

New Bird Records for Nusa Tenggara Islands: Sumbawa, Moyo, Sumba, Flores, Pulau Besar and Timor

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Summary. We present a total of 59 new island records comprising more than 100 independent site records of 52 species for selected Nusa Tenggara islands: Sumbawa (21) and its satellite Moyo (18); Sumba (4); Flores (3) and its satellite islands including Pulau Besar (12); and Timor (3). Records were gathered between 1994 and 2001 during surveys by BirdLife International-Indonesia Programme, Dames and Moore Pty Ltd (especially within the Batu Hijau Project Area), and an extended bird watching visit. Records of particular note include those of the globally vulnerable Flores Green Pigeon *Treron floris* and two near-threatened species: Beach Thick-knee *Esacus neglectus* and Great-billed Heron *Ardea sumatrana*. A Superb Fruit-dove *Ptilinopus superbus* on Sumba represents the first record for Nusa Tenggara. Significant records of Palearctic migrants are accumulating for the region. We document the first two Nusa Tenggara records of the migrant Grey-streaked Flycatcher *Muscicapa griseisticta* and numerous records of Chinese Sparrowhawk *Accipiter soloensis* and Japanese Sparrowhawk *A. gularis*.

Ringkasan. Laporan baru mengenai burung dari pulau-pulau di Nusa Tenggara. Kami sajikan 59 catatan baru dari berbagai pulau yang meliputi lebih 100 laporan lokasi dari 52 spesies terpilih untuk kepulauan Nusa Tenggara: Sumbawa (21) dan pulau satelitnya Moyo (18); Sumba (4); Flores (3) serta pulau satelitnya termasuk Pulau Besar (12); dan Timor (3). Catatan-catatan tersebut dikumpulkan selama survei yang dilaksanakan oleh BirdLife International-Indonesia Programme, Dames dan Moore Pty. Ltd (khususnya dalam Proyek Area Batu Hijau) dan kunjungan pengamatan burung selama periode 1994-2001. Catatan-catatan khusus termasuk spesies yang secara global rentan Punai flores *Treron floris* dan dua spesies yang mendekati terancam punah: Wili-wili besar *Esacus neglectus* dan Cangak laut *Ardea sumatrana*. Seekor Walik raja Fruit-dove *Ptilinopus superbus* di Sumba merupakan catatan pertama untuk Nusa Tenggara. Dua catatan Nusa Tenggara yang pertama dari spesies migran Sikatan burik *Muscicapa griseisticta* serta laporan-laporan mengenai Elang-alap cina *Accipiter soloensis* dan Elang-alap nipon *A. gularis* juga didokumentasikan.

Introduction and Methods

The birds of Nusa Tenggara remain little known, perhaps best highlighted by the recent description of a new species, the Little Sumba Hawk-owl *Ninox sumbaensis* (Olsen *et al.*

2002). While islands such as Sumba and Flores have in recent years attracted both ornithologists and biologists, Lombok and Sumbawa have been very poorly covered (but see Johnstone *et al.* 1996; Myers & Bishop 2005). Many small islands (up to 1,000 km²) either have no records, or they were last surveyed in the 19th Century (e.g. Solor Island: Verhoeve and Holmes 1999). Additional to new records here, there have been many recent additions to the avifauna of Lombok (Myers & Bishop 2005), Sumbawa (Grantham 2000), Komodo and Rinca (D. Agista, unpubl. obs), Sumba (Olsen *et al.* 2002), Flores (Pilgrim *et al.* 1997, 2000), Lembata (Trainor 2002a, 2003), Adonara (Trainor 2002b), Timor (Trainor 2005a), Roti (Trainor 2005b), and Atauro (Trainor & Soares 2004).

The majority of new records described below were collected during two major projects and an extended birding fieldtrip, with substantial survey effort expended during the wet season (northern hemisphere winter) allowing the opportunity to record Palearctic winter migrants. Baseline fauna surveys (1994) and regular bird monitoring surveys (1996-2000) by Dames and Moore Pty Ltd (consultants to PT Newmont Nusa Tenggara) within the Batu Hijau Project Area and surrounding areas of southwestern Sumbawa has provided the only long-term fauna monitoring in Nusa Tenggara. In addition, biological surveys by BirdLife International – Indonesia Programme (some collaboratively with WWF-Indonesia) covered Flores and associated islands (7 months), including West Timor (6 weeks, November 1997, August 1998, April-May 1999), Sumbawa (4 months, October-December 1999 and May-12 July 2000), Moyo (2 weeks, November-December 1999) and three days on Pulau Besar. Finally, PB and CB visited Sumba, Flores, Komodo and Sumbawa between 18 September and 13 October 2001.

Records presented here provide important distributional information for both residents and species migrating from the Palearctic or Australia. Two introduced species were recorded, including the first records of the Sooty-headed Bulbul *Pycnonotus aurigaster* for Sumbawa and Timor. We note that at least 27 species new to Sumbawa since 1983 come from Lake Taliwang, Nusa Tenggara's second largest freshwater lake (see also Andrews 1988; Indrawan 1996; Grantham 2000). The majority of records concern non-passerine species, which tend to be more mobile than passerines, and about two-thirds of the species are presumed to be residents (Table 1). Few are of forest-dependent species.

The high number of newly reported resident species, especially for Sumbawa and its satellite Moyo, and Timor probably indicate that many more species await discovery from these islands. Conversely, the addition of only three non-resident species for Flores over seven months of surveys probably indicate how relatively well the Flores avifauna is known, though more migrant species may be found in the future.



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Plate 1. Flores Green Pigeon
Treron floris.

Table 1. Summary of new island bird records for Nusa Tenggara (NT): presumed mobility status, habitat affinity and taxonomy order.

Province	Island	Resident/		Non-passerine/		Forest/	
			migrant		passerine	non-forest	
West NT	Moyo	12	5	12	5	5	12
	Sumbawa	13	7	16	4	1	19
East NT	Sumba	2	2	4	0	1	3
	Flores	0	3	2	1	0	3
	Pulau Besar	1	0	0	1	0	1
	Labondeng	7	1	4	4	2	6
	Kojadoi	3	0	3	0	0	3
	Timor	3	0	0	3	0	3
Total		41	18	41	18	9	50

The following annotated list provides details of the new island records. All visited sites are listed, along with their geographic coordinates and elevations, in Appendix 1. The observers were (in alphabetical order): Dian Agista (DA), Phil Benstead (PB), Charlotte Benstead (CB), Raf Drijvers (RD), Dwi Lesmana (DL), Keith Martin (KM), Yus Rusila Noor (YRN), Richard Noske (RN), Wahyu Raharjaningtrah (WR), Iwan Setiawan (IS) and Colin Trainor (CT). We also include records of Michael Ray D. Hesseltine (MH) (a guest of the Amanwana resort) who observed birds along the western coast of Moyo island in January 1999, and Mark Schellekens (MS) a birdwatching resident of Flores. Several overlooked significant records from the 'grey' literature (unpublished, but reliable secondary sources) are annotated in square brackets.

Sumbawa and Moyo

Sumbawa is the second largest island (14,750 km²) in Nusa Tenggara and generally considered one of the driest. But extensive hills in the southwest are moist with greater than 2,000 mm per year, which remarkably includes the single largest forest block (c. 2,000 km²) in Indonesia between Sumatra and Papua. Within this block is the Newmont Nusa Tenggara Batu Hijau mine. The birds of Sumbawa are poorly known partly because this island supports few endemic species. Johnstone *et al.* (1996) surveyed Sumbawa from 6 to 18 May and 18 October to 15 November 1988, and included the observations of P. Jepson who visited from 10 to 23 September 1993.

Moyo Island (27 km × 3-8 km; 330 km²) lies a few kilometers north of Sumbawa. The island is entirely comprised of coralline limestone raised to an elevation of c. 650 m asl, dominated by rolling low hills. More than 220 km² is classed as a Hunting Park characterized by semi-evergreen and dry deciduous forest interspersed with patches of grassy savannas (following human use), while the remainder is under the management of local villages for permanent dryland crops and fruit gardens. Mangroves and beaches are extensive, and intact natural habitats occur only a few kilometers distant from villages. Johnstone *et al.* (1996) listed 70 species for the island based on a 9-day survey (6-14 November 1988) at the end of the dry season. Here we add 17 species raising the island's total avifauna to 87 species. Ten of the newly recorded species are presumed to be resident (though some may be occasional visitors from Sumbawa), and five are Austral or Palearctic migrants. Of especial note is the addition of four raptors and two owls.

WHITE-TAILED TROPICBIRD *Phaethon lepturus* Resident

Groups of birds were frequently seen wheeling off the headland at Tanjung Mangkun on the southwest coast of Sumbawa to the east of Maluku (e.g. 24 February 1994, YRN). Also recorded at Benete Bay (where they appear to have a roost) on 26 February 1994 (YRN) and Lake Taliwang. This species is thought to breed on Nusa Penida, about 100 km to the west of these observations, and on Bali (130 km west), but there are few Wallacean records (Coates & Bishop 1997).

LITTLE BLACK CORMORANT *Phalacrocorax sulcirostris* Resident

First reported for Sumbawa near Alas by Butchart *et al.* (1993); this record was omitted from Johnstone *et al.* (1996) and also overlooked by Coates & Bishop (1997). A single bird recorded at Lake Taliwang on 15 October 1994 (IS) confirms this species for Sumbawa. It is common and widespread in East Nusa Tenggara (Coates & Bishop 1997).

GREY HERON *Ardea cinerea* Resident

Three individuals feeding along exposed reefs near Amanwana, Sumbawa, on 27 November 1999 (DA/DL/CT). DA observed a single foraging in mangroves at Tanjung Pasir on 3 December 1999.

PURPLE HERON *Ardea purpurea* Resident

First listed for Moyo near Amanwana in January 1999 (MH). One was also observed foraging on the beach at Brangkua on 23 November 1999 (DA/DL).

GREAT-BILLED HERON *Ardea sumatrana* Near-Threatened Resident

Regularly observed, mainly in the estuaries, lower and middle reaches of the Tongoloka and Tatar rivers, Sumbawa (1994-1999). A pair was sighted at the Tatar estuary in April and October 1999 and one individual was observed at the Tongoloka estuary in April 1999. Recorded on Lake Taliwang on 25 October 1996 (IS). Also a single bird perched on a pearl rack in Teluk Sape, far eastern Sumbawa during November 1999 (DL/CT).

INTERMEDIATE EGRET *Egretta intermedia* Resident

Single birds were occasionally observed in coastal wetlands and rice fields in southwest Sumbawa. Records, including Maluku, Lake Taliwang and Benete Bay on 24, 25 and 26 February 1994, respectively (YRN).

BLACK-CROWNED NIGHT-HERON *Nycticorax nycticorax* Resident

One recorded at Maluku, Sumbawa on 23 February 1994 (YRN). Indrawan (1996) observed flocks of seven and eight flying over Lake Taliwang, and had good views of three birds sitting on a dead tree in the lake. Status is poorly known in Nusa Tenggara (Coates & Bishop 1997), but is resident on Timor (Trainor 2005a).

GLOSSY IBIS *Plegadis falcinellus* Vagrant

Three birds at Lake Taliwang on 12 October 2001 (PB/MB). This species is a sporadic visitor to the Lesser Sundas (Coates & Bishop 1997).

OSPREY *Pandion haliaetus* Resident

One over riverine forest along the middle reaches of Tongoloka River, Sumbawa, on 18 February 1994 (YRN).

SHORT-TOED EAGLE *Circaetus gallicus gallicus* Resident

One individual gliding over savanna (10-30 m above ground) at Brang Sedu (120 m asl), Moyo Island (DA), and another at sea level near Labuan Aji on 26 November 1999.

CHINESE SPARROWHAWK *Accipiter soloensis* Palearctic Migrant

One individual perched in degraded forest at Brangkua (110 m asl), Moyo Island (DL), and another roosting in degraded dry forest behind beach near Brangkua on 24 November 1999 (CT). During October to May, this raptor was recorded on numerous occasions, mostly as single birds, throughout southwest Sumbawa from sea level to 600 m asl in moist evergreen forest, secondary forest and riverine forest. It was also observed in villages such as Maluk and Buin Batu. Dates include: Air Merah on 25 February 1994, 18 April 1998 and 11 October 1997 (YRN/IS/WR); Maluk on 5 October 1994 (IS); Middle Tatar River on 12 April 1997 and 20 April 1998 (IS/WR); Upper Tongoloka River on 3 May 1998, 22 October 1997 and 27 October 1999 (IS/WR); Brang Singa on 4 May 1997 and 29 October 1997 (IS); Brang Nanga and Buin Batu township on 4 May 2000 (WR).

JAPANESE SPARROWHAWK *Accipiter gularis* Palearctic Migrant

Rarely recorded in Wallacea (Coates & Bishop 1997) but probably a regular, but overlooked, winter visitor (see Sumba records below). Several individuals were seen near Amanwana, Moyo Island in January 1999 (MH). A single bird roosting in a coconut tree near forest boundary at Sebaru (10 m asl) on 26 November 1999; another perched in a dead tree at Brang Sedu (5 m asl), Moyo, on 27 November 1999 (DA). Two Sumbawa records by Butchart *et al.* (1993) at Batu Hijau on 27 July 1993 (350 m asl) and 28 July 1993 (400 m asl) were overlooked by Coates & Bishop (1997). A single bird in moist evergreen forest at Air Merah (Sumbawa) on 26 October 1994 (IS).

BONELLI'S EAGLE *Hieraeetus fasciatus renschi* Resident

One pair soaring and hunting at Aimanis, Moyo Island (40 m asl) on 3 December 1999 (DA).

RED JUNGLEFOWL *Gallus gallus gallus* Resident

A male seen in savanna woodland near Brang Sedu (100 m asl), Moyo Island, on 2 December 1999 (DA). A male bird was also observed in secondary shrub and bamboo thicket at Jelanga, south of Taliwang, Sumbawa, during May 2000 (DL). The latter record may have been an escaped cage bird.

BAILLON'S CRAKE *Porzana pusilla* Palearctic ?N Asian Migrant

One seen in freshwater wetlands at Lake Taliwang on 25 October 1996 (IS). Believed to be rare and local in Wallacea with records from North Sulawesi, Seram and Flores during October to June (Coates & Bishop 1997). Mason (1996) documented the first Bali record on 31 March 1995.

DUSKY MOORHEN *Gallinula tenebrosa* Resident

One in mangroves at Labuan Aji, Moyo Island, on 26 November 1999 (CT). This species is also known from Sumbawa (Coates & Bishop 1997).

LITTLE RINGED PLOVER *Charadrius dubius* Palearctic Migrant

Observed at Lake Taliwang on 28 February 1994 (YRN/KM). This species occurs regularly in small numbers in Nusa Tenggara (Trainor 2005a).

BEACH THICK-KNEE *Esacus neglectus* Near-Threatened Resident

White & Bruce (1986) did not list this species for Sumbawa, and because individual islands were not listed by Coates & Bishop (1997), records for Sumbawa may have been overlooked. The first Sumbawa record appears to be from Labuhanbatat, near Taliwang (Gibbs 1990). Our only record is for two birds on a beach at Cagar Alam Pedauh, near Sejorong, on 20 October 1994 (KM/IS).

WHISKERED TERN *Chilidionias hybridus* ?Asian Migrant

One flying over coastal secondary habitat near Maluk on 27 February 1994 (YRN). Seasonally common off Flores and Timor (Coates & Bishop 1997; Trainor 2005a).

ZEBRA DOVE *Geopelia striata* Resident

On Sumbawa, newly recorded from coastal, secondary and dry deciduous forest habitats, as well as the vicinity of villages in the southwest. Localities include: Maluk (YRN), Sekongkang (YRN) and Benete Bay. This species is poorly known in the Lesser Sundas where otherwise present on Lombok and Moyo Island (Johnstone *et al.* 1996; Coates & Bishop 1997).

RAINBOW LORIKEET *Trichoglossus haematodus* ?*forsteni* ?Resident

Beudals & Liman (1981) listed this species in January, March and April 1981, noting that it was less common on Moyo than on the adjacent Tambora (Sanggar) Peninsula of Sumbawa. Confirmation is required, however, as there are no other records of this species for Moyo. The race *forsteni* is currently known only from Sumbawa. We note that there have been few additional ornithological observations in the months that Beudals & Liman visited Moyo.

RED-CHEEKED PARROT *Geoffroyus geoffroyi floresianus* Resident

Single birds were observed on Moyo Island: at Sebotok (75 m asl), on 25 November 1999; Sebaru (50 m asl) on 26 November 1999 (DL/CT); and Labuhan Aji (5 m asl) on 30 November 1999 (DA); indicating that this species is uncommon on the island. Also recorded in denser monsoon forest in the north and west of the island (DA). Beudals & Liman (1981) noted that it was less common on Moyo than on Tambora (Sanggar) Peninsula of Sumbawa during January, March and April 1981.

MOLLUCCAN SCOPS OWL *Otus magicus albiventris* Resident

One individual calling at dusk from a bamboo thicket along a stream near Brangkua, Moyo Island, on 23 November 1999 (DL/CT).

BROWN HAWK-OWL *Ninox scutulata* Palearctic Migrant

One individual was observed for c. 1 min in dense semi-evergreen gallery forest at Tanjung Pasir, Moyo Island (10 m asl) on 4 December 1999 (DA). There are very few records of this species from Wallacea and the only published Nusa Tenggara records are from Flores and Wetar (Coates & Bishop 1997).

FORK-TAILED SWIFT *Apus pacificus* Palearctic Migrant

Commonly observed in groups of 20-30 over beaches throughout Moyo Island, with records from Sebotok, Sebaru, Brangrea, Brang Sedu and Tanjung Pasir (DA).

LITTLE SWIFT *Apus affinis* ?Resident

One observed over riverine forest in middle Tongoloka River, Sumbawa, on 23 Oct 1994 (IS).

ASIAN PALM-SWIFT *Cypsiurus balasiensis* ?Resident

Although previously recorded for Moyo Island by Johnstone *et al.* (1996), a communal roost of 500-1,000 individuals in a tree above beach at Sebotok in November 1999 (CT) was notable.

ELEGANT PITTA *Pitta elegans concinna* Resident

Two birds duetting, at dusk, near the garden/forest border at Brangkua (100 m asl), Moyo Island on 22 November 1999 (DL/CT). Also heard calling in forest at Sebotok and at the waterfall near Labuan Aji (300 m asl) on 25 and 26 November 1999, respectively (DL/CT/DA).

PACIFIC SWALLOW *Hirundo tahitica* ?Resident

Amanwana vicinity, Moyo Island, in January 1999 (MH). Recently recorded for Sumbawa (Johnston *et al.* 1996).

SOOTY-HEADED BULBUL *Pycnonotus aurigaster* Introduced Resident

Previously only known to occur as far east as Bali (Coates & Bishop 1997). Noted as widespread and common in savannas and agricultural landscapes in west Sumbawa with singles and pairs observed during May, June and July 2000 at Serading, Batu Tering, Sumbawa Besar, Punkit, Mamak-Lape, Hodo (below Tambora in north-central Sumbawa) and Labangka Dam (25 km southeast of Sumbawa Besar). As it was a common sight in bird markets on the island, we presume the population to be feral.

ARCTIC WARBLER *Phylloscopus borealis* Palearctic Migrant

Frequent to abundant in secondary monsoon forest at Brangkua and Labuan Aji (80-300 m asl), Moyo Island. This species is skulking, and most records were aural (CT/DA/DL). Commonly heard at Sebotok (20-100 m asl) on 25 November 1999. Also near Amanwana during January 1999 (MH). Not recorded by Butchart *et al.* (1993) or Johnstone *et al.* (1996) on Sumbawa, but specimens have been collected (Rensch 1931). This first record for Moyo is indicative of the general lack of wet season sampling in Nusa Tenggara.

GREY-STREAKED FLYCATCHER *Muscicapa griseisticta* Palearctic Migrant

Observed in moist evergreen forest (520 m asl) at Batu Hijau, on 14 February 1994 (YRN) and 28 October 1994 (IS). According to Coates & Bishop (1997) this species is likely to occur anywhere in Wallacea except perhaps the western Lesser Sundas: in Nusa Tenggara it has been recorded from Wetar, Leti and Flores (see below). These are the first Nusa Tenggara records.

GREY-HEADED FLYCATCHER *Culicicapa ceylonensis* ?Resident

Apparently rare on Sumbawa: first recorded in moist evergreen forest at Brang Nanga on 3 May 2000 (WR), and a pair observed, although notably inactive, in the sub-canopy of *Dipterocarpus retusus*-dominated semi-evergreen forest (c. 800 m asl) near Matamega, 20 km north-east of Taliwang on 26 June 2000 (CT). On Lombok this species is known only by a voice record by Rensch (1931) who suggested that it was the nominate race *Culicicapa c. ceylonensis*. We presume that the race of the Sumbawa population is *C. c. sejuncta*, but this awaits confirmation. Coates & Bishop (1997) described the apparent absence of this species from Sumbawa as 'peculiar' because it occurs on the surrounding islands of Lombok, Flores and Sumba.

GOLDEN WHISTLER *Pachycephala pectoralis flavotincta* Resident

Johnstone *et al.* (1996) were surprised that they failed to record this 'supertramp' species on Moyo during surveys between 6 and 11 November 1988. We found it surprisingly uncommon on Moyo with single birds at Aimanis on 3 December 1999 (DA), in coastal shrub (10 m asl) at Tanjung Pasir on 4 December 1999 (DL), and in riparian semi-evergreen forest around the waterfall above Labuan Aji (300 m asl) on 26 November 1999 (DL). More frequently heard than seen.

WHITE-VENTED MYNA *Acridotheres javanicus* Introduced Resident

On 23 June 2000 a flock of six was observed flying low over wet grasslands 1 km from Marreran, at the edge of Lake Taliwang (DL/CT). This bird is introduced from Java and Bali, with other Nusa Tenggara populations present on Flores and Sumba (Coates & Bishop 1997).

RED AVADAVAT *Amandava amandava* Resident

Recorded individually or in small flocks of up to ten birds, in coastal and secondary habitats in southwest Sumbawa. Records during October 1994 include Maluk, Sekongkang and Benete Bay (IS). Now known to occur on all of the main Nusa Tenggara islands (Coates & Bishop 1997).

Sumba

Of all the large islands in Nusa Tenggara Sumba probably qualifies as the most neglected by ornithologists. This is no doubt explained by its geographical position, the island lying just to the south of the graceful arc of the rest of the archipelago. According to the chronology contained within White & Bruce (1986), Riedel made the first visit by a naturalist to the island sometime between 1853 and 1883, and in the period up to 1980 the island was visited a further five times. The bulk of the island's endemic taxa were described during

two bursts of activity in the late 1880s-90s and in the 1920s-early 1930s, reflecting the dates of the collecting expeditions during the period.

Since 1980 three organised surveys have taken place adding further knowledge about the avifauna of the island (Linsley *et al.* 1998). Additionally a steady trickle of birdwatchers have visited the island for short periods of time, mostly targeting the endemic species. Despite the fact that most rarely strayed far from a single site (Lewa) these visitors succeeded in discovering a new species of owl, the Little Sumba Hawk-owl *Ninox sumbaensis*, in the mid-80s (see Olsen *et al.* 2002). It seems probable that a thorough examination of the remaining habitat on the island by ornithologists could still yield further surprises. Unless otherwise indicated these species were not listed by Coates & Bishop (1997) or Linsley *et al.* (1998).

BONELLI'S EAGLE *Hieraaetus fasciatus* Resident

One adult bird at Lewapaku on 28 October 1998 was observed by RD. This bird has not previously been recorded for Sumba. The Lesser Sundas race *renschii* has been recorded from Sumbawa, Komodo, Flores, Pulau Besar, Timor, Wetar, Luang, and the Tanimbars (Coates & Bishop 1997), and more recently Adonara and Atauro islands (Trainor 2002a; Trainor & Soares 2004).

JAPANESE SPARROWHAWK *Accipiter gularis* Palearctic Migrant

A single bird at Lewa on 24 September 2001, and another single in gallery forest near Melolo on 26 September 2001 (PB/CB). Identification was tentative and these records require confirmation. Ash (1993) found this species to be the commonest raptor migrating east through Bali but current knowledge about the winter distribution of these birds is sketchy. Ash (1993) suggested that the migration period of this species probably extended into the last quarter of September and our records support this statement. Verhoeve & Holmes (1998) described the species as being an uncommon migrant on Flores. Additionally, two birds were observed at Nangarawa, Flores, on 1 October 2001 (PB/CB), and Moyo Island and Sumbawa records are noted above.

ASIAN DOWITCHER *Limnodromus semipalmatus* Palearctic Migrant

A single bird present on the mudflats at Waingapu on 18 and 19 September 2001 (PB/CB). The small population of this species that over-winters in northern Australia is presumed to transit Wallacea so this record is not surprising. The rarity of records suggests that most Asian Dowitcher (and knots, see below) over-fly Wallacea. Andrew (1986) reported up to four birds in Kupang Bay, Timor, on 30 September 1985, so this is the second record for Nusa Tenggara (and third for Wallacea).

RED KNOT *Calidris canutus* Palearctic Migrant

A single bird on the mudflats at Waingapu on 23 and 25 September 2001 (PB/CB). Again, the presence of this wader on passage in Sumba is unsurprising and the dearth of records probably largely reflects a lack of observer coverage during migration periods and lack of extensive suitable habitat. Andrew (1986) noted 18 birds at Kupang Bay, Timor, on 5 September 1985.

SUPERB FRUIT-DOVE *Ptilinopus superbus* ?Resident

An adult female at 950 m on Gunung Wangameti on 22 September 2001 (PB/CB). There are no previous records for Nusa Tenggara, and in Wallacea, this species is currently only known from Sulawesi and Maluku (Coates & Bishop 1997). This remarkable record may indicate the presence of a previously undetected taxon on Sumba. The bird was seen well, perched low overhead: a rich green fruit-dove with a white belly, and a brownish-green crown, through which ran a narrow purple stripe. The iris was pale. Both observers were familiar with this species from time spent in Sulawesi in the weeks before this sighting.

LITTLE SUMBA HAWK-OWL *Ninox sumbaensis* Near-Threatened Resident

A pair heard giving their distinctive antiphonal duetting call at night in the village of Loraija on the slopes of Gunung Wangameti (c. 950 m asl) on 21 September 2001 (PB/CB). The call is described well in Linsley *et al.* (1998) and both observers were familiar with the call from recent sightings at the well-known site at Lewa in the week previous. There are no previous records of this poorly known endemic from Gunung Wangameti. This record coincided with sight records of Sumba Boobook *Ninox rudolfi* and suggests that the two species do overlap in range.



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Plate 2. Little Sumba Hawk-Owl
Ninox sumbaensis.

Flores and satellite islands (Pulau Besar, Labondeng and Kojadoi)

The avifauna of Flores (13,500 km²) has a long history of observation with a recent review by Verhoeve & Holmes (1998). Since 1990, there have been many short visits by ornithologists and bird tours, two long (2 month) expeditions by British universities and surveys by BirdLife International/PHPA and WWF over 7 months (January-April and August-November) in 1998 (see Trainor & Lesmana 2000).

Pulau Besar is a relatively large and well-forested island in Maumere Bay (8° 27'S, 122°27'E, 64 km², 911 m asl). The only recent visit to the island was by Butchart *et al.* (1993) on 19 September 1993. Several small coralline islets occur to the east of the island, including Pulau Labondeng (10 ha), attached to Pulau Besar by mangroves and mudflats; and Pulau Kojadoi (5 ha), attached artificially to Pulau Besar by a 500 m-long coral walkway. The latter is mostly covered in Bugis stilt houses, with some beach, a few trees, shrub and grasslands.

BULWER'S PETREL *Bulweri bulweri* Palearctic Migrant

Several seen from inter-island ferries and other smaller boats in October 2001 (PB/CB). Two between Komodo and Labuanbajo (Flores) on 9 October 2001; five between Labuanbajo and Sumbawa on 11 October 2001; three between Sumbawa and Lombok on 13 October 2001; and one between Lombok and Bali on the same day (all PB/CB). Most of the birds appeared to be flying south. The species is considered to be a rare visitor

to Wallacea between June and November (Coates & Bishop 1997), but accumulating records suggest a reasonable passage through Wallacea in September and October (Argeloo & Dekker 1996, Johnstone & Jepson 1996, Trainor & Soares 2004).

BRAHMINY KITE *Haliastur indus* Resident

A pair seen on Pulau Labondeng on 2 February 1998 (DL/CT), and reported from Pulau Besar on 30 January 1998 (DL/CT). Common on Flores (Coates & Bishop 1997).

WHITE-BELLIED SEA EAGLE *Haliaeetus leucogaster* Resident

One soaring between Pulau Besar and Labondeng on 2 February 1998 (DL/CT).

SPOTTED KESTREL *Falco mollucensis* Resident

Recorded on Pulau Kojadoi on 30 January 1998. Known from Pulau Besar and common on Flores (Coates & Bishop 1997).

PEREGRINE FALCON *Falco peregrinus* Resident and Palearctic Migrant

Recorded on Pulau Kojadoi on 30 January 1998 (DL/CT). This species has not been recorded from Pulau Besar, and is uncommon on Flores (Coates & Bishop 1997). A single bird of the migrant northern race *calidus* was observed perched in a tree at Nangarawa on the north coast of Flores on 1 October 2001 (PB/CB). It had striking plumage, having white underparts with some sparse black spotting, a strong moustache and rounded white cheek patches (facially reminiscent of Oriental Hobby *Falco severus*). The bird appeared small (slightly larger than a Northern Hobby *Falco subbuteo*) and was presumably a male. According to Coates & Bishop (1997) and Verhoeve & Holmes (1998) this subspecies is a rare or casual visitor to Wallacea during the northern winter, and there are no previous records for Flores.

GREAT KNOT *Calidris tenuirostris* Palearctic Migrant

One first-year Great Knot was seen at Tambak Koliaduk on 20 September 1998 (RD) with a subsequent record of three birds feeding at the edge of Tiwu Bowu on 4 November 2004 (MS). Both Great and Red Knot appear to over-fly Nusa Tenggara and occur rarely (see Trainor 2005a), but in nearby northern Australia they occur in flocks of thousands (Chatto 2003).

LONG-TOED STINT *Calidris subminuta* Palearctic Migrant

On 4 September 1998 a first-year bird was observed at Tambak Koliaduk (RD). Subsequent records at the same site include: two on 13 December 2003 and five on 14 September 2004 (MS). This species is a regular winter migrant to Wallacea, but is uncommon in Australia (Coates & Bishop 1997; Chatto 2003).

LESSER WHISTLING DUCK *Dendrocygna javanica* Resident

A flock of 25 birds recorded at Danau Rana Mese (1200 m asl), near Ruteng, on 4 October 2001 (PB/CB). Coates & Bishop (1997) gave the maximum altitude of the species in Wallacea as 435 m asl.

COMMON SANDPIPER *Actitis hypoleucos* Palearctic Migrant

Several individuals observed on exposed mudflat on Pulau Besar, 30 January 1998 (DL/CT). Common throughout Wallacea (Coates & Bishop 1997).

BARRED DOVE *Geopelia maugei* Resident

Recorded on Pulau Kojadoi on 30 January 1998. Known from Pulau Besar and common on Flores (Coates & Bishop 1997).

FLORES GREEN PIGEON *Treron floriss* Resident

One observed flying through mangroves on Pulau Labondeng, apparently heading further around the north-east coastline to Pulau Besar, on 1 February 1998 (DL); and several flocks of 3-6 birds on 30 January 1998 (DL/CT), including at least one in dry forest at 530 m asl, on Pulau Besar, where it appears to be relatively common (see also Butchart *et al.* 1996).

COLLARED KINGFISHER *Halcyon chloris* Resident

Recorded in mangroves between Pulau Labondeng and Pulau Besar on 2 February 1998 (DL/CT). Common on Pulau Besar and Flores (DL/CT; Coates & Bishop 1997).

RUFIOUS FANTAIL *Rhipidura rufifrons* Resident

Recorded in mangroves between Pulau Labondeng and Pulau Besar on 2 February 1998 (DL/CT). Occurs on both Pulau Besar and Flores (Coates & Bishop 1997).

OLIVE-BACKED SUNBIRD *Nectarinia jugularis* Resident

Recorded in mangroves between Pulau Labondeng and Pulau Besar on 2 February 1998 (DL/CT). Common on Pulau Besar and Flores (Coates & Bishop 1997).

LEMON-BELLIED WHITE-EYE *Zosterops chloris* Resident

Recorded in mangroves between Pulau Labondeng and Pulau Besar on 2 February 1998. Known from Flores and Pulau Besar (Coates & Bishop 1997).

GREY-STREAKED FLYCATCHER *Muscicapa griseisticta* Palearctic Migrant

One observed at Paku (Mbeliling forest area, 350 m asl), West Flores, on 10 October 1998, in secondary forest mixed with permanent fruit gardens (RD). This is the second record of the species by the authors for Nusa Tenggara (see above for the Sumbawa record), where it is either a rare visitor or overlooked.

ZEBRA FINCH *Taeniopygia guttata guttata* Resident

A common species in degraded land around the village of Koja Besar from 31 January to 2 February 1998 (DL/CT). Present on adjacent Pulau Besar and common on Flores (Coates & Bishop 1997).

Timor

The ornithological exploration of Timor was recently summarized by Noske (2003). Each year small numbers of ornithologists visit West Timor, particularly at Bipolo,

Camplong and Gunung Mutis, but there have been no intensive field studies in West Timor since 1993 (Noske & Saleh 1996). Three species are newly reported for Timor below. Additionally, DL reported two species on Gunung Timau (Black-eared Cuckoo *Chrysococcyx osculans* at 1400 m asl, and Eye-browed Thrush *Turdus obscurus* at 860 m asl) that are new to Timor, but as supporting evidence was not gathered, these sightings must remain unconfirmed.

AUSTRALIAN WHITE IBIS *Threskiornis molucca* Resident

One on mudflats at Pan Muti (Kupang Bay) on 7 August 1998 (RD). In Wallacea, this species is confirmed only from further east: Seram (where it breeds), nearby Geser, Kai, Tanimbar Islands and Babar (Coates & Bishop 1997).

SOOTY-HEADED BULBUL *Pycnonotus aurigaster* Introduced Resident

There were several records of this species, both within 30 km of Kupang, the provincial capital of East Nusa Tenggara. A single bird in savanna on Kupang-Baun road on 7 November 1997 (RN/DL/CT). Two in a dry gully about 2 km west of Kupang airfield on 14 November 1997 (RN) and a single bird near Nusa Cendana University in savanna woodland (undated, DL). In 2004 there were records from Oebelo, 20 km east of Kupang, and Tuakdale, 20 km south of Kupang (CT).

PALE-HEADED MUNIA *Lonchura pallida* Resident

Several at Kupang (50 m asl) in grassy house lots during April 1999 (DL). At Kateri in south-central Timor this species was occasionally seen in mixed flocks with *Lonchura punctulata* in a mosaic of Teak *Tectona grandis* and dry deciduous forest (300 m asl) on 17 May 1999 (DL). A flock of 20 birds flying between mangroves of Dataran Bena to Menipo (an islet connected at low tide with mainland) on 21 May 1999 (DL). Flocks of up to 300 birds were observed in Timor-Leste (East Timor) in 2003 (CT). Coates & Bishop (1997) were curious about its apparent absence from Timor given its presence on nearby islands of Roti and Dao.

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References

- Andrew, P. 1986. Notes on some birds of Timor. *Kukila* 2: 92–95.
- Andrews, T. 1988. Birding in Indonesia. Unpublished informal birding report. Available from BirdLife International-Indonesia, Bogor, Indonesia.
- Argeloo, M. & R. Dekker. 1996. Bulwer's Petrel in Indonesia. *Kukila* 8: 132–135.
- Ash, J.S. 1993. Raptor migration on Bali, Indonesia. *Forktail* 9: 3–11.
- Beudals, R.C. & P.D. Liman. 1981. *Pulau Moyo and the Sanggar Peninsula (Gunung Tambora). A Plan for Conservation in Northern Sumbawa*. FAO/UNDP, Bogor, Indonesia.
- Birdlife International. 2001. *Threatened Birds of Asia: the Birdlife International Red Data Book*. Birdlife International, Cambridge, UK.
- Butchart, S.H.M., T.M. Brooks, C.W.N. Davies, G. Dharmaputra, G.C.L. Dutson, J.C. Lowen, & H. Sahu. 1993. *Preliminary Report of the Cambridge Flores/ Sumbawa Conservation Project 1993*. Cambridge University, Cambridge, UK.
- Butchart, S.H.M., T.M. Brooks, C.W.N. Davies, G. Dharmaputra, G.C.L. Dutson, J.C. Lowen & H. Sahu. (1996). The conservation status of forest birds on Flores and Sumbawa, Indonesia. *Bird Conservation International* 6: 335–370.
- Chatto, R. 2003. *The distribution and Status of Shorebirds around the Coast and Coastal Wetlands of the Northern Territory*. Technical Report 73. Parks and Wildlife Commission of the Northern Territory, Darwin, Australia.
- Coates, B.J. & K.D. Bishop. 1997. *A Guide to the Birds of Wallacea*. Dove Publications, Aldersley, Queensland.
- Gibbs, D. 1990. *Wallacea. A Site Guide for Birdwatchers*. D Gibbs, London.
- Grantham, M. 2000. New and interesting records from West Sumbawa. *Kukila* 11: 139–41.
- Indrawan, M. 1996. *The Conservation Status of Lebuk Taliwang, Sumbawa, Nusa Tenggara: a Wetland for People and Wildlife*. Available from BirdLife International-Indonesia, Bogor, Indonesia.
- Johnstone, R.E., P. Jepson, S.H.M. Butchart, J.C. Lowen & D. Prawiradilaga. 1996. The birds of Sumbawa, Moyo and Sangeang Islands, Nusa Tenggara, Indonesia. *Records of the Western Australian Museum* 18: 157–178.
- Linsley, M.D., M.J. Jones, & S.J. Marsden. 1998. A review of the Sumba avifauna. *Kukila* 10: 60–90.
- Myers, S.D. & K.D. Bishop, 2005. A review of historic and recent bird records from Lombok, Indonesia. *Forktail* 21: 149–160.
- Noske, R.A. 2003. The breeding seasons of birds on Timor. *Kukila* 12: 31–43
- Noske, R., & N. Saleh. 1996. The conservation status of forest birds in West Timor. Pp 65–74 in Kitchener, D.J. & A. Suyanto (eds). *Proceedings of the First International Conference on eastern Indonesian-Australian vertebrate fauna, Manado, Indonesia, November 22–26, 1994*. Western Australian Museum for Lembaga Ilmu Pengetahuan Indonesia, Perth, Australia.
- Olsen, J., M. Wink, H. Sauer-Gurth & S. Trost. 2002. A new Ninox from Sumba, Indonesia. *Emu* 102: 223–231.
- Pilgrim, J.D., J.D. Leadley & Saifuddin. 1997. *Preliminary report of the Flores '97 Expedition*. Unpublished Report. Pilgrim, J.D., J.D. Leadley & Saifuddin. 2000. *Bird Surveys and Conservation Status of Four Forests on Flores, Indonesia*. CSB Conservation Publications, London.
- Rensch, B. 1931. Die Vogelwelt von Lombok, Sumbawa und Flores. *Mitteilungen Museum für Naturkunde Berlin* 17: 451–637.
- Schmutz, E. 1977. *Die Vögel der Manggarai (Flores), 2. Niederschrift*. Privately published. Ruteng, Indonesia.
- Trainor, C.R. 2002a. The birds of Adonara, Lesser Sundas, Indonesia. *Forktail* 18: 83–90.
- Trainor, C.R. 2002b. Status and habitat use of bird communities on Lembata Island, Wallacea, Indonesia, with particular reference to a simple technique for sampling small-island avifaunas. *Bird Conservation International* 12, 365–381.

- Trainor, C.R. 2003. The birds of Lembata (Lomblen), Lesser Sundas, Indonesia. *Kukila* 12, 39–53.
- Trainor, C.R. 2005a. Waterbirds and coastal seabirds of Timor-Leste (East Timor): status and distribution from surveys in August 2002–December 2004. *Forktail* 21, 61–78.
- Trainor, C.R. 2005b. Birds of Tapuafu Peninsula, Roti Island, Lesser Sundas, Indonesia. *Forktail* 21, 121–131.
- Trainor, C., & D. Lesmana. 2000. *Exploding volcanoes, unique birds, gigantic rats and elegant ikat: identifying sites of international conservation significance on Flores, East Nusa Tenggara*. BirdLife International/PKA/WWF Report No. 11, Bogor, Indonesia. [In English and Indonesian]
- Trainor, C.R., & T. Soares. 2004. Birds of Atauro Island, Timor Leste (East Timor) *Forktail* 20, 41–48.
- Verbelen, F. 1996. *Birding in Timor and Sumba, Lesser Sundas, Indonesia, 20.09.95–10.10.95*. Unpublished birding report. Available from BirdLife International-Indonesia, Bogor, Indonesia.
- Verhoeve, J., & D.A. Holmes. 1999. The birds of the islands of Flores – a review. *Kukila* 10: 3–59.
- White, C.M.N., & M.D. Bruce. 1986. *The Birds of Wallacea (Sulawesi, the Moluccas & Lesser Sunda Islands Indonesia)*. *An Annotated Checklist*. British Ornithologists' Union, London. [BOU Checklist No 7]

Appendix 1. Summary of locations mentioned in the text (in sequence).

Location	Site	Latitude	Longitude (m asl)	Elevation	Previous bird survey	
MOYO	1 Amanwana	8.13	117.30	0-100	Johnstone <i>et al.</i> (1996)	
	2 Brangkua	8.14	117.36	0-200	Johnstone <i>et al.</i> (1996)	
	3 Tanjung Pasir	8.20	117.31	0-30	Johnstone <i>et al.</i> (1996)	
	4 Brang Sedu	8.16	117.29	0-200	None	
	5 Labuan Aji	8.13	117.29	0-300	Johnstone <i>et al.</i> (1996)	
	6 Aimanis	8.20	117.27	0-200	None	
	7 Sebaru	8.10	117.32	0-200	None	
	8 Sebotok	8.11	117.34	0-200	Johnstone <i>et al.</i> (1996)	
	9 Brangrea	8.12	117.30	0-200	None	
SUMBAWA	10 Maluk	8.55	116.45	10	Butchart <i>et al.</i> (1993).	
	11 Tanjung Mangkun	9.01	116.44	0-70	None	
	12 Benete Bay	8.54	116.45	0-20	None	
	13 Lake Taliwang/ Marreran	8.44	116.53	50	Andrews (1988), Johnstone <i>et al.</i> (1996), Grantham (2000)	
	14 Upper Tongoloka River		8.59	116.54	100	None
	15 Tongoloka estuary	9.04	116.55	0-20	None	
	16 Middle Tatar River	9.00	116.59	120	None	
	16 Tatar estuary	9.04	116.57	0-20	None	
	17 Teluk Sape	8.38	119.07	0	None	
	17 Buin Batu	8.59	116.46	60	None	
	18 Brang Singa	8.55	116.57	200-300	None	
	19 Air Merah	8.57	116.52	250	Butchart <i>et al.</i> (1993).	
	20 Brang Nangka	8.57	116.50	230	None	
21 Jelenga	8.52	116.46	60	None		
22 Cagar Alam Pedauh	9.02	116.46	0-20	None		
23 Sekongkang	8.58	116.46	50	None		
24 Matamega	8.36	117.03	850	Johnstone <i>et al.</i> (1996)		
25 Serading	8.33	117.28		None		
26 Sumbawa Besar	8.29	117.26	50	Johnstone <i>et al.</i> (1996)		
27 Batu Tering	8.43	117.30	200	Johnstone <i>et al.</i> (1996)		
28 Punkit	8.29	117.29	20	None		
29 Mamak-Lape	8.41	117.35	100	None		
30 Hodo	8.27	118.04	0-100	None		
31 Labangka	8.39	117.36	0-200	None		
FLORES	32 Tambak Koliaduk	8.36	122.12	0-5	Verhoeve and Holmes (1999)	
	33 Paku	8.38	119.57	300-400	Schmutz (1977), Butchart <i>et al.</i> (1993).	
	34 Pulau Besar	8.28	122.22	0-900	Butchart <i>et al.</i> (1993)	
	35 Pulau Labondeng	8.27	122.23	0-10	None	
	36 Pulau Kojadoi	8.28	122.22	0-10	None	
	37 Danau Ran Mese	8.36	120.28	1200	Pilgrim <i>et al.</i> (1997)	
	38 Nanga Rawa	8.49	120.41	Sea level	Gibbs (1990)	
TIMOR	39 Pan Muti	10.01	123.43	0-5	Andrews (1986), Verbelen (1996)	
	40 Timau	9.35	123.56	300-1650	None	

	41 Kupang	10.10	123.37	0-100	None
	42 Kateri	9.29	124.53	300-500	None
	43 Dataran Bena	10.07	124.18	0-100	Noske & Saleh (1996) [as Menipo]
SUMBA	44 Lewa	9.43	119.55	600	Linsley <i>et al.</i> (1998)
	45 Waingapu	9.39	120.15	Sea level	Linsley <i>et al.</i> (1998)
	46 Gunung Wangameti	10.07	120.14	950	Linsley <i>et al.</i> (1998)