations of the different races are distinct, suggesting that at least three species are involved (Eaton & Hutchinson 2011). On Pantar, Alor, Wetar, Atauro, Timor and associated islands *M. m. magna* gives a two-note call, while *M. m. timorlaeensis* of the Tanimbar archipelago gives a three-note call (Coates & Bishop 1997, www.xeno-canto.org) and subspecies *M. m. longa* of the Flores Sea also gives a distinctive call (Eaton & Hutchinson 2011).

#### Little Cuckoo Dove *Macropygia ruficeps orientalis*

**Alor:** Frequently heard and seen in tropical forest at Kunggwera (PV) and secondary forest above Apui-Subo (500–1,000 m) (PV,CRT), and a few birds heard at Mainang at 700 m (CRT), and a single bird heard calling from secondary forest c.2 km east of Lipa village (CRT). **Pantar:** A pair was photographed at c.400 m in tropical forest on Mt Wasbila (PV), and heard calling there about 10 times over two days at 300–400 m in December 2009 (CRT).

Little Cuckoo Dove occurs widely in South-East Asia and the Greater Sundas, with the endemic subspecies *M. r. orientalis* reputedly present on the islands from Lombok to Flores, Lembata and Timor, Sumbawa, Flores, Pantar (White & Bruce 1986) and now Alor. It is generally poorly known in Nusa Tenggara, but is a common bird in the mountains of Timor (CRT unpubl. data). The call of birds on Timor, Pantar and Alor is unlike other members of the species and unlike those of the endemic Lesser Sundas subspecies *M. r. orientalis*, suggesting that it is an undescribed species (Eaton & Hutchinson 2011). An analysis of calls is currently underway (JE *in litt.* 2012).

#### Ruddy Cuckoo Dove *Macropygia emiliana*

**Alor:** A sound recording of this bird was made in tropical forest about 10 km north of Apui on 29 August 2009 (PV). On 23 October 2011 it was observed in flight at least twice in secondary forest at Mainang at c.900–950 m (RH,JE) with a field note at the time of a 'reddish large cuckoo dove' (JE *in litt.* 2012). Ruddy Cuckoo Dove was known from Lombok, Sumbawa, Flores and Paloe in Nusa Tenggara (White & Bruce 1986), with these records the first for Alor. This bird calls rarely on Java and Flores (JE *in litt.* 2012) and consequently it is relatively little known in Wallacea. A recorded bird gave a downslurred double note *whu-whu* repeated at about 5-second intervals, which is similar to calls described from Flores (Coates & Bishop 1997). This bird is considered to be generally uncommon on Flores (Verhoeve & Holmes 1999), but locally common in the mountains of Flores (Pilgrim *et al.* 2000) and rare in lowland forest, but common in upper montane forest on Sumbawa (Johnstone *et al.* 1996).

#### Yellow-crested Cockatoo *Cacatua sulphurea parvula*

**Alor:** A loose flock comprising six, eight and four birds was observed over forested gullies at c.230 m, 10 km north of Apui, on 1 July 2009 (PV and VD). Local people said that cockatoos were regularly seen in these river valleys (PV). In 2002, local people at Kunggwera stated that flocks of up to 10 birds were occasionally seen about the village, and that c.20 birds were present in a nearby river valley, but none was seen there during 2002 or 2009 (CRT, PV). **Pantar:** In September 2009, a caged bird was seen in the port of Baranusa (PV) ready to be shipped off the island, and another caged bird, caught on the island, was seen and photographed in the village of Anis Lilo (PV). This latter, a male, was on sale for Rp.400,000 (c.\$US40), but prices of up to Rp.1,500,000 (c.\$US150) are sought for 'red-eyed' female birds on Pantar (PV).

The Yellow-crested Cockatoo is currently a rare bird on both Alor and Pantar as a result of intense historical and ongoing captures

for trade. On 9 April 1991 a total of 23 adults and 12 immature cockatoos were seen in small cages at Kalabahi ready to be shipped out (REJ). No birds were observed at a Kalabahi market on 9 May 2002 (CRT). No cockatoos were seen by Holmes (1995) during a brief visit to sites in west Alor, but in the late 1990s a total of 80 birds were seen at seven Alor sites (4–30 birds per site) and 29 were seen at two sites on Pantar (Setiawan *et al.* 1999; no survey dates given in report). The total population was crudely estimated at 678–782 birds for Alor and 444–534 birds on Pantar (Setiawan *et al.* 1999) based on the extent of preferred riverine forest. No cockatoos were recorded at four Alor sites during a specific search for this species (Widodo 2009; no survey dates given in article). Riverine and coastal swamp forest dominated by *Canarium* are probably the most important habitats for Yellow-crested Cockatoo (and possibly imperial pigeons) on Alor (Setiawan *et al.* 1999, Widodo 2009), as these large trees form hollows suitable for nesting and the large nut of this tree is a preferred food item. These habitats were poorly covered during our fieldwork (CRT, PV). No Yellow-crested Cockatoo have been observed during recent visits to the islands of Lembata, Adonara and Solor (Trainor 2002a,c, Schellekens *et al.* 2011), and the species must now be close to extinction on most Nusa Tenggara islands except Sumba and Komodo, and possibly Timor-Leste (East Timor).

#### Little Bronze Cuckoo *Chrysococcyx minutillus*

**Alor:** One bird called from coastal dry forest near Kalabahi on 11 April 1991 (REJ). This cuckoo was recorded frequently about Tanglapui Timor area in 2002, particularly in *Eucalyptus* woodland above c.1,000 m (CRT), but was unrecorded and apparently absent from dense tropical forest at Kunggwera in 2002 and 2009 (CRT, PV). **Pantar:** The first island records were of several birds photographed and sound-recorded in *Eucalyptus alba* woodland and coastal scrub in September 2009 (PV).

The taxonomic relationships within this species complex remain unresolved, but most authorities prefer to re-unite Little Bronze Cuckoo with Gould's Bronze Cuckoo *C. russatus* (Mees 2006, Gill & Donsker 2012). In the Lesser Sundas this bird occurs on Flores, Timor, Wetar and several Banda Sea islands (White & Bruce 1986). Previously it was listed for Alor as Gould's Bronze Cuckoo (Trainor 2005a). The lack of records of this bird on Alor during 2009 and 2010 (PV, CRT) was notable, but it may vocalise less during periods of high rainfall such as December and January. The new record on Pantar is expected, although surprisingly it is yet to be recorded for Lembata or Adonara (Trainor 2003, Schellekens *et al.* 2011). The host species on Flores is Golden-bellied Gerygone *Gerygone sulphurea* (Mees 2006), and probably sunbirds *Cinnyris* (Coates & Bishop 1997). It appears to be uncommon on Flores with the only recent published records by Pilgrim *et al.* (2000). On Alor the abundance of Little Bronze Cuckoo in high-elevation *Eucalyptus* woodland matched the high abundance of its likely host in that habitat, the Golden-bellied Gerygone.

#### Sunda/Oriental Cuckoo *Cuculus lepidus/optatus*

**Alor:** A single *Cuculus* cuckoo was observed in flight in forest above Apui-Subo on 9 September 2009 (PV), and a single bird was observed in *Eucalyptus* woodland south of Mainang at 1,050 m on 23 October 2011 (JE *in litt.* 2012). The distinctive calls of Sunda Cuckoo have not been heard by any recent visitors to Alor (or Pantar) although there is a specimen from Pantar (Hartert 1898) and it is common on the adjacent islands of Atauro (Trainor & Soares 2004, where mentioned as Oriental Cuckoo), Wetar (Trainor *et al.* 2009) and Timor (Trainor *et al.* 2008). It would be expected to occur on Alor. The brief observations cannot exclude Oriental Cuckoo, which is one of the commonest non-passerine migrants in Wallacea, with records from September to March (White 1976).

### Asian Koel/Pacific Koel

#### *Eudynamys scolopaceus/cyanocephala*

**Alor:** One of the most frequently heard birds in tropical forest on Mt Koya Koya in May 2002 at 600–1,200 m (CRT), heard on 31 August 2009 in highly degraded forest near Kalabahi (PV); common above Apui-Subo in September and December 2009 (PV,CRT), at and below Mainang (350–900 m) and in mangroves at the head of Muitara Bay (CRT). **Pantar:** Commonly heard in forest on the slopes of Mt Wasbila during September 2009 (PV), and a few birds heard calling on Mt Wasbila at 200–400 m on 12 December 2009 (CRT). A. H. Everett collected koels but reported to Hartert (1898), who identified them as Asian Koel, that 'it [is not] easy to determine these birds from Alor'. The status of Pacific Koel *E. cyanocephala* in Wallacea is unclear, with White & Bruce (1986) suggesting that the Australian bird occurs mainly as a migrant with some resident populations likely. On current knowledge Pacific Koel reaches Ashmore Reef (140 km south of Roti Island) as a rare austral migrant (M. Carter *in litt.* 2012). Alor birds have been considered as Pacific Koel (White & Bruce 1986, Coates & Bishop 1997), although December records on Alor were considered by Holmes (1995) to be of resident Asian Koel. Our records suggest that a large population presumably of Asian Koel is present throughout the year, but we observed few birds and took no photos to confirm the taxonomic status of this bird.

#### Southern (Alor) Boobook *Ninox (boobook) plesseni*

**Alor:** This bird called frequently from *Eucalyptus urophylla* woodland and tropical forests in gullies on Mt Koya Koya (700–1,200 m), with up to four birds calling simultaneously and sound-recorded before and at dusk; they also called throughout the night until dawn (CRT). In June 2009, up to five birds were heard to call simultaneously (in forest in the Kunggwera area), and 2–3 birds called, and were photographed, at dusk in a forested gully about 2–3 km from Lipa on 21 June (PV, VD). **Pantar:** Birds were photographed and sound-recorded in coastal *E. alba* woodland, and called frequently from mangrove forest adjacent to eucalypt woodland and from evergreen forest on Mt Wasbila up to at least 600 m (PV), and several were heard calling on Mt Wasbila at 600 m (CRT).

The subspecies *N. b. plesseni* was described from a single female collected at c. 1,000 m at Tanglapoi [Tanglapui] (Stresemann 1929) and was discussed by Mees (1964) and re-described by Johnstone & Darnell (1997b), but there were no field observations of this bird between 1927 and our fieldwork. Using morphological features and colours to distinguish the many subspecies of Southern Boobook has been of relatively limited value and it is likely that several of these subspecies are specifically distinct (Johnstone & Darnell 1997). However, vocalisations are often distinctive. Birds on Alor and Pantar have the same low-pitched call which is repeated rapidly 6–14 times over c. 1.5 seconds and which is highly distinctive among all members of the complex, making it a prime candidate for upgrading to species level. Most members of the Southern Boobook complex have similar low-pitched calls, but vocalise with *bru-book* or *bru-brook* double notes. We intend to publish further details of the distinctiveness of this taxon elsewhere. Despite the restricted global distribution of the 'Alor Boobook', it appears to be under little threat of extinction because it can use both *Eucalyptus* woodland and tropical forest. This appears to be the only species endemic to Alor and Pantar, although this may change when the distinctiveness of several passerines recently recorded on Alor is resolved. We had no records from west and central Alor during limited (c. 4 nights) nocturnal observations (PV, CRT) but presumably it is present throughout much of the island.

#### [Pantar scops owl?

**Pantar:** Calls presumed to belong to a scops owl *Otus* were heard and sound-recorded after dusk and irregularly throughout the night

until at least 01h00 at the edge of mangrove forest some 5 km from Baranusa in September 2009 (PV). These were again heard and recorded at the same site on 3 July 2011 (Collaerts *et al.* 2011) and on 22 October 2011 during a Birdtour Asia visit (JE *in litt.* 2012). The calls are reminiscent of those of Moluccan Scops Owl *Otus magicus* of Flores and Lembata (www.xeno-canto.org, Schellekens *et al.* 2011) but clearly differ in having a less harsh barking quality. Sound recordings were posted on the Xeno-Canto website ([http://www.xeno-canto.org/asia/discussion.php?snd\\_nr=1704](http://www.xeno-canto.org/asia/discussion.php?snd_nr=1704)). When an attempt was made by PC to get closer to the source of the call, it retreated further away. Unfortunately there was not the typical *Otus* response to playback of flying closer to the playback source. During a visit to the Pantar mangroves in October 2011 there was again no response to playback by the bird, which suggested that the calls may not have originated from a bird (JE *in litt.* 2012). However, future visitors to Pantar and Alor should remain vigilant for the presence of a scops owl perhaps especially about mangrove habitat and playback of these unidentified calls should be tried to confirm the identity of the sources of the calls.]

#### Mees' s Nightjar *Caprimulgus meesi*

**Alor:** One bird was seen and sound-recorded after it called in response to playback in *Eucalyptus alba* woodland near Lantoka (7 km east of Tanglapui Timur) on 27 June 2009 (PV and VD). **Pantar:** The species was targeted with playback on Pantar because of the likelihood it was present on the island following its discovery on Alor. In open woodland at 100 m about 3 km east of Puntaru on the road to Sirung volcano on 4 September 2009 a nightjar responded strongly to a recording of Mees's Nightjar, by immediately flying towards the recording and landing on the ground less than 1 m from a motorbike. After it flew off a recording of Savanna Nightjar *C. affinis* was played, but the bird did not respond (PV). The bird was not photographed or observed long enough to confirm identification. Playback was used twice, with the same result: no reaction to playback of Savanna Nightjar calls, but immediate reaction to a recording of Mees's Nightjar recording. The lack of a vocal response makes confirmation impossible, but its behaviour indicates that it was likely to be Mees's Nightjar rather than Savanna Nightjar. The recently described Mees's Nightjar (Sangster & Rozendaal 2004) was previously known from Flores and Sumba. These two new island records are an important range extension, and presumably it also occurs on the intervening islands of Adonara, Lembata and possibly Solor, although little nocturnal work has been conducted on these islands (Schellekens *et al.* 2011).

#### Stork-billed Kingfisher *Pelargopsis capensis*

**Pantar:** One bird was observed in mangroves near Desa Batu on 19 April 1991 (REJ). The Stork-billed Kingfisher is known from Lombok, Sumbawa and Flores in the Lesser Sundas (Coates & Bishop 1997), with several recent records from mangrove and estuary habitat on Lembata (Trainor 2003). This bird is generally uncommon to rare in Nusa Tenggara, but there are regular records on Flores from mangroves and Lake Rana Mese at 1,200 m (Pilgrim *et al.* 2000) and occasional records on Sumbawa from the coast to hills up to 870 m (Butchart *et al.* 1994, Johnstone *et al.* 1996).

#### Oriental Dwarf Kingfisher *Ceyx erythraca* ssp.

**Pantar:** Three pairs of Oriental Dwarf Kingfisher were seen about mangroves, coconut and shrub, 3 km north of Baranusa on 22 October 2011, including a pair apparently using a nest-hole on a steep slope (JE *in litt.* 2012). This bird occurs widely in South and South-East Asia, and in Nusa Tenggara it occurs on Lombok, Sumbawa, Flores and Sumba (White & Bruce 1986). On Alor, none was noted during two visits (7 December 2009 and 10 January 2010) to extensive mangroves at the head of Mutiara (Kalabahi) Bay (CRT). Recently, the Oriental Dwarf Kingfisher was found to

be locally common in evergreen swamp forest on neighbouring Lembata Island (Schellekens *et al.* 2011). There are relatively few Nusa Tenggara records but it is a small and inconspicuous bird (with a high-pitched and near-inaudible call) and is likely to be regularly overlooked. It has been considered 'rare' on Flores (Butchart *et al.* 1994, Coates & Bishop 1997), there are no recent Lombok records (Myers & Bishop 2005), but there have been records from riverine forest on Sumbawa up to 650 m (Johnstone *et al.* 1996).

#### Sunda Pygmy Woodpecker

##### *Dendrocopus moluccensis grandis*

**Alor:** One adult male (WAM A24511, length 160 mm, weight 22 g) was collected at Apui-Subo on 26 April 1991 (REJ). This bird was recorded once or twice per day in tropical forest and *Eucalyptus* woodland, usually as single birds, especially along gullies in the Tanglapui Timur area (600–1,200 m) (CRT, PV), above Apui-Subo (PV, CRT) and Mainang (CRT). **Pantar:** The only record was of two birds on 4 September 2009 in *Eucalyptus urophylla* woodland on the slopes of Mt Sirung at about 500 m (PV). In Wallacea the Sunda Pygmy Woodpecker occurs from Lombok through to Alor (White & Bruce 1986) and would have been expected to occur on Pantar. It seems to prefer tropical forest on Alor, but also occurs in woodland and plantations when in close proximity to tropical forest. Specimens on Alor average larger than birds on Lombok, Sumbawa and Flores, and were originally described as an endemic subspecies *D. m. excelsior* (Hartert 1898), but differences were not considered significant by White & Bruce (1986) and this subspecies has not been recognised recently by authorities.

#### Elegant Pitta *Pitta elegans concinna*

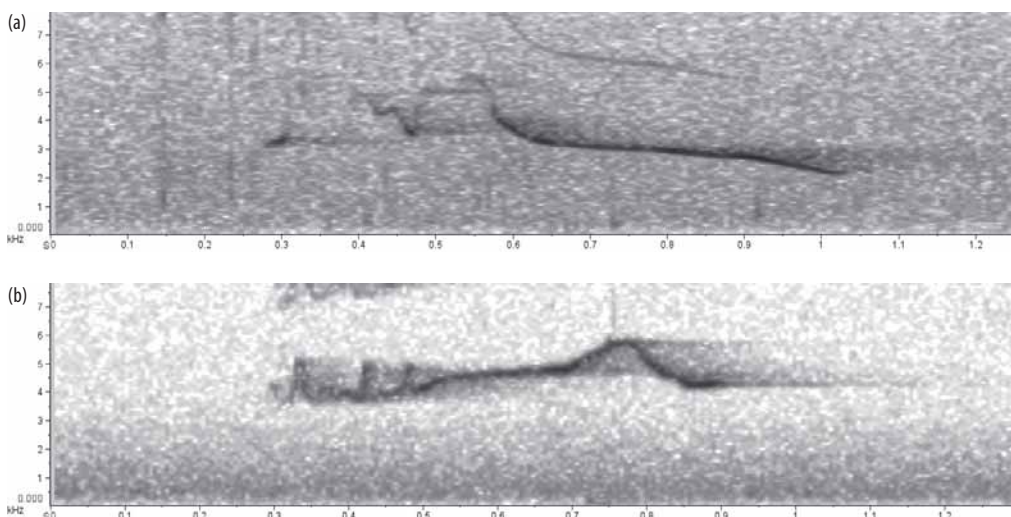
**Alor:** Moderately common, calling with a single bird observed in forest at Apui (650–740 m) and in tropical dry forest at Mali in April 1991 (REJ), with three specimens collected (WAM A24458, A24544 and A24488). Pittas called occasionally at dawn and dusk from tropical forest at Kunggwera and the slopes of Mt Koya Koya (600–950 m) during May 2002 (CRT), and called there frequently in June 2009 (PV). At least three birds called at dusk in degraded forest 15 km east of Kalabahi on 30 June 2009 (PV); two birds called from forested gullies at Mainang on 9 January 2010 (750 m), and up to four birds called along the road to Wah Wah (4 km north-east of Kalabahi at c.400 m) on 20 January 2010 (CRT). **Pantar:** One bird was recorded from dense *Acacia* and shrubs at the edge of mangroves on 19 April 1991 and one bird called from dense stands of the weed *Wedelia biflora* near Kabir on 20 April 1991 (REJ). A total of 5–7 birds called from tropical forest on Mt Wasbila during 3 September 2009 (PV) and several birds

were sound-recorded in a dry thicket at 120 m and heard at 650–800 m there on 10 December 2009 (CRT). Elegant Pitta occurs widely in the Lesser Sundas with four subspecies present (White & Bruce 1986). The subspecies *P. e. concinna* of Lombok–Alor appears to be resident with records throughout the year, but on the drier islands of Roti and Timor the subspecies *P. e. elegans* (which has a three-note call) is migratory (White & Bruce 1986, Trainor 2005b, Tebb *et al.* 2008, PV unpubl. data). Surprisingly, there are no published records of Elegant Pitta from Timor-Leste (East Timor), Wetar (Trainor *et al.* 2009) or Atauro (Trainor & Soares 2004). Recordings of the two-note calls of *P. e. concinna* from Alor, Pantar and Lembata have been uploaded to the www.xeno-canto website.

#### Wallacean Cuckooshrike *Coracina personata alfrediana*

**Alor:** Moderately commonly observed in ones, twos and threes in *Eucalyptus* woodland at Apui in April 1991 (REJ). Regularly observed in small groups of 3–5 birds in *Eucalyptus* woodland on Mt Koya Koya (600–1,100 m) and frequently observed, mostly as singles, in *Eucalyptus* woodland and tropical forest at Kunggwera, above Apui-Subo (PV, CRT) and Mainang (CRT). **Pantar:** Several pairs were observed in dry tropical forest at the foot of Mt Wasbila at 250 m (PV); several birds were observed in tropical forest and *Eucalyptus* woodland at 300–600 m (CRT) and one pair was observed in open eucalypt woodland en route to Mt Sirung (PV).

Wallacean Cuckooshrike occurs widely in the Lesser Sundas and the Kai Islands (Maluku), with seven subspecies described (White & Bruce 1986). On Alor, *C. p. alfredianus* was described from six specimens which differed from *C. p. floris* (Sumbawa–Flores) by being a 'distinctly paler grey above and below, and the males do not have a black throat and the sides of the head' (Hartert 1898). A specimen from Lembata was 'a shade darker, thus pointing towards [...] *floris*' (Hartert 1898). The presence of Wallacean Cuckooshrike on Pantar is expected: presumably this bird is included with *C. p. alfrediana*. Based on distribution, the Lembata population is as likely to be *C. p. floris* as *C. p. alfrediana*, but plumage characteristics were not noted during recent field surveys (Trainor 2003). Wallacean Cuckooshrike is part of a complex which also includes Black-faced Cuckooshrike *C. novaehollandiae*. Some taxa within this complex have already been split (e.g. Buru Cuckooshrike *C. fortis*) and Mason & McKean (1982) argued for species status for the Timor group subspecies *C. p. personata* but without considering other forms (Mees 2006). A thorough review of this group is needed. There are substantial differences in vocalisations among populations (e.g. Figure 2a,b), and these may help to set taxonomic limits.



**Figure 2.** Song of the Wallacean Cuckooshrike from Apui-Subo, Alor, 5 December 2009 (a) and Hatu Builico, East Timor, 28 April 2010 (b) (both recordings by C. R. Trainor).

### Common Cicadabird *Coracina tenuirostris* ssp.

**Alor:** A single female was initially heard calling (slow *took* notes) and then seen in the subcanopy of a candlenut *Aleurites moluccana* plantation above Apui-Subo village at 950 m on 4 December 2009. The bird had obvious barring on the neck, breast and belly, but no other notes were taken before it flew off (CRT). A single immature male bird was collected on Lembata (Hartert 1896), but there have been no subsequent records on that island (Trainor 2002c, 2003, Schellekens *et al.* 2011). On nearby Atauro Island a single male bird observed gave *ruk ruk* notes (Trainor & Soares 2004), and females on Timor also give reasonably similar contact notes (<http://www.xeno-canto.org/32585>). The taxonomic affinities of birds on Lembata and Alor are unclear, but on biogeographic grounds (and probably vocalisations) they may be close to *C. t. timoriensis*. Common Cicadabird is an inconspicuous bird that is generally uncommon throughout its range. It is most easily detected by its distinctive vocalisations. There are at least 23 described subspecies of Common Cicadabird (Gil & Donsker 2012) including many distinctive forms (Rheindt *et al.* 2010). A review of these taxa is needed.

### Lesser Shortwing *Brachypteryx leucophrys*

**Alor:** Common in tropical forest along creeks near Apui (650–800 m) in April 1991 with four specimens collected (REJ). The song of this bird was frequently heard on the slopes of Mt Koya Koya (PV and VD), above Apui-Subo (PV, CRT), particularly in dense vegetation and along streams and gullies. At Mainang, and along the 17 km walk to Apui-Subo, this bird was restricted to watered gullies above about 850 m (CRT). In the village of Tanglapui Timur it occurred in a gully, and was recorded down to 680 m about 2 km west of the village (PV, CRT). This bird was noted also by Holmes (1995) on 10 December 1994 on the road between Mainang and Apui-Subo. Records of this bird given by Trainor (2005a) were confused with Timor Stubtail *Urosphena subulata* (see below), including the description of a call given which clearly refers to the latter bird. Examination of recordings in 2002 have since confirmed that Lesser Shortwing songs and high-pitched single notes were sound-recorded. Field notes show that three Lesser Shortwings were observed in watered gullies, but perhaps these were also misidentified Timor Stubtail. This bird is patchily common throughout much of Alor above 600–700 m, but is absent from the extensive *Eucalyptus* woodlands. None was heard on the upper slopes of Mt Wasbila on Pantar (PV, CRT). At least to the human ear, the song of birds on Timor and Alor bird sound similar to birds on Java ([www.xeno-canto.com](http://www.xeno-canto.com)). Mimicry of the song of Timor Bush Warbler by Lesser Shortwing was sound-recorded ([www.xeno-canto.com/x103157](http://www.xeno-canto.com/x103157)). The subspecies is presumably *B. l. leucophrys*.

### Timor Bush Warbler *Locustella timorensis* ssp.

**Alor:** First discovered at Apui-Subo on 9 September 2009, when up to five singing males were heard calling from tall grass and thickets below secondary tropical forest at 1,050 m (PV). Subsequent visits to the same location noted at least 6–8 singing males along a ridge at 900–1,250 m, mostly calling from tall grassland beneath *Eucalyptus urophylla* woodland (CRT). A second population was located at Mainang with seven males heard singing in grassland below *E. alba* at 859–930 m. A total of 11 birds were heard, with some birds photographed and videographed near Mainang at 928–1,070 m on 23 October 2011 (JE and RH *in litt.* 2012). Details of this discovery were recently published (Trainor *et al.* 2012) and videos and photos are available online (<http://ibc.lynxeds.com/>). Timor Bush Warbler is clearly patchily distributed on the island. For example, none was heard singing in the vicinity of Mt Koya Koya in 2002 (CRT) or 2009 (PV) or 2010 (CRT) despite the use of playback (in 2010) in apparently suitable habitat, and none was heard during a 17 km walk between Mainang and Apui-Subo

through seemingly suitable *Eucalyptus* woodland (CRT), indicating that they are local and have specialised habitat requirements.

Differences in song characteristics (frequency) suggest that the Alor birds may be subspecifically distinct from the Timor population (Trainor *et al.* 2012). None was recorded after using playback in apparently suitable habitat on Mt Wasbila at 800 m, but birds may be present elsewhere on Pantar.

### Chestnut-backed Thrush *Geokichla dohertyi*

**Alor:** Birds were observed and heard occasionally in forested ravines on the slopes of Mt Koya Koya (CRT) and one was seen and several heard singing in a forested gully at Kunggwera in June 2009 (PV). This bird was occasionally heard and recorded singing from secondary forest above Apui-Subo village in December and January, with one bird killed with a catapult by a local villager on 4 December 2009 (CRT).

Chestnut-backed Thrush occurs on the large Nusa Tenggara islands of Lombok, Sumbawa, Flores, Sumba and Timor, mostly in hill or montane forest above 500 m (White & Bruce 1986). A 'Zoothera' thrush was noted by A. H. Everett on Alor but no specimens were collected (Hartert 1898). Its presence on Alor is unsurprising, particularly given the extent of forested montane habitat; by contrast, the absence of records from Pantar was noteworthy (PV, CRT). Chestnut-backed Thrush is an inconspicuous forest-dweller and is easy to overlook if not vocalising. There have been no records from Lembata and Adonara (Trainor 2002a,c, 2004, Schellekens *et al.* 2011), Atauro (Trainor & Soares 2004) or nearby Wetar Island (CRT unpubl. data) but more effort is needed in the hills and mountains of these islands.

### Kamchatka Leaf Warbler *Phylloscopus examinandus*

**Alor:** Birds were occasionally observed on Ternate Island on 27 April 2002, and on Sika Island on 29 April 2002; one bird was observed in a gully in Lipa village at 700 m on 2 May 2002, and six were heard or seen 2–4 km east of Lipa, at 440–620 m, on 17 January 2010 (CRT). **Pantar:** A single bird was heard in coastal vegetation at Puntaru on 14 December 2009 (CRT). The Kamchatka Leaf Warbler was recently split from Arctic Warbler (Alström *et al.* 2011). This bird breeds in south Kamchatka, Sakhalin and north-east Hokkaido (Alström *et al.* 2011) and winters throughout South-East Asia with Alor at about the southern limit of its wintering range. The 'Arctic Warbler' subspecies *examinandus* was described from material collected on Flores (Mees 2006), and birds were collected on Alor in April by A. H. Everett, but no details of subspecific identity were noted (Hartert 1898). The 'Arctic Warbler' was the second most commonly collected passerine migrant to Wallacea (White 1977). There are regular records of Kamchatka/Arctic Warbler on Adonara (Trainor 2002a) and Lembata (Trainor 2002c, Schellekens *et al.* 2011), but it is very uncommon on Timor (R. Noske *in litt.* 2012) with no East Timor records (CRT unpubl. data).

### Sunda Bush Warbler *Horornis vulcanius kolichisi*

**Alor:** Noted as moderately common in weedy *Wedelia biflora* shrubs and grass at c.700 m above Apui, with eight specimens collected including the holotype on 24 April 1991 (REJ, Johnstone & Darnell 1997a). In 2002, found to be frequent on the slopes of Mt Koya Koya and Lipa village in weedy tall grassland gullies and stream channels (CRT), and in 2009–2010 it was common in the same habitat at Mainang (700–900 m, CRT), Apui-Subo (800–1,200 m) and Tanglapui Timur area at 650–1,150 m (PV and VD, CRT).

The Sunda Bush Warbler is a poorly known bird which occurs on Sumatra, Borneo, Java and Bali, with Nusa Tenggara populations on the mountain areas of Lombok, Sumbawa and Timor (Coates & Bishop 1997). Like many bush warblers its



plumage is conservative and nondescript (Kennerley & Pearson 2010) but vocalisations are often distinctive. There are recent new observational records for Sumbawa (Johnstone *et al.* 1996) and Wetar (Trainor *et al.* 2009). The Alor subspecies *H. v. kolichisi* differs from both *H. v. vulcanius* (of Bali, Lombok) and *H. v. everetti* (of Timor and possibly Wetar) by its smaller size, duller dark brown upperparts lacking the rusty tones of the nominotypical form and the olive tones of *H. v. everetti* (Johnstone & Darnell 1997a). The bill is also proportionately longer and finer with a more extensive dark zone on the lower mandible (Johnstone & Darnell 1997a). The songs of Nusa Tenggara birds are relatively distinctive from birds of the Greater Sundas (PV unpubl. data) and work analysing calls has begun (G. Sangster *in litt.* 2011). The Sumbawa bird is presumably similar to those of Lombok (Johnstone & Darnell 1997a) and the song of the Wetar bird sounds close to birds on Timor (CRT, PV unpubl. data). Birds on Timor and Wetar occur from sea-level to the mountains (Noske & Saleh 1996, Trainor *et al.* 2009) but the Alor bird appears to occur in the hills only (but more lowland surveys are needed on Alor). The Sunda Bush Warbler appears to be absent from Pantar.

#### Timor Stubtail *Urosphena subulata* ssp.

**Alor:** This bird was not identified during the 2002 survey, but its high-pitched note was regularly sound-recorded from the slopes of Mt Koya Koya, and these were later (following publication of Trainor 2005a) identified as Timor Stubtail (CRT). Subsequently this diminutive bird has been found to be relatively common and vocal, especially in gullies at Kunggwera (PV and VD), Tanglapui Timur (PV, CRT), above Apui-Subo (PV, CRT), Mainang (CRT) and Wahwah (CRT) at elevations of 660–1,200 m. During a 17 km walk between Mainang and Apui-Subo it was recorded only in a single well-vegetated gully near Baifui village, and was absent from *Eucalyptus alba* woodland.

This is a significant and unexpected range extension for this essentially ‘Timor-group’ bird. Only recently has the range of this species become better known, with new island records for Wetar (Coates & Bishop 1997), Atauro (Trainor & Soares 2004), Roti (Trainor 2005b) and Romang (CRT unpubl. data). It is generally common in tropical forest throughout its range, although suitable habitat appears to be limited on Roti and Atauro. The closest relatives of the Timor Stubtail are restricted to the mountains of north-east Borneo (Bornean Stubtail *U. whiteheadi*), while Asian Stubtail *U. squameiceps* is also confined to mountains when wintering in South-East Asia (Kennerley & Pearson 2010). On Timor this bird occurs from sea-level to the mountains, but there is limited data on the elevational limits of this bird on Alor. It may be restricted to the hills, but there has been limited lowland survey effort on Alor. The song has a uniform structure on all islands—a monotone whistled *pseeee* (Kennerley & Pearson 2010) which varies substantially in length, and less so in frequency. The relationships of these island forms are still unclear, but they are probably distinctive at the subspecific level.

#### Little Pied Flycatcher *Ficedula westermanni mayrii*

**Alor:** One bird was observed in the forest canopy at Apui on 27 April 1991 (REJ). Noted as occasional in *Casuarina junghubniana* and tropical forest-lined gullies, and *E. alba* woodland (650–1,120 m) around Tanglapui Timur in 2002 (CRT). A pair was seen in a gully at Tanglapui Timur in 2010 (CRT), and birds were frequent in secondary forest above Apui-Subo in 2009 and 2010 (PV, CRT), but the species was recorded only once on the walk from Mainang to Apui-Subo (CRT). One male bird was observed singing c. 10 km north of Apui at 230 m (PV).

Little Pied Flycatcher is typically a montane bird (above about 800 m) throughout its broad South-East Asian range, but on Timor (Noske & Saleh 1996), Atauro (Trainor & Soares 2004), Wetar

(Trainor *et al.* 2009) and now Alor it occurs from the lowlands to the mountains. This unusual aspect of its habitat use in the Lesser Sundas has been widely overlooked (White & Bruce 1986, Coates & Bishop 1997, Mees 2006). The Little Pied Flycatcher is morphologically conservative with relatively minor differences in plumage throughout its range. Analysis of songs might help to disentangle cryptic diversity within this complex. Three specimens (all females) were collected on Alor by von Plessen (White & Bruce 1986) presumably at an elevation of about 1,200 m (which was given as the Alor elevation range for this bird: Coates & Bishop 1997).

#### Yellow-breasted Warbler *Seircercus montis* ssp.

**Alor:** This bird was local in well-forested gullies at 800–930 m on the slopes of Mt Koya Koya, with only a few birds seen and recorded during April 2002 (CRT). Several birds were photographed and recorded in dense forest in the hills above Apui at c. 1,000–1,100 m on 9 September 2009 (PV), but none was recorded there in December or January (CRT).

In Nusa Tenggara this bird occurs on Flores (subspecies *floris*: compared to *S. m. montis* of Borneo it has less well developed dark lateral crown-bands to nape) and Timor (*paulinae*: compared to *S. m. montis* it has a brighter rufous crown, brighter olive back, yellower rump, and less developed crown-bands) in Wallacea (White & Bruce 1986). Photos of the Alor bird indicate that it is probably closer to *S. m. paulinae* with a bright orange crown which appears to lack lateral crown-bands entirely. Although the subspecies described for Nusa Tenggara have been considered to have diverged little from *S. m. montis* of northern Borneo (White & Bruce 1986) morphological differences shown by photos on [www.orientalbirdimages.org](http://www.orientalbirdimages.org), and differences in vocalisations ([www.xeno-canto.org](http://www.xeno-canto.org)) suggest that species-level splits should be expected in these taxa. Birds on Timor and Alor have a song consisting of a ‘high pitched piercing note’ (Coates & Bishop 1997) similar to the song of birds in the Greater Sundas. This is similar to songs of some *Dicaeum* flowerpeckers. However, contact notes regularly given on Timor and Alor (a buzzing *bresh* note given singly, doubly or often repeated) are unlike calls of birds from Borneo and mainland Asian populations archived at <http://www.xeno-canto.org> or <http://macaulaylibrary.org/>.

#### Asian Paradise-flycatcher *Tersiphone paradisi floris*

**Alor:** There were three observations of this bird in gallery forest at 580–820 m on the slopes of Mt Koya Koya (CRT), and birds were observed daily and considered as frequent in tropical forest at the same sites in 2009 (PV), and in forest above Apui-Subo (PV).

**Pantar:** One bird was observed in vine forest at Desa Batu on 17 April 1991 (REJ). Several birds were observed and sound-recorded in lowland tropical forest and coastal woodland (PV) and one male was observed and sound-recorded at 630 m on Mt Wasbila on 10 December 2009 (CRT).

Alor delimits the south-eastern limits of this widespread Asian bird. The subspecies *T. p. floris* is known from Sumbawa, Flores, Besar, Lembata and Alor, with our Pantar records filling an important distributional gap. Asian Paradise-flycatcher is typically one of the least common resident birds through its Nusa Tenggara range (Coates & Bishop 1997, Mees 2006), although can be locally common on Flores (Butchart *et al.* 1994, Pilgrim *et al.* 2000). Females appear to be particularly inconspicuous, and we only observed males on Alor and Pantar, matching historical collections of males from Alor and Lembata (Hartert 1896). All males in Nusa Tenggara are predominantly white above, whereas a high proportion of males in South and South-East Asia are rufous (Owen 1964).

#### Broad-billed Flycatcher *Myiagra ruficollis ruficollis*

**Alor:** Singles or pairs were recorded four times in *E. alba* woodland usually next to streams or a dam at 625–750 m about Tanglapui

Timor (CRT), and occasional in mangroves near Kalabahi (CRT), degraded forest near Kalabahi (PV) and coastal strand forest on Sika Island (CRT). **Pantar:** Regularly recorded in mangroves and *E. alba* woodland in September 2009 (PV), and once heard from secondary shrubland along the road to the Sirung volcano (CRT). Broad-billed Flycatcher was known from Lembata and Alor in the Flores island chain, with the Pantar record filling a gap in its distribution. In the Lesser Sundas it occurs on Timor and most associated islands, as well as Sumba (Coates & Bishop 1997). It appears to be generally uncommon to rare on Alor except locally near water and in mangroves, and on Pantar it appears to be common in mangroves as on neighbouring Lembata (Trainor 2003) and Timor (CRT unpubl. data).

#### Common Golden Whistler

##### *Pacycephala pectoralis fulvotincta*

**Alor:** This bird was common in tropical dry forest, lantana thickets and prickly shrubs at Kalabahi and Mali and in secondary forest and plantations at Apui in April 1991, with eight specimens collected (REJ). It was observed on several occasions in secondary forest above Apui-Subo and in evergreen forest at Kunggwera (PV), and was heard regularly from secondary forest and plantations at 400–900 m near Mainang, and in secondary forest above Apui-Subo to 1,250 m (CRT). **Pantar:** Moderately common in vine forest at Batu and in mangrove at Kabir in April 1991 with two specimens collected (REJ). Birds were photographed and sound-recorded in coastal woodland (PV), degraded forest patches in the lowlands (<200 m) as well as on the slopes of Mt Wasbila and frequently heard in tropical forest on Mt Wasbila from 100–800 m and coastal shrubland about Puntaru (CRT).

The Common Golden/Mangrove Whistler *P. pectoralis/melanura* complex, with 66 named populations, is one of the most complex avian examples of geographic variation (Jönsson *et al.* 2008). The IOC currently treats Alor and Pantar populations as part of a species called Rusty-breasted Whistler *P. fulvotincta* (of Java, Lesser Sundas, Flores Sea islands: Gill & Donsker 2012) but we prefer to wait until genetic and vocal analyses are published on the complex to support this split. Common Golden Whistler is typically one of the most vocal birds in secondary and primary forest in the Lesser Sundas (Coates & Bishop 1997), although it is inconspicuous and difficult to observe without the use of playback. It appears to be mostly absent from *Eucalyptus* woodland on Alor and Pantar, with a clear preference for tropical forest. For example, it was only heard once while walking from Lipa to Lantoka village (7 km), and heard once on the walk from Lipa to Naumang (CRT).

#### Cinereous Tit *Parus cinereus*

**Alor:** This bird was uncommon to moderately common in gardens at Apui in April 1991, when two specimens were collected (REJ). In 2002, 2009 and 2010 it was occasional to frequent at all sites, in all wooded habitats, from sea-level to 1,250 m (PV, CRT). **Pantar:** Observed in small numbers in tropical dry forest at 200 m (PV) and common in coastal shrubland about Puntaru village on 14 December 2009, but unrecorded from Mt Wasbila (CRT). Alor delimits the easternmost occurrence of this bird, which ranges from Afghanistan, India, mainland South-East Asia, Greater Sundas and the Lesser Sundas from Lombok along the Flores island chain to Sumba (White & Bruce 1986). Typically this bird is considered a common species along the Flores island chain (Butchart *et al.* 1994, Johnstone *et al.* 1996, Pilgrim *et al.* 2000, Trainor 2002a,c, Myers & Bishop 2005).

#### Thick-billed Flowerpecker *Dicaeum agile*

**Pantar:** One bird was collected at Batu (WAM A24474) and several were observed in canopy of woodland on 19 April 1991 (REJ). Thick-billed Flowerpecker is typically uncommon to rare (and

inconspicuous with low detectability) throughout its Lesser Sunda range (Lombok, Sumbawa, Flores, Lembata, Alor and Timor) (White & Bruce 1986, Johnstone *et al.* 1996, Coates & Bishop 1997), with only four specimens known for Flores (Mees 2006). Although collected on Alor by A. H. Everett (originally thought to have been a specimen of Golden-rumped Flowerpecker *D. annae*), there have been no subsequent records on the island. This is the first Pantar island record. Consistent with its general rarity is the single observation of one bird during a recent seven-week survey of Wetar (Trainor *et al.* 2009). This is an aberrant flowerpecker with recent genetic analyses failing to resolve its generic affinities, although it may actually be a *Prionochilus* (Nyári *et al.* 2009).

#### Mountain White-eye *Zosterops montanus*

**Alor:** Common at c.700–1,271 m, particularly in *Eucalyptus* woodland at Mainang, Apui-Subo and Tanglapui Timur (CRT). Both Mountain White-eye and Ashy-bellied White-eye *Z. citrinellus* were present in Tanglapui Timur village, but only the former was heard during a 9 km walk from Lipa to Lantoka at 700–750 m. At Mainang this bird mostly occurred in *Eucalyptus* woodland above 1,150 m, while Ashy-bellied White-eye was more frequent in secondary tropical forest below c.1,150 m. During 2002 only Ashy-bellied White-eye was discriminated (Trainor 2005a), with Mountain White-eye obviously overlooked.

Mountain White-eye was known from the large Nusa Tenggara islands of Lombok, Sumbawa, Flores and Timor (Coates & Bishop 1997) but has recently been recorded on neighbouring Atauro Island above 800 m (CRT unpubl. data), and in the mountains of Wetar (CRT unpubl. data). Elevation use by Mountain and Ashy-bellied White-eye remains poorly known on Alor, but the latter was widespread on Pantar from sea-level to c.400 m (PV) and at Batu and Kabir (REJ), and was recorded down to sea-level on Alor including the islets of Kepa (REJ, CRT, PV), Ternate and Sika (CRT). About 20 specimens of Ashy-bellied White-eye were collected at Mali and Apui in 1991 (REJ). Mountain White-eye would be expected to occur on Pantar but none was definitively heard or seen in apparently suitable habitat on Mt Wasbila up to 850 m (CRT). Cryptic taxa are expected to occur within this complex but their vocalisations are unlikely to help unravel the affinities of various island forms (Rheindt & Hutchinson 2007). Photos of Alor birds show they are typical of *Z. m. montanus* (as described in Coates & Bishop 1997) with forehead greenish to yellowish, abdomen whitish, without a yellow median stripe, and the undertail-coverts are yellow.

#### Lemon-bellied White-eye *Zosterops chloris*/

##### Oriental White-eye *Z. palpebrosus*

**Pantar:** Lemon-bellied White-eye was observed and sound-recorded in coastal scrub and secondary forest at 400 m on Mt Wasbila (PV). In Nusa Tenggara this bird occurs on Lombok, Sumbawa, Komodo, Rinca, Flores, Besar and Paloe mostly in the lowlands (White & Bruce 1986). The identity of white-eyes occurring on islands east of Flores remains poorly known. Records of Oriental White-eye on Adonara (Trainor 2002a) were queried by Mees (2006), who considered that Lemon-bellied was more likely to occur on the island. We were unable to confirm Oriental White-eye on Pantar, but it may also be present.

#### Short-tailed Starling *Aplonis minor*

**Alor:** Locally common in pairs and small flocks of up to 10 birds in gallery forest and fruiting trees at Kunggwera and the slopes of Mt Koya Koya in 2002 (570–1,150 m, CRT), with flocks of eight and 12 birds seen in the same area in June 2009 (PV). An immature bird with white below and black streaking on the chest was observed

near Tanglapui Timur on 3 May 2002 (CRT). This bird was uncommon above Apui-Subo, with several voice records and flocks of up to six birds seen (800–1,100 m), but was frequently observed at Mainang in flocks of 2–8 birds (CRT). **Pantar:** The first island records of Short-tailed Starling were of four and six birds observed in flight near Sirung volcano (PV), and a single voice record from evergreen forest on Mt Wasbila at 750 m (CRT). Short-tailed Starling occurs widely as a typically uncommon forest bird in the Lesser Sundas (Lombok, Sumbawa, Flores, Paloe, Sumba, Timor, Wetar, Moa, Romang; Coates & Bishop 1997), and was recently confirmed for Atauro Island (Trainor & Soares 2004). The presence of this bird on Alor and Pantar would be expected, although it has not yet been recorded from Lembata or Adonara (Trainor 2002a,c, 2003, Schellekens *et al.* 2011).

#### **Crimson-hooded (Alor) Myzomela Myzomela (kuehni)**

**Alor:** A single record of one bird feeding at the flowers of *Eucalyptus alba*, at 900 m, on the slopes of Mt Koya Koya in April 2002 (CRT), which was thought to be a misidentification at the time, with a brief notes crossed out in a notebook (CRT). In 2009 and 2010 there were occasional records of 1–4 birds feeding at flowers or roosting in *E. urophylla*, *Acacia*, *Casuarina junghuhniana* and the montane shrub *Photinia integrifolia* above Apui-Subo village at 1,150–1,250 m (CRT, PV). Photographs show that the Alor *Myzomela* is almost identical in appearance to the nominotypical Wetar bird, except for the extent of red on the head, neck and chest. The red hood on the Alor bird is much reduced and only reaches midway on the hindcrown before sharply changing to grey on lower hindcrown (nape), mantle, back and scapulars, whereas the red on the Wetar bird reaches the back of head (c.1 cm further than the Alor bird). Alor birds have a red throat, but unlike Wetar birds this does not extend down to the chest. Substantial differences in contact notes and song of Alor birds compared to Wetar suggest that the Alor birds have diverged significantly and represent an undescribed taxon at either subspecies or species level. Alor birds appear to be restricted to 'upper' montane habitat, although it was apparently absent from forest at 850–1000 m above Apui where a suite of other montane species were present, and was also unrecorded from extensive *E. alba* woodlands at 700–1,000 m; by contrast, Wetar birds are common from sea-level to the mountains (CRT unpubl. data). None was heard or seen on Pantar, but no habitat above 900 m was surveyed. It is intended to publish further details on this bird elsewhere.

#### **Common Hill Myna *Gracula religiosa venerata***

**Alor:** In April 1991 this bird was moderately common in ones and twos in forest areas around Kalabahi and Mali and in forests at Apui (REJ). It was locally common about Kunggwera village with 15 birds observed in a large fruiting fig tree on 3 May 2002, and pairs and small parties were observed in the surrounding tropical forest (CRT). One flock of six birds was observed in flight at Kunggwera in June 2009 (PV and VD). One bird was heard calling from secondary tropical forest about 2 km north of Mainang on 9 January 2010, and two birds were seen and photographed in the same area on 13 January 2010 (CRT). **Pantar:** Three specimens were collected from Batu village and one was collected from forest at Kabir in April 1991 (REJ). One bird was sound-recorded on the slopes of Mt Wasbila in September 2009 (PV), and four were photographed on the slopes of Mt Wasbila and 10–11 (some possibly double-counted) were heard on 10 December 2009 (CRT).

In Nusa Tenggara the Common Hill Myna occurs from Sumbawa to Alor (White & Bruce 1986). It is uncommon on Sumbawa, but moderately common on Moyo Island (Johnstone *et al.* 1996), locally common on Flores (Butchart *et al.* 1994, Pilgrim *et al.* 2000) and uncommon to rare on Adonara and Lembata

(Trainor 2003, Schellekens *et al.* 2011). Populations have undoubtedly declined precipitously in Nusa Tenggara because of capture for trade during the 1980s and 1990s, but the residual birds on the islands are still being caught. At a market in Kalabahi during May 2002 nine chicks were available for sale, including two not fully feathered, three fully feathered (selling for Rp 300,000 [c. \$US30] each) and four fledged subadults (selling for Rp 250,000 each). On Pantar in 2009, local people said that Common Hill Myna was valued at Rp 200,000–1,500,000 (PV). A total of three individuals including one bird at Tanglapui (Alor) were recorded during an undated survey by Widodo (2010). Despite ongoing trade Alor may still retain some of the best populations of this bird in Nusa Tenggara (Trainor 2005a).

#### **Wallacean Drongo *Dicrurus densus bimaensis***

**Alor:** Moderately common in pairs at Kalabahi (one specimen collected), Mali and Apui mainly in forest but also in plantations during April 1991 (REJ). One of the most vocal and frequently observed birds in tropical forest at Kunggwera and Mt Koya Koya at 570–1,250 m (CRT, PV); above Apui-Subo (900–1,250 m) (PV, CRT) at Mainang (300–900 m); present in mangroves at the head of Mutiara Bay, but less common in *Eucalyptus* woodland (CRT). **Pantar:** One specimen was collected at Batu village on 17 April 1991 (REJ). Several observations on the slopes of Mt Wasbila at 400 m (PV) and frequently recorded there to 800 m (CRT), and in secondary forest and agricultural land about Puntaru village (CRT).

The Wallacean Drongo is typically one of the most vocal and conspicuous birds in forest and secondary habitats in Nusa Tenggara (Coates & Bishop 1997). However, it is worth highlighting that there are substantial morphological and vocal differences between the various Lesser Sunda subspecies, with this subspecies informally named the 'Lesser Wallacean Drongo' *D. bimaensis* and the bird on Timor and associated islands dubbed the 'Greater Wallacean Drongo' *D. densus* (Eaton 2009). The subspecies *D. d. bimaensis* is moderately common to abundant on Sumbawa (Johnstone *et al.* 1996), Flores (Butchart *et al.* 1994, Pilgrim *et al.* 2000), Adonara (Trainor 2002a) and Lembata (Trainor 2002c), and was recently noted on Solor (Schellekens *et al.* 2011). It is under no threat of extinction.

#### **Eurasian Tree Sparrow *Passer montanus***

**Alor:** This introduced bird was very common in the large town of Kalabahi during 2009 and 2010 (PV, CRT). **Pantar:** During September 2009, it was observed and sound-recorded at Baranusa (PV). At least three birds were noted at Puntaru village at the church (CRT). This bird has become widely naturalised throughout Nusa Tenggara over the last 30 years. None was noted on Alor during 1991 (REJ) or 2002 (CRT) but birds are thought to have been present on Flores since about 1955 (Mees 2006). They were locally abundant on Adonara during December 2000 (Trainor 2002a), absent from Lembata in December 2000 (Trainor 2002c, 2003) and abundant there in 2009 (Schellekens *et al.* 2011).

## **DISCUSSION**

Our records substantially improve knowledge of the avifaunas of both Alor and Pantar. We expected to add many new island records to the Pantar Island list because it was poorly surveyed historically, with little information published on the island since the nineteenth century, but the addition of 37 (including 27 resident terrestrial) bird species to the Alor list was surprising. The continued accumulation of new records for both islands by ornithologists in 2011 suggests that more species will be added in the future. We also show that Alor and Pantar have greater levels of endemism than previously known, and the presence of the Critically Endangered

Flores Hawk Eagle and additional endemic and restricted-range birds elevates the global conservation significance of these islands.

Both islands were assumed to be dominated by a 'Flores ornis' (Hartert 1898) or possess avifaunas 'evidently derived from Flores' (White & Bruce 1986), but our fieldwork shows that the avifaunal origins of these islands is more complex. Alor demarcates the eastern limits of a suite of well-known and 'typical' Asian bird species (e.g. Ruddy Cuckoo Dove, Rusty-breasted Cuckoo *Cacomantis sepulchralis*, Sunda Pygmy Woodpecker, Golden-bellied Gerygone, Cinereous Tit and Asian Paradise-flycatcher), but many species typical of the Timor-group islands were also added to the list (e.g. 'Little Cuckoo Dove', Common Cicadabird, Timor Bush Warbler and Timor Stubtail) and other widespread Asian birds which appear to be most closely related to Timor birds (Yellow-breasted Warbler, Little Pied Flycatcher and Lesser Shortwing).

The discovery of Timor Bush Warbler on Alor is surprising on biogeographical grounds. Some variation in song characteristics of this species have been published (Trainor *et al.* 2012) but further advances in determining the affinities of this bird in relation to other members of the complex, including those from Timor, Bali and Java, will rely on the collection of specimens and molecular analyses. Timor Bush Warbler is currently considered Near Threatened, but the Alor population appears under little threat. Only two populations were discovered, highlighting that this bird is patchily distributed in suitable montane habitat. The absence of records during a 17 km walk between the two populations also highlights the high degree of habitat specificity of the species (although significantly this pattern was mirrored by a suite of other passerines that are forest-dependent). Although it requires tall grass and low shrub, this needs to be in close proximity to tropical forest because it avoids extensive *Eucalyptus* woodland. Interestingly, the opposite was the case on Timor, where the species was recorded from landscapes dominated by *Eucalyptus* woodland with a grassy understorey on the slopes of Mt Ramelau (Trainor *et al.* 2012).

The presence of an endemic subspecies of Sunda Bush Warbler, and a likely endemic subspecies of Timor Stubtail also highlight the importance of Timor as a source of Alor's avifauna. The Timor Stubtail is a diminutive bird which is most often seen walking on the forest floor, but new island records for Alor, Roti, Atauro and Romang attest to its strong powers of flight and capacity for island colonisation. The song of this bird has a similar structure on all islands (including Babar: PV and CRT unpubl. data) but these scattered populations are presumably at least subspecifically distinctive.

The distinctiveness of endemic subspecies of Lesser Sunda populations of Southern Boobook has been the subject of much speculation (Johnstone & Darnell 1997b, Olsen *et al.* 2010, Verbeelen 2010) but only recently have sound recordings of vocalisations started to help unravel the apparent hidden levels of endemism in this complex. The calls of the Southern Boobook on Alor and Pantar are among the most distinctive in the complex, indicating that this form there should be considered a full species. The 'Alor Boobook' occurs in tropical forest and *Eucalyptus* woodland and probably is widely distributed on both islands, and therefore under little threat of extinction. A study is underway on the vocalisations of this complex including samples from most Lesser Sunda islands (F. Rheindt and JE *in litt.* 2012). The *Otus* owls have also harboured substantial hidden diversity in south-east Asia (e.g. Lambert & Rasmussen 1998). We are unable to confirm the presence of an *Otus* owl on Pantar. More fieldwork on Pantar targeting this bird would be of value.

Further work is also needed to determine the affinities of the *Myzomela* honeyeater recorded on Alor. In appearance it is obviously close to Crimson-hooded Myzomela of Wetar, but its calls and songs are different. This is of biogeographical interest because it may be the only clear example of a direct relationship between the avifaunas of Alor and Wetar.

Despite our efforts, the avifaunas of both Alor and Pantar remain poorly known. The status of the Flores Hawk Eagle particularly deserves attention. It would be valuable to produce a population estimate, assess the degree to which it is restricted to forested habitats and determine whether it is also present on islands such as Lembata, Pantar and Wetar. There has been little attention given to the Yellow-crested Cockatoo in Nusa Tenggara since the late 1990s, despite ongoing illegal bird trade which has probably resulted in further population decline. Further effort on Alor, Pantar and other islands would be of value to provide updated information on its conservation status. A study of the status of the Flores Green Pigeon on Alor, Pantar and other islands in its range would be similarly valuable. The taxonomic status of several bird species on Alor (e.g. 'Little Cuckoo Dove', Timor Bush Warbler, 'Crimson-hooded Myzomela' and perhaps several other montane species) is poorly understood, with vocal or molecular studies now needed to clarify their affinities, and further fieldwork needed to define their distribution, habitat use and conservation status.

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Species	Status	Alor Island									Pantar Island									
		New	W&B	C&B	REJ	Kepa	Ternate	Sika	CRT	PV	Holmes (1995)	Johnstone (1991)	Mason (1991)	Widodo (2009)	New	W&B	C&B	REJ	CRT	PV
Barred Buttonquail <i>Turnix suscitator</i>	R		x	x	x				x				x		x			x		x
White-headed Stilt <i>Himantopus leucocephalus</i>	R		x																	
Pacific Golden Plover <i>Pluvialis fulva</i>	M										x									
Grey Plover <i>Pluvialis squatarola</i>	M							x	x		x									
Malaysian Plover <i>Charadrius peronii</i>	NT,R				x						x									
Swinhoe's Snipe <i>Gallinago megala</i>	M		x											x						
Bar-tailed Godwit <i>Limosa lapponica</i>	M														x				x	
Whimbrel <i>Numenius phaeopus</i>	M		x						x					x	x				x	
Common Redshank <i>Tringa totanus</i>	M				x						x									
Common Greenshank <i>Tringa nebularia</i>	M								x		x									
Grey-tailed Tattler <i>Tringa brevipes</i>	M								x		x									
Terek Sandpiper <i>Xenus cinereus</i>	M										x									
Common Sandpiper <i>Actitis hypoleucos</i>	M		x			x	x					x		x	x				x	x
Ruddy Turnstone <i>Arenaria interpres</i>	M										x									
Red-necked Phalarope <i>Phalaropus lobatus</i>	M	x							x			x			x					x
Australian Pratincole <i>Siltia isabella</i>	AV		x	x																
Gull-billed Tern <i>Gelochelidon nilotica</i>	M				x									x						
Greater Crested Tern <i>Thalasseus bergii</i>	R		x			x			x	x	x		x	x	x	x				x
Bridled Tern <i>Onychoprion anaethetus</i>	M				x															
Sooty Tern <i>Onychoprion fuscatus</i>	R				x															
Black-naped Tern <i>Sterna sumatrana</i>	M				x															x
Spotted Dove <i>Spilopelia chinensis</i>	R		x	x		x	x		x	x		x			x				x	x
Island Collared Dove <i>Streptopelia bitorquata</i>	R	x									x									
Bar-necked Cuckoo Dove <i>Macropygia magna</i>	R,rr		x	x					x	x				x	x					x
Little Cuckoo Dove <i>Macropygia ruficeps</i>	R,rr	x							x	x						x	x			x
Ruddy Cuckoo Dove <i>Macropygia emiliana</i>	R	x									x									
Pacific Emerald Dove <i>Chalcophaps longirostris</i>	R		x	x		x			x	x	x		x		x				x	x
Barred Dove <i>Geopelia maugeus</i>	R		x	x		x	x		x	x	x		x		x	x			x	x
Flores Green Pigeon <i>Treron floris</i>	VU,R,rr		x	x		x			x	x		x				x	x		x	x
Banded Fruit Dove <i>Ptilinopus cinctus</i>	R		x	x					x	x				x		x	x			x
Black-naped Fruit Dove <i>Ptilinopus melanospilus</i>	R		x	x		x	x		x	x		x				x	x		x	x
Pied Imperial Pigeon <i>Ducula bicolor</i>	V	x				x						x								
Green Imperial Pigeon <i>Ducula aenea</i>	R		x	x		x			x	x		x		x		x	x		x	x
Pink-headed Imperial Pigeon <i>Ducula rosacea</i>	NT,R,rr		x	x		x	x		x			x		x		x	x			x
Yellow-crested Cockatoo <i>Cacatua sulphurea</i>	CR,R		x	x		x					x					x	x			x
Olive-headed Lorikeet <i>Trichoglossus euteles</i>	R,rr		x	x		x			x	x		x							x	x
Lesser Coucal <i>Centropus bengalensis</i>	R		x	x		x			x	x		x				x	x		x	x
Asian/Pacific Koel <i>Eudynamis scolapaceus/cyanocephala</i>	R		x	x		x			x	x	x	x		x	x				x	x
Channel-billed Cuckoo <i>Scythrops novaehollandiae</i>	R		x	x																
Little Bronze Cuckoo <i>Chrysococcyx minutillus</i>	R	x				x			x			x			x					x
Rusty-breasted Cuckoo <i>Cacomantis sepulcralis</i>	R					x			x	x	x				x					x
Sunda/Oriental Cuckoo <i>Cuculus lepidus/optatus</i>	M	x									x					x	x			
[Otus <i>Otus</i> sp.]	R															x				x
Eastern Barn Owl <i>Tyto delicatula</i>	R	x	x	x		x			x	x		x			x				x	x
Southern (Alor) Boobook <i>Ninox boobook plesseni</i>	R,rr		x	x					x	x					x					x
Mees's Nightjar <i>Caprimulgus meesi</i>	R,rr	x									x				x					x
Savanna Nightjar <i>Caprimulgus affinis</i>	R		x	x																
Glossy Swiftlet <i>Collocalia esculenta</i>	R					x	x		x	x		x		x					x	x
Fork-tailed Swift <i>Apus pacificus</i>	M	x							x							x				x
Oriental Dollarbird <i>Eurystomus orientalis</i>	M		x	x					x											
Stork-billed Kingfisher <i>Pelargopsis capensis</i>	R														x					x
Collared Kingfisher <i>Todiramphus chloris</i>	R		x	x		x	x		x	x		x		x	x				x	x
Sacred Kingfisher <i>Todiramphus sanctus</i>	AV		x			x						x			x					x
Common Kingfisher <i>Alcedo atthis</i>	R		x	x					x	x										
Oriental Dwarf Kingfisher <i>Ceyx erithaca</i>	R															x				x
Rainbow Bee-eater <i>Merops ornatus</i>	M		x	x		x	x		x	x		x		x	x				x	x
Sunda Pygmy Woodpecker <i>Dendrocopos moluccensis</i>	R		x	x		x			x	x		x		x	x					x
Elegant Pitta <i>Pitta elegans</i>	R		x	x		x			x	x		x			x				x	x

Species	Status	Alor Island										Pantar Island								
		New	W&B	C&B	REJ	Kepa	Ternate	Sika	CRT	PV	Holmes (1995)	Johnstone (1991)	Mason (1991)	Wicodo (2009)	New	W&B	C&B	REJ	CRT	PV
Helmeted Friarbird <i>Philemon buceroides</i>	R		x	x	x				x	x		x		x	x	x	x	x	x	
Brown Honeyeater <i>Lichmera indistincta</i>	R		x	x	x	x		x	x	x		x		x	x			x	x	x
Crimson-hooded Myzomela <i>Myzomela (kuehni)</i>	NT,R,rr	x							x	x										
Golden-bellied Gerygone <i>Gerygone sulphurea</i>	R		x	x					x	x				x	x					x
White-breasted Woodswallow <i>Artamus leucorhynchus</i>	R		x	x	x				x	x		x		x	x				x	x
Wallacean Cuckooshrike <i>Coracina personata</i>	R		x	x	x				x	x		x		x	x				x	x
Black-faced Cuckooshrike <i>Coracina novaehollandiae</i>	M		x	x						x					x					x
Common Cicadabird <i>Coracina tenuirostris</i>	R	x								x										
White-shouldered Triller <i>Lalage sueurii</i>	R		x	x	x	x			x	x		x			x					x
Common Golden Whistler <i>Pachycephala pectoralis</i>	R		x	x	x	x	x	x	x	x		x			x	x	x	x	x	x
Long-tailed Shrike <i>Lanius schach</i>	R		x	x	x				x	x		x			x					x
Black-naped Oriole <i>Oriolus chinensis</i>	R		x	x	x				x	x		x			x	x				x
Wallacean Drongo <i>Dicurus densus</i>	R		x	x	x				x	x		x	x		x	x	x	x	x	x
Arafura Fantail <i>Rhipidura dryas</i>	R		x	x	x	x	x		x	x		x		x	x					x
Black-naped Monarch <i>Hypothymis azurea</i>	R		x	x	x		x		x	x		x			x				x	x
Asian Paradise-flycatcher <i>Terpsiphone paradisi</i>	R		x	x					x	x				x	x				x	x
Spectacled Monarch <i>Symposiachus trivirgatus</i>	R		x	x	x				x			x		x	x					x
Broad-billed Flycatcher <i>Myiagra ruficollis</i>	R		x	x				x	x	x					x					x
Large-billed Crow <i>Corvus macrorhynchos</i>	R		x	x	x	x			x	x		x		x	x				x	x
Cinereous Tit <i>Parus cinereus</i>	R		x	x	x				x	x		x		x	x					x
Horsfield's Bushlark <i>Mirafra javanica</i>	R														x					x
Barn Swallow <i>Hirundo rustica</i>	M			x							x		x							
Pacific Swallow <i>Hirundo tahitica</i>	R			x	x	x	x		x	x	x	x	x	x	x				x	x
Striated Swallow <i>Cecropsis striolata</i>	R		x	x					x	x					x					x
Tree Martin <i>Petrochelidon nigricans</i>	R			x	x				x	x	x	x			x					x
Sunda Bush Warbler <i>Horornis vulcanius</i>	R	x			x				x	x		x								
Timor Stubtail <i>Urosphena subulata</i>	R,rr	x							x	x										
Kamchatka Leaf Warbler <i>Phylloscopus examinandus</i>	M		x	x		x	x	x	x						x					x
Yellow-breasted Warbler <i>Seicercus montis</i>	R	x							x	x										
Timor Bush Warbler <i>Locustella timorensis</i>	NT,R,rr	x			x				x	x		x								
Zitting Cisticola <i>Cisticola juncidis</i>	R		x	x	x	x	x	x	x	x		x			x				x	x
Ashy-bellied White-eye <i>Zosterops citrinellus</i>	R		x	x	x	x	x	x	x	x		x	x	x	x				x	x
Mountain White-eye <i>Zosterops montanus</i>	R	x							x											
Lemon-bellied White-eye/Oriental White-eye <i>Zosterops chloris/palpebrosus</i>	R															x				x
Short-tailed Starling <i>Aplonis minor</i>	R	x							x	x					x					x
Common Hill Myna <i>Gracula religiosa</i>	R		x	x	x				x	x		x		x		x	x	x	x	x
Chestnut-backed Thrush <i>Geokichla doherthyi</i>	NT,R,rr	x							x	x										
Lesser Shortwing <i>Brachypteryx leucophrys</i>	R	x		x	x				x	x	x	x								
Pied Bush Chat <i>Saxicola caprata</i>	R		x	x	x		x		x	x		x		x	x				x	x
Little Pied Flycatcher <i>Ficedula westermanni</i>	R		x	x	x				x	x		x								
Thick-billed Flowerpecker <i>Dicaeum agile</i>	R		x	x											x					x
Black-fronted Flowerpecker <i>Dicaeum igniferum</i>	R,rr		x	x	x		x		x	x		x	x	x		x	x	x	x	x
Brown-throated Sunbird <i>Anthreptes malacensis</i>	R		x	x	x							x		x		x	x		?	x
Olive-backed Sunbird <i>Cinnyris jugularis</i>	R														x					x
Flame-breasted Sunbird <i>Cinnyris solaris</i>	R,rr		x	x	x	x	x	x	x	x		x	x	x	x				x	x
Eurasian Tree Sparrow <i>Passer montanus</i>	I	x							x	x					x					x
Zebra Finch <i>Taeniopygia guttata</i>	R		x	x	x		x		x	x		x			x					x
Black-faced Munia <i>Lonchura molucca</i>	R	x			x				x	x		x			x				x	x
Scaly-breasted Munia <i>Lonchura punctulata</i>	R	x						x	x	x					x					x
Five-coloured Munia <i>Lonchura quinticolor</i>	R		x	x	x				x	x		x			x					
Pale-headed Munia <i>Lonchura pallida</i>	R		x	x	x	x	x		x			x			x					x
Red Avadavat <i>Amandava amandava</i>	R	x							x						x					x
Eastern Yellow Wagtail <i>Motacilla tschutschensis</i>	M	x							x											
Grey Wagtail <i>Motacilla cinerea</i>	M			x					x		x				x					
Paddyfield Pipit <i>Anthus rufulus</i>	R														x					x