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Source: Pacific Science, 76(4) : 411-435

Published By: University of Hawai'i Press

URL: <https://doi.org/10.2984/76.4.6>

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A Survey of Terrestrial Vertebrates of Tetepare Island, Solomon Islands, Including Six New Island Records¹

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Abstract: The Solomon Islands host a diverse terrestrial vertebrate fauna which has played a formative role in the development of speciation theory. Yet, despite over a century of biological exploration in the region, there are many islands for which we have incomplete knowledge of the vertebrate fauna. In 2019, we spent 20 days on Tetepare Island in the Western Province, Solomon Islands. Tetepare has a long history of conservation action by local communities and it is now the largest uninhabited tropical island in the world. We recorded 57 species of birds, 13 mammals, 5 amphibians, and 21 reptiles. Of these, we documented six species for the first time on Tetepare by western scientists: one frog, three non-avian reptiles, and two mammals. These findings point to a continued need for basic biological inventory work to inform research, local conservation efforts, and to increase published knowledge of the biodiversity in the Solomon Islands.

Keywords: amphibians, birds, mammals, Melanesia, squamates, tropical South Pacific, Whitney South Sea Expedition

¹This work was supported by a National Science Foundation award for biodiversity research to RGM and RMB [DEB-1557053] and MJA [DEB-1557051]. Manuscript accepted 19 August 2022.

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THE SOLOMON ARCHIPELAGO is a biodiverse region that is well known for its unique composition of terrestrial vertebrates (mammals, squamates, amphibians, and birds). Due in part to its high degree of isolation, heterogeneity of habitats, and topographic variability, the Solomon Archipelago boasts a disproportionately large number of endemic species: 30 amphibians, 21 non-avian reptiles, 28 mammals, and 97 birds that are found nowhere else on Earth (Mayr and Diamond 2001, McCoy 2006, Pikacha et al. 2008, Lavery et al. 2016, Dutson 2011). Over the last century, the Solomon Archipelago has received concerted biological exploration, including the Whitney South Sea Exploration (WSSE) in the early 20th century (Murphy 1922, Bryan et al. 1923, Chapman 1935, Mayr and Diamond 2001). Yet, much remains to be learned of this unique region, as evidenced by modern discoveries in the last several decades (Flannery and Wickler 1990, Diamond 1991, Brown and Richards 2008, Pikacha et al. 2008, Brown et al. 2015, Lavery and Judge 2017, Travers et al. 2018, Alabai et al. 2019,

DeCicco et al. 2020) and the region's categorization as a "critical" area for future study by Birdlife International (Stattersfield et al. 1998).

Tetepare Island is a largely uninhabited island within the New Georgia Group, Western Province, Solomon Islands. At 118 km² in size, it comprises one of the largest uninhabited tropical islands in the world (Read and Moseby 2006). A complex history of geological activity has resulted in various island ages in the New Georgia Group, which range from 500,000 years old (Tetepare) to over five million years old (Kolombangara and New Georgia; Mann et al. 1998, Cowley et al. 2004). The straits between some islands are sufficiently shallow to have provided land bridge connections when sea levels were lower during glacial maxima, the most recent being approximately 18,000 years ago. This is the case for Tetepare and adjacent Rendova Island, which when connected are termed 'Greater Rendipari' (Mayr and Diamond 2001). Tetepare differs from Rendova in its lack of high-elevation montane forest: 350 m max elevation on Tetepare versus 1,063 m on Rendova; yet the vertebrate faunas of these two islands are similar.

Tetepare was abandoned by people approximately 150 years ago due to head-hunting and diseases (Read 2011). Today, the only temporary inhabitants are associated with the Tetepare Descendants Association (TDA) at the Tetepare Ecolodge, though most live permanently in Vancouver Village on Rendova Island. The TDA takes an ecosystem-level conservation approach to preserve the island's habitat, from unlogged primary forests to undisturbed beaches and reefs. Apart from ecotourism that the Ecolodge attracts, there is minimal human impact on the island. Exceptions to this are Pigs (*Sus scrofa*), Feral Cats (*Felis catus*), Pacific Rats (*Rattus exulans*), and Little Red Fire Ants (*Wasmannia auropunctata*), as well as a small, former coconut plantation (abandoned after World War II; Read 2013). The intact forests of Tetepare offer a glimpse into a nearly undisturbed assemblage of vertebrate faunas, a unique opportunity given that large-scale

land conversion, commercial logging, mining, and other extractive industries have severely reduced such pristine habitats on many other islands in the Solomon Archipelago and the South Pacific as a whole.

MATERIALS AND METHODS

In collaboration with TDA rangers and the ecolodge staff, we surveyed Tetepare Island in June 2019 to document contemporary terrestrial vertebrate assemblages and to collect representative modern specimens to provide comparative material. Our surveys fell under two broad categories: (1) a focused capture and observation-based effort led by a subset of the authors, and (2) a broader and more interdisciplinary biodiversity survey centered on the ecolodge and focused on providing training and experience to undergraduate students from Solomon Islands and the United States.

We surveyed two main field sites on Tetepare from 9 to 28 June 2019: (1) the mouth of the Tongorongo River, approximately 6.5 km northeast from the Tetepare Ecolodge on the northern side of Tetepare (S 8.710°, E 157.504°, 0 m elevation) and (2) the Tetepare Ecolodge and surrounding area (S 8.721°, E 157.443°, 0–200 m elevation; Figure 1). All coordinates in this paper are reported in WGS84. We surveyed two general habitats: (1) coastal strand forest and beach/intertidal regions and (2) lowland secondary and primary forests (0–200 m). From our campsite at the mouth of the Tongorongo River, we surveyed beach strand and primary forest 0–1 km inland. Mixed halophilic beach forest began less than 5 m from the ocean and extended 30 m inland from the black sand coastline, beyond which the habitat transitioned to primary lowland tropical forest including mature strangler figs with 30-m high canopies (*Ficus* sp.). The ground near camp was relatively flat; the few sloping ridges appeared to receive heavy windblown fall and have impassable thickets of bamboo and windblown scrub. No major heterogeneity in forest type was noted in the area. Our camp was adjacent to the fast-flowing, clearwater Tongorongo River,

approximately 20 m wide at its mouth and 5–10 m wide inland with many steep mud or clay banks. Our surveys covered an area within 2 km of camp and over an elevation range of 0–50 m. We also accessed a small limestone cave ca. 2 km W of camp (Lelei Point, S 8.702°, E 157.459°, 0 m elevation; Figure 1). Apart from feral pigs on the island and walking trails used for pig hunting, we did not note major human disturbance in the forests surrounding our camp at the mouth of the Tongorongo River, as the area has never been logged. The invertebrate fauna was dominated by an exceptional number of crabs (*Scandarma* and *Coenobita* spp.) that we found all over the island and numerous large centipedes (*Scolopendra* sp.). The exceptional size and abundance of centipedes were

independently confirmed by Solomon Islanders who have traveled extensively throughout the region.

During our stay at the Tetepare Ecolodge (S 8.721°, E 157.443°), we accessed primary and secondary forest and explored beach strand forest north and west of the lodge. Habitat within the grounds of the Ecolodge was mostly decorative gardens and secondary forest. The terrain at the Ecolodge was flat but quickly steepened inland, where secondary forest dominated. Towards the interior of the island, approximately 1 km inland and at 200 m elevation, the secondary forest transitioned to unlogged primary forest. Heading north from the Tetepare Ecolodge, the manicured grounds quickly transition into beach strand forest (0–30 m inland) and



FIGURE 1. Map of the Solomon Islands. (A) Location of the Solomon Archipelago within the broader Indo-Pacific region. (B) Inset map highlighting the New Georgia Group and Tetepare Island. (C) Satellite imagery of Tetepare, with locations of field work during June 2019.

strangler fig-dominated primary forest (≤ 30 m inland).

Birds

We documented avian diversity using digital audio recordings, mist net captures (12×2.6 m, either 32 or 36 mm mesh size), representative voucher specimens, and auditory and visual observations. We used 20–30 mist nets at our main camp (mouth of Tongorongo River), open from 0600–1700 hours daily, to sample birds in the three habitat types available to us: beach strand forest, primary forest, and riparian edge forest along and over the river. We compiled daily lists of bird species, including relative abundance and notes on ecology, behavior, and habitat use. We made audio recordings with a Sound Devices MixPre-3 recorder and a Sennheiser ME67 shotgun microphone with k6 power unit (DeCicco), a Sound Devices MixPre-6 and Telinga Pro8 mkii stereo microphone and parabola (Andersen), and an iPhone Xs Max internal microphone (DeRaad).

We prepared research specimens as dried study skins or whole-organism anatomical specimens fixed in dilute and buffered formalin. We preserved duplicate samples of pectoral muscle in 95% ethanol taken as soon as possible after euthanasia for each specimen. Data collected with each specimen included: collection date, locality, habitat type, weight, sex, gonad measurements, presence and measurement of bursa of Fabricius as an age proxy (Glick, Chang, and Jaap 1956), skull ossification, stomach contents, fat condition, soft part coloration (e.g., iris, bill, tarsus), and molt information. All specimens and tissue samples have been archived at the University of Kansas Biodiversity Institute and Natural History Museum (KU; Lawrence, Kansas) and the Museum of Southwestern Biology (MSB; Albuquerque, New Mexico). Tissue samples are archived in each institution's vapor-phase, liquid nitrogen cryogenic storage units for long-term preservation at -190°C . If ectoparasites or endoparasites were found during specimen preparation, they were preserved in 70% ethanol, and

deposited either at MSB (endoparasites) or Drexel University, Philadelphia, Pennsylvania (ectoparasites). Data for these specimens are available via aggregator websites such as iDigBio (www.idigbio.org) and VertNet (www.vertnet.org) or directly via the Arctos online database (www.arctosdb.org) and the Specify online database (<https://biodiversity.ku.edu/ornithology/collections/collections-search>). All audio recordings are archived at the Macaulay Library, Cornell University (www.macaulaylibrary.org). Observational data are archived on eBird (www.ebird.org) and can be downloaded via the Avian Knowledge Network (<http://www.avianknowledge.net>). We made species identifications in the field referencing Dutson (2011).

Amphibians and Reptiles

We conducted nightly walking surveys in the areas in and around our campsites to maximize the total area in which we could identify nocturnal reptiles and amphibians. During night surveys, we located individuals visually with spotlights or following advertisement calls of frogs. We opportunistically made audio recordings of frog calls using a Tascam DR-100 MKIII recorder and a Sennheiser ME66 shotgun microphone with k6 power unit. We conducted similar active surveys during daylight hours for diurnal skinks, concentrating our efforts on sunny clearings and coastal areas. Lizards were captured by hand or with a noose. We used low-intensity, passive pitfall traps with drift fences to catch amphibians and reptiles transiting across specific microhabitats.

We followed the same standard protocol for recording and processing individual amphibians and reptiles regardless of survey method. We collected representative samples of the species that we encountered to serve as voucher specimens. We recorded detailed information about the location, time, date, habitat, natural history, morphology, and sex of the specimens that we vouchered to maximize the scientific value of these critical baseline collections. We subsampled genetic material from each specimen's liver tissue and stored it in separate vials of 95% ethanol. We

preserved voucher specimens in buffered 10% formalin solution. These specimens are housed at KU and are available for further scientific research.

Mammals

We surveyed mammals using a combination of mist nets, spotlighting at night, rat traps, and searches of caves. We targeted bats using black 38 mm mesh nylon mist nets (12 m in length × 2.6 m in height). Nets were configured individually within forest understoreys on wooden poles up to 10 m from the ground, or suspended on ropes from upper canopy branches up to 30 m above ground. The number and configuration of nets used varied to suit the physical characteristics of each habitat type within our broader study site. Nets were placed on tops of ridgelines, spanning watercourses or across natural forest gaps or inferred bat and/or bird ‘flyways’ to maximize the number of species and individuals captured. We used large Victor metal rat traps and toasted coconut meat and peanut butter as bait.

For each mammal specimen collected, we recorded the genus and species epithet, the GPS coordinates for the collecting location (in some cases the GPS coordinates for the nearby camp were used), the name of the locality (e.g., mouth of Tongorongo River), time of capture, habitat type (e.g., coastal primary rainforest), head-body length (HB), forearm length (FA), tail length (TL), hind-foot length (HF), sex, and reproductive condition. For each individual, we collected muscle or liver tissue samples (preserved in DNA/RNA shield, Zymo Research, Irvine, USA) and ectoparasites (stored in ethanol) prior to fixing specimens in 10% buffered formalin. Fixed specimens were later transferred to 70% ethanol for long-term preservation and have been deposited in the research collections of KU.

RESULTS

We documented 58 species of birds (Table S1, Figure 2), five species of amphibians (Table S2, Figure 3), 21 species of reptiles

(Table S2, Figure 4), and 13 species of mammals (Table S3, Figure 5). We documented six species not previously reported in the scientific literature as occurring on Tetepare Island: one frog, one gecko, two snakes, and two species of bats. We detected three introduced vertebrate species: Northern Common Cuscus (*Phalanger orientalis breviceps*), Pacific Rat (*Rattus exulans*), and Wild Pig (*Sus scrofa*). All vouchered specimens have associated genetic samples and we archived 65 audio recordings of 21 species of birds (Table S1) and three recordings of two species of frogs (Table S2). We also submitted observational records to iNaturalist, comprising 702 observations of 249 species (including non-focal vertebrate taxa, as well; <https://www.inaturalist.org/projects/tetepare-bioblitz>). Below, we provide a checklist of all terrestrial vertebrate species observed on Tetepare, annotated with natural history notes for species considered unusual or noteworthy records for the island. Species authors are included for each scientific name. Where author names are given in brackets, the describers placed the species in a different genus to that under which it is recognised here. We also provide general abundance and method of detection for each taxon in the supplementary material (Tables S1–S3).

Aves

Anatidae

Anas superciliosa pelewensis Hartlaub and Finsch, 1872, Pacific Black Duck

Megapodiidae

Megapodius eremita Hartlaub, 1868, Melanesian Scrubfowl

Columbidae

Chalcophaps stephani mortoni Ramsay, 1882a, Stephan's Dove

Caloenas nicobarica nicobarica (Linnaeus, 1758), Nicobar Pigeon

We observed six individuals of the rare Nicobar Pigeon (*Caloenas nicobarica*) near the mouth of the Tongorongo River, Crocodile Lake, and further inland. This species is declining in Melanesia and its overall status in the region is poorly known (Dutson 2011); it is increasingly restricted to small offshore or uninhabited islands such as Tetepare. All

individuals we observed were flushed from the forest floor, presumably while foraging. Our maximum count at one site was three individuals. The relatively high abundance of *C. nicobarica* on Tetepare was also noted by Read (2013), further highlighting the island's importance to the conservation of this declining species.

Ptilinopus viridis lewisii Ramsay, 1882, Claret-breasted Fruit-Dove

Ducula rubricera (Bonaparte, 1854b), Red-knobbed Imperial-Pigeon

The Red-knobbed Imperial-Pigeon (*Ducula rubricera*) is distributed across the Bismarck and Solomon archipelagos and is declining due to logging and habitat destruction. This species is considered Near Threatened (IUCN 2019); on Tetepare, *D. rubricera* appeared common. We often detected flocks of up to 10 individuals, but more have been seen in the past ranging from hundreds to >13,000 individuals (Read 2013). We identified this species by its call [repeated series of “ku-wau”] and the large bulbous knob that is its namesake (Dutson 2011).

Ducula pistrinaria pistrinaria Bonaparte, 1855, Island Imperial-Pigeon

The Island Imperial-Pigeon was the most common *Ducula* species on Tetepare. We observed this species nearly every day in small (5–10) to large (+50) flocks, typically associated with primary forest and often observed in emergent strangler figs.

Cuculidae

Centropus milo milo Gould, 1856, Buff-headed Coucal

Eudynamys orientalis alberti Rothschild and Hartert, 1907, Pacific Koel

Caprimulgidae

Eurostopodus nigripennis Ramsay, 1882b, Solomons Nightjar

The vulnerable Solomons Nightjar *Eurostopodus nigripennis* (BirdLife International 2016) is relatively common and widespread on Tetepare Island (as evidenced by many nests observed by rangers of the Ecolodge and the Tetepare Descendants Association over the past decade; (J. L. Read and Moseby 2006, J. Read 2013), making this island possibly one of the species' strongholds (see Guo et al. 2021). Though historically considered a

subspecies of the White-throated nightjar (*E. mystacalis*) of Australia, it was recently elevated to species status based on morphological differences (Cleere 2010). Clarity in the taxonomic status of this species is needed and it remains to be assessed with genetic analyses. Guo et al. (2021) described the breeding biology of *E. nigripennis* on Tetepare and provided new breeding island records in the New Georgia Group, suggesting a broader breeding distribution in appropriate habitat than previously recognized. Results from this work will help bolster conservation efforts for the species, especially on Tetepare Island.

Apodidae

Collocalia esculenta becki Mayr, 1931, Glossy Swiftlet

Hemiprocnidae

Hemiprogne mystacea woodfordiana (Hartert, 1896), Moustached Treeswift

The Moustached Treeswift (*Hemiprogne mystacea*) is widely distributed from the Moluccas of Indonesia through Papua New Guinea, including the Bismarcks, and the Solomon Islands. We observed a pair actively incubating a small cup nest in a dead tree next to the boat dock of the Tetepare Ecolodge.

Rallidae

Porphyrio melanotus samoensis Peale, 1849, Australasian Swamphen

Australasian Swamphen (*Porphyrio melanotus*) is found across Oceania from islands off the coast of Northeast New Guinea through Fiji and Samoa. We observed the species only in the gardens of the Tetepare Ecolodge, foraging in open grassy areas individually or in pairs, relatively unencumbered by anthropogenic disturbance.

Burhinidae

Esacus magnirostris (Vieillot, 1818), Beach Thick-knee

We observed one Beach Thick-knee close to our camp at the mouth of Tongorongo River at 23:00 h on 22 June 2019. We later observed three individuals of this species fly over shortly after our departure from Tetepare, while in Munda Bay, New Georgia Island (eBird checklist S59114494). Population size estimates for this species are thought to be approximately 1,000 individuals in the

Solomons (Delany and Scott 2002), but it is otherwise widespread throughout the Indo-Pacific. A major threat to this population of *E. magnirostris* is the lack of undisturbed beaches due to encroaching tourism, which is a growing industry in the Western Province of the Solomon Islands.

Laridae

Anous minutus Boie, 1844, Black Noddy

Onychoprion anaethetus anaethetus (Scopoli, 1786), Bridled Tern

Sterna sumatrana sumatrana Raffles, 1822, Black-naped Tern

Thalasseus bergii cristatus (Stephens, 1826), Great Crested Tern

Fregatidae

Fregata ariel ariel (Gray, 1845), Lesser Frigatebird

On the morning of 14 June 2019, between 06:30 and 07:00 h, we counted 221 Lesser Frigatebirds (*Fregata ariel*) leaving Tetepare Island heading south, presumably to spend their day foraging. We simultaneously counted 41 additional individuals kiting above the island. The extreme density of these birds on Tetepare highlights the value of the island to roosting colonies of this species. Further, this density is indicative of the richness of nearby marine waters, capable of supporting large populations of these kleptoparasitic seabirds.

Ardeidae

Egretta sacra sacra (Gmelin, 1789), Pacific Reef-Heron

Butorides striata solomonensis Mayr, 1940, Striated Heron

Nycticorax caledonicus mandibularis Ogilvie-Grant, 1888, Rufous Night-Heron

Pandionidae

Pandion cristatus (Vieillot, 1816), Osprey

Accipitridae

Accipiter biogaster rubianae (Rothschild and Hartert, 1905), Variable Goshawk

Aviceda subcristata gurneyi (Ramsay, 1882c), Pacific Baza

Haliastur indus flavirostris Condon and Amadon, 1954, Brahminy Kite

Haliaeetus sanfordi Mayr, 1935, Sanford's Sea-Eagle

On the morning of 23 June 2019, we observed a pair of Sanford's Sea-Eagles

(*Haliaeetus sanfordi*) displaying courtship behavior over the western tip of Tetepare (Figure 6). Two individuals circled the tallest canopy tree, closely following each other and repeatedly calling in unison for 20–30 minutes (Table S1). This courtship behavior has been described elsewhere (Ferguson-Lees and Christie 2001, Dutson 2011). Though Read (2013) reported that no *H. sanfordi* nests have been located on Tetepare, he observed a pair of eagles also vocalizing incessantly and carrying sticks in the month of April. Our observation further supports the likelihood that this species breeds on Tetepare, but documentation of a nest remains elusive. Photos of courtship behavior are archived in the Macaulay Library (ML166477181, ML166477191, ML166477201).

Bucerotidae

Rhyticeros plicatus (Forster, 1781), Blyth's Hornbill

Alcedinidae

Alcedo atthis salomonensis Rothschild and Hartert, 1905, Common Kingfisher

Common Kingfisher (*Alcedo atthis*) was common along rivers in primary forest, including along brackish estuaries. As a widespread species that ranges from the British Isles to Melanesia, the timing of breeding varies in this species. In the specimens we collected, we observed enlarged gonads and an egg nearly ready to be laid. This timing is consistent with other breeding reports for this species, the closest of which was reported in New Guinea, also in June (Woodall 2019).

Ceyx pusillus richardsi (Tristram, 1882), Little Kingfisher

Ceyx collectoris Rothschild and Hartert, 1901, New Georgia Dwarf-Kingfisher (Figure 2)

Todiramphus sanctus sanctus (Vigors and Horsfield, 1827), Sacred Kingfisher (Figure 2)

We noted the migratory species Sacred Kingfisher (*Todiramphus sanctus*) to be common along beaches and strand habitats. A few individuals were also captured in primary forest up to 1 km inland of the coast.

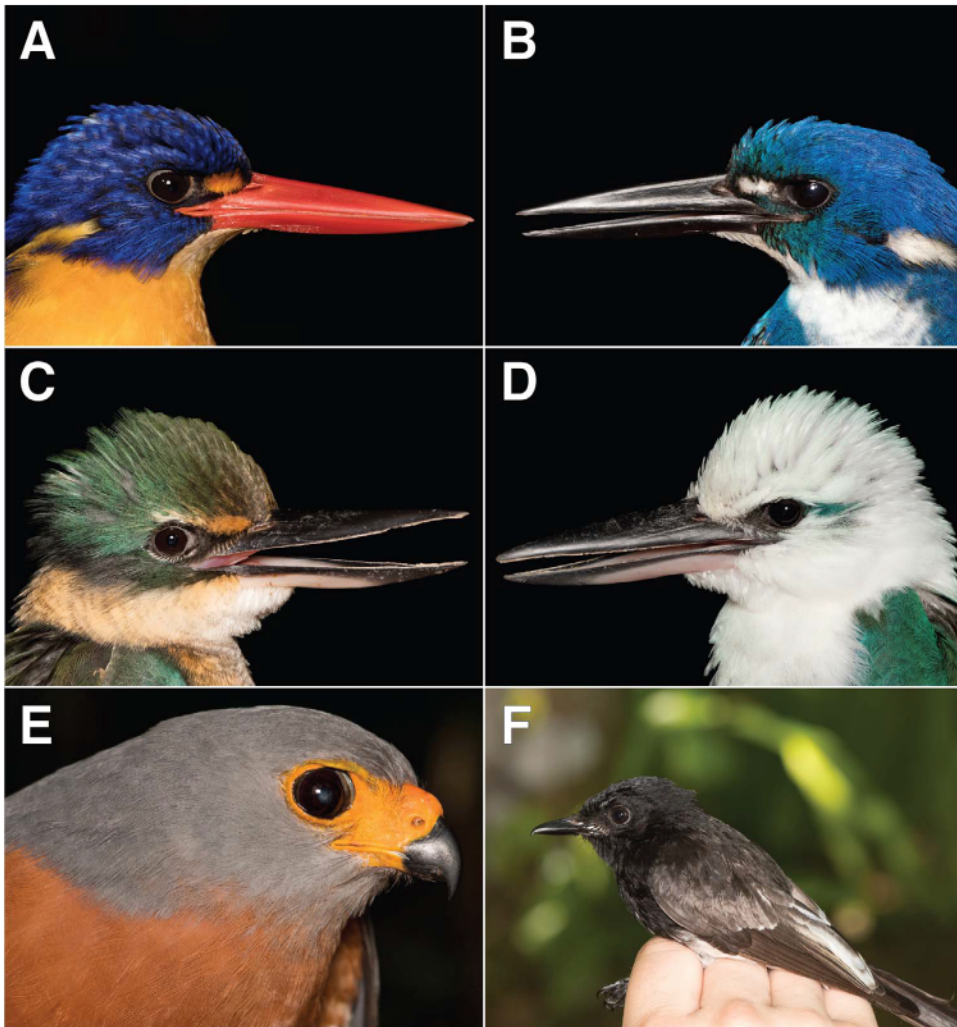


FIGURE 2. Selection of birds captured on Tetepare Island, Solomon Islands, during our survey in June 2019: (A) New Georgia Dwarf Kingfisher (*Ceyx collectoris*); (B) Little Kingfisher (*Ceyx pusillus*) found only in coastal habitat; (C) The Australian non-breeding migrant Sacred Kingfisher (*Todiramphus sanctus*); (D) The coastal Beach Kingfisher (*Todiramphus saurophagus*); (E) Variable Goshawk (*Accipiter biogaster*), subspecies *rubianae*, endemic to the New Georgia Group; (F) The New Georgia Group endemic subspecies *albina* of Cockerell's Fantail (*Rhipidura cockerelli*). All photos by Lucas H. DeCicco.

Todiramphus saurophagus saurophagus (Gould, 1843), Beach Kingfisher (Figure 2)

We commonly observed Beach Kingfishers (*Todiramphus saurophagus*) along many undisturbed beaches of the island. This species was often seen in pairs. Our collections yielded the first fluid-preserved specimen of this species.

Todiramphus tristrami alberti (Rothschild and Hartert, 1905), Melanesian Kingfisher

Todiramphus kingfishers were commonly heard vocalizing in primary forest (e.g., ML166530681, ML166335551). Lacking visual confirmation of vocalizing birds, we cannot be certain of each identification; however, we

suggest that this species, not *T. sanctus*, was highly vocal at this time of year. No individuals were captured in mist nets suggesting that this species spends most of its time in the canopy of mature primary forest.

Cacatuidae

Cacatua ducorpsii Pucheran, 1853, Ducorps's Cockatoo

Psittaculidae

Micropsitta finschii tristrami (Rothschild and Hartert, 1902), Finsch's Pygmy-Parrot

Though we caught and collected one specimen of *Micropsitta finschii* at our camp at the mouth of the Tongorongo River, we did not observe this species frequently in primary or secondary forest. We did observe a group of five individuals peeling the bark off of a large mast tree in primary forest, seemingly foraging for insects from under the bark. Photos archived in the Macaulay Library (ML166382751, ML166382761, ML166382771).

Eclectus roratus solomonensis Rothschild and Hartert, 1901, Eclectus Parrot

Geoffroyus heteroclitus heteroclitus (Hombron and Jacquinot, 1841), Singing Parrot

Chalcopsitta cardinalis (Gray, 1849), Cardinal Lory

Trichoglossus haematodus massena Bonaparte, 1854a, Coconut Lorikeet

Meliphagidae

Myzomela eichhorni eichhorni Rothschild and Hartert, 1901, Yellow-vented Myzomela

Campephagidae

Coracina lineata pusilla (Ramsay, 1879), Barred Cuckooshrike

Coracina welchmani kulambangrae Rothschild and Hartert, 1916, North Melanesian Cuckooshrike

We observed the North Melanesian Cuckooshrike (*Coracina welchmani*) on one occasion in disturbed secondary forest edge around the Ecolodge. Most populations of this species are montane (e.g., subspecies *C. w. bougainvillei*, *C. w. welchmani*, and *C. w. amadonis* are each restricted to the montane areas of Bougainville, Isabel, and Guadalcanal, respectively). The subspecies *C. w. kulambangrae*, which occurs in the New Georgia Group, is the only population of the species known to occur at sea level.

Coracina papuensis elegans (Ramsay, 1881), White-bellied Cuckooshrike

The White-bellied Cuckooshrike (*Coracina papuensis*) is a common resident bird, found from a range of pristine to degraded habitats, with subspecies *elegans* endemic to the New Georgia Group. We observed a breeding pair providing small insects to a single nestling in a cup nest on the beach directly west of the Tetepare Ecolodge. Photos of adults and a nestling are archived in the Macaulay Library (ML166470701, ML166470711, ML166470721, ML166470731, ML166470741).

Edolisoma tenuirostre (Jardine, 1831), Common Cicadabird

Pachycephalidae

Pachycephala orioloides centralis Mayr, 1932, Oriole Whistler

Though we actively searched for Oriole Whistlers across several sites close to the mouth of the Tongorongo River, we observed this species only near the highest elevation point of the island at ca. 200 m, inland from the Ecolodge in an area known locally as *Boitu*. There were many males calling and defending territories in this area.

Rhipiduridae

Rhipidura cockerelli albina Rothschild and Hartert, 1901, Cockerell's Fantail (Figure 2)

Rhipidura leucophrys melaleuca (Quoy and Gaimard, 1832), Willie-wagtail

Monarchidae

Monarcha richardsii (Ramsay, 1881), White-capped Monarch

We commonly observed and caught *Monarcha richardsii* at the mouth of the Tongorongo River. We observed this species in all habitat types, including disturbed areas around the Ecolodge. This species, endemic to the New Georgia Group, has sparse information on its breeding biology, which amounts to a single record of an active nest in October (Clements 2019). However, specimens that we collected had enlarged gonads in June, which suggests that it might have a longer breeding season than previously documented.

Symposiachrus browni meeki (Rothschild and Hartert, 1905), Kolombangara Monarch

The Kolombangara Monarch is endemic to the New Georgia Group of the Solomon Islands. It is considered Near Threatened due

to logging and habitat destruction (Birdlife International 2016), yet we found this species to be present in undisturbed forest as well as in the Ecolodge's gardens. As such, we considered this species to be common on Tetepare, as we often observed multiple individuals foraging in the mid-story of primary forest. Little is known about the timing of reproduction for this species. We found evidence of *S. browni* breeding in June on Tetepare, including enlarged gonads in both sexes and one female with a large egg (30 × 20 mm) in the oviduct.

Myiagra ferrocyanea feminina Rothschild and Hartert, 1901, Steel-blue Flycatcher

The Steel-blue Flycatcher (*Myiagra ferrocyanea*) is endemic to the Solomon Archipelago, excluding Makira and Rennell islands and Temotu Province. Subspecies *M. f. feminina* is restricted to the New Georgia Group and little breeding information exists for this species range-wide. There is a report of *M. ferrocyanea* building a nest in December on Buka Island, Autonomous Region of Bougainville. Little else is known about the breeding biology of this species. We observed a pair of *M. f. feminina* building a nest in beach strand forest near the Ecolodge (Figure 6). The nest was solidified with spiderwebs. We observed both parents defending their territory from a *Todiramphus* kingfisher and recorded their nest vocalizations (Table S1). Photos of the pair (ML16647681), nest-building (ML16647661), and defensive behavior (ML16647611, ML16647621, ML16647631, ML16647641) are archived in the Macaulay Library.

Hirundinidae

Hirundo tabitica subfusca Gould, 1856, Pacific Swallow

Zosteropidae

Zosterops tetiparius tetiparius Murphy 1929, Dark-eyed White-eye

As the scientific name of Dark-eyed White-eye (*Zosterops tetiparius tetiparius*) suggests, this subspecies is endemic to its namesake island Tetepare and represents the only described taxon endemic to the island. Morphologically, it differs from the conspecific *Z. t. paradoxus* on Rendova (only 3 km away) by its white belly compared to the bright yellow belly of *Z. t. paradoxus*. We

often observed *Z. tetiparius* foraging in flocks in the forest mid-story and considered it common on the island. Banding records suggest that *Z. t. tetiparius* is resident (Read 2013).

Taxonomic treatments of this taxon are confusing due to a type specimen having been assigned to multiple white-eyes within the Solomon Islands (Mees 1955). We follow Gill and Donsker (2019) in treating the Tetepare birds as a subspecies, *Z. t. tetiparius*, along with its sister taxon from Rendova Island, *Z. t. paradoxus* (Manthey et al. 2020, Oliveros et al. 2021). The sedentary nature of these taxa and their phenotypic differences warrant further investigation into the species limits of this group of white-eyes. Of the specimens we collected, several males had enlarged gonads but females did not, which suggests that the breeding season may occur later in June or July.

Sturnidae

Aplonis metallica nitida (Gray, 1858), Metallic Starling

Aplonis grandis grandis (Salvadori, 1881), Brown-winged Starling

Aplonis cantoroides (Gray, 1862), Singing Starling

The Singing Starling (*Aplonis cantoroides*) is widespread throughout New Guinea and its satellite islands through the Bismarck and Solomon archipelagos. We did not observe this species in primary forest on Tetepare; it was one of a handful of bird species that we observed only at the Ecolodge, where it was often in mixed flocks with Metallic Starling (*A. metallica*).

Mino kreffti kreffti (Sclater, 1869), Long-tailed Myna

Nectariniidae

Cinnyris jugularis flavigastera (Gould, 1843), Olive-backed Sunbird

Amphibia

Ceratobatrachidae

Cornufer guppyi (Boulenger, 1884), Giant Webbed Frog (Figure 3)

The Giant Webbed Frog is the largest species of frog that we encountered on Tetepare. Our collections of *Cornufer guppyi* are made notable by several very large individuals (three with SVLs over 120 mm). Although *Cornufer guppyi* is known to attain

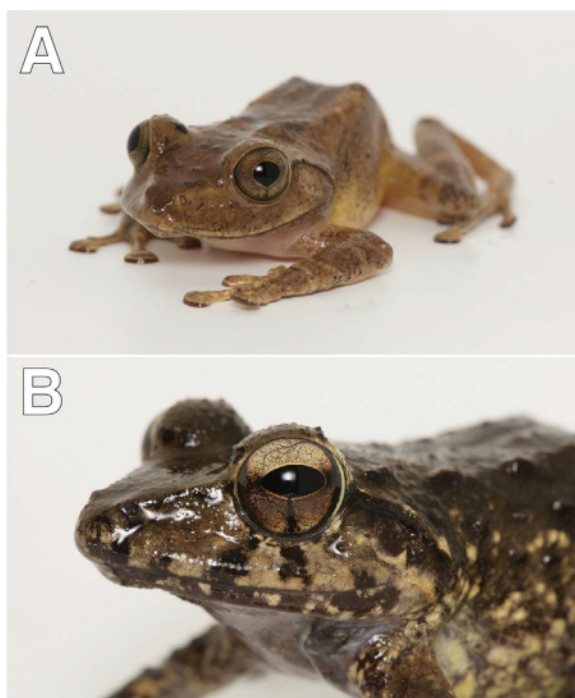


FIGURE 3. Two species of frogs recorded on Tetepare Island during our survey in June 2019. (A) Solomon Islands Giant Treefrog (*Cornufer bedigeri*). (B) Giant Webbed Frog (*Cornufer guppyi*). All photos by Lucas H. DeCicco.

these sizes, large individuals are targeted by hunters and are very rarely encountered in populations pressured by people. The fact that we encountered three very large individuals during our survey period indicates that the population of *C. guppyi* on Tetepare is relatively undisturbed. We recorded the advertisement call (ML273946) of one vouchered specimen (KU 351261) of these skittish, seldom-recorded frogs.

Cornufer bedigeri Boulenger, 1884, Solomon Islands Giant Treefrog (Figure 3)

The Solomons Giant Treefrog is an arboreal, direct-developing frog known from throughout the Solomons Archipelago but was previously unknown from Tetepare. Its distinctive widely expanded finger disks help it to grasp vegetation, and males often call from high up in trees and shrubs. We recorded (ML273945 and ML273947) and collected two male *Cornufer bedigeri* individuals

(KU 351262 and KU 351263) that were calling from arboreal perches on Tetepare on the night of 19 June 2019. To our knowledge, these specimens represent the first records of this species on Tetepare.

Cornufer guentheri Boulenger, 1884, Solomon Island Eyelash Frog

Cornufer solomonis Boulenger, 1884, Solomon Ground Frog

Pelodyadidae

Litoria thesaurensis (Peters, 1877), Treasury Island Treefrog

Squamata

Gekkonidae

Gebyra oceanica (Lesson, 1830), Oceanic Gecko

Lepidodactylus lugubris (Duméril and Bibron, 1836), Mourning Gecko

We obtained one specimen of *Lepidodactylus lugubris* in an abandoned structure near the beach at the Tetepare Ecolodge. The species is known throughout the Solomon

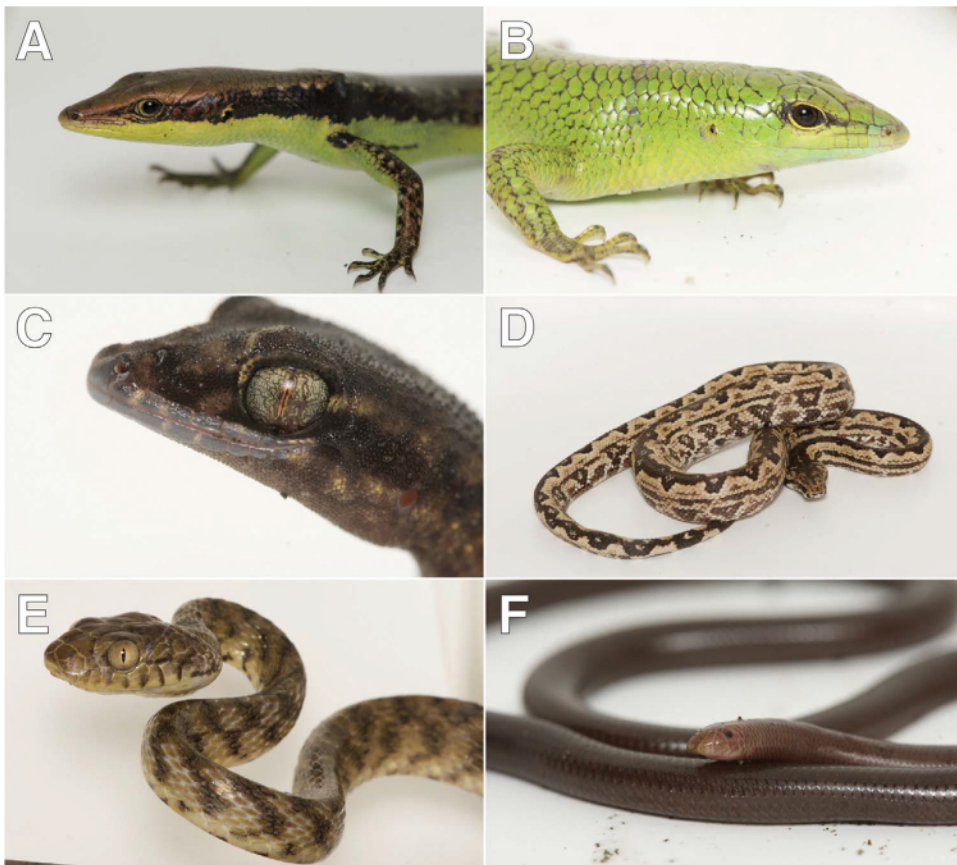


FIGURE 4. Selection of reptiles captured on Tetepare during our survey in June 2019. (A) Green-bellied Skink (*Eomoia cyanogaster*). (B) Emerald Tree Skink (*Lamprolepis smaragdina*). (C) Solomons Slender-toed Gecko (*Nactus multicarinatus*). (D) Solomons Ground Boa (*Candoia paulsoni*). (E) Brown Tree Snake (*Boiga irregularis*). (F) Arboreal Blindsnake (*Ramphotyphlops angusticeps*). All photos by Lucas H. DeCicco.

Islands and is known to be associated with humans. Although its presence is not unexpected, our vouchers represent the first record of the species on Tetepare.

Nactus multicarinatus (Günther, 1872a, 1872b), Solomons Slender-toed Gecko (Figure 4)
Scincidae

Eomoia atrocistata (Lesson, 1830), Reef Skink

Eomoia caeruleocauda (De Vis, 1892), Pacific Blue-tailed Skink

Eomoia cyanogaster (Lesson, 1830), Teal Emo Skink (Figure 4)

Eomoia cyanura (Lesson, 1830), Brown-tailed Copper-striped Skink

Eomoia nigra (Jacquinot and Guichenot, 1853), Black Emo Skink

Eomoia schmidtii Brown, 1954, Schmidt's Emo Skink

Lamprolepis smaragdina (Lesson, 1829), Emerald Green Tree Skink (Figure 4)

Lipinia noctua (Lesson, 1830), Moth Skink

Prasinohaema virens (Peters, 1881), Green-blooded Skink

Sphenomorphus concinnatus (Boulenger, 1887), Elegant Forest Skink

Sphenomorphus cranei (Schmidt, 1932), Crane's Skink

Varanidae

Varanus indicus (Daudin, 1802), Mangrove Monitor

With permission from the Tetepare Descendants Association, we captured, measured, photographed, and obtained a blood sample from one juvenile *Varanus indicus*, which we subsequently released unharmed in accordance with the wishes of the TDA.

Colubridae

Boiga irregularis (Bechstein, 1802), Brown Tree Snake

Dendrelaphis calligaster (Günther, 1867), Solomons Tree Snake

Boidae

Candoia paulsoni (Stull, 1956), Solomons Ground Boa (Figure 4)

Elapidae

Salomonelaps par (Boulenger, 1884), Solomons Coral Snake

The Solomons Coral Snake is a highly venomous species that is endemic to the Solomon Archipelago. We observed and photographed one individual as it moved through leaf litter in lowland forest but were unable to collect a specimen.

Typhlopidae

Ramphotyphlops angusticeps (Peters, 1877), Arboreal Blindsnake (Figure 4)

A notable finding of our survey was the observation and collection of a single individual of *Ramphotyphlops angusticeps*. We collected *R. angusticeps* from a tree, approximately 10 m from the ground close to the Tongorongo campsite. This specimen is identified as a *R. angusticeps* by its attenuate body plan, 20 midbody scale rows, and the presence of a distinct transverse rostral keel (Figure 4). *Ramphotyphlops angusticeps* is rarely encountered and was previously known only from Guadalcanal, Malaita, Makira, Maluapaina, and Rennell islands (McCoy 2006). Our specimen, therefore, represents the first record of the species not just for Tetepare, but for the entire New Georgia Group. Although the species is clearly referable to *R. angusticeps* based on morphology, its presence in an isolated and biogeographically unique island group warrants further genetic investigation.

Ramphotyphlops depressus (Peters, 1880), Common Forest Blindsnake

This species is known to exist throughout the archipelago and is likely the most commonly encountered species of blind snake in the Solomon Islands (McCoy 2006). We collected this specimen at night as it crawled over a low exposed coral ledge near the water's edge. This species is known from the New Georgia Group, but to our knowledge, this is the first record on Tetepare.

Crocodylia

Crocodylidae

Crocodylus porosus Schneider, 1801

We observed large (ca. 3 m long) crocodiles entering the surf from the beach at night near the Tetepare Ecolodge. Although Saltwater crocodiles are known to occur throughout the archipelago, they are uncommonly seen because of historical and ongoing conflict with humans. The presence of the species on Tetepare, and especially such large individuals, is evidence of the success of ongoing conservation efforts on Tetepare Island.

Mammalia

Pteropodidae

Nyctimene bougainville (Thomas, 1914), Solomons Tube-nosed Bat (Figure 5)

Nyctimene bougainville has been treated as a subspecies or synonym of *N. vizcaccia*. Systematic relationships among *Nyctimene* have long been in dire need of revision, and here we have retained *N. bougainville* as a species pending these necessary studies. The taxon is widespread in Solomon Islands and common in lowland primary forests. It occurs from sea level to at least 1,700 m elevation close to the summit of Kolombangara Island (Lavery pers obs.).

Nyctimene major (Dobson, 1877), Island Tube-nosed Bat (Figure 5)

The Island Tube-nosed Bat is a widespread species occurring from the Bismarck Archipelago as far as Malaita and Guadalcanal in the Solomon Islands. It is typically found in more disturbed habitats, or smaller and more isolated islands (Flannery 1995). Its occurrence on Tetepare is not unexpected.

Dobsonia inermis (Andersen, 1909), Solomons Bare-backed Fruit Bat

Pteropus admiralitatum solomonis (Thomas, 1904), Admiralty Flying Fox (Figure 5)

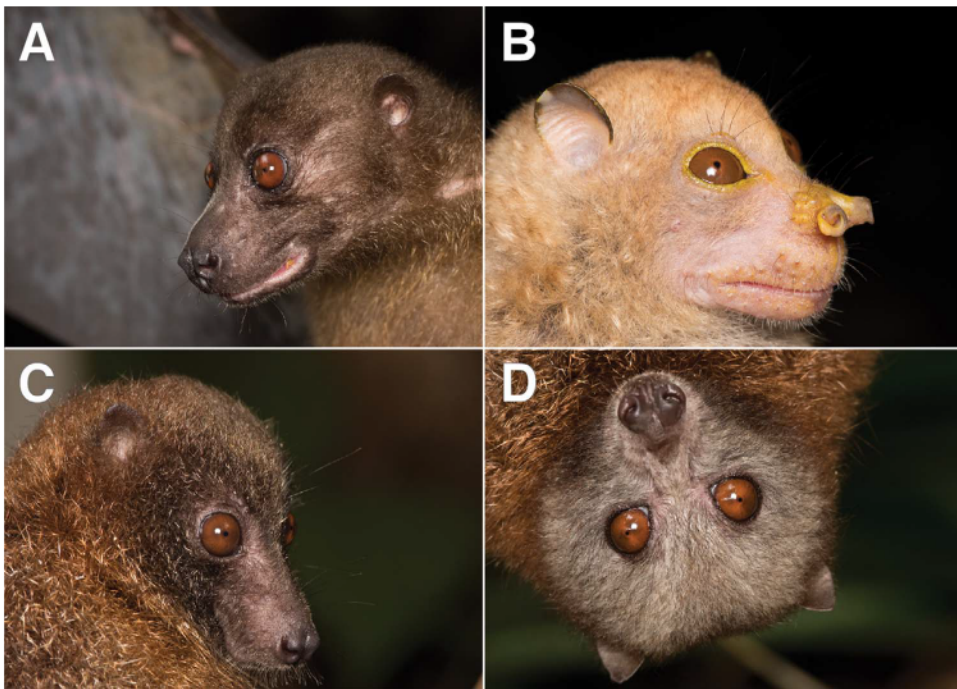


FIGURE 5. Selection of bats captured on Tetepare Island during our survey in June 2019. (A) The first record for Tetepare Island of New Georgia Monkey-faced Bat (*Pteralopex taki*). (B) The first record of Island Tube-nosed Bat (*Nyctimene major*). (C) Dwarf Flying Fox (*Pteropus woodfordi*). (D) Admiralty Flying Fox (*Pteropus admiralitatum solomonis*) showing lighter head patterning. All photos by Lucas H. DeCicco.

Flying-foxes captured on Tetepare were consistent with the description for *P. admiralitatum solomonis* (Thomas 1904). The distribution of this taxon is limited to Solomon Islands and it is known from numerous Western Province islands (e.g., New Georgia, Kolombangara, and Vangunu) to the exclusion of subspecies *P. a. admiralitatum*, *P. a. goweri* and *P. a. howensis* that are restricted to smaller islands (Mono, Dai, Ontong Java). Males from Tetepare were noteworthy in that they possessed distinct gray coloration to the face. *Pteropus woodfordi* (Thomas, 1887), Dwarf Flying Fox (Figure 5)

The Dwarf Flying Fox is a common and widespread species occurring throughout the Western Province and on the Russell Islands, Ngella, and Guadalcanal. It is replaced ecologically on Santa Isabel, Choiseul, and Bougainville by *Pteropus mabaganus*. *Pteropus woodfordi* is primarily nectarivorous and a

common visitor to the inflorescences of coconut palms.

Pteralopex taki. (Thomas, 1888), New Georgia Monkey-faced Bat

An extremely important result from these surveys was the first record of a monkey-faced bat *Pteralopex* sp. from Tetepare. This record extends the known range of the genus to encompass Tetepare. Elsewhere in the New Georgia Group, the monkey-faced bat (*Pteralopex taki*) was previously known only from Kolombangara, New Georgia, and Vangunu. The external morphology of this Tetepare specimen is consistent with *P. taki*; however, we recommend further detailed morphometric and genetic analyses. Tetepare and Rendova islands have always been isolated geologically from Kolombangara, New Georgia, and Vangunu islands. Given that *Pteralopex* are purportedly poor over-water dispersers (Fisher and Tasker 1997), we raise

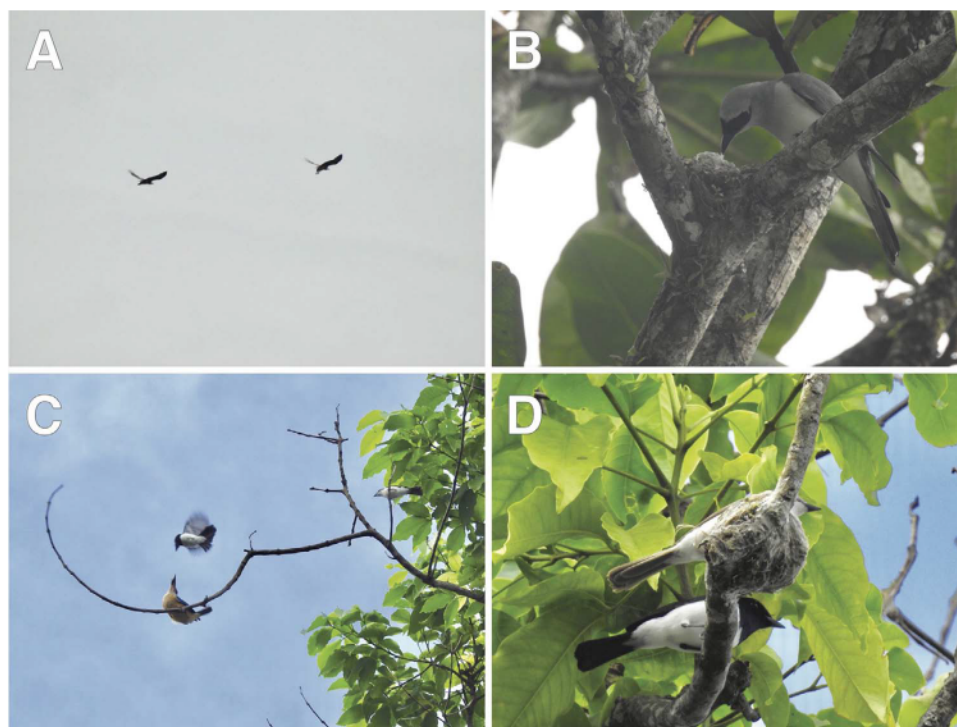


FIGURE 6. Breeding observations of birds on Tetepare Island. (A) Sanford Sea-Eagle (*Haliaeetus sanfordi*) courtship display (Macaulay Library ML166477191). (B) Nesting White-bellied Cuckooshrike (*Coracina papuensis*) near the Tetepare Ecolodge (ML166470721). (C and D) Nesting Steel-blue Flycatchers (*Myiagra ferrocyanea*) and territorial defense behavior against a *Todiramphus* kingfisher (ML166476741, ML166476781). All photos by Devon A. DeRaad.

the possibility that the new Tetepare specimen represents a new species or sub-species.

Rousettus amplexicaudatus (Geoffroy, 1810), Geoffroy's Rousette

Melonycteris fardoulisi (Flannery, 1993), Fardoulis's Blossom Bat

Macroglossus minimus (Geoffroy, 1810), Northern Blossom Bat

Hipposideridae

Hipposideros calcaratus (Dobson, 1877), Spurred Leaf-nosed Bat

Hipposideros calcaratus is a relatively common species of leaf-nosed bat with a Melanesian distribution from mainland New Guinea to the Bismarck and Solomon archipelagos. Throughout this distribution, *H. calcaratus* is most often encountered roosting in coastal limestone caves. We recorded *H. calcaratus* on

Tetepare in a roosting cave at Lelei Point on the northern side of the island.

Phalangeridae

Phalanger orientalis breviceps (Thomas, 1888), Northern Common Cuscus

Muridae

Rattus exulans (Peale 1848), Pacific Rat

Suidae

Sus scrofa (Linnaeus, 1758), Wild Pig

The Wild Pigs of Tetepare are a highly valued food resource for the descendants of the island. In fact, a desire to protect this important resource was reportedly one of many key factors that drove early sentiments to prevent logging on the island. Today, people from nearby islands, especially Rendova, visit on day trips specifically to hunt with dogs for Wild Pigs. Anecdotal reports suggest animal densities on Tetepare

are very high compared to other islands in the archipelago.

DISCUSSION

In this paper, we summarize field observations and collections from Tetepare Island, an uninhabited island in the Western Province of the Solomon Islands. Tetepare is a relatively pristine island (Read 2011) compared to others in Western Province that have experienced significant deforestation (Katovai et al. 2015) and introduction of invasive species (Steadman 2006), two significant threats to vertebrate populations. We report six new vertebrate taxa and few invasive species that occur on Tetepare, which is a testament to its biodiversity and conservation efforts of the Tetepare Descendant's Association (TDA).

New Records for Tetepare Island

AMPHIBIANS: Our surveys identified the treefrog *Cornufer hedigeri* on Tetepare for the first time (Figure 3). This medium-sized arboreal species is known to occur in various forest types elsewhere in the Solomon Archipelago including Tetepare's neighboring islands in the New Georgia Group. Its occurrence in Tetepare's forests, although unreported, is consistent with our previous expectations. We collected one ground frog (KU 351321) that we have referred to as *Cornufer solomonis*, but which possesses some attributes that are associated with *C. weberi* (Pikacha et al. 2008), namely its somewhat rugose skin and reddish abdominal color patches. These two species are morphologically similar and the characters used to differentiate them are ambiguous and subjective. Range-wide genetic studies are needed to determine whether *C. solomonis* and *C. weberi* actually represent two distinct species (S. Travers pers. comm.). The Tetepare specimen is morphologically referable to either species. Considering *C. solomonis* is already reported to occur on Tetepare (Read and Moseby 2006) we remain conservative in our assignment of our specimen to that species. However, genetic analyses are warranted for the identification of this specimen.

SQUAMATES: We report the first records of Mourning Gecko (*Lepidodactylus lugubris*), Common Forest Blindsnake (*Ramphotyphlops depressus*), and Arboreal Blindsnake (*Ramphotyphlops angusticeps*) on Tetepare (Figure 4), increasing the island's squamate inventory from 21 to 24 species (Read and Moseby 2006). The most notable and least expected of these new additions is the single Arboreal Blindsnake specimen (KU 351274), which represents the first record of this species in the New Georgia Group. The specimen is clearly referred to as *R. angusticeps* on the basis of its midbody scale count, defined rostral keel, and attenuate body plan (McCoy 2006). Little is known about the species' ecology or behavior, other than it is (possibly entirely) arboreal (McCoy 2006). Indeed, the Tetepare specimen conformed to this pattern; we collected the individual after observing it moving through the sheath of vines and epiphytes which encased the trunk of a large forest tree approximately 10 m above the ground. *Ramphotyphlops angusticeps* is poorly studied; it is rarely collected and has not been included in modern molecular analyses. To our knowledge, KU 351274 is the first-ever specimen of *R. angusticeps* in any collection with an associated modern tissue sample. This species is previously known only from the islands of Guadalcanal, Malaita, Makira and Maluapaina, Rennell (McCoy 2006), and Choiseul (Morrison et al. 2007). Its presence on an isolated island in the New Georgia Group is notable, as Tetepare is tectonically and biogeographically distinct from the other islands on which *R. angusticeps* is known to inhabit. The biogeographically disjunct origin of this specimen raises the possibility that it represents a distinct lineage from the previously reported populations of the species and highlights the need for further genetic study.

In contrast to our discovery of *R. angusticeps*, the collection of Common Forest Blindsnake (*Ramphotyphlops depressus*) and Mourning Gecko (*Lepidodactylus lugubris*) on Tetepare are novel but not unexpected. *L. lugubris* is extremely widespread throughout the Indo-Pacific and is known to be a human-commensal species. Indeed, we found this specimen in a dilapidated human structure

near the beach on Tetepare. *R. depressus* occurs widely across Melanesia, including the New Georgia Group. We collected one specimen of this species as it foraged at night within the cracks of an uplifted coral rock face flanking the beach on Tetepare's western shore.

MAMMALS: Our surveys have increased Tetepare's mammal inventory from 14 to 16 species. The most important addition is our single record of New Georgia Monkey-faced Bat (*Pteralopex taki*). Further taxonomic and phylogenetic analysis of this specimen remains an urgent priority. The capture of such a large-bodied species (241–340 g, Flannery 1995) previously unrecorded on Tetepare again highlights the need for continuation of basic faunal surveys in the Southwest Pacific. *Pteralopex taki* was described relatively recently (Parnaby 2002), but mist-net surveys on Tetepare in 2015 failed to document this species (Lavery unpub. data). Helgen (2005) identified that *Pteralopex* had not been recorded on islands smaller than 400 km² and speculated that they require larger expanses of old-growth forest to persist. Tetepare (~118 km²) is far smaller than this and thus increases the possibilities that *Pteralopex* may occur, or has occurred on other small islands in the archipelago (e.g., Rendova, Ranongga, Shortland, Russel Islands, and Ngella). All five known *Pteralopex* species are threatened according to the IUCN Red List. *Pteralopex taki* is regarded as Vulnerable (Lavery 2017) and is in decline as a result of widespread logging of lowland forests (Lavery et al. 2020b). Given Tetepare is currently dedicated to conservation, the addition of this species to the island's fauna is significant and should increase its global recognition.

The second species added to the island inventory, Island Tube-nosed Bat (*Nyctimene major*), is a widespread and common species that is frequently encountered in disturbed habitats and on smaller islands in the region (Flannery 1995). It is readily captured in mist nets, and thus its absence from the Tetepare faunal list until now is surprising. This bat produces a high-pitched squeaking call and is probably the species listed as “kissing” flying

fox in the species list prepared by Read and Moseby (2006).

Gee (2003) previously identified Maggie Taylor's roundleaf bat (*Hipposideros maggietai*) as being present on Tetepare. However, the distribution of this species as presently understood extends east of New Guinea only as far as the Bismarck Archipelago. It is likely that these were in fact *H. calcaratus*, a more widespread species that occurs as far as Makira in the Solomon Archipelago (Wilson and Mittermeier 2019). We identified bats present within a cave at Lelei Point as *H. calcaratus*. In a molecular phylogeny prepared by Lavery et al. (2014), a single sample of this taxon belonged to a clade with *H. calcaratus* from Guadalcanal. However, the phylogeny did not incorporate *H. calcaratus* samples from outside Solomon Islands, thus further study is needed to understand wider systematic relationships.

Non-Native Terrestrial Vertebrates Recorded

BIRDS: We did not observe any non-native bird species on Tetepare. Eurasian Tree Sparrow (*Passer montanus*) and Common Myna (*Acridotheres tristis*) are invasive in some areas of the Solomon Islands. *Passer montanus* is reported to occur only in Honiara, Guadalcanal, but a single record exists from Auki, Malaita (Dutson 2011) and we have observed it in Buala, Isabel (Pers obs; see eBird.org checklist S48931172, accessed 11 February 2020). *Acridotheres tristis* is recorded on Guadalcanal and the Russell Islands in the Solomons. Though *A. tristis* has been observed on Tetepare previously, the TDA has been successful in limiting their presence on the island through biosecurity management (Read 2013).

MAMMALS: Several mammals were widely translocated by people throughout Solomon Islands prehistorically. Northern Common Cuscus (*Phalanger orientalis breviceps*) may be the earliest known deliberate human translocation of fauna anywhere in the world (Flannery and White 1991). Evidence indicates it was first introduced to the Solomon Archipelago (specifically to Buka Island) some

time after 6,700 years ago (Flannery and Wickler 1990). Pigs were introduced to Oceania around 3,500 years ago (Larson et al. 2007) and are now abundant on Tetepare. Pacific rats (*Rattus exulans*) were translocated across Melanesia and the Pacific and arrived in the archipelago sometime before 1,800 years ago (Flannery and Wickler 1990). Cats are a more recent introduction to Solomon Islands, including Tetepare where they are regularly recorded on camera traps (J. Read. pers. comm.). In a recent study, Lavery et al. (2020a) estimated cat densities, abundance, and activity patterns on four islands using camera trap data. Cat densities in lowland rainforests of Guadalcanal and Kolombangara were estimated at 0.31 and 0.65 cats km⁻² respectively, and in Guadalcanal's montane rainforests 1,000 m+ above sea level the authors estimated 2.65 cats km⁻². Activity was greatest in the hours following dusk and preceding dawn (Lavery et al. 2020a).

AMPHIBIANS AND SQUAMATES: We did not detect any non-native amphibian species on Tetepare during our survey. Notably, we found no evidence of invasive Cane Toads (*Rhinella marina*) on Tetepare despite their established presence on neighboring Rendova Island. The absence of Cane Toads may help to explain the high abundance of Pacific Monitors (*Varanus indicus*) that we observed on Tetepare during our surveys. We did not detect any non-native squamates.

Native Species Not Recorded at Our Sites

BIRDS: We did not detect some bird species known to occur on Tetepare, such as Rufous Fantail, subspecies *Rhipidura rufifrons granti*, which is endemic to the Western Province. This species is listed as 'least concern,' but is decreasing globally (IUCN 2019) and our failure to detect it is concerning. To our knowledge, *R. r. granti* was last observed near the Ecolodge during surveys of Tetepare in June 2003 (J. L. Read and Moseby 2006). However, it was not recorded during a 7-year observational study of the island between 2003–2010 (Read 2013). During our time at and around the Ecolodge, we did not observe

the species. Additionally, rangers with extensive knowledge of the island's avifauna did not recognize illustrations of *R. r. granti* in Dutson (2011). This is an understory bird that is common in primary and secondary low-elevation forest throughout the Solomons (Dutson 2011). The lack of recognition of this species by locals and its conspicuous absence suggests that this subspecies may have been locally extirpated.

MAMMALS: Two species of mammals known to occur on Tetepare were not captured during these surveys. Small Melanesian bent-winged bat (*Miniopterus macrocneme*) (Read and Moseby 2006), occurs from mainland New Guinea to New Caledonia and Vanuatu (Wilson and Mittermeier 2019). However, the genus *Miniopterus* is in need of taxonomic revision, and molecular phylogenetic studies are currently underway to confirm the affinities of taxa from several locations in Solomon Islands. New Guinea pipistrelle (*Pipistrellus angulatus*) (Read and Moseby 2006) is generally common and widespread from mainland New Guinea to Temotu Province in Solomon Islands (Wilson and Mittermeier 2019). Echolocating bats are adept at avoiding mist nets and harp traps in the lowland forests of Melanesia and are thus frequently under-represented in mammal surveys unless searches of suitable roosting caves are undertaken.

AMPHIBIANS AND SQUAMATES: Two species of squamates, the Prehensile-tailed Skink (*Corucia zebrata*) and Guppy's Gecko (*Lepidodactylus guppyi*), have been previously reported from Tetepare but were not detected during our survey. Both are uncommonly encountered arboreal lizards, and failure to detect them during our survey is not unexpected and should not be interpreted as evidence of their absence or decline on the island. Local guides were familiar with the Prehensile-tailed skink and confirmed to us that it is present on Tetepare. Finally, we note that although Read and Moseby (2006) included three species of marine turtles in their checklist of Tetepare herpetofauna, we focused on terrestrial

vertebrate fauna and therefore did not attempt to detect these species.

CONCLUSIONS

The ecosystem-level conservation approach of the Tetepare Descendants Association is based on traditional ecological knowledge (Berkes et al. 2000). This framework preserves one of the largest remaining tracts of undisturbed land in the Western Province, from interior primary forests to undisturbed beaches and reefs, and is reflected in the presence of vertebrate fauna that are rare or declining elsewhere in their range. As commercial logging continues to threaten remaining undisturbed tracts of forest in the country, the conservation value of Tetepare only continues to increase. The pristine habitat of Tetepare appears to provide a remaining stronghold for uncommon, habitat-sensitive, or declining species such as the Nicobar Pigeon, Solomons Nightjar, and New Georgia Monkey-faced Bat. Lavery et al. (2020b) recently demonstrated that restricted range endemic species are most affected by current commercial logging practices. For example, populations of two bat species, *Pteralopex taki* and *Melonycteris fardoulisi*, have declined by as much as 70% over the past 23 years in response to logging pressures in Western Province. Encouragingly, we were able to document the first record of *Pteralopex* on Tetepare and found *M. fardoulisi* to be common on the island, highlighting the value of TDA conservation efforts in protecting this primary forest habitat. As we did confirm several introduced species (Northern Common Cuscus, Wild Pigs, feral cats, and Little Red Fire Ants; Read 2013) on Tetepare, we advocate for continuing biosecurity efforts to maintain the island's unique biodiversity. Our documentation of six new species records for Tetepare Island is an important contribution to the growing scientific literature documenting the biodiversity of this island. Our inventory of the unique terrestrial vertebrate fauna of Tetepare highlights the value of the strong conservation actions taken by TDA to preserve Tetepare Island. Similar collective actions will be critical to preserve unique

cultural and ecological heritages across the archipelago, as Solomon Islanders continue to grapple with the dual impacts of extractive industries and climate change on their natural heritage.

ACKNOWLEDGEMENTS

We thank members of the Tetepare Descendants Association namely Mary Bea, Tumi Ben, and Issac James for their support, hospitality, and willingness to share knowledge of their communal lands with us. We also thank Zenno Entriakin-Hughes for assistance in the field as well as Scott Travers for helpful comments on this manuscript.

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