# The Biological value of the Natewa Peninsula

# Vanua Levu, Fiji

## An Operation Wallacea Report

## Compiled by Tom Martin

## Executive summary

- The Natewa Peninsula encompasses approximately 55000 ha of the south-eastern section of Vanua Levu, Fiji, and retains large expanses of tropical lowland and hill forest.

- The biodiversity of the Peninsula possesses an extremely high conservation value. To date, a total of two native mammal species, 48 bird species, 10 herpetofauna species, 13 butterfly species, 61 gastropod species, and 84 tree species have been detected in the study area.

- This diversity is impressively representative of species assemblages across Fiji as a whole, given the size of the study area. The Natewa peninsula comprises only around 3.1% of the total land area of the Fijian archipelago, but 59% of terrestrial birds, 33% of native terrestrial mammals and 35% of reptiles known to occur nationally have been found here.

- Faunal groups in the Natewa Peninsula also display high incidence of endemism, with 31.3% of birds (15 species), 33.3% of herpetofauna (three species) 30.7% of butterflies (four species) 36.1% of gastropods (22 species) and 31% of trees (26 species) found here being entirely restricted to the Fijian archipelago.

- Numerous species are also very locally endemic to the study area. These most notably include the Natewa Silktail (*Lamprolia klinesmithi*) and Natewa Swallowtail (*Papilio natewa*), which are both entirely restricted to the study area. A further six species and five sub-species found in the study area are endemic to Vanua Levu and its offshore islands.

- The forests of Natewa also provide valuable ecosystems services, both locally to communities living in the Peninsula via flood prevention, soil protection and crop pollination, and also to global society through the carbon stocks they sequester. Initial analysis put carbon stock estimates in the study area at 20,732,148 metric tons.

- The diverse ecological communities of the Natewa Peninsula are, however, highly threatened by anthropogenic pressures. Unregulated deforestation and forest degradation is extensive in the study area. Introduced Cane Toads, rodents, and most significantly the Small Indian Mongoose (*Herpestes auropunctatus*) also represent a serious threat to ground-nesting birds, reptiles, and other native wildlife. Between 175,000 and 400,000 mongooses are estimated to occur on the Peninsula.

- The urgent conservation status of biodiversity here (and the Fijian archipelago generally) is demonstrated by the number of threatened species present in the Natewa Peninsula. One native mammal, two herpetofauna species, and two tree species are considered by the IUCN to be globally Endangered. A further two bird species, one lizard, six gastropods, and two trees are considered to be Vulnerable, and one mammal, one bird, two gastropod and one tree species are considered to be Near-threatened. Particularly notable examples of threatened species include the Endangered Fijian Free-tailed Bat (*Chaerephon bregullae*) and the Vulnerable Natewa Silktail (*Lamprolia klinesmithi*), and Shy Ground Dove (*Alopecoenas stairi*).

- The surveys completed in the Natewa Peninsula to date clearly highlight the exceptional biological importance of the region. However, opportunities exist to implement new survey work in the future to target as-yet unstudied groups. Priority targets for new survey protocols include macro-moths, dragonflies, orchids, and potentially arachnids. Other priorities for future work include determining the specific status of two herpetofauna species which may be new to science (and endemic to the Natewa peninsula), and to set up a habitat classification scheme for the entirety of the study area to allow for accurate stratified carbon stock estimates (as well as obtaining more ground-truthed data to enhance the accuracy of carbon stock estimates here). Certain threatened species such as the critically endangered Fijian Monkey-faced Bat may also occur in the study area – verifying the presence of these as-yet-unconfirmed species also represents an important priority for future survey work.

## Introduction

The Natewa Peninsula (also referred to in some sources as the Tunuloa Peninsula) covers approximately 55000 ha of the south-eastern section of Vanua Levu; the second largest island in the Fijian archipelago (Figure 1a and Figure 1b). Most of its area is covered by rugged lowland and hill forest extending from sea level to 800m. As with most of Fiji, the underlying geology consists of Miocene-Pliocene volcanic igneous rock (Geological Survey of Fiji 1965; Neall & Trewick 2008) To the south and east the Peninsula is bordered by the Pacific Ocean, while to the north it is bordered by the waters of Natewa Bay, the largest bay in Fiji. The Natewa Peninsula is approximately 60 km long, but at its base is <2 km wide. Much of this narrow isthmus is spanned by biogeographical barriers, most significantly a salt creek and a lagoon Geological Survey of Fiji 1965). As such, the Peninsula is ecologically fairly isolated, and supports several endemic species that cannot be found elsewhere on Vanua Levu. Conversely, this isolation also means that some species present elsewhere on Vanua Levu do not occur on the Natewa Peninsula (Tennent *et al*. 2018). Due to this distinctiveness, some sources consider the Peninsula to be a separate biotic province in its own right (Olson *et al*. 2009). This, combined with the extent of its remaining forested area, has led to the Natewa Peninsula being considered one of the highest conservation priorities in the whole of Fiji, both for biodiversity generally (Olson *et al*. 2009; Kerr 2018) and for specific taxa (BirdLife International 2018). The forests of the study area are also expected to sequester vast carbon stocks, thus are predicted to make an important contribution to mitigating global climate change. They also provide key ecosystems services to the communities of the Peninsula, including flood prevention, soil protection, and crop pollination.

Despite its theorized biological importance, the biodiversity of the Natewa Peninsula remains extremely poorly studied. Prior to the results presented in this report, no surveys had been previously completed for most taxonomic groups here (BirdLife International 2018). The lack of knowledge regarding the biological value of the Natewa Peninsula is concerning, as the area may also face substantial ecological pressures. Invasive species are a prominent threat, most notably the Small Indian Mongoose (*Herpestes auropunctatus*) (Morley 2004, Kerr 2018), the population of which is estimated to number between 175,000 and 400,000 individuals on Natewea (Kerr 2018). The threat this species poses to ground-nesting birds, endemic herpetofauna species, and other native wildlife means it, in likelihood, represents the largest single threat to the long-term biological security of the Peninsula. Deforestation is also

a very clear and present threat to the biodiversity of the peninsula; an issue that has been ongoing since at least the late 1960s (Powling 2018). At present, approximately 3500 people live in the study area (97.8% of which are indigenous Fijians), with this population being mostly concentrated in 16 rural settlements (Kerr 2018). The average income for people living in these communities is far below the Fijian average, with 62% of the population subsisting below the poverty line (Kerr 2018). Given the limitation of employment opportunities here, most people rely on either heavy extraction of forest resources, or clearing forest for agricultural land, to support themselves and their families. This, coupled with rising populations, has led to increasing deforestation activities in the study area.

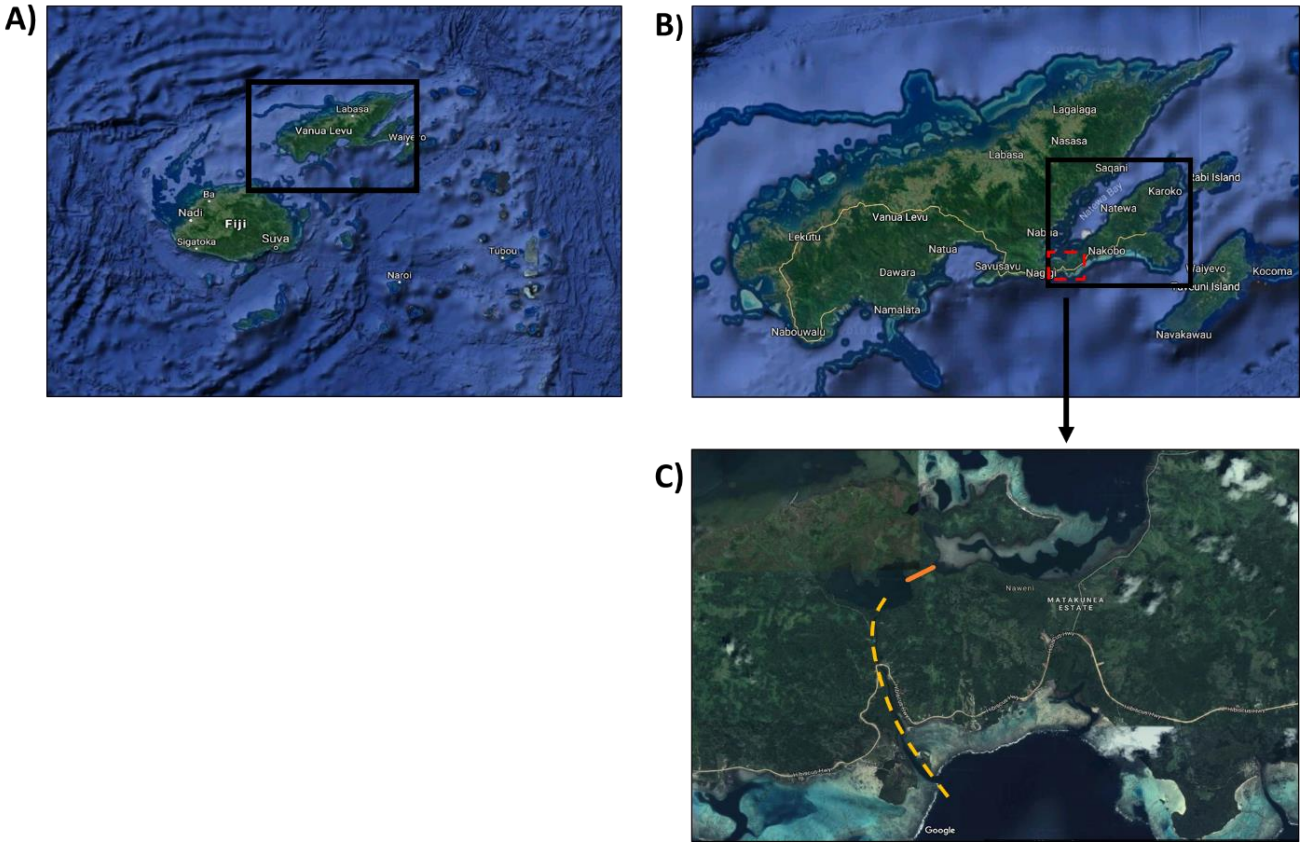


*Figure 1 – Location of **A)** Vanua Levu Island within the Fijian archipelago, **B)** the location of the Natewa Peninsula within Vanua Levu (perforated red line indicates border area of the study area at the base of the peninsula), and **C)** the border zone of the study area. The perforated yellow line indicates the natural boundary formed by Salt creek and its lagoon. The solid orange line indicates the terrestrial border marked by the line of a proposed anti-mongoose fence.*

The purpose of this report is to provide the first detailed summary of the biodiversity of the Natewa Peninsula, based on data collected during fieldwork completed by Operation Wallacea (www.opwall.com) over two seven-week expeditions running between June and August in 2017 and 2018 respectively. For an overview of the structure of these expeditions, and the methodologies used to collect the data underpinning the results in this report, please see Speight *et al*. (2018). This report aims to provide empirical evidence for the outstanding ecological value of this site, which in turn will support future attempts to secure protected area status for the Natewa Peninsula, or funding applications for specific projects here, such as initatives to control invasive species. All data reported is sourced from within our well-definied 'Natewa Peninsula study area', which has a well-defined border at the base of the Peninsula. Figure 2c above shows the delimitations of this study area. Specifically, the entire area of the Peninsula east of 'salt creek' and its lagoon, which occurs at the narrowest point of the Peninsula's base, and the line of a proposed 400m-long mongoose exclusion fence which runs from the salt lagoon to Natewa bay.

The taxa-specific sections and the appendices of this report provide fine details of the biological value of the study area. Table 1 below also succinctly summarizes these data to provide an overall visualization of the biological importance of the Natewa Peninsula.

*Table 1 – Diversity and endemism in key taxonomic groups in the Natewa Peninsula, Vanua Levu, Fiji.*

**A)**

| Group | Number of species | Number of Fijian endemics | % endemism |
|---|---|---|---|
| Mammals | 7 | 0 | 0% |
| Terrestrial Birds | 48 | 15 | 33.1% |
| Herpetofauna | 10 | 3 | 33.3% |
| Butterflies | 13 | 4 | 30.7% |
| Gastropods | 61 | 22 | 36.1% |
| Trees | 84 | 26 | 31% |

## Mammals

As with most Pacific Island ecosystems (Flannery 1995), the mammalian diversity of the Natewa Peninsula is low. The only native mammals occurring in Fiji are bats (six species occurring in total), and two of these have been detected by survey work on the Natewa Peninsula to date; the Near-threatened Samoan Flying Fox (*Pteropus samoensis*) and the Endangered Fijian Free-tailed Bat (*Chaerephon bregullae*) (Plate 1) (Appendix 3). Neither of these species are endemic to Fiji, although both are at risk throughout their range due to hunting and habitat loss. The forests of Natewa therefore represent an important refugia for these declining species. It is possible that other bat species may occur in the study area that have not been detected to date. These include the Fijian Monkey-faced Bat (*Mirimiri acrodonta*), a Critically Endangered Fijian endemic. An individual of this species may have been observed in July 2017, although it was not possible to confirm the species identity from this record and further observations are required to verify its presence. Proving the occurrence of *M. acrodonta* would enhance the biological value of the Natewa peninsula considerably, and targeted surveys for this species remain an important priority for future surveys here.

As well as the two native bat species, four introduced non-volant mammals also occur in the study area. Three of these are rodents; the Pacific Rat (*Rattus exulans*), the Brown Rat (*Rattus norvegicus*) and the House Mouse (*Mus musculus*). These three species are likely to have severe detrimental effects on the Natewa Peninsula's native wildlife – particularly its ground-nesting birds and herpetofauna – given precedent of the impacts of these species on other oceanic tropical islands (Harris 2009). Worst still, however, is the impact the introduced Small Indian Mongoose (*Herpestes auropunctatus*) is predicted to have had on the biodiversity of the study area. Mongooses were first introduced to Fiji intentionally in 1883, as a hypothesised means of controlling rat populations (which represent an agricultural pest, particularly on sugar cane plantations) (Kerr 2018). These Mongooses have subsequently spread throughout most of the Fijian archipelago, and their omnivorous diet, coupled with the fact their numbers are unchecked due to having no natural predators here, has led to them representing an extreme threat to Fijian biodiversity generally, and the biodiversity of the Natewa Peninsula in particular. Indeed, the impact of *H. auropunctatus* on Fiji, and on other islands where it has been introduced, has led to it being listed as one of the top 100 worst invasive species globally (Lowe *et al*. 2000). Estimates of the Mongoose populations in the

study area lie between 175,000 and 400,000 individuals (Kerr 2018), and this population representing a severe risk to Natewa's native birds, herpetofauna, and in likelihood other taxa. Controlling this mongoose population thus, in likelihood, represents the single most pressing conservation priority for the Natewa peninsula. A detailed study plan has been submitted which aims to achieve this objective, using a combination of intensive trapping for extant Mongooses in Natewa, and the construction of a 400m fence across the base of the Peninsula to prevent further colonization by this highly invasive species (Kerr 2018) (Figure 1c).

Plate 1 - *Fijian Free-tailed Bat (Chaerephon bregullae), photographed on forest edge in the Natewa peninsula in July 2017.*

## Birds

As with most small island ecosystems, birds represent by far the most diverse vertebrate group occurring in the Natewa Peninsula, with 48 species having been recorded to date (Appendix 4). Fifteen (33.1%) of these are endemic to the Fiji, with three of these (Maroon Shining-parrot *Prosopeia tabuensis*; Fiji Wattled Honeyeater *Foulehaio taviunensis* and Natewa Silktail *Lamprolia klinesmithi*) being locally endemic to Vanua Levu and its offshore islands. The most significant of these local endemics is *L. klinesmithi* (Plate 2) which is entirely restricted to the Natewa Peninsula. The global population of this bird is estimated at just 6000–12,000 individuals, all confined to an area of <260 km² (del Hoyo *et al*. 2018). Given this is, along with the Natewa Swallowtail *P. natewa* (see below), the most range-restricted species occurring in our study area, and it very much serves as a 'flagship' species for the Natewa Peninsula as a whole, *L. klinesmithi* perhaps represents, the single greatest conservation priority for all species occurring in the study area. Data from point count surveys are being used to try and estimate population densities of this species, and targeted behavioural work has also been completed which documents the first nesting behaviour in the Natewa Silktail (England, *in prep*).

The long-term monitoring data from point count surveys in Natewa will also be used to census trends in local bird communities over extensive longitudinal gradients generally, and also be analysed to determine relationships between avifauna community composition and habitat disturbance in the study area. This will allow for the first emperical appreciation of how forest clearance and degradation impacts upon Fijian bird communities; a key outcome in understanding the consequences of continued habitat destruction in the archipelago.

Plate 2 - *Natewa Silktail (Lamprolia klinesmithi) in the forests of the Natewa Peninsula – the only locality where it occurs. Photograph by Greg Kerr.*

## Herpetofauna

The herpetofauna of the Natewa Peninsula is relatively rich for a Pacific island ecosystem, with 10 reptile and amphibian species having been detected to date (Appendix 5). This includes the Endangered Fijian Ground Frog (*Cornufer vitianus*), one of just two amphibian species native to Fiji, as well as three gecko species and five skink species. Two of these skinks, the Viti Levu Mountain Tree skink (*Emoia campbelli*) and the Viti Copper-headed Skink (*Emoia parkeri*) are highly notable records, as both are previously known to occur only on Viti Levu. Both records therefore represent major extensions to the known ranges of these threatened Fijian endemics. Given the biogeographical separation between Vitu Levu and the Natewa Peninsula, it could also be possible that either or both of these species may represent currently undescribed taxa. This remains entirely speculation at this stage, although represents an important avenue for future research.

The final herpetofauna species detected in the Natewa peninsula is the introduced Cane Toad (*Rhinella marina*), which was brought to Fiji in an attempt to control Cane Beetle pests in sugar plantations. The introduction of Cane Toads has caused widespread ecological damage across the Australo-Pacific Region (Shine 2010) and has been shown to have an

adverse effect on native Fijian herpetofauna specifically (Narayan *et al*. 2015). It is therefore likely that Cane Toads represent a threat to the biodiversity of the Natewa Peninsula, although their population size, and the extent to which they predate or otherwise outcompete native species has yet to be quantified; this represents another important avenue of research for the near future.

A final observation of note regarding the herpetofauna of the Natewa Peninsula relates to the absence, rather than presence of a species; the endangered Fiji Banded Iguana (*Brachylophus fasciatus*). This iconic Fijian species does occur in parts of Vanua Levu, but does not appear to occur in the study area, despite the presence of large tracts of suitable forest habitat. It may be that the species has never colonized the peninsula due to its biogeographical isolation, but it may also be the case that it has been extirpated due to pressure from invasive species, such as the Small Indian Mongoose.

Plate 3 – *Cane Toad (Rhinella marina) on the Natewa Peninsula.*

# Invertebrates

Invertebrate surveys in the Natewa Peninsula have, to date, largely focussed on two key groups; Butterflies (Lepidoptera) and Gastropods (Gastropoda). This is due to the relative simplicity of surveying the former, and the availability of specialist taxonomic expertise for surveying the latter. To date, a total of 13 butterfly species have been detected in the study area (Appendix 6) along with 61 gastropod species (Appendix 7).

Approximately one third of the butterfly species detected in the study area are Fijian endemics. The most notable of these is the Natewa Swallowtail (*Papilo natewa*) (Plate 4) which is a newly-described species that is, as far as current knowledge suggests, entirely restricted to the Natewa Peninsula (Tennent *et al*. 2018). Unless it is subsequently found to inhabit other parts of Vanua Levu, this species may be one of the most range-restricted Papilonidae species found anywhere in the World (Tennent *et al*. 2018), and its occurrence here is a major contribution to the biological value of the Natewa Peninsula.

The Gastropod community of the Natewa Peninsula also appears to possess high conservation value, with 22 (36.1%) of the species present being Fijian endemics, ten of which are also considered threatened or near-threatened by the IUCN (2018). Some of the records from the study area appear to represent major species range extensions (with some species not being currently mapped as occurring further north than Viti Levu), and one species (*Diastole* n.sp. 'Viti') in likelihood representing an entirely new species to science, which is likely to prove to be another Natewa Peninsula endemic.

The butterfly and gastropod surveys completed in the study area to date give a good approximate indicator of the invertebrate diversity of the Natewa peninsula. However, many invertebrate taxa remain, at present, entirely unassessed, and some of these taxa may represent important targets for future survey work in the area to focus on (subject to availability of relevant taxonomic expertise). Groups of potential future interest include macro-moths, dragonflies, and arachnids.

Plate 4 – *Natewa Swallowtail (Papillo natewa) on the Natewa Peninsula.*

## Botany and habitat structure

Botany surveys in the Natewa Peninsula have detected, to date, a total of 84 tree species (Appendix 8) along with numerous non-tree plant species (Powling 2018). Results of the botanical surveys completed to date indicate that the tree community of the Natewa Peninsula is speciose for an oceanic island. The Peninsula also supports numerous very local endemics (three palm species occurring here are only known to occur on Vanua Levu and its offshore islands) as well as globally threatened species (five species present are considered the be threatened or near-threatened by the IUCN). Beyond the fairly robust tree species inventory completed to date, some additional survey work has also examined other botanical groups, notably Orchids. At present results from these additional surveys are not sufficient to generate a systematic inventory for these other plant groups, although further work on these groups in future fieldwork seasons may allow such inventories to be compiled.

As well as the botanical surveys, habitat survey teams have also collated extensive forest structure datasets from plots completed within the Natewa Peninsula, with an objective of calculating carbon stocks sequestered within the forested sections of the study area. A

detailed appreciation of these carbon stocks is of fundamental importance if carbon offset-based funding, such as that provided by REDD+, is to be applied for in the future (United Nations REDD Programme 2018). Using the methods described in Speight *et al*. (2018), a total of 29 20m x 20m plots have been surveyed to date, with circumference-at-breast-height (CBH) measurements being obtained from all trees within these plots. Survey effort was divided between two broad forest types; undisturbed forest and disturbed forest. By taking average carbon stock values from the plots completed in both of these habitat stratifications, and extrapolating these values over the estimated hectarage of both forest types on the Peninsula (24,000 ha for undisturbed forest and 18,000 ha for disturbed forest), overall carbon stocks for the study area were estimated at **20,732,148 metric tons**.

These figures suffice for an early-stage assessment of carbon stocks in the study area, and give a preliminary appreciation of the approximate scale of these stocks. However, more robust estimates are required if applying for large-scale carbon-based funding (such as that provided by REDD+) is an aspiration for the future. Two elements are necessary to develop more detailed carbon stock assessments. Firstly, more data is needed from more plots, and more longitudinal data is required from plots which have already been surveyed. These data will be sourced by further opwall field seasons in the Natewa Peninsula. Secondly, a more detailed appreciation of habitat stratification for the study area is needed to ensure carbon stocks can be more accurately calculated. This is more difficult in the Natewa Peninsula than in some other tropical forest sites, as sections of disturbed and undisturbed forest are often quite intermixed, and are not easy to determine using remote sensing analysis. The most practical solution to this is to incorporate a forest classification survey team in future field seasons. The job of this team will be to explore the entirety of Peninsula (divided for the purpose of this study into 1km x 1km survey squares. The team will complete rapid habitat survey assessments in each of these squares, and assign to each one of four broad habitat stratification categories – “undisturbed forest/regenerated secondary forest/disturbed secondary forest/non-forest”. The ultimate goal will be to produce a habitat classification map of the whole study area. The combination of larger datasets and more detailed and delimitated habitat stratification categories will allow future carbon assessments to be accurate enough to support funding applications for large-scale funding, such as REDD+

Plate 5 – *The forests of the Natewa Peninsula; a major source of carbon stocks.*

## Conclusions

The results of this report provide extensive evidence that the biodiversity of the Natewa Peninsula is of national significance. The study area, which encompasses just 3.1% of the total land area of the country, supports a disproportionately large proportion of Fijian diversity, with 60% of all terrestrial bird species, and a third of all native terrestrial mammalian and herpetofaunal species being found here. This includes many globally threatened and/or endemic species, the most notable of which are the Natewa Silktail (*Lamprolia klinesmithi*) and the Natewa Swallowtail (*Papilio natewa*), the known range for both of which is restricted entirely to the Natewa Peninsula. Preliminary habitat survey data also indicates that the forests of the study area stores vast carbon stocks, with current estimates predicting more than 20 million metric tonnes to be sequestered here.

The case for protecting the Natewa Peninsula to ensure the long-term integrity of its biodiversity and ecosystem services is therefore very clear. However, given that severe ecological pressures occur in the study area – most notably from invasive species and deforestation – it is important that any conservation actions here be implemented swiftly, to prevent further deterioration of its unique biodiversity. Proposed conservation initiatives range from legislative action (i.e. gazetting the area as Fiji's first major terrestrial national park) to applied invasive species control projects (Kerr 2018). The data presented in this report demonstrates that such actions represent a strong investment of conservation resources.

While surveys to date have provided a strong overview of the biodiversity of the Natewa Peninsula, there are multiple opportunities for future fieldwork to expand our knowledge of the study area further. Certain invertebrate and botanical taxa remain unsurveyed or partially surveyed to date. Developing systematic inventories for these groups, which include macro-moths, dragonflies, arachnids, and orchids, would allow for a more detailed assessment of the biodiversity of the study area, and might possibly uncover more species endemic to the Peninsula. Opportunities also exist to conduct further work in the focal taxonomic groups presented in this report. For example, confirming the presence of the Critically Endangered Fijian Monkey-faced Bat (*Mirimiri acrodonta*) would considerably boost the conservation value of the Natewa Peninsula, as would the discovery of any cryptic diversity within the skink species present; further analysis of these may yield further peninsula-specific endemics. An expansion of habitat structure surveys in the study area, including the development of a land classification map for the Peninsula, is also necessary to develop more robust

assessments of carbon stocks than has been possible to date. However, while further work remains to be completed to refine our knowledge of the study area, the data presented in this report clearly shows the Natewa Peninsula possesses extremely high conservation value, and represents a high priority area for conservation projects aiming to protect the biodiversity of this Pacific island nation.

*Plate 6 – The Natewa Peninsula*

## Bibliography


Barker, G.M. & Narosamalua, J. (2017) *Netewa Peninsula Land snails*. Operation Wallacea report.

BirdLife International (2018) *Important Bird Areas factsheet: Natewa/Tunuloa Peninsula*. Downloaded from http://www.birdlife.org on 05/12/2018**.**

del Hoyo, J., Collar, N. & Christie, D.A. (2018). Natewa Silktail (*Lamprolia klinesmithi*). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. & de Juana, E. (eds.). *Handbook of the Birds of the World Alive*. Lynx Edicions, Barcelona.

England, J. Nesting behaviour of the Natewa Silktail (*Lamprolia klinesmithi*). In prep. for submission to *Pacific Conservation Science*.

Flannery T (1995) Mammals of the South-western Pacific and Moluccan Islands. Cornell University Press, Ithaca, New York**.**

Frost, D.R. (2014) *Amphibian Species of the World: An Online Reference*. Accessed at http://research.amnh.org/herpetology/amphibia/index.html on 07/12/2018

Geological Survey of Fiji (1965) *Geological Map of Fiji*. Suva, Fiji.

Häuser C., Holstein J., Kroupa A.S., Steiner A. & Turiault M. *GloBIS (GART): Global Butterfly Information System*. Accessed from http://www.catalogueoflife.org/col/details/database/id/46 on 07/12/2018.

Harris, D.B. (2009) Review of negative effects of introduced rodents on small mammals on islands. *Biological Invasions* **11**: 1611–1630.

HBW & BirdLife International (2017) *Handbook of the Birds of the World and BirdLife International digital checklist of the birds of the world. Version 2*. Accessed on 07/12/2018.

IUCN (2018) *The IUCN Red List of threatened species. Version 2018.1.* Accessed at https://www.iucnredlist.org on 07/12/2018.

Kerr, G. (2018) *Towards mongoose-free Natewa Peninsula – underpinning Fiji's first National Park*. Darwin Initiative application DIR25S1\100222.

Lowe S., Browne, M., Boudjelas S. & De Poorter, M. (2000) *100 of the World's Worst Invasive Alien Species A selection from the Global Invasive Species Database*. The Invasive Species Specialist Group (ISSG), Gland, Switzerland.

Morely, C.G. (2004) Has the invasive mongoose *Herpestes javanicus* yet reached the island of Taveuni, Fiji? *Oryx* **38**: 457–460.

Narayan, E.J., Jessop, T.S. & Hero, J. (2015) Invasive cane toad triggers chronic physiological stress and decreased reproductive success in an island endemic. *Functional Ecology* **29**: 1435–1444.

Neall, V.E. & Trewick, S.A. (2008) The age and origin of the Pacific islands: a geological overview. *Philosophical Transactions of the Royal Society B* **363**: 3293–3308.

Olson, D., Farley, L., Patrick, A., Watling, D., Tuiwawa, M., Masibalavu, V., Lenoa, L., Bogiva, A., Qauqau, I., Atherton, A., Caginitoba, A., Tokota'a, M., Prasad, S., Naisilisili, W., Raikabula, A., Mailautoka, K., Morley, C. & Allnutt, T. (2009) Priority Forests for Conservation in Fiji: landscapes, hotspots and ecological processes. *Oryx* **44**: 57–70.

Powling, A. (2018) An assessment of present plant diversity on the Natewa Peninsula, Vanua Levu, Fiji. *Reinwardtia*. In press.

Shine, R. (2010) The Ecological Impact of Invasive Cane Toads (Bufo Marinus) in Australia. *The Quarterly Review of Biology* **85**: 253–291.

Speight, M., Byng, D. & Coles, T. (2018) *Biodiversity and Conservation on the Natewa Peninsula, Vanua Levu, Fiji. Summary report of activities and findings from 2017 and 2018 seasons*. Operation Wallacea: Old Bolingbroke, UK.

Tennent, W.J., Chandra, V. & Müller, C.J. (2018) A remarkable new swallowtail butterfly from Fiji (Lepidoptera, Papilionidae). *Nachrichten des Entomologischen Vereins Apollo* **39:** 53–61.

Uetz, P., Freed, P. & Hošek, J. (eds) (2018). *The Reptile Database*. Accessed from http://www.reptile-database.org on 07/12/2018.

United Nations REDD Programme (2018) *UN-REDD Programme*. Accessed from http://www.un-redd.org/ on 11/12/2018

Wilson, D.E & Reeder, D.M. (eds). (2018). *Mammal Species of the World. A Taxonomic and Geographic Reference*. Accessed from https://www.departments.bucknell.edu/biology/resources/msw3/ on 07/12/2018.

## Appendix 1 – Species of conservation concern occurring on the Natewa Peninsula

Table summarising threatened and near-threatened species detected on Buton. Taxonomy and nomenclature for each group follow those described in Appendices 3-8. Species indicated * are also endemic to Fiji. Threat status and population trends follow IUCN (2018).

| Class | Common name | Latin name | IUCN Category | Population |
|---|---|---|---|---|
| **Mammals** | Samoan Flying Fox | *Pteropus samoensis* | NT | Decreasing |
| | Fijian Free-tailed Bat | *Chaerephon bregullae* | E | Decreasing |
| | | | | |
| **Birds** | Barking Imperial-pigeon | *Alopecoenas stairi* | Vu | Decreasing |
| | Tahiti Petrel | *Pseudobulweria rostrata* | NT | Decreasing |
| | *Natewa Silktail | *Lamprolia klinesmithi* | Vu | Decreasing |
| | | | | |
| **Herpetofauna** | * Fiji Ground Frog | *Cornufer vitianus* | E | Decreasing |
| | * Viti Levu Mountain Tree skink | *Emoia campbelli* | E | Decreasing |
| | * Viti Copper-headed Skink | *Emoia parkeri* | Vu | Decreasing |
| | | | | |
| **Gastropods** | *Snail sp. | *Diancta macrostoma* | Vu | Unknown |
| | *Snail sp. | *Palaina godeffroyana* | Vu | Unknown |
| | *Snail sp. | *Omphalotropis circumlineata* | NT | Unknown |
| | *Snail sp. | *Sinployea adposita* | Vu | Unknown |
| | *Snail sp. | *Sinployea monstrosa* | Vu | Unknown |
| | *Snail sp. | *Trochomorpha abrochroa* | Vu | Unknown |
| | *Snail sp. | *Trochomorpha accurata* | Vu | Unknown |
| | *Snail sp. | *Trochomorpha lüdersi* | NT | Unknown |
| | | | | |
| **Trees** | Dakua makadre | *Agathis macrophylla* | E | Decreasing |
| | *Kauvula | *Endospermum robbieanum* | Vu | Stable |
| | *Buabua ('Mbumbua') | *Fagraea gracilipes* | NT | Unknown |
| | Vesi | *Intsia bijuga* | Vu | Unknown |
| | *Palm sp. | *Balaka macrocarpa* | E | Unknown |
| | | | | |
| **Total –** | **21 species** | | | |
| | | | | |

**Appendix 2 – Fijian endemic species and sub-species occurring on the Natewa Peninsula**

Tables summarising **A)** species endemic to Vanua Levu, and **B)** sub-species endemic to Vanua Levu and its offshore islands, which have been detected on the Natewa Peninsula. Taxonomy and nomenclature for each group follow those described in Appendices 3-8. The endemism extent column indicates if a species or sub-species is endemic to the Vanua Levu region (including its offshore islands), or the Natewa Peninsula specifically.

## A)

| Class | Common name | Latin name | Endemism extent |
|---|---|---|---|
| | | | |
| **Birds** | Orange Dove | *Chrysoena victor* | Vanua Levu and offshore islands |
| | Maroon Shining-parrot | *Prosopeia tabuensis* | Vanua Levu and offshore islands |
| | Fiji Wattled Honeyeater | *Foulehaio taviunensis* | Vanua Levu and offshore islands |
| | Natewa Silktail | *Lamprolia klinesmithi* | Natewa peninsula |
| | | | |
| **Butterflies** | Fijian Swallowtail | *Papilio natewa* | Natewa peninsula |
| | | | |
| **Trees** | Palm sp. | *Balaka seemannii* | Vanua Levu and offshore islands |
| | Palm sp. | *Balaka macrocarpa* | Vanua Levu and offshore islands |
| | Palm sp. | *Veitchia filifera* | Vanua Levu and offshore islands |
| | | | |
| **Total -** | **8 species** | | |
| | | | |

## B)

| Class | Common name | Latin name | Endemism extent |
|---|---|---|---|
| | | | |
| **Birds** | Fiji Whistler | *Pachycephala vitiensis optatata* | Vanua Levu and offshore islands |
| | Polynesian Triller | *Lalage maculosa woodi* | Vanua Levu and offshore islands |
| | Fiji Streaked Fantail | *Rhipidura layardi erythronota* | Vanua Levu and offshore islands |
| | Fiji Shrikebill | *Clytorhynchus vitiensis buensis* | Vanua Levu and offshore islands |
| | Fiji Bush-warbler | *Horornis ruficapilla castaneopterus* | Vanua Levu and offshore islands |
| | Island Thrush | *Turdus poliocephalus vitiensis* | Vanua Levu and offshore islands |
| | | | |
| **Total -** | **5 species** | | |
| | | | |

## Appendix 3 – Mammal diversity in the Natewa Peninsula

Table showing mammal species detected on the Natewa Peninsula. Taxonomy and nomenclature follows Wilson & Reeder (2018). Species marked * are regionally endemic to Fiji. Species indicated † are assessed as threatened or near-threatened by the IUCN (2018) and are further summarized in Appendix 1. Species indicated X in the 'Reserve' column have been detected within the boundaries of the Natewa forests study area. Species unmarked in this column have only been detected in habitats adjacent to the forested study area.

| **Order/Super-Order** | **Family** | **Common name** | **Scientific name** | **Population** | **Reserve** |
|---|---|---|---|---|---|
| Carnivora | Herpestidae | (I)Small Indian Mongoose | *Herpestes auropunctatus* | Unknown | X |
| | | | | | |
| Rodentia | Muridae | (I)Pacific Rat | *Rattus exulans* | Stable | X |
| | | (I)Brown Rat | *Rattus norvegicus* | Stable | X |
| | | (I)House Mouse | *Mus musculus* | Stable | X |
| | | | | | |
| Chiroptera | Pteropodidae | Pacific Flying Fox | *Pteropus tonganus* | Decreasing | |
| | | †Samoan Flying Fox | *Pteropus samoensis* | Decreasing | |
| | | | | | |
| | Molossidae | †Fijian Free-tailed Bat | *Chaerephon bregullae* | Decreasing | X |
| | | | | | |
| **Total – 3 Orders / Super-orders** | **4 Families** | **7 species** | | | |

**Appendix 4 – Bird diversity in the Natewa Peninsula**

Table showing bird species detected on the Natewa Peninsula. Taxonomy and nomenclature follows HBW & BirdLife International (2017). Species marked * are regionally endemic to Fiji. Species indicated † are assessed as threatened or near-threatened by the IUCN (2018) and are further summarized in Appendix 1. Species indicated <M> are wintering or passage migrants. Species indicated X in the 'Reserve' column have been detected within the boundaries of the Natewa forests study area. Species unmarked in this column have only been detected in habitats adjacent to the forested sections of the study area.

| **Family** | **Common name** | **Scientific name** | **Population** | **Reserve** |
|---|---|---|---|---|
| | | | | |
| Phasianidae | (I)Red Junglefowl | *Gallus gallus* | Decreasing | |
| | | | | |
| Anatidae | Pacific Black Duck | *Anas superciliosa* | Unknown | |
| | | | | |
| Columbidae | *Barking Imperial-pigeon | *Ducula latrans* | Decreasing | X |
| | Metallic Pigeon | *Columba vitiensis* | Stable | X |
| | Many-coloured Fruit-dove | *Ptilinopus perousii* | Decreasing | X |
| | *Orange Dove | *Chrysoena victor* | Stable | X |
| | †Shy Ground-dove | *Alopecoenas stairi* | Decreasing | X |
| | (I)Eastern Spotted Dove | *Spilopelia chinensis* | Increasing | |
| | | | | |
| Apodidae | White-rumped Swiftlet | *Aerodramus spodiopygius* | Stable | X |
| | | | | |
| Cuculidae | Fan-tailed Cuckoo | *Cacomantis flabelliformis* | Stable | X |
| | | | | |
| Procellariidae | †Tahiti Petrel | *Pseudobulweria rostrata* | Decreasing | |
| | | | | |
| Ardeidae | Pacific Reef Egret | *Egretta sacra* | Stable | |
| | Green-backed Heron | *Butorides striata* | Decreasing | |
| | | | | |
| Fregatidae | Lesser Frigatebird | *Fregata ariel* | Decreasing | |
| | | | | |
| Sulidae | Red-footed Booby | *Sula sula* | Decreasing | |
| | Brown Booby | *Sula leucogaster* | Decreasing | |
| | | | | |
| Charadriidae | Pacific Golden Plover | *Pluvialis fulva* | Decreasing | |
| | Wandering Tattler | *Tringa incana* | Stable | |
| | | | | |
| Laridae | Greater Crested Tern | *Thalasseus bergii* | Stable | |
| | Black Noddy | *Anous minutus* | Stable | |
| | | | | |

| | | | | |
|---|---|---|---|---|
| Tytonidae | Common Barn Owl | *Tyto alba* | Stable | X |
| | | | | |
| Accipitridae | *Fiji Goshawk | *Accipiter rufitorques* | Stable | |
| | Swamp Harrier | *Circus approximans* | Stable | |
| | | | | |
| Halcyonidae | Collared Kingfisher | *Todiramphus chloris* | Decreasing | |
| | | | | |
| Falconidae | Peregrine Falcon | *Falco peregrinus* | Stable | |
| | | | | |
| Psittacidae | *Collared Lory | *Phigys solitarius* | Stable | X |
| | *Maroon Shining-parrot | *Prosopeia tabuensis* | Decreasing | X |
| | | | | |
| Meliphagidae | *Fiji Wattled Honeyeater | *Foulehaio taviunensis* | Unknown | X |
| | *Orange-breasted Myzomela | *Myzomela jugularis* | Stable | X |
| | | | | |
| Pachycephalidae | *Fiji Whistler | *Pachycephala vitiensis* | Stable | X |
| | | | | |
| Campephagidae | Polynesian Triller | *Lalage maculosa* | Stable | X |
| | | | | |
| Artamidae | *Fiji Woodswallow | *Artamus mentalis* | Decreasing | X |
| | | | | |
| Rhipiduridae | †*Natewa Silktail | *Lamprolia klinesmithi* | Decreasing | X |
| | *Fiji Streaked Fantail | *Rhipidura layardi* | Stable | X |
| | | | | |
| Monarchidae | Fiji Shrikebill | *Clytorhynchus vitiensis* | Decreasing | X |
| | *Slaty Monarch | *Mayrornis lessoni* | Decreasing | X |
| | Vanikoro Flycatcher | *Myiagra vanikorensis* | Stable | X |
| | | | | |
| Petroicidae | Pacific Robin | *Petroica pusilla* | Decreasing | X |
| | | | | |
| Hirundinidae | House Swallow | *Hirundo javanica* | Increasing | |
| | | | | |
| Pycnonotidae | (I)Red-vented Bulbul | *Pycnonotus cafer* | Increasing | |
| | | | | |
| Scotocercidae | *Fiji Bush-warbler | *Horornis ruficapilla* | Decreasing | X |
| | | | | |
| Zosteropidae | *Fiji White-eye | *Zosterops explorator* | Unknown | X |
| | Silvereye | *Zosterops lateralis* | Stable | X |
| | | | | |
| Sturnidae | Polynesian Starling | *Aplonis tabuensis* | Unknown | X |
| | (I)Common Myna | *Acridotheres tristis* | Increasing | |
| | | | | |
| Turdidae | Island Thrush | *Turdus poliocephalus* | Decreasing | X |
| | | | | |
| Estrildinidae | (I)Red Avadavat | *Amandava amandava* | Stable | |
| | *Fiji Parrotfinch | *Erythrura pealii* | Stable | X |
| | | | | |
| **Total – 30 Families** | **48 species** | | | |
| | | | | |

**Appendix 5 – Herpetofauna diversity in the Natewa Peninsula**

Tables showing **A)** Amphibian and **B)** Reptile species detected on the Natewa Peninsula. Taxonomy and nomenclature follow Frost (2018) for Amphibians and Uetz *et al*. (2018) for Reptiles. Species marked * are regionally endemic to Fiji. Species indicated † are assessed as threatened or near-threatened by the IUCN (2018) and are further summarized in Appendix 1. Species indicated X in the 'Reserve' column have been detected within the boundaries of the Natewa forests study area. Species unmarked in this column have only been detected in habitats adjacent to the forested sections of the study area.

## A)

| Family | Common name | Scientific name | Population | Reserve |
|---|---|---|---|---|
| | | | | |
| **Bufonidae** | (I)Cane Toad | *Rhinella marina* | Increasing | X |
| | | | | |
| **Ceratobatrachidae** | *†Fiji Ground Frog | *Cornufer vitianus* | Decreasing | X |
| | | | | |
| **Total – 2 Families** | **2 Species** | | | |
| | | | | |

## B)

| Family | Common name | Latin name | Population | Reserve? |
|---|---|---|---|---|
| | | | | |
| **Gekkonidae** | Pacific Slender-toed Gecko | *Nactus pelagicus* | Stable | X |
| | Mourning Gecko | *Lepidodactylus lugubris* | Unknown | X |
| | Oceania Gecko | *Gehyra oceanica* | Stable | X |
| | | | | |
| **Scincidae** | Pacific Bluetail Skink | *Emoia caeruleocauda* | Stable | X |
| | *†Viti Levu Mountain Tree skink | *Emoia campbelli* | Decreasing | X |
| | Copper-tailed Skink | *Emoia cyanura* | Unknown | X |
| | Dark-bellied Copper-striped Skink | *Emoia impar* | Stable | X |
| | *†Viti Copper-headed Skink | *Emoia parkeri* | Decreasing | X |
| | | | | |
| **Total – 2 Families** | **8 species** | | | |
| | | | | |

## Appendix 6 – Butterfly diversity in the Natewa Peninsula

Table showing butterfly species detected on the Natewa Peninsula. Taxonomy and nomenclature follows Häuser et al. (2018). Species marked * are regionally endemic to Fiji. Species indicated † are assessed as threatened or near-threatened by the IUCN (2018) and are further summarized in Appendix 1. Species indicated <M> are wintering or passage migrants. Species indicated X in the 'Reserve' column have been detected within the boundaries of the Natewa forests study area. Species unmarked in this column have only been detected in habitats adjacent to the forested sections of the study area.

| Family | Common name | Scientific name | Population | Reserve |
|---|---|---|---|---|
| | | | | |
| **Hesperiidae** | Fiji Grass Dart | *Oriens augustula* | Unknown | X |
| | | | | |
| **Papilionidae** | *Fijian Swallowtail | *Papilio schmeltzi* | Unknown | X |
| | *Natewa Swallowtail | *Papilio natewa* | Unknown | X |
| | | | | |
| **Pieridae** | Common Grass Yellow | *Eurema hecabe* | Unknown | X |
| | | | | |
| **Lycaenidae** | *Fijian Blue | *Jamides candrena* | Unknown | X |
| | | | | |
| **Nymphalidae** | Monarch | *Danaus plexippus* | Unknown | X |
| | Common Crow | *Euploea lewinii* | Unknown | X |
| | Dwarf crow | *Euploea tulliolus* | Unknown | X |
| | Dark Blue Tiger | *Tirumala hamata* | Unknown | X |
| | Great Egg Fly | *Hypolimnas bolina* | Unknown | X |
| | Meadow Argus | *Junonia villida* | Unknown | X |
| | Common Evening Brown | *Melanitis ieda* | Unknown | X |
| | *Common Fijian Ringlet | *Xois sesara* | Unknown | X |
| | | | | |
| **Total – 5 Families** | **13 Species** | | | |
| | | | | |

## Appendix 7 – Gastropod diversity in the Natewa Peninsula

Table showing Gastropod species detected on the Natewa Peninsula. Taxonomy and nomenclature follows Barker & Narosamalua (2017). Species marked * are regionally endemic to Fiji. Species indicated † are assessed as threatened or near-threatened by the IUCN (2018) and are further summarized in Appendix 1. Species indicated X in the 'Reserve' column have been detected within the boundaries of the Natewa forests study area. Species unmarked in this column have only been detected in habitats adjacent to the forested sections of the study area

| Family | Scientific name | Population | Reserve |
|---|---|---|---|
| | | | |
| **Helicindae** | *Orobophana musiva* | Unknown | X |
| | *Pleuropoma beryllina* | Unknown | X |
| | *Pleuropoma interna* | Unknown | X |
| | *Pleuropoma jetschini* | Unknown | X |
| | | | |
| **Hydrocenidae** | **Georissa brevissima* | Unknown | X |
| | | | |
| **Diplommatinidae** | **Diancta dilatata* | Unknown | X |
| | *†*Diancta macrostoma* | Unknown | X |
| | **Diancta martensi* | Unknown | X |
| | **Diancta quadrata* | Unknown | X |
| | **Palaina ascendens* | Unknown | X |
| | *†*Palaina godeffroyana* | Unknown | X |
| | **Palaina glabella* | Unknown | X |
| | **Palaina tuberosa* | Unknown | X |
| | **Moussonia vitiana* | Unknown | X |
| | | | |
| **Assimineidae** | **†Omphalotropis circumlineata* | Unknown | X |
| | | | |
| **Truncatellidae** | **Taheitia turricula* | Unknown | X |
| | | | |
| **Veronicellidae** | (I)*Sarasinula plebeius* | Unknown | X |
| | (I)*Semperula wallacei* | Unknown | X |
| | (I)*Laevicaulis alte* | Unknown | X |
| | | | |
| **Ellobiidae** | *Pythia scarabaeus* | Unknown | X |
| | | | |
| **Achatinellidae** | *Elasmias apertum* | Stable | X |
| | *Lamellidea oblonga* | Unknown | X |
| | *Lamellidea pusilla* | Stable | X |

| | | | |
|---|---|---|---|
| **Vertiginidae** | (I)*Gastrocopta pediculus* | Unknown | X |
| | (I)*Gastrocopta servilis* | Unknown | X |
| | **Nesopupa vitiana* | Unknown | X |
| | | | |
| **Bothriembryontidae** | **Callistocharis elobatus* | Unknown | X |
| | **Callistocharis fulguratus* | Unknown | X |
| | | | |
| **Charopidae** | *Discocharopa aperta* | Unknown | X |
| | **†Sinployea adposita* | Unknown | X |
| | **†Sinployea monstrosa* | Unknown | X |
| | | | |
| **Euconulidae** | *Coneuplecta calculosa* | Unknown | X |
| | *Coneuplecta microconus* | Unknown | X |
| | *Disconulus* sp. | Unknown | X |
| | | | |
| **Microcystidae** | **Diastole* n.sp. 'Viti' | Unknown | X |
| | *Lamprocystis ensifera* | Unknown | X |
| | *Lamprocystis excrescens* | Unknown | X |
| | *Lamprocystis oneataensis* | Unknown | X |
| | *Liardetia samoensis* | Unknown | X |
| | | | |
| **Helicarionidae** | *Orpiella* (*Halozonites*) *cookensis* | Unknown | X |
| | *Orpiella fragillima* | Unknown | X |
| | *Orpiella* (*Irenella*) *pfeifferi* | Unknown | X |
| | (I)*Wilhelminaia mathildae* | Unknown | X |
| | | | |
| **Ariophantidae** | (I)*Parmarion martensi* | Unknown | X |
| | (I)*Quantula striata* | Unknown | X |
| | | | |
| **Trochomorphidae** | **†Trochomorpha abrochroa* | Unknown | X |
| | **†Trochomorpha accurata* | Unknown | X |
| | **†Trochomorpha lüdersi* | Stable | X |
| | **Trochomorpha merzianoides* | Unknown | X |
| | | | |
| **Subulinidae** | (I)*Allopeas clavulinum* | Unknown | X |
| | (I)*Allopeas gracile* | Unknown | X |
| | (I)*Opeas mauritianus* | Unknown | X |
| | (I)*Paropeas achatinaceum* | Unknown | X |
| | (I)*Subulina octona* | Unknown | X |
| | | | |
| **Streptaxidae** | (I)*Gullella* (*Huttonella*) *bicolor* | Unknown | X |
| | (I)*Streptostele musaecola* | Unknown | X |
| | | | |

| | | | |
|---|---|---|---|
| **Camaenidae** | (I)*Bradybaena similaris* | Unknown | X |
| | | | |
| **Zonitidae** | (I)*Hawaiia minuscula* | Unknown | X |
| | | | |
| **Ferussaciidae** | (I)*Geostilbia aperta* | Unknown | X |
| | | | |
| **Succineidae** | (I)*Quickia concisa* | Unknown | X |
| | | | |
| **Valloniidae** | (I)*Ptychopatula orcula* | Unknown | X |
| | | | |
| **Total – 23 Families** | **61 species** | | |
| | | | |

## Appendix 8 – Tree diversity in the Natewa Peninsula

Table showing Tree species detected on the Natewa Peninsula. Adapted from Powling (2018), including all taxonomy and nomenclature. Species marked * are regionally endemic to Fiji. Species indicated † are assessed as threatened or near-threatened by the IUCN (2018) and are further summarized in Appendix 1. Species indicated X in the 'Reserve' column have been detected within the boundaries of the Natewa forests study area. Species unmarked in this column have only been detected in habitats adjacent to the forested sections of the study area

| Family | Local name | Scientific name | Population | Reserve |
|---|---|---|---|---|
| | | | | |
| **Anacardiaceae** | Manawi | *Rhus simarubifolia* | Unknown | X |
| | Tarawau | *Dracontomelon vitiense* | Unknown | |
| | | (I)*Mangifera indica* | Unknown | |
| | | | | |
| **Annonaceae** | Makosoi | *Cananga odorata* | Unknown | |
| | | | | |
| **Apocynaceae** | Bulei | *Alstonia costata* | Unknown | X |
| | Drega ('Ndrenga') | **Alstonia vitiensis* | Unknown | X |
| | Vavaoia | (I)*Alstonia macrophylla* | Unknown | X |
| | Vasa | *Cerbera manghas* | Unknown | X |
| | | | | |
| **Araucariaceae** | Dakua makadre ('makandre') | *†Agathis macrophylla* | Decreasing | X |
| | | | | |
| **Bignoniaceae** | Pisipisi | (I)*Spathodea campanulata* | Unknown | X |
| | | | | |
| **Boraginaceae** | Nawanawa | *Cordia subcordata* | Unknown | |
| | | | | |
| **Casuarinaceae** | Caukuro ('Thaukuro') | **Gymnostoma vitiense* | Unknown | X |
| | Nokonoko | *Casuarina equisetifolia* | Unknown | |
| | | | | |
| **Chrysobalanaceae** | Makita | *Atuna racemosa* | Unknown | X |
| | Sea ('Seah') | *Parinari insularum* | Unknown | X |
| | | | | |
| **Combretaceae** | Tavola | *Terminalia litoralis* | Unknown | |
| | Tivi | **Terminalia sp.* | Unknown | X |
| | | *Lumnitzera littorea* | Decreasing | |
| | | | | |
| **Cunoniaceae** | Vure ('Vureh') | *Geissios/Geissois ternata* | Unknown | X |
| | | | | |

| | | | | |
|---|---|---|---|---|
| **Cyatheaceae** | | *Cyathea lunulata (or medullaris)* | Unknown | X |
| | | | | |
| **Euphorbiaceae** | Kauvula | *†*Endospermum robbieanum* | Stable | X |
| | Rote ('Roteh') | *Macaranga spp. (inc. harveyana, magna, seemannii)* | Unknown | X |
| | | | | |
| **Gentianaceae** | Buabua ('Mbumbua') | *†*Fagraea gracilipes* | Unknown | X |
| | | | | |
| **Guttiferae** | Damanu | **Calophyllum vitiense* | Unknown | X |
| | Dilo | *Calophyllum inophyllum* | Unknown | |
| | | **Calophyllum cf. cerasiferum* | Unknown | |
| | | | | |
| **Labiatae (Verbenaceae)** | Rosawa | **Gmelina vitiensis* | Unknown | X |
| | | | | |
| **Lauraceae** | Macou ('Mathou') | **Cinnamomum spp.* | Unknown | X |
| | | | | |
| **Lecythidaceae** | Vutu | *Barringtonia asiatica* | Unknown | |
| | Vutu | *Barringtonia edulis* | Unknown | X |
| | | | | |
| **Leguminosae** | Cibicibi ('Thibithibi') | **Maniltoa floribunda* | Unknown | X |
| | Vesi | †*Intsia bijuga* | Unknown | |
| | Vaivai / Vaivai ni viti | **Serianthes melanesica* | Unknown | X |
| | Vaivai ni vavalagi, Mocemoce ('Mothemothe') | (I)*Samanea saman* | Unknown | |
| | Ivi | *Inocarpus fagifer* | Unknown | |
| | Vesivesi | *Millettia pinnata* | Unknown | |
| | | | | |
| **Malvaceae** | Vau | *Hibiscus tiliaceus* | Unknown | |
| | | *Thespesia populnea* | Stable | |
| | | *Kleinhovia hospita* | Unknown | |
| | Siti | *Grewia crenata* | Stable | X |
| | | | | |
| **Meliaceae** | Mahogany (large leaf) | (I)*Swietenia macrophylla* | Unknown | |
| | Mahogany (small leaf) | (I)*Swietenia mahogani* | Unknown | |
| | *Tarawaukeikaka | *Dysoxylum lenticellare* | Unknown | X |
| | | | | |
| **Moraceae** | Uto | (I)*Artocarpus altilis* | Unknown | |
| | (Lolo) | (I)*Ficus benjamina* | Unknown | |
| | (Lolo) | (I)*Ficus elastica* | Unknown | |
| | (Lolo) | **Ficus fulvo-pilosa* | Unknown | X |
| | (Lolo) | **Ficus greenwoodii* | Unknown | X |
| | (Lolo) | **Ficus masonii* | Unknown | X |
| | (Lolo) | *Ficus obliqua* | Stable | X |
| | (Lolo) | *Ficus smithii var. robusta* | Unknown | X |
| | (Lolo) | **Ficus vitiensis* | Unknown | X |
| | | | | |

| | | | | |
|---|---|---|---|---|
| **Myristicaceae** | Male ('Maleh') | **Myristica grandifolia* | Unknown | X |
| | | | | |
| **Myrtaceae** | Guava | (I)*Psidium guajava* | Unknown | |
| | Kavika | (I)*Syzygium malaccense* | Unknown | X |
| | Leba ('Lemba') | *Syzygium neurocalyx* | Unknown | X |
| | Yasiyasi / Yasimoli | **Syzygium wolfii* | Unknown | X |
| | Nuqanuqa ('Nunganunga') | **Decaspermum vitiense* | Unknown | X |
| | Vuga ('Vunga') | *Metrosideros collina var. collina* | Stable | X |
| | | | | |
| **Palmae** | Niu | (I)*Cocos nucifera* | Unknown | |
| | Seiki / Masei | (I)*Pritchardia pacifica* | Unknown | |
| | | *†*Balaka macrocarpa* | Unknown | X |
| | | *Balaka seemannii* | Stable | X |
| | | (I)*Elaeis guineensis* | Unknown | X |
| | | **Veitchia filifera* | Unknown | X |
| | | **Veitchia joannis* | Stable | X |
| | | | | |
| **Pandanaceae** | Vadra ('Vandra') | *Pandanus tectorius s.l.* | Unknown | |
| | | | | |
| **Phyllanthaceae** | Koka | *Bischofia javanica* | Unknown | X |
| | Molau | **Glochidion seemannii* | Unknown | X |
| | Molau tagane | **Glochidion cf. amentuligerum* | Unknown | X |
| | | | | |
| **Pinaceae** | | (I)*Pinus caribaea* | Unknown | |
| | | | | |
| **Piperaceae** | Yaqoyaqona ('Yangoyangona') | (I)*Piper aduncum* | Unknown | X |
| | | | | |
| **Podocarpaceae** | Dakua salusalu | *Retrophyllum vitiense* | Unknown | X |
| | Kuasi | *Podocarpus neriifolius* | Unknown | X |
| | Yaka | *Dacrydium nidulum* | Unknown | X |
| | | | | |
| **Rubiaceae** | Bobo | *Mussaenda raiateensis* | Unknown | X |
| | Kadaba ('Kandamba') | (I)*Neolamarckia cadamba* | Unknown | |
| | Kura | *Morinda citrifolia* | Unknown | |
| | Vacea ('Vathea') | *Neonauclea forsteri* | Unknown | X |
| | | | | |
| **Sapindaceae** | Dawa | *Pometia pinnata* | Unknown | X |
| | | | | |
| **Sapotaceae** | Bauvudi ('Bauvundi') | **Palquium porphryeum* | Unknown | X |
| | Bulu | **Burckiella cf. fijiensis* | Unknown | X |
| | Sacau ('Sathau') | **Palaquium hornei* | Unknown | X |
| | | | | |
| **Urticaceae** | Salato / Silato | (I)*Dendrocnide harveyi* | Unknown | X |
| | | | | |
| **Total – 33 Families** | **84 species** | | | |

| | | | | |
|---|---|---|---|---|