

An Update on the Avifauna of Gunung Lumut Protection Forest (East Kalimantan) reinforcing the Potential Conservation Value of *Hutan adat*

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Summary: We provide results of a second survey of the *hutan adat* (forest traditionally exploited on a small scale by local people) situated in the Gunung Lumut Protection Forest, East Kalimantan, conducted in 2007 and closely following the first survey in 2005 (Wielstra & Pieterse 2009. Kukila 14: 1-15). An additional 29 species were observed, bringing the total number of species observed in GLPF to 217. These include two globally threatened (Vulnerable) species, 16 “Sundaic Lowland Forest” biome-restricted species and one “Sundaic montane forest” biome-restricted species. We confirmed the presence of over 1% of the biogeographic population of the congregatory waterbird Storm’s Stork *Ciconia stormi*. The findings provide further support for our previous suggestion to recognize Gunung Lumut Protection Forest as an Important Bird Area. We also provide some remarks on the potential conservation value of *hutan adat* and raise issues to be addressed in further studies.

Ringkasan: Kami menyajikan hasil-hasil survei kedua di Hutan Adat (kawasan hutan yang secara tradisional dieksploitasi dalam skala kecil oleh masyarakat setempat) yang terletak di Hutan Lindung Gunung Lumut, Kalimantan Timur. Survei ini dilaksanakan tahun 2007 melanjutkan survei pertama yang dilaksanakan tahun 2005 (Wielstra & Pieterse 2009. Kukila 14: 1-15). Sebanyak 29 jenis tambahan dihasilkan dari survei ini. Tambahan itu termasuk dua jenis yang secara global terancam punah (Rentan, *Vulnerable*), 16 jenis merupakan bioma “hutan dataran rendah Sunda” dengan sebaran terbatas. Penambahan ini, dan konfirmasi bahwa kawasan ini mendukung setidaknya 1% dari populasi kumpulan burung-burung air (Bangau Storm *Ciconia stormi*), lebih menegaskan rekomendasi kami sebelumnya yang mengusulkan kawasan Gunung Lumut sebagai Kawasan Penting untuk Burung. Kami juga memberikan beberapa catatan mengenai potensi nilai konservasi dari Hutan Adat dan mengangkat isu-isu yang perlu digarap untuk kajian-kajian selanjutnya.

Introduction

In Indonesia, forested areas are controlled by the state’s Forestry Department. A small but unknown (i.e. not officially registered; J. van der Ploeg *in litt.*) percentage of the forests are subject to land claims based on traditional (*adat*) right by local communities: the so-called *hutan adat*. Although these claims often conflict with modern law, they can in theory find legal recognition (Bakker & Moniaga 2010). In practice, local communities claim exploitation rights to the forest, meaning they use the area for the gathering of non-timber forest products (such as fruit and honey), hunting and timber collection (van der Ploeg & Persoon 2007). If ‘owners’ decide to

exploit *hutan adat* in a sustainable way, this would ensure some form of forest management.

In 2005 and 2007 we surveyed the *hutan adat* of three villages located in Gunung Lumut Protection Forest (GLPF). Results from the 2005 survey were previously reported in Kukila (Wielstra & Pieterse 2009). In the current paper we present new results of the 2007 bird survey and discuss these in combination with those from 2005. In the light of the cumulative survey results of GLPF, we consider the potential role of *hutan adat* in conservation and raise issues that should be addressed in future studies.

Methods

Surveys were conducted in three villages of which the traditional forest (*hutan adat*) overlaps with GLPF: Pinang Jatus, Mului and Swanslutung (Fig. 1, Plate 1, 2). These villages can be reached from Balikpapan by taking the Trans Kalimantan Highway towards Tanah Grogot until the town of Long Ikis. From there, the villages can be reached via logging roads. The trip takes c. 4-6 hours from Balikpapan, depending on the state of the logging roads. Pinang Jatus and Mului were visited in both 2005 (January-March and March-April) and 2007 (April and May), whereas Swanslutung was only visited in 2007 (June). The total time spent at the three sites in 2005 and 2007 combined was 50, 24 and 14 field days, respectively. This paper presents details on interesting species encountered in 2007 and updates the checklist for GLPF. Further notes on the study area and details on observations from 2005 can be found in Wielstra & Pieterse (2009).

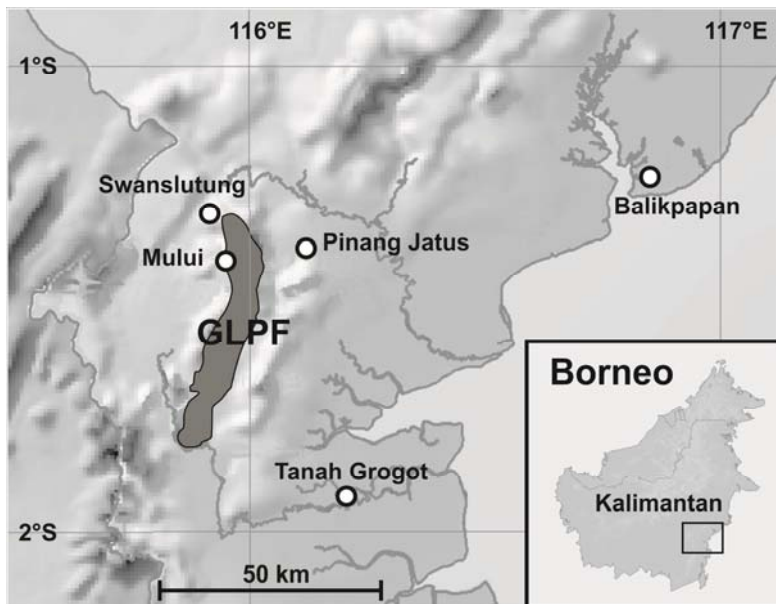


Figure 1. The position of Gunung Lumut Protection Forest (GLPF) and the three study sites. Swanslutung is located c. 15 km west of the border of GLPF (01°24'S, 115°52'E; c. 200 m asl). Details on Pinang Jatus and Mului can be found in Wielstra & Pieterse (2009).



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Plate 1. The village of Mului, with Gunung Lumut in the background. 12 January 2005, Mului, East Kalimantan.



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Plate 2. Logging road. April 2007, Pinang Jatus, East Kalimantan.

Results

In the 2007 survey, 194 species were observed in GLPF with certainty; 142 around Pinang Jatus (PJ), 149 around Mului (M) and 144 around Swanslutung (S), excluding three introduced species (Sooty-headed Bulbul *Pycnonotus aurigaster*, Tree Sparrow *Passer montanus* and Crested Myna *Acridotheres cristatellus*). Compared with the data from 2005 (Wielstra & Pieterse 2009), the survey in 2007 yielded 29 additional species, bringing the total number of species observed in GLPF to 217. A detailed checklist of all observations is provided in Appendix 1.

Two additional globally threatened species (www.iucnredlist.org) were observed: the Blue-banded Kingfisher *Alcedo euryzona* and Sunda Blue Flycatcher *Cyornis caerulatus*, both classified as Vulnerable, bringing the total to seven. The presence of 16 additional “Sundaic Lowland Forest” biome-restricted species was established (see Appendix 1), bringing the total to 107 (Chan *et al.* 2004, Plate 3). Furthermore, Blue-banded Pitta *Pitta arquata* was observed: the first species endemic to the “Sundaic montane forest” biome recorded (with certainty) in GLPF. As our survey focused on the lower parts of GLPF we consider it likely that the higher regions hold additional species, missed in the 2005 and 2007 surveys. Storm’s Stork *Ciconia stormi* is considered a congregatory waterbird (Chan *et al.* 2004) and the number of individuals present was confirmed in 2007 to pass the threshold of 1% of the biogeographic population (which is four, based on an estimated world population of 400; Chan *et al.* 2004).

Some of these additional species were to be expected (cf. Smythies & Davison 1999; Mann 2008), but others are more interesting and notes are provided below. Villages are abbreviated as PJ (Pinang Jatus), M (Mului) and S (Swanslutung). Asterisks indicate species that were added in 2007. Species between brackets were not identified with certainty. We recorded the calls of many species using a Sharp MT80 NetMD recorder and a Sony ECM-PB1C parabola microphone and have made these available on [Xeno-canto](#). They are referred to below by their catalogue number.



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Plate 3. Black-bellied Malkoha *Rhopodytes diardi*. June 2007, Swanslutung, East Kalimantan.

STORM'S STORK *Ciconia stormi*

A species considered 'Endangered' due to its small population, declining because of habitat destruction. In 2005, two individuals were noted at PJ in 2005. **PJ:** One was seen flying past; **M:** Four were seen perched in a tree along the Mului river.

BAT HAWK *Machaeramphus alcinus*

Considered uncommon and local, but probably under-recorded owing to its crepuscular behaviour (Mann 2008). In 2005, this species was also seen in PJ. **PJ:** One was seen flying past north of the village in the late afternoon.

*LONG-BILLED PARTRIDGE *Rhizothera longirostris*

Mann (2008) lists one previous record from East Kalimantan of this uncommon species. **PJ:** Based on the analysis of sound recordings ([XC33421](#)); **M:** One heard in the distance.

BORNEAN PEACOCK PHEASANT *Polyplectron schleiermacheri*

This Endangered endemic species is considered very rare. Estimates of its total population size differ (reviewed in Mann 2008). It was heard (and recorded; [XC19458](#)) in PJ during the 2005 survey. One of our hosts in 2005 pointed out this species in our field guide (MacKinnon & Phillipps 1993), and mimicked its call, reflecting the familiarity of the people of PJ with this species. **PJ:** Based on the analysis of sound recordings ([XC33422](#)). Furthermore, a feather was found during the 2007 survey (Plate 4).



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Plate 4. Feather of Bornean Peacock-Pheasant *Polyplectron schleiermacheri*. April 2007, Pinang Jatus, East Kalimantan.

***RED-LEGGED CRAKE** *Rallina fasciata*

Considered a very scarce resident and passage migrant in very low numbers, though probably under-recorded (Mann 2008). **M:** Based on the analysis of sound recordings from 11 April ([XC33425](#)). This record was formerly identified as Ruddy-breasted Crake *Porzana fusca* (and erroneously listed in Mann 2008), but has been re-identified based on a discussion on the Xeno-canto forum (by D.L. Yong and C. Trainor).

LARGE GREEN PIGEON *Treron capellei*

A very scarce, nomadic species considered Vulnerable (Mann 2008; Smythies & Davison 1999). The two records from 2005 concern pairs in both PJ and M. **M:** Two seen foraging; **S:** One seen foraging.

***MOUSTACHED HAWK-CUCKOO** *Cuculus vagans*

This species is considered to be rare (Smythies & Davison 1999; Payne 2005). **M:** One was seen calling in flight; **S:** Based on analysis of sound recordings ([XC33428](#)).

BORNEAN GROUND-CUCKOO *Carpococcyx radiatus*

A widespread endemic, occurring in low densities (Long & Collar 2002; Mann 2008; Payne 2005). This species was heard at PJ in 2005. **S:** One was heard calling.

SHORT-TOED COUCAL *Centropus rectunguis*

A rare species, considered Vulnerable (Mann 2008; Payne 2008). Encountered in 2005 at both PJ and M. **PJ:** Based on the analysis of sound recordings; **M:** One was seen and heard just outside the village.

***ORIENTAL BAY OWL** *Phodilus badius*

A sparingly distributed species (Mann 2008). **M:** Heard calling in the middle of the night close to the village.

***BLUE-BANDED KINGFISHER** *Alcedo euryzona*

This uncommon kingfisher is considered Vulnerable (Mann 2008). **M:** One male seen perched at a small stream.

GREAT SLATY WOODPECKER *Mulleripicus pulverulentus*

An uncommon species (Mann 2008). Lammertink (2004) suggests it should be regarded as globally threatened with extinction. In 2005 it was only noticed in PJ. **PJ:** One or two individuals seen and recorded ([XC33552](#)); **M:** Two seen foraging; **S:** Group of five noisy birds seen chasing each other.

BANDED PITTA *Pitta guajana*

This pitta is considered uncommon and its range is poorly documented (Lambert & Woodcock 1996; Mann 2008). The Banded Pitta complex has been split into three species and the Bornean race is now considered a distinct (endemic) species, *Pitta schwaneri* (Rheinhardt & Eaton 2010). In 2005 it was noted at PJ. **PJ:** Two individuals heard; **M:** One individual seen and recorded ([XC33653](#)); **S:** One individual heard.

***BLUE-BANDED PITTA** *Pitta arquata*

Records for this endemic pitta from Kalimantan are very sparse (Mann 2008). **PJ:** One individual heard; **M:** One individual seen and regularly heard close to the village; **S:** Based on the analysis of sound recordings ([XC33559](#)).

BLUE-HEADED PITTA *Pitta baudii*

This endemic pitta is considered to be Vulnerable (Mann 2008). The presence of a population at PJ was noted in 2005. **PJ:** One male seen and recorded ([XC33650](#)); **S:** Male and female seen and heard.

[WHITE-EYE sp. *Zosterops* sp.]

Either *Z. everetti* (Everett's White-eye) or *Z. palpebrosus* (Oriental White-eye). The former seems the likely candidate, based on distribution (van Balen 2008; Smythies & Davison 1999). However, the latter has been observed in Sungai Wain Protection Forest, near Balikpapan (Slik & van Balen 2006). **PJ:** As in 2005, white-eyes were observed which could not be identified to species level.

***CHESTNUT-CAPPED THRUSH** *Zoothera interpres*

This thrush is considered very local or rare (Mann 2008) but it may be overlooked due to its elusive habits. **M:** Two individuals seen and heard on different locations ([XC34499](#)).

NARCISSUS FLYCATCHER *Ficedula narcissina*

Although there are very few records of this migrant from Kalimantan (Mann 2008) it might have been overlooked. In 2005 it was noticed at M. **M:** This species was again observed in 2007.

***MUGIMAKI FLYCATCHER** *Ficedula mugimaki*

The few records from Indonesian Borneo of this migrant all stem from East Kalimantan (Mann 2008). **PJ:** A male was observed.

***DARK BLUE FLYCATCHER** *Cyornis concretus*

An uncommon species with few records from Kalimantan (Mann 2008), whose presence was already suspected (at M) in 2005. **PJ:** A male seen perched.

***SUNDA BLUE FLYCATCHER** *Cyornis caerulatus*

This uncommon to rare species is classified as Vulnerable (Mann 2008). **M:** A singing male was recorded ([XC88289](#)).

We made some incidental observations of bird trapping (Plate 5) but did not collect these in a systematic way. Bird trappers seem to take every bird they can catch, including those not known for being good songsters (Plate 6). Capture for the bird trade poses a direct threat for avifauna (Jepson & Ladle 2005). Could excessive trapping be the reason we did not observe Straw-headed Bulbul *Pycnonotus zeylanicus*? Hunting for food or ornaments mainly focusses on Phasianidae (Smythies & Davison 1999). We established that hunting occurs (Plate 7), but cannot provide a proper estimate of its impact. To obtain the necessary data, a proper survey should be conducted.



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Plate 5. Asian Fairy Bluebird *Irena puella*. 25 March 2005, Mului, East Kalimantan.



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Plate 6. Juvenile Black-and-red Broadbill *Cymbirhynchus macrorhynchos*. 26 March 2005, Mului, East Kalimantan.



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Plate 7. Great Argus *Argusianus argus*. 25 March 2005, Mului, East Kalimantan.

Discussion

The majority of the world's biodiversity depends on tropical forests, a biome at serious risk of being depleted (Myers *et al.* 2000). The decline of natural forest cover on the island of Borneo is progressing at an alarming rate (Jepson *et al.* 2001; Curran *et al.* 2004). Current conservation efforts are mainly focused on reserves. These, however, appear insufficient for conserving biodiversity (Johns 1997; Bruner *et al.* 2001).

Although the *hutan adat* visited by us has been shown to be slightly impoverished for particular avian feeding guilds (especially understory insectivores), it still contains a relatively intact avifauna compared to pristine forest (Wielstra *et al.* 2011; this paper). From a conservation point of view, the areas occupied by traditional forest on Borneo could be seen as complementing existing protected areas if deemed of sufficient importance to biodiversity. As the total amount of forest cover claimed by *adat* is unknown at this point, it would be worthwhile to gather existing information to obtain an estimate. Furthermore, some considerations regarding *hutan adat* should be taken into account.

An important question is how likely it is that our findings in GLPF are representative for *hutan adat* in general. To be more specific, what is the state of other *hutan adat* forest patches compared to those we visited in GLPF? The degree of isolation of the *hutan adat* from a large unexploited forest tract, the quantity and quality of habitat ‘stepping stones’ between them, and the dominant type of habitat in the surrounding matrix (e.g. treeless paddies versus degraded scrub) must be important factors in determining the avifauna present. The area covered by individual *hutan adat* patches alone is probably too small to maintain viable populations for most species (Lambert & Collar 2002). Another issue is the reproductive output of birds in *hutan adat*. It could be negative for some species, but complemented by a surplus from surrounding undisturbed forest. In other words, *hutan adat* might act as a sink for some species, and depend on nearby source populations for replenishment (Pulliam 1988). Future studies would be valuable.

We recommend increasing awareness among local communities at all levels (government, NGOs and villagers) about the conservation value of their *hutan adat*. This might encourage the continuation of environmentally “friendly”, sustainable exploitation of *hutan adat* in the future, instead of converting forested areas to agricultural land, such as oil palm plantations, for short-term gain. Furthermore, the additional data from 2007 reinforce the argument to recognize GLPF as an Important Bird Area (Wielstra & Pieterse 2009). GLPF now represents one of the largest forest tracts in East Kalimantan as the better-known forests of Sungai Wain and Kutai have suffered from forest fire. This survey suggests that the majority of the original avifauna is still intact (107 of East Kalimantan’s 143 Sundaic Lowland Forest biome-restricted species were recorded). Therefore, the continued protection of GLPF is of global importance.

Acknowledgements

These surveys were conducted as part of our studies at Leiden University (BW & SMP) and Hogeschool Van Hall Larenstein (TB) and were conducted in collaboration with the Institute of Environmental Sciences, Leiden (CML) and Tropenbos International Indonesia, Mulawarman University (UNMUL). We would like to thank our supervisors René Dekker and Hans de Iongh. We received logistic support from Tropenbos International Indonesia. Bas van Balen and James Eaton provided help with identification issues. Laurens Bakker and Jan van der Ploeg provided information regarding *hutan adat*. We would like to thank the people of Pinang Jatus, Mului and Swanslutung for their hospitality. BW and SMP were financially supported by the Delta fund, the LUSTRA fund and the J.J. Ter Pelkwijk fund. TB was financially supported by Pluspunt Individu.

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Appendix 1: Bird species observed in Gunung Lumut Protection Forest.

Bird species observed in Gunung Lumut Protection Forest. *IUCN threat level*: EN = Endangered; VU = Vulnerable; NT = Near Threatened. *Status*: R = resident species with wider distribution outside of Borneo; B = Borneo endemic; W = wintering migrant (MacKinnon & Phillipps 1993; Mann 2008; Myers 2009; Phillipps & Phillipps 2009; Smythies & Davison 1999). *Biome*: AS14 = Sundaic lowland forest, AS15 = Sundaic montane forest (Chan *et al.* 2004). *PJ* (Pinang Jatus), *M* (Mului) and *S* (Swanslutung): 1 = species observed during 2005 survey only; 2 = species observed during 2007 survey only; B = species observed during both 2005 and 2007 survey; ? = species possibly observed. Species new to GLPF observed in 2007 are marked with an asterisk.

Scientific name	Common name	IUCN	Status	Biome	PJ	M	S
<i>Anhinga melanogaster</i>	Darter	NT	R	-	1	-	-
<i>Egretta intermedia</i>	Yellow-billed Egret	-	R W	-	1	-	-
<i>Butorides striata</i>	Striated Heron	-	R	-	1	2	-
<i>Ciconia stormi</i>	Storm's Stork	EN	R	AS14	B	B	-
<i>Aviceda jerdoni</i>	Jerdon's Baza	-	R	-	B	B	-
<i>Pernis ptilorhynchus</i>	Crested Honey Buzzard	-	R W	-	1	1	-
<i>Macheiramphus alcinus</i>	Bat Hawk	-	R	-	B	-	-
<i>Elanus caeruleus</i>	Black-winged Kite	-	R	-	1	-	-
<i>Ichthyophaga humilis</i>	Lesser Fish Eagle	NT	R	-	1	2	-
<i>Ichthyophaga ichthyaetus</i>	Grey-headed Fish Eagle	NT	R	-	1	-	-
<i>Spilornis cheela</i>	Crested Serpent Eagle	-	R	-	B	B	2
<i>Accipiter sp.</i>	Sparrowhawk sp.	-	W	-	1?	-	-
<i>Ictinaetus malayensis</i>	Black Eagle	-	R	-	1	B	-
<i>Hieraetus kienerii</i>	Rufous-bellied Eagle	-	R	-	B	2	2
<i>Spizaetus alboniger</i>	Blyth's Hawk-Eagle	-	R	AS14	1	-	-
<i>Microhierax fringillarius</i>	Black-thighed Falconet	-	R	AS14	B	-	-
* <i>Rhizothera longirostris</i>	Long-billed Partridge	NT	R	AS14	2	2	-
* <i>Coturnix chinensis</i>	King Quail	-	R	-	-	-	2
<i>Rollulus rouloul</i>	Crested Partridge	NT	R	AS14	2	-	2
<i>Lophura ignita</i>	Crested Fireback	NT	R	AS14	B	-	-
<i>Polyplectron schleiermacheri</i>	Bornean Peacock-Pheasant	EN	B	AS14	B	-	-
<i>Argusianus argus</i>	Great Argus	NT	R	AS14	B	B	2
* <i>Rallina fasciata</i>	Red-legged Crake	-	R	-	-	2	-
<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	-	R	-	B	1	2
<i>Actitis hypoleucos</i>	Common Sandpiper	-	W	-	1	-	-
<i>Treron capellei</i>	Large Green Pigeon	VU	R	AS14	1	B	2
<i>Treron curvirostra</i>	Thick-billed Green Pigeon	-	R	-	B	-	2

Scientific name	Common name	IUCN	Status	Biome	PJ	M	S
<i>Treron olax</i>	Little Green Pigeon	-	R	AS14	B	B	2
<i>Treron vernans</i>	Pink-necked Green Pigeon	-	R	-	-	1	-
<i>Ducula aenea</i>	Green Imperial Pigeon	-	R	-	B	-	2
<i>Ducula badia</i>	Mountain Imperial Pigeon	-	R	-	-	1	2
<i>Streptopelia chinensis</i>	Spotted Dove	-	R	-	B	-	2
<i>Chalcophaps indica</i>	Common Emerald Dove	-	R	-	B	B	2
<i>Psittinus cyanurus</i>	Blue-rumped Parrot	NT	R	AS14	B	B	2
<i>Loriculus galgulus</i>	Blue-crowned Hanging Parrot	-	R	AS14	B	B	2
* <i>Cuculus vagans</i>	Moustached Hawk-Cuckoo	NT	R	AS14	-	2	2
<i>Cuculus micropterus</i>	Indian Cuckoo	-	R	-	1	B	2
<i>Cacomantis sonneratii</i>	Banded Bay Cuckoo	-	R	-	2	B	2
<i>Cacomantis merulinus</i>	Plaintive Cuckoo	-	R	-	B	B	2
<i>Chrysococcyx xanthorhynchus</i>	Violet Cuckoo	-	R	-	1	B	-
<i>Surniculus lugubris</i>	Asian Drongo-Cuckoo	-	R	-	1	B	2
<i>Rhopodytes diardi</i>	Black-bellied Malkoha	NT	R	AS14	-	B	2
<i>Rhopodytes sumatranus</i>	Chestnut-bellied Malkoha	NT	R	AS14	B	-	2
<i>Rhinorhina chlorophaeus</i>	Raffles's Malkoha	-	R	AS14	B	B	2
<i>Zanclostomus javanicus</i>	Red-billed Malkoha	-	R	AS14	B	-	-
<i>Rhamphococcyx curvirostris</i>	Chestnut-breasted Malkoha	-	R	AS14	B	B	2
<i>Carpococcyx radiatus</i>	Bornean Ground Cuckoo	NT	R	AS14	1	-	2
<i>Centropus rectunguis</i>	Short-toed Coucal	VU	R	AS14	B	B	-
<i>Centropus sinensis</i>	Greater Coucal	-	R	-	B	B	2
<i>Centropus bengalensis</i>	Lesser Coucal	-	R	-	B	B	2
* <i>Phodilus badius</i>	Oriental Bay Owl	-	R	-	-	2	-
<i>Ninox scutulata</i>	Brown Hawk Owl	-	R	-	B	1	-
<i>Strix leptogrammica</i>	Brown Wood Owl	-	R	-	1	-	-
<i>Collocalia</i> sp.	'nest swiftlet' sp.	-	R	-	1?	1?	-
<i>Collocalia esculenta</i>	Glossy Swiftlet	-	R	-	B	B	2
<i>Hirundapus giganteus</i>	Brown-backed Needletail	-	R W	-	1	2	2
<i>Rhaphidura leucopygialis</i>	Silver-rumped Swift	-	R	AS14	B	B	2
<i>Cypsiurus balasiensis</i>	Asian Palm Swift	-	R	-	B	B	2
<i>Hemiprocne longipennis</i>	Grey-rumped Treeswift	-	R	-	B	B	2
<i>Hemiprocne comata</i>	Whiskered Treeswift	-	R	-	B	B	2
<i>Harpactes kasumba</i>	Red-naped Trogon	NT	R	AS14	B	2	2
<i>Harpactes diardii</i>	Diard's Trogon	NT	R	AS14	B	B	2
<i>Harpactes duvaucelii</i>	Scarlet-rumped Trogon	NT	R	AS14	B	B	2
<i>Alcedo meninting</i>	Blue-eared Kingfisher	-	R	-	B	-	-
* <i>Alcedo euryzona</i>	Blue-banded Kingfisher	VU	R	AS14	-	2	-
<i>Ceyx erithacus</i>	Oriental Dwarf Kingfisher	-	R	-	B	B	2
<i>Pelargopsis capensis</i>	Stork-billed Kingfisher	-	R	-	B	-	-
<i>Merops viridis</i>	Blue-throated Bee-eater	-	R	-	B	1	2
<i>Nyctornis amictus</i>	Red-bearded Bee-eater	-	R	AS14	2	B	2
<i>Eurystomus orientalis</i>	Oriental Dollarbird	-	R W	-	1	-	-

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<i>Berenicornis comatus</i>	White-crowned Hornbill	NT	R	AS14	1	-	-
<i>Anorrhinus galeritus</i>	Bushy-crested Hornbill	-	R	AS14	B	B	2
<i>Rhyticeros corrugatus</i>	Wrinkled Hornbill	NT	R	AS14	B	B	-
<i>Rhyticeros undulatus</i>	Wreathed Hornbill	-	R	-	B	B	2
<i>Anthracoceros malayanus</i>	Black Hornbill	NT	R	AS14	B	2	2
<i>Anthracoceros albirostris</i>	Asian Pied Hornbill	-	R	-	B	-	-
<i>Buceros rhinoceros</i>	Rhinoceros Hornbill	NT	R	AS14	B	B	2
<i>Rhinoplax vigil</i>	Helmeted Hornbill	NT	R	AS14	B	B	2
<i>Megalaima chrysopogon</i>	Golden-whiskered Barbet	-	R	AS14	B	B	2
* <i>Megalaima rafflesii</i>	Red-crowned Barbet	NT	R	AS14	2	2	2
<i>Megalaima mystacophanus</i>	Red-throated Barbet	NT	R	AS14	B	B	2
<i>Megalaima henricii</i>	Yellow-crowned Barbet	NT	R	AS14	B	B	2
<i>Megalaima australis</i>	Blue-eared Barbet	-	R	-	B	B	2
<i>Calorhamphus fuliginosus</i>	Brown Barbet	-	R	AS14	B	B	2
<i>Indicator archipelagicus</i>	Malaysian Honeyguide	NT	R	AS14	1	-	-
<i>Sasia abnormis</i>	Rufous Piculet	-	R	AS14	B	B	2
<i>Micropternus brachyurus</i>	Rufous Woodpecker	-	R	-	-	B	-
<i>Picus puniceus</i>	Crimson-winged Woodpecker	-	R	AS14	1	B	2
<i>Picus miniaceus</i>	Banded Woodpecker	-	R	AS14	1	1	-
<i>Dinopium rafflesii</i>	Olive-backed Woodpecker	NT	R	AS14	1	B	-
<i>Meiglyptes tristis</i>	Buff-rumped Woodpecker	-	R	AS14	B	B	2
<i>Meiglyptes tukki</i>	Buff-necked Woodpecker	NT	R	AS14	2	1	-
<i>Mulleripicus pulverulentus</i>	Great Slaty Woodpecker	-	R	-	B	2	2
<i>Dryocopus javensis</i>	White-bellied Woodpecker	-	R	-	1	1	2
<i>Dendrocopos canicapillus</i>	Grey-capped Pygmy Woodpecker	-	R	-	B	B	2
<i>Hemicircus concretus</i>	Grey-and-buff Woodpecker	-	R	AS14	B	B	-
<i>Blythipicus rubiginosus</i>	Maroon Woodpecker	-	R	AS14	B	B	2
<i>Reinwardtipicus validus</i>	Orange-backed Woodpecker	-	R	AS14	B	B	2
<i>Corydon sumatranus</i>	Dusky Broadbill	-	R	-	B	B	2
<i>Cymbirhynchus macrorhynchus</i>	Black-and-red Broadbill	-	R	AS14	B	1	2
<i>Eurylaimus javanicus</i>	Banded Broadbill	-	R	-	B	B	2
<i>Eurylaimus ochromalus</i>	Black-and-yellow Broadbill	NT	R	AS14	B	B	2
<i>Calypomena viridis</i>	Green Broadbill	NT	R	AS14	B	B	2
<i>Pitta caerulea</i>	Giant Pitta	NT	R	AS14	1	-	-
<i>Pitta guajana</i>	Banded Pitta	-	R	AS14	B	2	2
* <i>Pitta arquata</i>	Blue-banded Pitta	-	R	AS15	2	2	2
<i>Pitta granatina</i>	Garnet Pitta	NT	R	AS14	B	2	2
<i>Pitta baudii</i>	Blue-headed Pitta	VU	B	AS14	B	-	2
<i>Pitta sordida</i>	Hooded Pitta	-	R	-	B	B	2
<i>Hirundo rustica</i>	Barn Swallow	-	W	-	1	-	-
<i>Hirundo tahitica</i>	Pacific Swallow	-	R	-	B	B	2
<i>Motacilla flava</i>	Yellow Wagtail	-	W	-	1	-	-
<i>Motacilla cinerea</i>	Grey Wagtail	-	W	-	1	2	-

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* <i>Coracina striata</i>	Bar-bellied Cuckooshrike	-	R	-	-	-	2
<i>Coracina fimbriata</i>	Lesser Cuckooshrike	-	R	AS14	B	B	2
<i>Pericrocotus flammeus</i>	Scarlet Minivet	-	R	-	B	B	2
* <i>Hemipus picatus</i>	Bar-winged Flycatcher-shrike	-	R	-	-	-	2
<i>Hemipus hirundinaceus</i>	Black-winged Flycatcher-shrike	-	R	AS14	B	B	2
* <i>Tephrodornis virgatus</i>	Large Woodshrike	-	R	-	-	2	-
<i>Aegithina tiphia</i>	Common Iora	-	R	-	1	-	-
<i>Aegithina viridissima</i>	Green Iora	NT	R	AS14	1	B	2
<i>Chloropsis sonnerati</i>	Greater Green Leafbird	-	R	AS14	B	B	2
<i>Chloropsis cyanopogon</i>	Lesser Green Leafbird	NT	R	AS14	1	B	2
<i>Chloropsis cochinchinensis</i>	Blue-winged Leafbird	-	R	-	1	B	2
<i>Pycnonotus melanoleucos</i>	Black-and-white Bulbul	NT	R	AS14	-	B	-
<i>Pycnonotus atriceps</i>	Black-headed Bulbul	-	R	-	B	B	2
* <i>Pycnonotus squamatus</i>	Scaly-breasted Bulbul	NT	R	AS14	-	2	2
* <i>Pycnonotus cyaniventris</i>	Grey-bellied Bulbul	NT	R	AS14	-	-	2
<i>Pycnonotus eutilotus</i>	Puff-backed Bulbul	NT	R	AS14	B	B	-
<i>Pycnonotus goiavier</i>	Yellow-vented Bulbul	-	R	-	B	B	2
<i>Pycnonotus plumosus</i>	Olive-winged Bulbul	-	R	AS14	1	B	-
<i>Pycnonotus simplex</i>	Cream-vented Bulbul	-	R	AS14	-	1	-
<i>Pycnonotus brunneus</i>	Red-eyed Bulbul	-	R	AS14	B	B	2
<i>Pycnonotus erythrophthalmos</i>	Spectacled Bulbul	-	R	AS14	B	B	2
* <i>Criniger finschii</i>	Finsch's Bulbul	NT	R	AS14	-	-	2
<i>Criniger bres</i>	Grey-cheeked Bulbul	-	R	AS14	B	B	2
<i>Criniger phaeocephalus</i>	Yellow-bellied Bulbul	-	R	AS14	B	2	2
<i>Iole olivacea</i>	Buff-vented Bulbul	NT	R	AS14	1	B	-
* <i>Tricholestes criniger</i>	Hairy-backed Bulbul	-	R	AS14	2	-	2
<i>Irena puella</i>	Asian Fairy Bluebird	-	R	-	B	B	2
* <i>Lanius tigrinus</i>	Tiger Shrike	-	W	-	-	2	-
<i>Lanius cristatus</i>	Brown Shrike	-	W	-	-	1	-
<i>Lanius schach</i>	Long-tailed Shrike	-	R	-	1	-	2
<i>Copsychus saularis</i>	Oriental Magpie-Robin	-	R	-	B	B	2
<i>Copsychus malabaricus</i>	White-rumped Shama	-	R	-	B	B	2
* <i>Copsychus pyrrhopygus</i>	Rufous-tailed Shama	NT	R	AS14	-	-	2
* <i>Enicurus ruficapillus</i>	Chestnut-naped Forktail	NT	R	AS14	2	-	2
<i>Enicurus leschenaulti</i>	White-crowned Forktail	-	R	-	1	2	2
* <i>Zosterops interpres</i>	Chestnut-capped Thrush	-	R	AS14	-	2	-
<i>Pellorneum capistratum</i>	Black-capped Babbler	-	R	AS14	B	B	2
<i>Trichastoma rostratum</i>	White-chested Babbler	NT	R	AS14	2	1	-
<i>Trichastoma bicolor</i>	Ferruginous Babbler	-	R	AS14	B	B	2
<i>Malaccocincla malaccense</i>	Short-tailed Babbler	NT	R	AS14	B	B	2
* <i>Malacopteron magnirostre</i>	Moustached Babbler	-	R	AS14	-	2	2
<i>Malacopteron affine</i>	Sooty-capped Babbler	NT	R	AS14	B	1	2
<i>Malacopteron cinereum</i>	Scaly-crowned Babbler	-	R	-	B	2	2

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<i>Malacopteron magnum</i>	Rufous-crowned Babbler	NT	R	AS14	B	B	2
<i>Pomatorhinus montanus</i>	Chestnut-backed Scimitar-Babbler	-	R	AS14	2	B	2
<i>Napothera atrigularis</i>	Black-throated Wren-Babbler	NT	B	AS14	2	1	2
<i>Stachyris poliocephala</i>	Grey-headed Babbler	-	R	AS14	-	B	2
<i>Stachyris maculata</i>	Chestnut-rumped Babbler	NT	R	AS14	B	1	2
<i>Stachyris nigricollis</i>	Black-throated Babbler	NT	R	AS14	B	B	2
<i>Stachyris erythroptera</i>	Chestnut-winged Babbler	-	R	AS14	B	B	2
<i>Macronous gularis</i>	Striped Tit-Babbler	-	R	-	B	B	2
<i>Macronous ptilosus</i>	Fluffy-backed Tit-Babbler	NT	R	AS14	B	B	-
<i>Alcippe brunneicauda</i>	Brown Fulvetta	NT	R	AS14	2	B	2
* <i>Yuhina zantholeuca</i>	White-bellied Yuhina	-	R	-	-	-	2
<i>Prinia flaviventris</i>	Yellow-bellied Prinia	-	R	-	B	B	2
<i>Orthotomus atrogularis</i>	Dark-necked Tailorbird	-	R	-	B	2	2
<i>Orthotomus sericeus</i>	Rufous-tailed Tailorbird	-	R	-	B	B	2
<i>Orthotomus ruficeps</i>	Ashy Tailorbird	-	R	-	B	B	2
<i>Phylloscopus borealis</i>	Arctic Warbler	-	W	-	-	B	-
<i>Abroscopus supercilii</i>	Yellow-bellied Warbler	-	R	-	2	B	-
<i>Rhinomyias umbratilis</i>	Grey-chested Jungle Flycatcher	NT	R	AS14	B	-	2
<i>Muscicapa sibirica</i>	Dark-sided Flycatcher	-	W	-	-	1?	-
<i>Muscicapa dauurica</i>	Asian Brown Flycatcher	-	R W	-	1	B	-
<i>Eumyias thalassina</i>	Verditer Flycatcher	-	R	-	-	B	2
<i>Ficedula narcissina</i>	Narcissus Flycatcher	-	W	-	-	B	-
* <i>Ficedula mugimaki</i>	Mugimaki Flycatcher	-	W	-	2	-	-
* <i>Ficedula dumetoria</i>	Rufous-chested Flycatcher	NT	R	AS14	2	-	-
<i>Cyanoptila cyanomelana</i>	Blue-and-white Flycatcher	-	W	-	-	1	-
* <i>Cyornis concretus</i>	White-tailed Flycatcher	-	R	-	2	1?	-
<i>Cyornis superbus</i>	Bornean Blue Flycatcher	-	B	AS15	1?	2?	-
* <i>Cyornis caerulatus</i>	Sunda Blue Flycatcher	VU	R	AS14	-	2	-
<i>Cyornis turcosus</i>	Malaysian Blue Flycatcher	NT	R	AS14	1	2?	-
* <i>Culicicapa ceylonensis</i>	Grey-headed Canary-Flycatcher	-	R	-	2	2	2
<i>Gerygone sulphurea</i>	Golden-bellied Gerygone	-	R	-	1	-	-
<i>Philentoma pyrropterum</i>	Rufous-winged Philentoma	-	R	AS14	B	B	2
* <i>Philentoma velatum</i>	Maroon-breasted Philentoma	NT	R	AS14	2	2	2
<i>Hypothymis azurea</i>	Black-naped Monarch	-	R	-	B	B	2
<i>Terpsiphone paradisi</i>	Asian Paradise Flycatcher	-	R	-	B	B	2
<i>Rhipidura javanica</i>	Pied Fantail	-	R	-	B	-	2
<i>Rhipidura perlata</i>	Spotted Fantail	-	R	AS14	2	B	2
<i>Sitta frontalis</i>	Velvet-fronted Nuthatch	-	R	-	1	-	2
<i>Prionochilus maculatus</i>	Yellow-breasted Flowerpecker	-	R	AS14	1	B	-
<i>Prionochilus xanthopygius</i>	Yellow-rumped Flowerpecker	-	B	AS14	B	B	2
* <i>Dicaeum chrysorrheum</i>	Yellow-vented Flowerpecker	-	R	-	-	2	-
<i>Dicaeum trigonostigma</i>	Orange-bellied Flowerpecker	-	R	-	B	B	2
<i>Anthreptes simplex</i>	Plain Sunbird	-	R	AS14	1	B	2

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<i>Anthreptes malacensis</i>	Brown-throated Sunbird	-	R	-	B	B	2
* <i>Anthreptes rhodolaema</i>	Red-throated Sunbird	NT	R	AS14	-	2	2
<i>Anthreptes singalensis</i>	Ruby-checked Sunbird	-	R	-	B	B	2
<i>Hypogramma hypogrammicum</i>	Purple-naped Sunbird	-	R	-	B	B	2
<i>Nectarinia sperata</i>	Purple-throated Sunbird	-	R	-	B	2	2
<i>Aethopyga siparaja</i>	Crimson Sunbird	-	R	-	B	-	2
<i>Arachnothera longirostra</i>	Little Spiderhunter	-	R	-	B	B	2
<i>Arachnothera flavigaster</i>	Spectacled Spiderhunter	-	R	AS14	B	B	-
<i>Arachnothera chrysogenys</i>	Yellow-eared Spiderhunter	-	R	AS14	1?	1	2
<i>Arachnothera modesta</i>	Grey-breasted Spiderhunter	-	R	AS14	2	B	-
<i>Zosterops</i> sp.	White-eye sp.	-	R	-	1?	2?	-
<i>Erythrura prasina</i>	Pin-tailed Parrot-Finch	-	R	-	2	B	-
<i>Lonchura fuscans</i>	Dusky Munia	-	B	-	B	B	2
<i>Lonchura leucogastra</i>	White-bellied Munia	-	R	-	B	-	-
<i>Lonchura malacca</i>	Black-headed Munia	-	R	-	B	B	2
<i>Aplonis panayensis</i>	Asian Glossy Starling	-	R	-	B	-	-
<i>Gracula religiosa</i>	Common Hill Myna	-	R	-	B	B	2
<i>Oriolus xanthonotus</i>	Dark-throated Oriole	NT	R	AS14	B	B	2
<i>Dicrurus aeneus</i>	Bronzed Drongo	-	R	-	2	B	2
<i>Dicrurus paradiseus</i>	Greater Racquet-tailed Drongo	-	R	-	B	B	2
<i>Platylophus galericulatus</i>	Crested Jay	NT	R	AS14	-	B	-
<i>Platysmurus leucopterus</i>	Black Magpie	NT	R	AS14	B	2	2
<i>Corvus enca</i>	Slender-billed Crow	-	R	-	B	B	2