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*A JOURNAL ON ZOOLOGY
OF THE INDO-AUSTRALIAN ARCHIPELAGO*

Vol. 47, no. 1, pp. 1-75

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RESEARCH CENTER FOR BIOLOGY - INDONESIAN INSTITUTE OF SCIENCES (LIPI)
Jl. Raya Jakarta-Bogor Km. 46, Cibinong-Bogor 16911, Indonesia
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UDC: 595.78(594.73)

David J. Lohman

Syntopic *Elymnias agondas aruana* female forms mimic different *Taenaris* model species (Papilionoidea: Nymphalidae: Satyrinae) on Aru, Indonesia

TREUBIA, June 2020, Vol. 47, No. 1, pp. 1–12.

Wing patterns of female *Elymnias agondas* (Boisduval, 1832) butterflies are highly variable, presumably to mimic different *Taenaris* species throughout New Guinea and surrounding islands. Labels on most *E. agondas* museum specimens lack precise locality information, complicating efforts to match *E. agondas* female wing patterns with presumed *Taenaris* model species. This paucity of data also makes it impossible to determine where different forms occur and whether they are strictly allopatric. During fieldwork on the Aru Archipelago, we found two distinct forms of *E. agondas* females occurring syntopically. The “light form” resembles *T. catops*, while the “dark form” seems to mimic *T. myops* and *T. artemis*. We discuss the significance of this finding and illustrate species in the *Taenaris* mimicry ring encountered on Aru.

(David J. Lohman, Sarino, and Djunijanti Peggie)

Keywords: adaptation, Batesian mimicry, butterfly, mimicry ring, polymorphism

UDC: 598.2:910.4(594.4)

Tri Haryoko

Recent ornithological expeditions to Siberut Island, Mt. Talamau and Rimbo Panti Nature Reserve, Sumatra, Indonesia

TREUBIA, June 2020, Vol. 47, No. 1, pp. 13–38.

Siberut Island, Mt. Talamau, Rimbo Panti Nature Reserve, and intervening locations in West Sumatra Province were visited during two expeditions in 2018-2019 by ornithologists from the Museum Zoologicum Bogoriense-Indonesian Institute of Sciences (LIPI), Louisiana State University Museum of Natural Science, and Andalas University. The main objective of these expeditions was to obtain data and tissue-subsample rich museum specimens for morphological and genetic studies of phylogeny and population genetics of Southeast Asian birds aimed at understanding the causes of avian diversification in the region. We also observed, photographed, and audio-recorded numerous bird species during the expeditions and archived these data. In total, 285 species were identified, and specimen material was collected from 13 species and 26 subspecies not previously represented in tissue resource collections. Here, we provide complete lists of birds found at each location, highlight distributional discoveries, and note cases of potential taxonomic, ecological, and conservation interest.

(Tri Haryoko, Oscar Johnson, Matthew L. Brady, Subir B. Shakya, M. Irham, Yohanna, Rusdian P. Ritonga, Dewi M. Prawiradilaga, and Frederick H. Sheldon)

Keywords: birds, distribution, diversity, conservation, West Sumatra

UDC: 598.813.063(59)

Elize Y. X. Ng

Integrative taxonomy reveals cryptic robin lineage in the Greater Sunda Islands

TREUBIA, June 2020, Vol. 47, No. 1, pp. 39–52.

Southeast Asian avifauna is under threat from both habitat loss and illegal poaching, yet the region's rich biodiversity remains understudied. Here, we uncover cryptic species-level diversity in the Sunda Blue Robin (*Myiomela diana*), a songbird complex endemic to Javan (subspecies *diana*) and Sumatran (subspecies *sumatrana*) mountains. Taxonomic inquiry into these populations has previously been hampered by a lack of DNA material and the birds' general scarcity, especially *sumatrana* which is only known from few localities. We demonstrate fundamental bioacoustic differences in courtship song paired with important distinctions in plumage saturation and tail length that combine to suggest species-level treatment for the two taxa. Treated separately, both taxa are independently threatened by illegal poaching and habitat loss, and demand conservation action. Our study highlights a case of underestimated avifaunal diversity that is in urgent need of revision in the face of imminent threats to species survival.

(Elize Y. X. Ng, Arya Y. Yue, James A. Eaton, Chyi Yin Gwee, Bas van Balen, and Frank E. Rheindt)

Keywords: bioacoustics, bird trade, passerines, songbird crisis, taxonomic neglect

UDC: 595.76:591.46(594.53)

Arif Maulana

A contribution to the taxonomy and ecology of little-known Indonesian *Afissa* ladybird beetles (Coccinellidae, Epilachnini)

TREUBIA, June 2020, Vol. 47, No. 1, pp. 53–62.

We collected the little-known ladybird beetle *Afissa incauta* in the mountainous region of Bandung, West Java. The beetle occurred sympatrically with the very similar species *A. gedeensis*. Here, we provide an update to the current knowledge for these two species. The *A. incauta* we collected have a slightly smaller and duller body compared to the previously known specimens of *Afissa incauta*, with convergent elytral maculation similar to *A. gedeensis*.

(Arif Maulana, Tri Atmowidi, and Sih Kahono)

Keywords: *Afissa gedeensis*, *Afissa incauta*, Coleoptera, Epilachnini, ladybird beetle

UDC: 595.733:574.2(594.57)

Ainun Rubi Faradilla

The life history and microhabitat ecology of a phytotelm-breeding damselfly *Pericnemis stictica* in Jatimulyo forest, Yogyakarta

TREUBIA, June 2020, Vol. 47, No. 1, pp. 63–75.

This study aims to understand the life history and microhabitat ecology of a phytotelmata-breeding species, *Pericnemis stictica*. Data was collected at 46 breeding sites in the Jatimulyo Forest, Kulonprogo. Several parameters were recorded from each breeding site, i.e. plant species, diameters, depth, water depth, water volume, water pH, and water turbidity. Naiads and imagoes of *P. stictica* were measured morphometrically. The data taken was analyzed descriptively using Minitab 19. The results showed that 17 naiads of *P. stictica* were found in 13 bamboo stumps. The bamboo species most commonly used by *P. stictica* as a breeding site was *Dendrocalamus asper*. Naiads of *P. stictica* were found in the same habitat as mosquito larva from genera *Toxorhynchites*, *Aedes*, *Armigeres*, and *Culex*. During the rearing process, it was recorded that *P. stictica* naiads can eat more than ten mosquito larvae a day. Four males and one female imagoes of *P. stictica* were found. The imagoes were mostly found in a secondary forest with shady ravine areas. Imago's average total length was 7.19 cm. Naiad's final instar average size was 16.7 mm. Water depth, water temperature, bamboo depth, bamboo volume, and humidity were all positively correlated to *P. stictica*'s phytotelmata-breeding behavior.

(Ainun Rubi Faradilla, Mariza Uthami, Bella Andini, and Hening Triandika Rachman)

Keywords: breeding, *Pericnemis*, phytotelm, Yogyakarta

**RECENT ORNITHOLOGICAL EXPEDITIONS TO SIBERUT ISLAND,
MT. TALAMAU AND RIMBO PANTI NATURE RESERVE, SUMATRA,
INDONESIA**

**Tri Haryoko*¹, Oscar Johnson², Matthew L. Brady², Subir B. Shakya², M. Irham¹, Yohanna¹,
Rusdian P. Ritonga³, Dewi M. Prawiradilaga¹, and Frederick H. Sheldon²**

¹Museum Zoologicum Bogoriense, Research Center for Biology, Indonesian Institute of Sciences (LIPI),
Jl. Jakarta-Bogor Km. 46, Cibinong, Bogor 16911, Indonesia

²Museum of Natural Science and Department of Biological Sciences, Louisiana State University,
Baton Rouge, Louisiana 70803, USA

³Natural Resources and Conservation Agency (BKSDA) West Sumatra, Ministry of Environment and Forestry,
Padang, West Sumatra, Indonesia

*Corresponding author: trih007@gmail.com

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ABSTRACT

Siberut Island, Mt. Talamau, Rimbo Panti Nature Reserve, and intervening locations in West Sumatra Province were visited during two expeditions in 2018-2019 by ornithologists from the Museum Zoologicum Bogoriense (MZB) - Indonesian Institute of Sciences (LIPI), Louisiana State University Museum of Natural Science (LSUMNS), and Andalas University. The main objective of these expeditions was to obtain data and tissue-subsample rich museum specimens for morphological and genetic studies of phylogeny and population genetics of Southeast Asian birds aimed at understanding the causes of avian diversification in the region. We also observed, photographed, and audio-recorded numerous bird species during the expeditions and archived these data. In total, 285 species were identified, and specimen material was collected from 13 species and 26 subspecies not previously represented in tissue resource collections. Here, we provide complete lists of birds found at each location, highlight distributional discoveries, and note cases of potential taxonomic, ecological, and conservation interest.

Keywords: birds, distribution, diversity, conservation, West Sumatra

ABSTRAK

Ekspedisi dilakukan dua kali pada tahun 2018-2019 di Pulau Siberut, Gunung Talamau dan Cagar Alam Rimbo Panti (Provinsi Sumatera Barat) oleh ahli burung dari Museum Zoologicum Bogoriense (MZB) - LIPI, Museum of Natural Science-Louisiana State University, dan Universitas Andalas. Tujuan utama dari ekspedisi ini adalah untuk mendapatkan data dan sampel spesimen museum untuk studi morfologi, filogeni dan genetika populasi burung di Asia Tenggara sehingga dapat memahami penyebab keragaman burung di wilayah tersebut. Pendataan burung dilakukan dengan pengamatan, pengambilan foto dan perekaman suara. Jumlah total burung yang dapat diidentifikasi adalah 285 spesies, sebanyak 13 spesies dan 26 subspecies spesimen merupakan material baru yang dapat dikumpulkan dalam ekspedisi ini. Kami memaparkan daftar lengkap burung dari setiap lokasi, catatan penemuan distribusi baru dan ulasan potensi kajian taksonomi, ekologi dan konservasi.

Kata kunci: Burung, sebaran, keragaman, konservasi, Sumatera Barat

INTRODUCTION

At 473,000 km², Sumatra is the sixth largest island in the world and lies in a major biodiversity hotspot, Sundaland. It is geographically complex, with a long mountain range (the Barisan Range) along its western edge, extensive eastern lowlands, many small and mid-sized nearby islands, and a wide variety of habitats (Whitten et al., 1997). Sumatra's mountains were built relatively recently by a combination of Pliocene-Pleistocene subduction-based orogeny and volcanism (Hall, 2013), and they comprise dozens of peaks over 2500 m in elevation, the highest, Mt. Kerinci, reaching 3805 m (Whitten et al., 1997). The eastern lowlands were built largely by the erosion of the mountains and until the mid-20th century were largely covered with magnificent rain and peatswamp forests. Lying on the Sunda continental shelf, Sumatra was connected periodically to the other Greater Sunda Islands (Borneo and Java) and to the Malay Peninsula during periods of low sea level resulting from Pleistocene global glacial events (Sathiamurthy & Voris, 2006). Sumatra was also connected periodically to most of its surrounding smaller islands, with the notable exception of several of the West Sumatran (or Barusan Islands), which have been permanently isolated by deep water: Simeulue, Nias, the Mentawai Islands, and Enggano (Fig. 1). The combination of Sumatra's position, large size, complex topography, recent orogeny (including occasionally dramatic and devastating volcanism), and intermittent connection to some but not all other islands in the region is responsible for the island's remarkable biodiversity (Whitten et al., 1997; Wilting et al., 2012).

With respect to birds, Sumatra's history and geography have produced several predictable diversity patterns (van Marle & Voous, 1988; MacKinnon & Phillipps, 1999; Wells, 1999, 2007; Sheldon et al., 2015; Eaton et al., 2016; Prawiradilaga, 2019). Sumatra shares most of its resident bird species with the Malay Peninsula (about 80%) because of the extensive proximity of their parallel coastlines, which have been connected by land several times in the last 2 million years. Sumatra also shares a large proportion of its bird species with Borneo and Java (about 70% and 50%, respectively) because of periodic Pleistocene land bridges and the large size and variety of habitats on all three islands. Although Sumatra shares many species with the other Sundaic landmasses, it also has a substantial endemic avifauna resulting from population isolation on its tall mountains and western islands.

Despite these predictable patterns of species diversity, some less predictable patterns are expected among Sumatran bird populations. Recent genetic studies have shown that relationships among populations can differ idiosyncratically among and within the Greater Sunda Islands due to variation in habitat locations and types during Pleistocene glacial events. Most of this evidence derives from work on Borneo, where taxonomic sampling is fairly broad (Lim et al., 2011; Lim & Sheldon, 2011; Chua et al., 2015; Lim et al., 2017; Shakya et

al., 2018). Sampling of Sumatran populations for genetic studies of birds, on the other hand, is extremely poor, and without it we do not know much about the extent and type of variation that exists among populations on the island, or between Sumatran populations and those on other islands. Such knowledge is essential to reconstructing the history of avian diversification in the region. Understanding the evolutionary history of Sundaland, in turn, is required to develop accurate classifications of its bird species and populations and to conserve their diversity effectively (Moritz, 1994; Wilson, 2000).

To improve sampling, the Museum Zoologicum Bogoriense (MZB) - Indonesian Institute of Sciences (LIPI), Louisiana State University Museum of Natural Science (LSUMNS), and students from Universitas Andalas (UA), Padang, Sumatra, surveyed and collected birds at three sites in West Sumatra Province in 2018 and 2019. This work provided essential specimen material for immediate phylogenetic and phylogeographic study (e.g., Shakya et al., 2020) and potentially other types of biological inquiry (Webster, 2017), as well as audio-recordings, photographs, and other information on bird occurrence, ecology, and conservation.

MATERIALS AND METHODS

Field methods

The main purpose of our work in Sumatra was to collect samples for molecular and morphological study of phylogeny and population genetics, as well to archive samples for potential toxicological, epidemiological, parasite, microbiome, diet, and other studies. Therefore, our effort was concentrated primarily on mist-netting birds to obtain specimens and samples; it was not intended to determine bird occurrence quantitatively. We worked at three main locations (described below) and set nets to maximize the capture of birds in each, not to replicate methods or coverage at each site. Because of ad hoc nature of the work, we do not attempt quantitative analysis in this report; we simply note the birds we caught, observed or heard and then provide comments as appropriate on their distribution, taxonomy, or activities.

At each site, individuals were captured using 20–30 12-m mist-nets, opened from dawn through late afternoon (closed earlier in inclement weather), and checked continuously. Because of the rare opportunity to obtain specimens that will be useful to the scientific community in perpetuity, all bird species were potentially targeted (up to six individuals each), except those that are of special conservation concern or restricted by the government for other reasons. Birds that were not collected for scientific specimens were ringed using Indonesian Bird Banding Scheme (IBBS) bands, measured, genetic samples collected, photographed, and released back to the wild. Specimens were prepared as museum study skins and deposited at the MZB and LSUMNS. Tissues, stomach contents, intestinal tracts, and parasites were preserved in 95% ethanol, and duplicate copies were deposited at both

LSUMNS and MZB. Birds were also observed informally, photographed, and audio-recorded at each field site and between sites as we traveled around West Sumatra Province. Bird records were kept in checklist format and archived in eBird (ebird.org). Photographs and audio-recordings were archived at Cornell Laboratory of Ornithology's Macaulay Library (macaulaylibrary.org; referenced by ML numbers) via the eBird portal.

Work sites

Siberut Island, Mentawai Islands Regency, West Sumatra Province, 3-7 March 2018: Siberut (4030 km²) is the second largest of the West Sumatran Islands after Nias (4771 km²) and an important biodiversity site (McNeely et al., 1980; Mitchell, 1982). It lies in the Mentawai Archipelago, a group of oceanic islands off the central-west coast of Sumatra (Fig. 1). Siberut was the last of the main West Sumatran Islands to be explored by ornithologists, in September and October 1924 (Chasen & Kloss, 1926; Riley, 1929; Ripley, 1944). After that, the island's birds were not studied until the conservation work of McNeely et al. (1980) and a subsequent, very thorough survey from 1992-1994, done partly in association with the establishment of Siberut National Park (Adhikerana, 1994). Originally, the island was heavily forested and swampy. During our visit, which focused on the southeastern end, we found the forest to be relatively low in stature, with a canopy ~15–25 meters high. The understory was dominated by rattan palms (Arecaceae: Calamoideae) and *Pandanus* sp. (Pandanaceae), with *Nepenthes* (Nepenthaceae) plants being common. These and other features imply that the forest has been disturbed for a long period of time. Most of the area near the city of Muara Siberut had been heavily logged or had been converted to agricultural land. Farther from town, near roads, the forest was being actively converted for subsistence farming through slash-and-burn.

Our team on Siberut consisted of one researcher from MZB (TH), three from LSU (MLB, OJ, SBS), and one UA student (Rizky Darma Busta). We were stationed at a camp 6 km west of the town of Muara Siberut (1.604° S, 99.159° E, 40 m) on the southeast coast (Fig. 1), and sampled birds in several habitats in the area, including disturbed taller forest, forest edge, and clearings. We also informally surveyed birds around the town and on nearby mudflats (1.597° S, 99.215° E) on 8 March, and observed birds during our crossings to and from Siberut Island from Padang on 3 and 8 March.

Mt. Talamau (=Mt. Talakmau, Mt. Ophir), West Pasaman Regency, West Sumatra Province, 14-30 March 2018: Mt. Talamau is an inactive volcano, 2919 m in elevation, rising from the Padang lowlands of northern West Sumatra Province (0.078° S 99.984° E). As far as we know, its birds have been collected only once, between 1913-1917 by E. Jacobson (Robinson & Kloss, 1924), although the Padang area was visited by several earlier ornithologists (Büttikofer, 1887). Jacobson described the mountain as completely covered in undisturbed forest from 400 m upward (in some places extending down to 150-200 m), below

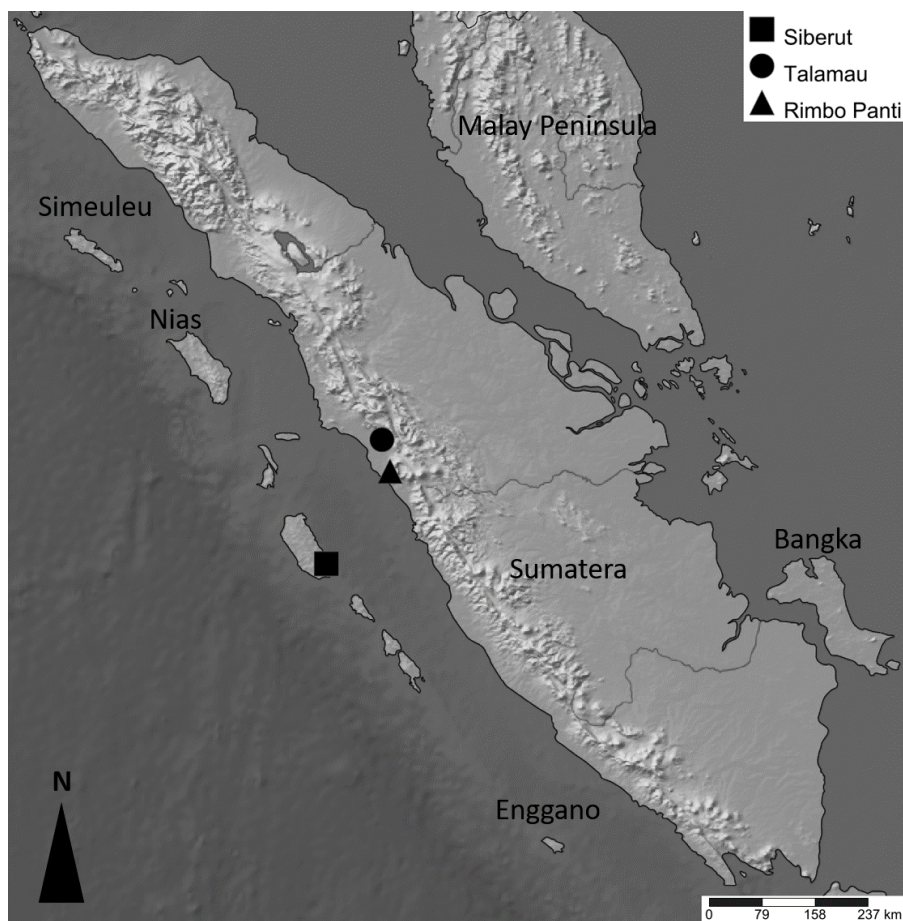


Figure 1. Map of Sumatra indicating worksites (source: Shorthouse 2010).

which were coffee and tea plantations. Nowadays, the landscape below 200 m is dominated by intensive rice agriculture and small villages. Between 200 and 450 m, rice farming shifts to oil palm, which dominates the landscape above 300-450 m. Between 450-800 m, most land is used for subsistence agriculture, with some patches of disturbed forest mixed in. Above 800 m, the forest is relatively intact and has numerous trees with large diameter boles.

For our work on Talamau, four more researchers joined the group: MI and Suparno (MZB), Tengku Lindra and Andri Saputra (UA). We approached the mountain from the west via the village of Lubuak Landua (0.106° N, 99.887° E, 200 m), where we hired porters. On 14 March, we climbed to Camp 1 (0.097° N, 99.948° E, 1100m) and worked the area between 900-1250 m until 21 March 2018. The habitat was mostly primary hill or submontane forest, although in some places the understory had been cleared, perhaps in earlier attempts at agriculture. On 23 March, we moved to Camp 2 (0.080° N, 99.960° E, 1650 m), where we worked an elevational range from 1300–1850 m until 30 March 2018. Between 1650 and 1900 m, the forest transitioned from sub-montane to montane forest, with a concurrent decrease in canopy height and an increase in mosses and epiphytes. Here the forest was entirely primary. Above 2000 m, forest structure changed significantly to oak-*Rhododendron* dominated forest, with occasional screwpine (*Pandanus* sp.) and large expanses of open heath-like shrubbery and false staghorn ferns (*Dicranopteris linearis*) on exposed slopes. MLB and

OJ briefly explored to 2700 meters on 29 March. Our final two days on Talamau (30–31 March 2018) were spent surveying fragmented and degraded lower elevation forest below Camp 1 near a small hiking outpost on the main trail (0.100°N, 99.937°E, 800 m).

Rimbo Panti Nature Reserve, Pasaman Regency, West Sumatra Province, 20 January - 5 February 2019: Rimbo Panti is a wildlife reserve that straddles the Trans Sumatra Highway (0.346° S 100.069° E). The reserve was established by the Dutch East Indies government on 18 June 1932. It encompasses approximately 2830 ha of primary forest consisting of two distinct habitat types: lowland swamp forest at approximately 250 m in elevation and adjacent, hilly upland forest. The reserve is contiguous with larger tracts of disturbed upland and montane forest on both its eastern and western edges. The town of Panti is at the Reserve's northern boundary, and extensive rice agriculture extends from the reserve's southern border.

Expedition participants at Rimbo Panti were Y and Suparno (MZB), MLB and SBS (LSUMNS), and Rizky Darma Busta, Purnama Estria and Zuyanna (UA). We sampled both the lower swamp forest at 250 m and the drier lowland forest up to 450 m.

RESULTS

During 40 days of field work, we identified 285 species as classified by Gill & Donsker (2019). The species found at each locality, their record type (e.g., specimen, photograph, audio-recording), and their IUCN Red List status are noted in Table 1. For 13 species and 26 subspecies, the specimens are the first ever to have preserved tissues. These specimens are noted in Table 1 with asterisks.

Notable bird records

Crossing between Padang and Siberut:

Although the sea between mainland Sumatra and the Mentawai Islands lies on the continental shelf and is thus relatively shallow, we still detected a variety of oceanic species. The crossings to and from Siberut Island were characterized by long periods without birds, interrupted by small to large feeding flocks consisting mainly of Bridled Terns (*Onychoprion aethereus*; photographs ML94142061, ML94141911, ML94141941). These flocks also contained small numbers of other tern species—including Lesser Crested Tern (*Thalasseus bengalensis*; photograph ML94137491), Great Crested Tern (*T. bergii*), Common Tern (*Sterna hirundo*; photograph ML94142171), Little Tern (*Sternula albifrons*; photograph ML94137431), and White-winged Tern (*Chlidonias leucopterus*; photograph ML94141771)—as well as noddies (*Anous* sp.), and a juvenile Masked Booby (*Sula dactylatra*; photograph ML94136651). Also, we observed an adult Long-tailed Jaeger (*Stercorarius longicaudus*; photograph ML94137001), an unknown jaeger (*Stercorarius* sp.), a White-tailed Tropicbird (*Phaethon lepturus*; photograph ML94141781), and two Red-necked Phalaropes (*Phalaropus*

lobatus). A small flock of swiftlets (*Aerodramus* sp.) and a single Plume-toed Swiftlet (*Collocalia affinis*) sighted over open water were apparently in transit between the Mentawai Islands and mainland Sumatra.

Siberut Island:

Barusan Cuckoo-Dove (*Macropygia modiglianii*) – *Macropygia* cuckoo-doves were seen daily around camp (recordings ML111963821, ML111963801).

Chestnut-breasted Malkoha (*Phaenicophaeus curvirostris*) – Seen on two occasions at forest edge near our camp (photographs and recordings ML92979051, ML101923871).

Little Bronze Cuckoo (*Chrysococcyx minutillus*) – Apparently a first record for the Mentawai Islands (Adhikerana, 1994), we detected this species by voice on 7 March.

Blyth's Hawk-Eagle (*Nisaetus alboniger*) – Single adults seen on 4 and 7 March soaring over taller secondary forest. This species is apparently rare on the Mentawai Islands (Kemp, 2000), although Adhikerana (1994) observed it regularly in primary forest in the Taileleu area.

Wallace's Hawk-Eagle (*Nisaetus nanus*) – One was seen and photographed (ML94138181, ML94138191) in open country adjacent to older growth forest. There are few documented records from the Mentawai Islands (Holmes, 1996; Kemp, 2000).

Frogmouth sp. (*Batrachostomus* sp.) – We detected multiple individuals of an unknown species of frogmouth near our camp on 6 March and obtained audio recordings (ML101909491). The species of frogmouth found on Siberut is currently unknown (e.g., Kemp, 2000), but has been suggested to represent a population of Javan (*B. javensis*), Sunda (*B. cornutus*), or Gould's (*B. stellatus*) frogmouths, or an undescribed species (Rombang, 2009; Verbelen & Demeulemeester, 2012). Our recordings sound qualitatively different from those available for Javan and Gould's but do sound similar to recordings previously made on Siberut that have been putatively identified as Sunda Frogmouth (Demeulemeester, 2009). Museum specimens are needed to clarify the taxonomic status of this population of *Batrachostomus*.

Storm's Stork (*Ciconia stormi*) – A rare and endangered species (BirdLife International, 2020) typically found in lowland forest. One individual was photographed on 7 March (ML94140611). The population on Siberut is poorly known and likely to be significant given how small the global population is currently.

Migrants: We detected no intra-tropical migrants on Siberut Island, but did record 12 species of boreal migrants, half of which were shorebirds. We noted six charadriiform species on tidal mudflats at Muara Siberut, all in single digit numbers: Grey Plover (*Pluvialis squatarola*), Siberian Whimbrel (*Numenius phaeopus variegatus*), Ruddy Turnstone (*Arenaria interpres*), Terek Sandpiper (*Xenus cinereus*, photograph ML94141071), and Common Sandpiper (*Actitis hypoleucos*). We also observed a Greater/Lesser Sandplover (*Charadrius* sp.). Greater is apparently rare on the Mentawai Islands (but see Adhikerana, 1994), so it was likely the Lesser (Holmes, 1994; Crossland et al., 2006).

In addition to shorebirds we detected two raptors: Crested Honey Buzzard (*Pernis ptilorhynchus*), seen once near the town of Muara Siberut; and Japanese Sparrowhawk (*Accipiter gularis*), one photographed on 6 March (ML196693951). We also detected Barn Swallow (*Hirundo rustica*), Tiger Shrike (*Lanius tigrinus*), Forest Wagtail (*Dendronanthus indicus*), and Yellow-rumped Flycatcher (*Ficedula zanthopygia*), in decreasing order of abundance, although none were commonly observed.

Mentawai Scops Owl (*Otus mentawi*) – This is the only widely-recognized endemic species of the Mentawai Islands. We detected it on the one night that we conducted nocturnal surveys (6 March), locating 3–4 individuals within ~100 meters from the forest edge, suggesting a relatively high number in the area (photographs and recordings ML94140221, ML101905521, ML101909381, ML101909631, ML101910611, ML127747421).

Ruddy Kingfisher (*Halcyon coromanda*) – Detected by voice on two occasions. Our single specimen appears to be of the larger and paler migratory subspecies *coromanda*.

Parrots: Two species of parrots, Blue-rumped Parrot (*Psittinus cyanurus*) and Blue-crowned Hanging Parrot (*Loriculus galgulus*), were commonly encountered in the forest, with most detected as flyovers, consistent with what has been found on previous surveys (e.g., Kemp, 2000). Recordings were obtained of Blue-rumped Parrot, which was the more common of the two species (ML92934581, ML101511211, ML101515421, ML101900591).

Sumatran Drongo (*Dicrurus sumatranus viridinitens*) – We encountered the subspecies *viridinitens* regularly in lowland forest and edge near our camp. Recent work has shown that this taxon is more closely related to the widespread *hottentottus* group than to *sumatranus* of mainland Sumatra (Shakya et al., 2020). Many photographs and recordings were obtained (photographs ML94138781, ML94138791, ML94138801, ML94435641, ML94435651, ML92934621; recordings, including one of a nocturnal song, ML111704991, ML166793761, ML101925121, ML101928751, ML101512231).

Black-headed Bulbul (*Pycnonotus atriceps*) – We had trouble locating the endemic subspecies *hyperemnus* (recording ML118943851), especially in comparison to our experience with the species elsewhere in Sundaland. Adhikerana (1994) noted that it was “uncommonly observed” but in all forest types.

Yellow-vented Flowerpecker (*Dicaeum chrysorrheum*) – One seen and audio-recorded near our camp on 6 March (ML101516011).

Mt. Talamau:

Bronze-tailed Peacock-Pheasant (*Polyplectron chalcurum*) – Encountered commonly between 800 and 1850 m, with up to 5 males heard calling daily. According to Holmes (1996), this is a species of conservation concern, but it is rated of “Least Concern” in the IUCN Red List (BirdLife International, 2020). Nevertheless, the relatively large number of encounters on Mt. Talamau is encouraging, especially considering that we only detected singing males (recordings ML111709111, ML112681521).

Salvadori’s Pheasant (*Lophura inornata*) – A pair with several downy chicks was encountered on 27 March above Camp 2 at about 1700 m.

Little Cuckoo-Dove (*Macropygia ruficeps*) – A nest with downy young was found on 27 March above Camp 2 at about 1800 m (photograph ML94820761).

Salvadori's Nightjar (*Caprimulgus pulchellus*) – One male was heard singing from mid-canopy at Camp 2 on four nights between 24 and 29 March (recordings ML196955561, ML100675901).

Giant Swiftlet (*Hydrochous gigas*) – We encountered a small flock of this uncommon species (BirdLife International, 2020) near the tree line at 2400 m on 29 March.

Black Eagle (*Ictinaetus malayensis*) – Seen on two occasions at low elevation near Camp 1 and above the tree line near 2600 m. The latter record approached the upper elevational record for this species in Sumatra (Holmes, 1996).

Rajah Scops Owl (*Otus brookii*) – One was found roosting during the day at 1850 m above Camp 2 on 25 March (photograph: ML167354461).

Sumatran Trogon (*Apalharpactes mackloti*) – Encountered on numerous occasions between 1200 and 1850 m, more abundantly at higher elevations.

Hornbills – Helmeted Hornbill (*Rhinoplax vigil*), a critically endangered species (Collar, 2015; BirdLife International, 2020), was detected on 20 March, a single bird heard calling at some distance. Both Rhinoceros Hornbill (*Buceros rhinoceros*) and Wreathed Hornbill (*Rhyticeros undulatus*) were seen primarily below 1200 m, although both were recorded as high as 1600 m below Camp 2. Bushy-crested Hornbill (*Anorrhinus galeritus*) was observed in secondary forest edge at 600 m.

Grey-headed Woodpecker (*Picus canus*) – We detected the endemic taxon *dedemi* at Camp 2 on 28 and 30 March (recording ML211698791).

Graceful Pitta (*Erythropitta venusta*) – An uncommon Sumatran endemic. We detected this species once at Camp 1 and obtained a specimen below Camp 2. We obtained a dead specimen from mammal trappers (we would not have collected this species otherwise).

Black-winged Flycatcher-shrike (*Hemipus hirundinaceus*) – A single nest was found on 31 March high in a dead tree at the hiking-post house. It consisted of a small dense cup that appeared proportionally too small for the parent bird (photograph ML94673921).

Rail-babbler (*Eupetes macrocerus*) – Single individuals were heard calling below Camp 1 on 19 and 30 March at approximately 1000 m.

Black-headed Bulbul (*Pycnonotus atriceps*) – As on Siberut, found this species in low density on Talamau, with all individuals detected in low elevation forest below Camp 1 (500–1100 m). A nest found on 30 March consisted of a loose cup with a lot of dangling plant material. An adult was incubating (photograph ML167353391).

Orange-spotted Bulbul (*Pycnonotus bimaculatus*) – A trio was seen in oak-rhododendron forest at 2400 m above Camp 2 on 29 March. They appeared to be the nominate subspecies.

Finsch's Bulbul (*Alophoixus finschii*) – One was seen near Camp 1 on 15 March.

Sunda Warbler (*Phylloscopus grammiceps*) – Fairly common from 1,600–2400 m. All were the white-bellied subspecies *sumatrensis*. They lacked any sign of introgression with the more northern yellow-bellied subspecies *inornatus* (photographs and recordings ML94664871, ML100640901, ML100640431).

Hill Prinia (*Prinia superciliaris*) – A few pairs were found near the hiking-post house on 30–31 March exhibiting breeding behavior. One nest was found and photographed (ML196739621, ML196739631).

Eyebrowed Wren-Babbler (*Napothera epilepidota*) – We noted two morphologically distinct forms of this widespread montane species on Talamau, which appeared to replace one another by elevation. Near Camp 1, we detected and netted a pale form with distinct dark scaling on the chest. Near Camp 2, we detected a darker brown form that was more distinctly streaked below (photograph ML96292681). Genetic analyses (Shakya et al., 2020) indicate that these two forms are each more closely related to other subspecies of *N. epilepidota* than to each other. The low elevation, pale form is referable to subspecies *lucilleae* (Meyer de Schauensee & Ripley, 1939) and is most closely allied with mainland southeast Asian taxa. The high elevation, dark form is referable to subspecies *diluta* and is more closely allied with the nominate *epilepidota* of Java. We obtained recordings of *Napothera* songs at both Camp 1 and 2 (ML94815971, ML111965941). Although we were not able to verify visually the birds that were vocalizing at the time, the two recordings are quite similar, suggesting limited vocal differences between the two forms. See Shakya et al. (2020) for additional details.

Island Thrush (*Turdus poliocephalus*) – We detected two individuals of the orange-bellied central Sumatran endemic subspecies *indrapuræ* near 2400 m above Camp 2.

Leafbirds (*Chloropsis* spp.) – We detected four species of leafbird on Talamau, which is promising given that these species are frequently targeted by the pet-bird trade (Shepherd, 2006; Eaton et al., 2015). Near the hiking-post we saw small numbers of Lesser Green (*C. cyanopogon*; photograph ML 94674181) and Sumatran (*C. media*; photograph ML94674141), while at Camp 1 we saw one Blue-winged (*C. cochinchinensis*), and at Camp 2 we saw a pair of Blue-masked (*C. venusta*; photograph ML94661341).

Little Pied Flycatcher (*Ficedula westermanni*) – A pair was observed constructing a nest in the mid-story of a tree overhanging a gully on 24 March above Camp 2.

Thick-billed Flowerpecker (*Dicaeum agile*) – Four individuals were seen at the top of a large *Ficus* below Camp 1 on 15 March.

Migrants on Mt. Talamau: We observed two intra-tropical migrant species: Crow-billed Drongo (*Dicrurus annectens*), a single individual below Camp 1 on 14 March, and Ferruginous Flycatcher (*Muscicapa ferruginea*), which was uncommon in the forest near Camp 1 (photograph ML94814791; recording ML112098101). We also detected small numbers of seven boreal/temperate migrants at low elevation, largely in degraded forest near

Camp 1 and near the hiking-post: Tiger Shrike (*Lanius tigrinus*), Barn Swallow (*Hirundo rustica*), Yellow-browed Warbler (*Phylloscopus inornatus*), “Arctic” Warbler sp. (most likely *Phylloscopus borealis*), Dark-sided Flycatcher (*Muscicapa sibirica sibirica*), Asian Brown Flycatcher (*Muscicapa dauurica*), and Yellow-rumped Flycatcher (*Ficedula zanthopygia*). Near Camp 1, we photographed a single female Amur Paradise-Flycatcher (*Terpsiphone incei*) in a mixed species flock on 21 March (ML94655321); netted several Mugimaki Flycatchers (*Ficedula mugimaki*) on 17 March (photograph ML94816111), netted a Siberian Blue Robin (*Larvivora cyane*) and observed an adult male on a nocturnal roost on 16 and 17 March, respectively; and netted two Siberian Thrushes (*Geokichla sibirica*) and observed a few near treeline above Camp 2. The Yellow-rumped Flycatcher, Mugimaki Flycatcher, and Siberian Blue Robin each represent one of just a handful of records for West Sumatra (van Balen et al., 2013).

Rimbo Panti:

Crested Honey Buzzard (*Pernis ptilorhynchus*) – Two individuals seen flying high on 27 January were consistent with the migratory subspecies *orientalis*.

Black Eagle (*Ictinaetus malayensis*) – One seen in flight 24 January crossing the valley.

Rhinoceros Hornbill (*Buceros rhinoceros*) – Pairs and singletons seen regularly in hill forest above the valley floor.

Wreathed Hornbill (*Rhyticeros undulatus*) – Regularly seen in hill forest. A male was detected visiting a likely nest site on 24 January, when he flew to the trunk of a large tree with a piece of fruit, perched vertically for about a minute, then flew off without the fruit. The potential nest site was on the backside of the tree and not visible for confirmation.

Blue-banded Kingfisher (*Alcedo euryzona*) – One was caught and released in swamp forest on 1 February (photograph: ML194334311).

Oriental Dwarf Kingfisher (*Ceyx erithaca*) – Several dark-backed migrants were observed, and one was caught (photograph: ML142572441). Rufous-backed resident birds were much more abundant than migrants. Several were seen or caught and released daily, both in the swampy valley bottom and along streams in upland forest. This population is typically assigned to the nominate subspecies, despite being much darker on the mantle than those on Java (the type locality). Individuals with varying degrees of dark feathering on the wings, mantle, and forecrown are well known in Sundaland (Sims, 1959) and have been investigated genetically on Borneo (Lim et al., 2010).

Ruddy Kingfisher (*Halcyon coromanda minor*) – two individuals were caught in swamp forest on 27 January and 2 February (photograph: ML194747391).

Sooty Barbet (*Caloramphus hayii*) – Several fruiting fig trees (*Ficus* sp.) attracted relatively large numbers (a high count of 8 on 20 January) of this species. Oddly, some individuals had pale orange bills (photograph: ML194742901), similar to the Brown Barbet (*C. fuliginosus*), a Bornean endemic.

Malaysian Honeyguide (*Indicator archipelagicus*) – One caught in hill forest on 24 January was released (photograph ML194030821). It was not subsequently detected, despite our extensive efforts with playback.

Blue-crowned Hanging-Parrot (*Loriculus galgulus*) – Regularly seen visiting fruiting *Ficus*, with a high count of 7 individuals on 4 February.

Blue-winged Pitta (*Pitta moluccensis*) – One individual (likely a migrant) caught in swamp forest on 30 January and released (photograph: ML194332931).

Crow-billed Drongo (*Dicrurus annectens*) – An intra-tropical migrant from mainland Southeast Asia, one was caught on 22 January.

Brown Shrike (*Lanius cristatus*) – One seen on 21 January in secondary growth along the Trans-Sumatra Highway.

Tiger Shrike (*Lanius tigrinus*) – One was caught on 24 January.

Scaly-breasted Bulbul (*Pycnonotus squamatus*) – Several individuals seen from 21 January – 3 February in fruiting *Ficus* trees along the Trans-Sumatra Highway.

Sumatran Babbler (*Pellorneum buettikoferi*) – A Sumatran endemic, this species was found commonly in swampy forest and forest edges (photograph: ML194747541; recording: ML197491801).

Grey-chested Jungle-Flycatcher (*Cyornis umbratilis*) – A pair was observed acting territorial in dense undergrowth along a ridge at ~300 m (recording: ML157140511).

Yellow-rumped Flycatcher (*Ficedula zanthopygia*) – A boreal migrant with few records from West Sumatra Province (van Marle & Voous, 1988; van Balen et al., 2013). One was seen in secondary growth adjacent to swamp forest on 20 January.

Thick-billed Flowerpecker (*Dicaeum agile*) – Up to four were seen together in fruiting *Ficus* between 28 January and 4 February (recording: ML 197841991).

DISCUSSION

General observations on wildlife

Siberut Island: In our work area at the southeastern end of Siberut, we observed most of the island's bird species, but they were sparsely distributed in disturbed forest patches. We also occasionally heard the endemic Kloss Gibbons (*Hylobates klossi*) calling in the distance. We were far from Siberut National Park, which has limited road access and where most of the island's faunal diversity likely still perseveres.

Mt. Talamau: We found several large vertebrates in the old growth forest above ~1000 m on Mt. Talamau. These included mammals, such as the Sumatran muntjac (*Muntiacus montanus*), Siamang (*Symphalangus syndactylus*), and Malayan Tapir (*Tapirus indicus*), and the gamebirds Bronze-tailed Peacock-Pheasant (*Polyplectron chalcurum*) and Salvadori's

Pheasant (*Lophura inornatus*). We also found several bird species targeted by the captive bird trade (Eaton et al., 2015), such as Sumatran Treepie (*Dendrocitta occipitalis*), Blue-masked Leafbird (*Chloropsis venusta*), Sunda Laughingthrush (*Garrulax palliatus*), Chestnut-capped Laughingthrush (*Pterorhinus mitratus*), Ruby-throated Bulbul (*Pycnonotus dispar*), and white-eyes (*Zosterops* spp.) although some expected taxa, e.g., Silver-eared Mesia (*Leiothrix argentauris*), were not recorded.

Rimbo Panti Nature Reserve: Although the area is bisected by the Trans-Sumatra Highway, a major transportation artery, and is a popular tourist destination due to the presence of geothermal springs, human impact on the reserve appeared modest. The forest was relatively intact, and we regularly encountered large mammals, including White-handed Gibbon (*Hylobates lar*), Long-tailed Macaque (*Macaca fascicularis*), Southern Pig-tailed Macaque (*M. nemestrina*), Sumatran Surili (*Presbytis melalophos*), and Silvered Leaf Monkey (*Trachypithecus cristatus*). We also had an unusual daytime encounter with an Asian Golden Cat (*Catopuma temminckii*). Locals had recently seen Sumatran Tiger (*Panthera tigris sondaica*) and Sun Bear (*Helarctos malayanus*) in the area. However, hunting for the pet-bird trade was evident here. On one occasion, a pet-bird hunter demonstrated for us his technique of luring birds into a cage containing a singing male Lesser Green Leafbird (*Chloropsis cyanopogon*).

Conservation implications

Siberut Island, Mt. Talamau, and Rimbo Panti Nature Reserve are clearly important areas for the long-term survival of native Sumatran fauna and flora. This observation is supported by the number of bird species we encountered at these localities that are of conservation concern; 52 of the species listed in Table 1 are rated as near threatened, vulnerable, endangered, or critically endangered by the IUCN (BirdLife International, 2020). The importance of these three sites is also evidenced by the paucity of forest habitat elsewhere on Sumatra. Almost all lowland forest on the island has been replaced by plantations and other forms of agriculture and development. Siberut, as an island, and Mt. Talamau, as a mountain, and Rimbo Panti, as a nature reserve, enjoy a certain degree of protection either because of their remoteness or government oversight, but they are still vulnerable to habitat loss (e.g., Linkie et al., 2004), over-hunting (e.g., Iqbal et al., 2018), and the wildlife trade (Collar, 2015; Eaton et al., 2015). The effect of the cage-bird trade was especially obvious and disturbing in each place we visited; numerous species of birds that until recently were common inhabitants of Sumatran forests are now rare or have disappeared altogether.

Table 1. List of species detected at each locality. Names follow Gill & Donaker (2019). Documentation codes: A=audio recording, O=observed, H=heard, P=photograph, and S=sample as birds captured by the misnet. Elevation represent the minimum and maximum elevations of species detection in meters

Common name ^{1,2}	Scientific name ¹	Record	Elevation	Locations					
				SI	CSI	TL Base	TL Camp 1	TL Camp 2	RPNR
Bronze-tailed Peacock-Pheasant	<i>Polyplectron chalcurum</i>	A	800–1850			X		X	
Salvadori's Pheasant ^{NT}	<i>Lophura inornata</i>	O	1800					X	
Rock Pigeon	<i>Columba livia</i>	O	sea level–40	X					
Spotted Dove	<i>Streptopelia chinensis</i>	P	200		X				
Barred Cuckoo-Dove	<i>Macropygia unchall</i>	O	800			X			
Barusan Cuckoo-Dove ¹	<i>Macropygia modiglianii¹</i>	A	40	X					X
Little Cuckoo-Dove	<i>Macropygia ruficeps</i>	P, A	250–2400			X			X
Common Emerald Dove	<i>Chalcophaps indica</i>	S	250–1400			X			X
Zebra Dove	<i>Geopelia striata</i>	O	200		X				
Pink-necked Green Pigeon	<i>Treron vernans</i>	O	sea level–40	X					X
Thick-billed Green Pigeon	<i>Treron curvirostra</i>	O	250						X
Green-spectacled Green Pigeon ^{NT}	<i>Treron oxyurus</i>	A	1000–1200			X			
Green Imperial Pigeon	<i>Ducula aenea</i>	O	sea level	X					
Mountain Imperial Pigeon	<i>Ducula badia</i>	P	1600–2400					X	
Pied Imperial Pigeon	<i>Ducula bicolor</i>	O	40	X					
Greater Coucal	<i>Centropus sinensis</i>	O	40–600	X					
Lesser Coucal	<i>Centropus bengalensis</i>	P	200–600		X				
Raffles's Malkoha	<i>Rhinorhina chlorophaea</i>	O	250						X
Red-billed Malkoha	<i>Zanclostomus javanicus</i>	O	250–400						X
Chestnut-breasted Malkoha	<i>Phaenicophaeus curvirostris</i>	P, A	40	X					
Green-billed Malkoha	<i>Phaenicophaeus tristis</i>	O	1000–1200			X			
Asian Koel	<i>Eudynamis scolopacea</i>	O	40	X					
Violet Cuckoo	<i>Chrysococcyx xanthorhynchus</i>	O	250						X
Little Bronze Cuckoo	<i>Chrysococcyx minutillus</i>	O	40	X					X
Banded Bay Cuckoo	<i>Cacomantis sonneratii</i>	O	250						X
Plaintive Cuckoo	<i>Cacomantis merulinus</i>	S, A	40–1200	X				X	
Rusty-breasted Cuckoo	<i>Cacomantis sepulchralis</i>	S	800					X	
Square-tailed Drongo-Cuckoo	<i>Surnicolus lugubris</i>	A	250–1400					X	
Sunda Cuckoo	<i>Cuculus lepidus</i>	O	1400–2700					X	
Sumatran Frogmouth ^{NT}	<i>Batrachostomus poliophus</i>	O	1600					X	
Frogmouth sp.	<i>Batrachostomus sp.</i>	A	40	X					
Salvadori's Nightjar ^{NT}	<i>Caprimulgus pulchellus</i>	A	1600					X	

Common name ^{1,2}	Scientific name ¹	Record	Elevation	Locations						
				SI	CSI	TL Base	TL Camp 1	TL Camp 2	RPNR	
Grey-rumped Tresswift	<i>Hemiprocne longipennis</i>	O	sea level–600	X		X				X
Whiskered Tresswift	<i>Hemiprocne comata</i>	P	600–800			X				
Silver-rumped Spinetail	<i>Rhaphidura leucopygialis</i>	O	250–800			X				X
Silver-backed Needletail	<i>Hirundapus cochinchinensis</i>	O	600			X				
Giant Swift ^{NT}	<i>Hydrochous gigas</i>	O	1600					X		
Plume-toed Swiftlet	<i>Collocalia affinis</i>	O	sea level–400	X	X					X
Cave Swiftlet	<i>Collocalia linnchi</i>	O	1600–2700					X		
white-bellied swiftlet sp.	<i>Collocalia sp.</i>	O	600–800			X				
Edible-nest Swiftlet	<i>Aerodramus fuciphagus</i>	P	sea level	X						
dark swiftlet sp.	<i>Aerodramus sp.</i>	P	sea level–1600	X	X		X			
Asian Palm Swift	<i>Cypsiurus balasiensis</i>	P	200–600			X				
House Swift	<i>Apus nipalensis</i>	O	250			X				X
Barred Buttonquail	<i>Turnix suscitator</i>	O	200			X				
Grey Plover	<i>Pluvialis squatarola</i>	O	sea level	X						
Lesser/Greater Sand Plover	<i>Charadrius mongolus/leschenaultii</i>	O	sea level	X						
Whimbrel	<i>Numenius phaeopus</i>	O	sea level	X						
Ruddy Turnstone	<i>Arenaria interpres</i>	O	sea level	X						
Terek Sandpiper	<i>Xenus cinereus</i>	P	sea level	X						
Red-necked Phalarope	<i>Phalaropus lobatus</i>	O	sea level		X					
Common Sandpiper	<i>Actitis hypoleucos</i>	P	sea level	X						
Noddy sp.	<i>Anous sp.</i>	O	Sea level		X					
Great Crested Tern	<i>Thalasseus bergii</i>	P	sea level		X					
Lesser Crested Tern	<i>Thalasseus bengalensis</i>	P	sea level	X						
Little Tern	<i>Sterna albifrons</i>	P	sea level		X					
Bridled Tern	<i>Onychoprion anaethetus</i>	P	sea level		X					
Common Tern	<i>Sterna hirundo</i>	P	sea level		X					
White-winged Tern	<i>Chlidonias leucopterus</i>	P	sea level		X					
Long-tailed Jaeger	<i>Stercorarius longicaudus</i>	P	sea level		X					
White-tailed Tropicbird	<i>Phaethon lepturus</i>	P	sea level		X					
Storm's Stork E	<i>Ciconia stormi</i>	P	40	X						
Masked Booby	<i>Sula dactylatra</i>	P	sea level		X					
Striated Heron	<i>Butorides striata</i>	O	sea level	X						
Great Egret	<i>Ardea alba</i>	O	sea level	X						
Little Egret	<i>Egretta garzetta</i>	P	sea level	X						
Pacific Reef Heron	<i>Egretta sacra</i>	P	sea level	X						

Common name ^{1,2}	Scientific name ¹	Record	Elevation	Locations						
				SI	CSI	TL Base	TL Camp 1	TL Camp 2	RPNR	
Crested Honey Buzzard	<i>Pernis ptilorhynchus</i>	P	sea level–800	X			X			X
Crested Serpent Eagle	<i>Spilornis cheela</i>	O	250–800			X	X			X
Changeable Hawk-Eagle	<i>Nisaetus cirrhatus</i>	O	400			X				
Blyth's Hawk-Eagle	<i>Nisaetus alboniger</i>	O	40–800	X		X				
Wallace's Hawk-Eagle	<i>Nisaetus namus</i>	P	40	X						
Black Eagle	<i>Ictinaetus malayensis</i>	O	250–2700				X			X
Japanese Sparrowhawk	<i>Accipiter gularis</i>	P	40	X						
Brahminy Kite	<i>Haliastur indus</i>	P	sea level	X						
Reddish Scops Owl ^{NT}	<i>Otus rufescens</i>	O	1100			X				
Mountain Scops Owl	<i>Otus spilocephalus</i>	A	1600				X			X
Rajah Scops Owl	<i>Otus brookii</i>	P	1800				X			X
Mentawai Scops Owl ^{1 NT}	<i>Otus mentawi¹</i>	P, A	40	X						
Barred Eagle-Owl	<i>Bubo sumatranus</i>	O	800–1100			X				
Collared Owlet	<i>Glaucidium brodiei</i>	A	1600–1700				X			X
Sumatran Trogon*	<i>Apalharpactes mackloti*</i>	S, P	1400–2100				X			X
Diard's Trogon ^{NT}	<i>Harpactes diardii</i>	A	800–1200			X				
Scarlet-rumped Trogon ^{NT}	<i>Harpactes diavaucelii</i>	S, P	250–1100			X				X
Orange-breasted Trogon	<i>Harpactes oreskios</i>	A	1200			X				
Red-headed Trogon	<i>Harpactes erythrocephalus</i>	O	1000			X				
White-crowned Hornbill ^{EN}	<i>Berencornis comatus</i>	P	250							X
Rhinoceros Hornbill ^{VU}	<i>Buceros rhinoceros</i>	P, A	250–1600			X				X
Helmeted Hornbill ^{CR}	<i>Rhinoplax vigil</i>	H	1000			X				X
Oriental Pied-Hornbill	<i>Anthracoceros albirostris</i>	A	250–400	X						X
Black Hornbill ^{VU}	<i>Anthracoceros malayanus</i>	O	250–400							X
Bushy-crested Hornbill	<i>Anorrhinus galeritus</i> NT	O	600			X				X
Wreathed Hornbill	<i>Rhyticeros undulatus</i>	P, A	250–1650			X				X
Rufous-collared Kingfisher ^{NT}	<i>Actenoides concretus</i>	S	1000				X			X
Ruddy Kingfisher	<i>Halcyon coromanda</i>	S, P	40–250	X						X
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	S	200			X				
Collared Kingfisher	<i>Todiramphus chloris</i>	P	40–600	X		X				X
Blue-banded Kingfisher	<i>Alcedo euryzona</i>	P	250							X
Blue-eared Kingfisher	<i>Alcedo meninting</i>	S	250							X
Salvadori's Nightjar ^{NT}	<i>Caprimulgus pulchellus</i>	A	1600						X	
Grey-rumped Treeswift	<i>Hemiprocne longipennis</i>	O	sea level–600	X		X				X

Common name ^{1,2}	Scientific name ¹	Record	Elevation	Locations					
				SI	CSI	TL Base	TL Camp 1	TL Camp 2	RPNR
Whiskered Tresswift	<i>Hemiprocne comata</i>	P	600–800			X			
Silver-rumped Spinetail	<i>Rhaphidura leucopygialis</i>	O	250–800			X			X
Silver-backed Needletail	<i>Hirundapus cochinchinensis</i>	O	600			X			
Giant Swift ^{NT}	<i>Hydrochous gigas</i>	O	1600					X	
Plume-toed Swiftlet	<i>Collocalia affinis</i>	O	sea level–400	X					X
Cave Swiftlet	<i>Collocalia linchi</i>	O	1600–2700					X	
white-bellied swiftlet sp.	<i>Collocalia sp.</i>	O	600–800			X			
Edible-nest Swiftlet	<i>Aerodramus fuciphagus</i>	P	sea level	X					
dark swiftlet sp.	<i>Aerodramus sp.</i>	P	sea level–1600	X				X	
Asian Palm Swift	<i>Cypsiurus balastensis</i>	P	200–600			X			
House Swift	<i>Apus nipalensis</i>	O	250			X			X
Barred Buttonquail	<i>Turnix suscitator</i>	O	200			X			
Grey Plover	<i>Pluvialis squatarola</i>	O	sea level	X					
Lesser/Greater Sand Plover	<i>Charadrius mongolus/leschenaultii</i>	O	sea level	X					
Whimbrel	<i>Numenius phaeopus</i>	O	sea level					X	
Ruddy Turnstone	<i>Arenaria interpres</i>	O	sea level	X					
Terek Sandpiper	<i>Xenus cinereus</i>	P	sea level	X					
Red-necked Phalarope	<i>Phalaropus lobatus</i>	O	sea level					X	
Common Sandpiper	<i>Actitis hypoleucos</i>	P	sea level	X					
Noddy sp.	<i>Anous sp.</i>	O	Sea level					X	
Great Crested Tern	<i>Thalasseus bergii</i>	P	sea level					X	
Lesser Crested Tern	<i>Thalasseus bengalensis</i>	P	sea level					X	
Little Tern	<i>Sterna albifrons</i>	P	sea level	X					
Bridled Tern	<i>Onychoprion anaethetus</i>	P	sea level					X	
Common Tern	<i>Sterna hirundo</i>	P	sea level					X	
White-winged Tern	<i>Chlidonias leucopterus</i>	P	sea level					X	
Long-tailed Jaeger	<i>Stercorarius longicaudus</i>	P	sea level					X	
White-tailed Tropicbird	<i>Phaethon lepturus</i>	P	sea level					X	
Storm's Stork E	<i>Ciconia stormi</i>	P	40						X
Masked Booby	<i>Sula dactylatra</i>	P	sea level					X	
Striated Heron	<i>Butorides striata</i>	O	sea level	X					
Great Egret	<i>Ardea alba</i>	O	sea level	X					
Little Egret	<i>Egretta garzetta</i>	P	sea level	X					

Common name ^{1,2}	Scientific name ¹	Record	Elevation	Locations				
				SI	CSI	TL Base	TL Camp 1	TL Camp 2
Heron	<i>Egretta sacra</i>	P	sea level	X				
Buzzard	<i>Pernis ptilorhynchus</i>	P	sea level–800	X			X	
Great Eagle	<i>Spilornis cheela</i>	O	250–800			X	X	
Black-Eagle	<i>Nisaetus cirrhatus</i>	O	400			X		
Golden Eagle	<i>Nisaetus alboniger</i>	O	40–800	X		X	X	
Black-Eagle	<i>Nisaetus nanus</i>	P	40	X				
	<i>Ictinaetus malayensis</i>	O	250–2700					X
Scowhawk	<i>Accipiter gularis</i>	P	40	X				
	<i>Haliastur indus</i>	P	sea level	X				
Great Owl ^{NT}	<i>Otus rufescens</i>	O	1100				X	
Lesser Owl	<i>Otus spilocephalus</i>	A	1600					X
Great Owl	<i>Otus brookii</i>	P	1800					X
Lesser Owl ^{1NT}	<i>Otus mentawi</i> ¹	P, A	40	X				
Great Owl	<i>Bubo sumatranus</i>	O	800–1100				X	
	<i>Glaucidium brodiei</i>	A	1600–1700					X
Lesser Owl*	<i>Apalharpactes mackloti</i> *	S, P	1400–2100					X
Lesser Owl ^{NT}	<i>Harpactes diardii</i>	A	800–1200				X	
Lesser Trogon ^{NT}	<i>Harpactes duvaucelii</i>	S, P	250–1100				X	
Lesser Trogon	<i>Harpactes oreskios</i>	A	1200				X	
Lesser Trogon	<i>Harpactes erythrocephalus</i>	O	1000				X	
Lesser Hornbill ^{EN}	<i>Berencornis comatus</i>	P	250					
Lesser Hornbill ^{VU}	<i>Buceros rhinoceros</i>	P, A	250–1600			X	X	X
Lesser Hornbill ^{CR}	<i>Rhinoplax vigil</i>	H	1000				X	
Lesser Hornbill ^{VU}	<i>Anthracoceros albirostris</i>	A	250–400	X				
Lesser Hornbill ^{VU}	<i>Anthracoceros malayanus</i>	O	250–400					
Lesser Hornbill	<i>Anorrhinus galeritus</i> ^{NT}	O	600			X		
Lesser Hornbill	<i>Rhyticeros undulatus</i>	P, A	250–1650			X	X	X
Lesser Kingfisher ^{NT}	<i>Actenoides concretus</i>	S	1000				X	
Lesser Kingfisher	<i>Halcyon coromanda</i>	S, P	40–250	X				
Lesser Kingfisher	<i>Halcyon smyrnensis</i>	S	200			X		
Lesser Kingfisher	<i>Todiramphus chloris</i>	P	40–600	X		X		
Lesser Kingfisher	<i>Alcedo euryzona</i>	P	250					
Lesser Kingfisher	<i>Alcedo meninting</i>	S	250					

		RPNR												
		X	X	X	X	X	X	X	X	X	X	X	X	X
Common name ^{1,2}	Scientific name ¹	Documentation	Elevation	Siberut Island	Boat cross- ing to Sibe- rut Island	Mt. Tala- mau – Base	Mt. Tala- mau – Camp 1	Mt. Tala- mau – Camp 2 and above	Rimbo Panti Nature Reserve					
Ruby-throated Bulbul* ^{VU}	<i>Pycnonotus dispar</i> *	S, P, A	600–1100			X	X							
Scaly-breasted Bulbul ^{NT}	<i>Pycnonotus squamatus</i>	O	250–1100			X	X	X						
Grey-bellied Bulbul ^{NT}	<i>Pycnonotus cyaniventris</i>	P	800–1000			X	X							
Sooty-headed Bulbul	<i>Pycnonotus aurigaster</i>	P	200–600			X								
Orange-spotted Bulbul ^{NT}	<i>Pycnonotus bimaculatus</i>	O	2400			X		X						
Yellow-vented Bulbul	<i>Pycnonotus goiavier</i>	P	250–600			X		X						
Olive-winged Bulbul**	<i>Pycnonotus plumosus porphyreus</i> **	S, P, A	40–400	X					X					
Cream-vented Bulbul	<i>Pycnonotus simplex</i>	O	800				X							
Red-eyed Bulbul	<i>Pycnonotus brunneus</i>	S, A, P	250–1100				X		X					
Spectacled Bulbul	<i>Rubigula erythrothalamos</i>	S, P, A	250–1000		X		X		X					
Finsch's Bulbul ^{NT}	<i>Alphoixus finschii</i>	O	1100			X	X							
Ochraceous Bulbul**	<i>Alphoixus ochraceus sumatranus</i> **	S	1000			X	X							
Grey-cheeked Bulbul ^{NT}	<i>Alphoixus bres</i>	O	1000				X							
Hairy-backed Bulbul**	<i>Tricholestes criniger sericeus/criniger</i> **	S	250–1100				X		X					
Streaked Bulbul ^{NT}	<i>Ixos malaccensis</i>	P, A	250–1200				X		X					
Sunda Bulbul**	<i>Ixos virescens sumatranus</i> **	S	1100–1800				X	X						
Barn Swallow	<i>Hirundo rustica</i>	S	sea level–800	X		X								
Pacific Swallow	<i>Hirundo tahitica</i>	O	sea level–250	X		X			X					
Mountain Tailorbird	<i>Phyllergates cucullatus</i>	S, A	1600–2400					X						
Sunda Bush Warbler**	<i>Horornis vulcanius flaviventris</i> **	S, P, A	2100–2700					X						
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	O	800				X							
Arctic Warbler	<i>Phylloscopus borealis</i>	O	800–1000		X									
Chestnut-crowned Warbler**	<i>Phylloscopus castaneiceps muelleri</i> **	S	1200–1400				X	X						
Sunda Warbler**	<i>Phylloscopus grammiceps sumatrensis</i> **	S, P, A	1600–2400					X						
Mountain Leaf Warbler	<i>Phylloscopus trivirgatus</i>	P, A	1600–2400					X						
Zitting Cisticola	<i>Cisticola juncidis</i>	P	200		X									
Hill Prinia**	<i>Prinia superciliaris dysancritata</i> **	S, P	800		X									

Common name ^{1,2}	Scientific name ¹	Documentation	Elevation	Siberut Island	Boat crossing to Sibe-rut Island	Mt. Tala-mau – Base	Mt. Tala-mau – Camp I	Mt. Tala-mau – Camp 2 and above	Rimbo Panti Nature Reserve
Bar-winged Prinia ^{NT}	<i>Prinia familiaris</i>	P, A	200–400		X				X
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	P	200		X				
Dark-necked Tailorbird	<i>Orthotomus atrogularis</i>	A	800–1600		X	X	X		X
Rufous-tailed Tailorbird	<i>Orthotomus sericeus</i>	S	200–1000		X	X			
Ashy Tailorbird**	<i>Orthotomus ruficeps concin-nus</i> **	S, A	40–1100	X	X	X			X
Chestnut-backed Scimitar-Babbler**	<i>Pomatorhinus montanus occi-dentalis</i> **	S, P, A	250–1200			X			X
Grey-throated Babbler	<i>Stachyris nigriceps</i>	S	1000–2400			X	X		X
Grey-headed Babbler	<i>Stachyris poliocephala</i>	S	250–400			X			
Spot-necked Babbler*	<i>Stachyris striatalata</i> *	S	800			X			X
Chestnut-rumped Babbler ^{NT}	<i>Stachyris maculata</i>	S	250–400			X			X
White-necked Babbler** ^{NT}	<i>Stachyris leucotis sumatren-sis</i> ** ^{NT}	S	1000			X			
Chestnut-winged Babbler	<i>Stachyris erythroptera</i>	S	1100			X			
Rufous-fronted Babbler	<i>Stachyridopsis rufifrons</i>	P, A	1000			X			
Golden Babbler**	<i>Stachyridopsis chrysaea frigidata</i> **	S	1500–2400				X		
Pin-striped Tit-Babbler**	<i>Macronus gularis gularis</i> **	S, A	250–800			X			X
Fluffy-backed Tit-Babbler ^{NT}	<i>Macronus ptilosus</i>	S	1100			X			
Brown Fulvetta ^{NT}	<i>Alcippe brunneicauda</i>	S, P, A	900–1200			X			
Rusty-breasted Wren-Babbler	<i>Napothera rufipectus</i>	A	1600				X	X	
Eyebrowed Wren-Babbler*	<i>Napothera epilepidota</i> *	S, A	1300–1600				X	X	
Austen's Wren-Babbler*	<i>Napothera roberti</i> *	S, A	900–1100				X		
Sumatran Wren-Babbler*	<i>Rimator albosiriata</i> *	S	1600–2100					X	
Horsfield's Babbler**	<i>Malacocincla sepiaria ba-russana</i> **	S, A	900–1200			X			
Short-tailed Babbler**	<i>Malacocincla malaccensis ma-laccensis</i> **	S, A	250–400						X
Moustached Babbler**	<i>Malacopteron magnirostre</i>	S, A	250						X
Scaly-crowned Babbler	<i>Malacopteron cinereum</i>	O	250						X
Rufous-crowned Babbler ^{NT}	<i>Malacopteron magnum</i>	P	900				X		
Sumatran Babbler* ^{NT}	<i>Pellorneum buettikoferi</i> *	S, A, P	250–800		X				X

Common name ^{1,2}	Scientific name ¹	Documentation	Elevation	Siberut Island	Boat crossing to Siberut Island	Mt. Tala- mau – Base	Mt. Tala- mau – Camp 1	Mt. Tala- mau – Camp 2 and above	Rimbo Panti Nature Reserve
Black-capped Babbler**	<i>Pellorneum capistratum nigro-capitatum**</i>	S, A	250–1200			X			X
Long-tailed Sibia	<i>Heterophasia picaoides</i>	P	1600–2700				X	X	
Sunda Laughingthrush ^{NT}	<i>Garrulax palliatus</i>	A	1600–2100				X	X	
Chestnut-capped Laughingthrush* ^{NT}	<i>Pterorhinus miratus*</i>	S, P, A	1000–2400			X			
Warbling White-eye ^{VU}	<i>Zosterops japonicus</i>	P	2100–2700				X	X	
Sangkar White-eye	<i>Zosterops melanurus</i>	A	700–1000			X			
Black-capped White-eye	<i>Zosterops atricapilla</i>	P	1600–2700				X	X	
Asian Fairy-bluebird	<i>Irena puella</i>	O	40	X					
Velvet-fronted Nuthatch	<i>Sitta frontalis</i>	O	800				X		
Blue Nuthatch	<i>Sitta azurea</i>	P, A	1100–1600			X			
Asian Glossy Starling	<i>Aplonis panayensis</i>	P	40–200	X		X			
Daurian Starling	<i>Agropsar sturminus</i>	O	200			X			
Siberian Thrush	<i>Geokichla sibirica</i>	S	1700–2400				X	X	
Island Thrush	<i>Turdus poliocephalus</i>	O	2700				X	X	
Dark-sided Flycatcher	<i>Muscicapa sibirica sibirica</i>	P	800				X		
Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	O	800				X		
Ferruginous Flycatcher	<i>Muscicapa ferruginea</i>	S, P, A	1000				X		
Rufous-browed Flycatcher*	<i>Anthipes solitarius*</i>	S, P	1500				X	X	
White-tailed Flycatcher**	<i>Cyornis concretus concretus**</i>	S	1100				X		
Fulvous-chested Jungle-Flycatcher	<i>Cyornis olivaceus</i>	S, P, A	900–1200				X		X
Grey-chested Jungle-Flycatcher ^{NT}	<i>Cyornis umbratilis</i>	S, P, A	350–400				X		X
Large Niltava**	<i>Niltava grandis decipiens**</i>	S	1600					X	
Verditer Flycatcher	<i>Eumyias thalassinus</i>	A	600–1000			X			
Indigo Flycatcher	<i>Eumyias indigo</i>	A	1000–2400			X			
Lesser Shortwing	<i>Brachypteryx leucophris</i>	S, P, A	1500–2100				X	X	
White-browed Shortwing	<i>Brachypteryx montana</i>	O	2100–2700				X	X	
Siberian Blue Robin	<i>Larvivora cyane</i>	S, P	1100				X		
Chestnut-naped Forktail ^{NT}	<i>Enicurus ruficapillus</i>	S, P	250						X
White-crowned Forktail	<i>Enicurus leschenaulti</i>	S	250–600						X
Shiny Whistling Thrush	<i>Myophonus melanurus</i>	S, P, A	1600–2700				X	X	
Brown-winged Whistling Thrush* ^{NT}	<i>Myophonus castaneus*</i>	S, A	2000				X	X	
Yellow-rumped Flycatcher	<i>Ficedula zanthopygia</i>	P, A	40–800	X		X			X

Common name ^{1,2}	Scientific name ¹	Documentation	Elevation	Siberut Island	Boat crossing to Siberut Island	Mt. Tala-mau – Base	Mt. Tala-mau – Camp I	Mt. Tala-mau – Camp 2 and above	Rimbo Panti Nature Reserve
Mugimaki Flycatcher	<i>Ficedula mugimaki</i>	S	1000			X			
Snowy-browed Flycatcher	<i>Ficedula hyperythra</i>	S, P	1600–2100				X		
Little Pied Flycatcher	<i>Ficedula westermanni</i>	P	1600–2100				X		
Lesser Green Leafbird ^{NT}	<i>Chloropsis cyanopogon</i>	P	800		X				
Blue-winged Leafbird	<i>Chloropsis cochinchinensis</i>	O	1000			X			
Sumatran Leafbird ^{EN}	<i>Chloropsis media</i>	P	800			X			
Blue-masked Leafbird ^{NT}	<i>Chloropsis venusta</i>	P	1600				X		
Crimson-breasted Flowerpecker	<i>Prionochilus percussus</i>	S	250						X
Thick-billed Flowerpecker	<i>Dicaeum agile</i>	O	250–900			X			X
Yellow-vented Flowerpecker	<i>Dicaeum chrysorrheum</i>	A	40	X					
Orange-bellied Flowerpecker	<i>Dicaeum trigonostigma</i>	S, A	40–1100	X		X			X
Fire-breasted Flowerpecker	<i>Dicaeum ignipectus</i>	A	1800–2400				X		
Scarlet-backed Flowerpecker	<i>Dicaeum cruentatum</i>	O	40–600	X		X			
Ruby-cheeked Sunbird	<i>Chalcoparia singalensis</i>	S	250–1100			X			X
Plain Sunbird	<i>Anthreptes simplex</i>	S, A	250–1100			X			X
Brown-throated Sunbird	<i>Anthreptes malacensis</i>	S, P, A	40–600	X		X			X
Red-throated Sunbird ^{NT}	<i>Anthreptes rhodolaemus</i>	O	250						
Van Hasselt's Sunbird	<i>Leptocoma brasiliana</i>	O	40	X					
Olive-backed Sunbird	<i>Cinnyris jugularis</i>	O	40	X					
Crimson Sunbird	<i>Aethopyga siparaja</i>	S, A	40	X					
Temminck's Sunbird	<i>Aethopyga temminckii</i>	S, P	1200–2100			X		X	
Purple-naped Spiderhunter	<i>Kurochkinogramma hypogrammicum</i>	S	250–1100			X			X
Little Spiderhunter	<i>Arachnothera longirostra</i>	S, A	40–1100	X		X			X
Spectacled Spiderhunter	<i>Arachnothera flavigaster</i>	A	1800					X	
Yellow-eared Spiderhunter	<i>Arachnothera chrysoerys</i>	O	40–600	X		X			
Grey-breasted Spiderhunter	<i>Arachnothera modesta</i>	A	40–1100	X		X			
Eurasian Tree Sparrow	<i>Passer montanus</i>	P, A	sea level–200			X			
Baya Weaver	<i>Ploceus philippinus</i>	P	200			X			
White-rumped Munia	<i>Lonchura striata</i>	O	200–250			X			X
Scaly-breasted Munia	<i>Lonchura punctulata</i>	P	sea level–200	X		X			

Common name ^{1,2}	Scientific name ¹	Documentation	Elevation	Siberut Island	Boat crossing to Siberut Island	Mt. Talamau – Base	Mt. Talamau – Camp I	Mt. Talamau – Camp 2 and above	Rimbo Panti Nature Reserve
Chestnut Munia	<i>Lonchura atricapilla</i>	O	40	X					
White-headed Munia	<i>Lonchura maja</i>	P	200–400		X				
Forest Wagtail	<i>Dendronanthus indicus</i>	O	40	X					
Grey Wagtail	<i>Motacilla cinerea</i>	O	250						X
Species totals				70	12	61	111	70	83

¹ Indicates Mentawai endemic species

² Abbreviations indicate IUCN Red List categories: CR critically endangered, NT near threatened, EN endangered, VU vulnerable

*Species and **subspecies for which the first modern specimen material has been collected in the wild (including tissues for genetic analysis).

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REFERENCES

- Adhikerana, A.S. 1994. Observation on the avifauna of Siberut Island, 1992-1994. *Treubia*, 31: 11–24.
- BirdLife International 2020. Species factsheet. Downloaded from <http://www.birdlife.org> on 28/04/2020.
- Büttikofer, J. 1887. On a collection of birds made by Dr. C. Klaesi in the Highlands of Padang (W. Sumatra) during the winter 1884—85. *Notes from the Leyden Museum*, 9: 1–96.
- Chasen, F. & Kloss, C.B. 1926. Spolia Mentawiensis.—Birds. *Ibis*, 68: 269–306.
- Chua, V.L., Phillipps, Q., Lim, H.C., Taylor, S.S., Gawin, D.F., Rahman, M.A., Moyle, R.G. & Sheldon, F.H. 2015. Phylogeography of three endemic birds of Maratua Island, a potential archive of Bornean biogeography. *Raffles Bulletin of Zoology*, 63: 259–269.
- Collar, N. 2015. Helmeted Hornbills *Rhinoplax vigil* and the ivory trade: The crisis that came out of nowhere. *BirdingASIA*, 24: 12–17.
- Crossland, A.C., Sinambela, S.A., Sitorus, A.S. & Sitorus, A. 2006. An overview of the status and abundance of migratory waders in Sumatra, Indonesia. *Stilt*, 50: 90–95.
- Demeulemeester, B. 2009. *XC106116*: www.xeno-canto.org/106116.
- Eaton, J.A., Shepherd, C.R., Rheindt, F.E., Harris, J.B.C., van Balen, S., Wilcove, D.S. & Collar, N.J. 2015. Trade-driven extinctions and near-extinctions of avian taxa in Sundaic Indonesia. *Forktail*, 31: 1–12.
- Eaton, J.A., van Balen, B., Brickle, N.W. & Rheindt, F.E. 2016. *Birds of the Indonesian Archipelago, Greater Sundas, and Wallacea*. Barcelona: Lynx Edicions.
- Gill, F. & Donsker, D. 2019. IOC World Bird List (v 9.2), <http://www.worldbirdnames.org/> (downloaded December 2020).
- Hall, R. 2013. The palaeogeography of Sundaland and Wallacea since the Late Jurassic. *Journal of Limnology*, 72(s2): 1–17.
- Holmes, D.A. 1994. A review of the land birds of the West Sumatran Islands. *Kukila*, 7: 28–46.

- Holmes, D.A. 1996. Sumatra bird report. *Kukila*, 8: 9–56.
- Iqbal, M., Yustian, I., Setiawan, A. & and Setiawan, D. 2018. Ongoing slaughter of Eyebrowed Thrush *Turdus obscurus* in Sumatra: another species heading for oblivion? *BirdingASIA*, 30: 16–20.
- Kemp, N. 2000. The birds of Siberut, Mentawai Islands, West Sumatra. *Kukila*, 11: 73–96.
- Lim, H.C., Gawin, D.F., Shakya, S.B., Harvey, M.G., Rahman, M.A. & Sheldon, F.H. 2017. Sundaland's east-west rain forest population structure: variable manifestations in four polytypic bird species examined using RAD-Seq and plumage analyses. *Journal of Biogeography*, 44: 2259–2271.
- Lim, H.C., Rahman, M.A., Lim, S.L.H., Moyle, R.G. & Sheldon, F.H. 2011. Revisiting Wallace's haunt: Coalescent simulations and comparative niche modeling reveal historical mechanisms that promoted avian population divergence in the Malay Archipelago. *Evolution*, 65: 321–334.
- Lim, H.C. & Sheldon, F.H. 2011. Multilocus analysis of the evolutionary dynamics of rainforest bird populations in Southeast Asia. *Molecular Ecology*, 20: 3414–3438.
- Lim, H.C., Sheldon, F.H. & Moyle, R.G. 2010. Extensive color polymorphism in the Southeast Asian oriental dwarf kingfisher *Ceyx erithaca*: a result of gene flow during population divergence? *Journal of Avian Biology*, 41: 305–318.
- Linkie, M., Smith, R.J. & Leader-Williams, N. 2004. Mapping and predicting deforestation patterns in the lowlands of Sumatra. *Biodiversity & Conservation*, 13: 1809–1818.
- MacKinnon, J.R. & Phillipps, K. 1999. *A field guide to the birds of Borneo, Sumatra, Java and Bali*, 5th ed: Oxford University Press.
- McNeely, J.A., Whitten, A., Whitten, J. & House, A. 1980. *Saving Siberut: a conservation master plan*. Bogor, Indonesia: World Wildlife Fund.
- Meyer de Schauensee, R. & Ripley, S.D. 1939. Zoological results of the George Vanderbilt Sumatran Expedition, 1936-1939. Part I: Birds from Atjeh. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 91: 311–368.
- Mitchell, A.H. 1982. *Siberut Nature Conservation Area, West Sumatra, Management Plan 1983–1988*. Bogor, Indonesia
- Moritz, C. 1994. Defining evolutionary significant units for conservation. *Trends in Ecology & Evolution*, 9: 373–375.
- Prawiradilaga, D.M. 2019. *Keanekaragaman dan Strategi Konservasi Burung Endemik Indonesia*. Jakarta: LIPI Press.
- Riley, J.H. 1929. A review of the birds of the islands of Siberut and Sipora, Mentawi Group (*Spolia Mentawiensia*). *Proceedings of the United States National Museum*, 75: 1–45.
- Ripley, S.D. 1944. The birds fauna of the West Sumatra Islands. *Bulletin of the Museum of Comparative Zoology*, 97: 307–430.
- Robinson, H.C. & Kloss, C.B. 1924. On a large collection of birds chiefly from west Sumatra made by Mr. E. Jacobson. *Journal Federated Malay States Museums*, 11: 189–347.
- Rombang, W.M. 2009. First photographic evidence and a breeding record of a frogmouth on Siberut, Mentawai islands, West Sumatra. *Kukila*, 14: 28–29.

- Sathiamurthy, E. & Voris, H.K. 2006. Maps of Holocene sea level transgressions and submerged lakes on the Sunda shelf. *The Natural History Journal of Chulalongkorn University*, S2: 1–43.
- Shakya, S.B., Haryoko, T., Burner, R.C., Prawiradilaga, D. & Sheldon, F.H. 2018. Preliminary assessment of community composition and phylogeographic relationships of the birds of the Meratus Mountains, southeastern Borneo, Indonesia. *Bulletin of the British Ornithologists' Club*, 138: 45–66.
- Shakya, S.B., Irham, M., Brady, M.L., Haryoko, T., Fitriana, Y.S., Johnson, O., Rahman, M.A., Robi, N.J., Moyle, R.G., Prawiradilaga, D.M. & Sheldon, F.H. 2020. Observations on the relationships of some Sundaic passerine taxa (Aves: Passeriformes) previously unavailable for molecular phylogenetic study. *Journal of Ornithology*: 161: 651–664. <https://doi.org/10.1007/s10336-020-01766-9>.
- Sheldon, F.H., Lim, H.C. & Moyle, R.G. 2015. Return to the Malay Archipelago: the biogeography of Sundaic rainforest birds. *Journal of Ornithology*, 156 (Supplement 1): S91–S113.
- Shepherd, C.R. 2006. The bird trade in Medan, North Sumatra: An overview. *Birding Asia*, 5: 16–24.
- Shorthouse DP. Simple Mappr, an online tool to produce publication-quality point maps, 2010 (accessed 25 February 2020). <https://simplemappr.net>
- Sims, R.W. 1959. The *Ceyx erithacus* and *rufidorsus* species problem. *Journal of the Linnean Society of London*, 44: 212–221.
- van Balen, B., Trainor, C. & Noske, R. 2013. Around the archipelago. *Kukila*, 17: 41–72.
- van Marle, J.G. & Voous, K.H. 1988. *The birds of Sumatra*. Tring, Herts, United Kingdom: British Ornithologists' Union.
- Verbelen, P. & Demeulemeester, B. 2012. Field observations of an unidentified frogmouth *Batrachostomus* on Siberut, Mentawai Islands, West Sumatra, Indonesia. *BirdingASIA*, 17: 106–108.
- Webster, M.S. 2017. *The Extended Specimen: Emerging Frontiers in Collections-based Ornithological Research*. Abingdon, UK: CRC Press.
- Wells, D.R. 1999. *The Birds of the Thai-Malay Peninsula. Vol. 1. Non-passerines*. New York: Academic Press.
- Wells, D.R. 2007. *The Birds of the Thai-Malay Peninsula, Volume 2, Passerines*. London: Christopher Helm.
- Whitten, T., Damanik, S.J., Amwar, J. & Hisyam, N. 1997. *The Ecology of Indonesia Series. Volume I. The Ecology of Sumatra*. Singapore: Periplus.
- Wilson, E.O. 2000. On the future of conservation biology. *Conservation Biology*, 14: 1–3.
- Wilting, A., Sollmann, R., Meijaard, E., Helgen, K.M. & Fickel, J. 2012. Mentawai's endemic, relictual fauna: Is it evidence for Pleistocene extinctions on Sumatra? *Journal of Biogeography*, 39: 1608–1620.

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MacKinnon, J. & Phillips, K. 1993. *Field Guide to the Birds of Borneo, Sumatra, Java and Bali*. Oxford: Oxford University Press: 491 pp.

Natural History Museum 2013. Wallace100 - celebrating Alfred Russel Wallace's life and legacy. <http://www.nhm.ac.uk/nature-online/science-of-natural-history/wallace/index.html> 11 October 2013.

Higgins, P., Christidis, L., Ford, H. & Bonan, A. 2017. Honeyeaters (Meliphagidae). In: J. del Hoyo, A. Elliott, J. Sargatal, D.A. Christie & E. de Juana, eds. *Handbook of the Birds of the World Alive*. Barcelona: Lynx Edicions. <http://www.hbw.com>.

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