

Ornithological records from Bukit Barisan Selatan National Park, Sumatra, Indonesia

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Previously unpublished data are collated and presented for Bukit Barisan Selatan National Park, an extensive site in south-west Sumatra, Indonesia. Records have been compiled from three separate areas in the park, each of which covers a different altitudinal range: (1) the mid-altitude areas around Way Titias, Liwa and Kubuperahu; (2) the montane area surrounding Danau Ranau lake; and (3) the lowland areas of Way Canguk and the southern peninsula including Sukaraja. All known reliable records have been collated and a list of 416 species created. Records of threatened species, significant range extensions and other material of interest are documented, including the first discovery of the nest of Rajah Scops Owl *Otus brookii*.

INTRODUCTION

Bukit Barisan Selatan National Park (hereafter Bukit Barisan) is located in south-west Sumatra, Indonesia (central coordinates 5.17°S 104.10°E). The park is in the most southerly part of the Bukit Barisan range, which forms the mountainous spine of the island lying parallel with, and close to, the west coast. It has a total area of 3,568 km², including a 216 km² marine sector, and lies within two provinces—Lampung and Bengkulu. It was designated a wildlife sanctuary in 1935 and became a national park on 14 October 1982. Together with Gn Leuser and Kerinci Seblat National Parks to the north it forms a World Heritage Site, the Tropical Rainforest Heritage of Sumatra (UNESCO 2004, BirdLife International 2015a). The park lies between sea level and 1,800 m, with two significant higher peaks, Gn Pesagi (2,262 m) and Gn Tangkit Tebak (2,007 m). Habitat includes mangrove forest, lowland tropical forest, and submontane and montane forest. The typical temperature range is 20–30°C and annual rainfall is 1,000–4,000 mm/year.

Bukit Barisan is the third largest officially protected area in Sumatra, although its narrow elongated shape and 700 km long boundary makes protection difficult due to the high boundary-to-interior ratio. The park is the main watershed for south-west Sumatra (O'Brien & Kinnaird 1996), providing water and ecological services to many local communities. A series of protected forests were created to form buffer zones to the east of the park, but these have all already been swallowed up by human encroachment. An estimated 450,000 people live within 10 km of the park boundary, which is now bordered by villages, agriculture and plantations (Kinnaird *et al.* 2003).

Throughout Sumatra, the most critical threat to wildlife is deforestation, and although the park still contains some of the largest remaining tracts of tropical forest on the island, clear-felling for coffee cultivation has already occurred on a significant scale, for example around low- and mid-altitude areas of Danau Ranau (see site details below). Indonesia is the fourth largest coffee producer in the world and the second largest producer of *Coffea robusta*. *Robusta* coffee does not require shade to grow, allowing entire forests to be clear-felled and converted to plantations.

In 1977 the park suffered its most serious set-back when the international price of *robusta* coffee peaked, triggering spontaneous mass migration to the mountainous areas of southern Sumatra and led to major deforestation on the eastern side of the park. Between 1976 and 1982, about 195,000 ha were illegally cleared and converted into coffee plantations by an estimated 100,000 immigrant squatters, mainly originating from Java (Gaveau *et al.* 2009). By the end of the twentieth century, all easily accessible legally protected forest (*hutan lindung*) in the east of the park had been converted to coffee plantations. Today, a few forest patches remain on the mountain

tops, and the forested area of the park has been reduced by 63,726 ha—a 21% loss of forest cover from 1972 to date (Gaveau *et al.* 2009). Remarkably, at present a healthy avian biodiversity survives, with significant populations of larger frugivores including nine species of hornbill, and a healthy galliform population persists in the remaining montane forests. However, if the clearance continues these populations will undoubtedly disappear. Recent economic and political difficulties in Indonesia have intensified the pressure on the park, including a large post-tsunami migration from Aceh and North Sumatra provinces. The area around Bukit Barisan is relatively densely populated with post-tsunami immigrants, adding to the pressure already imposed on natural resources by the earlier mass human influx from Java (Levang *et al.* 2012).

Whilst the remaining montane forest in Kerinci Seblat National Park (central coordinates 2.25°S 101.50°E) is relatively well known, Bukit Barisan, some 480 km to the south-east, remains largely unexplored. MacKinnon & Phillipps (1993) noted the lack of surveys and that only 121 bird species were confirmed for the park. Indeed Bukit Barisan appears to have been systematically surveyed only once for birds, from 7–24 March 1995 (O'Brien & Kinnaird 1996). This survey recorded 276 species, but included one or two which are questionable (e.g. Greater Adjutant *Leptoptilos dubius*; omitted here, but possible) and mistakes (e.g. Common Sandpiper *Actitis hypoleucos* is listed twice under different systematic names, and both Fiery Minivet *Pericrocotus igneus* and Small Minivet *P. cinnamomeus*, and Hair-crested Drongo *Dicrurus hottentottus* and Sumatran Drongo *D. sumatranus*, are listed). However, following the rediscovery of Sumatran Ground Cuckoo *Carpococcyx viridis* in 1997 after 81 years (Zetra *et al.* 2002), the number of visitors has increased a little.

The mammals of Bukit Barisan are rather better documented (UNESCO 2015). The park supports a large number of species, including about 500 'Sumatran' Asian Elephant *Elephas maximus sumatranus*—about 25% of the remaining population of this taxon. An estimated 60–85 Sumatran Rhinoceros *Dicerorhinus sumatrensis* survive, the second largest population anywhere on Sumatra, and 40–50 Critically Endangered Sumatran Tigers *Panthera tigris sumatrae* are also said to survive in the park—about 10% of the remaining population. In addition, the rare Sumatran Striped Rabbit *Nesolagus netscheri* occurs between 600–1,400 m. Other mammals known to occur include Sunda Pangolin *Manis javanica*, Western Tarsier *Tarsius bancanus*, Slow Loris *Nycticebus coucang*, Mitred Leaf Monkey *Presbytis melalophos*, Silvered Langur *Trachypithecus cristatus*, Agile Gibbon *Hylobates agilis*, Siamang *Symphalangus syndactylus*, Wild Dog *Cuon alpinus*, Asian Sun Bear *Helarctos malayanus*, Binturong *Arctitis binturong*, Leopard Cat *Prionailurus bengalensis*, Marbled Cat *Pardofelis marmorata*, Clouded Leopard *Neofelis nebulosa* and Malayan Tapir *Tapirus indicus*.

METHODS

Personal observations

Between 19 and 28 April 2009 CG and Troy Shortell (TS) visited two areas in Bukit Barisan, Way Titias and Danau Ranau, both a 5–6 hour drive north of Bandar Lampung airport, and observed a number of bird species that appeared to be new records for the park, including some which were southward extensions of the species' known ranges. During these visits no systematic or quantitative survey methods were used. Data on species were collected by direct observation, on occasion using playback techniques. We employed the services of two local guides, Gamal and Toni (the latter based in the nearby town of Liwa), who with a cook and the obligatory forest ranger accompanied us throughout. For details of access, accommodation and local guides see the Birding Indonesia website: <http://burung-nusantara.org/birding-sites/sumatra/bukit-barisan-selatan>.

Way Titias (5.068°S 104.026°E) in the north-east of the park is a four-hour, 5 km walk along hunting trails south-south-west of Panyungkaian village at 950 m (5.067°S 104.100°E), located about 2 km south-east of Liwa (5.033°S 104.067°E). The site is in a valley and relatively difficult to access, involving a number of river crossings. The terrain is for the most part steep-sided forested valleys intersected by numerous streams. The habitat is submontane forest, in which dipterocarps are far less common than in lowland forest, and are largely superseded in terms of dominance by Clusiaceae, Euphorbiaceae, Fagaceae and Myrtaceae. There are numerous strangling figs including *Ficus distica* and *F. elastica*. In the subcanopy between 25 and 30 m the Fagaceae and Myrtaceae become more prominent. Smaller trees and shrubs include endemics such as *Debaasia sumatrana* and *Vaccinium gracilipes*. Tree ferns are locally abundant and include the endemic *Cyathea alderwereltii* (Rhind 2010). We spent three full and two half days here from 19–23 April 2009, camping immediately beyond the last river crossing at about 850 m. All observations at the site were made from hunting trails above the camp between 850–1,100 m. Key species at the site include Long-billed Partridge *Rhizothera longirostris*, Ferruginous Partridge *Caloperdix oculeus*, Salvadori's Pheasant *Lophura inornata*, Sumatran Ground Cuckoo and Graceful Pitta *Pitta venusta*.

Danau Ranau lake (4.867°S 103.950°E) is located 32 km north-west of Liwa; the importance of the area lies not in the lake itself but the areas of primary forest on the surrounding hills and, although partially deforested, these remain rich in montane species. After crossing the lake by ferry we walked about 2 km to the start of the 'Puncak Trail' (4.917°S 103.867°E). From here it is a five-hour steep (occasionally very steep) climb south-west to the summit of the trail at 1,366 m (4.950°S 103.850°E). The trail winds up through agricultural areas and degraded secondary growth, before entering primary forest just below the summit. We spent three full and two half days at the site, 24–28 April 2009, camping about 0.5 km beyond the summit by a river at about 1,260 m. Most observations in the area (hereafter Danau Ranau) were made from trails around the camp, between 1,200–1,366 m, although a day was spent climbing the nearby Bukit Pogong, reaching 1,678 m. Habitat here is typical montane forest lying between 1,400 and 1,900 m, which usually consists of two tree layers, the 30 m high canopy and a subcanopy layer between 10–20 m; beneath these is a shrub layer 5–10 m in height. Fagaceae, Lauraceae, Myrtaceae, some Theaceae and Sapotaceae are the main upper canopy families. Climbers are still relatively common and include the endemic *Passiflora sumatrana*. There are also many epiphytic species such as the endemic fern *Pyrrosia asterosora*. The undergrowth is typically rich and includes several endemics such as *Lithocarpus orbicularis* (Fagaceae) and *Rhododendron frey-wysslingii* (Rhind 2010). The site holds avian species that are scarce/elusive elsewhere, including Sumatran

Partridge *Arborophila sumatrana*, Rajah Scops Owl *Otus brookii*, Javan Woodcock *Scolopax saturata*, Schneider's Pitta *Hydrornis schneideri*, Sumatran Cochoa *Cochoa beccarii*, and possibly still the elusive Sumatran Laughingthrush *Garrulax bicolor*, although the latter now appears extremely scarce or locally extinct. Access to the not easily accessible high ridges where it may still survive necessitates some tough climbing.

Additional data sources

After our 2009 visit I contacted ornithologists and birdwatchers who had visited Bukit Barisan since 1992 (Appendix 1) in order to collate their (mostly unpublished) data, document the more significant records, and compile a species list for the park to date. Two invaluable contributors, Nick Brickle and Philippe Verbelen, add important evidence from lower-lying areas in the park.

Nick Brickle kindly supplied a list of 208 bird species together with a list of mammals recorded at the Way Cangkuk Research Station (WCRS) between 1997 and 2009. This research station, run by the Wildlife Conservation Society Indonesia Program (www.wcsip.org), lies at an altitude of about 50 m in the south-west corner of the park (5.689°S 104.409°E) near the village of Sumberejo, and is accessible from Pemerihan to the west of the park. It is about 4 km inside primary lowland forest and a network of trails radiates from the research buildings. Many lowland species are found here, including good numbers of Great Argus *Argusianus argus*, Railbabbler *Eupetes macrocerus* and Malayan Banded Pitta *Pitta irena*, with regular sightings of Giant Pitta *P. caeruleus*.

Philippe Verbelen kindly supplied records from his visits to Sumatra in 1992, 1995, 1997, 1998 and 2009. These provide early data from Kubuperahu village lying a few km west of Way Titias, between Liwa, Lampung province (c.940 m) and Krui on the coast, and from Danau Ranau, plus records from the lowland Bukit Barisan southern peninsula and from Sukaraja, 60 km west-south-west of Kota Agung, Lampung province, just north of the road which crosses the park en route to Bengkuntan. Peninsula sites PV visited included Belimbing, Tampang and Way Sleman and his observations added almost 40 species to the park list, including herons and other waterbirds observed in the lowland swamp and beach habitat of Sumatra's extreme south-west. He also confirmed a few early records from Paul Jepson in 1992 and Jean-Marc Thiollay in 1995–1996.

Sumatra's luxuriant lowland forests are some of the most diverse on earth with over 100 species of dipterocarps, six of which are endemic. Trees can reach heights of 60 m, the undergrowth is dominated by shrubs, tree ferns and palms, and lianas and climbers are common, particularly climbing palms mostly represented by rattans. The habitat in the lower Barisan hills (150–500 m) has a different species composition from the true lowland forests, although they are still classed as dipterocarp forests and have canopies reaching 40 m (Rhind 2010).

In summary, whilst the coverage of Bukit Barisan as a whole is still far from complete, these sites cover a wide range of habitats and altitudes.

RESULTS AND DISCUSSION

Our records, combined with those of other experienced observers listed in Table 1, document 416 species within the national park boundaries. This total includes 96 threatened and Near Threatened species: three Critically Endangered species: Christmas Frigatebird *Fregata andrewsi*, Sumatran Ground Cuckoo and Helmeted Hornbill *Rhinoplax vigil* (uplifted from Near Threatened); three Endangered species: White-winged Duck *Asarcornis scutulata*, Milky Stork *Mycteria cinerea*, and Storm's Stork *Ciconia stormi*; ten Vulnerable species: Large Green Pigeon *Treron capellei*, Wallace's

Table 1. Summary of observers.

WC/S = Way Canguk/southern peninsula (in text WCRS stands for Way Canguk Research Station); WT/L/K = Way Titias/Liwa/Kubuperahu area; DR = Danau Ranau

Observers	Visit date(s)	Sites visited		
		WC/S	WT/L/K	DR
Philippe Verbelen (PV)	October 1992, October 1995, July–August 1997, July–August 1998, February–March 2009	*	*	*
Pete Morris (PM)	June 1998, June 2000		*	
Nick Brickle (NB)	Jun 2004, July 2005, February 2006, March 2007, April 2008, June 2008	*	*	*
Sander Lagerveld (SL), Eeva-Liisa Alanen (E-LA)	July 2007		*	
Albert Low (AL), Andy Mears (AM)	August 2007		*	
Ashley Banwell (AB), John Gregory (JG)	December 2007, April 2008		*	*
Janos Olah (JO)	June 2008, June 2010, June 2012		*	
Richard Thomas (RT), Sarah Thomas (ST)	August–September 2008		*	*
Chris Gooddie (CG), Troy Shortell (TS), Gamal (G)	April 2009		*	*
Brian Cox (BC)	June–July 2009		*	*
Zoltán Ecsedi (ZE), Tibor Juhász (TJ) per Tamas Zalai	June–July 2009		*	*
Wendy Newnham (WN), Fabian Ducry (FD), David Marques (DM)	September 2009		*	*
Gareth Knass (GK), Martin Gottschling (MG), Holger Lauruschkus (HL)	February 2013		*	*

Hawk Eagle *Nisaetus nanus*, Asian Woollyneck *Ciconia episcopus*, Lesser Adjutant *Leptoptilos javanicus*, Schneider's Pitta, Graceful Pitta, Brown-chested Jungle Flycatcher *Rhynomias brunneatus*, Sumatran Cochoa, Straw-headed Bulbul *Pycnonotus zeylanicus* and Sumatran Laughingthrush *Garrulax bicolor*; and 80 Near Threatened species.

The Bukit Barisan list may be expected to continue to grow, as a result of visiting birdwatchers using audio playback to search proactively for potential additional species at appropriate altitudes. Species known to occur further north in the Barisan mountain range, but which had never been searched for further to the south-east, have been discovered. For example, in August 2008 a proactive search using playback proved the presence of Sumatran Wren Babbler *Rimator albostrigatus* (R. & S. Thomas pers. comm.); similarly, a short visit to Danau Ranau in April 2009 (CG, TS) revealed the presence of Rusty-breasted Wren Babbler *Turdinus rufpectus*. However, since only a limited number of sites have been covered, and coverage remains very low, it is likely that a substantial number of species remain to be found.

Selected species accounts

Details are provided in the selected species accounts below for threatened species (Critically Endangered, Endangered, Vulnerable and Near Threatened) and species which are new for the park (taxa marked †) and/or which represent significant range extensions. Observers are cited by their initials; full names are in Table 1. Appendix 1 gives the full list of avian species known to have occurred within the park boundaries. Species nomenclature and taxonomy for passerines generally follow Inskipp *et al.* (2001), except where superseded by more recent published information (taxa marked *). For non-passerines taxonomy follows del Hoyo & Coller (2014). Three taxa marked ** were at the time of preparation of the paper not of conservation concern, but have recently been uplifted to Near Threatened.

Long-billed Partridge *Rhizothera longirostris* †

Near Threatened. A pair heard and seen duetting c.1 km above camp at Way Titias, 21 April 2009 (TS, G), with probably the same pair heard and seen, 22 April 2009 (CG, TS, G). PV recorded a pair's contact calls at Way Titias, 18 February 2009 (avocet.zoology.msu.edu/recordings/3467) and contact calls were heard there, June 2009 (ZE, TJ). There have been few recent records from Sumatra (Madge & McGowan 2002) and these are apparently the first records for the park.

Sumatran Partridge *Arborophila sumatrana* *

Seen at Danau Ranau, 22 June 2008 (NB). Heard in forest above

Kubuperahu and in forest between there and Liwa, March 2009 (PV). Heard daily at Danau Ranau 24–28 April 2009 (CG, TS, G), June 2009 (ZE, TJ) and 11, 12, 14 February 2013 (GK). Three seen at Way Titias, September 2009 (WN).

Ferruginous Partridge *Caloperdix oculus* †

Near Threatened. Two seen near Kubuperahu, 23 June 1998 (PM). Two heard at Way Titias, July 2007 (SL, E-LA). A pair seen at the same site, 26 August 2007 (AL, AM), with a pair at Way Titias, December 2007 (AB, JG). Another heard at Way Titias, June 2008 (JO), and two there, September 2009 (WN *et al.*). One was heard in a forest edge coffee plantation during the walk to Danau Ranau, 28 April 2009 (CG, TS, G). Single birds were heard distantly at Way Titias, June 2009 (ZE, TJ) and 8–9 February 2013 (GK).

Crested Partridge *Rollulus rouloul*

Near Threatened. Heard in the southern peninsula, July 1997 (PV) and a group heard and seen in forest near Sukaraja, March 2009 (PV). Present at WCRS where one seen 4 June 2004 (NB). Three birds seen at Way Titias, 22 April 2009 (CG, TS) were rather high at c.950 m: MacKinnon & Phillipps (1993) state 'common resident in lowland forests on Sumatra...to 800 m'.

Salvadori's Pheasant *Lophura inornata*

Near Threatened. There are 20+ camera trap records from WCRS dating back to 1999 (NB). Two males and a female seen at Way Titias, December 2007, and four more seen 10–13 April 2008 (AB, JG). A single male seen at close range crossing a hunting trail 2.5 km above camp, Way Titias, 22 April 2009 (CG, TS, G). A male seen twice at Way Titias, June 2010 (JO). These are apparently the first sight records for the park. The species is known from few localities (Madge & McGowan 2002), the nearest being Gn Dempo, 150 km to the north-west.

Malay Crested Fireback *Lophura rufa*

Near Threatened. Listed for the park by O'Brien & Kinnaird (1996) but no confirmed records since.

Bronze-tailed Peacock Pheasant *Polyplectron chalcurem*

Heard on the waterfall trail, Kubuperahu, July 1997 (PV), well below 800 m (van Marle & Voous 1988). Singles seen at Way Titias, 22 March 2007, and Danau Ranau, 22 June 2008 (NB), a male at Way Titias, late June 2009 (BC) and a pair at Danau Ranau, July 2009 (BC). Singles heard at Way Titias 20 April 2009 (CG, TS, G) and Danau Ranau, 26 April 2009 (CG, TS, G), with other 'heard only' records from several observers. One glimpsed at Danau Ranau, February 2013 (MG).

Great Argus *Argusianus argus*

Near Threatened. Seen regularly in forests around Kubuperahu, 1995, 1997 and 2009 (PV) and in forested areas of the southern peninsula, 1998 (PV). Heard near Kubuperahu, 22 and 23 June 2000 (PM). Present in good numbers at WCRS (NB).

White-winged Duck *Asarcornis scutulata*

Endangered. One seen flying at dusk over swamp forest near Rawa Sleman, southern peninsula, 24 August 1998 (PV). Local porter/guide reported knowing the species well and confirmed its presence on Way Sleman and in forest on nearby Way Blambangan (PV). Also recorded at WCRS since 1997, but exact date(s) unknown (NB).

Malaysian Honeyguide *Indicator archipelagicus*

Near Threatened. Listed by O'Brien & Kinnaird (1996) without further data. A singing male seen at WCRS, 22 Aug 2010, where it had held a territory for several years (NB).

Olive-backed Woodpecker *Dinopium rafflesii* †

Near Threatened. One seen near Way Titias, 16 July 2007 (SL, E-LA), and a pair seen there, June 2010 (JO). This species is uncommon throughout its entire range, and there are few recent records for Sumatra (Buij *et al.* 2006).

Buff-necked Woodpecker *Meiglyptes tukki*

Near Threatened. Three seen near Kubuperahu, 23 June 2000 (PM). Present at WCRS where seen 4 June 2004 (NB). Seen in the Sukaraja area, March 2009 (PV).

Red-crowned Barbet *Psilopogon rafflesii*

Near Threatened. Two birds seen in a fruiting tree near Tampang, southern peninsula, July 1998 (PV). Seen at Danau Ranau, early September 2008 (RT, ST). Present at WCRS (NB).

Red-throated Barbet *Psilopogon mystacophanos*

Near Threatened. Rather common around Kubuperaha and Sukaraja; also regularly recorded in the southern peninsula (PV). One seen and up to five heard Way Titias, July 2007 (SL, E-LA). One heard there, 19 April 2009 (CG, TS) and two seen there June 2012 (JO). Singles heard at Danau Ranau, 10, 13, 14 February 2013 (GK). Present at WCRS where one seen 4 June 2004 (NB).

Yellow-crowned Barbet *Psilopogon henricii*

Near Threatened. Seen in Kubuperahu and the southern peninsula (PV). One seen near Kubuperahu on 22 June 2000 (PM). One seen at Way Titias, 22 March 2007 (NB). Present at WCRS (NB).

Black Hornbill *Anthracoseros malayanus*

Near Threatened. Seen at Way Titias, early September 2008 (RT, ST). Heard there, September 2009 (WN). Present at WCRS (NB).

Rhinoceros Hornbill *Buceros rhinoceros*

Near Threatened. Flocks of up to 19 birds seen in the Kubuperahu area 1995 (PV), and rather common in the southern peninsula and Sukaraja (PV). Two seen between Landos and Way Titias, July 2007 (SL, E-LA). One at Way Titias, 27 August 2007 (AL, AM). Two heard between Landos and the Way Titias camp, 20 April 2009 (CG, TS). Two seen at Danau Ranau, September 2009 (WN). Seen once at Way Titias and twice at Danau Ranau, February 2013 (GK). Present at WCRS where one seen 4 June 2004 (NB).

Great Hornbill *Buceros bicornis*

Near Threatened. Seen in lowland forest near Belimbing and in forest between Danau Menjuket and Tampang, July 1998 (PV). Seen at Way Titias, early September 2008 (RT, ST). Present at WCRS (NB).

Helmeted Hornbill *Rhinoplax vigil* *

Critically Endangered. Near Threatened at the time of preparation of the paper, recently uplifted to the highest threat level as the result of trade in 'hornbill ivory' (Collar 2015). Regularly seen in Kubuperahu, Sukaraja, the southern peninsula and at Way Titias (PV). One seen Way Titias July 2007 (SL, E-LA). Singles seen at both Way Titias and Danau Ranau, August/September 2008 (RT, ST). One heard at Way Titias, 22 April 2009 (CG, TS) with one heard there, September 2009 (WN). Heard at Way Titias, 5–8 February 2013 (GK). Present at WCRS where seen 4 June 2004 and 22 April 2008 (NB).

White-crowned Hornbill *Berenicornis comatus*

Near Threatened. Two feeding in a fruiting tree, Way Titias camp, December 2007 (AB, JG). Recorded daily (usually heard only) in Sukaraja area, February and March 2009, with sound recording made, 28 February 2009 (PV). One heard Danau Ranau, 11 February 2013 (GK). Present at WCRS (NB).

Wrinkled Hornbill *Rhabdotorrhinus corrugatus*

Near Threatened. Listed by O'Brien & Kinnaird (1996) but no confirmed records since.

Red-naped Trogon *Harpactes kasumba* †

Near Threatened. Several heard at Kubuperahu in July 1997 with one seen well in response to tape playback (PV).

Diard's Trogon *Harpactes diardii*

Near Threatened. Present at WCRS, where one seen 4 June 2004 (NB). One seen at Sukaraja, February 2009 (PV).

Cinnamon-rumped Trogon *Harpactes orrhophaeus* †

Near Threatened. One male seen at c.800 m, along the waterfall trail, Kubuperahu, July 1997 (PV). This is some 200 m higher than the existing record of 600 m for the species on Sumatra (van Marle & Voous 1988). MacKinnon (1993) described it as a rare montane resident, recorded between 1,000–1,500 m, an error probably resulting from observations on Borneo where the species does occur in hill and montane forests. Few recent records on Sumatra, although it is probably overlooked. Wells (1999) comments that 'in peninsular Malaysia, mist-netting suggests that this is actually the commonest trogon, but is difficult to find due to its consistent use of low, concealed perches and generally silent behaviour'.

Scarlet-rumped Trogon *Harpactes duvaucelii*

Near Threatened. Photographed and sound recording made (avocet. zoology.msu.edu/recordings/3332) in forests around Sukaraja, 28 February 2009 (PV). Present at WCRS (NB).

Red-headed Trogon *Harpactes erythrocephalus* †

At Danau Ranau, 25 April 2009, a single was heard shortly after dawn at c.1,300 m in response to tape playback about 200 m from camp towards the summit (CG, TS). Another was heard here, 14 February 2013 (GK). Collar (2001) described it as 'rather rare in Sumatra, where only one record in the period 1930–1985'. However, it is surely under-reported, with e.g. sightings of 'several' on the lower Tapan Road in the foothills of Gn Kerinci in July 2008 (JO).

Malay Blue-banded Kingfisher *Alcedo peninsulae* *

Near Threatened. One on the waterfall trail, Kubuperahu, July 1997 (PV). One on a small stream at Way Titias, late June 2008 (JO) and another in similar location there, June 2009 (ZE, TJ). Seen daily there June 2012 (JO). Present at WCRS (NB).

Rufous-collared Kingfisher *Actenoides concretus*

Near Threatened. Heard at Tampang, southern peninsula, August

1998 (PV). Heard daily, February and March 2009, in Sukaraja area (PV), photographed and sound recording made, 28 February 2009 (avocet.zoology.msu.edu/recordings/3240). One heard near Kubuperahu, 23 June 1998 (PM), and there on 22 June 2000 (PM). Another heard at Way Titias, 19 April 2009 (CG, TS). Present at WCRS where one seen 4 June 2004 (NB).

Moustached Hawk Cuckoo *Hierococcyx vagans* †

Near Threatened. One heard between Landos and Way Titias, 16 July 2007 (SL, E-LA).

Horsfield's Bronze Cuckoo *Chrysococcyx basilis* †

A juvenile seen at Belimbing, southern peninsula, 22 May 1992, by Paul Jepson was the first record in Sumatra for 55 years (per PV).

Black-bellied Malkoha *Phoenicophaeus diardi* †

Near Threatened. One seen at Kubuperahu, July 1997 (PV).

Chestnut-bellied Malkoha *Phaenicophaeus sumatranus*

Near Threatened. Records from the Kubuperahu area, July 1997 (PV), also seen near Sukaraja, March 2009 (PV). Present at WCRS (NB).

Sumatran Ground Cuckoo *Carpococcyx viridis*

Critically Endangered. Following the rediscovery of the species at Sukaraja (Zetra *et al.* 2002), birds have been heard and seen by a number of observers (including NB, ZE, TJ, WN, RT, ST, PV) at Way Titias, between 2007–2013, e.g. one seen, 22 March 2007 (NB), up to three heard between 0.5–2 km from camp, 20–23 April 2009 (CG, TS, G).

Blue-rumped Parrot *Psittinus cyanurus*

Near Threatened. Seen occasionally in the Sukaraja area, and 2 singles seen in the Belimbing area, southern peninsula, August 1998 (PV). Also present at WCRS (NB).

Reddish Scops Owl *Otus rufescens*

Near Threatened. Heard in lowland forest between Tampang and Belimbing, southern peninsula (PV). One seen at Way Titias 22 March 2007. Present at WCRS where seen 1 July 2005, 22 April 2008 (NB).

Rajah Scops Owl *Otus brookii* †

At Danau Ranau, 27 April 2009, a scops owl sp. was flushed from cover (TS, G) in the morning and subsequently seen and photographed sitting on a nest in a tree cavity, 500 m from camp at c.1,300 m (TS, CG, G). At first we thought the bird was a Mountain Scops Owl *O. spilocephalus* but the face pattern and iris colour did not appear to fit that species. The bird and eggs were photographed, and we subsequently confirmed identification as Rajah Scops Owl *O. brookii*, presumably race *solokensis*. Our identification is based on the combination of the striking contrast between the blackish crown and rufous face and the white supercilia and ear-tufts. Mountain Scops Owl and Sunda Scops Owl *O. lempiji* do not show such a contrast. In addition the iris was a pale yellow-orange colour, which rules out Mountain Scops Owl, which has a pale yellow iris.

The nest site was located 2.5 m above ground in a large, old cavity in the main trunk of a 5 m tall tree next to the main summit trail; the hole was about 50 cm in diameter. The nest itself was not clearly visible, but the cavity had been lined with soft mossy material. The two eggs were off-white, with obscure, sparse and irregular buff, grey and brown blotching which may possibly have been discolouration resulting from contact with material within the nest-cavity. An extensive literature search found no reference to the nest of Rajah Scops Owl having previously been found; therefore this appears to be the first record.

Collared Owlet *Glaucidium brodiei* †

One seen at Danau Ranau 10 February 2013 (GK). This record represents a southerly range extension of 425 km.

Short-tailed Frogmouth *Batrachostomus poliophus* †

Near Threatened. Two calling around the camp at Danau Ranau on 22 June 2008 (NB), one seen there, 5 July 2009 (BC) and one heard there, September 2009 (WN).

Salvadori's Nightjar *Caprimulgus pulchellus* †

Near Threatened. One heard at Danau Ranau, 14 April 2008, (AB, JG). In Sumatra the species was for long known only from the type specimen collected in 1878, at Gn Singgalang, Padang Highlands, west Sumatra, and a second male taken on Gn Dempo, 15 July 1936 (Cleere & Nurney 2000). There are recent records from Gn Kerinci, August 2004 (D. Guthrie pers. comm.) and August 2009 (FD & DM; <http://www.xeno-canto.org/90805>). This record represents a south-east range extension of 150 km.

Large Green Pigeon *Treron capellei*

Vulnerable. Observed in primary forest at Tampang, southern peninsula, August 1998 (PV). Present at WCRS, where seen 4 June 2004 (NB).

Sumatran Green Pigeon *Treron oxyurus*

Near Threatened. At least four seen near Kubuperahu, 24 June 1998 (PM), two seen there, 23 June 2000 (PM). Heard at Way Titias, February 2009 (PV). Three in flight at Danau Ranau, 27 April 2009, at the lower edge of the forest below camp (CG, TS, G). Singles heard daily at Danau Ranau, 11–14 February 2013, with singles seen 12 and 13 February (GK). One seen at Way Titias, 5 February 2013, another heard there, 8 February 2013 (GK). Present at WCRS (NB).

Jambu Fruit Dove *Ramphiculus jambu*

Near Threatened. One in the Tampang area, southern peninsula, August 1998 (PV). Present at WCRS (NB).

Javan Woodcock *Scolopax saturata* †

Near Threatened. At Danau Ranau, 3–4 birds seen before dawn, flying around in the forest near camp, each morning 22–24 June 2008 (NB).

Eurasian Curlew *Numenius arquata* †

Near Threatened. One on the beach at Belimbing, southern peninsula, August 1998 (PV).

Beach Thick-knee *Esacus magnirostris*

Near Threatened. Several on the beach between the Way Sleman river mouth and Danau Menjikut, 25 August 1998, including an alarm-calling adult close to a nest containing one egg (PV). This is the second record for Bukit Barisan and mainland Sumatra, and the first breeding record—Paul Jepson observed this species at the same locality in 1992. There are few records from the Sumatran faunal region (Holmes 1996) (per PV).

Malaysian Plover *Charadrius peronii* †

Near Threatened. At least 5 pairs with young seen on the beach at Belimbing, 24 August 1998 (PV).

Lesser Fish Eagle *Ichthyophaga humilis*

Near Threatened. Present at WCRS (NB).

Grey-headed Fish Eagle *Ichthyophaga ichthyaetus*

Near Threatened. Adult photographed, Rawa Sleman, 24 August 1998 (PV). Present at WCRS (NB).

Wallace's Hawk Eagle *Nisaetus nanus*

Vulnerable. Present at WCRS (NB).

Black-headed Ibis *Threskiornis melanocephalus*

Near Threatened. Listed by O'Brien & Kinnaird (1996) but no confirmed records since.

Milky Stork *Mycteria cinerea*

Endangered. Listed by O'Brien & Kinnaird (1996) but no confirmed records since.

Asian Woollyneck *Ciconia episcopus* *

Vulnerable. Listed by O'Brien & Kinnaird (1996) but no confirmed records since.

Storm's Stork *Ciconia stormi*

Endangered. The species has been recorded at WCRS since 1997, but exact date(s) are unknown (NB).

Lesser Adjutant *Leptoptilos javanicus*

Vulnerable. Listed by O'Brien & Kinnaird (1996) but no confirmed records since.

Christmas Frigatebird *Fregata andrewsi*

Critically Endangered. Listed by O'Brien & Kinnaird (1996) but no confirmed records since.

Schneider's Pitta *Pitta schneideri*

Vulnerable. Regularly seen at Danau Ranau. A single on 22 June 2008 (NB), a male seen well and photographed at c.1,200 m 25 April 2009 and two seen briefly in response to tape playback less than 1 km below camp at c.1,100 m on 27 April (CG, TS, G). Heard only, June 2009 (ZE, TJ). One male seen and two heard, September 2009 (WN). A female seen 11–12 February 2013 (GK) with another heard 13–14 February. There are numerous old camera trap records from the higher elevations at WCRS (NB).

Giant Pitta *Pitta caerulea*

Near Threatened. One calling at Sukaraja, March 2009 (PV). One almost certainly heard near Kubuperahu, 22 June 1998 (PM). These are the only mid-altitude records in the park. However, in the lowlands the species is present in small numbers at WCRS where 'September–November, when they are calling, they can be relatively easy to see' (NB).

Malayan Banded Pitta *Pitta irena*

Near Threatened. Common in the southern peninsula and around Sukaraja (PV). One seen at Way Titias, between 800–1,000 m, 22 March 2007 (NB), was close to the upper limit for the Sumatran population, which is usually 'at least as high as 750 m' (Lambert & Woodcock 1996). Common at WCRS where seen 4 June 2004 and 22 April 2008 (NB).

Garnet Pitta *Pitta granatina*

Near Threatened. Present at WCRS (NB). In Sumatra this species inhabits lowland forest from 0–200 m (Lambert & Woodcock 1996). At higher altitudes it is replaced by Graceful Pitta *Pitta venusta*, and this is corroborated by the lack of records from either Way Titias or Danau Ranau.

Graceful Pitta *Pitta venusta*

Vulnerable. Observed in the Kubuperahu area in 1995, 1997 and 2009 and commonly heard at Way Titias (PV). At Way Titias one seen and photographed about 1 km from the camp, 21 April 2009 (CG). At Danau Ranau one was seen and photographed c.500 m from camp at 1,240 m, 25 and 26 April 2009 (CG, TS, G), one

seen immediately behind camp, 26 April 2009 (G) and one c.600 m below camp 27 April 2009 (CG, TS, G). Other records from Way Titias, March 2007 (NB), August and September 2008 (RT, ST), February 2013 (GK) and from Danau Ranau, June 2008 (NB), August and September 2008 (RT, ST), June 2009 (ZE, TJ) and February 2013 (GK).

Black-and-yellow Broadbill *Eurylaimus ochromalus*

Near Threatened. Common in the Sukaraja area and below Kubuperahu towards Krui, also throughout the lowland forests of the southern peninsula (PV). Present at WCRS where e.g. one seen 4 June 2004 (NB). Two heard Way Titias, July 2007 (SL, E-LA), with singles heard there, 26 August 2007 (AL, AM), 20 April 2009 (CG, TS) and 5 February 2013 (GK).

Green Broadbill *Calyptomena viridis*

Near Threatened. Singles seen and heard at Way Titias, 1995 and 1997, also regular in the southern peninsula and the Sukaraja area (PV). Singles seen near Kubuperahu, 23 and 24 June 1998 (PM). Two heard at Way Titias, July 2007 (SL, E-LA), one heard there, April 2008 (AB, JG), 1–2 seen on two days there, September 2009 (WN), three there, June 2010 and 'a few' there June 2012 (JO). Present at WCRS (NB).

Lesser Green Leafbird *Chloropsis cyanopogon*

Near Threatened. Present in the Sukaraja area, March 2009 (PV). Present at WCRS where one seen 4 June 2004 (NB).

Sumatran Leafbird *Chloropsis media* *

A little-known Sumatran endemic. A pair seen on Bukit Pogong at Danau Ranau, 26 September 2009 (CG, TS). Two seen in the Kubuperahu area, date unknown (PV). This species has only recently been split from the Gold-fronted Leafbird *C. aurifrons* of South Asia and mainland South-East Asia. It is designated Least Concern (BirdLife International 2015b), although it has long been neglected and is little known. We recommend that all visitors report sightings to BirdLife International.

Blue-masked Leafbird *Chloropsis venusta*

Near Threatened. A male seen near Kubuperahu, 24 June 2000 (PM). One seen at Danau Ranau, 22 June 2008 (NB). A female seen at Way Titias, September 2009 (WN). One seen at Danau Ranau, 12 February 2013, and 5 birds seen in a mixed species flock there the following day (MG, HL).

Railbabbler *Eupetes macrocerus*

Near Threatened. Frequently observed in the southern peninsula, August 1998, and in Kubuperahu up to 900 m (PV). One seen at Way Titias, 22 March 2007 (NB). One heard there, July 2007 (SL, E-LA) and a bird thought to be this species heard between Way Titias and Landos, August 2007 (AL, AM). A pair seen between Way Titias and Landos, September 2009 (WN). Common at WCRS (NB).

Crested Jay *Platylophus galericulatus*

Near Threatened. Frequently observed in Kubuperahu area (1995, 1997) and Sukaraja area (2009) (PV). Present at WCRS (NB). Two seen at Way Titias, June 2008 (JO), with a single heard there September 2009 (WN).

Black Magpie *Platysmurus leucopterus*

Near Threatened. Seen in the Kubuperahu area, 1998 (PM). Two heard near Duku Banyak on the Blambangan River, August 1998 (PV). Two heard at Way Titias, July 2007 (SL, E-LA). One heard at Danau Ranau, 27 April 2009 (CG, TS). Present at WCRS where seen 4 June 2004 (NB).

Dark-throated Oriole *Oriolus xanthonotus*

Near Threatened. Present at Kubuperahu, July 1997 (PV). Present at WCRS (NB).

Fiery Minivet *Pericrocotus igneus*

Near Threatened. Several observations of single birds, August 1998, southern peninsula (PV). Present at WCRS (NB).

Sumatran Drongo *Dicrurus sumatranus**

Near Threatened. Recorded in forest above Kubuperahu, July 1997 (PV). Frequently recorded at Way Titias, with lower numbers at Danau Ranau (several observers). Present at WCRS (NB).

Green Iora *Aegithina viridissima*

Near Threatened. A single seen in Kubuperahu, 20 July 1997 (PV). Present at WCRS (NB).

Maroon-breasted Philentoma *Philentoma velatum*

Near Threatened. A pair seen in the Kubuperahu area, 23 July 1997 (PV). Also seen at Way Titias and Sukaraja in February–March 2009 (PV). Singles recorded at both Way Titias and Danau Ranau 2007–2013 (several observers).

Chestnut-capped Thrush *Zoothera interpres*

Near Threatened. Several observed along the river on the waterfall trail, Kubuperahu, July 1997 (PV). One seen well in primary lowland forest near the Way Sleman shelter, near Belimbing, 22 August 1998 (PV). A few days later an adult and two very young juveniles seen in the bird market, Kota Agung, were said to come from the Tampang area (PV). Also seen at WCRS (NB) but detail and date(s) unknown.

Scaly Thrush *Zoothera dauma* †

A single, presumably the endemic race *horsefieldi*, seen at Danau Ranau on 30 June 2009 (ZE, TJ). Taxonomic relationships within *Z. dauma* continue to require detailed evaluation (Collar 2004).

Brown-chested Jungle Flycatcher *Rhinomyias brunneatus* †

Vulnerable. Although the species is not included in van Marle & Voous (1988), Parrott & Andrews (1996) reviewed 'provisional' records in Way Kambas National Park, Sumatra, and there is now at least one wintering record from the Way Canguk area (60 m), Bukit Barisan, March 2012 which has been verified by Yong & Liu (2015) from images obtained by the discoverer Zulfikri bin Bakhtiar.

Grey-chested Jungle Flycatcher *Rhinomyias umbratilis* †

Near Threatened. A very territorial singing male was observed in the Kubuperahu area, 22 and 23 July 1997 (PV). One seen west of Liwa near Kubuperahu on 23 June 1998, with another there on 22 June 2000 (PM). One seen at Way Titias, 22 March 2007 (NB). O'Brien & Kinnaird (1996) listed the species, but no details were given; these are therefore the first confirmed records for Bukit Barisan.

Rufous-chested Flycatcher *Ficedula dumetoria* †

Near Threatened. Observed several times in the Way Titias area, February 2009 (PV). A male seen, heard and photographed at Danau Ranau, 50 m below camp, 28 April 2009 (CG, TS). A single seen by the campsite at Way Titias, September 2009 (WN), one seen between Landos and Way Titias, 5 February 2013 (GK). According to MacKinnon & Phillipps (1993) 'a local resident of hill forest, from 600 m to 1500 m, not recorded south of Kaba'. These records represent a southerly range extension of c.215 km.

White-tailed Flycatcher *Cyornis concretus* †

One seen at Way Titias, August 2008 (RT, ST).

Malaysian Blue Flycatcher *Cyornis turcosus*

Near Threatened. Listed (specific location unknown) by O'Brien & Kinnaird (1996) but no confirmed records since. However, a *Cyornis* sp. seen by a stream at Danau Ranau, April 2008 (AB, JG) may have been this species. A second bird, an adult female, also thought to have been this species, was video-recorded at the same location, 4 July 2009 (BC). The species has been recorded to 800 m in Borneo (MacKinnon & Phillipps 1993), but only to 60 m in Peninsular Malaysia (Wells 2007), whilst for Sumatra, van Marle & Voous (1988) noted 'along rivers and small streams in swamp forest and marsh in lowland, usually well below 100 m.' If identification is confirmed, it appears that this sighting would represent a significant altitudinal range extension for Sumatra.

Pygmy Blue Flycatcher *Muscicapella hodgsoni* †

Singles seen at Danau Ranau, 8 and 10 September 2009 (WN), one seen and photographed there, 13 February 2013 (GK).

Rufous-tailed Shama *Trichixos pyrropyga* †

Near Threatened. One heard along the Blambangan River, southern peninsula, 20 August 1998 (PV); species also photographed and sound-recorded several times in rainforest (c.450 m) around Sukaraja, March 2009 (PV).

Sunda Robin *Myiomela diana* †

An immature seen at Danau Ranau, 3 July 2009 (BC).

Chestnut-naped Forktail *Enicurus ruficapillus*

Near Threatened. Present at WCRS where one seen 1 February 2006 (NB). One at Way Titias 22 March 2007 (NB).

Sumatran Cochoa *Cochoa beccarii* †

Vulnerable. One seen at Danau Ranau, 22 June 2008 (NB). Another, probably an adult female, was seen, heard and photographed there in a mixed flock (c.1,230 m), 25 April 2009, about 250 m from camp towards the summit (CG, TS, G). A single heard and briefly seen, Way Titias, September 2009 (WN). One heard and seen, Danau Ranau (c.1,330 m), 12–14 February 2013 (GK).

Straw-headed Bulbul *Pycnonotus zeylanicus*

Vulnerable. Listed without specific location by O'Brien and Kinnaird (1996) but no confirmed records since. The continuing presence of this species requires confirmation given the decimation of its population in Sumatra by trapping for the cagebird trade (BirdLife International 2001).

Spot-necked Bulbul *Pycnonotus tympanistrigus* †

Near Threatened. Endemic. Seen Danau Ranau, late August/early September 2008 (RT, ST). The species is regularly recorded at Bukit Tapan, Gn Kerinci foothills (PV), but there appear to be few documented records further south.

Ruby-throated Bulbul *Pycnonotus dispar**

Common in the Kubuperahu area, July 1997 (PV).

Scaly-breasted Bulbul *Pycnonotus squamatus*

Near Threatened. One seen in Kubuperahu, 19 July 1997. One in a fruiting tree, at Sukaraja, March 2009 (PV). Also present at WCRS (NB).

Grey-bellied Bulbul *Pycnonotus cyaniventris*

Near Threatened. At least three seen at Kubuperahu, July 1997 (PV). One seen Way Titias, July 2007 (SL, E-LA). One seen at Danau Ranau, 24 April 2009 (CG, TS). Present at WCRS (NB).

Orange-spotted Bulbul *Pycnonotus bimaculatus* †

Two seen at Danau Ranau, 3 July 2009 (BC). At least two on different days, in a paddyfield below Danau Ranau campsite, September 2009 (WN).

Finsch's Bulbul *Alophoixus finschii*

Near Threatened. Although previously recorded at WCRS (NB), there appear to be no confirmed records since at least 2004.

Buff-vented Bulbul *Iole olivacea* †

Near Threatened. Several seen at both Kubuperahu and Tampang, October 1995 and July 1997 (PV).

Streaked Bulbul *Ixos malaccensis*

Near Threatened. Several observations from Kubuperahu, October 1995 and July 1997 (PV). One at Way Titias, 22 March 2007 (NB). Present at WCRS (NB).

Mountain Leaf Warbler *Phylloscopus trivirgatus* †

At least two singles, Danau Ranau, 9 September 2009 (WN).

Sumatran Laughingthrush *Garrulax bicolor* *

Vulnerable. Three birds heard calling at close range several times over a one-hour period at c.1,500 m at Danau Ranau, 16 April 2008 (AB, JG). Birds thought to be this species also heard distantly on other occasions around this date. A captive bird seen near Liwa, February 2013, was either this species, local name *Poxai Haji*, or an imported White-crested Laughingthrush *G. leucolophus* (GK).

White-chested Babbler *Trichastoma rostratum*

Near Threatened. Frequently seen (sound recordings made) in the extreme lowland forest and riverine forest patches along Way Sleman, southern peninsula, August 1998 (PV). Three near Way Titias, August 2007 (AL, AM), one seen briefly there September 2009 (WN *et al.*). Present at WCRS (NB).

Short-tailed Babbler *Malacocincla malaccensis*

Near Threatened. Common in the Kubuperahu area, October 1995 and July 1997, and the Sukaraja area, March 2009 (PV). Two seen near Kubuperahu, 23–24 June 1998, with two seen there 22 and 23 June 2000 (PM). One seen Way Titias, 22 March 2007 (NB), another there, July 2007 (SL, E-LA), and a single there, September 2009 (WN). Present at WCRS where one seen 4 June 2004 (NB).

Sumatran Babbler *Pellorneum buettikoferi* *

Near Threatened. Several observations in the Landos and Sukaraja areas (PV). One seen 5 February 2013 near Gamal's house in Landos village, and one heard there 9 February 2013 (GK). A poorly known but possibly overlooked species (Verbelen 2009).

Sooty-capped Babbler *Malacopteron affine*

Near Threatened. Not uncommon in lowland forest around Belimbing, southern peninsula, August 1998 (PV). Recorded in small numbers at WCRS June 2004 (NB) and Way Titias April 2009 (CG, TS).

Rufous-crowned Babbler *Malacopteron magnum*

Near Threatened. Seen in the Kubuperahu area, October 1995 and July 1997, in the lowland forests of the southern peninsula, August 1998 and at Sukaraja, March 2009 (PV). Present at WCRS (NB).

Sumatran Wren Babbler *Rimator albostriatus* *

One seen Way Titias, late August 2008 (RT, ST). One seen at c.1,115 m, Danau Ranau, 12 February 2013, a notably low altitude (GK, MG, HL). An uncommon bird of mountain forest between 1,200–2,850 m, the species had previously been recorded south

to Gn Dempo (PV). This thus appears to be a southward range extension of c.150 km.

Large Wren Babbler *Turdinus macrodactylus*

Near Threatened. Listed without location by O'Brien & Kinnaird (1996) but no confirmed records since.

Rusty-breasted Wren Babbler *Turdinus rufipectus* †

A single heard and subsequently seen in rhododendron forest with mixed bamboo cover at 1,678 m on Bukit Pogong, Danau Ranau, 26 April 2009 (CG, TS, G). Three seen in response to tape playback near the camp (c.1,240 m), 27 April 2009. Birds also seen at Danau Ranau, June 2009 (ZE, TJ) and 11–12 February 2013 (GK); it appears that this species is not uncommon here.

Marbled Wren Babbler *Turdinus marmorata* †

An adult and newly fledged juvenile seen in a streambed at Danau Ranau, June 2008 (JO). One was heard and seen with a second heard simultaneously about 50 m away at 1,222 m, between the camp and summit, Danau Ranau, April 2009 (CG, TS, G). Two were heard there, 14 February 2013 (GK). Previously only recorded as far south as Gn Kaba (van Marle & Voous 1988). These records indicate a southerly range extension of c.215 km.

Rufous-fronted Babbler *Stachyris rufifrons* †

A flock of 5 observed near Kubuperahu, October 1995 (PV), and several in the Sukaraja area, March 2008 (PV). One seen in a mixed species flock, Way Titias, 6 September 2009 (WN).

Black-throated Babbler *Stachyris nigricollis*

Near Threatened. Seen twice and others heard in forest, southern peninsula, August 1998 (PV). Present at WCRS (NB).

Chestnut-rumped Babbler *Stachyris maculata*

Near Threatened. Two at Kubuperahu, October 1995, and one seen well in lowland forest near Tampang, southern peninsula, August 1998 (PV). One heard near Kubuperahu, 22 June 2000 (PM). Present at WCRS (NB).

Fluffy-backed Tit Babbler *Macronous ptilosus*

Near Threatened. A party observed in lowland forest, southern peninsula, August 1998 (PV). Present at WCRS where one seen 4 June 2004 (NB).

Brown Fulvetta *Alcippe brunneicauda*

Near Threatened. Common at Kubuperahu (PV). Common at Way Titias, including 22 March 2007 (NB), 20–23 April 2009 (CG, TS).

Red-throated Sunbird *Anthreptes rhodolaemus*

Near Threatened. Two seen near Kubuperahu, 23 June 2000 (PV). Present at WCRS (NB). One 'well below 500 m' in roadside forest between Kubuperahu and Krui, August 1998 (PV) was just outside the park, but is included here since there are few confirmed Sumatran records.

Pin-tailed Parrotfinch *Erythrura prasina* †

On 26 April 2009, one male and three female/immature birds seen and photographed (CG, TS, G) in a small area of woodland in a ravine below the camp, while en route to Bukit Pogong, Danau Ranau.

White-capped Munia *Lonchura ferruginosa* *

Ten birds seen in paddyfield between Landos and Panyungkaian, April 2008 (AB, JG), seen near Liwa, March 2009 (PV), and a flock of 25 seen near Landos, June 2012 (JO). Although probably outside the park, these records are included because they appear to be the

second to fourth records from Sumatra of a species once thought to be endemic to Java and Bali; it was first recorded from South Sumatra province in August 2007 (Iqbal 2011).

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REFERENCES

- BirdLife International (2001) *Threatened birds of Asia: the BirdLife International Red Data Book*. Cambridge UK: BirdLife International.
- BirdLife International (2015a) Important Bird Areas factsheet: Bukit Barisan Selatan. Retrieved from <http://www.birdlife.org/datazone/sitefactsheet> on 07/06/2015.
- BirdLife International (2015b) Species factsheet: *Chloropsis media*. Retrieved from <http://www.birdlife.org> on 07/06/2015.
- Buij, R., Fox, E. A. & Wich, S. A. (2006) Birds of Gunung Leuser National Park, northern Sumatra. *Kukila* 13: 23–41.
- Cleere, N. & Nurney, D. (2000) *Nightjars: a guide to the nightjars and related nightbirds*. Robertsbridge UK: Pica Press.
- Collar, N. J. (2001) Family Trogonidae (trogons). Pp.80–127 in J. del Hoyo, A. Elliott & J. Sargatal, eds. *Handbook of the birds of the world*, 6. Barcelona: Lynx Edicions.
- Collar, N. J. (2004) Species limits in some Indonesian thrushes. *Forktail* 20: 71–87.
- Collar, N. J. (2015) Helmeted Hornbills *Rhinoplax vigil* and the ivory trade: the crisis that came out of nowhere. *BirdingASIA* 15: 12–17.
- Gaveau, D. L. A., Linkie, M., Suyadi, S., Levang, P. & Leader-Williams, N. (2009) Three decades of deforestation in southwest Sumatra: effects of coffee prices, law enforcement and rural poverty. *Biol. Conserv.* 142: 597–605.
- Holmes, D. A. (1996) Sumatra bird report. *Kukila* 8: 9–56.
- del Hoyo, J. & Collar, N. J. (2014) *The HBW and BirdLife International illustrated checklist of the birds of the world, 1: non-passerines*. Barcelona: Lynx Edicions.
- Inskipp, T., Lindsey, N. & Duckworth, W. (2001) *A checklist of the birds of the Oriental Region*. Available at www.orientalbirdclub.org/publications/checklist.
- Iqbal, M. (2011) First records of White-capped Munia *Lonchura ferruginosa* in Sumatra. *Kukila* 15: 103–105.
- Kinnaird, M. F., Sanderson, E. W., O'Brien, T. G., Wibisono, H. T. & Woolmer, G. (2003) Deforestation trends in a tropical landscape and implications for endangered large mammals. *Conserv. Biol.* 17: 245–257.
- Lambert, F. & Woodcock, M. (1996) *Pittas, broadbills and asities*. Robertsbridge UK: Pica Press.
- Levang, P., Sitorus, S., Gaveau, D. & Sunderland, T. (2012) Landless farmers, sly opportunists, and manipulated voters: the squatters of the Bukit Barisan Selatan National Park (Indonesia). *Conservation & Society* 10: 243–255.
- MacKinnon, J. & Phillipps, K. (1993) *A field guide to the birds of Borneo, Sumatra, Java and Bali*. Oxford: Oxford University Press.
- Madge, S. & McGowan, P. (2002) *Pheasants, partridges and grouse*. London: Christopher Helm.
- van Marle, J. G. & Voous, K. H. (1988) *The birds of Sumatra*. Tring UK: British Ornithologists' Union Check-list 10.
- O'Brien, G. & Kinnaird, M. F. (1996) Birds and mammals of the Bukit Barisan Selatan National Park, Sumatra, Indonesia. *Oryx* 30: 201–217.
- Rhind, P. M. (2010) Sumatran rainforest. Available at <http://www.biome-explorer.net/>
- UNESCO (2004) Tropical rainforest of Sumatra. Available at <http://whc.unesco.org>.
- UNESCO (2015) <http://whc.unesco.org/en/list/1167> visited December 2015.
- Verbelen, P. (2009) Sumatran Babbler *Pellorneum buettikoefferi*. *BirdingASIA* 12: 56–57.
- Wells, D. R. (1999) *The birds of the Thai-Malay peninsula*, 1. London: Academic Press.
- Yong D. L. & Liu Y. (2015) Passage of Brown-chested Jungle Flycatcher *Rhinomyias brunneatus* through Singapore, with notes on wintering status in South-East Asia. *Forktail* 31: 43–46.
- Zetra, B., Rafiastanto, A., Rombang, W. & Trainor, C. (2002) Rediscovery of the Critically Endangered Sumatran Ground Cuckoo *Carpococcyx viridis*. *Forktail* 18: 63–65.

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Appendix 1

List of all species known to have occurred within Bukit Barisan Selatan National Park, Sumatra, Indonesia, between 1992 and 2013. Site initials: WC/S = Way Canguk/southern peninsula (in text WC/S stands for Way Canguk Research Station); WT/L/K = Way Titias/Liwa/Kubuperahu area; DR = Danau Ranau. Species nomenclature and taxonomy for passerines generally follow Inskipp *et al.* (2001), except where superseded by more recent published information (taxa marked *). For non-passerines taxonomy follows del Hoyo & Collar (2014). Three taxa marked ** were, at the time of preparation of the paper, not of conservation concern, but have recently been uplifted to Near Threatened.

Species	Sites			Species	Sites		
	WC/S	WT/L/K	DR		WC/S	WT/L/K	DR
Long-billed Partridge <i>Rhizothera longirostris</i> (NT)		x		Malaysian Honeyguide <i>Indicator archipelagicus</i> (NT)	x		
Asian Blue Quail <i>Synoicus chinensis</i>	x			Rufous Piculet <i>Sasia abnormis</i>	x	x	x
Sumatran Partridge <i>Arborophila sumatrana</i>		x	x	Sunda Pygmy Woodpecker <i>Picoides moluccensis</i>	x	x	x
Red-billed Partridge <i>Arborophila rubrirostris</i>		x	x	Grey-capped Woodpecker <i>Picoides canicapillus</i>		x	
Ferruginous Partridge <i>Calopdix oculus</i> (NT)		x	x	Rufous Woodpecker <i>Micropternus brachyurus</i>	x	x	
Crested Partridge <i>Rollulus rouloul</i> (NT)	x	x		White-bellied Woodpecker <i>Dryocopus javensis</i>	x		
Red Junglefowl <i>Gallus gallus</i>	x			Lesser Yellownape <i>Picus chlorolophus</i>		x	x
Salvadori's Pheasant <i>Lophura inornata</i> (NT)	x	x		Crimson-winged Woodpecker <i>Picus puniceus</i>	x	x	
Malay Crested Fireback <i>Lophura rufa</i> (NT)				Banded Woodpecker <i>Chrysophlegma miniaceum</i>	x		
Bronze-tailed Peacock Pheasant <i>Polyplectron chalcurum</i>	x		x	Greater Yellownape <i>Chrysophlegma flavinucha</i>			x
Great Argus <i>Argusianus argus</i> (NT)	x			Chequer-throated Yellownape <i>Chrysophlegma humii</i> (NT)	x	x	
Wandering Whistling Duck <i>Dendrocygna arcuata</i>		x		Olive-backed Woodpecker <i>Dinopium rafflesii</i> (NT)		x	
White-winged Duck <i>Asarcornis scutulata</i> (EN)	x			Common Flameback <i>Dinopium javanense</i>		x	
Barred Buttonquail <i>Turnix suscitator</i>	x			Greater Flameback <i>Chrysocolaptes guttastratus</i>	x		

Species	Sites			Species	Sites		
	WC/S	WT/L/K	DR		WC/S	WT/L/K	DR
Orange-backed Woodpecker <i>Chrysocolaptes validus</i>	x	x	x	Red-breasted Parakeet <i>Psittacula alexandri</i> **	x		
Maroon Woodpecker <i>Blythipicus rubiginosus</i>	x	x	x	Long-tailed Parakeet <i>Psittacula longicauda</i> **	x		
Buff-rumped Woodpecker <i>Meiglyptes grammithorax</i>	x		x	Glossy Swiftlet <i>Collocalia esculenta</i>	x	x	x
Buff-necked Woodpecker <i>Meiglyptes tukki</i> (NT)	x			Mossy-nest Swiftlet <i>Aerodramus salangana</i>	x		
Grey-and-buff Woodpecker <i>Hemicircus sordidus</i>	x	x		Black-nest Swiftlet <i>Aerodramus maximus</i>	x		
Fire-tufted Barbet <i>Psilopogon pyrolophus</i>	x		x	Edible-nest Swiftlet <i>Aerodramus fuciphagus</i>	x		
Gold-whiskered Barbet <i>Psilopogon chrysopogon</i>	x	x	x	Silver-rumped Spinetail <i>Rhaphidura leucopygialis</i>	x		x
Red-crowned Barbet <i>Psilopogon rafflesii</i> (NT)	x		x	Silver-backed Needletail <i>Hirundapus cochinchinensis</i>	x		
Red-throated Barbet <i>Psilopogon mystacophanus</i> (NT)	x	x	x	Asian Palm Swift <i>Cypsiurus balasiensis</i>	x		x
Black-browed Barbet <i>Psilopogon oorti</i>		x	x	Pacific Swift <i>Apus pacificus</i>			x
Yellow-crowned Barbet <i>Psilopogon henricii</i> (NT)	x	x		House Swift <i>Apus nipalensis</i>	x		
Black-eared Barbet <i>Psilopogon duvaucelii</i>	x	x	x	Grey-rumped Treeswift <i>Hemiprocne longipennis</i>	x	x	
Coppersmith Barbet <i>Psilopogon haemacephalus</i>		x		Whiskered Treeswift <i>Hemiprocne comata</i>	x	x	
Malay Brown Barbet <i>Calorhampus hayii</i> (NT)	x	x		Reddish Scops Owl <i>Otus rufescens</i> (NT)	x	x	
Oriental Pied Hornbill <i>Anthracoceros albostris</i>	x			Mountain Scops Owl <i>Otus spilocephalus</i>		x	x
Black Hornbill <i>Anthracoceros malayanus</i> (NT)	x	x		Rajah Scops Owl <i>Otus brookii</i>			x
Rhinoceros Hornbill <i>Buceros rhinoceros</i> (NT)	x	x	x	Sunda Scops Owl <i>Otus lempiji</i>	x		
Great Hornbill <i>Buceros bicornis</i> (NT)	x	x		Barred Eagle Owl <i>Bubo sumatranus</i>	x		x
Helmeted Hornbill <i>Rhinoplax vigil</i> (CR)	x	x	x	Buffy Fish Owl <i>Ketupa ketupu</i>	x	x	
Bushy-crested Hornbill <i>Anorrhinus galeritus</i>	x	x	x	Collared Owlet <i>Glaucidium brodiei</i>		x	x
White-crowned Hornbill <i>Berenicornis comatus</i> (NT)	x	x	x	Brown Boobook <i>Ninox scutulata</i>	x		
Wrinkled Hornbill <i>Rhabdotornhinus corrugatus</i> (NT)				Short-tailed Frogmouth <i>Batrachostomus poliophilopus</i> (NT)			x
Wreathed Hornbill <i>Rhyticeros undulatus</i>	x	x	x	Sunda Frogmouth <i>Batrachostomus cornutus</i>	x		
Sumatran Trogon <i>Apalharpactes mackloti</i>		x	x	Malaysian Eared Nightjar <i>Lyncornis temminckii</i>		x	
Red-naped Trogon <i>Harpactes kasumba</i> (NT)	x	x		Large-tailed Nightjar <i>Caprimulgus macrurus</i>	x		
Diard's Trogon <i>Harpactes diardii</i> (NT)	x			Savanna Nightjar <i>Caprimulgus affinis</i>		x	
Cinnamon-rumped Trogon <i>Harpactes orrhophaeus</i> (NT)	x	x		Salvadori's Nightjar <i>Caprimulgus pulchellus</i> (NT)			x
Scarlet-rumped Trogon <i>Harpactes duvaucelii</i> (NT)	x			Eastern Spotted Dove <i>Spilopelia chinensis</i>	x		
Orange-breasted Trogon <i>Harpactes oreskios</i>		x		Barred Cuckoo Dove <i>Macropygia unchall</i>		x	x
Red-headed Trogon <i>Harpactes erythrocephalus</i>			x	Little Cuckoo Dove <i>Macropygia ruficeps</i>	x	x	x
Dollarbird <i>Eurystomus orientalis</i>	x			Grey-capped Emerald Dove <i>Chalcophaps indica</i>	x	x	x
Common Kingfisher <i>Alcedo atthis</i>	x			Zebra Dove <i>Geopelia striata</i>	x		
Blue-eared Kingfisher <i>Alcedo meninting</i>	x	x		Little Green Pigeon <i>Treron olax</i>	x		
Malay Blue-banded Kingfisher <i>Alcedo peninsulae</i> (NT)	x	x		Pink-necked Green Pigeon <i>Treron vernans</i>	x		
Oriental Dwarf Kingfisher <i>Ceyx erithaca</i>	x	x		Thick-billed Green Pigeon <i>Treron curvirostra</i>	x		
Banded Kingfisher <i>Lacedo pulchella</i>	x		x	Large Green Pigeon <i>Treron capellei</i> (VU)	x		
Stork-billed Kingfisher <i>Pelargopsis capensis</i>	x			Sumatran Green Pigeon <i>Treron oxyurus</i> (NT)	x	x	x
Ruddy Kingfisher <i>Halcyon coromanda</i>	x			Wedge-tailed Green Pigeon <i>Treron sphenurus</i>		x	
White-breasted Kingfisher <i>Halcyon smyrnensis</i>	x	x	x	Jambu Fruit Dove <i>Ramphiculus jambu</i> (NT)	x		
Black-capped Kingfisher <i>Halcyon pileata</i>	x			Green Imperial Pigeon <i>Ducula aenea</i>	x		
Collared Kingfisher <i>Todiramphus chloris</i>	x	x	x	Mountain Imperial Pigeon <i>Ducula badia</i>	x	x	x
Rufous-collared Kingfisher <i>Actenoides concretus</i> (NT)	x	x		Pied Imperial Pigeon <i>Ducula bicolor</i>	x		
Red-bearded Bee-eater <i>Nyctornis amictus</i>	x	x		Red-legged Crane <i>Rallina fasciata</i>	x		
Blue-throated Bee-eater <i>Merops viridis</i>	x	x		Slaty-breasted Rail <i>Lewinia striata</i>	x		
Chestnut-headed Bee-eater <i>Merops leschenaulti</i>	x			White-breasted Waterhen <i>Amaurornis phoenicurus</i>		x	
Chestnut-winged Cuckoo <i>Clamator coromandus</i>	x			White-browed Crane <i>Amaurornis cinerea</i>	x		
Large Hawk Cuckoo <i>Hierococcyx sparveroides</i>	x	x	x	Javan Woodcock <i>Scolopax saturata</i> (NT)			x
Moustached Hawk Cuckoo <i>Hierococcyx vagans</i> (NT)		x		Whimbrel <i>Numenius phaeopus</i>	x		
Malay Hawk Cuckoo <i>Hierococcyx fugax</i>	x			Eurasian Curlew <i>Numenius arquata</i> (NT)	x		
Indian Cuckoo <i>Cuculus micropterus</i>	x		x	Common Redshank <i>Tringa totanus</i>	x		
Sunda Cuckoo <i>Cuculus lepidus</i>			x	Common Sandpiper <i>Actitis hypoleucos</i>	x		
Banded Bay Cuckoo <i>Cacomantis sonneratii</i>	x	x	x	Ruddy Turnstone <i>Arenaria interpres</i>	x		
Plaintive Cuckoo <i>Cacomantis merulinus</i>	x	x	x	Sanderling <i>Calidris alba</i>	x		
Brush Cuckoo <i>Cacomantis variolosus</i>		x	x	Curlew Sandpiper <i>Calidris ferruginea</i>	x		
Little Bronze Cuckoo <i>Chalcites minutillus</i>			x	Beach Thick-knee <i>Esacus magnirostris</i> (NT)	x		
Horsfield's Bronze Cuckoo <i>Chalcites basalus</i>	x			Pacific Golden Plover <i>Pluvialis fulva</i>	x		
Violet Cuckoo <i>Chrysococcyx xanthorhynchus</i>	x			Malay Plover <i>Charadrius peronii</i> (NT)	x		
Square-tailed Drongo Cuckoo <i>Nyctycolaptes lugubris</i>		x		Lesser Sand Plover <i>Charadrius mongolus</i>	x		
Western Koel <i>Eudynamis scolopacea</i>	x			Greater Sand Plover <i>Charadrius leschenaultii</i>	x		
Black-bellied Malkoha <i>Phaenicophaeus diardi</i> (NT)	x	x		Common Tern <i>Sterna hirundo</i>	x		
Chestnut-bellied Malkoha <i>Phaenicophaeus sumatranus</i> (NT)	x			Little Tern <i>Sternula albifrons</i>	x		
Green-billed Malkoha <i>Phaenicophaeus tristis</i>	x	x	x	Whiskered Tern <i>Chlidonias hybrida</i>	x		
Chestnut-breasted Malkoha <i>Phaenicophaeus curvirostris</i>	x	x		Brown Noddy <i>Anous stolidus</i>	x		
Raffles's Malkoha <i>Rhinorhiza chlorophaea</i>	x	x		Osprey <i>Pandion haliaetus</i>	x		x
Red-billed Malkoha <i>Zanclusotomus javanicus</i>	x	x		Jerdon's Baza <i>Aviceda jerdoni</i>	x		
Sumatran Ground Cuckoo <i>Carpococcyx viridis</i> (CR)		x		Oriental Honey Buzzard <i>Pernis ptilorhynchus</i>		x	x
Greater Coucal <i>Centropus sinensis</i>	x	x	x	Bat Hawk <i>Macheiramphus alcinus</i>	x		
Lesser Coucal <i>Centropus bengalensis</i>	x			Black-winged Kite <i>Elanus caeruleus</i>	x		
Blue-rumped Parrot <i>Psittinus cyanurus</i> (NT)	x			Brahminy Kite <i>Haliastur indus</i>			x
Blue-crowned Hanging Parrot <i>Loriculus galgulus</i>	x	x		White-bellied Sea Eagle <i>Haliaeetus leucogaster</i>	x	x	

Species	Sites			Species	Sites		
	WC/S	WT/L/K	DR		WC/S	WT/L/K	DR
Lesser Fish Eagle <i>Icthyophaga humilis</i> (NT)	x			Pied Triller <i>Lalage nigra</i>	x		
Grey-headed Fish Eagle <i>Icthyophaga ichtyaetus</i> (NT)	x			Ashy Minivet <i>Pericrocotus divaricatus</i>	x		
Crested Serpent Eagle <i>Spilornis cheela</i>	x	x	x	Fiery Minivet <i>Pericrocotus igneus</i> (NT)	x		
Crested Goshawk <i>Accipiter trivirgatus</i>	x			Grey-chinned Minivet <i>Pericrocotus solaris</i>		x	x
Japanese Sparrowhawk <i>Accipiter gularis</i>		x		Scarlet Minivet <i>Pericrocotus flammeus</i>	x		x
Besra <i>Accipiter virgatus</i>		x		Bar-winged Flycatcher-shrike <i>Hemipus picatus</i>		x	x
Black Eagle <i>Ictinaetus malaiensis</i>	x	x	x	Black-winged Flycatcher-shrike <i>Hemipus hirundinaceus</i>	x		
Rufous-bellied Eagle <i>Lophotriorchis kienerii</i>		x	x	White-throated Fantail <i>Rhipidura albicollis</i>		x	x
Changeable Hawk Eagle <i>Nisaetus cirrhatus</i>		x	x	Spotted Fantail <i>Rhipidura perlata</i>		x	x
Blyth's Hawk Eagle <i>Nisaetus alboniger</i>		x		Ashy Drongo <i>Dicrurus leucophaeus</i>		x	x
Wallace's Hawk Eagle <i>Nisaetus nanus</i> (VU)	x			Bronzed Drongo <i>Dicrurus aeneus</i>	x	x	x
Black-thighed Falconet <i>Microhierax fringillarius</i>	x		x	Lesser Racket-tailed Drongo <i>Dicrurus remifer</i>		x	x
Oriental Hobby <i>Falco severus</i>	x			Sumatran Drongo <i>Dicrurus sumatranus</i> * (NT)	x	x	x
Little Egret <i>Egretta garzetta</i>	x			Greater Racket-tailed Drongo <i>Dicrurus paradiseus</i>	x	x	
Pacific Reef Egret <i>Egretta sacra</i>	x			Black-naped Monarch <i>Hypothymis azurea</i>	x	x	
Great-billed Heron <i>Ardea sumatrana</i>	x			Asian Paradise-flycatcher <i>Terpsiphone paradisi</i>	x	x	x
Purple Heron <i>Ardea purpurea</i>	x			Common Iora <i>Aegithina tiphia</i>	x		
Intermediate Egret <i>Ardea intermedia</i>	x			Green Iora <i>Aegithina viridissima</i> (NT)	x	x	
Cattle Egret <i>Bubulcus ibis</i>		x	x	Rufous-winged Philentoma <i>Philentoma pyrhopterum</i>	x	x	
Green-backed Heron <i>Butorides striata</i>	x			Maroon-breasted Philentoma <i>Philentoma velatum</i> (NT)	x	x	x
Rufous Night Heron <i>Nycticorax caledonicus</i>	x			Large Woodshrike <i>Tephrodornis gularis</i>	x	x	
Malay Night Heron <i>Gorsachius melanolophus</i>	x			Shiny Whistling Thrush <i>Myophonus melanurus</i>			x
Schrenck's Bittern <i>Ixobrychus eurhythmus</i>	x			Sumatran Whistling Thrush <i>Myophonus castaneus</i> * (NT)			x
Cinnamon Bittern <i>Ixobrychus cinnamomeus</i>	x			Blue Whistling Thrush <i>Myophonus caeruleus</i>	x	x	
Black Bittern <i>Dupetor flavicollis</i>	x			Chestnut-capped Thrush <i>Zoothera interpres</i> (NT)	x	x	
Black-headed Ibis <i>Threskiornis melanocephalus</i> (NT)				Scaly Thrush <i>Zoothera dauma</i>			x
Australian Pelican <i>Pelecanus conspicillatus</i>	x			Lesser Shortwing <i>Brachypteryx leucophrys</i>			x
Milky Stork <i>Mycteria cinerea</i> (EN)				Grey-chested Jungle Flycatcher <i>Rhinomyias umbratilis</i> (NT)		x	
Asian Woollyneck <i>Ciconia episcopus</i> (VU)				Brown-chested Jungle Flycatcher <i>Rhinomyias brunneatus</i> (VU)			
Storm's Stork <i>Ciconia stormi</i> (EN)	x			Fulvous-chested Jungle Flycatcher <i>Rhinomyias olivacea</i>	x	x	
Lesser Adjutant <i>Leptoptilos javanicus</i> (VU)				Dark-sided Flycatcher <i>Muscicapa sibirica</i>		x	
Lesser Frigatebird <i>Fregata ariel</i>	x			Asian Brown Flycatcher <i>Muscicapa dauurica</i>	x		x
Christmas Frigatebird <i>Fregata andrewsi</i> (CR)				Ferruginous Flycatcher <i>Muscicapa ferruginea</i>		x	
Schneider's Pitta <i>Pitta schneideri</i> (VU)			x	Yellow-rumped Flycatcher <i>Ficedula zanthopygia</i>	x		
Giant Pitta <i>Pitta caerulea</i> (NT)	x			Mugimaki Flycatcher <i>Ficedula mugimaki</i>		x	
Malayan Banded Pitta <i>Pitta irena</i> * (NT)	x	x		Rufous-browed Flycatcher <i>Ficedula solitaria</i>		x	x
Hooded Pitta <i>Pitta sordida</i>	x			Snowy-browed Flycatcher <i>Ficedula hyperythra</i>		x	x
Garnet Pitta <i>Pitta granatina</i> (NT)	x			Rufous-chested Flycatcher <i>Ficedula dumetoria</i> (NT)		x	x
Graceful Pitta <i>Pitta venusta</i> (VU)		x	x	Verditer Flycatcher <i>Eumyias thalassina</i>	x	x	x
Blue-winged Pitta <i>Pitta moluccensis</i>		x		Indigo Flycatcher <i>Eumyias indigo</i>			x
Dusky Broadbill <i>Corydon sumatranus</i>		x		Large Niltava <i>Niltava grandis</i>		x	
Black-and-red Broadbill <i>Cymbirhynchus macrorhynchus</i>	x			White-tailed Flycatcher <i>Gyornis concretus</i>		x	
Banded Broadbill <i>Eurylaimus javanicus</i>	x	x	x	Pale Blue Flycatcher <i>Gyornis unicolor</i>	x		
Black-and-yellow Broadbill <i>Eurylaimus ochromalus</i> (NT)	x	x		Malaysian Blue Flycatcher <i>Gyornis turcosus</i> (NT)			x
Silver-breasted Broadbill <i>Serilophus lunatus</i>	x			Mangrove Blue Flycatcher <i>Gyornis rufigastra</i>			
Long-tailed Broadbill <i>Psarisomus dalhousiae</i>		x	x	Pygmy Blue Flycatcher <i>Muscicapella hodgsoni</i>			x
Green Broadbill <i>Calyptomena viridis</i> (NT)	x	x		Grey-headed Canary Flycatcher <i>Culicicapa ceylonensis</i>	x	x	x
Golden-bellied Gerygone <i>Gerygone sulphurea</i>		x		Oriental Magpie Robin <i>Copsychus saularis</i>	x	x	x
Asian Fairy Bluebird <i>Irena puella</i>	x			White-rumped Shama <i>Copsychus malabaricus</i>	x		
Greater Green Leafbird <i>Chloropsis sonnerati</i>	x			Rufous-tailed Shama <i>Trichixos pyrropyga</i> (NT)	x		
Lesser Green Leafbird <i>Chloropsis cyanopogon</i> (NT)	x			Sunda Robin <i>Myiomela diana</i>			x
Blue-winged Leafbird <i>Chloropsis cochinchinensis</i>	x	x		Sunda Forktail <i>Enicurus velatus</i>		x	x
Sumatran Leafbird <i>Chloropsis media</i> *			x	Chestnut-naped Forktail <i>Enicurus ruficapillus</i> (NT)	x	x	
Blue-masked Leafbird <i>Chloropsis venusta</i> (NT)		x	x	White-crowned Forktail <i>Enicurus leschenaulti</i>	x		x
Tiger Shrike <i>Lanius tigrinus</i>	x	x	x	Sumatran Cochoa <i>Cochoa beccarii</i> (VU)		x	x
Long-tailed Shrike <i>Lanius schach</i>		x	x	Asian Glossy Starling <i>Aplonis panayensis</i>			x
Railbabbler <i>Eupetes macrocerus</i> (NT)	x	x		Asian Pied Starling <i>Gracupica contra</i> *	x		
Crested Jay <i>Platylophus galericulatus</i> (NT)	x	x		Hill Myra <i>Gracula religiosa</i>	x		
Black Magpie <i>Platysmus leucopterus</i> (NT)	x	x	x	Velvet-fronted Nuthatch <i>Sitta frontalis</i>	x		x
Common Green Magpie <i>Cissa chinensis</i>			x	Blue Nuthatch <i>Sitta azurea</i>		x	x
Sumatran Treepie <i>Dendrocitta occipitalis</i>			x	Great Tit <i>Parus major</i>		x	x
Slender-billed Crow <i>Corvus enca</i>	x			Barn Swallow <i>Hirundo rustica</i>			x
Large-billed Crow <i>Corvus macrorhynchus</i>		x		Pacific Swallow <i>Hirundo tahitica</i>	x	x	x
White-breasted Woodswallow <i>Artamus leucorhynchus</i>		x	x	Asian House Martin <i>Delichon dasyopus</i>			x
Dark-throated Oriole <i>Oriolus xanthonotus</i> (NT)	x			Straw-headed Bulbul <i>Pycnonotus zeylanicus</i> (VU)			
Black-naped Oriole <i>Oriolus chinensis</i>	x			Cream-striped Bulbul <i>Pycnonotus leucogrammicus</i>		x	x
Black-and-crimson Oriole <i>Oriolus cruentus</i>		x	x	Spot-necked Bulbul <i>Pycnonotus tympanistrigus</i> (NT)			x
Sunda Cuckooshrike <i>Coracina larvata</i>		x	x	Black-headed Bulbul <i>Pycnonotus atriceps</i>	x	x	x
Bar-bellied Cuckooshrike <i>Coracina striata</i>	x			Ruby-throated Bulbul <i>Pycnonotus dispar</i> *	x	x	x
Lesser Cuckooshrike <i>Coracina fimbriata</i>	x			Scaly-breasted Bulbul <i>Pycnonotus squamatus</i> (NT)	x		

Species	Sites			Species	Sites		
	WC/S	WT/L/K	DR		WC/S	WT/L/K	DR
Grey-bellied Bulbul <i>Pycnonotus cyaniventris</i> (NT)	x	x	x	Marbled Wren Babbler <i>Turdinus marmoratus</i>			x
Sooty-headed Bulbul <i>Pycnonotus aurigaster</i>	x	x		Eyebrowed Wren Babbler <i>Turdinus epilepidota</i>		x	x
Puff-backed Bulbul <i>Pycnonotus eutilotus</i> **	x			Pygmy Wren Babbler <i>Pnoepyga pusilla</i>		x	x
Orange-spotted Bulbul <i>Pycnonotus bimaculatus</i>			x	Rufous-fronted Babbler <i>Stachyridopsis rufifrons</i> *	x	x	
Yellow-vented Bulbul <i>Pycnonotus goiavier</i>	x			Golden Babbler <i>Stachyridopsis chrysaea</i> *		x	x
Olive-winged Bulbul <i>Pycnonotus plumosus</i>	x			Grey-throated Babbler <i>Stachyris nigriceps</i>	x	x	x
Cream-vented Bulbul <i>Pycnonotus simplex</i>	x	x		Grey-headed Babbler <i>Stachyris poliocephala</i>	x		
Red-eyed Bulbul <i>Pycnonotus brunneus</i>	x			Spot-necked Babbler <i>Stachyris striolata</i>		x	x
Spectacled Bulbul <i>Pycnonotus erythrothalmos</i>	x			Black-throated Babbler <i>Stachyris nigricollis</i> (NT)	x		
Finsch's Bulbul <i>Alophoixus finschii</i> (NT)	x			Chestnut-rumped Babbler <i>Stachyris maculata</i> (NT)	x	x	
Ochraceous Bulbul <i>Alophoixus ochraceus</i>	x	x		Chestnut-winged Babbler <i>Stachyris erythroptera</i>	x		
Grey-cheeked Bulbul <i>Alophoixus bres</i>	x	x	x	Pin-striped Tit Babbler <i>Macronous gularis</i> *	x	x	x
Yellow-bellied Bulbul <i>Alophoixus phaeocephalus</i>	x	x		Fluffy-backed Tit Babbler <i>Macronous pilosus</i> (NT)	x		
Hairy-backed Bulbul <i>Tricholestes criniger</i>	x	x		Silver-eared Mesia <i>Leiothrix argentauris</i>	x		
Buff-vented Bulbul <i>Iole olivacea</i> (NT)	x	x		White-browed Shrike Babbler <i>Pteruthius flaviscapis</i>			x
Streaked Bulbul <i>Ixos malaccensis</i> (NT)	x	x		Brown Fulvetta <i>Alcippe brunneicauda</i> (NT)		x	
Sunda Bulbul <i>Ixos virescens</i>		x	x	Long-tailed Sibia <i>Heterophasia picaoides</i>			x
Ashy Bulbul <i>Hemixos flavala</i>	x	x	x	Yellow-breasted Flowerpecker <i>Prionochilus maculatus</i>	x	x	
Zitting Cisticola <i>Cisticola juncidis</i>			x	Crimson-breasted Flowerpecker <i>Prionochilus percussus</i>	x	x	
Hill Prinia <i>Prinia atrogularis</i>			x	Thick-billed Flowerpecker <i>Dicaeum agile</i>	x	x	
Bar-winged Prinia <i>Prinia familiaris</i>	x	x	x	Yellow-vented Flowerpecker <i>Dicaeum chrysorrheum</i>	x	x	
Yellow-bellied Prinia <i>Prinia flaviventris</i>	x	x	x	Orange-bellied Flowerpecker <i>Dicaeum trigonostigma</i>	x	x	x
Oriental White-eye <i>Zosterops palpebrosus</i>		x	x	Plain Flowerpecker <i>Dicaeum concolor</i>		x	
Black-capped White-eye <i>Zosterops atricapilla</i>		x	x	Fire-breasted Flowerpecker <i>Dicaeum ignipectus</i>			x
Lanceolated Warbler <i>Locustella lanceolata</i>	x			Scarlet-backed Flowerpecker <i>Dicaeum cruentatum</i>	x		
Mountain Tailorbird <i>Orthotomus cuculatus</i>			x	Scarlet-headed Flowerpecker <i>Dicaeum trochileum</i>	x		
Common Tailorbird <i>Orthotomus sutorius</i>				Plain Sunbird <i>Anthreptes simplex</i>	x		
Dark-necked Tailorbird <i>Orthotomus atrogularis</i>	x			Brown-throated Sunbird <i>Anthreptes malaccensis</i>			x
Rufous-tailed Tailorbird <i>Orthotomus sericeus</i>	x			Red-throated Sunbird <i>Anthreptes rhodolaema</i> (NT)	x		
Ashy Tailorbird <i>Orthotomus ruficeps</i>	x	x	x	Ruby-cheeked Sunbird <i>Chalcoparia singalensis</i>	x	x	x
Arctic Warbler <i>Phylloscopus borealis</i>	x	x		Purple-naped Sunbird <i>Hypogramma hypogrammicum</i>	x	x	
Eastern Crowned Warbler <i>Phylloscopus coronatus</i>	x	x	x	Purple-throated Sunbird <i>Leptocoma sperata</i>	x		
Mountain Leaf Warbler <i>Phylloscopus trivirgatus</i>			x	Olive-backed Sunbird <i>Nectarinia jugularis</i>	x	x	x
Chestnut-crowned Warbler <i>Seicercus castaneiceps</i>		x	x	Crimson Sunbird <i>Aethopyga siparaja</i>	x		
Yellow-bellied Warbler <i>Abrosopus superciliosus</i>	x		x	Temminck's Sunbird <i>Aethopyga temminckii</i>		x	x
Sunda Laughingthrush <i>Garrulax palliatus</i>			x	Little Spiderhunter <i>Arachnothera longirostra</i>	x	x	x
Sumatran Laughingthrush <i>Garrulax bicolor</i> * (VU)			x	Thick-billed Spiderhunter <i>Arachnothera crassirostris</i>	x	x	
Black Laughingthrush <i>Garrulax lugubris</i>			x	Long-billed Spiderhunter <i>Arachnothera robusta</i>	x	x	
Chestnut-capped Laughingthrush <i>Garrulax mitratus</i>		x	x	Spectacled Spiderhunter <i>Arachnothera flavigaster</i>	x		
White-chested Babbler <i>Trichastoma rostratum</i> (NT)	x	x		Yellow-eared Spiderhunter <i>Arachnothera chrysogenys</i>	x	x	
Ferruginous Babbler <i>Trichastoma bicolor</i>	x			Grey-breasted Spiderhunter <i>Arachnothera affinis</i>	x	x	
Abbott's Babbler <i>Malacocincla abbotti</i>	x	x	x	Eurasian Tree Sparrow <i>Passer montanus</i>	x	x	x
Horsfield's Babbler <i>Malacocincla sepiaria</i>	x	x		Yellow Wagtail <i>Motacilla flava</i>	x		
Short-tailed Babbler <i>Malacocincla malaccensis</i> (NT)	x	x		Grey Wagtail <i>Motacilla cinerea</i>		x	x
Sumatran Babbler <i>Pellorneum buettikoferi</i> * (NT)		x		Paddyfield Pipit <i>Anthus rufulus</i>	x		
Black-capped Babbler <i>Pellorneum capistratum</i>	x			Baya Weaver <i>Ploceus philippinus</i>		x	
Moustached Babbler <i>Malacopteron magnirostre</i>	x	x		Pin-tailed Parrotfinch <i>Erythrura prasina</i>			x
Sooty-capped Babbler <i>Malacopteron affine</i> (NT)	x	x		White-rumped Munia <i>Lonchura striata</i>		x	
Scaly-crowned Babbler <i>Malacopteron cinereum</i>	x	x		Javan Munia <i>Lonchura leucogastroides</i>	x	x	x
Rufous-crowned Babbler <i>Malacopteron magnum</i> (NT)	x	x		Scaly-breasted Munia <i>Lonchura punctulata</i>		x	x
Chestnut-backed Scimitar Babbler <i>Pomatorhinus montanus</i>	x	x		White-bellied Munia <i>Lonchura leucogastra</i>		x	x
Sumatran Wren Babbler <i>Rimator albostratus</i> *		x	x	Chestnut Munia <i>Lonchura atricapilla</i> *	x		
Large Wren Babbler <i>Turdinus macrodactylus</i> (NT)				White-capped Munia <i>Lonchura ferruginosa</i> *		x	
Rusty-breasted Wren Babbler <i>Turdinus rufipectus</i>			x	White-headed Munia <i>Lonchura maja</i>		x	x