

# New bird records for the Babuyan islands, Philippines, including two first records for the Philippines

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In April–June 2004, we visited the Babuyan islands, Philippines, with the principal objective of surveying birds. Calayan, Camiguin Norte, Babuyan Claro, Dalupiri and three islets were visited, resulting in the discovery of a new species to science: Calayan Rail *Gallirallus calayanensis*, 220 new distributional records for 114 species, including two new records for the Philippines, Pied Cuckoo *Clamator jacobinus* and Orange-flanked Bush Robin *Tarsiger cyanurus*, and new information on breeding and timing of migration for several species.

## INTRODUCTION

The Babuyan islands consist of a cluster of small, separate, oceanic islands, none larger than 200 km<sup>2</sup>, located in the far north of the Philippines, north of Luzon and south of the Batanes islands (Figs. 1–2). The islands lie in deep water and the largest five were apparently not connected to each other or to other Philippine islands during the last glaciation (Heaney 1985). The islands of Calayan, Camiguin Norte, Babuyan Claro and Dalupiri lie within the municipality of Calayan in the province of Cagayan, while Fuga is part of the municipality of Aparri.

Much of the scientific knowledge of the avifauna of the Babuyan group derives from specimens and sight records from a century ago, and was summarised in Dickinson *et al.* (1991) and Kennedy *et al.* (2000). None of the five main islands in the group had previously been intensively surveyed for birds, and one, Babuyan Claro, had scarcely been visited at all. The first record of a biologist visiting the islands was in May 1895, when John Whitehead, a British naturalist, visited Fuga. Richard McGregor, an American ornithologist at the Bureau of Sciences (Manila), explored Fuga in 1903 (26 August to c.3 September), then continued his expedition on Calayan, (6 September 1903 to January 1904; McGregor 1904, 1905, 1906). He returned to the area in 1907, visiting Batan and Y'ami in the Batanes, then continuing via Babuyan Claro (for about three hours on June 18) to Camiguin Norte, and, apparently, Pamoctan (June 19–July 21) (McGregor 1907); on 19 August 1909 he visited Dalupiri (McGregor 1910).

Edgar Mearns, a U.S. Army surgeon, spent a night on Fuga, May 29–30, in 1907 (Mearns 1907) before exploring Didicas rocks with Dean Conant Worcester in the same year. In 1980, Filipino collectors working for the Delaware Museum of Natural History visited Fuga (Dickinson *et al.* 1991). Researchers and affiliates of the Smithsonian Institution (including Ronald Crombie, Charles A. Ross and Hidetoshi Ota) collected specimens from Camiguin Norte, Dalupiri and Fuga in 1989, returning again in March 1990 to Fuga, Barit (situated west of Fuga), Dalupiri and, briefly, Babuyan Claro and Calayan (H. Ota, R. S. Kennedy, C. A. Ross *in litt.* 2005).

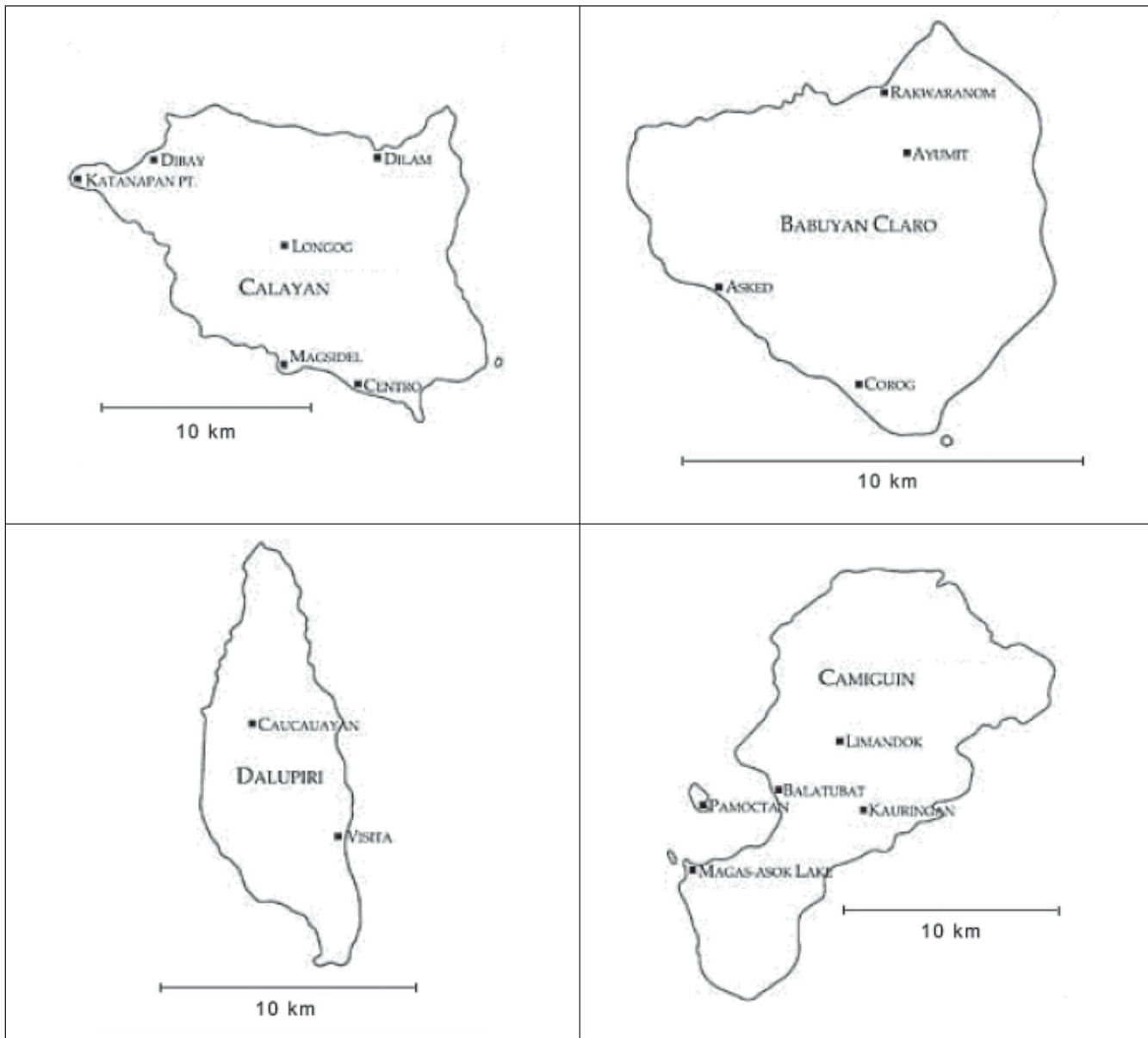
These visits led to published records of 124 bird species from the Babuyan islands, including 106 on Calayan, 42 on Camiguin, 44 on Fuga and five each on Dalupiri and Babuyan Claro. About half of all these species can be considered migrants. Three of the resident species are

more typical of the avifauna of the southern Japanese Ryukyu islands (Nansei Shoto) and Lanyu Island of Taiwan, and do not occur in the Philippine islands south of the Babuyans: Brown-eared Bulbul *Microscelis amaurotis*, Whistling Green Pigeon *Treron formosae* and Ryukyu Scops Owl *Otus elegans*. Fourteen subspecies are endemic to the Babuyans, and another four subspecies are endemic to the Babuyan and Batanes islands. Three subspecies are endemic to the Batanes but are not known at present from the Babuyan islands.

Owing to this distribution of restricted-range species and the position of the two groups of islands in the migration flyway between north-east Asia and the Philippines, the Babuyan and Batanes islands have been



**Figure 1.** The location of the Babuyan islands in the Philippines. Dark shading indicates sea depth >100 m; paler shading indicates sea depth 0–100 m.



**Figure 2.** The location of the main study sites in the islands visited.

classified as the Philippines' northernmost Important Bird Area (Mallari *et al.* 2001) and as a secondary area for endemic birds (Stattersfield *et al.* 1998).

In April–June 2004, the Babuyan Islands Expedition 2004, organised and led by CO and GB, conducted a preliminary survey of the terrestrial fauna for the community and government of the Babuyan islands. Calayan, Camiguin Norte, Babuyan Claro, Dalupiri and three islets were visited (Oliveros *et al.* 2004). The main purpose of this paper is to document new information on bird distributions. We also present data on breeding, dates of migrants and other interesting records.

## METHODS

In order to gain as comprehensive a bird list as possible for each island, we searched for birds in as many habitat types as we could find. Where possible, calls were recorded and photographs and video recordings taken. Additionally, CO, GB, CE and JCTG conducted mist-netting at the

main study sites. Local people were interviewed and shown pictures of birds in Kennedy *et al.* (2000). Some showed a good knowledge of many bird species and in some cases their comments led to searches for specific species. The first four authors were present throughout the survey period from 1 April to 3 June 2004; JCTG joined the team from 24 May 2004. Table 1 lists the sites visited and dates of fieldwork. Areas are taken from <http://www.calayan-cagayan.gov.ph/>, elevations are taken from NAMRIA (1999a,b,c,d, 2003) and human population sizes are from the 2000 census (<http://www.census.gov.ph/census2000/index.html>). The following islands were visited:

*Camiguin Norte* (166 km<sup>2</sup>; population 3,936) is characterised by steep forested hills with ridges up to c.550 m, and a peak of 828 m, overlain with clay and paddyfields in small river floodplains. There is an active volcanic cone in the south: Mt Camiguin (712 m). There are three main settlement areas: Balatubat and Naguilian along the island's south-west cove, and Minabel on the north-west coast.

*Pamoctan* (0.3 km<sup>2</sup>; population 0–3) is a privately owned island situated in a shallow bay 3 km west of Balatubat. Biogeographically it can be expected to be related to Camiguin Norte. It is a lava dome reaching c.200 m with sand and shingle beaches on the south and east coasts. There is a small freshwater lagoon at the southern tip, and a small farm to supervise the cattle that range over the island. There is at least one trail leading to the summit, passing through clearings, secondary forest with undergrowth and some small areas of mature lowland forest.

*Babuyan Claro* (100 km<sup>2</sup>; population 1,367) is dominated by the cone of Mt Pangasun (1,080 m) and has thickly forested slopes. Mt Smith lies to its north-west and is a young symmetrical cone with sparse regenerating vegetation. The main settlement, Corog, lies in the south of the island and lacks any pier or docking facilities. Most

of the west coast is composed of large boulders or black volcanic lava from the last eruption, although there is a black sandy beach at Asked. A permanent stream, the Rakwaranom river, flows down the north slope of Mt Pangasun to Rakwaranom. Much of the lowland forest is comprised of large mature trees, while at higher elevations the trees are stunted. Logging for local use takes place in some areas.

*Calayan* (196 km<sup>2</sup>, population 8,451) has less steep slopes and a forested interior. The populated areas of Calayan town (Centro) and Magsidel on the south coast are backed by three floodplains that are presently cultivated for rice. The higher, central part of the island (499 m) has primary and regenerating lowland forest, some of which lies on coralline limestone that is exposed in places. This forest has intermittent clearings containing patches of cultivated land, often with paddyfields, and bananas and coconuts

**Table 1.** Details of study sites. Mist-netting effort is given as metre-net days (mnd) and metre-net nights (mnn).

Island	Site	Location	Altitude (m)	Habitat	Mist-netting effort	Dates
Camiguin Norte	Balatubat	18°54.4'N 121°51.8'E	0	Main settlement near a sand/shingle beach; behind lie c.2 km <sup>2</sup> of paddyfields with a pond and swamp, hills with scrub and pasture, <i>kaingin</i> and secondary or logged forest.	36 mnd 48 mnn	1, 10–11, 14–16 April; 29–30 May, 3–4 June
	Limandok	18°55.8'N 121°53.9'E	270	Logged forest, with mature forest on ridges.	423 mnd 219 mnn	2–10 April
	Magas-asok Lake	18°52.3'N 121°49.8'E	0	Freshwater lagoon (c.3 ha) surrounded by a narrow margin of short grass, backed by forest.	6 mnd 18 mnn	13–14 April
	Kauringan	18°54.6'N 121°54.7'E	520	Disturbed forest with clearings.		31 May–4 June
Pamoctan	Pamoctan	18°54.0'N 121°50.1'E	0–200	See description of island in text above.	12 mnd 24 mnn	11–12, 14–15 April; 31 May–2 June
Babuyan Claro	Corog	19°29.3'N 121°56.9'E	0–100	Main settlement surrounded by pastures, rough <i>cogon</i> grazing and terraced paddyfields.	117 mnd 72 mnn	16–22 April, 30 April–3 May
	Ayumit	19°32.7'N 121°57.5'E	360	Mature primary forest.	432 mnd 432 mnn	21–29 April
	Rakwaranom	19°33.7'N 121°57.2'E	0	Lowland forest with some adjacent clearings for rice and corn.	42 mnd 84 mnn	26–30 April
	Asked	19°30.8'N 121°54.7'E	0	Sandy beach by outcrops of rock and lava flows, with a hot spring.		1–2 May
Calayan	Centro	19°15.8'N 121°28.4'E	0	Paddyfields and scrubby areas, with forest to the north; sandy beaches, rocky shores and coastal cliff.	30 mnd 30 mnn	3–8, 17–20 May
	Longog	19°19.5'N 121°26.9'E	300	Paddyfield clearings surrounded by lowland forest; a substantial area of largely primary forest on clay lies to the south; to the north is a patchwork of logged and secondary forest on exposed coralline limestone.	478 mnd 363 mnn	8–17 May
Dalupiri	Visita	19°3.7'N 121°14.7'E	0	Inhabited site surrounded by livestock pastures; coastline of sand and shingle backed by scrub, mostly guava, a small estuary and seasonally dry riverbeds.		20–22, 28–30 May
	Caucauyan	19°6.5'N 121°12.3'E	150	Remnant streamside forest surrounded by pastures; to the west lies a small settlement and c.100 ha of paddyfields and a similar area of rough pasture; some logged forest lies to the north.	96 mnd 30 mnn	22–28 May

at the edges. There are grasslands along the eastern coastline and at the north-western tip. In the north, there are extensive tidal coral flats protecting sandy beaches between the settlements of Dilam and Dibay. In addition to these sites, a boat trip was made on 5 May around the entire island to survey the coast and reef flats for birds. We stopped briefly to interview local people and to conduct further searches at Dilam on the north-east coast, and at Dibay on the north-west coast. A separate trip was made by GB and CE on 7 May along the south-west coast to Katanapan Point.

*Dalupiri* (50 km<sup>2</sup>, population 555) is a relatively low-lying (297 m), cigar-shaped island, orientated north-south. The island consists of coralline limestone and lava flows; these flows form cliffs in places. It is privately owned and managed as a ranch. The main settlement, Visita, lies on the south-east coast. Cattle, horses and feral water buffalo roam freely over the entire island, grazing most of the vegetation short. There are areas of low secondary growth forest but almost no mature forest remains. Dogs and cats are not allowed on the island. The east coast of Dalupiri was surveyed on 22 May by boat, but weather did not permit a circuit of the island.

*Guinapao rocks* (= Dilayag) (<0.3 km<sup>2</sup>, uninhabited) consist of two very steep cones of rock, c.100 m high, covered by grass on the top. They were visited en route from Santa Ana, Luzon to Balatubat on 1 April 2004, but disembarkation was not possible.

*Didicas* (0.7 km<sup>2</sup>, uninhabited) was visited by Mearns and Worcester in 1907. However, the present island was reformed by an eruption in 1952 (Alcaraz *et al.* 1956) into a 244 m high cone of volcanic dust and rocks, and is now still virtually devoid of vegetation. It was visited en route from Balatubat to Babuyan Claro on 16 April 2004. No birds were seen.

## RESULTS

Assuming the distributions indicated in Kennedy *et al.* (2000) represent all currently accepted records of birds for the islands, we made 220 new distributional records for 114 species, including the discovery of Calayan Rail *Gallirallus calayanensis*, which was new to science (Allen *et al.* 2004). Two new species for the Philippines were also recorded: Pied Cuckoo *Clamator jacobinus* and Orange-flanked Bush Robin *Tarsiger cyanurus*.

Details of selected species are included below; all records are summarised in the appendix. In a separate paper we summarise the status of each species on each island. We name subspecies where these are known to be endemic to these islands. Almost all records were made by sight, most of which are supported by photographic images, sound recordings and/or descriptions, and a few by specimens. However, records in brackets indicate that good views were not obtained, or only calls were heard, and the record needs to be confirmed.

### [CHINESE POND HERON *Ardeola bacchus*]

A single bird starting to moult into breeding plumage, but still lacking the characteristic species-specific head plumes, was seen in paddyfields on Corog on 18 April 2004. It was

tentatively identified as Chinese Pond Heron rather than Javan Pond Heron *Ardeola speciosa* on range alone. There are only three records accepted in the Philippines (Kennedy *et al.* 2000) but other birds were photographed in Luzon on 27 November 2004 by R. Ocon (see <http://www.pbases.com/liquidstone/image/36869933>) and in 2005 by I. Luna and J. Villasper (*in litt.* 2005).

### RUFIOUS NIGHT HERON *Nycticorax caledonicus*

At Caucauyan, Dalupiri, six nests were found around the pool and examined by CO on 23 May 2004: one on a rock by the waterfall contained two eggs and five others were in surrounding trees, including two containing two eggs each, one was occupied by a juvenile, and another had a juvenile nearby.

### PHILIPPINE DUCK *Anas luzonica*

Vulnerable; restricted-range. On Dalupiri a pair was flushed regularly from paddyfields at Caucauyan, with two pairs on one occasion. The species may well breed here.

### TAHITI PETREL *Pterodroma rostrata*

A single bird was seen by DA offshore from Babuyan Claro on 16 April 2004. It was similar in size to a Wedge-tailed Shearwater *Puffinus pacificus*, although it could not be directly compared with other birds. It was the shape of a shearwater and flew with straight wings (see Brooke 2004). No white was noticed on the underwings despite observation as close as 20 m, but the sea was rough. It had a dark bill, chocolate-brown upperparts, head and upper breast, with a clean border with a white lower breast, belly and flanks. There are no other species showing this plumage pattern in the region. Phoenix Petrel *Pterodroma alba* occurs further east but has a 'lighter' jizz and shows white on the chin and throat. There are two previous specimen records from the Philippines: Laguna de Bay, Luzon on 26 May 1926, and Negros on 21 August 1963 (Dickinson *et al.* 1991), and a possible sighting by Salwegter north of Luzon on 31 August 1969 (Bourne and Dixon 1973).

### BULWER'S PETREL *Bulweria bulwerii*

A single bird was videoed from a boat on 3 June 2004. It was much smaller than Wedge-tailed Shearwaters that had been observed a short while earlier. The tail showed no notch, unlike the somewhat similar *Oceanodroma* petrels, but was smoothly graduated to a rather narrow point. A pale bar ran along the rear of the upperwing-coverts. Although there is only one previous published record acknowledged by Kennedy *et al.* (2000)—Hornskov (1996)—Weitkowitz reported 'many' on 19 June 1980 north of Luzon (Chapman 1982), although no identification details were given. It seems likely that this species and many other seabirds have been under-recorded owing to the difficulty of obtaining specimens.

### WEDGE-TAILED SHEARWATER *Puffinus pacificus*

Several shearwaters were seen during boat journeys between the islands. One or two identifiable as Wedge-tailed Shearwater were videoed between Dalupiri and Pamoctan on 29 May 2004 and between Camiguin Norte and Luzon on 3 June 2004. Other were not seen clearly enough to confirm their identification. On Babuyan Claro, a passage of all-dark shearwaters moving west along the south coast was observed on 29 April 2004: 95 passed during 16h18–16h38. They may all have been

Wedge-tailed Shearwaters, but some appeared to have shorter tails.

TABON SCRUBFOWL *Megapodius cumingii*

This species was found on most of the islands. On Pamoctan, many singles and pairs were seen: one was seen calling and displaying in forest on 14 April 2004, apparently in response to a distant, fast beat of an outboard engine which had a similar rhythm to the bird's call.

On Babuyan Claro, alarm or contact calls were often heard. At least 12 mounds in the west of the island and ten or more mounds near Rakwaranom were shown to us. We did not observe the species in the wild on Dalupiri but one was captured by locals from Caucauyan, and photographed.

CALAYAN RAIL *Gallirallus calayanensis*

Vulnerable; restricted-range. The discovery of this new species was described in Allen *et al.* (2004).

WHITE-BROWED CRAKE *Porzana cinerea*

This species was seen at Magasasok Lake and Balatubat on Camiguin Norte, but not on any of the other islands. Although McGregor (1910) included this species for Calayan, his record was based on his own observations, originally described thus: '*Poliolimnas* (?) species. Once or twice I flushed a small rail from a rice field on Calayan, but could not be sure as to the genus. A liberal reward offered for a "tookling" resulted in the production of two black downy young on October 8, but no adults' (McGregor 1904). Given the inadequate details, this species should be removed from the Calayan list.

GREATER PAINTED-SNIPE *Rostratula benghalensis*

Although not previously reported from the Babuyans, we found this species in all the larger areas of paddyfields visited. On Camiguin Norte, breeding was confirmed from a fledgling recently captured by a local child on 3 June 2004. Breeding has previously been recorded in March, July and August. Many birds were present and calling in the paddyfields on Dalupiri.

GREY-HEADED LAPWING *Vanellus cinereus*

A single bird was seen and videoed in paddyfields at Balatubat 12 April 2004. There are only three previously published records: two from Batan, in November and December, and one from Luzon in January.

MALAYSIAN PLOVER *Charadrius peronii*

Near Threatened. This species was present all along the beach on the east coast of Dalupiri, with a pair every 300 m or so, despite much human activity. The absence of dogs may allow this species to thrive here. Males were conspicuous, but females were rather shy. Both sexes showed distraction displays, but neither nests nor chicks were found, although breeding has been recorded elsewhere in May.

BUKIDNON WOODCOCK *Scolopax bukidnonensis*

We were alerted to the presence of woodcocks on Babuyan Claro by our guides, but it took some time for us to see them. Four separate birds were seen on 23 April 2004 along the summit trail of Mt Pangasun above 700 m. These birds flushed low, not usually rising far from the ground (three rising <3 m), and none broke through the

canopy. They were very dark and were initially identified as Barred Rail *Gallirallus torquatus*. They showed blackish upperparts, speckled with brown on the wings, with paler sides to the wedge-shaped tail. The wingspan was estimated at 40–50 cm. Another was seen in the same area on 28 April 2004. A bird captured by our guide was taken as a voucher specimen (PNM accession number: NMB 019613). According to him, this species breeds on the island in March and April.

The Bukidnon Woodcock is known from central and northern Luzon and from four mountains on Mindanao (Kennedy *et al.* 2001). Its discovery on Babuyan Claro represents a northern range extension and the first record on a small island. This species was also reported by local people to be present on Calayan. We noted slight differences between the specimen from Babuyan Claro and one from Mindanao in the pattern of markings on the primaries and back feathers. R. Kennedy *in litt.* 2004 mentioned that the specimens he examined might belong to more than one subspecies but that there were too few specimens available to be sure. The species clearly needs more taxonomic study.

[EURASIAN WOODCOCK *Scolopax rusticola*]

On Babuyan Claro, a single pale woodcock was flushed and seen to rise vertically from the forest floor and tower out of the canopy. This was the first woodcock to be seen during fieldwork; it resembled a Eurasian Woodcock *Scolopax rusticola*. Owing to possible confusion in the past with the recently described Bukidnon Woodcock, there are no definite records of this species from the Philippines.

ORIENTAL PRATINCOLE *Glareola maldivarum*

Small numbers were seen on Camiguin Norte and Babuyan Claro, but hundreds were present on the short pasture on Dalupiri. Numbers there dropped after the passage of a typhoon on 22–25 May, suggesting that some were migrants. However, some birds may be resident breeders as several individuals showed apparent nest distraction behaviour when approached, although no nests could be found.

WHISTLING GREEN PIGEON *Treron formosae filipina*

Near Threatened; restricted-range. The race *filipina* is so far only known from the Batanes, Camiguin Norte and Calayan. On Babuyan Claro, we neither saw nor heard this species during our stay, but local guides knew it well: they explained how it visits the island during September to January, when it was avidly hunted until recently. On Dalupiri, locals were familiar with the call of this species and reported that it visits the island in the 'rainy season' (October–February).

Gibbs *et al.* (2001) listed a number of characteristics of *filipina*, but questioned whether these were sufficient to support its subspecific status. Our limited observations and photographs appear to confirm the differences: the maroon on the wings of some males, insofar as viewing angles allowed, appeared to spread onto the mantle; the centre of the abdomen can be seen in photographs to be creamy-white; the bill is blue to the tip; and the iris has a bright blue inner ring separated from the pink outer part by a dusky intermediate ring. From observations, photos and video we also noted the following: at least one bird showed an extensive area of blue orbital skin; an apparent immature bird showed creamy-white underparts from

the vent to the upper breast; and females were most easily identified in flight by the yellow-green tail that contrasted noticeably with the greyer-green wings and upperparts. Although only the calls of Whistling Green Pigeon were heard, it seems possible that the rather similar White-bellied Green Pigeon *Treron sieboldii*, which occurs on nearby Lanyu and Taiwan, might also occasionally occur in the Babuyans and Batanes.

#### BLACK-CHINNED FRUIT DOVE *Ptilinopus leclancheri*

Breeding was confirmed on Camiguin Norte: a nest 1.5 m above the ground in low trees near Magasasok contained a single egg on 13 April 2004, and another nest was photographed on the slopes of Mt Mapula-pula on 1 June 2004. On Pamoctan, subadult birds showed a grey terminal tail-band which was especially obvious when fanned (as noted by Gibbs *et al.* 2001), but some adults showed a narrow yellow tail-tip, possibly caused by wear. Although this species is normally a rich green colour, in some light conditions it resembled the paler slightly yellowish-green of a green pigeon *Treron* spp.

#### PHILIPPINE CUCKOO DOVE

##### *Macropygia (amboinensis) tenuirostris*

The race *septentrionalis* is endemic to the Batanes, while the race *phaea* is known from Calayan only. Birds on Babuyan Claro might be either race, or intermediate. Study of more specimens from these islands is needed.

#### ASIAN KOEL *Eudynamis scolopacea*

McGregor (1904) described the taxon *frater* of Calayan as a distinct species and claimed it occurred alongside *E. (s.) mindanensis* on Calayan. We commonly heard koels on all the islands but they were extremely shy and views were rare. We were unable to capture any, so we cannot comment on the co-existence of two forms.

#### PHILIPPINE COUCAL *Centropus viridis*

The race *major* with chestnut wings is known only from Calayan, Dalupiri, Fuga and Camiguin Norte, while the all-black race *carpenteri* is known only from the Batanes. We found birds with chestnut wings on Pamoctan and Babuyan Claro, and presume these were therefore *major*.

#### PIED CUCKOO *Clamator jacobinus*

At Visita, Dalupiri, on 21 May 2004 an ungainly, long-tailed, black or blackish bird with obvious large white patches in the centre of dark wings and white corners to the tail was seen with binoculars flying across an area of pasture. The rounded shape of the wing and its pattern were strongly reminiscent of a Dollarbird *Eurystomus orientalis*, but the white corners to a long tail were completely at variance with that species. When perched, it showed a tall, pointed, black crest and cap and ear-coverts, with a white throat and upper breast, but the lower breast and belly could not be seen. The bird, with its small, dark, curved bill, resembled a cuckoo of roughly similar size to an Oriental Cuckoo *Cuculus saturatus*. It was identified as Pied Cuckoo. The only remotely similar species is Red-winged Cuckoo *C. coromandus*, which might be expected to occur on passage in these islands. However, the light conditions were good, and the white wing-patches and lack of rufous in the wings was clearly seen. Pied Cuckoo has a westerly distribution, breeding in Asia in India and Myanmar, but it has occurred in the southern

Ryukyu islands of Japan: one bird was video-recorded on Iriomotejima on 1 June 1997 (Kamata 1997).

#### 'NORTHERN BOOBOOK' *Ninox (scutulata) japonica*

This taxon has recently been proposed as a distinct species from the other forms of Brown Hawk Owl *Ninox scutulata* by King (2002). Although it was listed as a migrant by Dickinson *et al.* (1991) and Kennedy *et al.* (2000), McGregor (1907) stated that it apparently bred on Camiguin Norte: he obtained two adult and two full-grown juvenile specimens. We heard a pair calling (*boo-boo*) from a tree-top in a clearing at Longog, Calayan, throughout the evenings of 10–13 May. This call is quite similar to some renditions of the two-note call of Elegant Scops Owl *Otus elegans*, with which it was initially confused. Other single birds were seen in the forest including one videoed giving a repeated *boo-boo-boo-boo* call. It seems quite possible that the taxon breeds on Calayan.

#### GLOSSY SWIFTLET *Collocalia esculenta*

On Camiguin Norte, a sea cave at the south-west point of the island containing many hundreds of breeding Glossy Swiftlets was visited by boat on 11 April 2004. The nests were crammed together in clusters of up to several hundred on the cave roof. Many were quite near the entrance and above the water. Two birds were netted on 26 May 2004 in a cave near Caucauyan, Dalupiri, which contained a few hundred nests. One specimen was collected (PNM accession number: NMB 019616).

#### FORK-TAILED SWIFT *Apus pacificus*

Many were seen flying around Guinapao rocks on 1 April 2004, suggesting that it was a breeding site (and therefore that the birds were of the resident race *kanoi* known from Batan, Camiguin Norte and Sabtang, and also from Taiwan west to Tibet). About 20 were seen over Pamoctan on 1 June 2004. One that was photographed showed a rather dark throat, again indicative of *kanoi* rather than the migrant race *pacificus* of north China to south Japan.

#### RED-BELLIED PITTA *Pitta erythrogaster*

One juvenile was observed and videoed at Camiguin Norte on 3 June 2004. It was dull brown with speckling on the breast apparently owing to pale feather centres, as illustrated by Lambert and Woodcock (1996). The bill was blackish with a pinkish-red tip and base; the forehead and forecrown were pale and accentuated by dark lateral crown-stripes; the throat was white and bordered by narrow malar stripes. The bird called intermittently with a short, thin whistle.

#### [UNIDENTIFIED SWALLOW *Hirundo* spp.]

Swallows were seen on all the islands, but it was not possible to determine if they were Red-rumped Swallow *H. daurica* of the migrant race *japonica* (from Japan) or Striated Swallow *H. striolata* of the nominate race which is resident in the Philippines. Video footage of birds on Calayan shows that the underparts were strongly streaked and resemble photographs of *H. daurica japonica* in Iozawa *et al.* (2000), Kanouchi *et al.* (1998) and Maki and Onishi (2000). Dickinson and Dekker (2001) discussed whether this taxon should be treated at the species level. Birds were seen in and around nests on buildings in the centre of Centro, Calayan, on 18–19 May 2004. One pair was seen to copulate several times and one of the pair at least was apparently nest-building.

**ORANGE-FLANKED BUSH ROBIN** *Tarsiger cyanurus*

On Calayan, a single bird was mist-netted at forest edge at Longog on 10 May 2004. It was olive-brown above, browner on the wings and bluish on the lower back. The throat and belly were white; the sides of the breast were olive-brown, meeting in a narrow band across the centre of the breast. The flanks showed an orange patch partly concealed by the folded wing. The bill was black, with pinkish horn at the base. The forehead was slightly paler than the crown and there was a distinct pale eye-ring. The lack of any blue in the olive-green upperparts in April suggests that it was a female rather than a first-winter male. This species is common in Japan and migrates to South-East Asia in winter. A vagrant in the Philippines is not unexpected.

**MANGROVE BLUE FLYCATCHER** *Cyornis rufigastra*

This resident species was found for the first time in the Babuyans, on both Pamoctan and Camiguin Norte (where a specimen was collected: PNM accession number: NMB 019615). Video footage of the bird on Pamoctan shows white undertail-coverts and bright blue upperparts consistent with the race *blythi* of Luzon.

**SHORT-CRESTED MONARCH** *Hypothymis helenae*

Near Threatened; restricted-range. On 8 April 2004, a cup-shaped nest was found in a fork of a small tree c.1 m above the ground near Limandok, Camiguin Norte. It was constructed of fine roots woven together with cobwebs; the external dimensions were estimated at 4×4 cm. A pair were observed at the nest for c.10 minutes. No eggs were present when the nest was checked the next day. This vocal species was never heard on nearby Pamoctan, nor on Babuyan Claro, Calayan or Dalupiri, so it is presumed to be absent from these islands.

**PURPLE-THROATED SUNBIRD** *Nectarinia sperata*

This is the only small, widespread, resident, forest passerine on the islands, although even this species seems to be absent from Dalupiri. On Camiguin Norte, a small pendulous nest attached near the tip of a fern frond and suspended c.1.5m above a trail was found on 3 April 2004. Externally it appeared to be an untidy tangle of dried leaves and stems; it had an entrance on one side in the shape of a tear-drop. The nest contained two brown eggs. On Babuyan Claro, a similar, small, pendulous nest hanging above the summit trail north of Corog belonged to this species according to our guide.

**PYGMY FLOWERPECKER** *Dicaeum pygmaeum*

The subspecies *fugaensis* is known from Calayan and Fuga which were the only islands on which we recorded it. On 14 May 2004, an adult apparently of this species was videoed feeding a fledgling that had a bright yellow bill. The juvenile begged with a repeated thin *teep*. Similar birds were observed and recorded giving a song of repeated double notes *zip-zip...zip-zip...zip-zip* rather than a random sequence of *zip...zip...* notes as described by Kennedy *et al.* (2000).

## DISCUSSION

The Babuyan islands lie directly in the path of birds migrating between the Philippines and north-east Asia,

so all of the winter migrants from the latter region can be expected to occur. We expect further studies will provide a more complete picture of the occurrence and status of such species, which include the threatened Chinese Crested Tern *Sterna bernsteini*, Chinese Egret *Egretta eulophotes*, Japanese Night Heron *Gorsachius goisagi*, Streaked Reed Warbler, *Acrocephalus sorghophilus*, Ijima's Warbler *Phylloscopus ijimae* and Japanese Yellow Bunting *Emberiza sulphurata*.

The islands hold many endemic races. Some are found on both the Babuyans and the Batanes (e.g. Green Imperial Pigeon *Ducula aenea fugaensis*), others are endemic to the Babuyans, and yet others have differentiated even with the Babuyans (e.g. Chestnut-eared Bulbul *Ixos amaurotis batanensis* is endemic to Babuyan Claro and Batan, with *fugaensis* on Calayan, Dalupiri and Fuga and *camiguinensis* on Camiguin Norte, although this taxonomy requires review). Many taxonomic questions remain to be resolved e.g. whether Reddish Cuckoo Doves on Babuyan Claro belong to *septentrionalis* of the Batanes or *phaea* of Calayan, and whether Slaty-legged Crakes on Camiguin Norte and Babuyan Claro belong to *alvarezii* of the Batanes or the more widely distributed *eurizonoides*. Further analysis of specimens in the Smithsonian Institution may help to answer some of these questions and to clarify the distribution of many of these taxa.

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Species	Status	Fuga	Camiguin Norte	Pamoctan	Babuyan Claro	Calayan	Dalupiri
[BUFF-BANDED RAIL <i>Gallirallus philippensis</i> ]	Bs					2 possible, paddyfields, Magsidel, 6 May	2 possible, Caucauayan
BARRED RAIL <i>Gallirallus torquatus</i>		X	1 adult + 4 chicks, Magasasok, 13 April	1, 12 April	1 pair, airstrip, 21 April	Common near Centro, Magsidel, 3 May	Shy, usually only heard, all areas.
SLATY-LEGGED CRAKE <i>Rallina eurizonoides</i>	Bs LER	<i>alvarezi</i>	X	1, 3 June	1 pair duetting, 14 April; 1 June		
BAILLON'S CRAKE <i>Porzana pusilla</i>	AR						1, Caucauayan paddyfields, 26 May
WHITE-BROWED CRAKE <i>Porzana cinerea</i>	Bs		1, Magasasok, 12 April			X	
PLAIN BUSH-HEN <i>Amaurornis olivaceus</i>	Bs		1 pair behind Balatubat, 3 April			X	
WHITE-BREASTED WATERHEN <i>Amaurornis phoenicurus</i>	Bs		Common; chick kept as pet 15 April confirms breeding	1 pair, lagoon, 14 April	1, Corog paddyfields, 17 April; others heard	Paddyfields, Centro, Magsidel and Longog	Caucauayan, 23–27 May
WATERCOCK <i>Gallinula cinerea</i>	Bs		Single Fs, Balatubat 15 April and 3 June; none calling so presumed migrants				3Ms+2Fs, 24–27 April
COMMON MOORHEN <i>Gallinula chloropus</i>	ER	<i>lozanoi</i>	Adults and 1 imm, Balatubat, 2 April; max. 7, 1 June	1, lagoon, 12–15 April		X ( <i>lozanoi</i> )	Singles, paddyfields, Caucauayan, 24–27 May
GREATER PAINTED-SNIPE <i>Rostratula benghalensis</i>	AR		c.6, paddyfields behind Balatubat, 3 June			3–20, paddyfields Centro, 3–10 May	20+, paddyfields, Caucauayan, 24–28 April
GREY HEADED LAPWING <i>Vanellus cinereus</i>	AR		1, paddyfields, Balatubat, 12 April				
PACIFIC GOLDEN PLOVER <i>Pluvialis fulva</i>	Bs	X			5–7 NBs, 20 April; joined by 3 near breeding plumage 28 April	X	5, coral flats, 28 May
LITTLE RINGED PLOVER <i>Charadrius dubius</i>	Ba		2 <i>curonicus</i> , beach Naguilian, 10 April*			resident <i>dubius</i>	
KENTISH PLOVER <i>Charadrius alexandrinus</i>	Bs				1 NB, Asked, 1 May	X; 1 NB, 19 May (PRL: 23 March)	
MALAYSIAN PLOVER <i>Charadrius peronii</i>		X				X	Visita area
LESSER SAND PLOVER <i>Charadrius mongolus</i>	Bs				Max. 6, airstrip, 18–20 April	X	
GREATER SAND PLOVER <i>Charadrius leschenaultii</i>	Bs				2, airstrip pasture, 18–20 April	2, coral flats, Dibay, 5 May	1, coral flats S of Visita, 28 May
WHIMBREL <i>Numenius phaeopus</i>	AR					8, coral flats, Dibay, 5 May	
BLACK-TAILED GODWIT <i>Limosa limosa</i>	AR				1, paddyfields, Corog, 18 April		
COMMON GREENSHANK <i>Tringa nebularia</i>	Bs					1, paddyfields, Centro, 4 May	
COMMON REDSHANK <i>Tringa totanus</i>	Bs		1, Magasasok, 13 April				
WOOD SANDPIPER <i>Tringa glareola</i>	AR		1, Magasasok, 12 April		2–3, paddyfields, Corog, 17–18 April		
MARSH SANDPIPER <i>Tringa stagnatilis</i>	AR				2–3, paddyfields, Corog, 18–20 April		
COMMON SANDPIPER <i>Actitis hypoleucos</i>	Bs		1, shoreline, Balatubat, 2 April			X	2, coast, 22 May

Species	Status	Fuga	Camiguin Norte	Pamoctan	Babuyan Claro	Calayan	Dalupiri
TEREK SANDPIPER <i>Xenus cinereus</i>	AR				1, paddyfields, Corog, 18 April		
GREY-TAILED TATTLER <i>Heteroscelus brevipes</i>	Bs					X; 39, coral flats, Dibay, 5 May	2, rocky NE coast, 22 May
RUDDY TURNSTONE <i>Arenaria interpres</i>	Bs				1 NB, 1 breeding plumage, Asked, 1 May	2, Dilam Point, 5 May	1, coral flats, 28 May (PRL: 9 May)
PINTAIL SNIPE <i>Gallinago stenura</i>					1 netted, paddyfields, Corog, 18 April (PRL: 4 March)	X	
BUKIDNON WOODCOCK <i>Scolopax bukidnonensis</i>	AR				4, 23 April		
[EURASIAN WOODCOCK <i>Scolopax rusticola</i> ]					1 possible, 23 April		
SANDERLING <i>Calidris alba</i>	AR						7, coast Visita, 21 May; 1 on 28 May, (PRL: 21 May)
RED-NECKED STINT <i>Calidris ruficollis</i>	Bs	X			2, paddyfields, Corog, 18 April	X	
LONG-TOED STINT <i>Calidris subminuta</i>	AR				3, paddyfields, Corog, 18 April		
SHARP-TAILED SANDPIPER <i>Calidris acuminata</i>	Bs		1, Magasasok, 12 April		1-2, paddyfields, airstrip, Corog, 17-20 April		
CURLEW SANDPIPER <i>Calidris ferruginea</i>	AR				1, paddyfields, Corog, 18 April		
RED-NECKED PHALAROPE <i>Phalaropus lobatus</i>	AR		Sea S of Camiguin Norte, 3 June (PRL: 23 April)				
ORIENTAL PRATINCOLE <i>Glareola maldivarum</i>	Bs		1, paddyfields, Balatubat, 12 April		1-2, paddyfields, Corog, 18-20 April		100s, pasture Visita, Caucauyan, 20-27 May
BLACK-WINGED STILT <i>Himantopus himantopus</i>	Bs						1, paddyfields, Caucauyan, 24-26 May
BROWN BOOBY <i>Sula leucogaster</i>	Bs, Didicas			1, W of island, 29 May		X	
COMMON TERN <i>Sterna hirundo longipennis</i>	Bs				11 roosting on sea near Corog, 3 May	X	
LITTLE TERN <i>Sterna albifrons</i>	Bs				1-2 at sea, Didicas-Babuyan Claro, 16 April		
BRIDLED TERN <i>Sterna anaethetus</i>	Didicas			10+ W of Pamoctan, 29 May			
WHISKERED TERN <i>Chlidonias hybridus</i>	AR						2, E coast 22 May
WHISTLING GREEN PIGEON <i>Treron formosae filipina</i>	Bs		X	Common in mid-April and late May; imms videoed 1 June	Neither seen nor heard	X	Neither seen nor heard
BLACK-CHINNED FRUIT DOVE <i>Ptilinopus leclancheri</i>	Bs LER <i>longialis</i>		X; breeding confirmed	Common in mid-April and late May		X	
GREEN IMPERIAL PIGEON <i>Ducula aenea</i>	LER <i>fugaensis</i>	X	X		1 near Ayumit, 22 April; often heard	X	
METALLIC PIGEON <i>Columba vitiensis</i>	Bs		X	10-20 on all visits, 12 April-1 June		X	

Species	Status	Fuga	Camiguin Norte	Pamoctan	Babuyan Claro	Calayan	Dalupiri
PHILIPPINE CUCKOO DOVE <i>Macropygia (amboinensis) tenuirostris</i>	Bs LERs <i>septentri,</i> <i>onali,</i> <i>phaea</i>				1 seen calling near summit pass, 26 April	X; <i>phaea</i>	
ISLAND COLLARED DOVE <i>Streptopelia bitorquata</i>		X				X	Common, Visita, Caucauayan, 20–28 May; imms in latter area
SPOTTED DOVE <i>Streptopelia chinensis</i>	AR		Singles, paddyfields behind Balatubat, 11–12 April		1, Corog, 18 April; apparently rare	1–2, paddyfields, Centro, Magsidel 4 May; also Dibay	3, paddyfields, Caucauayan, 24 May
ZEBRA DOVE <i>Geopelia striata</i>	AR		2, Balatubat, 11 April				
EMERALD DOVE <i>Chalcophaps indica</i>	Bs	X	X	1, 12 April; often heard	1, Ayumit, 23 April	X	2 near coast, 21 May
ASIAN KOEL <i>Eudynamys scolopacea</i>	ER <i>mindanensis,</i> LER <i>frater</i>	X	X		Many heard, 18 April–1 May	X	2 Ms, Caucauayan, 23 May
LESSER COUCAL <i>Centropus bengalensis</i>	Bs	X	1, grassland, Taneg, 4 June; often heard				Common, Caucauayan, 25–28 May
PHILIPPINE COUCAL <i>Centropus viridis</i>	LER <i>major</i>	X	X	1, 12 April	2, grassland, Corog, 20 April	X	X
PIED CUCKOO <i>Clamator jacobinus</i>	PR						1, Visita
[ELEGANT SCOPS OWL <i>Otus elegans</i> ]	Bs LER <i>calayensis</i>		Calls recorded, Limandok, Magasasok, also heard at Balatubat	Calls recorded, not seen		X	
‘NORTHERN BOOBOOK’ <i>Ninox (scutulata) japonica</i>	Bs	X	X			X; 1 pair calling	
[UNIFORM SWIFTLET] <i>Collocalia vanikorensis</i>	Bs						2 possibles videoed, Caucauayan, 26 May
GLOSSY SWIFTLET <i>Collocalia esculenta</i>	LER <i>septentrionalis</i>	X	Breeding confirmed	2, 11 April; several, 1 June	X	X	Visita, E coast, Caucauayan, 20–28 May
PYGMY SWIFTLET <i>Collocalia troglodytes</i>	AR				4, paddyfields, Longog, 8 May; 1 netted		
FORK-TAILED SWIFT <i>Apus pacificus kanoi</i>	Bs		X	3, 12 April; c.20, 1 June		2, paddyfields, Centro, 4 May	2–3, Visita, 20 May; also Caucauayan
HOUSE SWIFT <i>Apus affinis</i>			X			1 at cave with Glossy Swiftlets, Dibay, 5 May	3 off cliffs on NE coast, 22 May
COMMON KINGFISHER <i>Alcedo atthis</i>	Bs		1, paddyfields, Balatubat, 11 April	1 near lagoon, 11–12 April	1, 17–19 April, Corog paddyfields	X	
RUDDY KINGFISHER <i>Halycon coromanda</i>	Bs		X	1 heard, 13 May	1 <i>bangsi</i> netted, Corog, 19 April; 1 <i>major</i> netted, Rakwaranom, 28 April	X	
COLLARED KINGFISHER <i>Todiramphus chloris</i>	Bs		X	Max. 3, 12–14 April	1, Corog, 16 April; rare	1, Dibay, 5 May; uncommon on Calayan	Neither heard nor seen, so probably absent
RED-BELLIED PITTA <i>Pitta erythrogaster</i>			X (breeding confirmed)				
BARN SWALLOW <i>Hirundo rustica</i>		X	1–3, Balatubat, 2–3 April	8, 11 April*	1, Corog, 16 April	X	1+, Visita, 20 May
PACIFIC SWALLOW <i>Hirundo tahitica</i>	Bs	X	X	5, 11 April	1, Corog, 16 April	Frequent over paddyfields, Centro	Frequent: 16, E coast, 22 May

Species	Status	Fuga	Camiguin Norte	Pamoctan	Babuyan Claro	Calayan	Dalupiri
SAND MARTIN <i>Riparia riparia</i>	Bs					X; 2, Centro, 3 May; rare visitor	1, paddyfields, Caucauayan, 25 May (PRL: 7 April)
[UNIDENTIFIED SWALLOW] <i>Hirundo dauricalstriolata</i>	Bs		X	8–20, 11–15 April	1+, 28 April	X	1–5, 20–23 May
ORIENTAL SKYLARK <i>Alauda gulgula</i>	AR						Caucauayan, 22–28 May; some evidence of breeding: singing and distraction behaviour
PIED TRILLER <i>Lalage nigra</i>	AR		2, near mangroves, Naguilian, 11 April*	Ms+Fs on all visits mid Apr–late May			
CHESTNUT-EARED BULBUL <i>Ixos amaurotis</i>	LERs	X	X	Common, 12 April–1 June	X; 2 juvs, Ayumit, 22 April	X; probable nest with 2 eggs, Longog, 12 May	X; young fledgling Visita, 21 May
BLACK-NAPED ORIOLE <i>Oriolus chinensis</i>	Bs	X	X	Common, 12 April–1 June	Reported but neither seen nor heard	X	X; neither seen nor heard
ELEGANT TIT <i>Parus elegans</i>	LER		Imms, above Limandok, 4 April			Recent fledglings, Longog, 10 May	
BLUE ROCK THRUSH <i>Monticola solitarius</i>	Bs		1M, 1F, Balatubat, 2–3 April	2, 12 April	1M+1F, W of Corog, 18 April	X	
BROWN-HEADED THRUSH <i>Turdus chrysolaus</i>	Bs	X	1 M netted, Magasasok, 13 April	2 in forest clearings, 12 April		X	
ORANGE-FLANKED BUSH ROBIN <i>Tarsiger cyanurus</i>	PR					1 netted	
LANCEOLATED WARBLER <i>Locustella lanceolata</i>						X	Several, Caucauayan; 25 May (PRL: 18 May)
MIDDENDORFF'S WARBLER <i>Locustella ochotensis</i>	Bs	X				X	Paddyfields, Caucauayan, 24 May; max. 5 daily
[ORIENTAL REED WARBLER <i>Acrocephalus orientalis</i> ]	Bs						One possible, Visita, 21 May
ZITTING CISTICOLA <i>Cisticola juncidis</i>	LER	X	X			X	Common, Caucauayan, 21–28 May
GREY-STREAKED FLYCATCHER <i>Muscicapa griseisticta</i>	Bs					3, 23 April* Rakwaranom	3 in garden trees, Visita, 22 May
MANGROVE BLUE FLYCATCHER <i>Cyornis rufigastra</i>	AR		Locally distributed, Magasasok, 12 April	Common, 12 April			
SHORT-CRESTED MONARCH <i>Hypothymis helenae</i>			X; 1 breeding confirmed				
YELLOW-BELLIED WHISTLER <i>Pachycephala philippinensis</i>	LERs		X; <i>illex</i>	Heard, sometimes seen; <i>illex</i> ?		X; <i>fallax</i>	
GREY WAGTAIL <i>Motacilla cinerea</i>	Bs					1–3, paddyfields, Corog, 18–28 April	1M, Visita, 21 May
YELLOW WAGTAIL <i>Motacilla flava</i>	Bs		X			Corog, 17 April; 60, 28 April	20–50, Visita, 20–23 May
PADDYFIELD PIPIT <i>Anthus rufulus</i>	Bs		X			2 near base Mt Smith, 1 May	Common, Visita + Caucauayan areas
RED-THROATED PIPIT <i>Anthus cervinus</i>		X	4, Balatubat, 12 April				
BROWN SHRIKE <i>Lanius cristatus</i>		X	Singles, Balatubat, 3+12 April	1 netted, 11 April	1–3, paddyfields, Corog, 17 April	X	1, Visita, 21 May

Species	Status	Fuga	Camiguin Norte	Pamoctan	Babuyan Claro	Calayan	Dalupiri
ASIAN GLOSSY STARLING <i>Aplonis panayensis</i>	Bs	X	X	Common in mid-April and late May	4, paddyfields, Corog; 1 netted 19 April	Common, Centro, 3 May; imms noted	Rare Visita; common on cliffs in NE
CRESTED MYNA <i>Acridotheres cristatellus</i>	AR		Common around Balatubat, 9–14 April	Common on pasture, E coast	Rare: 2 Corog, 16+29 April	3 May onwards, Centro	Breeding (juvs in cave), Visita and cliffs to NE, 20 May
PURPLE-THROATED SUNBIRD <i>Nectarinia sperata</i>		X	X; breeding		X; breeding	X	Apparently absent
PYGMY FLOWERPECKER <i>Dicaeum pygmaeum</i>	LER <i>fugaensis</i> ;	X				breeding	
LOWLAND WHITE-EYE <i>Zosterops meyeri</i>						X; adults + fledglings, 6 May	
YELLOWISH WHITE-EYE <i>Zosterops nigrorum</i>	LER <i>meyleri</i>		X	Small flocks seen all visits			
EURASIAN TREE SPARROW <i>Passer montanus</i>	Bs			Absent	Max. 27, airstrip, 20 April	Frequent, Centro, Dibay, Dilam	Visita, Caucauayan
BLACK-HEADED MUNIA <i>Lonchura malacca</i>	Bs	X				X	6+, Caucauayan, 24–27 May

### Key

Details are given here of species previously unrecorded for each island, exceptionally late migrants, and notable breeding records. All records were confirmed by an observer experienced with Philippine birds and regional migrants (DA, latterly also JCTG), except for those marked with an asterisk. Square brackets indicate species of unconfirmed identification. The few species previously recorded on Didicas are indicated in the Status column.

AR (area record): first record of the species in the Babuyans or Batanes.

Bs (Batanes only): species known from the Batanes but not the Babuyans.

ER (endemic race): subspecies endemic to the Philippines.

LER (local endemic race): subspecies restricted to the islands mentioned.

PR: first record of the species on the Philippines

PRL: Previous latest record in the year for a spring migrant.

Juvs: juveniles

Imms: immatures

NBs: birds in non-breeding plumage.

M: male

F: female

X: previously recorded from this island (data from Kennedy *et al.* 2000)