

Birds of Atauro Island, Timor-Leste (East Timor)

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Atauro island, Timor-Leste, lies between Timor, Wetar and Alor in the Lesser Sundas, but its avifauna was previously unknown. Five visits totalling 12 days in 2003–2004 resulted in 84 bird species being recorded. These included Timor Green Pigeon *Treron psittacea* (Endangered), Black Cuckoo Dove *Turacoena modesta* (Vulnerable) and four Near Threatened species: Pink-headed Imperial Pigeon *Ducula rosacea*, Beach Thick-knee *Esacus neglectus*, Malaysian Plover *Charadrius peronii* and Orange-sided Thrush *Zoothera peronii*. The avifauna appears to be most closely related to that of Timor, with the exception that the Olive-brown Oriole *Oriolus melanotis* is represented by the Wetar race (*finschi*).

INTRODUCTION

Atauro (or Kambing) is a small oceanic island that lies 23.5 km north of mainland Timor, 21.5 km south-west of Wetar, 13.0 km south-west of Lirang (off Wetar) and 38.0 km east of Alor (Fig. 1). The island is 22 km long, 5–10 km wide, and has an area of 150 km² (Monk *et al.* 1997). Since 2002 it is part of the new nation of Timor-Leste (East Timor) administered through Dili District. Atauro is part of the Inner Banda Arc of islands which includes the volcanic islands of Lombok through to Banda islands (Monk *et al.* 1997). Atauro was formed 3–3.5 million years ago: there are now no active volcanoes and the landscape is dominated by highly eroded Tertiary (Mio-Pliocene) volcanoes of submarine origin. Dissected narrow ridges peak at Mount Manucoco (995 m), and there is extensive uplifted coralline reef to 600 m (Chappell and Veeh 1978, Monk *et al.* 1997). There is a broad fringing reef (30–150 m wide), but limited development of alluvial plains, and no freshwater wetlands, tidal rivers or extensive mangrove.

Fields of corn, peanuts, coconut, bananas, papaya and other fruit trees, plus older regenerating swidden fields are found near villages. However, relatively extensive patches of dry and evergreen tropical forest (particularly on mountain peaks and gullies) and natural grassy savannas dominated by *Eucalyptus alba*

remain. Tropical montane evergreen forest with a canopy at 15–20 m occurs on the slopes of Mount Manucoco. The island is dry with rainfall increasing with elevation. There is a wet season from November to March, with an expected mean annual rainfall of c.700–1,600 mm (nearby Dili averages 954 mm: RePPPProT 1989).

Approximately 8,000 people live on the island, with a density of 53 people/km² (G. Sampson, verbally, 2003) which is less than ‘mainland’ Timor-Leste (c.58–60 people/km²) or nearby Flores with 88 people/km² (Monk *et al.* 1997). A 40 km² area around Mount Manucoco was proposed as a Recreation Reserve (under the name ‘Pulau Kambing’, an alternative island name: FAO/UNDP 1982), but it was not formally gazetted. It is currently recognised as a ‘protected wild area’ (UNTAET 2000).

The positioning of Atauro between Timor, Wetar and Alor is of great biogeographic interest in terms of the origin and composition of its fauna. It lies beyond the eastern end of the North Nusa Tenggara Endemic Bird Area and between the two main islands of the Timor and Wetar Endemic Bird Area (Stattersfield *et al.* 1998). Its avifauna had never been previously surveyed. Peaceful Dove *Geopelia striata* is the only bird listed for the island by Coates and Bishop (1997), but it has been suggested that Atauro might be a key site for threatened species such as Yellow-crested Cockatoo *Cacatua sulphurea* and Wetar Ground Dove *Gallicolumba hoedtii* (BirdLife International 2001).

This paper documents the status and habitat use of Atauro’s birds with special emphasis on threatened, restricted-range and forest species.

METHODS

CRT spent 12 days on Atauro during five visits (8–10 November and 21–27 December 2003, 3 January, 4–5 April and 15 May 2004) specifically to document the avifauna. TS lives in Makadade village, with over 25 years’ experience of the island’s avifauna. General avifaunal observations were made by walking a total of 90 km through all major habitats, including four of the five village areas, but focusing particularly on closed-canopy tropical forest. At each site (Table 1), the relative abundance or numbers of individuals of each species, habitat type and condition, elevation (measured using an altimeter) and location (measured with a Global Positioning System, GPS) were recorded. Seabirds were recorded along the 37 km

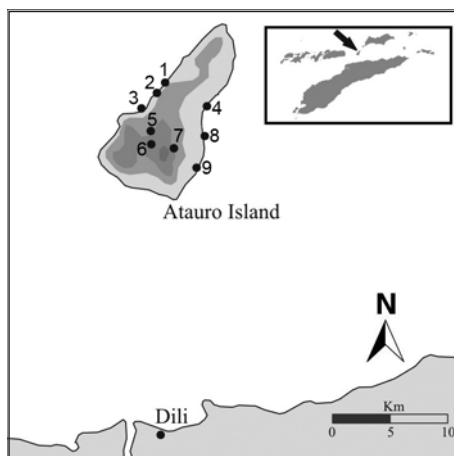


Figure 1. Map showing the location of study sites on Atauro island, Lesser Sundas, Indonesia; (1) Adara; (2) Kitali; (3) Atekru; (4) Beloi; (5) 1.5 km north of Anartutu; (6) Anartutu; (7) Mount Manucoco; (8) Tua Koin; (9) Makeli.

Table 1. Summary of sites mentioned in the text. Traditional village lands denoted: B = Beloi, M = Makadade, Mk = Makeli, and V = Vila.

Site	Coordinates	Altitude (m)	Notes
Adara (B)	8°11'50"S 125°33'57"E	0–50	Beach and extensive fringing reef; narrow coastal plain rapidly rises into steep slopes covered in tropical dry forest
Anartutu (M)	8°15'42"S 125°33'05"E	400–700	Hill village with extensive old and new agroforestry fields, open <i>Eucalyptus alba</i> savanna and remnant evergreen forest in steep gullies
1.5 km N of Anartutu (M)	8°14'52"S 125°33'03"E	450–500	Patchwork of agroforestry fields with remnant figs and patches of tropical evergreen and semi-evergreen forest
Atekru (B)	8°13'27"S 125°32'28"E	0–50	Coastal hamlet on west coast with extensive fringing reef, limited savanna dominated coastal plain and tropical dry forest on uplifted coral reef
Beloi (B)	8°13'19"S 125°36'34"E	0–150	Major east coast village including harbour; surrounding hills are dominated by <i>Eucalyptus alba</i> savanna, but much of lowland plain converted to agroforestry and remnant palm savanna
Kitali (B)	8°12'29"S 125°33'26"E	0–50	Coastal tropical dry forest in a gully to 20 m; extensive fringing reefs and beach.
Makeli (Mk)	8°17'10"S 125°35'55"E	0–400	Sparse <i>Eucalyptus alba</i> savanna on steep hills, and Lontar palm savanna and shrubland in a sheltered valley along the south-east coast.
Mount Manucoco (M)	8°15'42"S 125°33'05"E	700–995	Patches of tropical montane forest on steep slopes and gullies, with <i>Eucalyptus alba</i> savanna with a grassy understorey at lower elevations
Tua Koin (V)	8°15'11"S 125°36'26"E	0–50	Extensive fringing, reef sand-flats and small patch of mangroves, with open palm and <i>Ziziphus</i> savanna in areas not converted to agriculture or village households

Dili–Beloi (Timor–Atauro) route on nine occasions during daylight hours (total of 303 km of observation). The location of each observation was recorded as the distance in km from Beloi harbour (measured using the GPS). Local bird names in the Makadade dialect (Raklungu) and further details on bird composition and ecology were provided by TS. Taxonomy follows Inskipp *et al.* (1996), with the additional treatment of Barred-necked Cuckoo Dove *Macropygia magna* (as separate from *M. amboinensis* following Coates and Bishop 1997). Vegetation classification broadly follows Monk *et al.* (1997). Restricted-range status follows Stattersfield *et al.* (1998), and IUCN Red List status follows BirdLife International (2001).

RESULTS

In total, 84 bird species were recorded, including nine Palearctic migrants and seven seabirds (see Table 2). A complete list with status, elevation range and brief notes is presented in the Appendix. Species of conservation importance included Timor Green Pigeon *Treron psittacea* (Endangered), Black Cuckoo Dove *Turacoena modesta* (Vulnerable) and four Near Threatened species: Pink-headed Imperial Pigeon *Ducula rosacea*, Beach Thick-knee *Esacus neglectus*, Malaysian Plover *Charadrius peronii* and Orange-sided Thrush *Zoothera peronii*. Thirteen of 34 restricted-range species present in the Timor and Wetar Endemic Bird Area (Stattersfield *et al.* 1998) were recorded. Seabird records are listed in Table 2. Accounts are given here for species of particular interest.

ORANGE-FOOTED SCRUBFOWL *Megapodius reinwardt*

A pair was recorded at a nest in a gully in dry deciduous forest 100 m inland from the beach at Kitali. Eggs are regularly collected at this site (A. Soares verbally 2003). The species is apparently also present at

Anartutu to at least 400 m where it is under low hunting pressure (TS, personal observation). This widespread forest species is frequently abundant on small islands, but it is surprisingly absent from Timor.

CHANNEL-BILLED CUCKOO *Scythrops novaehollandiae*

Unmistakable raucous calls of this Australian migrant were heard at 21h00 at Tua Koin on 9 November. The first Timor record was in January 1989 (Noske 1994).

RAINBOW LORIKEET *Trichoglossus haematodus*

One bird was shot and injured by a Makadade hunter in March–April 2004 and kept as a pet by TS. It was unrecorded by CRT; its status is poorly known but presumably it is seasonally common on flowering trees, particularly *Eucalyptus*. The racial identity is unknown (*capistratus* occurs on Timor and *flavotectus* on Wetar and Romang).

OLIVE-HEADED LORIKEET *Trichoglossus euteles*

Restricted-range. The species was widespread and common to at least 800 m, with 10–20 contacts daily of pairs and small groups of up to 15 individuals. It was frequently observed feeding on flowers of *Tamarindus indicus* in and around villages. Small numbers are captured and sold for trade on Atauro, and they are also occasionally shot with catapults by local children for food and sport.

FORK-TAILED SWIFT *Apus pacificus*

This species is a common passage migrant through the Lesser Sundas (Coates and Bishop 1997), but there are relatively few observations for the Timor region. It was observed from sea level to 700 m in November–December in small numbers: two over *Eucalyptus alba* savanna at 670 m; at least six over Anartutu village in gale force winds; two over cornfields 1.5 km north of Anartutu at 560 m, and two at Tua Koin.

BARRED-NECKED CUCKOO DOVE *Macropygia magna*
Restricted-range. One was heard in montane forest at 830 m on 9 November; the species is apparently scarce but widespread in forest (TS).

BLACK CUCKOO DOVE *Turacoena modesta*
Restricted-range; Vulnerable. This species was apparently rare: two were observed perched in the canopy of montane forest at 750 m on the slopes of Mount Manucoco on 9 November. This species is well known to local hunters and is occasionally shot for food. Elsewhere, it occurs only on Timor and Wetar (Coates and Bishop 1997).

TIMOR GREEN PIGEON *Treron psittacea*
Restricted-range; Endangered. This species occurs in West Timor, Roti and Semau, where it is rare (Noske and Saleh 1996, BirdLife International 2001) and Timor-Leste, where it is locally common (Mauro 2003, Trainor *et al.* 2004). It apparently occurs in lowland forest (e.g. at Berau village: TS). On 9 May 2004, TS observed a single bird feeding in tall (6–8 m) tree in dry forest near Makeli village.

BLACK-BACKED FRUIT DOVE *Ptilinopus cinctus*
This species is nearly endemic to the Lesser Sundas, occurring from Bali to Babar island. It was frequent in closed-canopy forest down to sea level and abundant in the canopy of montane forest at 700–995 m, where it occurred in loose flocks of 10–20 individuals. A bird shot by local hunters on Mount Manucoco resembled *P. c. cinctus* as illustrated in Coates and Bishop (1997) but the belly and vent was more greenish-yellow, the head, neck and nape were white without a light yellow wash (not vermiculated with pale grey as in *P. c. everetti* which occurs on Alor: Coates and Bishop 1997), the bill was greenish-yellow (similar to belly colour) and the tail was a lighter grey.

PINK-HEADED IMPERIAL PIGEON *Ducula rosacea*
Restricted-range; Near Threatened. This species was uncommon but widespread. Three singles were recorded in the canopy of evergreen forest at 750–930 m and one in open *Eucalyptus alba* savanna at 250 m. This large-bodied pigeon is eagerly sought by hunters elsewhere, but hunting pressure on Atauro did not appear to be particularly high.

RED-NECKED PHALAROPE *Phalaropus lobatus*
This species is a common winter visitor to Wallacea (Coates and Bishop 1997). On 8 and 10 November, a total of 74 birds (in small flocks of up to 20) was seen c. 7–13 km due south of Beloi. On 3 January 2004, 17 flocks were recorded including a large group of about 700 individuals 28 km south of Beloi. It was absent in April–May 2004.

MALAYSIAN PLOVER *Charadrius peronii*
Near Threatened. This species was regularly recorded at Tua Koin: a pair on a sandy beach on 8 November, three on 3 January (the pair with a possible juvenile), and a pair on 15 May. A pair was also observed on fringing reef at Atekru on 26 December during observations totalling about 10 km of shoreline.

ORIENTAL HONEY-BUZZARD *Pernis ptilorhyncus*
This species is regarded as a rare winter visitor to the Lesser Sundas (Coates and Bishop 1997). We recorded a pair over Anartutu on 23 December, and a single over cornfields 1.5 km north of Anartutu which was mobbed by three Spotted Kestrels *Falco moluccensis*

BONELLI'S EAGLE *Hieraaetus fasciatus*
A single and a pair were recorded flying over montane forest on Mount Manucoco on 24 December.

BULWER'S PETREL *Bulweria bulweri*
On 15 May 2004, a small petrel was observed for 15 minutes at a distance of 60–300 m as it flew parallel to the Dili–Atauro ferry for about 4 km (12–16 km south of Beloi). The bird flew with stiff wings (which were long and pointed) less than 1 m above the water, occasionally gliding and regularly landing for up to c. 15 seconds. It was dark brown, except for the central upperwing which was lighter brown. The long, dark brown tail was observed from the side and was wedge-shaped rather than forked as in Matsudaira's Storm-petrel *Oceanodroma matsudairae* (considered the only possible confusion species given the size and colour). The previous earliest Wallacean record for Bulwer's Petrel was 14 June 1990 from the south Banda Sea (presumably about 100–200 km to the north of present observation: Coates and Bishop 1997). It is currently considered a rare visitor to Wallacea (Coates and Bishop 1997) but few pelagic observations have been made in the region.

PLAIN GERYGONE *Gerygone inornata*
Restricted-range. This species was recorded (usually aurally) throughout all habitats including cornfields with scattered trees and plantations. A probable *Chrysococcyx* cuckoo was heard at Anartutu, presumably a brood-parasite of this species.

FAWN-BREASTED WHISTLER *Pachycephala orpheus*
Restricted-range. This species was common to abundant in all habitats. Golden Whistler *P. pectoralis* was unrecorded but would also be expected to occur on Atauro.

OLIVE-BROWN ORIOLE *Oriolus melanotis*
Restricted-range. Although considered sparsely distributed on Roti, Semau, Timor and Wetar (Coates and Bishop 1997), this species was found to be abundant at 750–970 m in montane forest on Mount Manucoco and it was widespread and frequent to occasional in closed-canopy forest down to sea level. Calls included fluid loud whistles transcribed as *wee-oww* or *wee-ole*, *wick-wick wow* (or *gwick-gwick ow*), and *sweel-ow*, which are distinct from those of *O. m. melanotis* of Timor, Roti and Semau. No individuals were seen with male-type plumage (typical of the race *melanotis* of Timor), and such birds are unknown to TS, with the conclusion that the Atauro form is *finschi* of Wetar (or possibly an undescribed race). Study of the taxonomic status of these birds is needed. The high population density of this species might relate to the absence of figbirds *Sphecotheres* spp., which may be competitors. Coates and Bishop (1997) warn that Helmeted Friarbird *Philemon buceroides* is a potential

confusion species, but given differences in body shape and call, this may have been over-emphasised.

SLENDER-BILLED CICADABIRD *Coracina tenuirostris*

A single male was observed in the canopy of evergreen forest at 770 m on Mount Manucoco. It was entirely dark grey with a small blackish area around the eye; the only call given was *ruk ruk*, repeated twice.

ORANGE-SIDED THRUSH *Zoothera peronii*

Restricted-range; Near Threatened. This generally common species occurs widely in the eastern Lesser Sundas (Coates and Bishop 1997), but it is threatened by trapping for trade in some areas (BirdLife International 2001). It was frequently heard and several confiding individuals were observed in the subcanopy of evergreen forest at 700–850 m on Mount Manucoco on 9 November. Surprisingly there were no subsequent records, perhaps because birds were silent later in the breeding season in December.

LITTLE PIED FLYCATCHER *Ficedula westermanni*

This typically montane species occurs down to sea level on Timor and down to at least 600 m on Alor (Noske 1997, Trainor submitted). On Atauro it was common in evergreen forest down to 400 m, and less frequent in dry forest and remnant trees among cornfields down to at least 180 m (and probably to sea-level).

SHORT-TAILED STARLING *Aplonis minor*

This species is generally an uncommon resident in the Lesser Sundas (Coates and Bishop 1997). It was locally common and recorded as singles, pairs or groups of up to four in Anartutu village. Three nests, all in dead coconut palms (8–12 m tall) were found with hollows in the top of the trunk (22–24 December) in Anartutu village.

TIMOR STUBTAIL *Urosphena subulata*

Restricted-range. This species is poorly known outside Timor (Coates and Bishop 1997). The species's characteristic, high-pitched, single whistle was uncommonly heard in deep shrubby gullies and semi-evergreen forest at 500–970 m, but it is probably more widespread.

TIMOR LEAF WARBLER *Phylloscopus presbytes*

Restricted-range. This species was frequently heard and seen in semi-evergreen forest above c.400 m, and in remnant trees in agricultural land around Anartutu and Mount Manucoco. Birds resembled the race *presbytes* from Timor in having a cream throat and light yellow chest and belly.

RED-CHESTED FLOWERPECKER *Dicaeum maugei*

Restricted-range. This species was found to be frequent to common throughout, especially in village plantations, and often seen feeding in fruiting *Ficus* sp. trees and flowering *Tamarindus* sp.

FLAME-BREASTED SUNBIRD *Nectarinia solaris*

Restricted-range. This species was common to abundant in plantations and *Eucalyptus alba* savanna to at least 800 m, and it was often observed feeding in flowering *Tamarindus* sp. trees. The racial identity was not confirmed: the race *solaris* occurs from Sumbawa to Timor and *exquisita* occurs on Wetar.

YELLOW WAGTAIL *Motacilla flava*

This species is a common winter visitor to the Lesser Sundas (Coates and Bishop 1997). On 8 November, a single flew from the direction of Timor over the Dili–Beloi ferry c.9 km south of Beloi, and another six were observed along 7.5 km of coast and beach between Beloi and Makeli on 8–9 November.

TRICOLORED PARROTFINCH *Erythrura tricolor*

Restricted-range. This species was not recorded during the survey period, but apparently occurs uncommonly in forest (TS, unpublished data).

PALE-HEADED MUNIA *Lonchura pallida*

This species occurs on neighbouring Alor, Wetar and Kisar (Coates and Bishop 1997) and it was first reported on Timor as recently as 1998 (Lesmana *et al.* 2000). It was absent on Atauro during November–January, but ubiquitous in the lowlands in April–May coinciding with peak grass seed abundance.

Table 2. Number of seabirds observed between Atauro Island (Beloi harbour) and mainland Timor-Leste pooled over 303 km of observation on five visits.

Species	Distance south of Beloi harbour (km)				Total
	0.0–10.0	10.1–20.0	20.1–30.0	30.1–37.0	
RED-NECKED PHALAROPE <i>Phalaropus lobatus</i>	32	92	724	49	897
GREAT CRESTED TERN <i>Sterna bergii</i>	12			1	13
BRIDLED TERN <i>Sterna anaethetus</i>	4				4
UNIDENTIFIED TERN	5	8			13
RED-FOOTED BOOBY <i>Sula sula</i>	2	9			11
BROWN BOOBY <i>Sula leucogaster</i>	2	27	1	3	33
PACIFIC REEF EGRET <i>Egretta sacra</i>				1	1
LESSER FRIGATEBIRD <i>Fregata ariel</i>			1		1
BULWER'S PETREL <i>Bulweria bulwerii</i>		1			1
STREAKED SHEARWATER <i>Calonectris leucomelas</i>		1			1
Total	57	138	726	54	975

Table 3. The distribution of selected bird taxa on Atauro and nearby islands. Occurrence is indicated by ‘•’ or trinomial where relevant to discussion.

Taxon	Sabu, Roti and Semau	Timor	Atauro	Wetar
ORIENTAL CUCKOO <i>Cuculus saturatus lepidus</i>		•	•	
RAINBOW LORIKEET <i>Trichoglossus haematodus</i>		<i>capistratus</i>	?race	<i>flavotectus</i>
MOLUCCAN SCOPS OWL <i>Otus magicus tempestatis</i>				•
SOUTHERN BOOBOOK <i>Ninox novaeseelandiae</i>	?ocellata	<i>fusca</i>		
CRIMSON-HOODED HONEYEATER <i>Myzomela kuehni</i>				•
BROWN HONEYEATER <i>Lichmera indistincta limbata</i>	•	•	•	
WHITE-TUFTED HONEYEATER <i>Lichmera squamata</i>				•
BLACK-NECKLACED HONEYEATER <i>Lichmera notabilis</i>				•
OLIVE-BROWN ORIOLE <i>Oriolus melanotis melanotis</i>	•	•	?finschi	<i>finschi</i>
SLENDER-BILLED CICADABIRD <i>Coracina tenuirostris timoriensis</i>		•	•	
TIMOR BLUE FLYCATCHER <i>Cyornis hyacinthinus hyacinthinus</i>	•	•		<i>kuehni</i>
BRIGHT-HEADED CISTICOLA <i>Cisticola exilis lineocapilla</i>	•	•	•	
TIMOR STUBTAIL <i>Urosphena subulata subulata</i>		•	•	•
TIMOR LEAF WARBLER <i>Phylloscopus presbytes presbytes</i>		•	•	
AUSTRALASIAN BUSHLARK <i>Mirafra javanica timorensis</i>	•	•	•	
RED-CHESTED FLOWERPECKER <i>Dicaeum maugei maugei</i>	•	•	•	?
FLAME-BREASTED SUNBIRD <i>Nectarinia solaris solaris</i>	•	•	?race	<i>exquisita</i>

DISCUSSION

The avifauna of Atauro appears to be most closely related to that of Timor (Table 3), with every bird species documented so far on Atauro occurring on Timor. No species typical of Alor and the Flores island chain were recorded on Atauro, which is surprising given the proximity of these islands. Only the presence of the Wetar race of the Olive-brown Oriole provides evidence of Wetar influencing the Atauro avifauna (although taxonomic study of Rainbow Lorikeet and Flame-breasted Sunbird on Atauro might reveal Wetar to be of greater importance). This is puzzling because of the proximity of Atauro to Lirang and Wetar Island. The Ombai Strait between Timor and Atauro reaches a maximum depth of 3,135 m deep, and for about 18 of 23 km between the islands is greater than 1,000 m deep (United Kingdom Hydrographic Office 2000), but the distance between Atauro and Lirang probably narrowed to about 10 km during the Wurm/Wisconsin glacial 18,000 years ago (Monk *et al.* 1997).

Only five of the 17 restricted-range birds shared by Wetar and Timor were absent on Atauro (Olive-shouldered Parrot *Aprosmictus jonquillaceus*, Timor Blue Flycatcher *Cyornis hyacinthinus*, Wetar Ground Dove *Gallinula hoedtii*, Iris Lorikeet *Psitteuteles iris* and Cinnamon-collared Kingfisher *Todiramphus australasia*). Of these, the mobile Iris Lorikeet is probably most likely to be recorded in the future (possibly coinciding with peak flowering of *Eucalyptus* sp.). Wetar's avifauna is relatively poorly known because it has not been properly surveyed since the early 20th century (White and Bruce 1986), and several of the species listed in Table 3 may yet be recorded on Wetar (e.g. Oriental Cuckoo, Bright-headed Cisticola, Timor Leaf Warbler, Australasian Bushlark *Mirafra javanica* and Red-chested Flowerpecker). The apparent absence of small owls *Ninox* spp. or *Otus* spp. on Atauro is probably real as

local people are confident that Barn Owl *Tyto alba* is the only owl present on the island.

Atauro has been relatively well surveyed, but further bird species will undoubtedly be recorded with additional effort. Two of the last resident species to be recorded during the survey were Australasian Bushlark *Mirafra javanica* and Bright-headed Cisticola *Cisticola exilis*, which are both generally common elsewhere but apparently local on Atauro. More seabirds and Palarctic migrant species would be expected, but few migratory wader species (and individuals) appear to occur. Observations, sound recordings and (where possible) genetic samples or specimens from Atauro of the following species would be valuable to better understand their taxonomic relationships and affinities: Rainbow Lorikeet, Barred-necked Cuckoo Dove, Black-backed Fruit Dove (feathers deposited at Victorian Museum in this study), Brown Honeyeater, Olive-brown Oriole, Slender-billed Cicadabird, Timor Leaf Warbler and Flame-breasted Sunbird.

Atauro has a unique geomorphological and evolutionary history, but the relatively shallow seas between it and Timor, and its proximity to neighbouring islands, have ensured regular genetic exchange and therefore a relatively limited potential for endemic bird taxa.

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 Thomas Soares, Tua Koin Ecovillage, and Makadade, Atauro, Timor-Leste.

Appendix

Annotated list of the birds of Atauro

Name	Local Makadade name	Status	Abundance	Elevation (m)	Notes
ORANGE-FOOTED SCRUBFOWL <i>Megapodius reinwardt</i>	Manu kakuk	R,F	Uncommon	0–400	
BROWN QUAIL <i>Coturnix ypsilophora</i>	Uru	R	Frequent	0–830	
COLLARED KINGFISHER <i>Todiramphus chloris</i>	Tekia	R	Occasional	0–200	
RAINBOW BEE-EATER <i>Merops ornatus</i>	Pioru	R	Occasional	0–950	
ORIENTAL CUCKOO <i>Cuculus saturatus</i>	Tou pipi	R	*	500–950	
AUSTRALIAN KOEL <i>Eudynamis cyanocephala</i>	Kuhu-kuhu	R,F	Frequent	0–930	
CHANNEL-BILLED CUCKOO <i>Scythrops novaehollandiae</i>		V,F	Uncommon	5	
LESSER COUCAL <i>Centropus bengalensis</i>	Tuluk	R	Frequent	0–750	
RAINBOW LORIKEET <i>Trichoglossus haematodus</i>	Lilir	R	*		
OLIVE-HEADED LORIKEET <i>Trichoglossus euteles</i>		rr,R	Common	0–800	
GLOSSY SWIFTLET <i>Collocalia esculenta</i>	Anak langi	R	Common	0–1,000	
FORK-TAILED SWIFT <i>Apus pacificus</i>	Anaktasi	R	Occasional	0–700	
HOUSE SWIFT <i>Apus affinis</i>	Anaktasi	R	Uncommon	0	c.15 at Tua Koin on 21 December; possibly breeds along cliffs at south coast
BARN OWL <i>Tyto alba</i>	Manu kakuk	R	Uncommon	500	A single call heard at 05h40 at Anartutu
ROCK PIGEON <i>Columba livia</i>		R,In	Common	0–500	
SPOTTED DOVE <i>Streptopelia chinensis</i>	Tukru	R	Abundant	0–800	
BARRED-NECKED CUCKOO DOVE <i>Macropygia magna</i>	Koatuhu	rr,R,F	Uncommon	830	
BLACK CUCKOO DOVE <i>Turacoena modesta</i>	Maram	rr,VU,R,F	Rare	750	
TIMOR GREEN PIGEON <i>Treron psittacea</i>		Rr,EN,R,F	Uncommon	0–150	
EMERALD DOVE <i>Chalcophaps indica</i>	Mangenu huli	R,F	Frequent	0–850	
PEACEFUL DOVE <i>Geopelia striata</i>	Lateru	R	Frequent	0–750	
BLACK-BACKED FRUIT DOVE <i>Ptilinopus cinctus</i>	Piknura	R,F	Common	0–995	
ROSE-CROWNED FRUIT DOVE <i>Ptilinopus regina</i>	Renus	R,F	Occasional	0–200	Occasional in scattered fruit trees and dry forest
PINK-HEADED IMPERIAL PIGEON <i>Ducula rosacea</i>	Minu	rr,NT,R,F	Uncommon	250–930	
WHIMBREL <i>Numenius phaeopus</i>		M	Uncommon		
COMMON SANDPIPER <i>Actitis hypoleucos</i>	Sulik	M	Frequent		Occasional along coast near Tua Koin; common along west coast (24 counted in c.5 km stretch, 26–27 December)
GREY-TAILED TATTLER <i>Heteroscelus brevipes</i>		M	Uncommon		1 at Tua Koin on 8 November
RED-NECKED PHALAROPE <i>Phalaropus lobatus</i>		M	Common		
BEACH THICK-KNEE <i>Esacus neglectus</i>		NT,R?	*		Unrecorded, but Adara fishermen reported it on west coast beaches
PACIFIC GOLDEN PLOVER <i>Pluvialis fulva</i>		M	Uncommon		1 at Tua Koin on 10 November
MALAYSIAN PLOVER <i>Charadrius peronii</i>		NT,R	Occasional		
GREAT CRESTED TERN <i>Sterna bergii</i>		R	Occasional		
BRIDLED TERN <i>Sterna anaethetus</i>		R	Uncommon		
OSPREY <i>Pandion haliaetus</i>	Langam	R	*		
PACIFIC BAZA <i>Aviceda subcristata</i>		R	*		
ORIENTAL HONEY-BUZZARD <i>Pernis ptilorhynchus</i>		M	Uncommon	450–550	
BRAHMINY KITE <i>Haliastur indus</i>	Langa muraputi	R	*		
WHITE-BELLIED SEA EAGLE <i>Haliaeetus leucogaster</i>	Langa liahpleu	R	*		
BROWN GOSHAWK <i>Accipiter fasciatus</i>	Kemata	R,F	Frequent	0–930	Singles recorded daily
BONELLI'S EAGLE <i>Hieraetus fasciatus</i>		R	Occasional	950	
SPOTTED KESTREL <i>Falco moluccensis</i>	Kemata	R	Frequent	0–650	
RED-FOOTED BOOBY <i>Sula sula</i>		R	Frequent		
BROWN BOOBY <i>Sula leucogaster</i>		R	Frequent		
PACIFIC REEF EGRET <i>Egretta sacra</i>	Popo	R	Frequent		Common between Atekru and Kitali, with 15 along 3 km of beach
LITTLE HERON <i>Butorides striatus</i>		R	Occasional		
AUSTRALIAN PELICAN <i>Pelecanus conspicillatus</i>	Popo	V	*		Unrecorded, but irregularly observed by fishermen of Adara on fringing reef and along west coast

Name	Local Makadade name	Status	Abundance	Elevation (m)	Notes
GREAT FRIGATEBIRD <i>Fregata minor</i>		V	*		
LESSER FRIGATEBIRD <i>Fregata ariel</i>		V	Uncommon		
BULWER'S PETREL <i>Bulweria bulweri</i>		V	Uncommon		
STREAKED SHEARWATER <i>Calonectris leucomelas</i>		M	?		
BROWN HONEYEATER <i>Lichmera indistincta</i>	Siku siku	R	Abundant	0–800	
HELMETED FRIARBIRD <i>Philemon buceroides</i>	Koaka	R,F	Occasional	0–930	
PLAIN GERYGONE <i>Gerygone inornata</i>	Kidurum	rr,R	Occasional	0–930	
FAWN-BREASTED WHISTLER <i>Pachycephala orpheus</i>	Mate-mate	rr,R	Common	0–930	
LARGE-BILLED CROW <i>Corvus macrorhynchos</i>	Manu metan	R	Uncommon	0–700	
WHITE-BREASTED WOODSWALLOW <i>Artamus leucorhynchus</i>		R	Rare	0–600	Two pairs only observed
OLIVE-BROWN ORIOLE <i>Oriolus melanotis</i>	Larasi	rr,R,F	Common	0–970	
WALLACEAN CUCKOOSHRIKE <i>Coracina personata</i>	Lui lui	R,F	Frequent	0–850	
SLENDER-BILLED CICADABIRD <i>Coracina tenuirostris</i>		R,F	Rare	770	
WHITE-SHOULDERED TRILLER <i>Lalage sueurii</i>		R	Frequent	0–700	
RUFIOUS FANTAIL <i>Rhipidura rufifrons</i>	Tilaur	R	Frequent	0–930	
SPANGLED DRONGO <i>Dicrurus hottentottus</i>	Sakgila	R,F	Frequent	0–930	
SPECTACLED MONARCH <i>Monarcha trivirgatus</i>	Tkroe kroe	R,F	Uncommon	0–400	
BROAD-BILLED MONARCH <i>Myiagra ruficollis</i>		R	Occasional	0–500	
ORANGE-SIDED THRUSH <i>Zosterora peronii</i>	Manglolometar	rr,NT,R,F	Rare	700–850	
LITTLE PIED FLYCATCHER <i>Ficedula westermanni</i>	Kidurum	R,F	Frequent	180–930	
PIED BUSHCHAT <i>Saxicola caprata</i>	Manu peu	R	Abundant	0–750	
SHORT-TAILED STARLING <i>Aplonis minor</i>	Pranga	R,F	Occasional	350–550	
BARN SWALLOW <i>Hirundo rustica</i>	Anaktasi	M	Uncommon	Sea level	
PACIFIC SWALLOW <i>Hirundo tahitica</i>	Anaktasi	V	Occasional	0	
ZITTING CISTICOLA <i>Cisticola jumcidis</i>		R	Common	0–800	
BRIGHT-HEADED CISTICOLA <i>Cisticola exilis</i>		R	Uncommon	0–20	
ASHY-BELLIED WHITE-EYE <i>Zosterops citrinellus</i>	Lakmarar	R	Abundant	0–930	
TIMOR STUBTAIL <i>Urosphena subulata</i>		rr,R,F	Occasional	500–970	
TIMOR LEAF WARBLER <i>Phylloscopus presbytes</i>		rr,R,F	Frequent	400–930	
AUSTRALASIAN BUSHLARK <i>Mirafra javanica</i>		R	Uncommon	120	Local, with several singles present in grassy savanna 1 km north-west of Beloi
RED-CHESTED FLOWERPECKER <i>Dicaeum maugei</i>	Tuknitam	rr,R	Common	0–900	
FLAME-BREASTED SUNBIRD <i>Nectarinia solaris</i>	Asohungan	rr,R	Abundant	0–800	
EURASIAN TREE SPARROW <i>Passer montanus</i>		R,In	Abundant		Local at Tua Koin following introduction in about May 2003 (G. Sampson verbally 2003).
YELLOW WAGTAIL <i>Motacilla flava</i>		M	Uncommon		
ZEBRA FINCH <i>Taeniopygia guttata</i>	Saltadam	R	Abundant	0–600	
TRICOLORED PARROTFINCH <i>Erythrura tricolor</i>	Moro ngiar	rr,R,F	Uncommon		
SCALY-BREASTED MUNIA <i>Lonchura punctulata</i>	Languru	R	Common	0–500	
PALE-HEADED MUNIA <i>Lonchura pallida</i>		?V	Common	0–10	

Key

Elevation not given for seabirds and coastal species observed at sea level; brief notes given for species of interest not covered in Results.

* = not directly recorded (historical record or local people indicate presence)

R = Resident

M = Migrant

V = Vagrant

F = Forest-dependent

In = Introduced

rr = Restricted-range (global range <50,000 km²: Stattersfield *et al.* 1998)

EN = Endangered

VU = Vulnerable

NT = Near Threatened