



## Appendix D

### Terrestrial Ecology Characterisation - Markham River to Wagang

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The Permit Application is to be lodged with the Conservation and Environment Protection Authority (“**CEPA**”), Independent State of Papua New Guinea.

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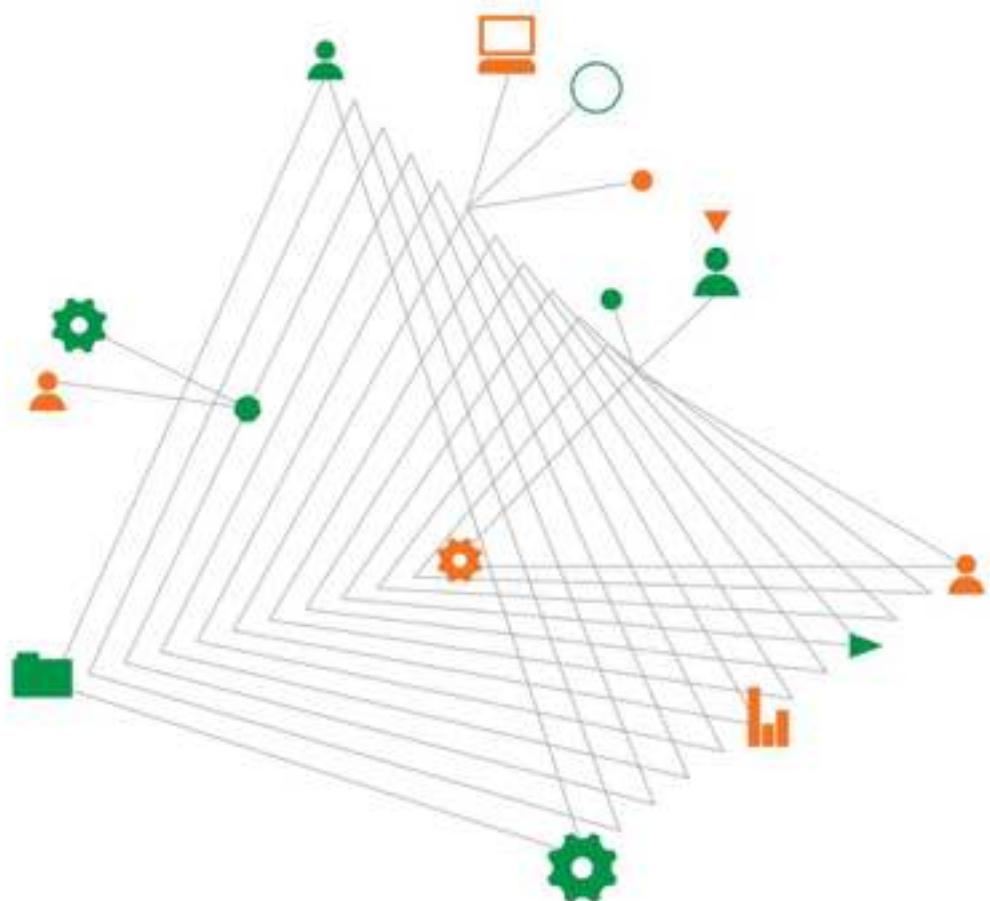
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## **Wafi-Golpu Joint Venture**

### **Wafi-Golpu Project**

Terrestrial ecology characterisation – Markham  
River to Wagang

25 June 2018



Experience  
comes to life  
**when it is**  
powered by  
expertise

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# **Wafi-Golpu Project**

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25 June 2018

## **Document authorisation**

Our ref: ENAUABTF100520\_13\_v4  
Client ref: 532-1208-PF-REP-0013\_D

## **Quality information**

## **Revision history**

Revision	Description	Date	Author	Reviewer	Signatory
Rev A	Draft	26 March 2018	Michael Sale	Daniel Moriarty	Daniel Moriarty
Rev B	Final	25 June 2018	Michael Sale	Daniel Moriarty	Daniel Moriarty

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# **Executive summary**

## **Background**

Wafi Mining Limited and Newcrest PNG 2 Limited (WGJV Participants) are equal participants in the Wafi-Golpu Joint Venture (the WGJV). The WGJV is investigating the feasibility of constructing, operating and (ultimately) closing an underground copper-gold mine and associated ore processing, concentrate transport and handling, power generation, water and tailings management and related support facilities and services (hereafter the “Wafi -Golpu Project” or the “Project”), located beneath Mt Golpu, approximately 300 kilometres (km) north-northwest of Port Moresby and 65 km south-west of Lae in the Morobe Province of the Independent State of Papua New Guinea (PNG). The Project includes ore processing, concentrate transport and handling, power generation, water management, a deep sea tailings placement (DSTP) system for tailings management, access roads to the mine and related support facilities.

The WGJV has commissioned a range of studies to inform the Project’s Feasibility Study Update and to prepare an Environmental Impact Statement (EIS).

Terrestrial biodiversity within the Project Area has been characterised by a range of studies over the last decade. Biodiversity Assessment and Management Pty Ltd (BAAM), reviewed all previous investigations completed for the Project and completed further field surveys focussed on the Mine Area and northern parts of the Infrastructure Corridor. The current study aims to increase the ecological understanding of the eastern section of the Infrastructure Corridor and comprises both desktop review and field surveys.

## **Study area**

The terrestrial ecology study area that is the subject of this report (study area) comprises the eastern section of the proposed Infrastructure Corridor, broadly encompassing the region between Zifasing to the Huon Gulf including:

- A portion of the Atzera Mountain Range.
- The lower Markham River floodplain.
- The city of Lae and its periurban extent.

The study area was selected as the spatial extent required to characterise representative habitats (and the flora and fauna they support) for impact assessment purposes and to inform investigations into alternate pipeline alignment options during the route selection process.

The study provided context as to the ecological values at the regional scale thereby informing the biological impact assessment.

## **Objectives**

The objectives of this terrestrial ecology study were to:

- Characterise and map the type and condition of terrestrial vegetation communities and terrestrial fauna habitats.
- Identify habitats with high biodiversity value.
- Opportunistically record terrestrial flora and vertebrate fauna focussing on species of conservation significance.
- Record the presence of invasive exotic flora and fauna species.

## **Key findings**

### **Vegetation and flora**

Vegetation, or the community of plants considered collectively in a particular area or habitat, varies across the study area. Due to the proximity of Lae and the Highlands Highway, a significant portion of the study area is classified as non-native vegetation and areas dominated by anthropogenic land use including areas cleared for cattle grazing as well as areas of regrowth and secondary forest. The area surrounding Nadzab also hosts large-scale chicken farms and rice projects and is subject to proposals for the further development of oil palm.

Areas of intact and moderately intact Medium to Large Crowned Forest and Mixed Swamp Forest occur on the Atzera Mountain Range and to the east of the Markham River. Disturbance and degradation of these habitats is caused by clearing for subsistence agriculture and forestry. This has resulted in a reduction in the extent of forests surrounding Lae over the last two decades.

Desktop assessment identified more than 2,500 plant species with the potential to occur in the study area, dominated by flowering plants (dicotyledons). This list was developed based primarily on previous botanical collections in the region, including the State of PNG National Herbarium in Lae. Field surveys at selected locations showed typical species compositions and distribution patterns for lowland rainforests of New Guinea albeit at lower diversity. A total of 103 morpho-species from 72 genera and 38 families were recorded with the majority (75 %) being flowering plants.

A total of 15 plant species listed as threatened or near threatened on the International Union for Conservation of Nature (IUCN) Red List were recorded either during field surveys (4) or were assessed to have the potential to occur (11) in the study area based on their ecology (habitat requirements and distribution). The four species recorded during field surveys include were:

- *Intsia bijuga* (Kwila; Vulnerable), which is a lowland rainforest tree that is one of the most valued timbers of South East Asia. Commercial forestry has threatened the size of the remaining population.
- *Pterocarpus indicus* (Rosewood; Vulnerable), which is a widespread tree found in lowland primary and secondary forest in South East Asia. Commercial forestry has threatened the size of the remaining population.
- *Cycas schumanniana* (Cycad; Near Threatened), which is endemic to the foothills of the Bismarck range, predominantly in the valleys of the Markham and Ramu rivers extending south from Lae along the Bulolo River as far as Wau and Madang. Its habitat is subject to clearance for agriculture, including burning which limits seedling regeneration.
- *Myristica globosa* (Near Threatened), which is confined to evergreen rainforest up to 1,200 metres (m) in the Papua New Guinea (PNG) and the Solomon Islands.

Habitat within the proposed Infrastructure Corridor within the study area, was assessed to be sub-optimal for flora species of conservation significance consisting of highly modified previously cleared areas (i.e., non-forest vegetation types), degraded swamp forest and alluvial vegetation.

A number of highly invasive plant species were recorded in the study area. These include spiked pepper (*Piper aduncum*), lantana (*Lantana camara*), African tulip (*Spathodea campanulata*) and siam weed (*Chromolaena odorata*). In aquatic and wetland areas, water hyacinth (*Eichhornia crassipes*), salvinia (*Salvinia molesta*) and water lettuce (*Pistia stratiotes*) were noted.

### **Fauna**

A range of fauna species were observed during field surveys including 140 species of birds, five species of mammals and four species of reptiles. Additional species were noted based on discussion with local residents including two birds, eight reptiles and one mammal. The highest diversity of fauna

was observed in hill and foothill forests characterised by steep hills and river valleys including some flatter and gentle areas located at the foothills of the Atzera Mountain Range. Alluvial floodplain forests, swamp and mangrove forests and grasslands also supported a range of fauna, albeit in lower diversity.

Twenty four species were either recorded during the surveys or assessed to have the potential to occur in the study area that are listed on the *Fauna (Protection and Control) Act 1966* of PNG or the IUCN Red List. Those listed as threatened or near threatened on the IUCN Red List include:

- Pesquet's parrot (*Psittrichas fulgidus*) (Vulnerable). Observed in hill forest near Yalu village and in foothill forest along the banks of Bumbu River. This species is distributed across the island of New Guinea in hill and lower montane forest and is a hunting target for its feathers.
- Victoria-crowned Pigeon (*Goura victoria*) (Vulnerable and Protected). Unlikely to occur, but five individuals were introduced in the forests near Bomsi village two decades ago. Their current presence is unknown, but there have not been any recent sightings. This species is distributed across the island of New Guinea in lowland forest and is a hunting target for its meat.
- Gurney's eagle (*Aquila gurneyi*) (Near Threatened). A single individual was observed near Bomsi village. The species is widespread in a variety of forested habitats in Moluccas, Indonesia and New Guinea.
- Emperor bird-of-paradise (*Paradisaea guilielmi*) (Near Threatened and Protected). Not observed in this study; however, opportunistic interviews with local inhabitants reported that this species was hunted in the past and therefore potential habitat occurs at higher elevations of the study area. The species is endemic to the Huon Peninsula generally at higher elevations where it is widespread.

Habitat within the proposed Infrastructure Corridor within the study area was assessed to be sub-optimal for fauna species of conservation significance, consisting of highly modified previously cleared areas (i.e., non-forest vegetation types), degraded swamp forest and alluvial vegetation. The Infrastructure Corridor within the study area traverses approximately 90% of highly modified, previously cleared areas (i.e., non-forest vegetation types), 8% degraded swamp forest and 2% of degraded alluvial vegetation.

The study area hosts representative flora and fauna communities that are a subset of the expected communities found in tropical lowland forests, swamps and grasslands of PNG. Areas that represent relatively intact areas face a range of existing anthropogenic threats with the potential to further reduce the extent and quality of these habitats.

In terms of overall biological value, areas within the Infrastructure Corridor are considered to be of lower value than other habitats within the study area such as forests in the Atzera Mountain Range and more intact areas of swamp forest adjacent to the Markham River.

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B – Fauna species and habitats recorded within the study area

# Glossary

## Abbreviations

°C	degrees Celsius
%/yr	percent per year
asl	above sea level
B	Littoral (Beach) Communities
BAAM	Biodiversity Assessment and Management Pty Ltd
BA	basal area (BA)
CEPA	Conservation and Environment Protection Authority PNG (previously Department of Environment and Conservation)
CR	Critically Endangered (IUCN)
DD	data deficient (IUCN)
cm	centimetre
DSTP	deep sea tailings placement
DBH	diameter breast height
EIS	Environmental Impact Statement
EL	exploration licence
EN	Endangered (IUCN)
FIM	Forest Inventory Mapping
Fri	Riverine Mixed Successions
Fsw	Mixed Swamp Forest
FswC	Mixed Swamp Forest with Camponosperma
GPS	global positioning system
ha	hectares
HI	Medium Crowned Forest
Hm	Large to Medium Crowned Forest
Hsw	Herbaceous Swamp
IUCN	International Union for the Conservation of Nature
km	kilometres
km <sup>2</sup>	square kilometres
LC	Least concern (IUCN)
LiDAR	Light detection and ranging imagery
M	Mangrove

m	metres
NT	Near threatened (IUCN)
O/Fri/Wri	Other Non-vegetation and Areas Dominated by Land-use
P	Protected ( <i>Fauna (Protection and Control) Act 1966</i> )
PI	Large to Medium Crowned Forest
PNG	Independent State of Papua New Guinea
R	Trade Restricted ( <i>Fauna (Protection and Control) Act 1966</i> )
sp.	species (singular)
spp.	species (plural)
sp(p).	One or more species
VU	Vulnerable (IUCN)
WGJV	Wafi-Golpu Joint Venture
Wsw	Swamp Woodland

## Terms

Coastal Area	The Coastal Area includes the Port Facilities Area and the Outfall Area.
dicotyledon	a member of the group Dicotyledones, one of the two subclasses of angiospermous plants, characterised by producing seeds with two cotyledons or seed leaves, and by an exogenous mode of growth
Infrastructure Corridor	The area encompassing the proposed Project infrastructure linking the Mine Area and the Coastal Area, being corridors for pipelines and roads and associated laydown areas. The proposed concentrate pipeline, terrestrial tailings pipeline and fuel pipeline will connect the Mine Area to the Coastal Area. A proposed Mine Access Road and Northern Access Road will connect the Mine Area to the Highlands Highway. New single-lane bridges are proposed over the Markham, Watut and Bavaga rivers. Laydown areas will be located at key staging areas.
Mine Area	The area encompassing the proposed block cave mine, underground access declines and nearby infrastructure, including a portal terrace and waste rock dump supporting each of the Watut and Nambonga declines, the Watut Process Plant, power generation facilities, laydown areas, water treatment facilities, quarries, wastewater discharge and raw water make-up pipelines, raw water dam, sediment control structures, roads and accommodation facilities for the construction and operations workforces.
monocotyledon	a member of the group Monocotyledonae, one of the two subclasses of angiospermous plants, characterised in the main by the production of seeds with a single cotyledon or seed leaf, and by an endogenous mode of growth
New Guinea	Refers to the island of New Guinea made up of Papua New Guinea and West Papua, a province of Indonesia.
Project Area	The land that is the subject of the proposed Project activities and Project facilities, being; the Mine Area, the Infrastructure Corridor and the Coastal Area.

seral	A seral community (or sere) is an intermediate stage found in ecological succession in an ecosystem advancing towards its climax community.
successions	The evolution of plant communities at a site over time- from pioneer species to climax vegetation.
State of PNG	The abbreviation for the “Independent State of Papua New Guinea”, where referring to the National Parliament and associated National Government.
study area	The area the subject of the ecological investigations described in this document. This area comprises the eastern section of the proposed Infrastructure Corridor, broadly encompassing the region between Zifasing to the Huon Gulf including a portion of the Atzera Mountain Range, the lower Markham River floodplain and the city of Lae and its periurban extent.
vegetation	Community of plants considered collectively in a particular area or habitat.
Wafi-Golpu Project	Also referred to as ‘the Project’. Refers to the proposed construction, operation and (ultimately) closure of an underground copper-gold mine and associated ore processing, concentrate transport and handling, power generation, water and tailings management, and related support facilities and services.
WGJV Participants	The participants in the Wafi-Golpu Joint Venture (the WGJV), being Wafi Mining Limited and Newcrest PNG 2 Limited.

# 1. Introduction

## 1.1. Background

Wafi Mining Limited and Newcrest PNG 2 Limited (WGJV Participants) are equal participants in the Wafi-Golpu Joint Venture (the WGJV). The WGJV is investigating the feasibility of constructing, operating and (ultimately) closing the Wafi-Golpu Project (the Project), a proposed greenfield underground copper-gold mine located beneath Mt Golpu, approximately 300 kilometres (km) north-northwest of Port Moresby and 65km southwest of Lae in the Morobe Province of the Independent State of Papua New Guinea (PNG). The Project includes ore processing, concentrate transport and handling, power generation, water management, a deep sea tailings placement (DSTP) system for tailings management, access roads to the mine and related support facilities.

Geographically, the Project occupies a mine to port footprint that extends from the Mine Area to the Coastal Area with an Infrastructure Corridor that links the two areas. Together these discrete areas make up the proposed Project Area:

- **Mine Area.** The area encompassing the proposed block cave mine, underground access declines and nearby infrastructure, including a portal terrace and waste rock dump supporting each of the Watut and Nambonga declines, the Watut Process Plant, power generation facilities, laydown areas, water treatment facilities, quarries, wastewater discharge and raw water make-up pipelines, raw water dam, sediment control structures, roads and accommodation facilities for the construction and operations workforces.
- **Infrastructure Corridor.** The area encompassing the proposed Project infrastructure linking the Mine Area and the Coastal Area, being corridors for pipelines and roads and associated laydown areas. The proposed concentrate pipeline, terrestrial tailings pipeline and fuel pipeline will connect the Mine Area to the Coastal Area. A proposed Mine Access Road and Northern Access Road will connect the Mine Area to the Highlands Highway. New single-lane bridges are proposed over the Markham, Watut and Bavaga rivers. Laydown areas will be located at key staging areas.
- **Coastal Area.** The Coastal Area includes the proposed Port Facilities Area and the proposed Outfall Area:
  - Port Facilities Area. Located at, or in proximity to, the Port of Lae, with a site adjacent to Berth 6 (also known as Tanker Berth) nominated as the preferred option. The proposed facilities will include the concentrate filtration plant and materials handling, storage, ship loading facilities and filtrate discharge pipeline.
  - Outfall Area. Located approximately six kilometres east of the port. The proposed facilities will include the Outfall System comprising the mix/de-aeration tank and associated facilities, seawater intake pipelines and DSTP outfall pipelines, pipeline laydown area, choke station, access track and parking turnaround area.

The WGJV has commissioned a range of studies to inform the Project's Feasibility Study Update and to prepare an Environmental Impact Statement (EIS).

Previous terrestrial ecology studies conducted for the Project have focussed on the Mine Area and include Booyong Forest Science (2011a, 2011b and 2013), Woxvold (2010, 2011, 2012), Woxvold & Aplin (2013), and most recently BAAM (2018).

This report describes the findings of the ecological characterisation of the eastern section of the proposed Infrastructure Corridor broadly encompassing the region between Zifasing to the Huon Gulf and comprises both desktop review and field surveys conducted in February and June 2017.

Future development of the Project remains subject to ongoing deep orebody drilling and definition (after underground access has been achieved), technical studies, completion of statutory permitting processes and securing Government and WGJV Participants' approvals.

Engineering design and other studies, including environmental studies, are continuing and there is potential that aspects of the proposed Project design, layout and timetable may change.

## 1.2. Objectives

The aim of this study was to build on the existing knowledge of the ecological conditions of the Project Area focussing on characterising the terrestrial ecological environment of the eastern section of the proposed Infrastructure Corridor.

More specifically, the objectives were to:

- Characterise and map the type and condition of terrestrial vegetation communities and terrestrial fauna habitats.
- Identify habitats with high biodiversity value.
- Opportunistically record terrestrial flora and vertebrate fauna focussing on species of conservation significance.
- Record the presence of invasive exotic flora and fauna species.

## 1.3. Study area

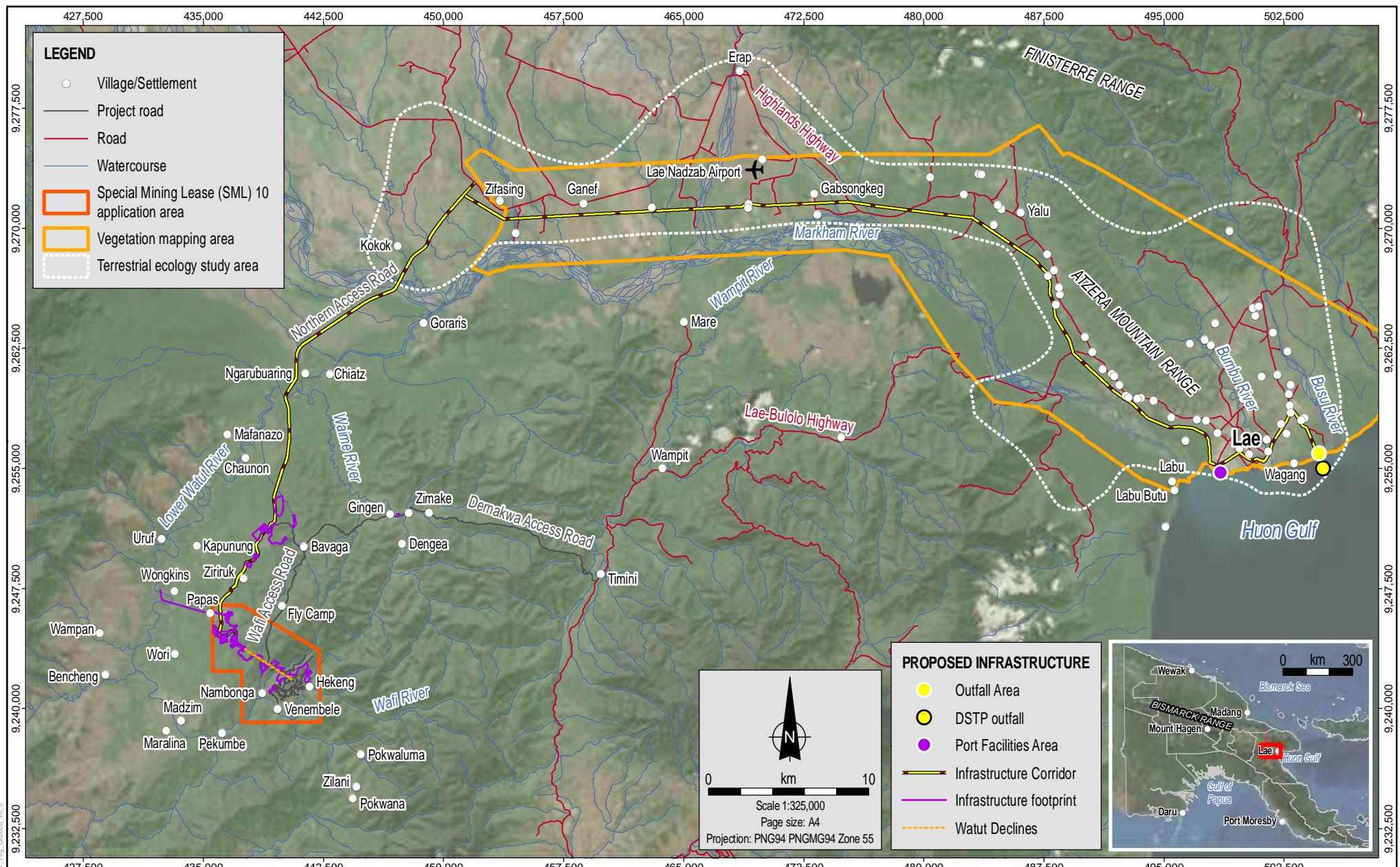
The terrestrial ecology study area (shown in Figure 1.1) that is the subject of this report (study area) comprises the eastern section of the proposed Infrastructure Corridor, broadly encompassing the region between Zifasing to the Huon Gulf including:

- A portion of the Atzera Mountain Range.
- The lower Markham River floodplain.
- The city of Lae and its periurban extent.

The study area comprises sites near Bomsi village, grassland areas near the Markham River and Chivasing village, swamp and lowland forests near Labu village and along the Markham River, hill forests near Gwabedik village and lowland, hill forests near Buimo and Bumbu River headwaters and secondary or cleared areas along the Highlands Highway.

The study area was selected as the spatial extent required to characterise representative habitats (and the flora and fauna they support) for impact assessment purposes and to inform investigations into alternate pipeline alignment options during the route selection process.

The extent of the study scope is commensurate with the level of impacts expected to affect terrestrial ecology resulting from the construction and operation of the Project within the study area.



Source:  
Vegetation mapping area and terrestrial ecology survey area from Coffey.  
SML from WGJV.  
Villages, infrastructure and project roads from WGJV and Coffey.  
Roads and watercourses from NSO.  
Imagery from ArcGIS Online (capture date unknown).

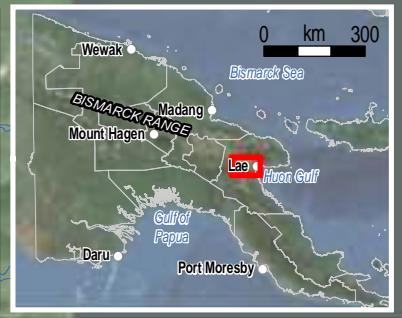


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File Name: 0520DD\_13\_F01.01\_GIS



Wafi-Golpu Project



Terrestrial ecology study area

Figure No:  
1.1

### 1.3.1. Landform

The terrain within the study area is generally flat with undulating hills intersected with floodplain valleys and many small streams and three major river systems, i.e., the Markham River, the Busu River and the Bumbu (also known as the Butibum) River. The major terrain systems within the study area include:

- The alluvial plains of the Markham, Busu and Bumbu rivers in the vicinity of Malahang, Buimo, and Bumayong villages. Terrain here is undulating with many small rises and depressions but is mostly flat with elevations below approximately 100 metres (m) above sea-level (asl).
- Hills and foothills near the villages of Labu, Yalu, Bomsi, Taraka, Buimo and Gwabedik. Terrain here is characterised by rolling hills and some steep ascent with many small streams and rivers. Elevations here range from approximately 80 m to over 400 m asl.
- Lowland swamp areas located near the villages of Labu and Wagang. Terrain here is generally flat with few streams and rivers with elevations below approximately 40 m asl.
- Coastal plain areas including the city of Lae. These were formed from deposits from the Markham and Bumbu rivers. These areas are mostly flat with few rises and depressions with elevations from sea level to approximately 40 m asl.

### 1.3.2. Climate

The region experiences a tropical climate with average annual rainfall of 4.5 m. Flooding is common during high rainfall periods, which often leads to landslips and inundation of low lying areas and has been known to cause major disruptions for Lae city and its inhabitants (Buleka et al., 1999).

Annual temperatures average 27 degrees Celsius ( $^{\circ}\text{C}$ ) with the hottest months from November to February. There are two pronounced seasons, the northeast monsoon from December to March and the southeast monsoon from May to October (McAlpine et al., 1983). There are, however, considerable variations in local wind patterns and speeds related to topographic effects (Buleka et al., 1999).

## 2. Methods

Methods for this study comprised:

- A desktop review of available information to characterise vegetation communities and to compile a list of flora and fauna species with the potential to occur in study area.
- Field surveys at selected sites noting ecological features and listing species encountered.
- Opportunistic interviews with local guides during the field surveys to confirm the occurrence of flora and fauna species of conservation significance and sensitive habitats.

The study team consisted of:

- Professor Osia Gideon (Independent Consultant, Professor of Forestry, University of Technology, Lae) – vascular flora and vegetation.
- Leo Legra (Senior Environmental Consultant) – terrestrial vertebrate fauna.
- Dr Michael Sale (Associate Environmental Consultant) – technical oversight.

Logistical, landowner liaison support was provided by the WGJV Community Affairs and Lands team.

### 2.1. Desktop review

The review of available information and data was completed to identify the likely vegetation communities present and to develop a list of flora and fauna species that are reasonably expected to occur within the study area. Data sources included:

- Previous ecological studies commissioned for the Wafi-Golpu Project including Booyong Forest Science (2011a, 2011b and 2013), Woxvold (2010, 2011, 2012), Woxvold and Aplin (2013), and BAAM (2018).
- Published scientific literature, such as peer-reviewed journals, books and private sector, government and non-government organisation reports.
- Unpublished scientific reports and data, museum records and various non-government organisation and private sector sources.
- A variety of spatial data and landscape mapping products and assessments including:
  - Topographic mapping.
  - Satellite and aerial imagery, including light detection and ranging (LiDAR) imagery.
  - Forest Inventory Mapping (FIM) System (Hammermaster & Saunders, 1995).
- The International Union for Conservation of Nature (IUCN) Red List of Threatened Species (<http://www.iucnredlist.org>).
- PNG Plants database ([www.pngplants.org](http://www.pngplants.org)) (Conn et. al., 2006).

Emphasis was placed on collating information (including brief individual species accounts) on those species considered to be of national or international conservation significance.

The likelihood of occurrence in the study area of species of conservation significance was assessed through integration of the following sources of information:

- Database search results and the results of any previous surveys of the study area that identify whether there are records of the species in the study area or nearby.

- Review of the published literature pertaining to the known distributions and habitat requirements of the species.
- Field survey results (see below).

For consistency with previous assessments, the four criteria used to assess the likelihood of occurrence were adopted from BAAM (2018). These are summarised in Table 2.1.

**Table 2.1: Criteria and categories used to assign likelihood of occurrence of species in the study area**

Likelihood of occurrence	Criteria
<b>Present</b>	The species was detected during field assessment, or is known from past surveys in the study area.
<b>Likely</b>	A medium to high probability (40% or greater probability of occurrence) that the species occurs in the study area or visits the study area because suitable habitat occurs, the study area is within the known distribution of the species and there are records of the species in the vicinity of the study area.
<b>Potentially present</b>	Either: <ol style="list-style-type: none"><li>a. there are no past records of the species in the vicinity of the study area but suitable habitat occurs and there is insufficient information on the distribution of the species (e.g., it is naturally rare and difficult to detect, or there has been insufficient survey effort) to categorise the species as likely or unlikely to occur; or,</li><li>b. there are past records of the species in the vicinity of the study area but habitat in the study area is marginal or spatially limited meaning that the species' presence in the study area would be transitory at best.</li></ol>
<b>Unlikely</b>	A low probability (less than 40% probability of occurrence) that the species occurs in the study area because suitable habitat does not occur, the study area is outside the known distribution of the species, there are no records of the species in the local region despite adequate survey effort, the species is considered locally extinct, or the species has not been observed despite sufficient spatial and temporal survey effort for detecting the species.

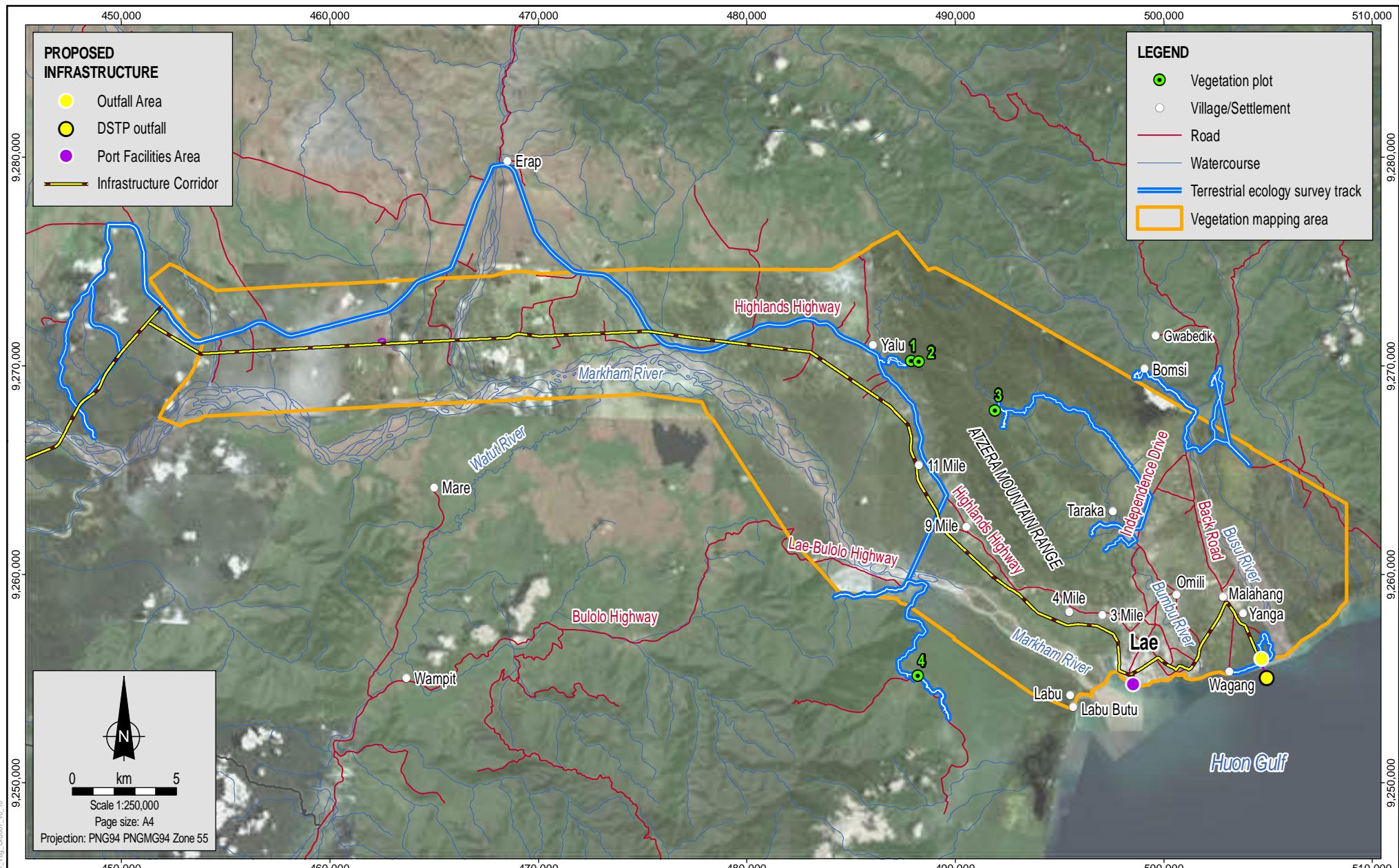
## 2.2. Field survey

A field survey of selected representative habitats within the study area was conducted between 9 and 15 February 2017. Field surveys were completed by Professor Osia Gideon and Leo Legra. A second survey was completed between 2 and 4 June 2017 by Professor Osia Gideon.

The primary aim of field surveys was to complete targeted field reconnaissance to characterise key habitats within the study area and opportunistically record the flora and fauna assemblages within these habitats. Areas that were surveyed were selected on the basis of representative habitat types as well as access.

Surveys were undertaken with the help of various guides from the villages of Bomsi, Buimo, Gwabedik, Labu, Wagang and Yalu.

Survey effort and coverage of the study area is provided in Table 2.2 and vegetation plots and survey tracks are shown on Figure 2.1.



MD Reference: 0520DD\_13\_F02.01\_GIS007\_v0\_10  
 Source:  
 Vegetation mapping area and survey tracks from Coffey.  
 Villages/ Settlements and infrastructure from WGJV and Coffey.  
 Roads and watercourses from NSO.  
 Imagery from ArcGIS Online (capture date unknown) and WGJV (capture date 2016).



Date: 23.03.2018  
 Project: 754-ENAUABTF100520DD  
 File Name: 0520DD\_13\_F02.01\_GIS



Wafi-Golpu Project

Study area survey tracks and vegetation plots

Figure No:  
**2.1**

**Table 2.2: Survey effort and coverage during the 2017 terrestrial ecology ground surveys and opportunistic community interviews**

Date	Survey area
<b>First field survey</b>	
<b>9 February</b>	Field survey in the area immediately west of Wagang village. Interviews with Wagang villagers and meeting with village elders in collaboration with WGJV Community Affairs and Lands team.
<b>10 February</b>	Field survey around Yalu village and in the western edge of the Atzera Mountain Range. Interviews with local guides from Yalu village with inspection of hunting trophies in collaboration with WGJV Community Affairs and Lands team.
<b>11 February</b>	Field surveys in the hills behind Buimo CIS prison, hills of west Taraka, along the Igam Road and Bumbu River headwaters. Interviews with local guides at the headwaters of Bumbu River in collaboration with WGJV Community Affairs and Lands team.
<b>12 February</b>	Field survey along the Busu River and around Bomsi village. Also along the Marambi River and around Gwabedik village. Interviews with local guides and viewing of hunting trophies in collaboration with WGJV Community Affairs and Lands team.
<b>13 February</b>	Field survey inland of Labu village along old logging trail and near Labu village along the Markham River. Interviews with local guides in collaboration with the WGJV Community Affairs and Lands team.
<b>14 February</b>	Observations from vehicle along Lae – Nazab Highway and field surveys along the Markham River. Interview with local guides in collaboration with WGJV Community Affairs and Lands team.
<b>15 February</b>	Observations from vehicle along Highlands Highway from 11 Mile to Lae city and within Lae city and Lae port area.
<b>Second field survey</b>	
<b>2 June</b>	Observations of the type and condition of swamp forest and riverine succession habitat fragments along the Highlands Highway near Yalu and along the Wau-Bulolo Road.
<b>3 June</b>	Observations of the type and condition of swamp forests and riverine succession habitat fragments along the Highlands Highway.
<b>4 June</b>	Observations of the type and condition of swamp forest and riverine succession habitats near the Markham Bridge.

A Garmin 60CSx global positioning system (GPS) unit was used to record tracks and coordinates of notable items in the field. All maps and coordinates appearing in this report are based on PNG94 PNGMG94 Zone 55.

## 2.3. Vegetation

Vegetation communities are influenced by various factors, including rainfall, geology and soil types, altitude, and history of disturbance. Boundaries between vegetation communities are not defined sharply, and often result in discrepancies for vegetation zonations, especially with regard to altitudinal zonations.

Classification of vegetation types in PNG remains superficial, despite efforts by ecologists and botanists over the last six decades. Most of these studies have been general in nature and give superficial accounts of plant communities in PNG (for example see Royen, 1963, Pajjmans, 1976, Clunie, 1978, Saunders, 1993, Hammermaster & Saunders, 1995). While there are differences between the categorisation, there is general agreement on the broader vegetation types.

There is currently no formal system for the classification of the vegetation of PNG. Most recent biodiversity surveys in PNG followed Saunders (1993) and Hammermaster & Saunders (1995), mainly because the vegetation communities can be mapped readily. The system is based on aerial photography and remote sensing, and therefore gave detailed information on forest structure and species composition. However, it should be noted that this system, which was developed as a forestry tool, is not based on field characterisation (e.g., use of vegetation plots) or ground truthing. The Saunders (1993) map of the Forest Resources of PNG was expanded in Hammermaster & Saunders (1995). Generalised floristic lists for the different forest types in different areas were collated from Paijmans (1976), various CSIRO Land Research Survey reports, and unpublished reports by the PNG Department of Forests.

The assessment of vegetation focussed on regional scale units using the Forest Inventory Mapping (FIM) System to define vegetation types produced at 1:250 000 scale by Hammermaster & Saunders (1995). This mapping was refined based on critical examination of high resolution imagery (captured in 2016).

Further characterisation of vegetation communities (structural and floristic) was completed at a number of representative locations (see below).

For consistency with previous Project work, vegetation condition categories were based on the structural integrity of vegetation communities as defined by BAAM (2018). These specifically aim to identify those habitats that have been subject to minimal human intervention, thus demonstrating a high degree of ‘intactness’. Categories identify varying levels of disturbance ranging from partial clearing or thinning of natural vegetation to complete clearing and/or vegetation dominated by planted gardens or invasive exotic species.

Definitions of vegetation condition categories are shown in Table 2.3.

**Table 2.3: Vegetation condition categories**

Vegetation condition	Description
<b>Intact</b>	Vegetation communities that exist in unmodified condition. No structural disturbance of canopy, sub-canopy or ground cover layers is evident. Some selective harvesting of poles or timber species may have occurred although this is minor in nature and has not compromised structural integrity of the vegetation community.
<b>Moderately disturbed</b>	The vegetation community has been subject to structural modification, resulting in a general reduction in forest stature and complexity. A sub-set of the original floristic diversity is retained within the habitat and small vestiges of unmodified habitat may remain. Habitats within this condition category are generally derived from severe thinning and harvesting of forest products.
<b>Degraded</b>	Secondary forest composed of native pioneer species in which the structure and floristic assemblage of the original forest has been destroyed through prior complete clearing or long term continuous disturbances. This category also includes modified habitats composed of native species that have had long term stability through regular anthropogenic intervention (e.g., Kunai grasslands that represent rainforest transformed to grassland through a long history of regular burning).
<b>Highly modified</b>	Habitats generally comprising a mix of native and exotic food plants, garden plants and also weeds. Includes maintained and abandoned garden areas with large areas of the latter occupied by the invasive pest plants such as <i>Piper aduncum</i> .

Four vegetation plots (100 x 20 m; 0.2 hectares (ha)) were established in the representative forest types (see Figure 2.1). The sites selected are representative of the main forest types in the study area and were accessible by the field team.

The sites selected (see Figure 2.1) were:

- Plot 1 – Large to Medium Crowned Forest on Uplands (Hm/HI).
- Plot 2 – Large to Medium Crowned Forest on Uplands (Hm/HI).
- Plot 3 – Large to Medium Crowned Forest on Plains and Fans (PI).
- Plot 4 – Mixed Swamp Forest (Fsw/FswC).

Plots were assessed for species composition, stand density, basal area (BA) and stand volume (trees with  $\geq 50$  cm diameter breast height (DBH)) and general structure of the forests. All trees 10 centimetres (cm) diameter at DBH and above were assessed, identified as far as possible, DBH measured and height and log volume estimated. Smaller plants (saplings <10 cm DBH, herbs, ferns and lianas) were subsampled in 5 x 5 m subplots. Epiphytes (mainly orchids and ferns), which mostly occur on canopy branches, were not assessed.

## 2.4. Flora

Desktop assessment of flora was completed using existing literature, herbarium collections and databases and the experience of the study team. This list was developed from the PNG Plants database (Conn et al., 2006), and supplemented by field survey data and herbarium collections. Species of conservation significance were assessed for likelihood of occurrence within the study area.

General observations were made on the presence of exotic plants, especially well-known invasive species. Local informants were interviewed about the presence of certain invasive species. The identities of the plants seen in the field were later confirmed in the laboratory.

Scientific names are used for flora species throughout this report due to the fact that common names do not exist for many species. Where they do, common names have been included.

## 2.5. Fauna and habitats

Fauna surveys used visual and aural observations during site reconnaissance. Detailed fauna surveys, for example, using intrusive capture and release methods (e.g., trapping, netting) were not completed (Plate 2.1).

Birds were identified visually and through their calls. Unfamiliar bird calls were recorded and later matched against an extensive database of PNG bird calls. For other fauna where identification was not possible in the field, photographs were taken where possible and later identified using literature records.



**Plate 2.1: Team completing fauna survey**

Information from the desktop and field studies were drawn upon to develop a list of those fauna species of conservation significance that may occur in the study area but were not recorded during ground surveys. The list of fauna species includes all taxa potentially occurring and that have been recorded below approximately 400m asl.

Visual assessments of habitats were also completed during field surveys for all the sites visited. Features of interest recorded included habitats or other ecological features that are likely to support species of conservation significance. These typically include:

- Rare and/or sensitive habitats such as wetlands and caves.
- Habitats/areas supporting concentrations of species of conservation significance.

## 2.6. Conventions used

For each of the major vertebrate groups, taxonomic nomenclature (common and scientific names) and arrangement (order of species) follow the following sources:

- Vegetation characteristics – (Hammermaster and Saunders (1995).
- Flora – PNG Plants database (Conn et al., 2006), and supplemented by herbarium collections.
- Mammals – Flannery (1995), Bonaccorso (1998) and IUCN (2011).
- Birds – Nomenclature (common and scientific names) and family arrangements follow the International Ornithological Congress (IOC) World Bird List (version 7-1) (Gill & Donsker 2017).
- Herpetofauna – Menzies (2006) and IUCN (2011).

Species of international and/or national conservation significance are described below and are collectively here termed ‘conservation-priority species’. The global conservation status of all species was taken from the IUCN Red List of Threatened Species (IUCN, 2011<sup>1</sup>). IUCN categories rank the relative risk of individual taxa becoming extinct in the wild based on a set of standardised criteria.

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<sup>1</sup> IUCN (2011) was the primary IUCN reference due to its use by IOC 2017 for birds. Where recent changes have been made, corresponding citations have been provided.

International threat categories and their abbreviated codes mentioned subsequently in the text are, in descending order of threat/conervation-priority (IUCN, 2011):

- Threatened:
  - Critically Endangered (CR) – A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future (probability of extinction in the wild is at least 50% within 10 years or three generations).
  - Endangered (EN) – A taxon is Endangered when it is not Critically Endangered, but is facing a very high risk of extinction in the wild in the near future (probability of extinction in the wild is at least 20% within 20 years or five generations).
  - Vulnerable (VU) – A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the immediate near future (probability of extinction in the wild is at least 10% within 100 years).
- Near Threatened (NT) – A taxon is lower risk when it has been evaluated but does not satisfy the criteria for any of the categories Critically Endangered, Endangered or Vulnerable. Near Threatened taxa are close to qualifying for Vulnerable.
- Data Deficient (DD) – A taxon is Data Deficient when there is inadequate information to make a direct, or indirect assessment of its risk of extinction based on its distribution and/or population status. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate.
- Least Concern (LC) – Does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.

Species assigned under the Endangered, Vulnerable and Near Threatened are deemed to be of international conservation significance and are hereafter termed ‘species of conservation significance’. Most species appearing in this report are not listed with an IUCN category; they are either classified as ‘Least Concern’ by IUCN or, as is the case with most reptiles, have not been assessed by IUCN. A number of species are considered as Data Deficient requiring further information about the species to be collected before they can be adequately assessed under the IUCN Red List criteria. These species are not considered to be ‘species of conservation significance’ in this report.

Species deemed to be of national conservation significance include those listed under the *PNG Fauna (Protection and Control) Act 1966*. These include:

- Protected Species (P) – Taxa declared protected under the *PNG Fauna (Protected and Control) Act 1966*.
- Trade Restricted Species (R) – Taxa not declared protected but restricted for trade because of international market demand and traditional utilisation within PNG.

The list of nationally protected species was obtained from Kula and George (1996).

## 3. Results

The study area covers a range of natural habitats including:

- Lowland hill forest – This forest type is found along the Atzera Mountain Range starting from Yalu village all the way to hills around Bumbu River, areas near Bomsi and Gwabedik villages and hills along the Busu River.
- Open foothill forests – typically found within the floodplain areas such as Labu, Busu and Bumbu rivers and along the Bukaua road areas.
- Swamp and mangrove forests – found around Labu and Wagang villages. Also small tracts of swamp and mangrove forest exist around the Lae Port area.
- Watercourses and wetlands – mostly found around Labu village and along the Markham River. Other wetland areas within the study area include the Busu and Bumbu rivers and many other smaller streams and watercourses found within the study area.

Most of the study area consists of vegetation and habitats that have experienced anthropogenic disturbance and are not categorised as natural habitats. These include areas of native vegetation cleared for traditional gardens, agriculture, coconut (*Cocos nucifera*) and cocoa (*Theobroma cacao*) plantations, and cattle farming. Past logging activities have altered much of the lowland forests, grassland areas and lower elevation hill forests within the study area. This vegetation type ranges from grasslands to ornamental and fruit trees such as coconut and cocoa plantations, banana and pawpaw gardens, pitpit (*Saccharum edule*), mango (*Magnifera sp*) trees and rain trees (*Samanea saman*). This vegetation type is found along the Markham River, along the Lae to Nazab Highway, within Lae city and surrounds with some smalls patches of grasslands along the Busu and Bumbu rivers and hillsides of Buimo Prison and West Taraka areas.

### 3.1. Vegetation communities

Following the classification of Hammermaster and Saunders (1995), three broad forest types can be recognised within the study area: Large to Medium Crowned Forest on plains and fans (PI), Large to Medium Crowned Forest on uplands (Hm/Hl) and Mixed Swamp Forest (Fsw/FswC). The mixed swamp category is taken in a broad sense, including areas that are dominated by sago and to a lesser extent by Campnosperma (FswC), and areas that can easily be categorised as swamp woodland (Wsw).

A significant part of the study area falls into the “Other Non-vegetation and Areas Dominated by Land Use” category (O). Rogers (2000), in the Booyong report for the Wafi-Golpu Project, gave it a non-FIM category “Disturbed,” representing a mosaic of disturbed medium crowned forest, riverine successions dominated by grass and areas dominated by land use (settlements, food gardens, etc.). These areas are recognised here as representing various types (O/Fri/Wri) and at different stages of succession. Smaller areas Grassland (G), Herbaceous Swamp (Hsw), Mangroves (M), Littoral (Beach) Communities (B) and Riverine Mixed Successions (Fri) were also noted.

Results of the present survey indicate that the vegetation of the area can be grouped into the following categories:

1. Low Altitude Forest on Plains and Fans: consisting of Large to Medium Crowned Forest (PI).
2. Low Altitude Forest on Uplands: consisting of Large to Medium Crowned Forest (Hm) and Medium Crowned Forest (Hl).
3. Swamp Forest: consisting of Mixed Swamp Forest (Fsw) and Mixed Swamp Forest with Campnosperma (FswC) Swamp Woodland (Wsw) and Other Freshwater Communities (Hsw).

4. Grassland and Hermland: consisting of Grassland (G) and Herbaceous Swamp (Hsw).
5. Estuarine Communities: consisting of Mangroves (M).
6. Littoral (Beach) Communities (B).
7. Seral Forest: consisting of Riverine Mixed Successions (Fri).
8. Other Non-vegetation and Areas Dominated by Land-use (O/Fri/Wri).

Vegetation communities within the study area are shown in Figure 3.1.

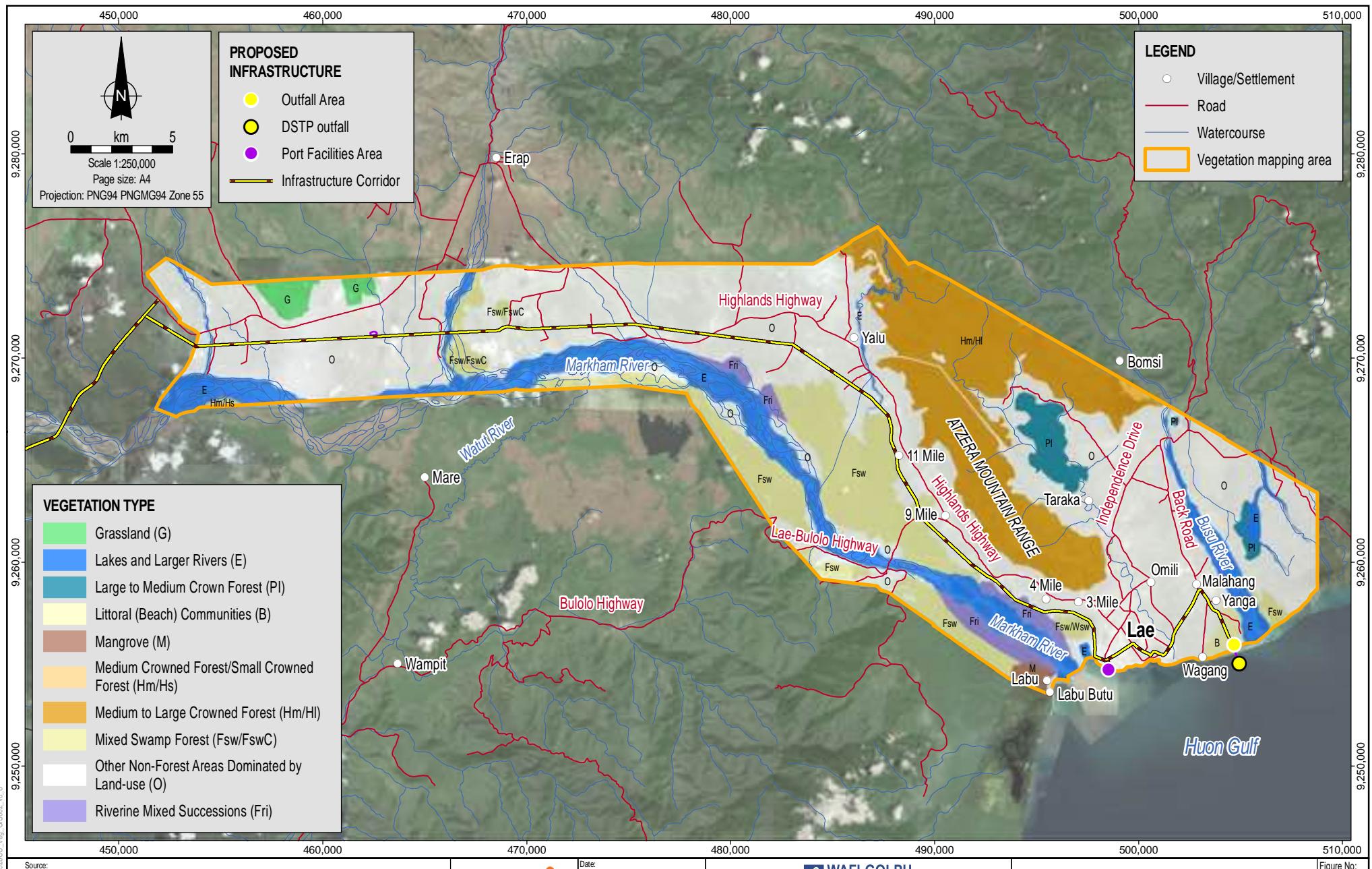
### **Large to Medium Crown Forest (Pl)**

This small representative vegetation type occurs on relatively well drained alluvial plains and fans and likely represents what the original forests of the now deforested areas between the Bumbu and Busu rivers was like. The forest was approximately 30 to 35 m tall with emergents reaching over 40 m in height. Forest canopy was irregularly open and irregularly uneven in profile. The forest was floristically and structurally rich, and the structure was irregular throughout all layers. Plot 3 near Omaru (see Figure 2.1) was established in this forest.

The main species found in this forest type include *Pometia pinnata*, *Alstonia scholaris*, *Dracontomelon dao*, *Octomeles sumatrana*, *Elaeocarpus* sp., *I. bijuga* (see Plate 3.1), *Terminalia* sp., *Syzygium* sp., *Polyalthia* sp., *Vitex cofassus*, *Pouteria* sp., and *Artocarpus altilis*. The trees are tall with straight boles, and the emergent trees with wide crowns. The lower tree strata are generally open and irregular with few slender trees. Understory trees include *Ficus* sp., *Cryptocarya* sp., *Myristica* sp., *Dysoxylum* sp., *Chisocheton* sp., and *Pimeliiodendron* sp.. Herbaceous plants are rare and patchy, comprising mainly herbs belonging to the Marantaceae family. Gingers and aroids are generally rare or absent.

### **Medium to Large Crowned Forest (Hm/Hl)**

This forest type occurs on a wide range of landform, slope, soil and altitude, reaching up to 1,000 m asl around the Markham Point (see Plate 3.1). The hills between the Bumbu and Busu rivers were once dominated by this forest type (see Plate 3.2). Within this broadly characterised forest are patches of large crowned forest (Hl), but not distinct enough to be recognised separately. The medium crowned forest (Hm) slowly grades into other lower montane forest types with increasing elevation. The hills between the head of Bumbu River and Busu River were once dominated by *Anisoptera thurifera* and *Hopea* spp., but much of this forest has been selectively logged over the last five decades and the canopy now appears more open and irregular than more intact areas. Canopy height ranges from 25 to 35 m, with emergents reaching up to 40 m. The forest type was richer in species compared to other communities. It is the transition zone of species from the low altitude forests and the lower montane forests.





**Plate 3.1:** Typical Medium Crowned Forest on Uplands (Hm) along the Atzera Mountain Range

The forests on slopes and ridges were mostly dominated by *I. bijuga* (Plate 3.3) and *P. pinnata*, but previously *Anisoptera thurifera* was the most dominant species in this forest type. Other common canopy trees include *Celtis* sp., *Dysoxylum* sp., *Hopea* sp., *Pouteria* sp., *Homalium foetidum*, *Cryptocarya* sp., *Elaeocarpus* sp., *Terminalia* pp., *Endospermum* sp., *V. cofassus*, *D. dao*, and *A. scholaris*.

The understory trees were generally of mixed composition, and included taxa such as *Dysoxylum* sp., *Aglaia* sp., *Myristica* sp., *Canarium* sp., *Syzygium* sp., *Pimeliadendron amboinicum*, *Gomphandra* sp., *Cryptocarya* sp., *Diospyros* sp., and *Celtis* sp. Tree density was noticeably higher, with increasing small diameter trees compared to other lowland forests on alluvial plains and fans. The shrub layer was a little denser and consisted mainly of slender saplings and herbaceous plants such as gingers, aroids, palms, ferns and lianas.



**Plate 3.2:** Typical Medium Crowned Forest on Uplands (Hm) along the Busu River near Bomsi village



**Plate 3.3:** *Intsia bijuga*, one of the largest trees on the Atzera Mountain Range (over 100 cm DBH)

### Mixed Swamp Forest (Fsw/FswC)

This forest type was defined in a broad sense, and includes areas that are dominated by sago (*Metroxylon sagu*) and in certain parts by *Campnosperma* spp. (FswC). It occurs along the alluvial plains of the Markham and Busu rivers, as well as behind the littoral forests along the coast. This forest type has been heavily impacted by small scale logging using mobile mills (Plate 3.4 and Plate 3.5), especially the areas surrounding Lae city. Furthermore, encroachment by settlers is quickly changing this forest type through clearance for gardens and timber harvesting (Plate 3.5).

The structure and floristics of these forest types are usually determined by drainage and to a lesser extent by soil type. In areas subjected to prolonged inundation, the forest canopy was much more open and less luxuriant than those on well drained sites which are periodically inundated. The tall and even crowned swamp forest was observed in a number of places, and Plot 4 in the Labu area represents this forest type.

**Plate 3.4:** New garden near Wagang village, in drier mixed swamp (Fsw)



**Plate 3.5:** Small scale logging using mobile saw-mills, a major cause of forest disturbance in the area



**Plate 3.6:** *Sterculia ampla*, a common species in the study area



Sago palm was dominant throughout the area, but other palms including *Orania* spp., *Hydriastele costata*, *Caryota rumphiana* and climbing palms (e.g., rattan species) *Calamus* spp. and *Korthalsia* spp. were also present. Tree species forming the canopy layer of this forest type include *O. sumatrana*, *P. pinnata*, *Campnosperma brevipetiolata*, *Astonia scholaris*, *Neolamarckia cadamba*, *Pterocarpus indicus*, *Bischofia javanica*, *Syzygium* spp., *Neuburgia* spp., *Dillenia* spp., *Terminalia* spp., *Ficus* spp. and *Palaquium* spp.. *Campnosperma* spp. usually dominates permanently flooded back swamps, such as those seen along the Wau/Bulolo Road, but most trees were removed by recent mobile mill logging. The composition of the canopy layer may vary from one place to another depending on inundation, flooding or light conditions. In the sub-canopy layer species such as *Barringtonia* spp., *Diospyros* spp., *Myristica* spp., *Horsfieldia* spp., *Semecarpus* spp., *Sterculia* spp. (see Plate 3.6) and *Carallia brachiata* occur. The ground layer varies depending on the density of sago palms. Where sago palm dominates there was no undergrowth, while in open stands undergrowth of aroids (*Spathiphyllum* sp., *Alocasia* spp., *Pothos* sp., etc.), ferns, pandans (*Pandanus* spp.), rattans (*Calamus* sp., *Korthalsia* sp.) and other woody species occur.

Intact areas of this vegetation were recorded along the Markham River, approximately 10 km upstream from the Markham Bridge. The forest canopy was more open and irregular, and poorly structured. Sago palm was common throughout these areas, but was more dominant in open areas and along water courses. Tree species forming the canopy layer and emergents included *C. brevipetiolata*, *A. scholaris*, *Terminalia* spp., *Pterocarpus indicus*, *Bischofia javanica*, *Hibiscus papuodendron*, *Aglaia gaudichaudiana*, *Syzygium* spp., *Neuburgia* spp., *Terminalia* spp., *Ficus* spp., and *Nauclea orientalis*. *Campnosperma* usually dominates permanently flooded back swamps. The understory was also unstructured and very mixed composition. Common species include *Cananga odorata*, *N. cadamba*, *Crytocarya* spp., *Myristica* spp., *Horsfieldia* spp., *Terminalia* spp., *Cerbera* spp., *Sterculia* spp., *P. pinnata*, *Pterocarpus indicus*, *Elaeocarpus* spp., *Carallia brachiata*, *Barringtonia* spp. and other species. Several species of palms (*Hydriastele costata*, *Caryota rumphiana*, *Ptychosperma* spp.) and *Panadnus* spp. were present. Sago palm and rattans (*Calamus* spp., *Korthalsia zippelii*) form impenetrable mesh in the forest understory. The forest floor cover varies from place to place, depending on the extent of the canopy cover. Common plants on the forest floor include aroids (*Spathiphyllum* spp., *Alocasia* spp., *Pothos* spp., *Epipremnum* spp., etc.), gingers (*Hornstedtia scottiana*, *Ammomum* sp., *Etlingera* spp., *Alpinia* spp.) and ferns.

In terms of the proposed Infrastructure Corridor within the study area, approximately 8% of the route was classified as mixed (degraded) swamp forest.

## Swamp Woodland (Wsw)

Patches of Swamp Woodland community amongst Mixed Swamp Forest were observed near the mouth of the Markham River. Two variations of the community were noted in areas that are permanently inundated and those areas that are regularly flooded.

Permanently inundated Swamp Woodland community occurs through most of the area between Markam River and the residential areas of Lae city. The vegetation community has been heavily impacted by human activities. The disturbed vegetation was dominated by sago palms with thick ground cover of reeds (*Phragmites karka*). Trees are scattered throughout the area, probably as a result of selective cutting by settlers around Lae city. The main tree species include *N. orientalis*, *Terminalia* spp., *Artocarpus* spp., *Inocarpus fagifer*, *Barringtonia* spp., and a host of other smaller trees, shrubs and pandans (*Pandanus* spp.). The ground cover was mostly dominated by tall grasses, sedges and sago and small trees. In areas regularly flooded by the Markham River, ground was covered in sand and silt and a different type of swamp woodland occurs, mostly dominated by small trees (*Premna* sp., *Hibiscus tiliaceus*, *Osmoxylon* sp, *Barringtonia* sp., *Ficus* sp., *Inocarpus* sp.), shrubs and *Pandanus* spp.

## Other Freshwater Communities (Hsw)

Various small complexes of freshwater swamps (Hsw) also occur within the Mixed Swamp Forest (Fsw/FswC) vegetation type. The only small complexes observed were those along the coast between Wagang village and the mouth of the Busu River i.e., within the Littoral (Beach) Communities (Plate 3.7). These stagnant, permanent, and deep pools of water occur between the sand dunes and the swamp forests, and are inhabited by herbs, sedges, ferns and floating weeds *A. imbricata*, *P.stratiotes* and *E. crassipes*. All three of the floating weeds were observed in the area. The most common sedge observed in these freshwater swamps was *Schoenoplectus mucronatus*.



Plate 3.7: Mixed mangrove and freshwater swamp communities at Wagang village

## Grassland (G)

Areas of grasslands occur along the Markham River (e.g., Plate 3.8). Smaller patches also occur, mainly due to human activities or naturally along the alluvial plains of the rivers. These patches of grasslands are of two types. In the plains, the tall grassland type (1 to 3 m high) was dominated by *Imperata cylindrica*, *Ophiuros tongcalingii*, and with *S. spontaneum* and *Phragmites karka* dominating in wetter sites and along rivers. Other taller grasses include *Polytoca macrophylla*, *Sorghum* sp., *Capillipedium parviflorum* and *Alloteropsis semialata*. In upland areas a shorter type of grassland occurs, usually dominated by *Themeda australis*, *I. cylindrica*, *Ischaemum barbatum*, and other common grasses. Trees are sometimes scattered among the grasses, such as *N. oreentalis*, *Timonius timon*, *Pittosporum* sp., *Antidesma* sp., and *Albizia falcataria*.



Plate 3.8: Grassland areas in the Markham River valley

### Mangrove (M)

Small mangrove communities occur sporadically along the coastline between the mouths of the Markham and Busu rivers and a well-developed mangrove community occurs around the Labu Lakes, just south of the mouth of the Markham River. While this community was not visited during the survey, the study team has visited the area several times before and this description was based on past observations.

The mangrove community around the Labu Lakes is a tall and luxuriant forest, comprising mainly of *Rhizophora* spp. (mainly *R. apicualta*), *Bruguiera* sp., *Lumnitzera* spp., *Xylocarpus* spp., *Sonneratia* spp. and *Heritiera littoralis*. The taller stands further away from the coast comprise stands of *Rhizophora* spp., *Ceriops tagal* or *Bruguiera gymnorhiza*. Nypa palms (*Nypa fruticans*) occur along the inlets, often intermixing with sago palm. In the transition zone between the mangrove and the swamp forests (Fsw), species such as *Barringtonia racemosa*, *Sonneratia* spp., *Aegiceras corniculatum*, *Lumnitzera* spp., *Acanthus ilicifolius*, *Derris trifoliata*, *Crinum* sp. and the ferns *Acrostichum aureum* and *Stenochlaena* occur. The fern *A. aureum* is almost always associated with mangrove stands towards the landward edge where there is strong freshwater influence causing much lower salinity conditions.

### Riverine Mixed Successions (Fri)

This vegetation type represents a range of seral successions and was best developed near the mouth of the Markham River. It was a heterogeneous forest with small to medium crown and with an irregularly open canopy. The forest was dominated by pioneer tree species such as *Macaranga* spp., *Mallotus* spp., *Trichospermum pleiostigma*, *Commersonia bartramia*, *N.cadamba*, *O. sumatrana*, *Ficus* spp., *Kleinhowia hospita*, *T. timon* and *Pipterus argenteus*. The ground cover was mostly dominated by grasses, sedges and tree seedlings. Along the river banks tall grasses such as *Saccharum robustum*, *S. spontaneum* and *P. karka* occur.

### Littoral (Beach) Communities (B)

Strand Littoral (Beach) Communities were observed between Wagang village and the mouth of Busu River. The beach was littered with driftwood, likely deposited here by the regularly flooding Busu, Bumbu and Markham rivers. The strand vegetation appeared heavily impacted by human activities, as most of the larger trees had been removed and exotic tree species introduced, mainly to provide

shade for fishermen. The strand vegetation between Wagang village and the mouth of Busu River was dominated mainly by *Pandanus tectorius* and a few small trees of usual strand species.

The beach vegetation ranges from pioneer herbaceous communities on sandy beaches to shrubberies and tall littoral forest further away from the maximum high tide mark. Above the high tide mark, herbaceous communities comprising mainly of creeping plants such as *Ipomoea pes-caprae*, *Canavalia maritima*, and the parasitic *Cassytha filiformis* scrambling over the beach shrubs are common. Grasses and sedges, e.g., *I. muticum*, *Fimbristylis* sp., *Remirea* sp., *Cyperus* spp. often occur among the herbs and low shrubs. The inner sand dunes are dominated by *Pandanus tectorius* with few small tree species (e.g., *Calophyllum inophyllum*, *Milletia pinnata*, *H. tiliaceus*). Further back, bordering with mixed swamp forests, taller trees of *P. indicus*, *Instsia bijuga*, *Celtis* sp., *Sterculia* sp. and coconut palms (*Cocos nucifera*) occur.

### **Other Non-Forest Areas Dominated by Human Land Uses (O/Fri/Wri)**

Secondary forest or regrowth vegetation dominate most of the area investigated, especially the areas surrounding the city of Lae (see Plates 3.9, 3.10, and 3.11). Almost all of these have been affected by human activities of various types, except for the flood plains of the main river systems. Secondary or regrowth vegetation refers to the various stages of vegetation succession, from bare ground after disturbance to almost mature forest. Areas from the present survey refer mostly to the early stages of forest succession, especially three to ten years after disturbance.

In the more advanced regrowth common trees include *N. cadamba*, *Endospermum* sp., *O. sumatrana*, *Trichospermum* sp., *Macaranga* sp., *C. bartramia*, *A. altilis*, *K. hospita*, *Cananaga odorata*, *T. timon*, *Euodia* sp., *Ficus* spp., and other species. Abandoned gardens are covered by herbaceous weeds, grasses and creepers from the soil seed bank. These are soon taken over by light demanding woody species (mostly members of the Euphorbiaceae family such as *Macaranga* spp., *Mallotus* sp., *Homalanthus* spp., *Melanolepis* sp.), ferns and large herbaceous plants like wild bananas (*Musa* spp.), gingers (*Hornstedtia* sp., *Amomum* sp.), *Heliconia* spp. and members of Marantaceae family. Some of the long-lived members of this successional stage may persist to advanced regrowth, e.g., *N. cadamba*, *Endospermum* sp., *Canarium* sp., *P. pinnata*, *Euodia* sp., *Artocarpus* sp. and *Litsea* sp..

Secondary or regrowth vegetation dominates most of the area investigated along the proposed Infrastructure Corridor, especially areas around Yalu and along the Highlands Highway where there is a mixture of land use, predominantly subsistence agriculture and a few small cocoa and coconut plantations.

In terms of the Infrastructure Corridor within the study area, highly modified previously cleared areas (e.g., Plate 3.9 and Plate 3.10) make up approximately 90% of the route with a further 2% classified as degraded alluvial vegetation (e.g., Plate 3.11).

**Plate 3.9: Cleared area adjacent to the Highlands Highway**



**Plate 3.10: Secondary vegetation surrounding the city of Lae**



**Plate 3.11: Cleared area adjacent to the Markham River with a mix of anthropogenic grassland and scattered regrowth**



## 3.2. Forest structure

A range of scientific studies have documented the forest composition (both structure and diversity). These have generally focussed on primary rainforest or mature secondary forests. The general characteristics of forest structure, along with their location and altitude are presented in Table 3.1.

**Table 3.1: Tree species diversity, density and basal area for various sites on the island of New Guinea (PNG and West Papua)**

Study site	Sample size (ha)	Altitude (m)	No. of species	No. of stems $\geq 10$ cm DBH/ha	Basal area (m <sup>2</sup> /ha)	Reference
Crater Mtns., Simbu Province	1.0	850 to 1,350	228	693	37.1	Wright et al., (1997)
Si River, Lakekamu Basin, Gulf Province	1.0	60	93	392	49.3	Oatham & Beehler (1997)
Nagore N, Lakekamu Basin, Gulf Province	1.0	70	149	426	37.7	Oatham & Beehler (1997)
Nagore S, Lakekamu Basin, Gulf Province	1.0	70	178	482	28.7	Oatham & Beehler (1997)
Alluvial, Lakekamu Basin, Gulf Province	1.0	175	182	575	28.5	Reich (1998)
Hill, Lakekamu Basin, Gulf Province	1.0	260	156	759	32.0	Reich (1998)
Woodlark Is., Milne Bay Province	0.52	10 to 150	142	608	30.4	Gideon (unpubl. Report, 2010)
Nakanai Mtns, East New Britain Province	1.4	200 to 1,600	382	216	67.5	Balun et al., (2000)
Hill Forest	2.4	n/a	n/a	526 to 652	30.8	Paijmans (1970)
Alluvial Forest	0.8	n/a	n/a	430	n/a	Paijmans (1970)
Foja Foothills, Memberamo (West Papua)	Various sizes	13 to 280	127	598	32.4	Van Heist et al., (2010)
Ayawasi (West Papua)	2.2	n/a	415	805	35.8	Polak (2000)
Lae area	0.8	10 to 200	57	218	19.2	Present study

Comparison with previous studies (e.g., Paijmans, 1970; Wright et al., 1997; Oatham & Beehler, 1997; Reich, 1998; and Gideon, 2010) and observations and the experience of the authors concluded that the forests in the study area have been impacted to some degree by human activities. All the samples during the field survey showed low tree species diversity, stand density, basal area and volume. The sample plots showed an average of about 20 tree species and a combined total of only 57 tree species, which was far below figures from other similar studies. Tree density and basal area (BA) were also much lower than those reported from other areas. Plot 4 showed higher BA and stand volume, but comparatively low tree species diversity, which is typical of such swamp forests.

A summary of tree density, diversity and basal area from the above studies is provided in Table 3.1 and Table 3.2. Data from the present survey is included and discussed in comparison with other studies.

**Table 3.2: Summary of data from the four 100 x 20 m plots for trees ≥ 10cm DBH**

Plot	Forest type	Number of species	Stems/ha	Basal area (m <sup>2</sup> /ha)	Vol/ha (m <sup>3</sup> )
<b>Plot 1</b>	Hm/HI	12	180	18.5	276.5
<b>Plot 2</b>	Hm/HI	23	210	17.1	160.5
<b>Plot 3</b>	PI	27	255	15.4	96.0
<b>Plot 4</b>	Fsw/FswC	16	225	26.0	346.0
<b>Average</b>	-	20	218	19.2	219.8

Data from the study area demonstrated diversity and abundance were significantly lower than those recorded from other areas of New Guinea, as shown in Table 3.1. The average basal area (19.2 m<sup>2</sup>/ha), the average stand volume of about 220 m<sup>3</sup>/ha and tree density of 218 stems/ha were all very low in comparison with other areas in PNG. Tree species diversity was also extremely low compared to other areas in PNG.

Table 3.3 shows the 13 most common taxa (with five or more individuals) from the study plots, with *Ficus* spp., *P. indicus*, *Gomphandra rarinervis* and *N. cadamba* being the most dominant. The 13 taxa represent 13% of trees and 40% of the species in the samples. Aside from *Gomphandra rarinervis*, which is an understory tree in primary forest, the other three of the top four are pioneer species.

**Table 3.3: Dominant tree species recorded in the study area**

Genus/Species	Number of individuals	Number of morpho-species involved
<i>Ficus</i> spp. (Moraceae)	18	5
<i>Pterocarpus indicus</i> (Fabaceae)	14	1
<i>Gomphandra rarinervis</i> (Stemonuraceae)	13	1
<i>Neolamarckia cadamba</i> (Rubiaceae)	10	1
<i>Endospermum medullosum</i> (Euphorbiaceae)	9	1
<i>Dysoxyllum</i> spp. (Meliaceae)	8	3
<i>Celtis</i> spp. (Ulmaceae)	7	2
<i>Myristica</i> spp. (Myristicaceae)	7	3
<i>Polyalthia</i> spp. (Annonaceae)	6	2
<i>Pometia pinnata</i> (Sapindaceae)	6	1
<i>Vitex cofassus</i> (Lamiaceae)	6	1
<i>Artocarpus altilis</i> (Moraceae)	5	1
<i>Octomeles sumatrana</i> (Datiscaceae)	5	1

One explanation for the lower than expected species diversity, abundance and timber volume is that forests have been impacted from past selective logging, gardening and other human activities compared to previous studies that have focussed on areas of undisturbed forests or advanced regrowth. The dominance of pioneer species such as *N. cadamba*, *O. sumatrana*, *P. pinnata* and *Endospermum medullosum* in the surveyed plots suggest that these are old secondary forests.

Furthermore, the lack of trees in the 80 cm and higher diameter classes further supports this hypothesis.

These results are not unexpected considering earlier studies have focussed on areas of primary mature forests, whereas surveyed plots within the current study are likely to have had continuous human impacts due to the proximity to Lae and the continuous in-migration in the area.

### 3.3. Vegetation condition

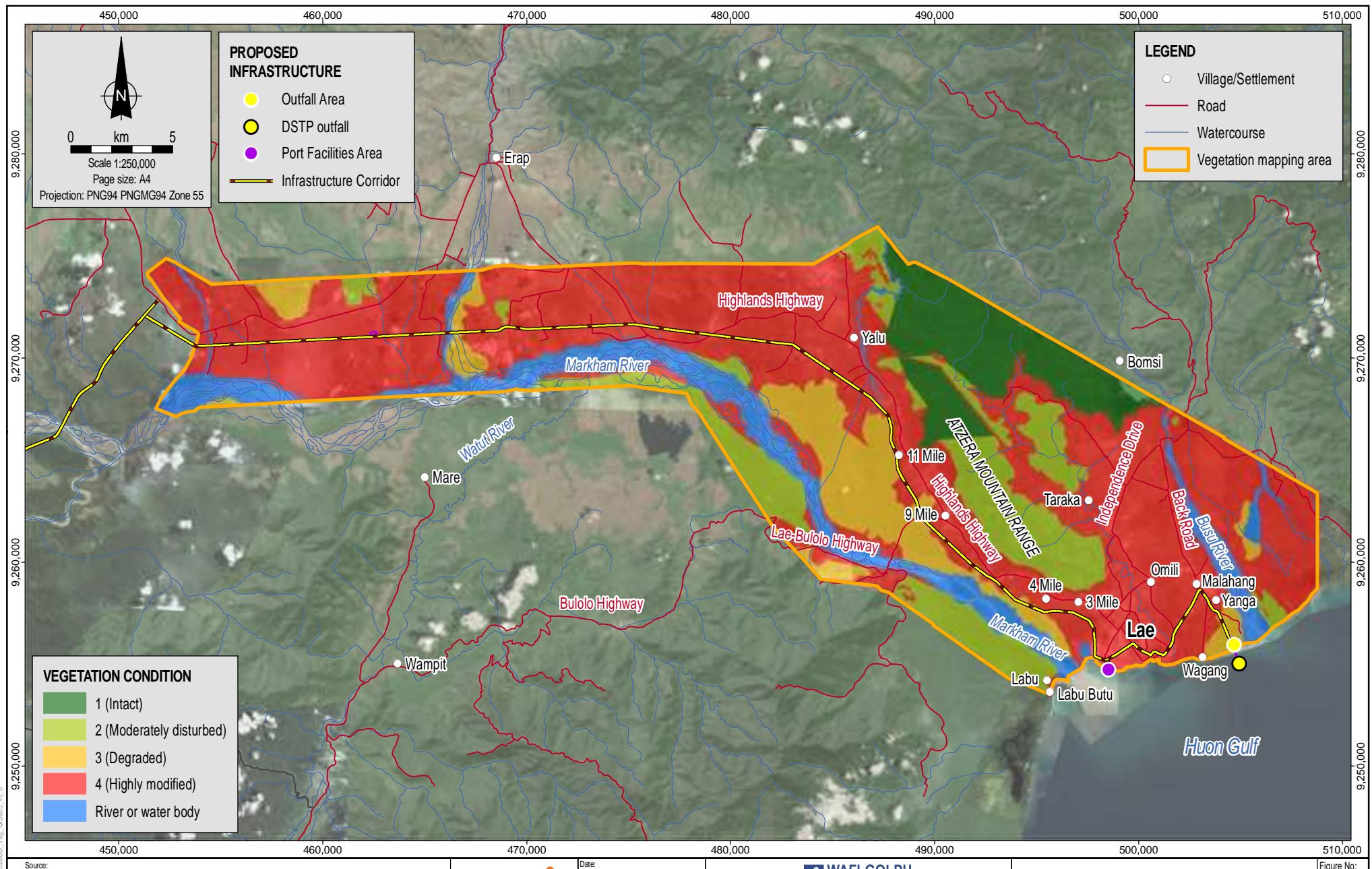
Forest health or vegetation condition refers to the conditions and trends, including the resilience of vegetated environments to a range of biotic and abiotic disturbances. A general analysis on a range of abiotic and biotic disturbance regimes and their potential effects on the forests of the area are given. Most of the forests traversed during the survey were found to have been dramatically altered from their original forested state to a highly fragmented landscape, especially the areas surrounding the city of Lae and the Highlands Highway (Figure 3.2). These areas have experienced a long history of disturbance by the local landowner communities as well as the growing population of migrants moving to Lae from other parts of PNG. These general observations are supported by the data collected from the plots.

A number of highly invasive species were observed encroaching into the native forest, especially the long established *Piper aduncum* (Plate 3.12), African tulip (*Spathodea campanulata*) and the siam weed (*C. odorata*, Plate 3.13). The only forest observed to be at least in good condition was at Wali (Labu) on the south side of the Markham River mouth. Although species composition of the dominant trees suggested it was in advanced secondary forest, and appears to be in largely undisturbed condition, relatively free of invasive species; further, human impacts were insignificant.

Human activities, mainly small scale logging and subsistence gardening by both landowners and recent migrants, have significantly impacted the natural vegetation and landscape of the area, especially along the Atzera Mountain Range (Plate 3.14), the hills behind Igam Barracks, and along the Bumbu and Busu rivers. Early introduction of farming and livestock grazing around Lae have also been responsible for introducing many of the weedy plants seen around Lae and up the Markham Valley.

Estimated vegetation condition within the study area is shown in Figure 3.2.

Vegetation condition within the proposed Infrastructure Corridor (nominally 40 m-wide) within the study area was estimated to be either highly modified (89%) or degraded (10%). The remaining areas were classified as rivers and moderately disturbed mixed swamp forest.



MD Reference: 0520CC\_Jegj\_GIS03\_v0\_6  
Source:  
Vegetation mapping from Coffey.  
Villages/ Settlements and infrastructure from WGJV and Coffey.  
Roads and watercourses from NSO.  
Imagery from ArcGIS Online (capture date unknown) and WGJV (capture date 2016).



Date:  
23.03.2018

Project:  
754-ENAUABTF100520DD

File Name:  
0520DD\_13\_F03.02\_GIS



Wafi-Golpu Project

Vegetation condition within the study area

Figure No:  
3.2

**Plate 3.12:** Old garden regrowth dominated by the invasive species *Piper aduncum*



**Plate 3.13:** Siam weed (*Chromolaena odorata*), a serious weed in cultivated land



**Plate 3.14:** New gardens on Atzera Mountain Range, a major cause of forest disturbance on the range



## 3.4. Flora

New Guinea is well recognised as one of the world's centres of plant diversity (Barthlott et al., 2005; Mutke & Barthlott, 2005; Kier et al., 2005; Gideon, 2015). Almost half of the botanical collections in PNG come from the Mamose (Madang-Morobe-Sepik) region, especially Morobe Province, with 28% of all the collections. This is due mainly to the fact that the PNG National Herbarium (PNG Forest Research Institute) is located in Lae, which has been the centre for botanical research in PNG since its establishment in 1946. Therefore, the flora of the areas surrounding Lae city are fairly well known and well represented in herbarium collections both in-country and overseas. Areas in PNG whose local floras are similarly well known include Mt. Wilhelm, Wau-Bulolo area, Lae-Markham and Sogeri-Brown River (Takeuchi, 2007).

### 3.4.1. Desktop review

A list of the vascular plant species known from the surrounding areas is provided in Appendix A. This list was derived mainly from the PNG Plants online database with additions from other sources and some corrections. Only vascular plants are included in the list, the bryophytes, fungi and lichens have been removed mainly because they are not truly representative of the higher flora. Exotic species have also been removed. A summary of the likely flora in the study area is shown in Table 3.4, broken down by flowering plants (dicotyledons and monocotyledons), non flowering plants (gymnosperms) and ferns and allies (pteridophytes).

**Table 3.4: Summary of vascular plant species with the potential to occur within the study area**

Higher Taxonomic Group	Number of Families	Number of Genera	Number of taxa (genera/species)
Flowering plants (Dicotyledons)	139	632	1,938
Flowering plants (Monocotyledons)	22	164	345
Non flowering plants (Gymnosperms)	5	10	22
Ferns and Allies (Pteridophytes)	30	89	243
<b>Total</b>	<b>196</b>	<b>895</b>	<b>2,548</b>

Information obtained from herbarium databases and other sources indicate that the vascular flora of the lowland areas surrounding Lae are relatively well known, and Table 3.4 shows that over 2,500 species are known from the area. While many plant collections have been made from the area, there has been no attempt in the past to produce a species checklist for the area, similar to the one put together by Streinmann (1983) for the Watut River catchment. Takeuchi (2003) provided a general assessment of the lowland ultrabasic flora of the Kamiali Wildlife Management Area (WMA), some 60 km south of Lae.

### 3.4.2. Field survey

As shown in Figure 2.1, four 100 x 20 m (0.2 ha) vegetation plots were established in the main forest types clearly identified in the study area as follows:

- Plot 1 – Large to Medium Crowned Forest on Uplands (Hm/Hl) near Yalu.
- Plot 2 – Large to Medium Crowned Forest on Uplands (Hm/Hl) near Yalu.
- Plot 3 – Large to Medium Crowned Forest on Plains and Fans (Pl) near Omaru.
- Plot 4 – Mixed Swamp Forest (Fsw/FswC) near Wali (Labu).

As shown in Table 3.5, the 0.8 ha sample yielded a total of 103 morpho-species in 72 genera and 38 families, and 78 (76%) of these were dicotyledons. A total of 3,510 individuals were assessed: 870 trees and 2,640 smaller plants from the subsamples. Species diversity for both trees and lower flora confirm the rarity of genera and species, a characteristic feature of tropical forests. About 76% (55) of genera were represented by single species. The two most abundant genera were *Ficus* represented by six morpho-species and *Myristica* represented by five morpho-species. The three most dominant trees censused recorded were *Gomphandra rarinervis* with 16, *P. indicus* with 14 and *N. cadamba* with 10 individuals.

**Table 3.5: Summary of flora recorded from study area plots**

Higher Taxon	No. of Families	No. of Genera	No. of Species	% of Flora
Gymnosperms	1	1	1	1.0
Ferns and Allies	3	3	3	2.9
Monocotyledons	6	16	21	20.4
Dicotyledons	28	52	78	75.7
<b>Total</b>	<b>38</b>	<b>72</b>	<b>103</b>	<b>100</b>

Table 3.6 provides a snapshot of species diversity and population of plants from the vegetation plots established within the study area. The data shows similar general patterns known for tropical lowland rain forests.

**Table 3.6: Species diversity and population of plants surveyed from vegetation plots**

Plot	Forest Type	No. of Species (0.2 ha)	No. of Trees/ha	No. of small plants/ha
Plot 1	Hm/HI	25	180	390
Plot 2	Hm/HI	31	210	785
Plot 3	PI	51	255	350
Plot 4	Fsw/FswC	32	225	1,115

### 3.4.3. Flora species of conservation significance

The Lae area has had a long history of botanical explorations, and many widespread New Guinea species were initially described from here as endemics, but later found to be more widespread. The area has no known endemic genera of plants and many of the currently restricted distributional ranges of species will no doubt be recorded in other localities.

The IUCN Red List of Threatened Species (IUCN Red List) is widely recognised as the most comprehensive and apolitical approach for assessing and monitoring the conservation status of biodiversity. It provides up to date taxonomic, conservation and distribution information on taxa that have been assessed using the IUCN Red List Categories and Criteria described in Section 2.6.3.

In PNG, only the birds and mammals are nearly completely assessed, while assessments and listing of PNG's rich plant life is far from complete. As shown in Table 3.7, based on the IUCN Red List 2008 only 1.6% of PNG's estimated plant species have been assessed. In more recent listings the number of assessed species increased to 540 species (IUCN Red List, 2016).

**Table 3.7: Described species and number of assessed species (in 2008)**

Taxonomic Group	Estimated Number of Species Described	Number of Species Assessed
Bryophytes (Mosses)	1,286	1
Pteridophytes (Ferns and Allies)	2,414	0
Gymnosperms (Cycads and Conifers)	120	39
Angiosperms (Flowering Plants)	12,645	224
<b>Total</b>	<b>16,465</b>	<b>264</b>

Source: IUCN Red List 2008

The IUCN listing of species must be based on reliable up to date information, which is lacking for most New Guinea families of plants. Consequently, most species assessed so far fall into Data Deficient (DD) or the lower conservation categories LC, NT or VU. Many recently studied plant families have assessed the conservation status of the species using the IUCN criteria but these have yet to be reported to IUCN for listing.

Table 3.8 presents a total of 28 species listed on the IUCN Red List of Threatened Species either recorded or with some potential to occur in the study area. Of these, 14 are listed as threatened (two critically endangered, three endangered and eight vulnerable), four are listed as Near Threatened, two are listed as Data Deficient and the remaining nine are listed as Least Concern.

A number of IUCN-listed species were positively identified during the field survey. These were: *Instsia bijuga* (Vulnerable), *O. sumatrana* (Least Concern), *Homalium foetidum* (Least Concern), *Pterocarpus indicus* (Vulnerable), *Myristica globosa* (Near Threatened), *M. hollrungii* (Least Concern), *Aglaia argentea* (Least Concern), *A. sapindina* (Least Concern), *C. inophyllum* (Least Concern), *C. papuanum* (Least Concern), *A. scholaris* (Least Concern), the cycad *Cycas schumanniana* (Near Threatened) and palm *Areca macrocalyx* (Least Concern).

In terms of the Infrastructure Corridor within the study area, habitat was assessed to be sub-optimal for flora species of conservation significance considering it consists of highly modified previously cleared areas (i.e., non-forest vegetation types), degraded swamp forest and alluvial vegetation.

**Table 3.8: Conservation-priority (IUCN-listed plants) with the potential to occur in the study area**

Life form	Family	Species	Conservation status	Habitat and distribution	Likelihood of occurrence in the study area
Tree	Ebenaceae	<i>Diospyros lolinopsis</i>	CE	<p>Information from Lae Herbarium indicates that this species occurs in Madang and Milne Bay Provinces at altitudes ranging from 50 to 650 m. Species previously recorded at the following locations (see Appendix A): Garagos River northwest of Lae, Lae-Bulolo Road to the west of Lae and south of Buso.</p> <p>A common species observed during previous project surveys (BAAM, 2018) in the sub-canopy and occasionally canopy in Medium Crowned Forest. Most commonly associated with ridgelines where it shares dominance with <i>Intsia bijuga</i> although is occasionally found on outwash and alluvial plains at the base of hillslopes. Based on the known distribution, BAAM, (2018) suggest revision of the conservation status is required.</p>	Likely (i.e., probability of 40% or greater) to be present in the Study Area. Based on regional records and suitable habitat.
Tree	Rutaceae	<i>Halfordia papuana</i>	CE	<p>Species is scattered in submontane and montane rainforest between 1,200 and 2,700 m, with some collections as low as 250 m. Mostly confined to the Bulolo/Wau region in Morobe Province although several specimens recorded in the East Sepik Province (Conn et al., 2006), and Lae Herbarium has collections for the West Sepik, Chimbu, Central Highlands, Eastern Highlands, Enga and Southern Highlands provinces (BAAM, 2018).</p>	Unlikely to be present within the study area and if present restricted to the top of the Atzera Mountain Range.
Tree	Clusiaceae	<i>Calophyllum morobense</i>	EN	<p>Species is endemic to Morobe and occurs in lowland rainforest on alluvial soils. The species is mainly threatened from logging.</p>	Potentially present in the study area. There is a historical record of the species on the outskirts of Lae within the study area.

Life form	Family	Species	Conservation status	Habitat and distribution	Likelihood of occurrence in the study area
Tree	Flindersiaceae	<i>Flindersia pimenteliana</i>	EN	Species occurs in PNG (widespread), Australia and Indonesia (Papua), mainly in lower montane forest or in foothill rainforest. There are 50 collections throughout the Central, Morobe and Milne Bay Provinces and Papua (Eddowes, 1998d). Lae Herbarium retains 17 collections from the Morobe, Milne Bay, Madang, Eastern Highlands, Northern and Western Provinces (BAAM, 2018).	Potentially present in the foothill forest within the study area.
Tree	Proteaceae	<i>Bleasdalea papuana</i>	EN	An uncommon species of isolated occurrence. It has been recorded from the Vogelkop Peninsula and Jayapura in Irian Jaya and the East Sepik and Morobe provinces in Papua New Guinea (Eddowes, 1998a). The species occurs in lower montane forest on serpentine soils.	Unlikely to be present in the study area. If present restricted to higher elevations.
Tree	Araliaceae	<i>Polyscias prolifera</i>	VU	This medium-sized tree is confined to submontane rainforest on steep slopes is known from only two collections in the Kuper Range within the Morobe district (World Conservation Monitoring Centre, 1998b). However, Conn et al., (2006) note records from disturbed lowland forest in Morobe district; lowland rainforest in the Manus District; a single record from Mt Lululua in the East New Britain Subdistrict and Pomio from within montane Nothofagus forest.	Unlikely to be present in the study Area, based on habitat requirements.
Tree	Clusiaceae	<i>Calophyllum robustum</i>	VU	Uncommon tree found in lowland rainforest is known from the Morobe district and near loma in the Northern district, occurring in lowland forest. However, the distribution limits of this taxon are unclear (Eddowes, 1998b).	Potentially present in the study area, based on habitat requirements.
Tree	Fabaceae	<i>Intsia bijuga</i>	VU	A lowland rainforest tree which produces one of the most valuable timbers of South East Asia. Species previously recorded at Malahang coast, northeast of Lae; foothills near Yalu, near Oomsis, Lae-Wau Road; Lae Botanical Gardens and Yalu.	Recorded during field surveys.

Life form	Family	Species	Conservation status	Habitat and distribution	Likelihood of occurrence in the study area
Tree	Fabaceae	<i>Pterocarpus indicus</i>	VU	Species occurs from India to Vanuatu in lowland primary and some secondary forest, mainly along tidal creeks and rocky shores (World Conservation Monitoring Centre, 1998a). Species previously recorded at the following locations (see Appendix A): Near Unitech Campus; Malahang along coast, northeast of Lae; National Botanic Garden, Lae-Bulolo Rd; Lae; north side of Markham River; Abunaka Plantation near Lae; Yalu; Between Busu and Bupu rivers, north of Lae.	Recorded during field surveys. During previous project surveys (BAAM, 2018) a scattered tree on footslopes located in Medium Crowned Forest in the Buvu Creek valley as well as several specimens located in the Babuaf area were observed.
Tree	Meliaceae	<i>Aglaia brownii</i>	VU	Species occurs in PNG, Indonesia and Australia. Previous recorded in the Atzera Mountain Range above Bubia (see Appendix A).	Recorded during field surveys.
Tree	Meliaceae	<i>Chisocheton stellatus</i>	VU	Tree species endemic to New Guinea known from only a few collections and threatened from logging (Eddowes, 1998c)	Potentially present in the study area based on habitat requirements and distribution.
Tree	Myristicaceae	<i>Myristica buchneriana</i>	VU	Species is widespread in PNG in primary rainforest, frequently found on ridge tops between 300 and 1,300m (World Conservation Monitoring Centre, 1998d). Previously recorded in the following locations (see Appendix A): Yalu near Lae; Atzera Mountain Range; Garagos, Markham-Oomsis Ridge, west of Lae; Yalu; Oomsis LA near Lae; Oomsis creek, west of Lae.	Likely to be present in the study area and recorded during previous project surveys (BAAM, 2018) in Medium Crowned Forest near the Finchif Fly Camp.
Herb	Zingiberaceae	<i>Pleuranthodium papilionaceum</i>	VU	Species is known to occur from a few localities within the Madang and Morobe Provinces in PNG (Romand-Monnier and Contu, 2013). Previously recorded in Lae and Yalu village.	Likely to be present in the study area based on habitat requirements and distribution.

Life form	Family	Species	Conservation status	Habitat and distribution	Likelihood of occurrence in the study area
Cycad	Cycadaceae	<i>Cycas apoa</i>	NT	Known from northern coastal New Guinea, from the Huon Peninsula west to at least the Mamberamo River in Indonesian New Guinea. This species is scattered in closed mesophyll forest in wet lowland areas, most typically on low ridges (Hill, 2010a) Associated with Medium Crowned Forest on hillslopes in a large number of localities.	Likely to be present in the study area based on habitat requirements and distribution.
Cycad	Cycadaceae	<i>Cycas rumphii</i>	NT	Species occurs in PNG and Indonesia. Occurs over a wide range in coastal areas, but this species has declined due to habitat loss (Hill, 2010b).	Likely to be present in the study area based on habitat requirements and distribution.
Cycad	Cycadaceae	<i>Cycas schumanniana</i>	NT	Endemic to PNG occurring on the northern side of the island along the foothills of the Bismarck range, predominantly in the Markham and Ramu valleys, and extending south from Lae along the Bulolo river as far as Wau and Madang. Recorded from low to high elevations up to 1,600m asl (Hill, 2010c).	The species was recorded on a low ridgeline adjacent to the Markham River during previous project surveys (BAAM, 2018). Scattered small individual plants were associated with frequently burnt kunai habitats on ridgelines. The species was reported to be occasional on ridges in hill forest in the Markham Gap Basin (Booyong, 2011b). Recorded in the study area during field surveys.
Tree	Myristicaceae	<i>Myristica globosa</i>	NT	Species occurs in PNG, Solomon Islands and Australia in rainforest up to 1,200m (World Conservation Monitoring Centre, 1998c). Previously recorded in the following locations (see Appendix A): Lae Botanic Garden, Busu-Butibum rivers; Yalu, Burep River; Atzera Mountain Range; Oomsis Red Hill Area, coast southeast of Lae; near Markham River.	Likely to be present in the study area based on habitat requirements and distribution.

Life form	Family	Species	Conservation status	Habitat and distribution	Likelihood of occurrence in the study area
Tree	Clusiaceae	<i>Calophyllum laticostatum</i>	DD	Species endemic to PNG and has been recorded previously at Ana village, southwest of Morobe on Mo River (see Appendix A).	Potentially present in the study area based on habitat requirements and distribution.
Tree	Clusiaceae	<i>Calophyllum streimannii</i>	DD	Species endemic to Morobe Province to the south of Lae. Species previously recorded in Ana village, southwest of Morobe (see Appendix A).	Potentially present in the study area based on habitat requirements and distribution.
Tree	Apocynaceae	<i>Alstonia scholaris</i>	LC	Species occurs from India to the Pacific. Species recorded previously at following locations (see Appendix A). The species has been recorded along the Lae-Nadzab Road, Yalu and Oomsis creek west of Lae;	Likely to be present in the study area based on habitat requirements and distribution.
Palm	Arecaceae	<i>Areca macrocalyx</i>	LC	Species occurs in Indonesia, PNG and Solomon Islands.	Recorded in the study area during field surveys.
Tree	Clusiaceae	<i>Calophyllum inophyllum</i>	LC	Species occurs from Africa to Pacific. Species recorded previously at Malahang Beach.	Recorded in the study area during field surveys.
Tree	Clusiaceae	<i>Calophyllum papuanum</i>	LC	Species occurs in PNG and Maluku, Indonesian Papua. Species previously recorded at Markham Point and Lae Botanical Gardens (see Appendix A).	Recorded in the study area during field surveys.
Tree	Datiscaceae	<i>Octomeles sumatrana</i>	LC	Species previously recorded in the following locations (see Appendix A): Hills near Taraka, Garagos along the Lae-Wau Road, Lae, Bumba area and Oomsis.	Recorded in the study area during field surveys.
Tree	Flacourtiaceae	<i>Homalium foetidum</i>	LC	Species occurs in Malaysia, Indonesia, Philippines and PNG and previously recorded at the following locations (see Appendix A): Northeast along Butibum River, Lae, Busu River area, northeast of Lae; Ridge beteewn Busu and Butibum rivers, north northwest of Lae; Buheim River, west of Lae; Burep River northeast of Lae; Busu River near Lae; Hills near Taraka.	Recorded in the study area during field surveys.

<b>Life form</b>	<b>Family</b>	<b>Species</b>	<b>Conservation status</b>	<b>Habitat and distribution</b>	<b>Likelihood of occurrence in the study area</b>
Tree	Meliaceae	<i>Aglaia argentea</i>	LC	Species occurs from India to Australia, Solomon Islands and is widespread in PNG. Previously recorded at the Busu-Bupu rivers north of Lae and the National Botanical Gardens in Lae (see Appendix A).	Recorded in the study area during field surveys.
Tree	Meliaceae	<i>Aglaia sapindina</i>	LC	Species occurs in PNG (widespread), Solomon Islands and Australia. Previously recorded in the following locations (see Appendix A): South of Busu River, north of Lae; Morobe, Lae; Lae Botanic Garden; Yalu; Sangkewp LA, southwest of Lae; Markham Road, near Lae; Patep 35 miles from Lae; Lae Botanic Garden, Lae; Near Bubia, Lae; near Markham Bridge, Lae; Botanic Garden near War Cemetery.	Likely to be present in the study area based on habitat requirements and distribution.
Tree	Myristicaceae	<i>Myristica hollrungii</i>	LC	Widespread in PNG, previously recorded in the following locations (see Appendix A): Erap Maralumi creek, Lae; corner Lae-Nadzab Road and Narakapoer Rd; Lae-Wau Road near Gabensis Plantation; Lae Botanical Gardens; Singaua Plantation, east of Lae.	Recorded in the study area during field surveys.

### 3.4.4. Invasive plants

Invasive species have been identified as one of the greatest threats to biodiversity around the globe, second only to habitat destruction (Lowe et al., 2000). Increasing international trade and travel have greatly increased the chances of introducing invasive species. Intentional introductions of plants are mostly attributed to their use in forestry, agriculture, landscaping, horticulture, etc. Accidental introductions are assisted by travel and imports of various items such as used machinery, equipment, food, and various other products. Thus, biological invasion is one of the most challenging environmental issues. The accidental or intentional introduction of exotic species of flora into an area has the potential to negatively influence the existing biological environment.

Invasive plants are defined by the Invasive Species Advisory Committee (2006) as “those species that are not native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm.” The terms “Invasive Alien Species (IAS)”, “Alien Invasive Species (AIS)”, or simply “Invasive Species (IS)” have been used, and all have somewhat equivalent meaning. It is not always easy to define and distinguish common weedy plants of cultivated lands from invasive species. In this report “invasive species” specifically refers to those undesirable plants that appear to be invading natural ecosystems and are likely to cause long term harm to the native biological environments and landscapes. PNG does not have an established classification system for assessing the status of weedy and invasive plants. Any study on the presence and distribution of weedy and invasive plants must rely on classification systems developed in other countries.

The Lae area has experienced a relatively long history of contact with foreign persons, going back almost 200 years, but especially in the last 100 years. Gold was discovered in the Wau and Bulolo valleys in the 1920s and at the height of the gold rush in 1938 there were about 700 Europeans in the area. During that period there was massive movement of cargo and personnel by planes between the coast and Wau/Bulolo. All of these early contacts may have intentionally or accidentally introduced foreign flora to the area. However, it was probably the period of agricultural intensification around Lae and Markham Valley after World War II that was responsible for introducing most of the serious weeds and invasive species into the area through the movement of personal, cargo, equipment and livestock.

Weeds known to pose serious threats to local ecosystems include *P.aduncum* (Piperaceae), *L. camara* (Verbenaceae), *S. campanulata* (Bignoniaceae) and *C. odorata* (Asteraceae). In aquatic and wetland areas, water hyacinth (*E. crassipes*), salvinia (*S. molesta*) and water lettuce (*P. stratioites*) can pose serious threats to the freshwater ecosystems. All these and others continue to negatively impact the natural ecosystems in the study area. Highly invasive species recorded during field surveys that are threats to the natural terrestrial environments are described in Table 3.9.

**Table 3.9: Highly invasive species observed during the field survey**

Name	Description	Occurrence within the study area
<b>Spiked pepper (<i>Piper aduncum</i>)</b>	Native to tropical America and may have been accidentally introduced into PNG along with shipped logging equipment (Kiapranis & Nimiago, unpubl.). It is a small tree up to 7 m tall, with short stilt roots and soft, brittle wood, drooping twigs with swollen nodes and the foliage and twigs are aromatic. Studies have shown that that it has invasive advantage over pioneer species because of its dominance in the seed bank, and it is extremely fast growing (Rogers & Hartemink, 2000). It produces numerous small seeds which are dispersed by mammals and fruit eating birds.	A common weedy tree in the study area.

Name	Description	Occurrence within the study area
<b>African tulip (<i>Spathodea campanulata</i>)</b>	African tulip is an African ornamental tree now widespread throughout the tropics. This tree has been moved around as an ornamental tree, but often escapes to become a serious invasive species for natural ecosystems. The tree reproduces mostly from seeds, which are light and dispersal is aided by wind. It is fast growing and invades forested land and abandoned coconut plantations. It is spreading very fast throughout the PNG lowlands.	The species is spreading fast into most of the natural environments, especially along the Atzera Mountain Range and all the areas surrounding Lae city.
<b>Siam Weed (<i>Chromolaena odorata</i>)</b>	Known as siam weed or ‘a-mile-a-minute’. It is native to Central and South America, but has now become a major weed in parts of Asia and Africa. It is now found throughout PNG lowlands. It is a perennial scrambling shrub, forming dense thickets to 2 m tall, or higher when climbing up vegetation. It has an extremely fast growing and prolific seed producer, with growth rates of up to 20 mm per day. While it does not appear to be a problem in continuously cultivated lands, it is a major invasive weed of pasture and plantation crops such as oil palm, rubber, coconut, coffee, cocoa and forestry. Clearing of land for agricultural appears to be ideal conditions for such plants to propagate very quickly.	Recorded in recently disturbed areas in the study area.
<b><i>Merremia peltata</i></b>	A twining and creeping vine often reaching up to 10 to 15 m, and has a stout stem with cordate to round peltate leaves. This indigenous liana invades forest clearings and forms a blanket cover over other vegetation and suppresses their growth, especially the regenerating tree species. It has been observed to be a serious weed in rubber plantations in the Cape Rodney area (Central Province) and elsewhere in PNG (pers. observ.).	Recorded in disturbed areas in the study area.
<b>Elephant grass (<i>Pennisetum purpureum</i>)</b>	A perennial grass with a creeping rootstock and robust erect leafy shoots. Originally from Africa, but now widespread throughout the tropics, and it was probably introduced very early to PNG as a fodder grass. It is generally not a very serious weed or invasive plant, but if left uncontrolled it can become a problem, especially in cultivated land.	Recorded in disturbed areas in the study area.
<b>Lantana (<i>Lantana camara</i>)</b>	A much branched, scrambling shrub which forms dense thickets (Henty & Pritchard, 1988). The inflorescence is in stalked heads and the corolla is 4 to 5 lobed, yellow-orange or becoming red after anthesis. Fruit is fleshy, globose and turns from green to shiny purple when ripe. In Australia it is regarded as one of the worst weeds because of its ability to spread and its economic and environmental impacts. It spreads via its roots and birds are known to spread its seeds.	Recorded in disturbed areas in the study area.

Once these invasive species invade native habitats they can bring about permanent changes and loss of biodiversity. Intact tropical forests tend to be more resistant to invasive species. Areas associated with disturbance, particularly roads and linear infrastructure, provide opportunities for invasive species to become established. The impacts of weeds may not be immediate and a lag period of several decades may go by before a species “breaks out” and becomes a notorious weed.

Aside from the serious invasive species listed above, other less invasive and threatening commonly occurring exotic species observed belong to many families including Asteraceae (e.g., *Ageratum conyzoides*, *Crassocephalum crepidioides* and many other species), Cyperaceae (e.g., *Cyperus* spp., *Fimbristylus* spp., etc.), Poaceae (*Chrysopogon aciculatus*, *Paspalum conjugatum*, *Pennisetum*

*purpureum*, *Ishaemum muticum*, *S. verticilliflorum*, and many other spp.), Rubiaceae (e.g. *Hedyotis* spp, *Spermacoce* spp.), Commelinaceae (*Commelina* spp.), Convolvulaceae (*Merremia* spp., *Ipomoea* spp., etc), Lamiaceae (*Stachytarpheta* spp.), Fabaceae (*Mimosa pudica*, *Pueraria* spp., *Crotolaria* spp. and many other species), Malvaceae (*Sida* spp.), Solanaceae (*Solanum* spp.), Lamiaceae (*Stachytarpheta* spp.), Euphorbiaeae (*Euphorbia* spp., *Phylanthus amarus*), and Verbenaceae. Fern families such as Dennstaedtiaceae and Thelypteridaceae also have weedy species.

### 3.5. Fauna

Species recorded directly during the study include 140 species of birds, five species of mammals and four species of reptiles. Additional species reliably recognised by locals include two birds (likely to occur in the area), eight reptiles and one mammal species. A further 49 species of birds also occur within the study area but were not recorded during this study (Eastwood (1995) and Smith (1991)).

Appendix B lists all vertebrate species recorded during the surveys, including species identified during village interviews and from trophies and pets, along with their conservation status and the region/habitat they were recorded in. Species also recorded during previous surveys (identified through desktop studies to occur in the area) but not directly recorded during this survey are also listed in Appendix B.

The diversity and distribution of fauna within the different habitat types varied, ranging from those that are typically found only in a specific habitat type (specialist) to those that are found in all or most of the habitat types (generalists) found within the study area.

Twenty-five species identified during the surveys as either present or potentially present based on their distribution and habitat requirements are of national and/or international conservation significance. These are listed in Table 3.10 and include two listed as Vulnerable and two Near Threatened species. Listed species are discussed below including a summary of their habitats, distribution, threats and occurrence within the study area. This excludes marine species, which are addressed under separate specialist reports.

**Table 3.10: Species of national and/or international conservation significance recorded during the terrestrial ecology surveys**

Species	IUCN status	PNG Fauna Act	Description and Ecology	Likelihood of Occurrence within the Study Area
Pesquet's parrot ( <i>Psittichas fulgidus</i> )	VU	-	The Pesquet's parrot is endemic to New Guinea and is patchily distributed across the island, where it is nomadic and a specialist frugivore, feeding only on a select species of figs (Mack & Wright, 1998). The species is restricted to hill and lower montane forests. At lower altitudes the species occurs in hills and at the base of mountains (Burrows, 1995 and Mack, 1998). The major threat to the species is hunting for feathers which are used as ornamentation in headdresses in much of the PNG highlands (Coates, 1985, Beehler et al., 1986, Mack & Wright 1998). Logging, hunting and wildlife trade also pose slight threats to the species (Birdlife International, 2016b).	The species is present in the study area. Calls of a single individual were heard in hill forest near Yalu village on 10 February. On 11 February, a pair of adult birds was observed clearly on a dry tree branch in foothill forest along the banks of Bumbu River. Calls and a single bird were also observed in hill forest near Bomsi village on 12 February. A single bird was heard calling in forest at the base of the Rawlinson Mountain Range inland of Labu village on 13 February.
Victoria-crowned Pigeon ( <i>Goura Victoria</i> )*	VU	P	The Victoria-crowned pigeon is distributed from Yapen and Biak-Supiori (where it may have been introduced) Islands through northern New Guinea from Geelvink Bay to Astrolabe Bay with an isolated population around Collingwood Bay (Birdlife International, 2016a). The species is found in lowland forest, including swamp forest up to 600 m asl.	The species is unlikely to be present within the study area given it is not distributed within the Markham River plains and the general Huon Peninsula area but further north towards the Astrolabe Bay area. However, conversations with locals indicate that five individuals were introduced in the forests near Bomsi village sometime around 1997 by staff from the Rainforest Habitat in Lae. Further conversations with locals indicated that they are not aware of the status of these introduced species nor have observed them recently.
Gurney's eagle ( <i>Aquila gurneyi</i> )	NT	R	Gurney's eagle is a large and sparsely distributed species of lowland and hill forests (found up to approximately 1,300 m asl) throughout New Guinea. It occurs at low population densities and is threatened by habitat loss and degradation.	The species is present within the study area and was observed during this study. A single individual was observed on 12 February soaring above forest clearing along a small creek near Bomsi village.

Species	IUCN status	PNG Fauna Act	Description and Ecology	Likelihood of Occurrence within the Study Area
Emperor bird-of-paradise ( <i>Paradisaea guilielmi</i> )*	NT	P	The Emperor bird-of-paradise is endemic to the Huon Peninsula and is found from 450 to 1500 m asl in forested areas, gardens and shade coffee plantations. The species is threatened by forest degradation from both commercial logging and cultivation. Such practices have resulted in the species been replaced at lower elevations of its range in the east by raggiana bird-of-paradise and in the west by lesser bird-of-paradise ( <i>Paradisaea minor</i> ).	The species is likely to be present within the study area; however, was not directly observed during field surveys. Local people at Gwabedik, Labu and Yalu clearly identified the species during interviews and indicated that they hunted the species for its plumes in the past during logging operations. While past logging operations that occurred within the study area were at elevations lower than the species' usual distributional range, the presence of the species at higher elevations not accessible to logging cannot be ruled out particularly in forests around the Atzera Mountain Range and in forests at higher elevations above Gwabedik village.
Great egret ( <i>Ardea alba</i> )	-	P	The great egret is a common inhabitant of wetland habitats and is protected under PNG law. Three individual birds were observed during the survey.	The species is present within the study area where it was common during the surveys. Two birds were observed on 12 February, with one seen foraging on the banks of the Busu River (Plate 3.15) and another observed flying over Marambi River on the road to Gwebadik village. On 13 February an individual was observed flying over sago swamp forest along the banks of Markham River near Labu village.
Intermediate egret ( <i>Ardea intermedia</i> )	-	P	The intermediate egret like the great egret is a common inhabitant of wetland habitats and is also protected under PNG law. Though quite common in other wetland areas across PNG, only one single individual was observed during the entire survey.	The species is present within the study area. On the morning of 14 February an individual was observed foraging on an exposed part of the Markham River bed.

Species	IUCN status	PNG Fauna Act	Description and Ecology	Likelihood of Occurrence within the Study Area
Papuan harrier ( <i>Circus spilothorax</i> )	-	R	The Papuan harrier is a species restricted to grassland and swamp habitats throughout New Guinea and can be found from sea level up to 3,800 m asl. Though not recorded during this study it has been observed along the Markham River grassland plains (Smith, 1991). During previous studies on the species it was observed to be quite common around grassland habitats near Ramu Sugar where two nests with three chicks each were located, and also at the Goroka and Mt Hagen airstrips (Simmons & Legra, 2009). Both nests were destroyed by bush fires on follow up visits to the area. Much of the grassland areas in New Guinea are susceptible to periodic burning either by local inhabitants for hunting purposes, gardening or natural bushfires, which pose an immediate threat to Papuan harrier nests and hatchlings.	The species is present within the study area and was observed during previous surveys along the Markham River grassland plains
Pheasant pigeon ( <i>Otidiphaps nobilis</i> )	-	R	This ground ranging pigeon is protected under PNG law and is a common species in undisturbed or less frequented forested habitats. The species is known to occur from sea level up to 2,260 m asl (Woxvold & Legra, 2016). In the Huon Peninsula the species' highest elevation is at 2,050 m asl (Freeman et al., 2013).	The species is present within the study area. On the morning of 13 February, calls of an individual bird were clearly heard in lowland swamp forest inland of Labu village directly below the Rawlinson Mountain Ranges.
Blyth's hornbill ( <i>Rhyticeros plicatus</i> )	-	P	The Blyth's hornbill is New Guinea's only hornbill species, one of its largest and mobile frugivores and plays a very important role in forest ecosystem dynamics as a seed disperser (Mack & Wright, 2005). It is also highly vocal and is easily identifiable through its calls and loud wing flapping sound. The species is widely distributed throughout the study area and has been known to congregate in large numbers in bare trees within the study area (Smith, 1991).	The species is present within the study area and was recorded at a number of locations across the study area.
Oriental hobby ( <i>Falco severus</i> )	-	R	The oriental hobby ranges from northwest of India to the Solomon Islands. In New Guinea the species is uncommon but widespread from sea level up to 1,800 m asl. Although the species has a wide range, it is restricted for trade under PNG law.	The species is present within the study area. During the survey calls of a single individual were heard on the morning of 12 February within lowland swamp forest inland of Wagang village.
Peregrine falcon ( <i>Falco peregrinus</i> )	-	R	The peregrine falcon has a worldwide distribution and is highly migratory especially in the temperate and Arctic parts of its range. Those that breed in the southern hemisphere tend to be residential species like those found in New Guinea. The species is rare and elusive and occurs from sea level to 3,475 m asl across New Guinea.	The species is present within the study area. During the survey the species was heard calling along a forest track in hill forest near Bomsi and Yalu villages.

Species	IUCN status	PNG Fauna Act	Description and Ecology	Likelihood of Occurrence within the Study Area
Palm cockatoo ( <i>Probosciger aterrimus</i> )	-	P	The palm cockatoo is a wide ranging species found from northern Australia to New Guinea. In New Guinea the species occurs from sea level up to 1,350 m asl and is found in a variety of habitats including rainforest, secondary forests and savannah habitats. The species has been hunted for its feathers and for meat and has suffered population declines and local extinction in many places across New Guinea (Coates, 1985).	The species is present within the study area where it is relatively common and was observed in the hills, foothills and swamp forests around Bomsi, Labu and Yalu villages.
Sulphur-crested cockatoo ( <i>Cacatua galerita</i> )	-	R	A large and conspicuous cockatoo widely distributed throughout New Guinea from the lowlands up to 1,500 m asl. The species is commonly hunted for its feathers and has been largely extirpated in some areas of its range (Coates, 1985).	The species is present within the study area and is common. The species was observed in a variety of habitats including grassland areas near Markham River, the foothill forests around the headwaters of the Bumbu River, hill forests around Yalu and Bomsi villages and the swamp and lowland forests inland of Labu village. On the morning of 10 February in the hills above Yalu village, 6 adult birds were observed being mobbed by a pair of nesting eclectus parrots ( <i>Eclectus roratus</i> ) whenever the group flew close to the Kwila tree in which the parrots had a nest.
Edwards's fig parrot ( <i>Psittaculirostris edwardsii</i> )	-	R	The species has a restricted range and is endemic to the northern lowlands of New Guinea where it occurs from sea level up to 800 m asl. It is locally common in forest and disturbed habitats. It breeds in small tree hollows and is partly nomadic usually in response to fruiting patterns, especially figs.	The species is present within the study area. On 14 February calls of an individual were heard along the road towards Markham River and a pair was observed perched on coconut palm within a coconut and cocoa plantation at Kokop village along the road to the Markham River. Smith (1991) in his records of birds of the Lae area, observed a pair nesting in a dead tree along the Markham Highway near the village of Ngasawapum.

Species	IUCN status	PNG Fauna Act	Description and Ecology	Likelihood of Occurrence within the Study Area
Glossy-mantled manucode ( <i>Manucodia ater</i> )	-	P	The glossy-mantled manucode is one of two manucodes (the other is the crinkle-collared manucode) that occur within the Huon Peninsula. These two species are similar in appearance making them hard to identify in the field. Vocalisations and habitat use are the most reliable distinguishing features. The species is endemic to New Guinea and satellite islands where it is patchily distributed across its range. The glossy-mantled manucode is the most common manucode in open and disturbed habitats where it can be found in forest edges, secondary growth, swamp forests, woodlands and scrub in the lowlands and foothills up to approximately 900 m asl.	The species is present within the study area and calls of the species were heard in swamp forest, floodplains and foothill forests inland of Labu village and near the headwaters of the Bumbu River.
Crinkle-collared manucode ( <i>Manucodia chalybatus</i> )	-	P	The crinkle-collared manucode is endemic to New Guinea and Misool Island where it occurs in hill forests up to 1,500 m asl. The species is absent or uncommon in lowland areas. The species calls are distinctive from those of other species potentially occurring in the area however the calls of the Jobi Manucode is unknown thus misidentification could occur as both species share similar habitat preferences. For the purposes of this report we follow sensu Birdlife International (2016c) where the Jobi Manucode is distributed west of Astrolabe Bay and the Ramu River.	The species is present within the study area and was observed in foothill and hill forests near the headwaters of the Bumbu River and Gwabedik village, and swamp forests at the foothills of the Rawlinson Mountain Ranges inland of Labu village.
Magnificent riflebird ( <i>Ptiloris magnificus</i> )	-	P	The magnificent riflebird is distributed across New Guinea and northeast of Australia where it is commonly found in the lowlands up to 1,740 m asl.	The species is present in the study area and was observed in foothill forests near the headwaters of the Bumbu River and also in hill forests near Bomsi and Gwabedik villages.
Growling riflebird ( <i>Ptiloris intercedens</i> )	-	P	The growling riflebird once considered a sub species of the Magnificent Riflebird is endemic to lowland and hill forests of eastern New Guinea where it feeds on fruit and invertebrates. This lumping of the two species has led to a somewhat unresolved distributional range of the species, with the need for more locality data and also a revisit of museum study skins to confirm locality data and resolve the geographic distribution of the species across its range (Birdlife International, 2016d; Gregory, 2011; and Legra, 2009). A usually shy species, the presence of the growling riflebird is often revealed by the male's distinctive calls.	The species is present within the study area and a single individual was heard calling in hill forests near Yalu village on 10 February and also around hill forests near Gwabedik village during past surveys (Eastwood, 1995; Smith, 1991).

Species	IUCN status	PNG Fauna Act	Description and Ecology	Likelihood of Occurrence within the Study Area
Magnificent bird-of-paradise ( <i>Diphyllodes magnificus</i> )	-	P	The magnificent bird-of-paradise is endemic to New Guinea and satellite islands where it is commonly found in hill and lower montane forests up to 1,200 m asl. Individual males maintain display courts near the ground where they display to females. The species is patchily distributed across its range with many breaks between populations. Its largest unbroken distributional range is from the Adelbert Mountain Ranges to the Huon Peninsula where it crosses over the central ranges of New Guinea and follows the Owen Stanley Ranges (Heads, 2002). Apparently three forms are recognised and given the allopatric nature of all forms as well as significant differences in morphological characteristics, further genetic work may result in recognition of more species under this complex (Beehler & Swaby, 1991, Cracraft, 1992, Diamond, 1972).	The species is present within the study area where the species was heard calling in hill forests around Gwabedik village. Past studies also found the species within these forests as well (Eastwood, 1995, Smith, 1991).
King bird-of-paradise ( <i>Cicinnurus regius</i> )	-	P	The king bird-of-paradise is a common inhabitant of lowland and foothill forests up to 300 m asl (less common at higher elevations) including swamp forests of New Guinea and nearby islands. The males of the species display in the lower canopy in exploded leks where a pair of males display in separate trees but within vocal distance of another displaying male pair (Diamond, 1972).	The species is present within the study area where an individuals were heard in swamp, foothill and hill forests throughout the study area. One individual male was observed calling within forest canopy of swamp/foothill forest inland of Labu village on 13 February.
Raggiana bird-of-paradise ( <i>Paradisaea raggiana</i> )	-	P	The species is a lekking species where up to 10 or more males perform in a tree or several trees attracting a horde of female who mate with the best performing male. The same lek tree can be used for many years.	The species is present within the study area where the species was commonly encountered in swamp, foothill and hill forests where several calls of the species were heard and four sightings of male birds made. On the afternoon of 11 February a single male bird was observed perched on a tree branch adjacent to the Bumbu River. Another male was observed feeding on figs near a fruiting tree that was bombarded by a group of coconut lorikeets. Two adult males were heard calling and also observed perched on a tree branch along the edge of the roadside near Gwebadik village on 12 February. Locals indicated that the tree was not a lek tree.

Species	IUCN status	PNG Fauna Act	Description and Ecology	Likelihood of Occurrence within the Study Area
Amethystine python ( <i>Morelia amethistina</i> )*	-	R	The amethystine python has a wide distribution across Australia, Indonesia and PNG where it has been found up to 1,600m asl. The species inhabits a variety of habitats both wet and dry, from scrub to closed forests and is also found in disturbed environments. Major threats to the species include wildlife trade and hunting for meat (Auliya, 2010).	The species is present within the study area. Locals from Yalu, Labu, Bumbu and Bomsi villages indicated that they often hunted and killed the species for meat when it was encountered. They also indicated that the species was common within their forests. The species has also been documented around the Lae area (McDowell, 1984).
Green tree python ( <i>Morelia viridis</i> )*	-	R	The species is distributed throughout mainland New Guinea, Indonesia and northeast Cape York Peninsula of Australia. It is found from sea level up to 1,200 m asl where it inhabits moist forests from lowlands to mid-montane forests. It is also found in garden areas as well (Auliya et al., 2010). The species is one of the most sought after python species in the international pet trade where it is often taken from the wild leading to extirpations of the species in localised areas.	The species is present within the study area. Locals from Bumbu, Bomsi, Gwabedik, Labu and Yalu indicated that the species was common in the area and that they usually hunted it when encountered while going to gardens or going fishing or hunting. Previous surveys have also documented the species with the Lae city area (McDowell, 1984).
Mangrove monitor ( <i>Varanus indicus</i> )*	-	R	The mangrove monitor occurs from the Marianas Islands through New Guinea and Australia where it is normally found in forests near watercourses, lakes and in mangroves. The species is part of the <i>Varanus indicus</i> species complex and further genetic studies could result in some of the island endemics being relegated to species status (Bennett & Sweet, 2010). The species is heavily hunted for its skin and also for meat, where skins in PNG are usually used in the manufacture of kundu drums.	The species is present within the study area and the species was observed within swamp forests near Wagang village and also in swamp and lowland forests inland of Labu village. Interviews with local guides indicated that they hunted the species for meat and its skin for use in kundu drums and also for sale in the markets.
Emerald monitor ( <i>Varanus prasinus</i> )*	-	R	The species has a broad distribution across New Guinea and offshore islands including the Torres Strait Islands where it is found from sea level up to 830 m asl. The species can be found in rain and palm forests, mangrove swamps, lagoons and cocoa and coconut plantations (Shea et al., 2016). Like the mangrove monitor the species is popular in the international pet trade and large numbers of the species have been hunted and exported to pet markets, especially in the Indonesian part of New Guinea. In PNG the species is hunted for its skin and meat where its skin is used in the manufacture of kundu drums and to a lesser extent sold in local markets (Shea et al., 2016).	The species is present within the study area where the species was observed in hill and foothill forests around Yalu, Bumbu River and Bomsi village and also in swamp and mangrove forests around Labu and Wagang villages. Local guides indicated that the species was common and was usually observed scurrying up tree and coconut trunks when disturbed on the ground.

\* Denotes species likely to occur in the study area, but not directly recorded during ground surveys. Reliably identified by local guides as occurring in the area.

### 3.5.1. Fauna habitats

Broad habitat types within the study area mapped primarily based on the vegetation communities are shown in Figure 3.3. These habitats are described below including the fauna communities that occur within them.

#### Hill and foothill forests

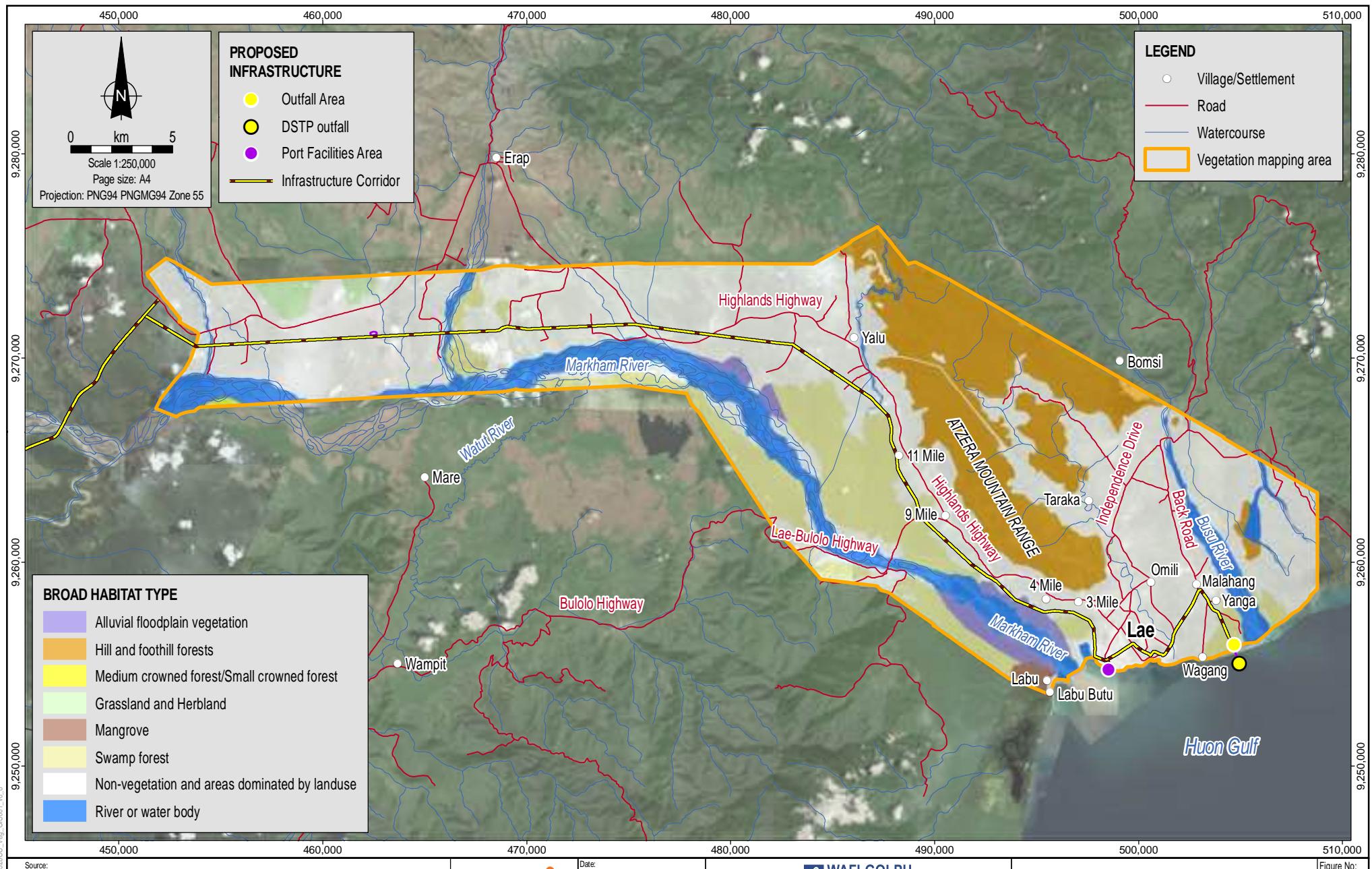
The study area includes areas dominated by hill and foothill forests typically on steep hills and river valleys including some flatter and gentle areas located at the foothills. Within the study area, hill forests can be found along the upper ridges and slopes found on the Atzera Mountain Range starting from Yalu village and eastwards towards the hills around Bomsi, Gwabedik, West Taraka and Buimo Prison (see Plate 3.15 and Plate 3.16). The foothill forests within the study area are predominantly found at the base of the hills inland of Labu village, along the Bukaua road and along the roads leading to the upper reaches of the Bumbu and Busu rivers.

Plate 3.15: Aerial view over the Atzera Mountain Range looking southeast



Plate 3.16: Interior of hill forest north of Yalu village





The vegetation type within hill and foothills includes a variety of forest types ranging from low altitude medium crowned forests on uplands, Large to Medium Crowned Forest including patches of grassland in areas where there have been past cultivation or clearings (see Plate 3.15), low altitude medium to small crowned forests on uplands and cultivated or non-vegetated forests especially in hills around West Taraka and small areas behind Buimo Prison.

Much of the hill forests support a lower stature of small to medium crowned forests due to less favourable conditions of temperature, steep slopes and poor soil stability. Trees here vary in height from 20 to 30 m and comprise the following dominant species; *Cryptocarya* sp., *Elaeocarpus* sp., *Saurauia* spp., *Pometia* sp., *Sloanea* sp., *Castanopsis* spp., some stands of strangler figs (*Ficus* spp.; Plate 3.17) and remaining stands of kwila (*I. bijuga*). Floristic diversity here was less and given the medium to smaller crowned canopy of the forest, more light penetrates to the forest floor, giving rise to a much denser middle and understory habitat. There are also numerous mosaics of secondary forests and grasslands that have come about as a result of previous logging and agriculture within the lower to mid elevations of the hill forests.

Plate 3.17: Large *Ficus* sp. tree located within hill forest near Yalu village



Compared to the upper slopes and ridges of hill forests, the foothill forests are located on much gentler slopes and support a distinctively taller and wetter type of hill forests that boast higher plant diversity, more large trees and a more complex set of understory strata. Species here include large numbers of *Pometia* spp. and strangler figs (*Ficus* spp.), Kwila, *Sloanea* spp. and *Castanopsis* spp.

A total of 117 fauna species were recorded within the hill and foothill forests (see Appendix B) including 108 bird species, four snake species (snake sp. [*Dendrelaphis calligaster*], amethystine python [*Morelia amethistina*], green tree python [*Morelia viridis*] and brown tree snake [*Boiga irregularis*]), three mammals (bandicoots [*Echymipera/Peroryctes* spp.], micropteran bats [*Microptera* spp.]).

spp.] and the feral pig [*Sus scrofa x celebensis*]), one lizard (emerald monitor [*Varanus prasinus*]) and one frog species (cane toad [*Bufo marinus*]). Of the 108 bird species, 38 species were observed only within hill and foothill forests. These include conservation-priority species such as the Gurney's eagle (*Aquila gurneyi*), peregrine falcon (*Falco peregrinus*), growling riflebird (*Ptiloris intercedens*) and magnificent bird-of-paradise (*Diphyllodes magnificus*).

Within the study area the hill forests support a variety of fauna that includes bird species such as the Gurney's eagle, peregrine falcon, eclectus parrot (*Eclectus roratus*), black kite (*Milvus migrans*), Papuan mountain pigeon (*Gymnophaps albertisi*), yellow-faced myna (*Mino dumontii*), golden myna (*Mino Anais*), rufous-banded honeyeater (*Conopophila albogularis*), scrub honeyeater (*Meliphaga albonotata*), rufous-backed fantail (*Rhipidura rufidorsa*), sulphur-crested cockatoo (*Cacatua galerita*), palm cockatoo (*Probosciger aterrimus*), Pesquet's parrot (*Psittichas fulgidus*), tawny-breasted honeyeater (*Xanthotis flaviventer*), long-billed honeyeater (*Melilestes megarhynchus*), Papuan pitta (*Erythropitta macklotii*), chestnut-backed jewel babbler (*Ptilorrhoa castanonota*), hooded pitohui (*Pitohui dichrous*), collared brushturkey (*Talegalla jobiensis*), long-tailed honey buzzard (*Henicoperis longicauda*), grey-headed goshawk (*Accipiter poliocephalus*), crinkle-collared manucode (*Manucodia chalybatus*), magnificent riflebird (*Ptiloris magnificus*), king bird-of-paradise (*Cicinnurus regius*), raggiana bird-of-paradise (*Paradisaea raggiana*), streak-headed manikin (*Lonchura tristissima*), torrent flyrobin (*Monachella muelleriana*) and various dove and pigeon species. Other fauna species recorded in the hill forests besides birds include snakes such as the amethystine python and the green tree python, the Raffray's bandicoot (*Peroryctes raffrayana*), the eastern common cuscus (*Phalanger orientalis*), the feral pig and several species of micropteran bats.

The bird species recorded within the hill and foothill forests comprise mostly frugivores and insectivores with pigeons, doves, parrots and lorikeets accounting for the bulk of the species identified. These high numbers are likely due to the many fruiting trees observed within this forest type as well as the many juveniles that were observed during the survey, with detectability increasing due to a higher foraging frequency by adult birds to feed juveniles.

Species that are specific to the hill and foothills such as the Gurney's eagle (*Aquila gurneyi*) (NT), the growling riflebird (*Ptiloris intercedens*) and the magnificent bird-of-paradise (*Ptiloris magnificus*) occur here due to habitat preferences, low levels of disturbance and to some degree food preferences. The foothill forests within the study area support a variety of fauna including those species observed in hill forests. The fauna observed included a wide range of parrots, lorikeets, doves and pigeons, whistlers, robins, megapodes, fantails, pythons, lizards, bandicoots and cuscus.

## Alluvial floodplain forests and vegetation

The floodplain forests within the study area start from the foothills around the Atzera Mountain Range and include forests along the road edges near Busu and Bumbu rivers, the Marambi River and areas along the Markham River near Labu village. These forests are usually wet and are often inundated during flooding events. Vegetation in the area includes grasslands, swamp forests, lowland medium to large crowned forests and anthropogenic vegetation (Plate 3.18).

The alluvial floodplains host a variety of fauna species including those found in foothill forests plus other species not recorded in hill or foothill forests. A total of 62 bird species were observed within this habitat type with all species also occurring in other areas as well with the exception of the white-crowned cuckoo and the white-throated needletail. Both these species were observed only within floodplain forests, but may not be specific to this forest type as other similar species have been found in other habitat types within the larger Wafi Golpu Project Area (Woxvold, 2011).

Fauna species within the floodplain area are mostly generalists and were observed in other habitat types including the hill and foothill forests with the exception of the two species mentioned above. Species here are wide ranging and occupy a variety of niches due to the larger food base and their adaptability to occupy other habitat types.

The floodplains within the study area have also undergone substantial change due to anthropogenic activities (i.e., gardening, settlements and infrastructure developments); thus whatever remnant habitat remaining in the area may not be suitable for specialist species that prefer this habitat.

**Plate 3.18:** Alluvial floodplain forests showing large trees with very high canopy in the background and a newly cut garden in forests along the headwaters of the Bumbu River



## Grassland plains

The true grassland areas are typically located near the Markham River (e.g., Plate 3.19). Smaller grassland areas also exist along Busu and Bumbu rivers.

The grassland plains are typically low lying, prone to flooding and are generally composed of tall and short grass species. These include kangaroo grass (*T. australis*), kunai grass (*I. cylindrica*), *S. nitidum*, wild pitpit (*Saccaharum robusta*) and some *P. karka*. Stands of *Leucaena sp.* are also common including other riparian vegetation such as bamboo, coconuts and palms.

A total of 46 fauna species occur within grassland plains and include 42 bird species, the cane toad, micropteran bats, the feral pig and bandicoots.

Of the 42 bird species only eight species were recorded specifically within this habitat type and include intermediate egret, white-faced heron, Papuan harrier, buff-banded rail, Edwards's fig parrot (*Psittaculirostris edwardsii*), white-breasted wood-swallow (*Artamus leucorynchus*), Horsfield's bush lark (*Mirafra javanica*) and Papuan grassbird (*Megalurus macrurus*). The intermediate egret (*Ardea intermedia*), white-faced heron (*Egretta novaehollandiae*), the Papuan harrier (*Circus spilocephalus*) and the white-breasted wood-swallow have also been recorded within anthropogenic habitats such as the Nazab airport, areas around Lae city area and Goroka and Mt Hagen airports (see Eastwood, 1995; Smith, 1991; and Simmons & Legra, 2009). The only true grassland species include the buff-banded rail, the Horsfield's bush lark and the Papuan grassbird. The three species could also occur in other habitat types within the study area however further studies are needed to confirm this.

The species that occur within the grassland habitats are mainly frugivores and insectivores, with a few species being pectivores such as kingfishers, herons and egrets.



**Plate 3.19: Grassland areas on hills above West Taraka as a result of past gardening and logging activities**

## Swamp and mangrove forests

The swamp and mangrove forests are typically found near Labu village and Wagang villages within the study area. Forests here are generally comprised of sago, nipa and mangroves and are relatively wet and moist. Mangrove forests occur normally within the tidal range and are inundated by the tides daily, although some species grow in the extreme high water mark zone which does not necessarily receive daily tidal inundation.

A total of 85 fauna species were recorded within the swamp and mangrove forests (see Appendix B) and include 79 bird species, the green tree python, the cane toad, the mangrove and emerald monitor lizard, micropteran bats and the feral pig. Of the 79 bird species recorded, only 12 were recorded specifically within swamp and mangrove forests consisting of the barking owl (*Ninox connivens*), yellow-billed kingfisher (*Syma torotoro*), collared sparrowhawk (*Accipiter cirrocephalus*), pale-vented bush-hen (*Amaurornis moluccana*), oriental hobby, orange-breasted fig parrot (*Cyclopsitta gulielmitertii*), white-shouldered fairywren (*Malurus alboscapulatus*), spotted jewel-babbler (*Ptilorrhoa leucosticta*), brown-headed jewel-babbler (*Ptilorrhoa geislerorum*), yellow-breasted boatbill (*Machaerirhynchus flaviventer*), shining flycatcher (*Myiagra alecto*) and metallic starling (*Aplonis metallica*). Some of these species could also occur in other forest types.

The swamp and mangrove forests provide a forest type that is dark and moist and include a large number of creeks, streams and pools of standing water. This creates a suitable habitat for many insects including butterflies, moths, flies, grasshoppers, damsel flies and dragonflies that prefer inundated forest types. The presence of this large concentration of insect fauna attracts a wide variety of fauna including those that prefer moist environments such as the fauna species found within this habitat. The bird species that occur within this forest type include mostly insectivores and some frugivores.

## Anthropogenic habitats

This habitat type generally was found in the urbanised areas around Lae city, along the Markham, Busu and Bumbu rivers and along the Lae to Nazab Highway. Here the vegetation was made up of patches of grasslands, gardens, coconut and cocoa plantations and large tracts of cattle farms.

Sixty-seven fauna species have been recorded within this habitat (see Appendix B) consisting of 61 bird species, two frog species (the cane toad and white-lipped tree frog [*Litoria infrafrenata infrafrenata*]) and five mammal species (including the giant flying fox [*Disteochirus pennatus*], the

Raffray's bandicoot [see Plate 3.20], the domesticated dog, feral pigs and cats). Three introduced bird species were also recorded present within this habitat type and include the house sparrow (*Passer domesticus*), Eurasian tree sparrow (*Passer montanus*) and rock dove (*Columba livia*).

A total of 22 bird species were recorded specifically within anthropogenic habitats comprising the lesser frigatebird (*Fregata ariel*), little pied cormorant (*Microcarbo melanoleucus*), little black cormorant (*Phalacrocorax sulcirostris*), Australasian darter (*Anhinga novaehollandiae*), white-bellied sea eagle (*Haliaeetus leucogaster*), grey-tailed tattler (*Tringa brevipes*), common sandpiper (*Actitis hypoleucus*), long-toed stint (*Calidris subminuta*), brown noddy (*Anous stolidus*), black-headed gull (*Chroicocephalus ridibundus*), greater crested tern (*Thalasseus bergii*), lesser crested tern (*Thalasseus bengalensis*), sooty tern (*Onychoprion fuscatus*), white-winged tern (*Chlidonias leucopterus*), rock dove, peaceful dove (*Geopelia placida*), oriental cuckoo (*Cuculus optatus*), eastern barn owl (*Tyto javanica*), Papuan frogmouth (*Podargus papuensis*), large-tailed nightjar (*Caprimulgus macrurus*), common cicadabird (*Coracina tenuirostris*) and olive-crowned flowerpecker (*Dicaeum pectorale*).

Anthropogenic habitats within the study area are varied, ranging from grass patches, gardens, older regrowths, sea shore habitats, plantation habitats, man-made pools and swamps and ornamental gardens. Due to this myriad of habitats the bird fauna here was varied. The rock and peaceful dove occur only within paved areas of the city. The grass species such as the eastern barn owl, the Papuan frogmouth and the large-tailed nightjar occur in areas where there are large expanses of grass habitats such as older regrowths, along river banks and in plantation habitats.



Plate 3.20: Raffray's bandicoot jawbone collected by locals at Bomsi village

## Watercourses and wetlands

The major watercourses within the study area include the large Markham River, the Busu, Bumbu and Marambi rivers. Many streams, creeks, lakes and swamps also exits throughout the study area including the Red Hill Swamp and Lake Wanum near Oomsis village and Lake Yanamugi located 1 km from Yetzing village on the southern margin of Markham River.

These wetlands and lakes host a variety of fauna including many migratory and shorebirds such as those found within the tidal flats near the mouth of the Markham River. Species of conservation-priority include the great and intermediate egret, variegated giant softshell turtle and the mangrove and emerald monitors.

A total of 19 fauna species were recorded in rivers and lakes habitats within the study area (see Appendix B) comprising 16 bird species, two turtle species (New Guinea snapping turtle [*Elseya novaeguineae*] and the variegated giant softshell turtle) and the saltwater crocodile (*Crocodylus porosus*). The variegated giant softshell turtle and the great egret are of conservation-priority.

Seven bird species were recorded specifically within rivers and lakes habitats comprising the Pacific black duck (*Anas superciliosa*), white-headed stilt (*Himantopus leucocephalus*), masked lapwing (*Vanellus miles*), sharp-tailed sandpiper (*Calidris acuminata*), little kingfisher (*Ceyx pusillus*), blue-tailed bee-eater (*Merops philippinus*) and torrent flyrobin. The Pacific black duck, little kingfisher and torrent flyrobin are commonly found around rivers, lakes, streams and creeks and prefer this habitat type to others. All other species are found in other habitat types as recorded elsewhere (Beehler & Pratt 2015; Eastwood, 1995 and Smith, 1991).

The bird fauna recorded within this habitat type are generally aquatic feeders (feeding on algae, fish, shells and invertebrates) and include the Pacific black duck, white-headed stilt, masked lapwing, Pacific golden plover (*Pluvialis fulva*), whimbrel (*Numenius phaeopus*), dharp-tailed sandpiper, forest kingfisher (*Todiramphus macleayii*), sacred kingfisher (*Todiramphus sanctus*), little kingfisher and torrent flyrobi. There are also insectivores (forest kingfisher, sacred kingfisher, little kingfisher, blue-tailed bee-eater, brown oriole [*Oriolus szalayi*] and torrent flyrobin) and carcass feeding species (Black Kite and Torresian crow [*Corvus orru*]) within rivers and lakes habitats.

### **3.5.2. Ecologically sensitive habitats**

#### **Lakes, wetlands and watercourses**

Lakes and wetlands that exist within the study area are few but are likely to provide important habitats for a variety of fauna including migratory species and shorebirds. There are three major lakes/swamps within the study area consisting of Lake Wanum, Lake Yanamugi and Red Hill Swamp. These lakes/swamps form part of the Markham River plain wetlands.

Streams and watercourses also exist within the study area and provide important habitats for wetland dependant species, including local communities that use such watercourses for fishing, bathing and drinking.

The high value of riparian communities is well recognised for nature conservation and landscape maintenance, especially in protecting freshwater environments with their rich biodiversity. The condition of riparian and river habitats is a strong indicator of the overall quality of the aquatic environment. However, the zone is sensitive to disturbance, and the increase in human activity in adjacent land can be potentially damaging to this zone.

#### **Display and/or breeding sites**

Two megapode species have been recorded within the study area, the collared brushturkey and New Guinea scrubfowl (*Megapodius decollatus*). Both species were heard calling during ground surveys, however no mounds were located even though a thorough search of the study area was undertaken with the assistance of local guides.

The raggiana bird-of-paradise was observed throughout the study area; however, no true lekking trees were identified. Local informants also indicated that they were not aware of any lekking trees within the study area where the species was observed.

## Caves

No caves were located during ground surveys within the study area. Local informants at Bomsi village indicated that they knew of two caves within a 4 to 5 km walk from the village. These caves were not visited given they are located outside of the study area to the north. Local informants indicated that the caves were not bat roosting caves but are sometimes used by other vertebrate fauna such as cuscus and possums.

## 4. Discussion

### 4.1. Biological understanding of the study area

A large amount of information about the lowland flora and fauna of the Morobe region was gathered by early collectors during the periods of German rule (1884 to 1914) and subsequent Australian administration. Unfortunately, much of the German material was destroyed during World War II.

In terms of botanical investigation, there has been considerable focus from within the the Mamose region, especially within the Morobe Province. These collections represent almost one third of the national collections, mainly due to the fact that the PNG National Herbarium (PNG Forest Research Institute) is located in Lae, which has been the centre for botanical research in PNG since its establishment in 1946. Therefore, the floras of the areas surrounding Lae city are well represented in herbarium collections both in-country and overseas. Nonetheless, as noted in Section 3.4, taxonomic understanding of the flora of PNG is limited.

As noted by BAAM (2018), single expeditionary-based surveys generally lead to incomplete samples of the flora of a study area due to the relatively limited number of species that are fertile during any survey period (Takeuchi, 2003). Full botanical inventories of the habitats in the study area would take many months involving extended seasonal surveys to comprehensively collect fertile vegetative material. The value of such an exercise may be limited considering the generally poor quality of the habitats given proximity to Lae.

As summarised in Woxvold and Aplin (2013), the Sixth Archbold New Guinea Expedition focused on northeastern mainland New Guinea. The broad coverage included extensive areas of lowland and hill habitats within Morobe Province, including along the Markham River valley and southwest from Lae along the Lae–Bulolo Road to the upper Watut River valley). Mammals, herpetofauna (reptiles and frogs), insects and plants were the main focus of the survey, with some birds and freshwater fish also collected. Individual naturalists have been active in the area throughout this period, often while based at Lae or Wau.

More concentrated field surveys focussing on intact habitats would increase the understanding of flora and fauna assemblages and their ecologies at a finer scale within the study area. For the purposes of this study, the current level of understanding is deemed sufficient for completing an impact assessment for the Project.

### 4.2. Current status of vegetation communities and habitats

A key objective of this study was to provide an appreciation of the current status of vegetation communities and habitats within the study area. To gain this appreciation, an understanding of past and present trends, particularly regarding forest loss and threatening processes that may have a bearing on the future extent and quality of habitats, are discussed. This discussion will first focus on broad forest types and their status on a national scale, before focussing on habitat types within the study area on a more localised scale.

BAAM (2018) provide an in-depth discussion regarding the status of vegetation communities on a national scale. That discussion is not replicated here, but rather is summarised to enable trends within the study area to be understood.

Various estimates of deforestation and degradation of rainforest within PNG exist. Initial analyses were based on the Forest Inventory Mapping System (Hammermaster & Saunders, 1995). These estimates were updated to include mapping and statistics of land use change and areas logged between 1975 and 1996 (McAlpine & Quigley, 1998). The Food and Agriculture Organisation of the

United Nations (FAO) estimated a constant rate of forest loss of 0.5% per year between 1990 and 2010, and provided summary statistics of the change in the areas of different forest types between 1975 and 1996 that identified an 11.8% reduction in lowland forest on alluvial plains and fans, 4.3% reduction in lowland forest on uplands and 43.7% reduction in swamp forest (FAO 2005, 2010).

Shearman et al. (2008, 2009) completed forest mapping at a finer spatial scale than the FIM, using high resolution stereo - aerial photography (1972) and high resolution satellite imagery captured between 2000 and 2007. Based on this higher resolution mapping Shearman et al. (2008, 2009) calculated rates of forest change (clearing and degradation) over the period 1972 to 2002 that are considerably greater than the estimates of FAO (2005, 2010), particularly in commercially accessible forests. The annual rate of change in overall forest extent rose from 0.4 percent per year (%/yr) in 1972–1973 to 1.4 %/yr in 2001–2002, peaking in 1997–1998 at 1.8 %/yr. Within commercially accessible forests, the estimated rate of forest change rose from 0.7 %/yr to 1.4 %/yr over the 1980s before dramatic increases in commercial logging over the 1990s increased the rate of change to a high of 3.4 %/yr in 1997–1998, before decreasing to 2.6 %/yr in 2001–2002 (Shearman et al., 2008, 2009). Overall, 48.2% of this forest change was due to commercial logging, 45.6% was related to subsistence agriculture, 4.4% was due to forest fires, 1.2% was due to plantations and 0.6% was due to mining (Shearman et al., 2008, 2009). Filer et al. (2009) criticise these estimates primarily on the basis that they overestimate the area of intact primary forest in 1972 and the impact of traditional land use practices on forest cover. Nonetheless, these estimates provide a conservative basis on which to assess forest clearing rates.

BAAM (2018) mapped three ecological subdivisions to enable an assessment of their status based on the analysis by Shearman et al. (2008, 2009). These included:

- Floodplain forest, which includes the FIM units of Large to Medium Crowned Forest (PL), Open Crowned Forest (PO) and Small Crowned Forest (PS).
- Mixed hill forest, which includes Medium Crowned Forest (HM) and Small Crowned Forest (HS) on uplands (hills).
- Swamp forest, which includes Mixed Swamp Forest (FSW) and Swamp Woodland (WSW).

Based on the analysis by Shearman et al. (2008, 2009), BAAM (2018) reached the following conclusions:

- Floodplain forest is the most restricted of the three forest groupings occurring on riverine flood plains and low angle alluvial fans throughout lowland PNG. Floodplain forest hosts the most abundant timber resource of all forest types. Due to their location and well-drained soils, all floodplain forest is assumed to be accessible to commercial logging operations across its national extent. Based on the estimated annual rates of forest change for forests accessible to commercial logging (from Shearman et al., 2009), floodplain forest is calculated to have undergone a 52.5% reduction in its extent between 1972 and 2015.
- Mixed hill forest consist primarily of lowland rainforest on footslopes. These are the most abundant forest type throughout PNG representing more than half of the nation's forest estate excluding swamp forests. Shearman et al. (2008) estimated that approximately 42% of lowland rainforest is accessible to commercial logging. Shearman et al. (2009) estimate that 69.8 % of the 1972 extent of mixed hill forest remains in 2015.
- Swamp forest is more difficult to assess, however, as it is difficult to access and largely undisturbed (Shearman et al. 2008). PNG has not experienced the broad-scale draining and clearing of swamps for agriculture that has occurred in many other tropical countries, although extensive areas of swamp forest have recently been drained and cleared in West New-Britain for oil palm production (P. Shearman, personal communication, cited in BAAM (2018)).

For a full discussion regarding these estimates, see BAAM (2018).

At a local scale (i.e., within the study area) it is clear that there has been, and continues to be, substantial forest loss. Buleka et al (1999, p.13) stated that “clearance for garden agriculture [around Lae] is proceeding rapidly. Aerial photos of the Atzera Range in 1956 showed almost intact natural vegetation, but it is estimated that by 2000 - 2010 the entire Atzera part of the Bumbu catchment will have been cleared.” They go on to discuss that these cleared areas are used in atypical fashion to traditional agricultural practices that have a fallow period to allow nutrient recovery and secondary vegetation recovery. They state that land is “maintained in near continuous production, with increased land degradation being evident in increased incidence of landslides, and erosion, and substantial changes in catchment hydrology”.

A coarse assessment of the current extent of vegetation communities was completed by comparing the FIM developed by Hammermaster and Saunders (1995) with the current vegetation mapping using aerial imagery taken in (2016). This analysis showed that between 1995 and 2016:

- Low altitude forest on plains and fans decreased dramatically by more than 65%.
- Low altitude forest on uplands decreased substantially by more than 25%.
- Swamp forest and mangroves remained relatively stable.
- Other non-vegetation and areas dominated by land-use and grasslands increased dramatically by more than 30%.

These results are consistent with observations of the area, where the forests traversed during the survey have been altered dramatically from their original forested state to a highly fragmented landscape, especially the areas surrounding the city of Lae and the Atzera Mountain Range. It was noted by Professor Gideon that these areas have experienced a long history of disturbance by the local communities as well as the growing population of migrants moving to Lae from other parts of PNG. These general observations are supported by the data collected from the plots. Forestry within the slopes of the Atzera Mountain Range is also occurring with logging tracks observed on the eastern slopes.

## 4.3. Biological values within the study area

### 4.3.1. Flora and vegetation communities

Vegetation communities within the study area showed clear signs of human impact. Areas that represented more intact communities were swamp and hill forests south of the Markham River and the upper Atzera Mountain Range.

Even though the swamp and hill forests around the southern side of the mouth of Markham River can be considered as of reasonable quality at present, there is no guarantee that this will remain so in the future. The former logging road built into the area may allow access to the forests for small scale logging (mobile mills) and subsistence gardening. The forests in the upper reaches of the Bumbu River appear relatively intact but, like the Labu area, are rapidly changing due to encroachment of human activities.

A number of serious invasive species were observed encroaching into the native forest, especially the long established *P. aduncum*, African tulip (*S. campanulata*) and the siam weed (*C. odorata*). The only forest observed to be in intact condition was at Wali (Labu) on the south side of the Markham River mouth. Although species composition of the dominant trees suggested it is advanced secondary forest, it appears to be in relatively undisturbed condition, relatively free of invasive species and human impacts were insignificant.

### 4.3.2. Fauna and available habitats

A total of 140 species of birds, five species of mammals and four reptile species were recorded directly during the ground surveys. Additional species that were also recorded during village interviews include two bird species (likely to be present), eight reptiles and one mammal species. A further 49 species of birds have also been recorded to occur within the study area during past surveys but were not recorded during this study (Eastwood, 1995; Smith, 1991). Fauna were recorded in a range of defined habitat types including hill and foothill forests; alluvial plains; mangrove and swamp habitats; grasslands; anthropogenic habitats; and rivers and lakes.

Findings from the current study are supported by previous investigations that conclude a diversity of fauna exists within the region e.g., herpetofauna (McDowell, 1984; Menzies, 2006; O’Shea, 1990; Zweifel, 1980; Zweifel, 2000) and mammals (Bonnacorso, 1998; Flannery, 1995). While species richness across the different habitat types cannot be accurately measured using the results from this survey, a general picture of the diversity and richness in species can be drawn from the survey results. Species diversity and richness was greater in hill and foothill forests that are less affected by human activities followed by swamp and mangrove forests, disturbed and secondary forests, floodplains, grasslands and rivers and lakes.

Past studies in similar habitat types have also found higher species diversity and richness in lowland rainforest habitats compared to anthropogenic or other habitat types that are found at elevations lower than 400m asl (Bowman et al., 1990, Marsden et al., 2006; Marsden & Symes, 2008). While species diversity and richness was not measured in relation to increasing distance from the different habitat edges, results from previous surveys have found that species richness was lower closer to the edges than within the interior of the different habitat types (Dawson et al., 2011).

The community composition especially for birds within the study area was different given the differences in habitat preferences but also food availability and location. In general, high numbers of frugivores are expected in less disturbed areas (Dawson et al., 2011) such as those found with hill and foothill forests while nectarivores prefer habitats that have undergone some slight changes such as anthropogenic habitats and alluvial plains found within the study area. The high proportion of nectarivores in anthropogenic and alluvial plains may be due to the high availability of food resources such as those found in gardens, coconut and cocoa plantations and flowering and fruiting trees in ornamental gardens. The lower numbers of frugivores within the study area in grassland, anthropogenic and alluvial plain habitats could be due to the loss or lack of adequate canopy cover which in turn, leads to lower fruit numbers as most fruits are found within the canopy (Dawson et al., 2011).

Insectivores were more common in hill and foothill forests with some species distributed in alluvial plains and swamp and mangrove forests. This is not unusual as these habitat types are also frequented by large numbers of insects and do have a well-developed forest canopy and also have a thick understory that is preferred by many insectivore species (Dawson et al., 2011).

Few focal habitats were found within the study area. This was likely to be due to the increased pace of urbanisation resulting in destruction of such habitats. The few swamps, lakes and intertidal flats that are present within the study area do provide important habitat particularly for migratory birds and aquatic specialists such as turtles and crocodiles as these habitats are used as breeding and nesting grounds. Although no caves, lekking trees, display grounds or bowers were encountered during the ground surveys, their presence within the study area cannot be ruled out.

The study area supports a number of species of conservation significance. Twenty six species of conservation significance were recorded present within the study area and include one endangered (EN) species, two vulnerable (VU) species and two near threatened (NT). These species are generally found in a broad range of habitats across large areas of PNG with the exception of anthropogenic vegetation, and are also found in other areas within the Huon Peninsula.

In conclusion, the study area hosts a large number of fauna species including birds, mammals and reptiles. These species occupy a range of habitats across the study area including hill and foothill forests, swamps and mangroves, grasslands, alluvial plain forests and vegetation and anthropogenic habitats. The encroachment of human settlements and activities have resulted in changes to fauna habitats, species diversity and composition. This is a common occurrence across PNG and the study area is no exception. Despite these changes, the study area still hosts to a number of conservation priority species albeit that are well-represented more broadly in lowland areas of PNG.

#### **4.4. Biological values within the Infrastructure Corridor**

In terms of the proposed Infrastructure Corridor within the study area, approximately 90% of the centreline alignment was estimated to traverse highly modified previously cleared areas (i.e., non-forest vegetation types), 8% was estimated to traverse degraded swamp forest and 2% was estimated to traverse degraded alluvial vegetation.

In terms of a 40-m-wide corridor, a similar pattern emerges. In total 89% of the corridor was estimated to be highly degraded non-vegetation and areas dominated by human landuse, 5% was estimated to be degraded mixed swamp forest, 3% was estimated to be degraded littoral beach communities, and 2% was estimated to be degraded alluvial floodplain vegetation.

While these habitats do support a range of flora and fauna, these habitats were assessed to be sub-optimal for both flora and fauna species of conservation significance. In terms of overall biological value, these areas are considered lower than other forest and vegetation types such as those within the Atzera Mountain Range and more intact areas of swamp forest adjacent to the Markham River.

## 5. References

- Auliya, M. 2010. *Morelia amethystina*. The IUCN Red List of Threatened Species 2010:e.T177501A7444414. <http://dx.doi.org/10.2305/IUCN.UK.2010-4.RLTS.T177501A7444414.en>.
- Auliya, M., Shine R. A. and Allison, A. 2010. *Morelia viridis*. The IUCN Red List of Threatened Species 2010: e.T177524A7449431. <http://dx.doi.org/10.2305/IUCN.UK.2010-4.RLTS.T177524A7449431.en>.
- BAAM. 2018. Terrestrial Flora and Fauna Baseline Assessment - Mine Area to Markham River, Wafi-Golpu Project. A report prepared by BAAM Ecological Consultants for Advisian.
- Balun, L., L. Balun, A. Newton, E. Davige & L. Orsak. 2000. Plant diversity and spatial patterns along an altitudinal gradient in tropical rain forest communities of the Sulka area, New Britain Island, Papua New Guinea. *Science in New Guinea* 25: 3 – 32.
- Barthlott, W., J. Mutke, M.D. Rafiqpoor, G. Kier & H. Kreft. 2005. Global centres of vascular plant diversity. *Nova Acta Leopoldina*, 92 (342): 61—83.
- Beehler, B. M. and Pratt, T. K. 2015. Birds of New Guinea: Distribution, Taxonomy and Systematics. Princeton, New Jersey, Princeton University Press.
- Beehler, B. M., Pratt, T. K. and Zimmerman, D. A. 1986. Birds of New Guinea. Princeton University Press, Princeton.
- Beehler, B. M. and Swaby, R. J. 1991. Phylogeny and Biogeography of the *Ptiloris* riflebirds (Aves: Paradisaeidae). *The Condor* 93 (3): 738 – 745.
- Bennett, D. and Sweet, S. S. 2010. *Varanus indicus*. The IUCN Red List of Threatened Species 2010: e.T178416A7542350. <http://dx.doi.org/10.2305/IUCN.UK.2010-4.RLTS.T178416A7542350.en>.
- Birdlife International. 2016a. *Goura victoria*. The IUCN Red List of Threatened Species 2016. e.T22691874A93326799. <http://dx.doi.org/10.2305/IUCN.UK.20163.RLTS.T22691874A933326799.en>.
- Birdlife International. 2016b. *Psittrichas fulgidus*. The IUCN Red List of Threatened Species 2016: e.T22685025A104790705. <http://dx.doi.org/10.2305/IUCN.UK.20163.RLTS.T22685025A104790705.en>.
- Birdlife International. 2016c. *Manucodia chalybatus*. The IUCN Red List of Threatened Species 2016. e.T22706121A94051645. <http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22706121A94051645.en>.
- Birdlife International. 2016d. *Lophorina intercedens*. The IUCN Red List of Threatened Species. 2016. e.T22706189A94055307. <http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22706189A94055307.en>.
- Booyong Forest Science. 2011a. Terrestrial Flora Survey for the MMJV Wafi-Golpu Project. Unpublished report prepared for Coffey Environments.
- Booyong Forest Science. 2011b. Terrestrial Flora Survey for the Markham Gap Basin Tailings Storage Facility for the WGJV Wafi-Golpu Project. Unpublished report prepared for Coffey Environments.

- Booyong Forest Science. 2013. Terrestrial Flora Survey for the Wafi Golpu Advanced Exploration Project. Unpublished report prepared for Coffey Environments.
- Bonaccorso, F. J. 1998. Bats of Papua New Guinea, Washington, D.C. Conservation International.
- Bowman D. M. J. S., Woinarski, J. C. Z., Sands, D. P. A., Wells, A. and McShane V. J. 1990. Slash-and-burn agriculture in the wet coastal lowlands of Papua New Guinea: response of birds, butterflies and reptiles. *Journal of Biogeography* 17:227-239.
- Buleka, J., Prior, D. and Ad Van Der Spek. 1999. Geology and Natural Hazards of Lae City and Surroundings, Papua New Guinea. CCOP COASTPLAN Case Study Report No 3, Bankok, Thailand.
- Burrows, I. 1995. A field survey of the avifauna of the Kikori River Basin.
- Clunie, N.M.U. 1978. The Vegetation. In: J.S. Womersley (Ed.), *Handbooks of the Flora of Papua New Guinea*, Vol. I, Melbourne University Press, Pp 1 – 11.
- Coates, B. J. 1985. The Birds of Papua New Guinea, Including the Bismarck Archipelago and Bougainville. Volume I. Non – Passerines. Alderley, Queensland: Dove Publications.
- Conn, B.J., Banka, R. & Lee, L.L. 2006+. Plants of Papua New Guinea Accessed online at <http://www.pngplants.org> in April 2017.
- Cracraft, J. 1992. The species of the birds-of-paradise (Paradisaeidae): Applying the Phylogenetic Species Concept to a complex pattern of diversification. *Cladistics* 8: 1 – 43.
- Dawson, J., Turner, C., Pileng, O., Farmer, A., McGary, C., Walsh, C., Tamblyn, A. and Yosi, C. 2011. Bird communities of the lower Waria Valley, Morobe Province, Papua New Guinea: a comparison between habitat types. *Tropical Conservation Science* Vol. 4(3):317-348. Available online: [www.tropicalconservationscience.org](http://www.tropicalconservationscience.org).
- Diamond, J. M. 1972. Avifauna of the Eastern Highlands of New Guinea. Nuttal Ornithological Club. Cambridge, Massachusetts.
- Eastwood, C. 1995. Birds of the Sankwep Road area, Lae. *Muruk* 7: 56 – 59.
- Eddowes, P.J. 1998a. *Bleasdalea papuana*. The IUCN Red List of Threatened Species 1998: e.T38141A10102207. <http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T38141A10102207.en>. Downloaded on 19 April 2017.
- Eddowes, P.J. 1998b. *Calophyllum robustum*. The IUCN Red List of Threatened Species 1998: e.T37587A10060156. <http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T37587A10060156.en>. Downloaded on 19 April 2017.
- Eddowes, P.J. 1998c. *Chisocheton stellatus*. The IUCN Red List of Threatened Species 1998: e.T38170A10103881. <http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T38170A10103881.en>. Downloaded on 19 April 2017.
- Eddowes, P.J. 1998d. *Flindersia pimenteliana*. The IUCN Red List of Threatened Species 1998: e.T38149A10102702. <http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T38149A10102702.en>. Downloaded on 19 April 2017.
- FAO. 2005. Global Forest Review Assessment 2005 Papua New Guinea Country Report. Food and Agricultural Organisation of the United Nations, Rome, Italy.

- FAO. 2010. Global Forest Resources Assessment 2010 Country Report – Papua New Guinea. FRA 2010/161. Food and Agricultural Organisation of the United Nations, Rome, Italy.
- Filer, C., Keenan, R. J., Allen, B. J., & Mcalpine, J. R. 2009. Deforestation and forest degradation in Papua New Guinea. *Annals of Forest Science* 66: 813.
- Flannery, T. F. 1995. The Mammals of New Guinea. Chatswood, NSW. Reed Books.
- Freeman, B.G., Class, A., Mandeville, J., Tomassi, S. and Beehler, B. M. 2013. Ornithological Survey of the Mountains of the Huon Peninsula, Papua New Guinea. Bulletin of the British Ornithological Club 133: 4 – 18.
- Gideon, O.G. 2010. Vegetation and Flora of Woodlarks Island. A Report prepared for the Woodlark Mining Limited, Milne Bay Province, PNG.
- Gideon, O.G. 2015. The Flora of New Guinea: its origins, affinities, and patterns of diversity and endemism. In: Bryan JE & PL Shearman (Eds.); The State of the Forests of Papua New Guinea: measuring change over the period 2002 – 2014. University of Papua New Guinea, Port Moresby. Pp. 115 – 135.
- Gill, F. and Donsker, D. (eds). 2017. International Ornithological Congress World Bird List. Version 7.1. [www.worldbirdnames.org](http://www.worldbirdnames.org).
- Gregory, P. 2011. Checklist of the birds of New Guinea and associated Islands. Version 3.1.4.
- Hammermaster, E.T. and J.C. Saunders. 1995. Forest Resources and Vegetation Mapping of Papua New Guinea. PNGRIS Publ. No. 4, CSIRO and AusAID, Canberra, Australia.
- Heads, M. 2002. Birds of paradise, vicariance biogeography and terrane tectonics in New Guinea. *Journal of Biogeography* 29: 261 – 283.
- Henty, E.E. and G.H. Pritchard. 1988. Weeds of New Guinea and their Control. Division of Botany, Department of Forests, Lae, PNG.
- Hill, K.D. 2010a. *Cycas apoae*. The IUCN Red List of Threatened Species 2010: e.T42068A10642573. <http://dx.doi.org/10.2305/IUCN.UK.2010-3.RLTS.T42068A10642573.en>. Downloaded on 19 April 2017.
- Hill, K.D. 2010b. *Cycas rumphii*. The IUCN Red List of Threatened Species 2010: e.T42081A10623127. <http://dx.doi.org/10.2305/IUCN.UK.2010-3.RLTS.T42081A10623127.en>. Downloaded on 19 April 2017.
- Hill, K.D. 2010c. *Cycas schumanniana*. The IUCN Red List of Threatened Species 2010: e.T42082A10623647. <http://dx.doi.org/10.2305/IUCN.UK.2010-3.RLTS.T42082A10623647.en>. Downloaded on 19 April 2017.
- International Union for the Conservation of Nature (IUCN). 2011. IUCN Red List of Threatened Species. Version 2010.4. [www.iucnredlist.org](http://www.iucnredlist.org).
- Invasive Species Advisory Committee. 2006. "Invasive species definition clarification and guidance white paper." Invasive Species Advisory Committee, Washington, DC. [http://www.invasivespecies.gov/global/ISAC/ISAC\\_documents/ISAC%20Definitions%20White%20Paper20\(2006\).pdf](http://www.invasivespecies.gov/global/ISAC/ISAC_documents/ISAC%20Definitions%20White%20Paper20(2006).pdf).
- Kiapranis, R. and P. Nimiago. (Unpubl.). A Status Report on Some Invasive Forest Species in Papua New Guinea. PNG Forest Research Institute. Lae.

- Kier, G., J. Mutke, E. Dinerstein, T.H. Ricketts, W. Küper, H. Kreft & W. Barthlott. 2005. Global patterns of plant diversity and floristic knowledge. *J. Biogeogr.* 32:1107—1116.
- Kula, G. R. and George, I. 1996. Protected Fauna of Papua New Guinea. National Capital District, PNG. Department of Environment and Conservation.
- Legra, L. 2009. Biogeography, ecology and conservation of Paradisaedae: Consequences of environmental and climatic changes. Unpublished MA thesis, submitted to the University of Kansas, USA.
- Lowe, S., Browne, M., Boudjelas, S., and De Poorter, M. 2000. 100 of the World's Worst Invasive Alien Species – A selection from the Global Invasive Species Database. Published by The Invasive Species Specialist Group (ISSG) of the World Conservation Union (IUCN), Auckland, New Zealand.
- McAlpine, J.R., Keig, G and Falls, R. 1983. Climate of Papua New Guinea. Australian National University, Canberra, Australia.
- McAlpine, J., and Quigley, J. 1998. Summary Statistics from the Forest Inventory Mapping (FIM) System. Coffey MPW.
- McDowell, S. B. 1984. The Snakes of the Huon Peninsula, Papua New Guinea. Results of the Archbold Expeditions. 112: 1 – 43. American Museum Novitates, American Museum of Natural History, NY.
- Mack, A. L. and Wright, D. D. 2005. The Frugivore Community and the Fruiting Plant Flora in a New Guinea Rainforest: Identifying Keystone Frugivores Pp 184 – 203 in Dew, L. J. and Boubli, J. P. (eds) Tropical Fruits and Frugivores: The Search for Strong Interactors. The Netherlands: Springer.
- Mack, A. L. and Wright, D. D. 1998. The Vulturine Parrot, *Psittrichas fulgidus*, a threatened New Guinea endemic: notes on its biology and conservation. *Bird Conservation International.* 8: 185 – 194.
- Mack, A. L. 1998. A biological assessment of the Lakekamu Basin, Papua New Guinea. Conservation International, Washington, DC.
- Marsden, S. J., Symes, C. T. and Mack, A. L. 2006. The response of New Guinean avifauna to conversion of forest to small-scale agriculture. *Ibis* 148:629-640.
- Marsden, S. J. and Symes, C. T. 2008. Bird richness and composition along an agricultural gradient in New Guinea: The influence of land use, habitat heterogeneity and proximity to intact forest. *Austral Ecology* 33:784-793.
- Menzies, J. I. 2006. The Frogs of New Guinea and the Solomon Islands. Pensoft, Bulgaria.
- Mutke, J. & W. Barthlott. 2005. Patterns of vascular plant diversity at continental to global scales. *Biol. Skrifter* 55: 521—537.
- Oatham, & B.M. Beehler. 1997. Richness, taxonomic composition, and species patchiness in three lowland tree plots in Papua New Guinea. In: Proceedings of the international symposium for measuring and monitoring forests and biological diversity; the international networks of biodiversity plots. Smithsonian Institute/Man and Biosphere Biodiversity Program (SI/MAB).
- O'Shea, M. T. 1990. The highly and potentially dangerous Elapids of Papua New Guinea. England, UK.

- Paijmans, K. 1970. An analysis of four tropical rain forest sites in New Guinea. *J. Ecol.* 58: 77—101.
- Paijmans, K. 1976. Vegetation, In: K. Paijmans (ed.) *New Guinea Vegetation*. Australian National University Press, Canberra.
- Polak M. 2000. The botanical diversity in the Ayawasi area, Irian Jaya, Indonesia. *Biodiv. Conserv.* 9: 1345—1375.
- Reich, J.A. 1998. Vegetation Part I: a comparison of two one-hectare tree plots in the Lakekamu Basin. In: A. Mack (ed.), *A Biological assessment of the Lakekamu Basin, Papua New Guinea*, RAP Working papers No. 9. Conservation International. Pp. 25-35.
- Rogers, H.M. & A.E. Hartemink. 2000. Soil seed bank and growth rates of an invasive species, *Piper aduncum*, in the lowlands of Papua New Guinea. *Journal of Tropical Ecology* 16: 243 – 251.
- Romand-Monnier, F. & Contu, S. 2013. *Pleuranthodium papilionaceum*. The IUCN Red List of Threatened Species 2013: e.T44392442A44509845. <http://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T44392442A44509845.en>. Downloaded on 23 March 2018.
- Royen, P. van 1963. The Vegetation of the Island of New Guinea. Department of Forests, Division of Botany, Lae. Mimeogr.
- Saunders, J.C. 1993. Forest Resources of Papua New Guinea: Map with explanatory notes; scale 1:1,000,000. PNGRIS Publication No. 2. CSIRO, Brisbane, Australia.
- Shea, G., Allison, A., Parker, F. and Tallowin, O. 2016. *Varanus prasinus*. The IUCN Red List of Threatened Species 2016: e.T42485751A42485760. <http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T42485751A42485760.en>.
- Shearman, P. L., Bryan J.E., Ash J., Hunnam P., Mackey B., and Lokes B. 2008. The state of the forests of Papua New Guinea: Mapping the extent and condition of forest cover and measuring the drivers of forest change in the period from 1972 to 2002. University of Papua New Guinea.
- Shearman, P. L., Ash, J., Mackey, B., Bryan, J. E., and Lokes, B. 2009. Forest conversion and degradation in Papua New Guinea 1972–2002. *Biotropica* 41: 379-390.
- Simmons, R. E. and Legra, L.A.T. 2009. Is the Papuan Harrier *Circus spilonotus spilothorax* a globally threatened species? Ecology, climate change threats and first population estimates from Papua New Guinea. *Bird Conservation International* 19: 379 – 391.
- Smith, G. P. 1991. Birdwatching around Lae. *Muruk* 5: 1-8.
- Streinmann, H. 1983. The plants of the Upper Watut Watershed of Papua New Guinea. National Botanic Gardens, Canberra, Australia.
- Takeuchi, W. 2003. Botanical summary of a lowland ultrabasic flora in Papua New Guinea. *Sida* 20: 1491-1559.
- Takeuchi, W.N. 2007. Introduction to the Flora of Papua. In: A.J. Marshall & B.M. Beehler, (eds.). *The Ecology of Papua*, Part I, Conservation International Foundation. Pp. 269—302.
- Van Heist, M., D. Sheil, I. Rachman, P. Gusbager, C.O. Raweya, H.S.M. Yoteni. 2010. The forests and related vegetation of Kwerba, on the Foja Foothills, Mamberamo, Papua (Indonesian New Guinea). *Blumea* 55: 153—161.

- World Conservation Monitoring Centre. 1998a. *Pterocarpus indicus*. The IUCN Red List of Threatened Species 1998: e.T33241A9770599.  
<http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T33241A9770599.en>. Accessed on 19 April 2017.
- World Conservation Monitoring Centre. 1998b. *Polyscias prolifera*. The IUCN Red List of Threatened Species 1998: e.T37568A10064346.  
<http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T37568A10064346.en>. Accessed on 19 April 2017.
- World Conservation Monitoring Centre. 1998c. *Myristica globosa*. The IUCN Red List of Threatened Species 1998: e.T37876A10077890.  
<http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T37876A10077890.en>. Accessed on 19 April 2017.
- World Conservation Monitoring Centre. 1998d. *Myristica buchneriana*. The IUCN Red List of Threatened Species 1998: e.T37857A10082239.  
<http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T37857A10082239.en>. Accessed on 19 April 2017.
- Woxvold, I. A. 2010. Terrestrial vertebrate fauna potentially occurring in the Wafi-Golpu Project area. Unpublished report prepared for Coffey Environments, November 2010.
- Woxvold, I. A. 2011. Terrestrial Fauna of the Wafi-Golpu Project Area: Communities, Pre-feasibility Exploration Impacts and Recommendations. Unpublished report prepared for Coffey Environments, January 2011.
- Woxvold, I. A. 2012. Terrestrial Fauna Study of the northern Wafi-Golpu Project Area and Markham Gap Basin: Faunal Communities, Tailings Storage Facility Impacts and Recommendations. Unpublished report prepared for Coffey Environments, March 2012.
- Woxvold, I. A. and Aplin, K. 2013. Terrestrial fauna study and impact assessment of the Wafi-Golpu advanced exploration project. Unpublished draft report prepared for Coffey Environments, 4 April 2013.
- Woxvold, I. A. and Legra, L. 2016. Birds in Biodiversity Assessment of Forests in the PNG LNG Upstream Project Area, Southern Highlands and Hela Provinces, Papua New Guinea (ed by Stephen J. Richard). A report to Exxon Mobil from Phase 1 of the PMA3 Biodiversity Monitoring Program.
- Wright, D.D., J.H. Jessen, P. Burke & H.G. de Silva Garza. 1997. Tree and liana enumeration and diversity on a one-hectare plot in Papua New Guinea. *Biotropica* 29: 250 – 260.
- Zweifel, R. G. 1980. Results of the Archbold Expeditions 103: Frogs and Lizards from the Huon Peninsula, Papua New Guinea. *Bulletin of the American Museum of Natural History* 165: New York.
- Zweifel, R. G. 2000. Partition of the Australopapuan Microhylid frog genus *Spenophryne* with descriptions of new species. *Bulletin of the American Museum of Natural History* 253. New York.

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## **Appendix A – Vascular plant species known to occur in the Lae area**

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## Lae Flora

FAMILY	TAXON (GENUS/SPECIES)	PLANT COLLECTIONS	COLLECTION LOCALITIES
Acanthaceae	<i>Acanthus ebracteatus</i>	T.G. Hartley 10863A	Malahang BA, N of Lae
Acanthaceae	<i>Calycacanthus magnusianus</i>	H. Okada 4220, J.S. Womersley 3319, H. Streimann LAE51927, H. Morte LAE79221, T.G. Hartley 10441	Gabensis LA, Oomsis, Lae; Yalu near Lae; Garagos, Lae on Wau Rd; National Botanic Garden, Lae; Oomsis Ck, W of Lae
Acanthaceae	<i>Graptophyllum</i>	A.N. Millar GH106	Lae Botanic Gardens, Lae.
Acanthaceae	<i>Graptophyllum pubiflorum</i>	T.G. Hartley	Near Butibum Rvr, N of Lae
Acanthaceae	<i>Hygiophila</i>	P. Katik LAE77807B	Oomsis LR, Lae
Acanthaceae	<i>Hygrophila phlomoides</i>	J.S. Womersley 4624	Lae Botanic Gardens, Lae.
Acanthaceae	<i>Leptosiphonium</i>	T.G. Hartley 9803, J.S. Womersley 4619	Near Butibum Rvr, N of Lae; Lae, Morobe
Acanthaceae	<i>Leptosiphonium stricklandi</i>	Anonymous 4720	Lae Botanic Gardens, Lae.
Acanthaceae	<i>Psacadocalymma comatum</i>	E.E. Henty 29168	Lae Area
Acanthaceae	<i>Thunbergia fragrans</i>	L. Oki LAE79253	Lae Botanic Garden, Lae.
Acanthaceae	<i>Aphelandra sinclairiana</i>	P. Lamei LAE89475 & K. Fazang	Lae Botanic Gardens, Lae.
Acanthaceae	<i>Asystasia intrusa</i>	R.D. Hoogland 6571	Markham Valley, Lae
Acanthaceae	<i>Avicennia alba</i>	N.C. Duke AIM1070, N.C. Duke AIM1069, N.C. Duke AIM1071, J.S. Bunt AIM1186, J.S. Womersley NGF46460	Labu Lakes, Lae; Labu Lakes, Lae; Labu Lakes, Lae; Labu Lakes near Lae; Labu Lakes near Lae
Acanthaceae	<i>Avicennia marina</i> subsp. <i>eucalyptifolia</i>	R. Schodde 2689	Papa SE near Lae
Acanthaceae	<i>Eranthemum pulchellum</i>	P. Lamei LAE89482 & K. Fazang	Lae Botanic Gardens, Lae.
Acanthaceae	<i>Graptophyllum pictum</i>	A.N. Millar 106, B.C. Stone 9778, T.G. Hartley 10035	Lae Botanical Gardens, Lae; Markham Rvr near Lae; Oomsis Ck, W of Lae
Acanthaceae	<i>Hemigraphis</i>	A.N. Millar 12021, A.N. Millar 12296, J.S. Womersley 3287	Lae Botanical Gardens; Oomsis near Lae; Lae, Morobe
Acanthaceae	<i>Hemigraphis alternata</i>	H. Okada 4254	Gabensis LA, Oomsis, Lae
Acanthaceae	<i>Hemigraphis reptans</i>	E.E. Henty NGF11540, J.F. Veldkamp 6163	Maralumi Ck, Erap near Lae; Air Niugini Lodge, Lae
Acanthaceae	<i>Hulemacanthus</i>	J.S. Womersley 37147	Busu-Sankwep Rvr Divide, Lae
Acanthaceae	<i>Hulemacanthus novoguineensis</i>	T. Kuria LAE86407	Lae Botanic Garden, Lae.
Acanthaceae	<i>Jadunia</i>	H. Streimann NGF45246	Patep No 2, Lae-Mumeng Rd
Acanthaceae	<i>Jadunia biroi</i>	J. Waine 01	Lae Botanic Garden, Lae.
Acanthaceae	<i>Leptosiphonium forbesii</i>	E.E. Henty 14362	Oomsis LA near Lae
Acanthaceae	<i>Odontonema cuspidatum</i>	P. Lamei LAE89463 & K. Fazang	Lae Botanic Gardens, Lae.
Acanthaceae	<i>Pachystachys spicata</i>	P. Lamei LAE89472 & K. Fazang	Lae Botanic Gardens, Lae.
Acanthaceae	<i>Ptyssiglottis cyrtandroides</i>	E.E. Henty NGF11951, J.S. Womersley 11834	Oomsis LA near Lae; Oomsis Ck, Lae
Achariaceae	<i>Ryparosa</i>	P. Katik NGF 46786 & F. Steven, K.J. White NGF 10484,	End of Sunkwep LR, Lae subdistrict; Oomsis Ck near Lae;
Achariaceae	<i>Trichadenia philippinensis</i>	J.S. Womersley NGF19059, J.S. Womersley & P. McEwin NGF37423, K.J. White NGF9665, T.G. Hartley TGH10092, K.J. White NGF9688	Garagos, near Wampit, Lae on Wau Rd; Ankwep LA, Lae subdistrict; Lae Botanic Gardens; Busu Rvr, N of Lae; Lae Botanic Gardens
Actinidiaceae	<i>Saurauia</i>	C.T. White NGF1562, R.G. Wright NGF11102, W. Takeuchi 5626, A.N. Millar NGF9776, Anonymous 5577, J.S. Womersley NGF9090, P. Katik LAE70711, J.S. Womersley NGF24855, P. Katik LAE70713, P.F. Stevens LAE58005, P. Katik s.n. & K. Taho, E.E. Henty NGF11695, P.F. Stevens LAE58004, A.N. Millar GH42, Anonymous 5578	Lae, Morobe; Lae Botanic Gardens; Igam Barracks, Lae; Lae Botanic Gardens; Diddyman's Ck, Lae; Trans-Busu LA near Lae; Near Sankwep Rvr, Lae subdistrict; Perin Rvr, Lae on Wau Rd; Lae Botanic Garden; Lae, Morobe; Sankwep LA, near Lae; Oomsis LA, Lae; Buembi Rvr near Lae; Sankwep LA near Lae; Lae Botanic Gardens; Diddyman's Ck, Lae

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Actinidiaceae	<i>Saurauia bifida</i>	T.G. Hartley 9628	Near Butibum Rvr, N of Lae
Actinidiaceae	<i>Saurauia calyprata</i>	A.N. Gillison NGF44606	Upper Buso Area, Lae subdistrict
Actinidiaceae	<i>Saurauia schumanniana</i>	A. Floyd 5778	Yalu near Lae
Actinidiaceae	<i>Saurauia trugul</i>	A.N. Millar NGF14612	Near Gurakor Lae-Wau Rd
Actinidiaceae	<i>Saurauia xiphophylla</i>	T.G. Hartley 11347, T.G. Hartley 9832	N Side Busu Rvr, N of Lae; Near Butibum Rvr, N of Lae
Actinidiaceae	<i>Saurauia conferta</i>	P. Van Royen NGF16315, T.G. Hartley 9805	Leiwomba Plantation, Markham Rd, Lae subdistrict; Near Butibum Rvr, N of Lae
Adiantaceae	<i>Adiantum philippense</i>	R. Croft 887 & J.I. Marsh	Huon Rd, near Half St, Lae
Adiantaceae	<i>Adiantum tenerum</i>	J.R. Croft 1252 & J.I. Marsh, .R. Croft 853	Busu High School, NE of Lae; Lae Botanic Garden
Adiantaceae	<i>Syngramma schlechteri</i>	J.R. Croft 439	E of Mongi Rvr, Huon Peninsula, E of Lae
Adiantaceae	<i>Pityrogramma calomelanos</i>	J.R. Croft 415, W.N. Takeuchi 8914,	Natter Bay, SE of Lae; Lae, Morobe
Adiantaceae	<i>Pityrogramma calomelanos var. calomelanos</i>	R. Johns & P. Katik NGF47182	Gabensis, Lae subdistrict
Adiantaceae	<i>Taenitis blechnoides</i>	R.J. Johns NGF47238, J.R. Croft 452, H. Streimann & A. Kairo NGF45016	Maniau, Lae subdistrict; E of Mongi Rvr, Huon Peninsula, E of Lae; Saru Rvr, SE of Garaina, Lae
Adiantaceae	<i>Taenitis hookeri</i>	J.R. Croft 440	E of Mongi Rvr, Huon Peninsula, E of Lae
Adiantaceae	<i>Taenitis pinnata var. pinnata</i>	J.R. Croft 399	Natter Bay, SE of Lae
Alismataceae	<i>Caldesia parnassifolia</i>	J.S. Womersley NGF14191	Red Hil, near Oomsis, Lae
Amaranthaceae	<i>Achyranthes bidentata</i>	P. van Royen & A.N. Millar NGF17535	Zatari, Boana
Amaranthaceae	<i>Amaranthus viridis</i>	E.E. Henty NGF11659	Three Mile near Lae
Amaranthaceae	<i>Celosia</i>	M.J. Coode NGF29552	Lae Area
Amaranthaceae	<i>Celosia argentea</i>	C.T. White NGF1681, J.H. Willis s.n., Van Royen 5781, W.T. Jones s.n., C.T. White, et al. NGF1682	Lae Kunai Area; Butibum Rd bridge, Lae; Near Markham Bridge, Lae; Lae, Morobe; Kunai area, Lae
Amaranthaceae	<i>Alternanthera pungens</i>	Carol Yallen et.al LAE 79266	Lae Botanic Garden, Lae.
Amaranthaceae	<i>Amaranthus dubius</i>	A. Millar NGF12087	Igam, Lae Subdistrict
Amaranthaceae	<i>Cyathula prostrata</i>	T.G. Hartley 10108	Basu Rvr, N of Lae
Amaranthaceae	<i>Deeringia amaranthoides</i>	T.G. Hartley 10855, A.N. Millar NGF13808, P. Katik LAE70803	N of Busu Rvr, NW of Lae; Bupu River, Lae; Garagos LA, Lae
Amaranthaceae	<i>Deeringia arborescens</i>	H. Streimann & A. Kairo NGF47735, T.G. Hartley 9927	Bulolo-Lae Rd, NW of Bulolo; Near Butibum Rvr, N of Lae
Amaranthaceae	<i>Deeringia polysperma</i>	T.G. Hartley 9927, E.E. Henty NGF11929, H. Streimann NGF47735	Near Butibum Rvr, N of Lae; Oomsis LA near Lae; NW of Bulolo-Lae Rd
Amaranthaceae	<i>Gomphrena celosioides</i>	M.J. Coode NGF29517, E.E. Henty 101	Waste Ground near Lae Wharf; Erap near Lae
Amaryllidaceae	<i>Crinum macrantherum</i>	T.G. Hartley 10249	Malahang Beach Area, E of Lae
Anacardiaceae	<i>Buchanania amboinensis</i>	J.J. Havel NGF17195, J.R. Croft LAE68561, C.T. White NGF1517	Bulolo-Lae Rd, Bends Area; Natter Bay LA, SE of Lae; Yalu near Lae
Anacardiaceae	<i>Euroschinus papuanus</i>	T.G. Hartley 10517, Nima NGF43858, C.T. White NGF1710, F.T. Vickery NGF698, F.T. Vickery 1427, T.G. Hartley 10517A, C.T. White NGF1563	Oomsis Ck, W of Lae; Gurakor, Lae-Wau Rd; Lae, Morobe; Yalu near Lae; Oomsis Ck, SW of Lae; Lae, Morobe
Anacardiaceae	<i>Mangifera minor</i>	E. Baltisberger, et al. 11825	Near Gain, NW of Lae
Anacardiaceae	<i>Semecarpus aruensis</i>	T.G. Hartley 13075, J.S. Womersley NGF37465	Oomsis Ck, W of Lae; Sankwep LA, Lae subdistrict

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Anacardiaceae	<i>Semecarpus cassivium</i>	J. Waine 55, P. Lamei LAE89469 & K. Fazang, D. Bega LAE79214 & K. Fazang	Lae Botanic Garden, Lae.
Anacardiaceae	<i>Buchanania macrocarpa</i>	Unknown NGF15, H. Streimann NGF24484	Lae, Morobe; Buso Rvr, Lae
Anacardiaceae	<i>Campnosperma brevipetiolata</i>	J.S. Womersley NGF3167, J.J. Havel & A. Kairo NGF11192, J.J. Havel NGF17192, H. Streimann 8655	Lae, Morobe; Near Garagos, Lae-Bulolo Rd; Bends Area, Bulolo-Lae Rd; Labu Swamp, WNW of Lae
Anacardiaceae	<i>Dracontomelon dao</i>	A.N. Millar NGF23861, P. van Royen NGF16313, M. Jacobs 8695, T.G. Hartley TGH10297, A.N. Millar NGF22599, A.N. Millar NGF23861, Unknown NGF1418, Unknown NGF2050, A.N. Millar 32, A.N. Millar NGF22599, F.T. Vickery 1418, P. Van Royen NGF16313, T.G. Hartley 10297	Lae Botanic Gardens; Leiwomba plantation, Lae; Busu LA, N of Lae; Near Burep Rvr, NE of Lae; Yalu near Lae.
Anacardiaceae	<i>Dracontomelon lenticulatum</i>	K.J. White NGF10341, A.N. Millar NGF22600, A.N. Millar NGF23862, E.E. Henty NGF27146	Lae Botanic Gardens, Lae
Anacardiaceae	<i>Dracontomelon mangiferum</i>	W. Takeuchi 4384, A.N. Millar s.n., A.N. Millar GH32	Atzera Range, Lae; National Botanic Garden. Lae; National Botanic Gardens, Lae
Anacardiaceae	<i>Mangifera altissima</i>	J.R. Croft LAE68562	Natter Bay LA, SE of Lae
Anacardiaceae	<i>Pleiogynium timorense</i>	J.J. Havel NGF17224	Oomsis, Lae subdistrict
Anacardiaceae	<i>Rhus taitensis</i>	W. Moi & N. Inu NGF25976, A.N. Millar GH97, J.J. Havel NGF17317, T.G. Hartley 10524, C.T. White, H.E. Dadswell & L.S. Smith NGF1561, T.G. Hartley 10313, A.N. Millar NGF14520, K.J. White NGF10186, J.J. Havel NGF17317, W. Moi & N. Inu NGF25976, A. Kairo NGF45351, T.G. Hartley TGH10313, T.G. Hartley 10524, J.S. Womersley NGF3294, J.S. Womersley NGF3193, J.S. Womersley, J.S. Womersley NGF3193, A.N. Millar GH97, C.T. White NGF1561	Red Hill Swamp, Lae subdistrict; National Botanic Gardens, Lae; Near Lae-Bulolo Rd, Lae subddistrict; Red Hill, W of Lae; Lae, Morobe; Along Busu Rvr, N of Lae; Sunshine, Bulolo, Lae-Wau Rd; S edge of Imperata opening, Oomsis near Lae; Near Lae-Bulolo Rd; Red hill swamp, Lae; Asubazo, Waria Rvr, SE of Garaina, Lae; Along Busu Rvr, N of Lae; Red hill, W of Lae; Yalu near Lae; Yalu, near Lae; Yalu near Lae; Yalu near Lae; National Botanic Gardens, Lae; Lae, Morobe
Anacardiaceae	<i>Semecarpus australiensis</i>	A. Kairo NGF25553, C.T. White 220	Near Patep, on Wau-Lae Rd; Lae, Morobe
Anacardiaceae	<i>Semecarpus forstenii</i>	C.T. White NGF1658	Lae Area
Anacardiaceae	<i>Semecarpus magnifica</i>	Anonymous 5584, J.S. Womersley 3200, W. Moi & N. Inu NGF25961	Busu Bridge, Lae; Yalu near Lae; Markham Point, Lae
Anacardiaceae	<i>Semecarpus rufovelutinus</i>	J.J. Havel NGF17194	Bulolo, Lae Rd
Anacardiaceae	<i>Semecarpus schlechteri</i>	A.N. Millar NGF12209, T.G. Hartley 12216	Patep Ck, Lae; Near Butibum Rvr, N of Lae
Anacardiaceae	<i>Spondias cytherea</i>	T.G. Hartley 10175, O.K. Paul, et al. LAE87534, E.E. Henty NGF14371, T.G. Hartley 11398A, T.G. Hartley 10851	Burep Rvr, NE of Lae; Lae Botanical Gardens; Bupu Rvr near Lae; Burep Rvr, NE of Lae; N of Busu Rvr, NW Of Lae
Annonaceae	<i>Goniothalamus</i>	J.S. Womersley NGF43714 & P. Katik, J.S. Womersley NGF24915, T.G. Hartley 9947, H. Okada 4271, K.J. White NGF9689, A.N. Millar GH66, A. Kairo 649, P. Katik NGF38082 & G. Larivita, P. Katik NGF38087 & G. Larivita	Gobari Settlement near Bupu Rvr, Lae subdistrict; Purinin Rvr Tributary near Wau-Lae Rd; Oomsis Ck, W of Lae; Gabensis LA, Oomsis, Lae; Lae Botanical Gardens; Lae Botanical Gardens; Patep No 1, Lae-Mumeng Rd, S of Mumeng; Wancos, Lae; Gurako LR, Gabensis, Lae subdistrict
Annonaceae	<i>Haplostichanthus longirostris</i>	W. Takeuchi 17917	Hills near Taraka, Lae
Annonaceae	<i>Haplostichanthus novoguineensis</i>	H. Okada 4202	Gabensis LA, Oomsis, Lae
Annonaceae	<i>Miliusa</i>	J.S. Womersley NGF24845	Lae township
Annonaceae	<i>Miliusa novoguineensis</i>	J.S. Womersley NGF24845	Lae township
Annonaceae	<i>Papualthia</i>	H. Okada 4317	Gumboak Strm, Busu Rvr, Lae
Annonaceae	<i>Phaeanthus</i>	P. Katik LAE77973, W.N. Takeuchi 9047	Oomsis LR, near Oomsis, Lae; Lae municipality

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Annonaceae	<i>Phaeanthus ebracteolatus</i>	K. Wada 1, T.G. Hartley 9945, H. Okada 4201, H. Okada 4208	Oomsis, Gabensis LA, Lae; Oomsis Ck, W of Lae; Oomsis, Gabensis LA, Lae; Gabensis LA, betwn Gabensis & Wanpit, Oomsis, Lae
Annonaceae	<i>Polyalthia glauca</i>	T.G. Hartley 11863	Near Butibum Rvr, N of Lae
Annonaceae	<i>Pseuduvaria coriacea</i>	T.G. Hartley 11322	Busu Rvr, N of Lae
Annonaceae	<i>Pseuduvaria grandifolia</i>	T.G. Hartley 10072A, T.G. Hartley 10072	Bewapi Ck, W of Lae; Bewapi Ck, W of Lae
Annonaceae	<i>Pseuduvaria megalopus</i>	A.N. Millar NGF13801, P. Katik LAE77973, T.G. Hartley 11333, W. Takeuchi 17070, P. Katik NGF24872 & J.S. Womersley	Lae, Morobe; Oomsis LR, near Oomsis Rvr, Lae subprovince; Atzera range, N of Lae; Hills near Taraka, Lae; 3 mile Agriculture station near Lae
Annonaceae	<i>Pseuduvaria versteegii</i>	H. Streimann & A. Kairo NGF47946	Siwore, SE of Garaina, Lae subdistrict
Annonaceae	<i>Schefferomitra subaequalis</i>	W. Takeuchi 17066, J.S. Womersley NGF37479	Hills near Taraka, Lae; Busu Rvr, Lae
Annonaceae	<i>Uvaria</i>	P. Katik LAE64181 & F. Essig, J.S. Womersley NGF37476, W. Takeuchi 17124, T.G. Hartley 11636A, T.G. Hartley 11776, E.E. Henty NGF11985, J.S. Womersley NGF3168, H. Streimann NGF44322	Situm LA, Lae; Buheim Rvr, W of Lae; Hills near Taraka, Lae; Near Butibum Rvr, N of Lae; Burep Rvr, NE of Lae; Busu Rvr near Lae; Lae, Morobe; Lasanga Is, Lae subdistrict
Annonaceae	<i>Artobotrys</i>	W. Takeuchi 17115, J.S. Womersley NGF13430, J.S. Womersley NGF43682, Womersley J. S. NGF43682	Lae, hills near Taraka; Atzera Range near Lae; Bupu Rvr, E of Lae; Bupu Rvr, E of Lae
Annonaceae	<i>Cananga odorata</i>	E.E. Henty NGF10505, T.G. Hartley 10055, A.N. Millar s.n., T.G. Hartley 10120, C.T. White NGF1729, Evans 36, M. Heads 26, A.N. Millar & van Royen NGF15848, J.S. Womersley NGF9396	Lae, Morobe; Oomsis Ck, W of Lae; National Botanic Garden, Lae; Burep Rvr, NE of Lae; C.T. White NGF1729, Busu Rvr, Lae; S of Lae; Near Markham bridge, near Lae;
Annonaceae	<i>Cyathocalyx</i>	J.S. Womersley NGF43680, J.S. Womersley 2908, J.R. Croft LAE68505, A.N. Vinas 293 & A. Kairo, P. Katik NGF46787, P. Katik LAE62017 & G. Larivita, J.S. Womersley NGF19148, T.G. Hartley 10994	Bupu Rvr, E of Lae; Near Lae; Natter Bay LA, SE of Lae; S of Buso Camp, Lae; Sunkwep LR, Lae; Oomsis near Lae; Oomsis Hill near Lae; Oomsis Ck, W of Lae
Annonaceae	<i>Cyathocalyx polycarpa</i>	A.N. Millar NGF9796, T.G. Hartley 10311, T.G. Hartley 11773, T.G. Hartley 10453, T.G. Hartley 10027	Oomsis near Lae; Near Bunga Rvr, NE of Lae; Burep Rvr, NE of Lae; Oomsis Ck, W of Lae; Oomsis Ck, W of Lae
Annonaceae	<i>Cyathocalyx polycarpum</i>	T.G. Hartley T.G.H. 10311	Near the Bunga Rvr, NE of Lae
Annonaceae	<i>Cyathocalyx polycarpus</i>	J.S. Womersley NGF19148	Oomsis Hill, near Lae
Annonaceae	<i>Friesodielsia</i>	T.G. Hartley 12278	Bunga Rvr, NE of Lae
Annonaceae	<i>Goniothalamus grandiflorus</i>	H. Streimann & A. Kairo NGF47712, W.N. Takeuchi 9051, J. Waikabu LAE72381, A.N. Millar s.n., B.C. Stone 9781, C.E. Ridsdale NGF33850, P. Van Royen NGF16475, J.S. Womersley NGF3172	W of Lae, Lae subdistrict; Forest Resrch Institute Botanical Gardens, Lae; Lae Botanical Gardens; National Botanic Garden, Lae; Markham Rvr near Lae; Lae Botanical Gardens; Lae Botanical Gardens; Lae, Morobe
Annonaceae	<i>Mitrella</i>	H. Streimann 8617	Markham-Oomsis Ridge, W of Lae

## Lae Flora

Annonaceae	<i>Polyalthia</i>	H. Streimann NGF45160, Anonymous NGF918, J.S. Womersley NGF43910, J. Dobunaba LAE79055, J.S. Womersley NGF19204, P. Katik LAE64175 & F. Essig, T.G. Hartley 9949, J. Womersley NGF24845, C.T. White NGF1713, W.N. Takeuchi 9013, H. Okada 4314, D. Fryar NGF3341, K.J. White NGF10198, H. Okada 4207, K.J. White NGF10198, E.E. Henty NGF11924, H. Streimann NGF47745 & I. Fasavalu, J.S. Womersley NGF19204, H. Okada 4325, W. Takeuchi 17011, T.G. Hartley 9840	Buso, Lae subdistrict; Lae Area; Aluki Area, E of Lae; Vocopoint residential area, Lae; Markham LA, Lae; Situm LA, Lae; Oomsis Ck, W of Lae; Lae Township; Lae, Morobe; Lae municipality; Gumboak Strm betwn Gwadabik & Gawan, Busu Rvr, Lae; Yalu near Lae; Oomsis near Lae; Gabensis LA, betwn Wanpit & Gabensis, Oomsis, Lae; Oomsis near Lae; Atzera Range near Lae; Gabensis-Wagau Track, S of Gabensis, Lae; Markham LA, Lae; Gumboak Strm, betwn Gwadabik & Gawan, Busu Rvr, Lae; Lae, hills near Taraka; Near Butibum Rvr, N of Lae
Annonaceae	<i>Polyalthia cf. michaelii</i>	O. Gideon LAE77111 & S. Rogstad	Markham Point, Lae subprovince
Annonaceae	<i>Polyalthia elegans</i>	W. Takeuchi 17099	Hills near Taraka, Lae
Annonaceae	<i>Polyalthia oblongifolia</i>	J.R. Croft & Y. Lelean LAE68528, P. Katik NGF46770, D. Bega LAE79217 & K. Fazang, J.S. Womersley NGF37101, J.S. Womersley NGF24641, T.G. Hartley 10052A, T.G. Hartley 10052	Natter Bay LA, SE of Lae; Before Sunkwep Bridge, Lae subdistrict; D. Bega LAE79217 & K. Fazang, Oomsis LA, near Lae; Oomsis near Lae; Oomsis Ck, W of Lae; Oomsis Ck, W of Lae
Annonaceae	<i>Popowia</i>	K.J. White NGF10469, A. Vinas LAE62240, H. Okada 4240, H. Okada 4213, H. Okada 4340, T.G. Hartley 11083, J.J. Havel NGF17020, T.G. Hartley 11083A	Oomsis near Lae; Gurakor LR, Lae subdistrict; Gabensis LA, Oomsis, Lae; Gabensis LA, Oomsis, Lae; Gumboak Strm, Busu Rvr, Lae; Betwn Busu & Butibum Rvrs, N of Lae; Gnalangumbum, Lae subdistrict; Near Butibum Rvr, N of Lae
Annonaceae	<i>Pseuduvaria dolichonema</i>	T.G. Hartley 11084	Betwn Busu & Butibum Rvrs, N of Lae
Annonaceae	<i>Pseuduvaria silvestris</i>	T.G. Hartley 10422, H. Okada 4300	Oomsis Ck, W of Lae; Sankwep LA, Busu Rvr, Lae
Annonaceae	<i>Xylopia papuana</i>	T.G. Hartley 10160, J. Waine 54	Burep Rvr NE of Lae; National Botanical Gardens, Lae
Apocynaceae	<i>Achrosia citridora</i>	J. Waine 04	Botanic Gardens, Lae.
Apocynaceae	<i>Alstonia</i>	T.G. Hartley 9678	Between Red Hill & Lake Wanum, W of Lae
Apocynaceae	<i>Alyxia acuminata</i>	D. Fryar NGF3298, J.S. Womersley s.n. & G. Larivita, H. Streimann s.n., J.R. Croft LAE68554, H. Streimann s.n., A. Vinas LAE62236, Garrett-Jones S.E. s.n. J.S. Womersley s.n.	Morobe, Lae; Garagos, Subdist. Lae; Buso Village, Lae sub-dist.; Natter Bay LA, SE of Lae; Lasanga Is., Lae sub-district; Redhill Swamp, Lae Subdistrict;
Apocynaceae	<i>Alyxia acuminata</i>	D. Fryar s.n., P. Katik s.n., Wiakabu J. et al s.n., Kerenga et.al s.n., .G. Hartley 9627, M. Coode NGF29572, A. Kairo s.n. & H. Streimann, Anonymous NGF3298,	Morobe, Lae; Markham Point, Lae; Red hills swamp, Gabensis plantation, Lae; Oomsis swamp, Subprovince Lae; .Near the Butibum Rvr, N of Lae; Red Hill Swamp, Oomsis, Lae; Redhill Swamp, Lae; Red Hill swamp, Lae; Morobe, Lae; Red Hill, near Lae;
Apocynaceae	<i>Alyxia tetraquetra</i>	M. Jacobs 9649, J.S. Womersley s.n., H. Streimann s.n. & A. Kairo	SE of Lae, opposite Lasanga Is., Buso Rvr; Patep, Lae-Wau Rd; Saru Rvr, SE of Garaina, Lae
Apocynaceae	<i>Anodendron oblongifolium</i>	C.T. White NGF1583, P.F. Stevens s.n. & H. Streimann	Morobe, Lae; LA, Gabensis bridge, Lae
Apocynaceae	<i>Astonia scholaris</i>	B. Geana BG003 & S. Sennart,	Lae Botanic Garden, Lae.
Apocynaceae	<i>Cerbera floribunda</i>	L.S. Smith NGF1506, A.N. Millar NGF38460, T.G. Hartley 9889, R. Evans 72, C.T. White, H.E. Dadswell & L.S. Smith NGF1549, E.E. Henty NGF10666, A.N. Millar NGF38460, T.G. Hartley 9889	Lae Botanic Garden, Lae; near Butibum Rvr; Yalu, W of Lae; Oomsis near Lae.

## Lae Flora

Apocynaceae	<i>Hoya</i>	R.D. Hoogland 6465, A. Millar NGF9213, A.N. Millar NGF22888, M.S. Clemens 10455, H.F. Winters 311, A.N. Millar NGF9214, R.D. Hoogland 6443, W.N. Takeuchi 8942, A.N. Millar GH126, M.A. Clements 7277 & Ziesing (ex N. Howcroft, H.F. Winters 310	Patep, along Lae-Bulolo Rd; Lae Botanical Gardens; Island near Kui, Lae subdistrict; Lae, Morobe; National Botanic Gardens, Lae; Lae Botanical Gardens; Vicinity of Lae; National Botanic Gardens, Lae; N. Howcroft s.n. ex Lae area; National Botanic Gardens, Lae
Apocynaceae	<i>Hoya calycina</i> subsp. <i>Calycina</i>	P.I. Forster PIF11026	Bulolo Rd, off Lae to Nadzeb Rd
Apocynaceae	<i>Hoya kenejiana</i>	W. Takeuchi 4379, A.N. Millar NGF9214, A.N. Millar NGF22888	Lae outskirts near Atzera Range; Lae Botanical Gardens; Island near Kui, Lae subdistrict
Apocynaceae	<i>Hoya pottsii</i>	J.S. Womersley NGF17619	Oomsis LA, Lae
Apocynaceae	<i>Hoya pseudolittoralis</i>	H.F. Winters 309	Lae Botanic Garden, Lae.
Apocynaceae	<i>Hoya sussuela</i>	T.G. Hartley 10142, A. Floyd 5669	Burep Rvr, NE of Lae; Markham Point near Lae
Apocynaceae	<i>Kopsia flava</i>	W.N. Takeuchi 9028, A.N. Millar NGF38456	Forest Resrch Institute Botanical Gardens, Lae; Lae Botanical Gardens
Apocynaceae	<i>Melodinus forbesii</i>	W. Takeuchi 17119, J.S. Womersley NGF19090, A. Floyd NGF5396, E.E. Henty NGF14374, E.E. Henty s.n., C.T. White NGF1580	Hills near Taraka, Lae; Garagos, Lae; Markham Bridge Rd, Lae; Busu Rvr, near Lae; Busu Rvr, near Lae; Lae, Morobe
Apocynaceae	<i>Melodinus gracilis</i>	T.G. Hartley 12259	Markham Point, W of Lae
Apocynaceae	<i>Nerium indicum</i>	A.N. Millar NGF38455	Lae Botanic Gardens, Lae.
Apocynaceae	<i>Ochrosia coccinea</i>	K. Kerenga LAE74473	Lae Botanic Gardens, Lae.
Apocynaceae	<i>Papuechites</i>	P. Katik LAE74972	Lae Botanic Garden, Lae.
Apocynaceae	<i>Papuechites aambe</i>	T.G. Hartley 10127, T.G. Hartley 11841	Burep Rvr, NE of Lae; Burep Rvr, NE of Lae
Apocynaceae	<i>Parsonia</i>	A.N. Millar GH89, D. Damas LAE88249	Lae Botanical Gardens, Lae.
Apocynaceae	<i>Parsonia burnensis</i>	H. Streimann s.n. & F.C. Students, A. Kairo NGF44569, A. Kairo s.n.	Waria Rvr, SE of Garaina, Lae subdistrict; Bulolo, Lae Rd; Bulolo, Lae Rd, Wau subdistrict
Apocynaceae	<i>Parsonia curvisepala</i>	H. Streimann s.n., A.N. Millar NGF23234, L.J. Brass 29101, A.N. Millar NGF9771, A.N. Millar s.n., A.N. Millar s.n., A.N. Millar s.n., E.E. Henty s.n., J.S. Womersley s.n., T.G. Hartley 12254, K. Kerenga s.n. & T. Umbo, A.N. Millar s.n., J.S. Womersley NGF19237, T.G. Hartley 9895, E.E. Henty NGF10507, T.G. Hartley 9895, A.N. Millar NGF9906, A.N. Millar GH89	Buso Rvr, Lae subdistrict; Markham Rd, Lae; Near Markham Rvr Bridge, W of Lae; Markham Rd near Lae; Markham Rd, Lae; Lae Botanic Gardens; Lae Botanic Gardens; Lae, Morobe; Markham Valley, Lae; Markham Point Bluff, Markham Rvr, W of Lae; Markham Bridge, Lae; Markham Rd near Lae; Markham Valley, Lae; N side of Markham Rvr, W of Lae; Lae, Morobe; Markham Rvr, W of Lae; Lae Botanic Gardens; Lae Botanic Gardens
Apocynaceae	<i>Parsonia lata</i>	C.T. White s.n., H.S. Dadswell & L.S. Smith, E.E. Henty s.n., L.S. Smith NGF1687, W.N. Takeuchi 9020, E.E. Henty NGF10577	Lae, on rainforest margin; National Botanic Gardens, Lae; Lae, Morobe; Lae municipality; Lae Botanic Gardens
Apocynaceae	<i>Parsonia oligantha</i>	T.G. Hartley 10001A, T.G. Hartley 10001, A.N. Millar GH91, P. Van Royen NGF16253, L. Grady, et al. 15088, T.G. Hartley 9821	Oomsis Ck, W of Lae; Oomsis Ck, W of Lae; Lae Botanical Gardens; Lae Botanical Gardens; Busu Rvr area, N of Lae; Near Butibum Rvr, N of Lae
Apocynaceae	<i>Parsonia warenensis</i>	A. Vinas LAF62238, T.G. Hartley 10478, E.E. Henty s.n.	Gurakor LR, Lae subdistrict; Oomsis Ck, W of Lae; Oomsis LA, near Lae
Apocynaceae	<i>Rejoua novoguineensis</i>	W.N. Takeuchi 9019, T. Jimbo LAE76335	15 mile, near Lae
Apocynaceae	<i>Roupellia grata</i>	A.N. Millar NGF38457	Lae Botanic Gardens, Lae.
Apocynaceae	<i>Sarcobatus vittatus</i>	T.G. Hartley 11079	Coast of Huon Gulf, NE of Lae
Apocynaceae	<i>Tabernaemontana divaricata</i>	A.N. Millar NGF38454	Lae Botanic Gardens, Lae.

## Lae Flora

Apocynaceae	<i>Tylophora cissoides</i>	E.E. Henty NGF28048	Lae on Wau Rd near Markham Bridge
Apocynaceae	<i>Voacanga grandifolia</i>	J. Wiakabu LAE70303, J.S. Womersley NGF3230, T.G. Hartley 9665, J.S. Womersley NGF8806	Oomsis Ck, near Lae; Labu near Lae; Oomsis Ck, W of Lae; Oomsis Ck, Lae
Apocynaceae	<i>Voacanga papuana</i>	P. Lamei LAE89461 & K. Fazang	Lae Botanic Garden, Lae.
Apocynaceae	<i>Wrightia laevis subsp. millgar</i>	K.J. White s.n.	Oomsis, Red Hill area, near Lae
Apocynaceae	<i>Alstonia brassii</i>	F.T. Vickery NGF1426, J. Waine 38	Lae Foothills near Yalu Area; National Botanical Gardens, Lae
Apocynaceae	<i>Alstonia muelleriana</i>	P. Lamei LAE894569 & K. Fazang	Lae Botanic Gardens, Lae.
Apocynaceae	<i>Alstonia scholaris</i>	Anonymous NGF218, A. White NGF11154, D. Fryar NGF3350, A.N. Millar GH114, F.T. Vickery NGF1408, T.G. Hartley TGH9671,	Lae-Nadzab Rd 95 Peg; Lae Botanic Gardens; Yalu near Lae; Lae Botanic Gardens; Lae Botanic Gardens; Morobe, Lae; Oomsis ck,W of Lae;
Apocynaceae	<i>Alstonia spatulata</i>	P. Van Royen NGF20084, .S. Womersley NGF14075, J.S. Womersley NGF14203, T.G. Hartley 10580	Swamp area, Red Hill Lae-Bulolo Rd.; Foot of Red Hill near Lae; Red Hill Swamp, Lae; Area below Red Hill, Lae-Bulolo Road
Apocynaceae	<i>Cerbera manghas</i>	P. Van Royen NGF20068, J.J. Havel & A. Kairo NGF17202	Markham Rvr, W of Lae; Near Labu Village, Lae subdistrict
Apocynaceae	<i>Cryptolepis papillata</i>	J.S. Womersley NGF7821	Partep Ck, Lae-Wau Rd
Apocynaceae	<i>Delphyodon oliganthus</i>	T.G. Hartley 10001A	Oomsis Ck, W of Lae
Apocynaceae	<i>Dischidia</i>	W.N. Takeuchi 8916, W.N. Takeuchi 8903, T.G. Hartley 9793	Lae, Morobe; Lae, Morobe; Lake Wanum, W of Lae
Apocynaceae	<i>Dischidia littoralis</i>	A. Floyd 5393, P.I. Forster PIF11064, P.I. Forster PIF10990	Agricultural Station, Lae; Bulolo, Lae-Nadzeb Rd; University of Technology Campus, Lae
Apocynaceae	<i>Heterostemma</i>	J.S. Womersley NGF9001	Edie Ck Rd near Lae
Apocynaceae	<i>Hoya anulata</i>	B. Conn, et al. 70	NE of Boana near Guambot, Lae
Apocynaceae	<i>Hoya australis subsp. tenuipes</i>	A.N. Millar NGF9984, A.N. Millar NGF22744, E.E. Henty NGF49998, K. Kerenga LAE77254, A.N. Millar NGF22744	Lae Botanical Gardens, Lae; Igam Barracks, Lae.
Apocynaceae	<i>Hoya calycina</i>	B. Conn, et al. 86	S of Boana, Lae
Apocynaceae	<i>Hoya lauterbachii</i>	R.D. Hoogland 6498, B. Conn 52, H. Streimann NGF44288, T.G. Hartley 10142, A. Floyd NGF5669	Lae Botanical Gardens, Lae; Boana; Lasanga Is, S of Lae, Burep Rvr NE of Lae; Markham Point, near Lae;
Apocynaceae	<i>Hoya nicholsoniae</i>	G.L. Webster 15097 & R. Hildreth	Busu Rvr area, N of Lae
Apocynaceae	<i>Ichnocarpus frutescens</i>	A.N. Millar NGF9766, P. Katik LAE64184 & F. Essig, J.S. Womersley NGF9060, T.G. Hartley 11050, T.G. Hartley 9751	Lae Botanical Gardens; Situm LA, Lae; Lae Botanical Gardens; Burep Rvr, NE of Lae; Below Red Hill, W of Lae
Apocynaceae	<i>Ichnocarpus rhombifolius</i>	J.S. Womersley NGF37467, W. Takeuchi 17108, J.S. Womersley NGF12377	Sankwep LA, Lae subdistrict; Hills near Taraka, Lae; Oomsis near Lae
Apocynaceae	<i>Kopsia fruticosa</i>	K. Tory LAE86404	Lae Botanic Garden, Lae.
Apocynaceae	<i>Lepiniopsis ternatensis</i>	T.G. Hartley 10080, T.G. Hartley 10080A	Bewapi Ck, W of Lae; Bewapi Ck, W of Lae
Apocynaceae	<i>Marsdenia glabrata</i>	P. Katik s.n. & K. Taho, M. Jacobs 8666	Kasanombe, Lae Subdistrict; Kasanombe, N of Lae
Apocynaceae	<i>Marsdenia suborbicularise</i>	T.G. Hartley 12271, T.G. Hartley 10283, T.G. Hartley 11875	Oomsis Ck, W of Lae; Near Butibum Rvr, N of Lae
Apocynaceae	<i>Melodinus australis</i>	T.G. Hartley 12259	Markham Point Bluff, W of Lae
Apocynaceae	<i>Ochrosia</i>	P. Katik	Halfway betwn Gabensis & Wampit, Lae
Apocynaceae	<i>Odontadenia speciosa</i>	A.N. Millar NGF38458	Lae Botanic Gardens, Lae.
Apocynaceae	<i>Parsonia alboflavescens</i>	H. Streimann s.n.	Lasanga Is, Lae subdistrict
Apocynaceae	<i>Rejoua</i>	A.N. Millar GH4, P. Katik LAE70719, T.G. Hartley 9760	Lae Botanic Gardens; Garagos LR, Lae subdistrict; Markham Rvr N Side, W of Lae

## Lae Flora

Apocynaceae	<i>Sarcolobus secamnonoides</i>	P.F. Stevens LAE58027	Mt Dilmargi, Kisingam, Lae subdistrict
Apocynaceae	<i>Tabernaemontana</i>	A.N. Millar GH8	Lae Botanic Gardens, Lae.
Apocynaceae	<i>Tabernaemontana anguinea</i>	A.N. Millar NGF38461	Lae Botanic Gardens, Lae.
Apocynaceae	<i>Tabernaemontana aurantiaca</i>	C.E. Ridsdale NGF31683, A. Floyd 5773, P. Lamei LAE89496 & K. Fazang, J. Wiakabu LAE70378 & Y. Lelean	Near Maiama Village, Lae subdistrict; Near Markham Bridge, near Lae; Lae Botanical Garden; SW of Markham Bridge, on Lae-Bulolo Rd, Lae subdistrict
Apocynaceae	<i>Tabernaemontana pandacaqui</i>	E.E. Henty NGF10677, J. Wiakabu LAE72396, A.N. Millar NGF14410, E.E. Henty NGF14368, A.N. Millar NGF38452, P. Katik LAE56335, R. Johns NGF 47185, T.G. Hartley 10091, K.J. White NGF10193, J. Wiakabu LAE73368, P. Katik LAE56335	Oomsis, Markham Valley near Lae; Lae Botanic Gardens; Oomsis LA near Lae; Oomsis LA near Lae; Lae Botanical Gardens; Buaru Ck, Lae; Oomsis, Lae subdistrict; Busu Rvr, N of Lae; Oomsis near Lae; Oomsis near Lae; Buaru Ck, Lae subdistrict
Apocynaceae	<i>Tylophora flexuosa</i>	G. Larivita LAE70539	Markham River Mouth, Lae Harbour
Aquifoliaceae	<i>Ilex arnhemensis</i>	T.G. Hartley 10445, C.D. Sayers NGF21665, J.S. Womersley NGF14073, T.G. Hartley 9746, A.N. Millar NGF13894	Red Hill, W of Lae; Red Hill, Lae; Red Hill, near Lae; Red Hill, W of Lae; Red Hill near Lae
Aquifoliaceae	<i>Ilex forbesii</i>	T.G. Hartley 10487	Oomsis Ck, W of Lae
Aquifoliaceae	<i>Ilex</i>	J.S. Womersley NGF19052, J.R. Croft LAE68485	Patep, Wau Rd; Natter Bay LA, SE of Lae
Aquifoliaceae	<i>Ilex ledermannii</i>	J.S. Womersley NGF3295	Yalu near Lae
Araceae	<i>Aglaonema marantifolium</i>	L. Kusunan 4, Kuria T. K. LAE87014 & Paul O. K.	Lae Botanic Garden, Lae.
Araceae	<i>Epipremnum</i>	C.T. White NGF1555	Lae Area
Araceae	<i>Alocasia aequiloba</i>	K. Wada 3	Gabensis LA, Oomsis Lae
Araceae	<i>Alocasia pyrospatha</i>	A. Hay 2059, G. Fensom 118, Karenga 4022,	Busu River, N of Lae; Near Sangkewp Rvr bridge, near Lae; near Sankwep Rvr Bridge, N of Lae
Araceae	<i>Amydrium magnificum</i>	A.N. Millar GH82, P. Homot, T. Magun & Numbo. G. LAE90167	Lae Botanic Gardens, Lae
Araceae	<i>Cyrtosperma brassii</i>	A. Hay 2055	Lae Botanic Gardens, Lae
Araceae	<i>Cyrtosperma macrotum</i>	R.F. Thorne 27451, W. Takeuchi 17033, A.N. Millar GH39, J.S. Womersley NGF3215	Busa Rvr, NE of Lae; Hills near Taraka, Lae; Lae Botanic Gardens; Yalu near Lae; Lae, Morobe; Hills near Taraka, Lae
Araceae	<i>Pothos</i>	A.N. Millar GH83	Lae Botanic Gardens, Lae
Araceae	<i>Pothos hellwigii</i>	J.S. Womersley NGF6969, T.G. Hartley 11897, J.S. Womersley NGF43681, Anonymous 5617, E.E. Henty NGF10663, A.N. Millar NGF9919, T.G. Hartley 9942	Purinin Rvr, Wau-Lae Rd; Near Butibum Rvr, N of Lae; Bupu Rvr, E of Lae; Lae, Morobe; Oomsis near Lae; Oomsis Ck near Lae; Oomsis Ck, W of Lae
Araceae	<i>Pothos niphii</i>	R. Lalo LAE76329	Lae Botanic Gardens, Lae
Araceae	<i>Pothos rumphii</i>	L. Kusunan 11, P. Lamei LAE89502	Lae Botanic Garden, Lae.
Araceae	<i>Pothos tener</i>	T.G. Hartley 10479	W of Lae at Oomsis Ck
Araceae	<i>Rhaphidophora neoguineensis</i>	A.N. Millar GH112, A.N. Millar NGF9938	Lae Botanic Gardens, Lae.
Araceae	<i>Schismatoglottis calyptata</i>	T.G. Hartley 11018	S of Garagos Rvr Bridge, Lae-Bulolo Rd
Araceae	<i>Spathiphyllum commutatum</i>	A.N. Millar GH55	Lae Botanic Gardens, Lae
Araliaceae	<i>Arthrophyllum</i>	J.R. Croft LAE68579	Natter Bay LA, SE of Lae
Araliaceae	<i>Polyscias spectabilis</i>	A.N. Millar NGF14512, P. Katik NGF 37994	Near DCA Mess, Lae; Gwabadila village, Lae subdistrict
Araliaceae	<i>Schefflera elliptica</i>	A.N. Millar NGF9920, P. Lamei LAE89479 & K. Fazang, A.N. Millar GH107	Lae Botanic Gardens, Lae.
Araliaceae	<i>Arthrophyllum macranthum</i>	H. Streimann NGF44274	Lasanga Is. Lae

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Araliaceae	<i>Arthrophyllum proliferum</i>	J. Croft & Y. Lelean LAE68579, R.J. Johns NGF47440	Natter Bay LA, SE of Lae; R.J. Johns NGF47440, Oomsis, Lae
Araliaceae	<i>Gastonia spectabilis</i>	E.E. Henty NGF11921, A.N. Millar NGF14512, A.N. Millar NGF37787, P. Katik NGF37994, E.E. Henty NGF16727	Atzera Range near Lae; Lae, Morobe; Foot of Kassam Pass, Lae; Gwabadila village, Lae; 3 miles Forest Plot, Lae
Araliaceae	<i>Harmsiopanax harmsii</i>	A.N. Millar NGF14699	Patep Rvr, Lae
Araliaceae	<i>Osmoxylon novoguineense</i>	A. Floyd 5533, C.T. White NGF1574, B.C. Stone 9773, B.C. Stone LAE53073, A.N. Millar GH86	Lae, Morobe; Lae, Morobe; Markham Rvr detour near Lae; Markham Rvr detour, near Lae; Lae Botanic Gardens
Araliaceae	<i>Plerandra stahliana</i>	Anonymous NGF4644, H. Streimann NGF39442	Lae, Morobe; Burep Rvr, Lae
Araliaceae	<i>Schefflera</i>	J.R. Croft LAE68524, A.N. Millar GH107	Natter Bay LA, SE of Lae; Lae Botanic Gardens
Araliaceae	<i>Schefflera</i>	A.N. Millar GH125	Lae Botanic Garden, Lae.
Araucariaceae	<i>Agathis celebica</i>	J. Wiakabu LAE72394, J. Waikabu s.n. & T. Umba	Lae Botanic Gardens, Lae
Araucariaceae	<i>Agathis labillardieri</i>	J.R. Croft LAE72204, J.R. Croft LAE68476	Lae Botanic Gardens, Lae
Araucariaceae	<i>Araucaria cunninghamii var. papuana</i>	J.R. Croft LAE68478	Lae Botanic Gardens, Lae
Araucariaceae	<i>Agathis</i>	J. Wiakabu LAE72393, J.R. Croft LAE68478	Botanic Gardens, Lae; Lae Botanic Gardens
Araucariaceae	<i>Agathis spathulata</i>	J. Wiakabu s.n. & J.R. Croft	Lae Botanic Gardens, Lae
Arecaceae	<i>Calyptrocalyx forbesii</i>	P. Katik NGF37997	Lae Botanic Garden, Lae
Arecaceae	<i>Calyptrocalyx hollrungii</i>	E.E. Henty NGF11667, A. Floyd 5684	Atzera Range near Lae; Busu near Lae
Arecaceae	<i>Hydriastele</i>	K.J. White NGF10460, K.J. White NGF10194, F.B. Essig & P. Katik LAE55001	Oomsis near Lae; Oomsis near Lae; Bulolo Rd, near Markham Bridge, Lae subdistrict
Arecaceae	<i>Korthalsia zippelii</i>	Anonymous NGF3367	Labu near Lae
Arecaceae	<i>Licuala</i>	E.E. Henty NGF10659, E.E. Henty NGF14364, F.B. Essig s.n. & P. Katik rict	Markham Rd, Lae; Oomsis LA near Lae; N.G.I. LA, Lae subdistrict
Arecaceae	<i>Licuala lauterbachii</i>	A.N. Millar NGF12018	Oomsis, Lae subdistrict
Arecaceae	<i>Orania</i>	E.E. Henty NGF10576	Near Lae
Arecaceae	<i>Calamus</i>	T.G. Hartley 10288	Near the Butibum Rvr, N of Lae
Arecaceae	<i>Calamus longipinna</i>	J.S. Womersley NGF14034	Lake Wannum near Lae
Arecaceae	<i>Calyptrocalyx awa</i>	J.L. Dowe 500	Lae Botanic Garden, Lae
Arecaceae	<i>Heterospathe elegans subsp. elegans</i>	P. Katik LAE74748	Mt. Jasop, near Musom, Lae
Arecaceae	<i>Hydriastele microspadix</i>	T.G. Hartley 13082	Below Red Hill, W of Lae
Arecaceae	<i>Linospadix albertisianus</i>	E.E. Henty NGF11901	Range above Markham Point near Lae
Arecaceae	<i>Ptychosperma macarthurii</i>	P. Katik NGF37998	Lae Botanic Garden, Lae.
Arecaceae	<i>Ptychosperma microcarpum</i>	P. Katik LAE62080	Lae Botanic Gardens, Lae.
Aristolochiaceae	<i>Aristolochia momandul</i>	W. Takeuchi 17010	Lae, hills near Taraka
Aristolochiaceae	<i>Aristolochia</i>	E.E. Henty NGF10560, P. Van Royen NGF20089	Near Lae; Lae Botanic Gardens
Aristolochiaceae	<i>Aristolochia acuminata</i>	T.G. Hartley 12238, J.R. Croft LAE67838, A.N. Millar NGF9768, T.G. Hartley 12238A	Lae, N of near Butibum village; Busu Rvr, E of Lae; Lae Botanic Gardens; Near Butibum village, N of Lae
Aristolochiaceae	<i>Aristolochia ringens</i>	E.E. Henty NGF49886	Botanic Garden, Lae
Asclepiadaceae	<i>Tylophora</i>	W. Takeuchi 17105	Hills near Taraka, Lae
Asclepiadaceae	<i>Hoya Hollrungii</i>	A. Floyd NGF5669	Markham Point, near Lae
Asparagaceae	<i>Cordyline</i>	T.G. Hartley 9830, A.N. Millar GH33, M. Jacobs 9601, J.S. Womersley NGF9398	Near Butibum Rvr, N of Lae; Lae Botanic Gardens; Lasanga Is coast, SE of Lae; Oomsis near Lae

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Asparagaceae	<i>Cordyline fruticosa</i>	J. Wiakabu & K. Kerenga LAE73350	Oomsis FS, Lae subprovince
Asparagaceae	<i>Cordyline terminalis</i>	T.G. Hartley 9830	Near Butibum Rvr, N of Lae
Asparagaceae	<i>Cordyline terminalis</i>	P. Lamei LAE89494 & K. Fazang	Lae Botanic Gardens, Lae.
Aspleniaceae	<i>Asplenium nidus</i>	A. Floyd 5709, Garrett-Jones S.E. s.n., Conn B. J. LAE69150, Orchard A. E. & O. Akakavara	Markham Point, near Lae; Lake Wanum, N shore, Lae; Lake Wanum, Lae
Aspleniaceae	<i>Diplora d'urvillaei</i>	J.R. Croft 891 & J.I. Marsh	Oomsis LA, W of Lae
Aspleniaceae	<i>Asplenium</i>	H. Okada 4232, Takeuchi W. N. 8614, T.G. Hartley 11600	Gabensis LA, Comsis, Lae; Unitech near Lae; Betwn Malahang and Lae
Aspleniaceae	<i>Asplenium acrobryum</i>	J.R. Croft 460	E of Mongi Rvr, Huon Peninsula, E of Lae
Aspleniaceae	<i>Asplenium cuneatum</i>	A. Floyd 5676, A. Floyd 5596,	Busu Rvr, near Lae; Busu River Hills near Lae;
Aspleniaceae	<i>Asplenium decorum</i>	J.R. Croft 909 & J.I. Marsh	Gurakor Ck, WSW of Lae
Aspleniaceae	<i>Asplenium laserpitiiifolium</i>	W. N. 9046	Lae municipality near Angau
Aspleniaceae	<i>Asplenium musifolium</i>	Takeuchi W. N. 8961	Lae Area
Aspleniaceae	<i>Asplenium pellucidum</i>	J.R. Croft 445	E of Mongi Rvr, Huon Peninsula, E of Lae
Aspleniaceae	<i>Asplenium phyllitidis</i>	A. Floyd 5665	Base of Markham Point, Lae
Aspleniaceae	<i>Asplenium regis</i>	J.R. Croft 898 & J.I. Marsh	Oomsis LA, W of Lae
Aspleniaceae	<i>Asplenium scandens</i>	J.S. Womersley NGF17697	Butibum Valley, Lae
Aspleniaceae	<i>Asplenium tenerum</i>	A. Floyd 5744, J.R. Croft 461,	Trans-Busu, Timber Lease near Lae; JE of Mongi Rvr, Huon Peninsula, E of Lae
Aspleniaceae	<i>Asplenium unilaterale</i>	J.R. Croft 889 & J.I. Marsh	Oomsis LA, W of Lae
Aspleniaceae	<i>Diplora schizocarpa</i>	J.R. Croft 914 & J.I. Marsh	Gurakor Ck, WSW of Lae
Asteraceae	<i>Acmella grandiflora var. brachyglossa</i>	E.E. Henty NGF29176	Leron Plain, Lae
Asteraceae	<i>Adenostemma lavenia var. lanceolatum</i>	E.E. Henty NGF11512	Markham Bridge, near Lae
Asteraceae	<i>Ageratum conyzoides</i>	L. Oki LAE79262	Lae Botanic Garden, Lae.
Asteraceae	<i>Ageratum conyzoides</i> subsp. <i>Conyzoides</i>	T.G. Hartley 9675	W of Lae on Oomsis Ck
Asteraceae	<i>Cosmos caudatus</i>	M.J. Coode NGF29532, T.G. Hartley 9919	Malahang near Lae; Above Busu Rvr, N of Lae
Asteraceae	<i>Crassocephalum crepidioides</i>	T.G. Hartley 9674, M.J. Coode NGF29528	Along Oomsis Ck, W of Lae; Lae, Morobe
Asteraceae	<i>Eclipta prostrata</i>	E.E. Henty NGF10689, E.E. Henty NGF11505	Erap, near Lae; Markham Bridge, near Lae
Asteraceae	<i>Microglossa pyrifolia</i>	P. van Royen & A.N. Millar NGF17516	Zatari, SE Boana, Lae subdistrict
Asteraceae	<i>Parthenium hysterophorus</i>	M.H. Julien	Ela Motors Compound, Lae
Asteraceae	<i>Pterocaulon redolens</i>	E.E. Henty NGF13639, E.E. Henty NGF10684	Erap, Lae; Erap, near Lae
Asteraceae	<i>Synedrella nodiflora</i>	E.E. Henty NGF11508	Markham Bridge, near Lae
Asteraceae	<i>Tridax procumbens</i>	A. Kapah, et al. LAE79279, M.J. Coode NGF29508	Lae Botanic Garden, Lae; Lae Wharf
Asteraceae	<i>Vernonia arborea</i> var. <i>mollissima</i>	A.N. Millar NGF9795, T.G. Hartley 12381	Oomsis near Lae; Near Yalu, NW of Lae
Asteraceae	<i>Wollastonia biflora</i>	H. Streimann s.n., M. Coode NGF29548, T.G. Hartley 9879, E.E. Henty s.n.	Lasanga Is, Lae subdistrict; Near Lae environs; Markham Rvr Valley, W of Lae; Maralumi Ck, Erap, Lae;
Asteraceae	<i>Acmella uliginosa</i>	A. Kairo NGF47713	15 miles W of Lae
Asteraceae	<i>Blumea arfakiana</i>	T.G. Hartley 10155	Burep Rvr NE of Lae
Asteraceae	<i>Blumea lacera</i>	E.E. Henty NGF49136, J.S. Womersley NGF14190	Tamiloa near Lae; Foot of Red Hill, Oomsis, Lae
Asteraceae	<i>Blumea lacera</i> var. <i>blumei</i>	E.E. Henty NGF29166, J.S. Womersley NGF14190, E.E. Henty NGF16664	Abunaka Plantation near Lae; Foot of Red Hill near Oomsis, Lae; Lake Wanum, Lae

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Asteraceae	<i>Cyanthillium cinereum</i>	E.E. Henty NGF11507, T.G. Hartley 9858	Markham Bridge, near Lae; Junction of Lae-Goroko Rd;
Asteraceae	<i>Elephantopus mollis</i>	J.S. Womersley NGF43906, T.G. Hartley 12367	Aluki area, E of Lae; Coast of Huon Gulf at Labu, S of Lae
Asteraceae	<i>Emilia baldwini</i>	L. Oki LAE79263	Lae Botanic Garden, Lae.
Asteraceae	<i>Sigesbeckia orientalis</i>	E.E. Henty NGF10514	Lae Area
Athyriaceae	<i>Anisogonium esculentum</i>	J.R. Croft 666, J.R. Croft 667	E of Markham Rvr. bridge, near Lae; E of Markham Rvr. bridge, near Lae
Athyriaceae	<i>Callipteris</i>	J.R. Croft LAE65329	Sankwep Rvr, N of Lae
Athyriaceae	<i>Diplazium stellatopilosum</i>	W. Takeuchi 17075	Hills near Taraka, Lae
Athyriaceae	<i>Callipteris prolifera</i>	A. Floyd 5542, J.R. Croft 417, T.G. Hartley 10021	Busu Rvr, near Lae; Natter Bay, SE of Lae; Oomsis Ck, W of Lae
Athyriaceae	<i>Diplazium</i>	J.R. Croft 912 & J.I. Marsh, W. Takeuchi 9338, W.N. Takeuchi 8921	Gurakor Ck, WSW of Lae; Atzera Range, Lae; Near Lae
Athyriaceae	<i>Diplazium bulbiferum</i>	W. Takeuchi 17037, J.R. Croft 894 & J.I. Marsh	Hills near Taraka, Lae; Oomsis LA, W of Lae
Athyriaceae	<i>Diplazium cordifolium</i>	M. Coode NGF32850	Markham Point, Lae
Athyriaceae	<i>Diplazium esculentum</i>	A. Floyd 5664	Markham Point, Lae
Balsaminaceae	<i>Impatiens</i>	J.S. Womersley NGF24874	Near Patep, Wau-Lae Rd
Begoniaceae	<i>Symbegonia</i>	P.F. Stevens LAE58032	Kisingham, Mt Dilmargi, Lae
Begoniaceae	<i>Begonia</i>	J.S. Womersley NGF7812, J.R. Croft LAE68566, E.E. Henty NGF16712, P. Katik LAE64192 & F. Essig, A. Floyd 5591, E.E. Henty NGF11953, E.E. Henty NGF11911	Partep Ck, Wau Rd; Natter Bay LA, SE of Lae; Busu Rvr near Lae; Situm LA, Lae; Busu Rvr, Lae; Oomsis LA near Lae; Busu Rd near Lae
Begoniaceae	<i>Begonia brachybotrys</i>	E.E. Henty NGF14820	Bewapi Ck near Lae
Begoniaceae	<i>Begonia serratipetala</i>	P.F. Stevens LAE58016	Kisingham, Mt Dilmargi. Lae
Begoniaceae	<i>Symbegonia fulvovillosa</i>	P.F. Stevens LAE58030, P.F. Stevens LAE58028	Kisingam, Mt Dilmargi, Lae; Kisingam, Mt Dilmargi, Lae
Bignoniaceae	<i>Pandorea pandorana</i>	A.N. Millar NGF12280, T.G. Hartley 12195, T.G. Hartley 12195	Bupu Rvr near Lae; Near Butibum Rivr, N of Lae; Near Butibum Rvr, N of Lae
Bignoniaceae	<i>Dolichandra spathacea</i>	A. Kairo NGF39165, T.G. Hartley 9735, C.T. White NGF1501, J.S. Womersley 5387, Anonymous NGF946	Waga village, Lae; NE along the soast At Malahang, Lae; Malahang Beach near Lae; Malahang Beach, Lae; Lae, Morobe
Bignoniaceae	<i>Tecomanthe</i>	T.G. Hartley 10303	Bunga Rvr, NE of Lae
Bignoniaceae	<i>Tecomanthe dendrophila</i>	A.N. Millar GH101	Lae Botanic Garden, Lae.
Bixaceae	<i>Bixa orellana</i>	W.T. Jones s.n.	Lae Area
Blechnaceae	<i>Stenochlaena</i>	T.G. Hartley 9759	Red Hill, W of Lae
Blechnaceae	<i>Stenochlaena milnei</i>	J.R. Croft 404, A.N. Millar, Holtum NGF15794	Natter Bay, SE of Lae; Lae Botanic Gardens
Blechnaceae	<i>Stenochlaena palustris</i>	T.G. Hartley 11764, J.R. Croft 398	Near Bubitum Rvr, N of Lae; Natter Bay, SE of Lae
Blechnaceae	<i>Blechnum orientale</i>	Croft J. R. LAE68569 & Y. Lelean, A. Floyd 5670, J.R. Croft s.n. & Y. Lelean, A. Floyd s.n.	Natter Bay LA, SE of Lae; Markham Point, near Lae; Natter Bay LA, SE of Lae; Markham Point, near Lae
Blechnaceae	<i>Blechnum vittatum</i>	Croft J. R. 459, A. Kairo NGF24400	E of Mongi Rvr, Huon Peninsula, E of Lae; Kasu, S of Garaina, Lae
Blechnaceae	<i>Stenochlaena areolaris</i>	J.R. Croft 453, H. Streimann & F.C. Students NGF45047	E of Mongi Rvr, Huon Peninsula, E of Lae; Tiaure Village, S of Garaina, Lae subdistrict
Blechnaceae	<i>Stenochlaena laurifolia</i>	A.N. Millar NGF15794	Lae Botanic Gardens, Lae
Bombacaceae	<i>Bombax ceiba</i>	Anonymous NGF19	Lae Area
Boraginaceae	<i>Cordia</i>	A.N. Millar NGF18835	Lae Botanic Gardens, Lae
Boraginaceae	<i>Ehretia microphylla</i>	J.S. Womersley NGF9519	Lake Wannum near Lae

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Boraginaceae	<i>Tournefortia sarmentosa</i>	Anonymous 5696, T.G. Hartley 11353A, T.G. Hartley 11353, H. Okada 4259	Near Powerhouse, Lae; Busu Rvr, N of Lae; Busu-Butibum Rvrs, N of Lae; Gabensis LA, Oomsis, Lae
Brassicaceae	<i>Nasturtium hybospermum</i>	E.E. Henty LAE72460	Abunaka near Lae
Brassicaceae	<i>Rorippa hybosperma</i>	E.E. Henty s.n.	Abunaka near Lae
Buddlejaceae	<i>Buddleja asiatica</i>	J. Wiakabu LAE73346, T.G. Hartley 10228A	Betwn Patep Bridge & Zenag, Lae subdistrict; W of Lae
Burseraceae	<i>Canarium acutifolium</i>	T.G. Hartley 10111, K.J. White NGF9684, T.G. Hartley 10111A, T.G. Hartley 10952, A.N. Millar NGF9910, J. Wiane 07	Busu Rvr, N of Lae; Lae Botanic Gardens; Busu Rvr, N of Lae; Markham Rvr, W of Lae; Markham Rd near Lae; Markham Rvr, W of Lae
Burseraceae	<i>Haplolobus floribundus</i>	L.S. Smith NGF1564, W. Takeuchi 16658, T.G. Hartley 11356, A.N. Millar NGF18862	Lae, Morobe; Hills above 9-10 mile, Lae; S of Garagos Rvr, Lae-Bulolo Rd; Lae Botanical Gardens
Burseraceae	<i>Scutinanthe brevisepala</i>	J.S. Womersley NGF8762	Atzera Range near Lae
Burseraceae	<i>Canarium</i>	M. Coode NGF29558, J.R. Croft LAE68502, A.N. Millar GH63, E.E. Henty NGF11995, Paul O. K. & Kuria T. K. LAE87538, Paul O. K. et al, LAE87547, J.S. Womersley, K.J. White W1440, H. Streimann & A. Kairo NGF30741, J.M. Simaga 1832, Paul O. K. et al. LAE87547, Conn B. J. et al. LAE69153	Bupu Rvr, E of Lae; Natter Bay LA, SE of Lae; Lae Botanic Gardens; Markham Range, Lae; Lae Botanic Gardens; Lae Botanical Gardens; Lae Botanic Gardens; Lae Botanic Gardens; Wampit, Lae; Gabensis LA, Lae; Lae Botanical Gardens; Lae Botanical Gardens; Lake Wanum; Lae
Burseraceae	<i>Canarium acutifolium var. acutifolium</i>	T.K. Kuria, et al. LAE87039, C.T. White NGF1730, R.F. Thorne 27442, Dadswell NGF1719, J. Cavanaugh NGF865	Lae Botanic Garden, Lae; Busu River NE of Lae; Yalu Munim Waters near Lae
Burseraceae	<i>Canarium indicum</i>	P. Homot LAE76323	Lae Botanic Gardens, Lae
Burseraceae	<i>Canarium kaniense var. globigerum</i>	E.E. Henty NGF16787	Lae Botanic Gardens, Lae
Burseraceae	<i>Canarium kaniense var. kaniense</i>	H. Streimann & A. Kairo NGF36705	Garagos, Lae subdistrict
Burseraceae	<i>Canarium maluense</i>	T.G. Hartley 11063, T.G. Hartley 11441	S of the Busu Rvr, N Of Lae; Area Betwn the Busu & Butibum Rvrs, N of Lae
Burseraceae	<i>Canarium maluense subsp. Maluense</i>	A. Kairo NGF17366	near Kipu, S of Garaina, Lae subdistrict
Burseraceae	<i>Canarium maluensis</i>	J. Waine 06	Lae Botanic Garden, Lae.
Burseraceae	<i>Canarium oleosum</i>	J.S. Womersley NGF43717	Busom Rvr near Lae
Burseraceae	<i>Canarium polyphyllum</i>	J.S. Womersley NGF8764	Lae Botanic Gardens, Lae
Burseraceae	<i>Canarium vitiense</i>	School NGF17233, K.J. White NGF9556, W. Takeuchi 17120, T.G. Hartley 12335, W. Takeuchi 6969	Garagos, Lae subdistrict; Oomsis Ck near Lae; Hills near Taraka, Lae; Near Butibum Rvr, N of Lae; Near Lae (Bumayong)
Burseraceae	<i>Canarium vulgare</i>	G. Leach NGF33259, P. Lamei & K. Fazang LAE89453	Lae Botanic Gardens, Lae
Burseraceae	<i>Garuga floribunda var. floribunda</i>	E.E. Henty NGF10595, J.S. Womersley NGF4628	Nadzab near Lae; Nadzab near Lae
Burseraceae	<i>Haplolobus</i>	Nima NGF49210	Markham Point near Lae
Burseraceae	<i>Haplolobus floribundus subsp. floribundus</i>	L.S. Smith NGF1564, E.E. Henty NGF49275A, C.T. White NGF1564, T.G. Hartley 11052, A.N. Millar NGF13857, C.K. Ingram NGF925, E.E. Henty NGF49275B, M. Jacobs 9673	Lae, Morobe; Lae, Morobe; Lae, Morobe; Burep Rvr, NE of Lae; Lae Botanical Gardens; Lae, Morobe; National Botanic Garden, Lae; SE of Lae on the coast
Burseraceae	<i>Protium macgregorii</i>	A.N. Millar NGF14403, T.G. Hartley TGH12382, F.T. Vickery NGF1425	Red Hill near Lae; Near Yalu, NW of Lae; Foothills near Yalu Area, Lae subdistrict
Campanulaceae	<i>Laurentia longiflora</i>	T. Magun 012	Lae Botanic Gardens, Lae.
Campanulaceae	<i>Lobelia</i>	P. van Royen s.n. & A.N. Millar	Zatarl, from SE Boane, Lae subdistrict
Cannabaceae	<i>Trema orientalis</i>	S.A. James 1824 & J.D. Damas, M.J. Coode NGF29520, O.G. Gideon LAE78439, T.G. Hartley 9659, T.G. Hartley 10159, H. Streimann NGF47847	Lae Botanic Gardens; Lae-Wantaoat Rd; Burep Rvr, NE of Lae; Zenag, Lae-Bulolo Rd

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Capparaceae	<i>Capparis zippeliana</i>	T.G. Hartley 10440, J.S. Womersley NGF6975, P. Katik LAE70800	Oomsis Ck, W of Lae; Oomsis Ck near Lae; Garagos LA, Lae
Capparaceae	<i>Capparis calophylla</i>	W. Takeuchi 17046	Hills near Taraka, Lae
Capparaceae	<i>Capparis lanceolaris</i>	E.E. Henty s.n., P. Katik NGF46860	Boana, Lae subdistrict; Bupo Rvr, Lae
Capparaceae	<i>Capparis sepiaria</i>	E.E. Henty NGF10693	Erap near Lae
Capparaceae	<i>Capparis sepiaria</i>	E.E. Henty s.n.	Erap, near Lae
Capparaceae	<i>Cleome</i>	R.D. Hoogland 6544, E.E. Henty NGF9839	Lae Botanic Garden, Lae.
Capparaceae	<i>Cleome viscosa</i>	P. Van Royen NGF16263, E.E. Henty s.n., T.G. Hartley 9601, T.G. Hartley 9601, E. Henty 5722, T.G. Hartley 9864	Markham Valley, NE of Lae; Erap, near Lae; Border of Lae – Goroka Rd; 3 mile, Lae; Junction of the Lae - Goroka Rd
Capparaceae	<i>Crateva religiosa</i>	E.E. Henty s.n., W. Moi & N. Inu NGF25950, A.N. Millar s.n., H. Streimann 8513, K. Kerenga s.n. & P. Katik, E.E. Henty NGF9898	Near Lae, Morobe; Markham Point, Lae; Wanaru Plantation, near Lae; Markham Swamp, NW of Lae; Oomsis, Lae; Near Lae
Cardiopteridaceae	<i>Cardiopteris moluccana</i>	P. Van Royen 5542, K. Wada 2, T.G. Hartley 10170	Lae-Bulolo Rd; Gabensis LA, Oomsis, Lae; Burep Rvr, NE of Lae
Casuarinaceae	<i>Gymnostoma nodiflorum</i>	J.S. Womersley NGF3227	Lower Wan Rd, near Lae
Casuarinaceae	<i>Gymnostoma nobile</i>	J.R. Croft	Lae Post Office, Lae
Casuarinaceae	<i>Gymnostoma papuanum</i>	T.G. Hartley 10100, J.S. Womersley NGF11687	Busu Rvr, N of Lae; Markham Point near Lae
Casuarinaceae	<i>Gymnostoma rumphiana</i>	J.S. Womersley NGF3227	Lower Wau Rd near Lae
Celastraceae	<i>Perrottetia alpestris</i>	T.G. Hartley 11882	Patep Rvr, S of Gurukor, Lae-Bulolo Rd
Celastraceae	<i>Perrottetia alpestris</i>	T.G. Hartley 11882	Patep Rvr, S of Gurukor, Lae-Bulolo Rd
Celastraceae	<i>Salacia</i>	W. Takeuchi 17051	Hills near Taraka, Lae
Celastraceae	<i>Salacia erythrocarpa</i>	E.E. Henty NGF10679, T.G. Hartley 11902	Oomsis Ck near Lae; Oomsis Ck, W of Lae
Celastraceae	<i>Bhesa archboldiana</i>	T.G. Hartley 11093, P. Katik LAE64183, W. Takeuchi 16456	Betwn Busu & Butibum Rvrs, N of Lae; Situm LA, Lae; Near Bubia, Lae
Celastraceae	<i>Loeseneriella macrantha</i>	T.G. Hartley 12374, T.G. Hartley 12280	Burep Rvr, NE of Lae; Bunga Rvr, NE of Lae
Celastraceae	<i>Siphonodon celastrineus</i>	P. Katik NGF46778	Sankwep LR, Lae
Ceratophyllaceae	<i>Ceratophyllum demersum</i>	T.G. Hartley 10859, T.G. Hartley 9799	E of Lae on Coast at Singaua; Lake Wanum, W of Lae
Chloranthaceae	<i>Chloranthus</i>	E.E. Henty NGF11517	Oomsis, near Lae
Chloranthaceae	<i>Chloranthus officinalis</i>	H. Okada 4262	Gabensis LA, Oomsis, Lae
Chrysobalanaceae	<i>Parinari</i>	J.S. Womersley NGF12375	Oomsis CK, near Lae
Chrysobalanaceae	<i>Parinari papuana</i>	M. Jacobs 9583, A. Kairo NGF44202	On coast SE of Lae; Buso, Lae subdistrict
Chrysobalanaceae	<i>Atuna racemosa subsp. racemosa</i>	Paul O. K. LAE87536	Lae Botanic Garden, Lae.
Chrysobalanaceae	<i>Cycladophora lauriana</i>	J. Waine 30	Lae Botanic Garden, Lae.
Chrysobalanaceae	<i>Cyclandrophora laurina</i>	O.K. Paul LAE87536	Lae Botanic Gardens, Lae.
Chrysobalanaceae	<i>Maranthes corymbosa</i>	D. Fryar NGF3339, J.S. Womersley NGF9080, J.S. Womersley NGF12375, E.E. Henty NGF11938, L.S. Smith NGF1737, K.J. White NGF10473, T.G. Hartley 9958, C.T. White NGF1565, T.G. Hartley 10057	Yalu near Lae; Busu Rvr, Lae; Oomsis Ck, near Lae; Oomsis LA near Lae; Lae, Morobe; Oomsis, Red Hill Area near Lae; Oomsis Ck, W of Lae; Lae, Morobe; Oomsis Ck, W of Lae
Clusiaceae	<i>Calophyllum soualattri</i>	P. Lamei LAE89478 & K. Fazang	Lae Botanic Gardens, Lae.
Clusiaceae	<i>Calophyllum laticostatum</i>	H. Streimann NGF24099	Ana village, SW of Morobe on Mo River
Clusiaceae	<i>Calophyllum papuanum</i>	P.F. Stevens LAE54757, O.G. Gideon LAE57579	Markham Point Lae; National Botanic Garden, Lae
Clusiaceae	<i>Calophyllum streimannii</i>	H. Streimann s.n.	Ana village, SW of Morobe

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Clusiaceae	<i>Garcinia</i>	P. Stevens LAE50334, R. Hoogland 5760, Nima NGF43859, A.N. Millar NGF9787, T.G. Hartley 12228, T.G. Hartley 12286, P. Katik LAE56354, T.G. Hartley 11906, E.E. Henty NGF11931, K.J. White NGF10329, E.E. Henty NGF14388, T.G. Hartley 12383, E.E. Henty NGF11935	Lae, Morobe; Trans-Busu Timber Lease near Lae; Gurakor, Lae-Wau Rd; Oomsis near Lae; Busu Rvr, Lae; Bunga Rvr, NE of Lae; Gabensis LR, Lae subdistrict; Oomsis Ck , W of Lae; Oomsis LA near Lae; Oomsis Ck near Lae; Oomsis LA near Lae; Near Yalu, NW of Lae; Oomsis LA near Lae;
Clusiaceae	<i>Garcinia</i>	P.F. Stevens LAE54736, H. Streimann s.n. & A. Kairo, E.E. Henty LAE54723, T.G. Hartley 9943, A. Lata LAE76361, J.S. Womersley NGF19143, J.S. Womersley NGF19203, P. Katik NGF46768, T.G. Hartley 10491, P.F. Stevens LAE54750, P.F. Stevens LAE58008, P.F. Stevens LAE54745, H. Okada 4217, H. Okada 4217, H. Okada 4209, J.R. Croft LAE68545, J.S. Womersley NGF24852	Lae Botanical Gardens, Lae; Kasu, S of Garaina; Abunaka Plantation, Lae; Oomsis Ck, W of Lae; Markham Point; Markham LA; Sankwep LR; Gabensis LA; Natter Bay LA, SE of Lae; near Timine, Lae.
Clusiaceae	<i>Garcinia hunsteinii</i>	J.R. Croft & Y. Lelean LAE68573	Natter Bay LA, SE of Lae
Clusiaceae	<i>Garcinia jaiverti</i>	T.G. Hartley 12360	Buso Rvr, NE of Lae
Clusiaceae	<i>Hypericum gramineum</i>	E.E. Henty 14874	Boana, Lae subdistrict
Clusiaceae	<i>Mammea cordata</i>	P. Katik LAE56357, P. Katik LAE56365	Sankwep LR, Lae subdistrict; End of Sankwep LR, Lae subdistrict
Clusiaceae	<i>Mesua ferrea</i>	W. Jim LAE76311	Lae Botanic Gardens, Lae.
Clusiaceae	<i>Calophyllum</i>	T.G. Hartley 11906, P. Katik LAE62223, W.N. Takeuchi 9003	Oomsis Ck, W of Lae; Garagos LR, Lae; Lae, Forest Resarch Institute Botanical Gardens
Clusiaceae	<i>Calophyllum antillarum</i>	P. Stevens LAE54722,	Lae Botanic Gardens, Lae
Clusiaceae	<i>Calophyllum inophyllum</i>	T.G. Hartley 11077, A.N. Millar GH58, Geana Betty, GB 008 & s. Sennart, E.E. Henty NGF9835, P.F. Stevens LAE50490, J.S. Womersley 5386A	Huon Gulf, NE of Lae; Lae Botanic Gardens; National Botanical Garden, Lae; Lae Botanic Gardens; Lae Botanic Garden; Malahang Beach, Lae;
Clusiaceae	<i>Calophyllum morobensis</i>	P. Katik NGF46766, H. Streimann NGF24490,	Sunkwep Rd, Gwakari Ex - Service Station, Lae; Buso Rvr, Lae;
Clusiaceae	<i>Calophyllum soulattrie</i>	J.R. Croft & Y. Lelean LAE68580, J.S. Womersley NGF3293, O.G. Gideon LAE57578, T.G. Hartley TGH11906, J. Waine 41, T.G. Hartley 10486	Natter Bay LA, SE of Lae; Buso Rvr near Lae; National Botanic Gardens, Lae; Oomsis Ck, W of Lae; National Botanical Gardens, Lae;Oomsis Ck, W of Lae
Clusiaceae	<i>Calophyllum soulattrie</i>	J.R. Croft LAE68580, E.E. Henty NGF11919, J.S. Womersley NGF3293, O.G. Gideon LAE57577	Natter Bay Lae, SE of Lae; Atzera Range near Lae; Busu Rvr near Lae; National Botanic Garden, Lae
Clusiaceae	<i>Garcinia latissima</i>	J.R. Croft & Y. Lelean LAE68545, P.F. Stevens LAE50334, H. Streimann & Foreman D. B. NGF24447	Natter Bay LA, SE of Lae; Lae, Morobe; Ridge to Mt Kawea, Buso, Lae subdistrict
Clusiaceae	<i>Tripetalum cymosum</i>	P. Lamei LAE89489 & K. Fazang	Lae Botanic Gardens, Lae.
Cochlospermaceae	<i>Cochlospermum gillivraei</i>	J. Wiakabu LAE72332	Betwn Angau Hospital and Lae Botanic Gardens
Cochlospermaceae	<i>Cochlospermum vitifolium</i>	R.D. Hoogland 6547	Lae Botanic Gardens, Lae
Combretaceae	<i>Terminalia</i>	J.M. Simaga 1825	Unitech Transport Pool inside Campus, Lae
Combretaceae	<i>Terminalia complanata</i>	O.K. Paul LAE87531, M.J. Coode NGF29570, T.G. Hartley 10138, T.G. Hartley 10985, D. Fryar NGF3349, R. Evans NGF9301, E.E. Henty NGF10602, J.S. Womersley NGF19232, J.S. Womersley NGF19034, J. Womersley NGF3247	Lae Botanical Gardens, Lae; Markham Rvr near Lae; Burep Rvr, NE of Lae; Yalu, near Lae; Busu Rvr, near Lae; Nasawapum near Lae; S Bank of Markham Rvr; Garagos, Lae-Wau Rd.
Combretaceae	<i>Terminalia kaernbachii</i>	M. Coode NGF46159, M. Coode NGF40188	Lae Botanic Gardens, Lae.
Combretaceae	<i>Terminalia microcarpa subsp. microcarpa</i>	J.S. Womersley NGF19060, M. Coode NGF29886, T.G. Hartley 10984, M. Coode NGF29578, T.G. Hartley 11071	Lae Botanic Gardens; Markham Rvr Point, W of Lae; Huon Gulf Coast, NE of Lae

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Combretaceae	<i>Terminalia sepicana</i>	M.J. Coode NGF29503, K.J. White NGF10347, M. Coode NGF29882, J.S. Womersley NGF4629, J. Wiame 02, T.G. Hartley 10837, D. Geba LAE79222(014 & K. Fazang, M. Coode NGF29882	Lae Botanic Gardens, Lae; Oomsis Ck near Lae; near Nadzab Airstrip, Markham Rvr Valley, W of Lae.
Combretaceae	<i>Combretum tetralophum</i>	J.S. Womersley 6242	Markham Valley, Lae
Combretaceae	<i>Lumnitzera littorea</i>	Anonymous NGF3365, A. Kairo & J. Emos NGF39092, H. Streimann NGF44153, J.S. Womersley NGF43738, J.R. Croft LAE68540	Labu near Lae; Amboru beach, Buso Village, Lae subdistrict; Buso Village, Lae subdistrict; Labu Lakes, near Lae; Natter Bay Logging Bay, SE of Lae
Combretaceae	<i>Terminalia canaliculata</i>	J.S. Womersley NGF19437	Lae Area
Combretaceae	<i>Terminalia catapa</i>	B. Geana BG0011 & S. Sennart, T.G. Hartley 10860	Lae Botanic Garden, Lae; Singaua along coast, E of Lae
Combretaceae	<i>Terminalia macadamii</i>	J.S. Womersley NGF19089, K.J. White NGF10488, T.G. Hartley 10854	Garagos, Lae-Wau Rd; Oomsis near Lae; N of Busu Rvr, NW of Lae
Combretaceae	<i>Terminalia microcarpa</i>	M.J.E. Coode NGF29578	Lae Botanic Garden, Lae.
Combretaceae	<i>Terminalia morobensis</i>	O. Paul, et al. LAE87523, M. Coode NGF32580	Lae Botanic Garden, Lae; Busu near Lae
Combretaceae	<i>Terminalia rubiginosa</i>	C.E. Ridsdale NGF31685, D.B. Foreman LAE52043	Near Maiama Village, Lae subdistrict; At base of Mt Kawea, Buso. Lae subdistrict
Combretaceae	<i>Terminalia whittemorei</i>	P. Oliver LAE87889, O.K. Paul, et al. LAE87889	Lae Botanic Garden, Lae.
Commelinaceae	<i>Commelina diffusa</i>	A.N. Millar NGF14632, A. Kairo NGF45412	Lae Botanic Gardens; Lae Rd, S of Bulolo
Commelinaceae	<i>Commelina ensifolia</i>	T.G. Hartley 10017	Oomsis Ck, W of Lae
Commelinaceae	<i>Amischotolype</i>	A.N. Millar NGF11790	Markham Valley Patep Lae-Wau Rd
Commelinaceae	<i>Amischotolype mollissima</i>	A.N. Millar NGF12221	Gurakor, Lae
Commelinaceae	<i>Murdannia</i>	C.T. White NGF1544	Lae Area
Commelinaceae	<i>Murdannia gigantea</i>	J.S. Womersley NGF24777	Oomsis LA near Lae
Convolvulaceae	<i>Erycibe</i>	J.S. Womersley NGF14198, E.E. Henty NGF10521, T.G. Hartley 10301	Near Oomsis, Lae-Wau Rd; Bupu Rvr near Lae; Bunga Rvr NE of Lae
Convolvulaceae	<i>Erycibe hellwigii</i>	J.R. Croft LAE68494, T.G. Hartley 9926	Natter Bay LA, SE of Lae; Near Butibum Rvr, N of Lae
Convolvulaceae	<i>Ipomoea asterophora</i>	Anonymous	Lae Area
Convolvulaceae	<i>Ipomoea carnea subsp. <i>fistulosa</i></i>	E.E. Henty NGF13658	Lae Area
Convolvulaceae	<i>Ipomoea nil</i>	E.E. Henty NGF20590	Lae Area
Convolvulaceae	<i>Lepistemon urceolatus</i>	T.G. Hartley 11762, J.S. Womersley NGF17676	Near Butibum Rvr, N of Lae; Busu Rvr, N of Lae
Convolvulaceae	<i>Merremia hirta</i>	J.S. Womersley NGF3260, A. Kairo NGF47716	Markham Valley near Lae; W of Lae
Convolvulaceae	<i>Merremia peltata</i>	B. Geana BG009 & S. Sennart, T.G. Hartley 12265	Lae Botanic Garden, Lae; S Side Busu Rvr, N of Lae
Convolvulaceae	<i>Merremia quinata</i>	E.E. Henty NGF10681	Erap near Lae
Convolvulaceae	<i>Operculina turpethum</i>	A.N. Millar NGF9993,	Lae Botanic Gardens, Lae.
Convolvulaceae	<i>Cuscuta</i>	M. Coode NGF46162	Lae Area
Convolvulaceae	<i>Cuscuta australis</i>	E.E. Henty NGF49145	Lae Botanic Gardens, Lae
Convolvulaceae	<i>Evolvulus alsinoides</i>	E.E. Henty 166	Erap near Lae
Convolvulaceae	<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	T.G. Hartley 12251	Markham Point Bluff, W of Lae
Convolvulaceae	<i>Ipomoea</i>	A.N. Millar NGF12282, J.S. Womersley NGF14205, Anonymous 5496	Bapu Rvr near Lae; Lae-Nadzab Rd, Lae; Lae, Morobe
Convolvulaceae	<i>Ipomoea batatas</i>	E.E. Henty NGF9819	Busu LA near Lae

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Convolvulaceae	<i>Ipomoea indica</i>	Anonymous 5637	Lae Area
Convolvulaceae	<i>Ipomoea pes-caprae</i> subsp. <i>Brasiensis</i>	T.G. Hartley 9726	Malahang, NE of Lae
Convolvulaceae	<i>Ipomoea plebeia</i>	M. Hunter	Wawin, Lae subdistrict
Convolvulaceae	<i>Ipomoea triloba</i>	J.S. Womersley NGF48695, M.J. Coode NGF46156, P. Van Royen NGF15063	Lae, Morobe; Lae, Morobe; Huon Rd, lae
Convolvulaceae	<i>Merremia umbellata</i>	R.W. Johnson	Lae Area
Convolvulaceae	<i>Merremia umbellata</i> subsp. <i>orientalis</i>	A. Floyd 5675	Busu LA near Lae
Cornaceae	<i>Alangium javanicum</i> var. <i>papuanum</i>	T.G. Hartley 11351	Between Busu and Butibum rivers, N of Lae
Costaceae	<i>Costus speciosus</i>	Native collector s.n., T.G. Hartley 13079, P. Van Royen NGF16469, C.T. White NGF1556, Anonymous 5540, J.R. Croft LAE68483, P. Homot, et al. LAE90171	Lae, Morobe; Markham Rvr, W of Lae; Leiwomba Plantation, Lae; Lae, Morobe; Lae, Morobe; Natter Bay LA, SE of Lae; National Botanical Garden, Lae
Cucurbitaceae	<i>Luffa cylindrica</i>	J. Vandenberg NGF42294, A. Floyd 5771	Apo, Lae on Finschhafen Rd; Markham Bridge, Lae
Cucurbitaceae	<i>Melothria</i>	E.E. Henty NGF29145	Busu Rvr near Lae
Cucurbitaceae	<i>Momordica charantia</i>	P. Lamei LAE89486 & K. Fazang	Lae Botanic Gardens, Lae.
Cucurbitaceae	<i>Momordica cochinchinensis</i>	D. Bega LAE79220(011 & K. Fazang, T.G. Hartley 10181	Lae Botanic Garden, Lae; Burep River, NE of Lae.
Cucurbitaceae	<i>Trichosanthes cucumerina</i> var. <i>anguina</i>	A. Millar NGF12097	Igam, Lae
Cucurbitaceae	<i>Trichosanthes papuana</i>	M.J.E. Coode s.n. & C.E. Ridsdale, C. Ridsdale NGF29551	Environs of Lae, Morobe; Environs of Lae, Morobe
Cucurbitaceae	<i>Trichosanthes pulleana</i>	T.G. Hartley 9871	Near Butibum Rvr, N of Lae
Cucurbitaceae	<i>Zanonia indica</i>	T.G. Hartley 10037	Oomsis Ck, W of Lae
Cucurbitaceae	<i>Benincasa</i>	Anonymous 5693	Bumbu Rvr near Lae
Cucurbitaceae	<i>Cucumis melo</i>	E.E. Henty NGF10593	Erap Rvr near Lae
Cucurbitaceae	<i>Cucumis melo</i> subsp. <i>agrestis</i>	E.E. Henty NGF10593	Erap Rvr near Lae
Cucurbitaceae	<i>Diplocyclos palmatus</i> subsp. <i>palmatus</i>	Nima NGF43861	Gurakor, near Lae
Cucurbitaceae	<i>Momordica</i>	E.E. Henty 10573	3 mile, near Lae
Cucurbitaceae	<i>Mukia maderaspatana</i>	S.E. Garrett-Jones ANU21107	Lake Wanum, Lae subdistrict
Cucurbitaceae	<i>Nealsomitra clavigera</i>	E.E. Henty NGF10573, E.E. Henty NGF10672, P. Van Royen NGF16316, T.G. Hartley 10083, P. Van Royen NGF16316, A.N. Millar NGF12261	3 Mile near Lae; Erap near Lae; Leiwomba Plantation, Bewapi Ck, W of Lae; Oomsis near Lae
Cucurbitaceae	<i>Trichosanthes edulis</i>	T.G. Hartley 10505, J.S. Womersley NGF17613, T.G. Hartley 9871	Oomsis Ck, W of Lae; Bumbu Valley LR, Lae; Near Bumbu Rvr, N of Lae
Cucurbitaceae	<i>Trichosanthes hastata</i>	T.G. Hartley 10847, A. Millar NGF40799, T.G. Hartley 10847, H. Streimann & I. Fasavalu NGF47746, N.N.R. Lowe NGF29164, T.G. Hartley 10847, E.E. Henty NGF14370	N of Busu Rvr, NW of Lae; Sankwep, E of Lae; N of Busu Rvr, NW of Lae; Gabensis-Wagau track, S of Gabensis, Lae; Gurakor, Lae; N of Busu Rvr, NW of Lae; Oomsis LA near Lae
Cucurbitaceae	<i>Trichosanthes laeoica</i> f. <i>sicyocarpa</i>	P. Katik LAE77807A	Oomsis LR, Lae
Cucurbitaceae	<i>Trichosanthes schlechteri</i>	K.J. White 10342	Lae Botanic Garden, Lae.
Cunoniaceae	<i>Acsmithia reticulata</i>	Henty E. E. NGF13685	Markham Point, near Lae
Cunoniaceae	<i>Weinmannia</i>	J. Croft LEA68552 & Y. Lelean	Natter Bay LA, SE of Lae
Cunoniaceae	<i>Weinmannia blumei</i>	T.G. Hartley 10408, J.S. Womersley NGF11686, E.E. Henty NGF11992	Oomsis Ck, W of Lae; Markham Point near Lae; Markham Point near Lae

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Cunoniaceae	<i>Ceratopetalum tetapterum</i>	T.G. Hartley 10967, T.G. Hartley 11915, T.G. Hartley 12252, A. Kairo NGF17401	Markham River Point, W of Lae; Markham Point, W of Lae; S side of the Markham Rvr, W of Lae; Lae, Morobe
Cunoniaceae	<i>Schizomeria</i>	A. Kairo NGF2765	Patep, Lae Rd near Gurakor
Cunoniaceae	<i>Weinmannia fraxinea</i>	A. Floyd 5673, J.R. Croft LAE68552	Near Lae; Natter Bay LA, SE of Lae
Cunoniaceae	<i>Weinmannia ledermannii</i>	T.G. Hartley 10965	Markham Rvr, W of Lae
Cupressaceae	<i>Libocedrus papuana</i>	R.J. Johns NGF47249	Maniau, Lae subdistrict
Cyatheaceae	<i>Cyathea angiensis</i>	M. Jacobs 8617	Kasanombe, N of Lae
Cyatheaceae	<i>Cyathea wengiensis</i>	A. Floyd 5631	Busu Hills, near Lae
Cyatheaceae	<i>Cyathea</i>	J.R. Croft 389, T.G. Hartley 10997	Natter Bay, SE of Lae; Oomsis Ck, W of Lae
Cyatheaceae	<i>Cyathea</i>	J.S. Womersley NGF37118, A. Kairo 726, J.S. Womersley NGF37118	Sankwep LA, Lae; Wagau, SW of Lae; Sankwep LA, Lae
Cyatheaceae	<i>Cyathea batjanensis</i>	A. Floyd NGF5631	Lae Area
Cyatheaceae	<i>Cyathea brackenridgei</i>	J.R. Croft 1394	Markham Point, W of Lae
Cyatheaceae	<i>Cyathea celebica</i>	Croft J. R. 464	E of Mongi Rvr, E of Lae
Cyatheaceae	<i>Cyathea cincinnata</i>	J.R. Croft 433	E of Mongi Rvr, Huon Peninsula, E of Lae
Cyatheaceae	<i>Cyathea contaminans</i>	J.R. Croft 387, P. Homot, T. Magun & Numbo. G. LAE90162	Natter Bay, SE of Lae; Lae Botanic Gardens
Cyatheaceae	<i>Cyathea felina</i>	J.S. Womersley NGF11688, J.R. Croft 401, A. Floyd 5663	Markham Point, near Lae; Natter Bay, SE of Lae; Markham Point, near Lae
Cyatheaceae	<i>Cyathea hornei</i>	M. Jacobs 8639	Kasanombe, N of Lae
Cyatheaceae	<i>Cyathea macgillivrayi</i>	J.R. Croft 1396	Markham Point, W of Lae
Cyatheaceae	<i>Cyathea microphyloides</i>	M. Jacobs 8640	Kasanombe, N of Lae
Cyatheaceae	<i>Cyathea procera</i>	M. Jacobs 8628	Kasanombe, N of Lae
Cyatheaceae	<i>Cyathea pruinosa</i>	M. Jacobs 8610	Kasanombe, N of Lae
Cyatheaceae	<i>Cyathea runensis</i>	J.R. Croft 437, J.R. Croft 906 & J.I. Marsh	E of Mongi Rvr, Huon Peninsula, E of Lae; Sankwep Rvr, N of Lae
Cyatheaceae	<i>Cyathea sangirensis</i>	E.E. Henty 2, A. Floyd 5663	Markham Point near Lae; Markham Point near Lae
Cycadaceae	<i>Cycas schumanniana</i>	H. Reeve 815	Markham Valley, Lae
Cyperaceae	<i>Cyperus</i>	J.S. Womersley NGF14078, T.G. Hartley 11628	Red Hill near Lae; Lae, Morobe
Cyperaceae	<i>Cyperus distans</i>	E.E. Henty NGF9864, J. Womersley NGF3290	Lae, Morobe; Lae, Morobe
Cyperaceae	<i>Cyperus rotundus</i>	E.E. Henty NGF11584	Lae Botanic Gardens, Lae
Cyperaceae	<i>Fimbristylis</i>	A.N. Millar NGF12219, P. Van Royen NGF16484, J.S. Womersley NGF14194, E.E. Henty NGF49288	Labu (Oomsis) near Lae; Markham Rvr, Lae-Wau Rd; Red Hill near Oomsis, Lae-Wau Rd; Markham Rvr, Lae subdistrict
Cyperaceae	<i>Fimbristylis dichotoma</i>	E.M. Canning 5244, J.S. Womersley 4612, E.E. Henty NGF9866, A. Kapah LAE 79280, L. Saraim & K. Fazang	Garagos Rvr, W of Lae; Lae Dept Forests Nursery; Lae, Morobe; National Botanic Garden, Lae
Cyperaceae	<i>Fimbristylis intonsa</i>	T.G. Hartley 12241	Markham Point, W of Lae
Cyperaceae	<i>Fimbristylis littoralis</i>	J.S. Womersley NGF4611, J.S. Womersley NGF4613	Lae Dept of Forests Nursery; Lae Dept of Forests Nursery
Cyperaceae	<i>Fuirena umbellata</i>	J.S. Womersley NGF14079, H. Streimann NGF47844	Red Hill near Lae; Zenag Lae-Bulolo Rd
Cyperaceae	<i>Hypolytrum nemorum</i>	A. Kairo NGF30707, A. Kairo NGF24409	Red Hill Swamp, Lae subdistrict; Asubazo, S of Garaina, Lae subdistrict
Cyperaceae	<i>Mapania</i>	J.S. Womersley NGF14077	Red Hill near Lae
Cyperaceae	<i>Schoenoplectus litoralis</i>	M. Coode NGF46158, C. Davis	Voco Point, Lae; Labu near Lae
Cyperaceae	<i>Thoracostachyum</i>	T.G. Hartley 9681	Below Red Hil, W of Lae

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Cyperaceae	<i>Thoracostachyum sumatranum</i>	T.G. Hartley 9681	Old lake bed below Red hill, W of Lae
Cyperaceae	<i>Cyperus brevifolius</i>	L. Oki LAE79256, E.E. Henty NGF10556	Lae Botanic Garden, Lae.
Cyperaceae	<i>Cyperus compressus</i>	E.E. Henty NGF9870	Lae Area
Cyperaceae	<i>Cyperus cyperoides</i>	J.S. Womersley NGF37480	Garagos near Lae
Cyperaceae	<i>Cyperus diffiformis</i>	A. Kairo NGF27885	Markham Bridge near Lae
Cyperaceae	<i>Cyperus digitatus</i>	H. Streimann NGF27886	Markham Bridge near Lae
Cyperaceae	<i>Cyperus iria</i>	B.J. Conn LAE69498, E.E. Henty NGF9865, E.E. Henty NGF20985, M.J. Coode NGF29513	Cassowary Rd, Lae; Lae, Morobe; Lae Botanic Gardens; Lae, Morobe
Cyperaceae	<i>Cyperus javanicus</i>	E.E. Henty NGF9872, E.E. Henty NGF49733	Lae, Morobe; Lae, Morobe; Erap, Lae;
Cyperaceae	<i>Cyperus kyllingia</i>	E.E. Henty NGF49292	Markham Rvr near Lae
Cyperaceae	<i>Cyperus laxus</i>	J.S. Womersley 4621, J.S. Womersley 4622	Lae Botanical Gardens, Lae.
Cyperaceae	<i>Cyperus nutans</i>	E.E. Henty NGF49732	Erap, Lae
Cyperaceae	<i>Cyperus nutans</i> subsp. <i>eleusinoides</i>	P. Goetghebeur 6147 & W. Vyverman, H. Streimann NGF47843	Maniang Rvr, Waterais-Lae; Zenag Lae-Bulolo Rd
Cyperaceae	<i>Cyperus odoratus</i>	E.E. Henty NGF49287, H. Streimann NGF47731, H. Streimann NGF27884, J. Womersley 3289	Markam Rvr near Lae; Bulolo - Lae Rd, NW of Bulolo-Wau subdistrict; Markham Bridge near Lae; Lae, Morobe
Cyperaceae	<i>Cyperus pedunculatus</i>	T.G. Hartley 9721, D.B. Foreman LAE52301	Malahang, NE of Lae; Buso village Lae subdistrict
Cyperaceae	<i>Cyperus unioloides</i>	T.G. Hartley 9683, J.S. Womersley NGF14080	Below Red Hill, W of Lae; Red Hill near Lae
Cyperaceae	<i>Eleocharis geniculata</i>	D.B. Foreman LAE52324	Buso Rvr, Lae
Cyperaceae	<i>Fimbristylis cinnamometorum</i>	A. Kairo NGF45054	Soro, S of Garaina, Lae subdistrict
Cyperaceae	<i>Fimbristylis complanata</i>	E.E. Henty NGF49290	Markham Rvr near Bridge, Lae subdistrict
Cyperaceae	<i>Mapania macrocephala</i>	D.B. Foreman LAE52290, T.G. Hartley 9736, F.B. Essig LAE55071	Buso Rvr, Lae subdistrict; Malahang, NE of Lae; E of Lae
Cyperaceae	<i>Rhynchospora</i>	M. Coode NGF25434	Lae Botanic Gardens, Lae.
Cyperaceae	<i>Rhynchospora rubra</i>	T.G. Hartley 10959	Markham Rvr Point, W of Lae
Cyperaceae	<i>Schoenus falcatus</i>	E.E. Henty NGF10686, E.E. Henty s.n., E.E. Henty NGF49734	Erap near Lae; Erap, near Lae; Erap, Lae subdistrict
Cyperaceae	<i>Scirpus</i>	T.G. Hartley 10858, T.G. Hartley 9749	Singaua Plantation, E of Lae; Below Red Hill, W of Lae
Cyperaceae	<i>Scleria polycarpa</i>	W. Moi 25982	Red Hill Swamp, Lae
Daticaceae	<i>Octomeles sumatrana</i>	W. Takeuchi 17022 & D. Ama, J.S. Womersley s.n. & J. Vandenberg, Anonymous 5724, A.G. Floyd NGF5724, F.T. Vickery s.n., K. Kerenga & T. Umbo LAE77249, J.S. Womersley NGF37422, C.T. White NGF1656, F.T. Vickery NGF1416, C.T. White, et al. NGF1656, J.S. Womersley & J. Vandenberg NGF37422	Hills near Taraka, Lae; Garagos, Lau-Wau Rd, Lae subdistrict; Lae, Morobe; Lae, Morobe; Bumba area, Lae; Oomsis, Lae subdistrict; Garagos Lau-Wau Rd; Lae, Morobe; Lae, Morobe; Lae, Morobe; Garagos, Lau-Wau Rd
Davalliaceae	<i>Nephrolepis</i>	A. Floyd NGF7203	E of Markham Bridge, Bulolo-Lae Rd
Davalliaceae	<i>Nephrolepis bostoniensis</i>	J.R. Croft 855	Lae Botanic Gardens, Lae.
Davalliaceae	<i>Nephrolepis falcata</i>	J.R. Croft, et al, 330, J.R. Croft LAE65332, takeuchi 8949	Sankwep Rvr, N of Lae; Regrowth near Lae
Davalliaceae	<i>Nephrolepis hirsutula</i>	J.R. Croft 854	Lae Botanic Gardens, Lae.
Davalliaceae	<i>Oleandra</i>	O. Gideon LAE76918	Markham Point, Lae subprovince
Davalliaceae	<i>Oleandra neriiformis</i>	J.R. Croft 66	Lae Area

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Davalliaceae	<i>Arthropteris palisotii</i>	J.R. Croft 892-B & J.I. Marsh, J.R. Croft 892 & J.I. Marsh, J.R. Croft 892 & J.I. Marsh	Oomsis LA, W of Lae; Oomsis LA, W of Lae; Oomsis LA, W of Lae
Davalliaceae	<i>Davallia</i>	H. Okada 4231	Gabensis LA, Oomsis, Lae
Davalliaceae	<i>Davallia denticulata</i>	J.R. Croft 426	Lae Area
Davalliaceae	<i>Davallia papuana</i>	W.N. Takeuchi 8960, W.N. Takeuchi 8887	Lae, Morobe; Lae, Morobe
Davalliaceae	<i>Davallia pectinata</i>	W.N. Takeuchi 8904, W.N. Takeuchi 8906	Lae, Morobe; Lae, Morobe
Davalliaceae	<i>Davallia solida</i>	A. Floyd 5681, T.G. Hartley 10169, A. Floyd 5630	Busu Rvr Hills near Lae; Burep Rvr, NE of Lae; Busu Rvr Hills, near Lae
Davalliaceae	<i>Humata pectinata</i>	A. Floyd 5680, J.R. Croft 397	Busu Rvr, near Lae; Natter Bay, SE of Lae
Davalliaceae	<i>Nephrolepis biserrata</i>	J.R. Croft 458	E of Mongi Rvr, Huon Peninsula, E of Lae
Davalliaceae	<i>Nephrolepis biserrata</i> var. (Fritz LA A.W.Dockrill 690)	A. Floyd 5582, T.G. Hartley 10412	Busu Rvr Bridge, near Lae; Oomsis Ck, W of Lae
Davalliaceae	<i>Nephrolepis duffii</i>	J.R. Croft 669	Lae Botanic Gardens, Lae.
Davalliaceae	<i>Nephrolepis exaltata</i>	J.R. Croft 62	Lae Area
Dennstaedtiaceae	<i>Pteridium x semihastatum</i>	A. Floyd 5704	Markham Point, near Lae
Dennstaedtiaceae	<i>Dennstaedtia glabrata</i>	J.R. Croft 465	E of Mongi Rvr, Huon Peninsula, E of Lae;
Dennstaedtiaceae	<i>Dennstaedtia novoguineensis</i>	J.R. Croft 916 & J.I. Marsh	Gurakor Ck, WSW of Lae
Dennstaedtiaceae	<i>Dennstaedtia penicillifera</i>	J.R. Croft 405, J.R. Croft 467	Natter Bay, SE of Lae; Kaisenik, E of Lae
Dennstaedtiaceae	<i>Microlepia</i>	J.S. Womersley NGF19055	Patep, near Lae
Dennstaedtiaceae	<i>Microlepia speluncae</i>	J.R. Croft 407	Natter Bay, SE of Lae
Dennstaedtiaceae	<i>Pteridium</i>	A.G. Floyd s.n.	Markham Point near Lae
Dennstaedtiaceae	<i>Pteridium revolutum</i>	A. Floyd 5704	Markham Point, near Lae
Dichapetalaceae	<i>Dichapetalum papuanum</i>	T.G. Hartley 12452, P. Katik LAE74969 & M. Galore	Oomsis Ck, W of Lae; Aluki Village, Lae
Dichapetalaceae	<i>Dichapetalum timorense</i>	T.G. Hartley 10177, D.H. Norris 59062, H. Streimann 10881	Burep Rvr NE of Lae; Singana Rd at Bupu Rvr, NNE of Lae; Herzog Mountains, WSW of Lae;
Dicksoniaceae	<i>Cystodium sorbifolium</i>	A. Floyd 5714, J.S. Womersley NGF19168, T.G. Hartley 10026, W.N. Takeuchi 8902, W.N. Takeuchi 17087	Markham Point, near Lae; Near Oomsis, Lae; Oomsis Ck, W of Lae;
Dicksoniaceae	<i>Cystodium sorbifolium</i> subsp. <i>sorbifolium</i>	J.S. Womersley NGF19168, A. Floyd 5714, J.R. Croft 899 & J.I. Marsh, J.R. Croft 899 & J.I. Marsh	Near Oomsis, Lae; Markham Point, near Lae; Oomsis LA, W of Lae; Oomsis LA, W of Lae
Dilleniaceae	<i>Dillenia</i>	P. Katik s.n., S.N. Gibson LAE76334 & A. Basangke, K. Turbarat LAE76318	Near Sankwep Rvr. Lae; Lae Botanic Gardens; Lae Botanic Gardens
Dilleniaceae	<i>Dillenia indica</i>	A.N. Millar GH181	Lae Botanic Garden, Lae.
Dilleniaceae	<i>Dillenia costaneifolia</i>	D. Bega LAE79212(003 & K. Fazang, L. Kusunan 7, P. Homot, T. Magun & Numbo. G. LAE90165, B. Geana BG007 & S. Sennart	Lae Botanic Garden, Lae.
Dilleniaceae	<i>Dillenia papuana</i>	C.K. Ingram NGF960, A. Floyd TNG5768, L.S. Smith NGF960, E.E. Henty NGF14812, J.S. Womersley NGF3286, E.E. Henty NGF11573, T.G. Hartley 10843	Lae, Morobe; Markham Bridge, Lae; Lae, Morobe; Lae-Wau Rd; Lae, Morobe; Near Markham Bridge; N side of Markham Rvr, W of Lae
Dilleniaceae	<i>Tetracera</i>	T.G. Hartley 10116A, J.S. Womersley NGF19199	Burep Rvr, NE of Lae; Markham LA, Lae
Dilleniaceae	<i>Tetracera nordtiana</i> var. <i>moluccana</i>	J.S. Womersley NGF11685, E.E. Henty NGF14372, T.G. Hartley 10116	Markham Point near Lae; Bupu Rvr near Lae; Burep Rvr, NE of Lae

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Dioscoreaceae	<i>Dioscorea</i>	Anonymous 5518, J.R. Croft LAE68563, J.S. Womersley NGF7818	Near Lae; Natter Bay LA, SE of Lae; Bulolo Valley, Partep Ck, Lae-Wau Rd
Dioscoreaceae	<i>Dioscorea esculenta</i>	E.E. Henty NGF41952, E.E. Henty NGF41955	Lae Corrective Institute; Lae Corrective Institute
Dioscoreaceae	<i>Dioscorea alata</i>	Anonymous 5516	Lae Botanic Gardens, Lae
Dioscoreaceae	<i>Dioscorea bulbifera</i>	Anonymous LAE5517	Lae Area
Dioscoreaceae	<i>Dioscorea nummularia</i>	R. Schodde 4053, T.G. Hartley 11763, T.G. Hartley 10168	Lae Corrective Institute; Near Butibum Rvr, N of Lae; Burep Rvr, NE of Lae
Dipterocarpaceae	<i>Anisoptera kostermansiana</i>	T.G. Hartley 10410, T.G. Hartley 12199, K.J. White NGF10197, J.S. Womersley NGF17624, T.G. Hartley 10513, D. Fryar LAE3355, C. Versteegh 5761 & A. Floyd	Oomsis Ck., W of Lae; Near the Butibum Rvr, N of Lae; Oomsis near Lae; Oomsis logging area, Lae; Oomsis Ck, W of Lae; Near Busu Rvr, Lae
Dipterocarpaceae	<i>Anisoptera thurifera subsp. polyandra</i>	Womersley J. S. NGF3221, C. Versteegh TNG5761, D. Fryar NGF3355, J.S. Womersley NGF17624, P. Van Royen NGF16480, J.S. Womersley 3221, D. Watson W1455, T.G. Hartley TGH12199, T.G. Hartley TGH10410, D. Watson W1453, T.G. Hartley TGH10513, K.J. White NGF10197	Yalu near Lae; Trans-Busu Timber Lease near Lae; Lae near Busu Rvr; Oomsis LA, Lae; Oomsis L A, NW of Lae; Yalu W of Lae; Oomsis near Lae; Near Butibum river N of Lae; Oomsis Ck, W of Lae; Oomsis near Lae;
Dipterocarpaceae	<i>Hopea</i>	T.G. Hartley 9850, T.G. Hartley 11855, J.S. Womersley NGF3191, J.S. Womersley NGF3229	Near the Butibum Rvr, N of Lae; Near the Butibum Rvr, N of Lae; Yalu near Lae; Yalu, near Lae
Dipterocarpaceae	<i>Hopea forbesii</i>	R.J. Johns NGF47441, A.N. Vinas 320 & A. Kairo, R.J. Johns LAE47441	Ridge to S of Oomsis, Lae subdistrict; Buso Rvr, West of Buso Camp, Lae; Ridge to S of Oomsis, Lae subdistrict
Dipterocarpaceae	<i>Hopea iriana</i>	J.S. Womersley NGF3229, T.G. Hartley 11855	Yalu near Lae; Near the Butibum Rvr, N of Lae
Dipterocarpaceae	<i>Hopea parviflora</i>	J.J. Havel & A. Kairo NGF17210	Garagos, Lae subdistrict
Dipterocarpaceae	<i>Anisoptera</i>	A.N. Millar NGF9799, J.S. Womersley s.n., M. Jacobs 9699, E.E. Henty NGF10678	Oomsis near Lae; Yalu, near Lae; SE of Lae, opposite Lasanga Is., Oomsis near Lae
Dipterocarpaceae	<i>Anisoptera polyandra</i>	M.A. Benjamin LAE67834, H. Streimann NGF24288, A.N. Millar NGF, J.S. Womersley NGF17795	Sunkwep, Lae Subdistrict; S of Ana village, SW of Morobe; Oomsis near Lae; Oomsis LA, NW of Lae; Oomsis LA, Lae; Oomsis ck, W of Lae; Oomsis near Lae
Dipterocarpaceae	<i>Anisoptera thurifera subsp. polyandra</i>	A.N. Millar NGF9799, T.G. Hartley 12199, T.G. Hartley 10513, P. Van Royen NGF16480, T.G. Hartley 10410, D. Fryar NGF3355, D. Watson 1454	Oomsis near Lae; Near the Butibum Rvr, N of Lae; Oomsis Ck, W of Lae; Oomsis LA NW of Lae; Oomsis Ck, W of Lae; Lae near Busu Rvr; Oomsis near Lae
Dipterocarpaceae	<i>Hopea iriana subsp. slooten</i>	J.S. Womersley NGF3229, J.S. Womersley NGF3191, A.N. Millar NGF9921, Anonymous NGF942	Yalu near Lae; Yalu near Lae; Oomsis Ck near Lae; Garagos near Lae
Dryopteridaceae	<i>Pleocnemia dimidiolobata</i>	J.S. Womersley NGF17698, A. Floyd 5635, A. Floyd 5594	Butibum Valley, Lae; Busu River Hills, near Lae; Busu Rvr, near Lae
Dryopteridaceae	<i>Pleocnemia leuzeana</i>	J.R. Croft LAE65331	Sankwep Rvr, N of Lae
Dryopteridaceae	<i>Polystichum keysserianum</i>	J.R. Croft 917 & J.I. Marsh	Gurakor Ck, WSW of Lae
Dryopteridaceae	<i>Tectaria</i>	J.R. Croft 903 & J.I. Marsh, J.R. Croft 890 & J.I. Marsh, H. Streimann NGF44578, T.G. Hartley 10018	Sankwep Rvr, N of Lae; Oomsis LA, W of Lae; Garagos, Lae; Oomsis Ck, W of Lae
Dryopteridaceae	<i>Tectaria crenata</i>	J.R. Croft 425	Lae Area
Dryopteridaceae	<i>Tectaria menyanthidis</i>	W.N. Takeuchi 9024, Anonymous 5612, J.R. Croft, et al. 327	Lae municipality; Lae, Morobe; Sankwep Rvr, N of Lae
Dryopteridaceae	<i>Tectaria pubescens</i>	A. Floyd 5543, J.R. Croft 1395	Busu Rvr, Lae; Markham Point, W of Lae
Dryopteridaceae	<i>Arcypteris irregularis</i>	J.R. Croft 418	Natter Bay, SE of Lae
Dryopteridaceae	<i>Cyclopeltis presiliana</i>	J.R. Croft LAE65335	Sankwep Rvr, N of Lae
Dryopteridaceae	<i>Dryopolystichum phaeostigma</i>	J.R. Croft 383	Natter Bay, SE of Lae
Dryopteridaceae	<i>Lastreopsis</i>	J.R. Croft 1392	Markham Point, W of Lae

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Dryopteridaceae	<i>Pleocnemia</i>	T.G. Hartley 10023, J.R. Croft LAE65337	Oomsis Ck, W of Lae; Sankwep Rvr, N of Lae
Dryopteridaceae	<i>Pleocnemia seranensis</i>	J.R. Croft 911 & J.I. Marsh	Gurakor Ck, WSW of Lae
Dryopteridaceae	<i>Pleocnemia tripinnata</i>	J.R. Croft 905 & J.I. Marsh	Sankwep Rvr, N of Lae
Dryopteridaceae	<i>Tectaria barclayi</i>	J.R. Croft LAE68514, J.R. Croft 329, W.R. Barker & B. Verdcourt	Natter Bay LA, SE of Lae; Sankwep Rvr, N of Lae
Ebenaceae	<i>Diospyros</i>	P. Van Royen NGF20060, H. Streimann 8366, H. Streimann 8499, J.S. Womersley NGF37463, W. Takeuchi 6970, B.J. Conn, H. Streimann 8499, P. Katik s.n., W. Takeuchi 5586, H. Okada 4343, K.J. White NGF10472, T.G. Hartley 11067, Anonymous NGF237, P. Van Royen NGF16333, J.J. Havel NGF17060, Anonymous NGF245, E.E. Henty NGF11664	Malahang Beach E of Lae; Ridge betwn Busu & Butibum Rvrs, NNW of Lae; Garagos Rvr, Lae-Bulolo Rd, W of Lae; S of Buso Camp S of Lae; Garagos Rvr Lae-Bulolo Rd, W of Lae; Near Sankwep Rvr, Lae; Near Bumayong, Lae; Gumboak Strm, Lae; Oomsis near Lae; Huon Gulf Coast, NE of Lae; Corner of Lae-Nadzab & Narakapoore Rds; Oomsis LA, NW of Lae; Helicopter Site 2, Lae subdistrict; Corner of Lae-Nadzab & Narakapoore Rds; Atzera Range near Lae
Ebenaceae	<i>Diospyros villosiuscula</i>	J.S. Womersley NGF43721	Busom Rvr, Lae
Ebenaceae	<i>Diospyros hebecarpa</i>	P. Lamei LAE89454 & K. Fazang, H. Streimann & A. Kairo NGF39428	Lae Botanical Gardens, Lae; Musik Is, Buso, S of Lae.
Ebenaceae	<i>Diospyros littorea</i>	J. Wiakabu LAE73374, J.S. Womersley NGF43741	Apo village, E Coast Lae; Labu Lakes near Lae
Ebenaceae	<i>Diospyros maritima</i>	T.K. Kuria, et al. LAE87038	Lae Botanic Garden, Lae.
Ebenaceae	<i>Diospyros papuana</i>	T.G. Hartley 11028	S of Garagos Rvr Bridge, Lae-Bulolo Rd
Ebenaceae	<i>Diospyros peekelii</i>	Kongara NGF17303, T.G. Hartley 9935, T.G. Hartley 9893, T.G. Hartley 12263, W. Takeuchi 5597	Oomsis, Lae; near Busu Rvr, N of Lae; Near Butibum Rvr, N of Lae; S Side of the Busu Rvr, N of Lae; Near Bumayong, Lae
Elaeocarpaceae	<i>Aceratium ledermannii</i>	T.G. Hartley 12291, T.G. Hartley 11070, P. Lamei LAE89464 & K. Fazang, Crayn D.M. et al. 534,	Buso River, NE of Lae; Gulf Coast, NE of Lae; Lae Botanical Garden, nr Didiman ck; Lae Botanic Gardens.
Elaeocarpaceae	<i>Elaeocarpus amplifolius</i>	B.B. Bau, et al. LAE79210	Lae Botanic Garden, Lae.
Elaeocarpaceae	<i>Elaeocarpus angustifolius</i>	C.T. White NGF1603, Evans 1409, F.T. Vickery NGF1420, A.N. Millar NGF1102, T.G. Hartley 10174, T.G. Hartley 10006, D. Fryar NGF3345, H. Okada 4272	Lae, Morobe; E of Lae; Foothills near Yalu area, Lae; Lae, Morobe; Burep Rvr, NE of Lae; Oomsis Ck, W of Lae; Yalu near Lae; Gabensis LA, Oomsis, Lae
Elaeocarpaceae	<i>Elaeocarpus ledermannii</i>	T.G. Hartley, P. Van Royen NGF16478, T.G. Hartley 11892, T.G. Hartley 11768, W. Takeuchi 17014, E.E. Henty NGF11680, J.S. Womersley NGF19136	Oomsis, W of Lae; Oomsis LA near Lae; Near Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae; Hills near Taraka, Lae; Markham Point near Lae; Gnalangumbum, W of Lae
Elaeocarpaceae	<i>Elaeocarpus miegei subsp. Miegei</i>	E.E. Henty NGF14814	Bewapi Ck near Lae
Elaeocarpaceae	<i>Elaeocarpus multisectus</i>	M. Coode NGF40162, J.S. Womersley NGF24978, J.S. Womersley NGF24914, D.M. et al. Crayn 561	Abunaka near Lae; Markham Valley, Lae; Markham Bridge Rd, Lae; Lae Botanic Gardens
Elaeocarpaceae	<i>Elaeocarpus nouhuysii</i>	H. Streimann 8482, D.M. Crayn, et al. 533, J.S. Womersley NGF14210, D.M. Crayn, et al. 530, J.S. Womersley NGF43905, E.E. Henty NGF13655	Busu Rvr, NNW of Lae; Lae Botanic Gardens; Markham Valley near Lae; Lae Botanic Gardens; Aluki Area, E of Lae; Lae, Morobe
Elaeocarpaceae	<i>Elaeocarpus pachyanthus</i>	W. Takeuchi 6967, M.J.E. Coode NGF32845	Bumayong settlement hills, Lae; Markham Point, Lae
Elaeocarpaceae	<i>Elaeocarpus sphaericus</i>	J. Waine 58, B.G. Geana Betty 006, D.M. Crayn, et al. 562	Lae Botanic Garden, Lae;
Elaeocarpaceae	<i>Elaeocarpus undulatus</i>	C.T. White NGF1698	Lae Area
Elaeocarpaceae	<i>Sloanea forbesii</i>	T.G. Hartley 10190, A.N. Millar NGF11788	Burep Rvr, NE of Lae; Patep Rvr, Lae-Wau Rd
Elaeocarpaceae	<i>Aceratium oppositifolium</i>	J. Wiakabu LAE72339	Lae Botanic Gardens, Section B.
Elaeocarpaceae	<i>Elaeocarpus arnhemicus</i>	J.S. Womersley NGF9517	Lake Wannum, near Lae
Elaeocarpaceae	<i>Elaeocarpus dolichodactylus</i>	W. Takeuchi 16661, T.G. Hartley 11896, J. Vandenberg NGF42299	Hills above 9-10 mile, Lae; NE, Markham Point; Near Butibum Rvr, N of Lae; Water Kiseling, Lae subprovince

## Lae Flora

Elaeocarpaceae	<i>Elaeocarpus dolichostylus</i> subsp. <i>dolichostylus</i>	A.N. Millar NGF14611	Near Gurakor, Lae-Wau Rd
Elaeocarpaceae	<i>Elaeocarpus kaniensis</i>	T.G. Hartley 10515	Oomsis Ck, W of Lae
Elaeocarpaceae	<i>Peripentadenia</i>	J.S. Womersley NGF17797	Oomsis LA, Lae
Elaeocarpaceae	<i>Sericolea gaultheria</i>	M.J.E. Coode, et al. NGF46002	Mt Kaindi, Lae subdistrict
Elaeocarpaceae	<i>Sloanea</i>	Students 230, M. Jacobs 9637	Buso, SE of Lae; SE of Lae on coast
Elaeocarpaceae	<i>Sloanea sogerensis</i>	J.R. Croft 68564, D.M. Crayn 532 & R. Banka, T.G. Hartley 10042, T.G. Hartley 11086A, T.G. Hartley 11086	Natter Bay LA, SE of Lae; Lae Botanic Gardens; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae; S of Busu Rvr, N of Lae
Equisetaceae	<i>Equisetum</i>	T.G. Hartley 10132A	Burep Rvr, NE of Lae
Equisetaceae	<i>Equisetum debile</i>	T.G. Hartley 10132A	Burep Rvr, NE of Lae
Ericaceae	<i>Dimorphantha amblyornidis</i> var. <i>moorhoussiana</i>	E.E. Henty NGF11907	Range above Markham Point near Lae
Ericaceae	<i>Rhododendron inconspicuum</i>	G. Larivita	Lae Up Track
Ericaceae	<i>Vaccinium acrobracteatum</i>	J.M. Simaga 3029, M. Jacobs 8629	Gabenisis LA, Oomsis, Lae; Kasanombe, N of Lae
Ericaceae	<i>Vaccinium albicans</i> var. <i>nov.</i>	J.S. Womersley NGF7817	Patep Ck, Lae-Wau Rd
Ericaceae	<i>Vaccinium carneolum</i> var. <i>carneolum</i>	P.F. Stevens 58041	Kisingam, Mt Dilmargi, Lae subdistrict
Ericaceae	<i>Dimorphantha amblyornidis</i>	O. Gideon & J. Silu LAE76917, E.E. Henty NGF11907, O. Gideon & J. Silu LAE76917sh2	Markham Point, Herzog mountains; Markham Point near Lae; Markham Point, Herzog mountains
Ericaceae	<i>Dimorphantha amoena</i>	J.S. Womersley s.n.	Gurakor, Lae-Wau Rd
Ericaceae	<i>Dimorphantha anchorifera</i>	P. van Royen s.n. & A.N. Millar	Zatarl, SE Beana
Ericaceae	<i>Dimorphantha denticulifera</i>	M. Jacobs 8678	Kasanombe, N of Lae
Ericaceae	<i>Dimorphantha kempteriana</i>	A. Kairo NGF45062sh2, A. Kairo NGF45062	Waria River, Garaina, Lae subdistrict; Waria Rvr, Garaina, Lae subdistrict
Ericaceae	<i>Dimorphantha womersleyi</i> var. <i>continua</i>	J.S. Womersley NGF15310	Gurakor, Lae-Wau Rd
Ericaceae	<i>Rhododendron</i>	G. Larivita LAE70592	Lae Up Track
Ericaceae	<i>Rhododendron aurigeranum</i>	H.J. Lam 7753	Lae-Bulolo Rd, Patep Ck
Ericaceae	<i>Rhododendron leptanthum</i>	O. Gideon 76929 & J. Kainwaka	Oomsis hill, Herzog mountains, Lae
Ericaceae	<i>Rhododendron retrorsipilum</i>	O. Gideon LAE76925, E.E. Henty NGF11906, E.E. Henty s.n., E.E. Henty NGF13686	Upper Slopes of Markham Point, Lae subprovince; Above Markham Point near Lae; Range above Markham Point, near Lae; Ridge above Markham Point near Lae
Ericaceae	<i>Vaccinium albicans</i>	B.F. Palser 84-13 & J.S. Womersley, J.S. Womersley NGF7817, A.N. Millar NGF14698sh2, A. Kairo NGF24382, A.N. Millar NGF14698	Zenag, Lae-Wau Rd; Patep Ck, Lae-Wau Rd; Patep Rvr, Lae subdistrict; Garaina-Guru Rd, Lae subdistrict; Patep Rvr, Lae subdistrict
Ericaceae	<i>Vaccinium hellwigianum</i>	A. Kaire 42383	Garaina-Guru Rd, Lae subdistrict
Eriocaulaceae	<i>Eriocaulon</i>	M.J.E. Coode, et al. NGF32557, P. van Royen NGF20080, T.G. Hartley 9679, A. Kairo NGF45051, J.S. Womersley NGF14082	Redhill Swamp, Lae; Red Hill Swamp, Lae-Bulolo Rd; Red Hill, W of Lae; S of Garaina, Lae subdistrict; Red Hill, near Lae
Eriocaulaceae	<i>Eriocaulon truncatum</i>	P. Van Royen NGF20080, J.S. Womersley NGF14082	Red Hill Swamp, Lae-Bulolo Rd; Red Hill near Lae
Erythroxylaceae	<i>Erythroxylum</i>	J.R. Croft LAE68546	Natter Bay LA, SE of Lae
Escalloniaceae	<i>Polyosma macrobotrys</i>	T.G. Hartley 10483	W of Lae at Oomsis Creek
Escalloniaceae	<i>Polyosma</i>	P. Van Royen NGF16329	Oomsis LA, NW of Lae

## Lae Flora

Euphorbiaceae	<i>Acalypha hellwigii</i> var. <i>hellwigii</i>	T.G. Hartley 10009	Oomsis ck, W of Lae.
Euphorbiaceae	<i>Acalypha hellwigii</i> var. <i>mollis</i>	B.J. Conn et al. 75, C.T. White NGF1716.	Btwn Boana & Guambot, Lae; Lae In Kunai Area
Euphorbiaceae	<i>Acalypha hispida</i>	A.N. Millar GH52	Botanic Gardens, Lae.
Euphorbiaceae	<i>Acalypha longispica</i>	A. White NGF11151, C.T. White NGF1674	Lae Botanic Gardens, Lae
Euphorbiaceae	<i>Acalypha novoguineensis</i>	H. Streimann NGF44150	Sum Sum, Lae-Bulolo Rd
Euphorbiaceae	<i>Actephila</i>	W. Takeuchi 17112, T.G. Hartley 13074	Lae, hills near Taraka; Oomsis Ck, W of Lae
Euphorbiaceae	<i>Antidesma</i>	T.G. Hartley 10842, A.N. Millar GH37	Butibum Rvr, N of Lae; Lae Botanic Gardens
Euphorbiaceae	<i>Antidesma excavatum</i>	M. Jacobs 9647, T.G. Hartley 10991, T.G. Hartley 9853, T.G. Hartley 11336, E.E. Henty 16726, H. Streimann 44196, P. Katik LAE70798, O. Gideon 76936 & J. Kainwaka, T.G. Hartley 10953, E.E. Henty 14853, E.E. Henty 11601, E.E. Henty 14355, T.G. Hartley 12451, H. Streimann 45167, Native Collector 4645, T.G. Hartley 11908	SE of Lae coast, opposite Lasanga Is., Baden Bay; S of the Markham Rvr W of Lae; Atzera Range, Butibum Rvr, N of Lae; 3-mile Forest Plot, Lae; Lasanga Is, Lae Sub-District; Markham Bridge, Lae Subdistrict; Oomsis hill, Herzog mountains, Lae; Markham Rvr Point, W of Lae; Bumbu LA, Lae; Atzera Range near Lae; Markham Bridge, near Lae; Oomsis Ck, W of Lae; Buso, Lae Sub-District; Native Collector 4645, Oomsis Ck, W of Lae;
Euphorbiaceae	<i>Antidesma excavatum</i>	M. Jacobs 9587, T.G. Hartley 12261, T. Whitmore NGF16337, UNESCO (Kostermans c.s. 11908, H. Streimann 47800, P. Katik 70798, H. Streimann NGF45413, T.G. Hartley 10508, T.G. Hartley 10991, H. Streimann 45413, R.F. Thorne 27478, H. Streimann NGF25912, T.G. Hartley 10968, H. Streimann 25912	SE of Lae, opposite Lasanga Is; Markham Point near Markham Rvr, W of Lae; Oomsis LA, NW of Lae; Oomsis Ck, W of Lae; Markham Point, Lae; Markham Bridge, Lae; Markham Point, Lae-Bulolo Rd; Oomsis Ck, W of Lae; Markham Rvr, W of Lae; Markham Point, Lae-Bulolo Rd, Lae; Markham Rvr, Markham Point W of Lae; Markham Bridge Lae-Wau Rd; Markham Rvr Point, W of Lae; Markham Bridge, Lae-Wau Rd, Lae
Euphorbiaceae	<i>Aporosa papuana</i>	W. Takeuchi 16650	Lae, hills above 9-10 mile
Euphorbiaceae	<i>Baccaurea</i>	A.N. Millar GH110, H. Streimann 8657,	Lae Botanic Gardens; Labu Swamp, WNW of Lae
Euphorbiaceae	<i>Bischofia javanica</i>	T.G. Hartley 12268, D. Fryar NGF3338, T.G. Hartley 10990, L.S. Smith NGF1248	Bluff Border of Markham Rvr, W Of Lae; Yalu near Lae; Markham Rvr, W of Lae; Lae, Morobe
Euphorbiaceae	<i>Breynia cernua</i>	T. Palpali LAE76337, H. Okada 4248, I. FavaSalu NGF47782, Womersley J. S. s.n., C.T. White, H.E. Dadswell & L.S. Smith NGF1735, C.T. White NGF1735, Garrett-Jones S.E. ANU 21168, H. Streimann 44327, K. Lavong LAE76351, G.L. Webster 15054 & R. Hildreth, T.G. Hartley 12204	Gabensis LA, Oomsis, Lae; Buso Village, Lae; Lae Botanic Gardens; Lae, Morobe; Lae, Morobe; SW corner of Lake Wanum, Lae; Lasanga Is, Lae; Lae Botanic Gardens; Lae Botanical Gardens; Near the Butibum Rvr, N of Lae
Euphorbiaceae	<i>Cleidion javanicum</i>	H. Streimann & A. Kairo NGF39145, E.E. Henty NGF41934, J.S. Womersley NGF12599	No. 2 Sum Sum, Lae-Wau Rd; Abunaka Plantation, Lae subdistrict; Old Naramunki village, Erap Rvr near Lae
Euphorbiaceae	<i>Cleistanthus insignis</i>	T.G. Hartley 12194A	Near Butibum Rvr, N of Lae
Euphorbiaceae	<i>Croton choristadenius</i>	H. Streimann NGF45101, H. Streimann NGF45102	Buso Rvr, Lae subdistrict; Buso Rvr, Lae subdistrict
Euphorbiaceae	<i>Croton hentyi</i>	H. Streimann NGF44181	Lasanga Is, Lae subdistrict
Euphorbiaceae	<i>Croton wassikussae</i>	J.S. Womersley NGF37112	Bumbu Rvr, Lae subdistrict
Euphorbiaceae	<i>Endospermum</i>	A.N. Millar GH74	Lae Botanic Gardens, Lae
Euphorbiaceae	<i>Endospermum medullosum</i>	Anonymous NGF215, C.T. White NGF1738, C.T. White, et al. NGF1703, J. Connell 767, J. Cavanaugh NGF2, H. Streimann & A. Kairo NGF27961, R.W. Evans 71, J.J. Havel NGF17019, Unreadable NGF697, NGF215, F.T. Vickery NGF1415, C.T. White NGF1513, J.S. Womersley NGF24773, NGF697, Anonymous NGF215, T.G. Hartley TGH10046, T.G. Hartley TGH10490	Betwn Lae & Nadzab; Lae, Morobe; Lae, Morobe; 3 mile, Lae; Lae, Morobe; Garagos, Lae subdistrict; Trans-Bus LA, Lae; Gnalangumbum, Lae subdistrict; Lae, Morobe; 9 miles post, Lae-Nadzab Rd; Lae area; Lae, Morobe; Markham valley, near Oomsis, Lae; Lae, Morobe; 9 miles Post, Lae Nadzab Rd; Oomsis Ck, W of Lae; Oomsis Ck, W of Lae

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Euphorbiaceae	<i>Endospermum moluccanum</i>	P. Lamei LAE89456 & K. Fazang, R. Evans 71, G.L. Webster 15076 & R. Hildreth, T.C. Whitmore	Lae Botanical Gardens; Trans-Busu LA, E of Lae; Busu Rvr, N of Lae; Busu near Lae
Euphorbiaceae	<i>Endospermum myrmecophilum</i>	L.J. Brass 1097	Near Lae
Euphorbiaceae	<i>Euphorbia heterophylla</i>	C. Kausik LAE79215, T.G. Hartley 9670, J.S. Womersley NGF8808, L. Oki LAE79259, A.N. Millar NGF35235	Lae Botanic Garden, Lae; Oomsis Ck, W of Lae; Igam, near Lae.
Euphorbiaceae	<i>Euphorbia hirta</i>	H. Morte LAE79220, L. Oki LAE79261, W. Moi & N. Inu NGF25991	Lae Botanic Garden, Lae; National Botanical Gardens, Lae; Red Hill Swamp, Lae subdistrict
Euphorbiaceae	<i>Glochidion glabrum</i>	W. Moi & N. Inu NGF25975	Red Hill Swamp, Lae subdistrict
Euphorbiaceae	<i>Glochidion philippicum</i>	E.E. Henty NGF13654, T.G. Hartley 10182	Lae, Morobe; Burep Rvr NE of Lae
Euphorbiaceae	<i>Glochidion submolle</i>	E.E. Henty NGF10600, T.G. Hartley 10232	Masawapum near Lae; Lae-Nadzab Rd, NW of Lae
Euphorbiaceae	<i>Glochidion sumatranum</i>	A.N. Millar GH95, H. Streimann NGF39137, A.N. Millar NGF12261, T.G. Hartley 11911	Lae Botanical Gardens; Near Timini village, Lae-Wau Rd; Oomsis near Lae; Malahang, NE of Lae
Euphorbiaceae	<i>Homalanthus novoguineensis</i>	K. Turbarat LAE76317, H. Morte LAE79217, T.G. Hartley 10331, H. Streimann NGF44281	Lae Botanical Gardens; National Botanic Gardens, Lae; Bunga Rvr, NE of Lae; Lasanga Is, Lae subdistrict
Euphorbiaceae	<i>Homonoia</i>	P. Katik s.n.	Sunkwep LR, Lae subdistrict
Euphorbiaceae	<i>hyllanthus finschii</i>	E.E. Henty NGF10607	Lae Area
Euphorbiaceae	<i>Kairothamnus phyllanthoides</i>	H. Streimann NGF45108, A. Kairo NGF44211	Buso Rvr, Lae subdistrict; Buso, Lae subdistrict
Euphorbiaceae	<i>Macaranga</i>	W. Takeuchi 17083, W. Takeuchi 17082, H. Streimann NGF39443, H. Streimann 8521, M. Coode NGF29559, P. Katik LAE74968 & M. Galore, H. Streimann NGF44262, R.F. Thorne 27487, G. Argent NGF1057, R.J. Johns NGF47252, P.F. Stevens LAE50182, J.R. Croft LAE68513, A.N. Vinas 309 & A. Kairo, H. Streimann 8520, H. Streimann 8521, G. Argent NGF1038, P. Katik LAE74968 & M. Galore, A.N. Millar NGF18871	Hills near Taraka, Lae; Hills near Taraka, Lae; Lae subdistrict; Rainara Rvr, W of Lae; Bupu Rvr, E of Lae; Near Buhem Rvr, Bukaia, Lae subprovince; Lasanga Is, Lae subdistrict; Markham Rvr, Markham Point, W of Lae; Lae Institute Site; Muniau, Lae subdistrict; N of Lae, Lae subdistrict; Natter Bay LA, SE of Lae; Mid-way of Buso Rvr, SE of Buso Camp, Lae; Rainara Rvr, W of Lae; Rainara Rvr, W of Lae; Lae Plot; Near Buhem Rvr, Bukaia, Lae subprovince; Lae Botanical Gardens
Euphorbiaceae	<i>Macaranga bifoveata</i>	W. Takeuchi 17097	Hills near Taraka, Lae
Euphorbiaceae	<i>Macaranga inermis</i>	N. Kokori NGF43727, K.J. White NGF10185	Timne village, Lau-Wau Rd; Oomsis near Lae
Euphorbiaceae	<i>Macaranga involucrata</i>	A. Kairo NGF44567, T.G. Hartley 12346, C.T. White NGF1676	Bulolo, Lae Rd; N Side Buso Rvr, N of Lae; Lae, Morobe
Euphorbiaceae	<i>Macaranga pleiostemon</i>	E.E. Henty NGF16708, T.G. Hartley 9617, T.G. Hartley 10518, J.S. Womersley NGF17025, P.F. Stevens LAE54738 & N. Martin, J.S. Womersley NGF11682	Busu Rvr near Lae; N Side Markham Rvr, W of Lae; Oomsis Ck, W Lae; Oomsis LA, Lae; Markham Point, Lae; Markham Point near Lae
Euphorbiaceae	<i>Mallotus</i>	J.S. Womersley NGF37483	Gabensis LR, Lae
Euphorbiaceae	<i>Mallotus lauterbachianus</i>	T.G. Hartley 12276	Bunla Rvr, NE of Lae
Euphorbiaceae	<i>Mallotus penangensis</i>	N.M. Clunie LAE63408	Mt Garagos LA, Lae subdistrict
Euphorbiaceae	<i>Mallotus ricinoides</i>	G.L. Webster 15059 & R. Hildreth, M. Fallen 347	Busu Ck area, along Sankwep Rvr, N of Lae; Gabensis LR, SW of Lae
Euphorbiaceae	<i>Manihot esculenta var. sprucei</i>	M. Coode NGF29883	Malahang near Lae
Euphorbiaceae	<i>Octospermum pleiogynum</i>	T.G. Hartley 10179	Burep Rvr, NE of Lae
Euphorbiaceae	<i>Phyllanthus clamboides</i>	J.S. Womersley NGF19137	Near Markham Rvr Bridge, Lae
Euphorbiaceae	<i>Phyllanthus debilis</i>	E.E. Henty NGF49173	Lae Botanic Gardens, Lae
Euphorbiaceae	<i>Phyllanthus pachyphyllus</i>	Laravita LAE72306	Lae Botanic Garden, Lae.

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Euphorbiaceae	<i>Pimelodendron</i>	R.W. Evans 39, R.F. Thorne 27519	Busu Rvr Area, Lae; Oomsis LA, W of Lae
Euphorbiaceae	<i>Pimelodendron amboinicum</i>	T.G. Hartley 10880, C.T. White NGF1547, T.G. Hartley TGH10281A, J.S. Womersley NGF9401, R.W. Evans 39, T.G. Hartley TGH12450, T.G. Hartley TGH10880, T.G. Hartley 12450, J.S. Womersley NGF8992, J.J. Havel NGF17023, E.E. NGF14815, E.E. Henty NGF11925, W. Moi & N. Inu NGF25951, Anonymous NGF241, Anonymous 4709, E.E. Henty NGF10549, C.T. White NGF1733, C.T. White NGF1401, T.G. Hartley TGH10496, T.G. Hartley TGH9941, Native collector NGF4709, C.T. White NGF1510	Markham Rvr, W of Lae; Lae, Morobe; Butibum Rvr, N of Lae; Oomsis near Lae; Busu Rvr area, Lae; Oomsis Ck, W of Lae; Markham Rvr, W of Lae; Oomsis Ck, W of Lae; Garagos LA, Lae-Wau Rd; Gnalangumbum, Lae; Bewapi Ck, near Lae; Oomsis LA, near Lae; Markham Point, Lae; Corner of Narakapoer Rd & Lae-Nadzab Rd; Lae Botanic Gardens; Markham Rvr near Lae; Lae, Morobe; Lae, Morobe; Oomsis Ck, Wt of Lae; Oomsis Ck, W of Lae; Lae Botanical Gardens; Lae, Morobe
Euphorbiaceae	<i>Shirakiopsis indica</i>	H. Streimann NGF27895, H. Streimann NGF27894	Markham Bridge near Lae; Markham Bridge near Lae
Euphorbiaceae	<i>Spathostemon javensis</i>	P. Katik, T.G. Hartley 13070, N.M.U. Clunie s.n. & T. Umba, T.G. Hartley 11358, T.G. Hartley 11360	Musom Rvr, Lae subdistrict; Oomsis Ck, W of Lae; Garagos mountain LA, Lae subdistrict; S Garagos Rvr, Lae-Bulolo Rd; S Garagos Rvr, Lae-Bulolo Rd
Euphorbiaceae	<i>Acalypha hellwigii</i>	B.J. Conn et al. 80	Btwn Boana & Guambot, Lae.
Euphorbiaceae	<i>Antidesma excavatum</i>	K.J. White 10344, E.E. Henty NGF11601, T.G. Hartley 11336, Nmae NGF37095, P. Van Royen NGF16328, E.E. Henty NGF16726, A.N. Millar GH37, Anonymous NGF4645, E.E. Henty NGF11543,	Botanic Garden Lae; Markham Valley Atzera Range near Lae; N of Lae; Busu Valley near Lae; Oomsis LA, NW of Lae; 3 Mile Forest Plot Lae; Lae Botanic Gardens; Morobe, Lae; Erap Maralumi Ck, Lae;
Euphorbiaceae	<i>Antidesma ghaesembilla</i>	W. Moi 25977 & N. Inu, E.E. Henty NGF9809, T.G. Hartley 10604, W.R. Barker LAE67750, T.G. Hartley 9877	Red Hill Swamp; Lae; Markham Valley, Busu LA near Lae; Near Busu Rvr NE of Lae; Sankwep Logging Rd from Lae-Finschhafen Rd; Markham Rvr Valley W of Lae
Euphorbiaceae	<i>Antidesma rhynchophyllum</i>	W. Moi & N. Inu NGF25955, A.N. Millar 9941, T.G. Hartley 10874, J.S. Womersley 15309, T.G. Hartley 10951, A. Floyd 5775 & C. Versteegh, A. Floyd 5775, A.N. Millar NGF10000	Markham Point, Lae subdistrict; Botanic Gardens, Lae; Markham Rvr, Lae; Lae-Wau Rd, near Markham Bridge; Markham Rvr, W of Lae; Banks of Markham Rvr, Lae; Markham Rvr, Lae; Markham Valley near Lae
Euphorbiaceae	<i>Antidesma sphaerocarpeum</i>	C. Kausik LAE79213	Botanic Garden, Lae
Euphorbiaceae	<i>Aporusa</i>	C.T. White NGF1742	Lae Area
Euphorbiaceae	<i>Aporusa laxiflora</i>	W. Takeuchi 17012	Lae hills near Taraka
Euphorbiaceae	<i>Aporusa papuana</i>	H. Streimann NGF45133, T.G. Hartley 11346, O. Gideon LAE76942, H. Streimann NGF45134, T.G. Hartley 10068	Buso Valley, Lae Subdistrict; N Side of Busu Rvr, N of Lae; Oomsis Hill, Herzog Mt, Lae; Buso Valley, Lae; Bewapi Ck, W of Lae
Euphorbiaceae	<i>Aporusa petiolaris</i>	T.G. Hartley 11917, J.S. Womersley NGF15306, T.G. Hartley 10488, E.E. Henty NGF14384, E.E. Henty NGF11993	Markham Point, Markham Rvr, W of Lae; Oomsis Ridge, Lae; W of Lae, Oomsis Ck; Oomsis LA near Lae; Range above Markham Point near Lae
Euphorbiaceae	<i>Baccaurea motleyana</i>	T.G. Hartley 9607	W of Lae N Side Of Markham Rvr
Euphorbiaceae	<i>Baccaurea papuana</i>	C. Ridsdale NGF31690, A.N. Millar GH110, T.G. Hartley 9653, H. Streimann NGF47802, E.E. Henty NGF13657, A.N. Millar NGF9778, T.G. Hartley 9854, M. Coode NGF29557, Anonymous 5588, C.T. White NGF1524	Near Maiama village, Lae; Lae Botanic Gardens; Lae Botanic Gardens; Markham Point, Lae; Lae, Morobe; Lae Botanic Gardens; Markham Rvr, W of Lae; Diddymans Ck, Lae; Lae, Morobe
Euphorbiaceae	<i>Blumeodendron</i>	W. Takeuchi 17117	Lae, hills Taraka
Euphorbiaceae	<i>Blumeodendron papuanum</i>	J.J. Havel & A. Kairo NGF17205	Gnalan Gumbum, Lae; Gnalangumbum, Lae
Euphorbiaceae	<i>Blumeodendron tok-brai</i>	H. Streimann 35660, T.G. Hartley 10526, T.G. Hartley 11869, J.S. Womersley NGF43719, J.S. Womersley NGF12379, W. Takeuchi 17041, T.G. Hartley 11757, T.G. Hartley 10284, T.G. Hartley 10281, J.S. Womersley NGF37113	Wampit, Lae; Oomsis Ck, W of Lae; Near the Butibum Rvr, N of Lae; Busom Rvr near Lae; Sankwep LA, Lae; Lae, hills near Taraka; near Butibum Rvr, N of Lae; near the Butibum Rvr, N of Lae; Near the Butibum Rvr, N of Lae; Sankwep Valley, Lae

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Euphorbiaceae	<i>Breynia</i>	Garrett-Jones S.E. ANU 21168	SW corner of Lake Wanum, Lae
Euphorbiaceae	<i>Bridelia erapensis</i>	T.G. Hartley 12224; E.E. Henty NGF10692	Markham River Valley At Erap W of Lae; Erap near Lae
Euphorbiaceae	<i>Bridelia insulana</i>	E.E. Henty NGF49843, T.G. Hartley 11022, J.S. Womersley NGF24875	Lae Botanic Gardens, Lae; S of Garagos Rvr Bridge, Lae.
Euphorbiaceae	<i>Chamaesyce hirta</i>	T.G. Hartley 11627, J.S. Womersley NGF4615	Lae, Morobe; Lae Dept of Forests Nursery
Euphorbiaceae	<i>Chamaesyce reniformis</i>	T.G. Hartley 9855	Lae-Goroko Rd junction & Erap Rvr, Markham
Euphorbiaceae	<i>Chamaesyce vachellii</i>	E.E. Henty NGF29175	Leron Rvr near Lae
Euphorbiaceae	<i>Claoxylon</i>	P. Katik s.n., H. Okada 4260, T.G. Hartley 9933, T.G. Hartley 11337, T.G. Hartley 11872	Track to Kalau Village, Lae subdistrict; Gabensis LA, Oomsis, Lae; Near Busu Rvr, N of Lae; N side of Busu Rvr, N of Lae; Near Yalu, NW of Lae
Euphorbiaceae	<i>Claoxylon ledermannii</i>	E.E. Henty NGF14815, T.G. Hartley 9933, H. Streimann s.n.	Bewapi Ck near Lae; Near Busu Rvr, N of Lae; Buso, Lae subdistrict
Euphorbiaceae	<i>Claoxylon ledermannii</i> var. <i>intermedium</i>	E.E. Henty s.n.	Bewapi Ck, near Lae
Euphorbiaceae	<i>Claoxylon polot</i> var. <i>novoguineense</i>	T.G. Hartley 12240, T.G. Hartley 11601, T.G. Hartley 11337	Near Butibum Rvr, N of Lae; Along coast betwn Malahang and Lae; N side of Busu Rvr, N of Lae
Euphorbiaceae	<i>Claoxylon scabratum</i>	G.L. Webster 15069 & R. Hildreth, T.G. Hartley 11872	Busu Ck Area, near Sankwep Rvr, N of Lae; Near Yalu, NW of Lae
Euphorbiaceae	<i>Claoxylon tenerifolium</i>	T.G. Hartley 12240, T.G. Hartley 11601	Near Butibum Rvr, N of Lae; Along coast betwn Malahang and Lae
Euphorbiaceae	<i>Cleidion</i>	et al. s.n.	Sinpang Rvr, Lae
Euphorbiaceae	<i>Cleidion spiciflorum</i>	H. Streimann NGF39145, E.E. Henty NGF41934, H. Streimann NGF39147 & A. Kairo	No 2 Sum Sum, Lae-Wau Rd; Abunaka Plantation, Lae; No. 2 Sum Sum, Lae-Wau Rd
Euphorbiaceae	<i>Cleistanthus</i>	P. Katik NGF46874	Sunkwep LR, Lae
Euphorbiaceae	<i>Cleistanthus myrianthus</i>	T.G. Hartley 10305	Along the Bunga Rvr, NE of Lae
Euphorbiaceae	<i>Codiaeum variegatum</i> var. <i>moluccanum</i>	T.G. Hartley 12226, J.S. Womersley NGF9397	Near Butibum Rvr, Lae; Oomsis near Lae
Euphorbiaceae	<i>Croton</i>	J. Waine 40, H. Streimann 8351	Lae Botanic Garden, Lae; Busu River NW of Lae
Euphorbiaceae	<i>Croton morobensis</i>	J.S. Womersley NGF17674, A. Floyd 5742, T.G. Hartley 11774, A.N. Millar NGF14537, H. Streimann NGF47720, T.G. Hartley 9925	Busu Rvr, N of Lae; Trans-Busu Timber Lease near Lae; Burep Rvr, NE of Lae; Lae Botanic Gardens; W of Lae; Near Butibum Rvr, N of Lae
Euphorbiaceae	<i>Croton muriculatus</i>	T.G. Hartley 10089	Busu Rvr, N of Lae
Euphorbiaceae	<i>Euphorbia schumannii</i>	H. Streimann NGF44413	Sum-Sum, Lae-Bulolo Rd
Euphorbiaceae	<i>Glochidion</i>	A.N. Millar GH95	Lae Botanic Gardens, Lae.
Euphorbiaceae	<i>Glochidion ambiguum</i>	T.G. Hartley 9728	Malahang, NE Lae
Euphorbiaceae	<i>Glochidion benthamianum</i>	A. Kairo NGF45344	Kipu,S of Garaina, Lae subdistrict
Euphorbiaceae	<i>Glochidion granulare</i>	A. Kairo NGF45350, T.G. Hartley 10192	Asubazo Waria Rvr, SE Garaina, Lae subdistrict; Burep Rvr, NE of Lae
Euphorbiaceae	<i>Glochidion lancilimbum</i>	W. Moi & N. Inu NGF25963	Oomsis, Lae subdistrict
Euphorbiaceae	<i>Glochidion lobocarpum</i>	J.S. Womersley NGF3317, T.G. Hartley 12207	Yalu near Lae; Near Butibum Rvr, N Lae
Euphorbiaceae	<i>Glochidion novoguineense</i>	T.G. Hartley 12269, E.E. Henty NGF14793, A.N. Millar NGF9939	Markham Point, W of Lae; Lake Wanum near Lae; Lae Botanical Gardens
Euphorbiaceae	<i>Macaranga aleuritoides</i>	T.C. Whitmore NGF24686, J.S. Womersley NGF14041, C.T. White NGF1519	Buwapi Ck near Lae; Lae Botanical Gardens; Between Lae & Yalu
Euphorbiaceae	<i>Macaranga clavata</i>	T.G. Hartley 9896	Markham Rvr, W of Lae
Euphorbiaceae	<i>Macaranga fallacina</i>	T.G. Hartley 10848	N of Busu Rvr, NW of Lae

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Euphorbiaceae	<i>Macaranga quadriglandulosa</i>	T.G. Hartley 10178, T.G. Hartley 11845, E.E. Henty NGF9813	Burep Rvr, NE of Lae; Burep Rvr, NE of Lae; Busu LA near Lae;
Euphorbiaceae	<i>Macaranga tanarius</i>	A.G. Floyd 5718, T.C. Whitmore NGF24689, T.C. Whitmore NGF24685	Lae, Morobe; Buwapi Ck near Lae; Buwapi Ck near Lae
Euphorbiaceae	<i>Macaranga villosula</i>	T.G. Hartley 9894	Markham Rvr, W of Lae
Euphorbiaceae	<i>Mallotus chromocarpus</i>	J.S. Womersley NGF37483, H. Streimann NGF27832	Gabensis LR, Lae; Oomsis, Lae subdistrict
Euphorbiaceae	<i>Mallotus mollissimus</i>	T.G. Hartley 13073	Oomsis Ck, W of Lae
Euphorbiaceae	<i>Mallotus repandus</i>	H.K. Airy Shaw TGH12348	N side of Busu Rvr, N of Lae
Euphorbiaceae	<i>Manihot esculenta</i>	M.J. Coode NGF29888, T.G. Hartley 10128	Near Lae-Bumbu Rvr; Burep Rvr, NE of Lae
Euphorbiaceae	<i>Melanolepis multiglandulosa</i>	J.S. Womersley NGF8809, A.N. Millar GH69, T.G. Hartley 9644, J.S. Womersley 3178	Oomsis Ck, Lae-Bulolo Rd; Lae Botanic Gardens; Lae Botanical Gardens; Lae, Morobe
Euphorbiaceae	<i>Omphalea papuana</i>	T.G. Hartley 11929	Busu Rvr, N of Lae
Euphorbiaceae	<i>Phyllanthus</i>	J.S. Womersley NGF37126, T.G. Hartley 9622, J.S. Womersley NGF6244, T.G. Hartley 9827, T.G. Hartley 11860, A.N. Millar NGF14523, E.E. Henty NGF10607, E.E. Henty NGF42864, T.G. Hartley 10188, M. Coode NGF32834, T.G. Hartley 9622	Sankwep LA, Lae subdistrict; Near Butibum Rvr, N of Lae; Markham valley Rd, Lae; Burep Rvr, NE of Lae; Sum-Sum, Lae-Wau Rd; Lae, Morobe; Near Markham Point, Lae; Burep Rvr, NE of Lae; Bupu Rvr near Lae; Near Butibum Rvr, N of Lae
Euphorbiaceae	<i>Phyllanthus amarus</i>	E.E. Henty NGF11511	Markham Bridge, Lae
Euphorbiaceae	<i>Phyllanthus rubriflorus</i>	M. Coode NGF32834, J.S. Womersley NGF19137, Native NGF5488	Bupu Rvr near Lae; Near Markham Rvr bridge, Lae; Lae, Morobe
Euphorbiaceae	<i>Phyllanthus virgatus</i>	E.E. Henty NGF42864	Near Markham Point, Lae
Euphorbiaceae	<i>Ricinus communis</i>	T.G. Hartley 9876	Markham Rvr Valley, W of Lae
Euphorbiaceae	<i>Sauvagesia macranthus</i>	B. Conn, et al. 41	Lake Sambum-Boana, Lae subprovince
Euphorbiaceae	<i>Trigonostemon</i>	T.G. Hartley 9811	Near Butibum Rvr, N of Lae
Euphorbiaceae	<i>Trigonostemon hartleyi</i>	T.G. Hartley 11087, T.G. Hartley 12211	S of Busu Rvr, N of Lae; Near Butibum Rvr, N of Lae
Eupomatiaceae	<i>Eupomati laurina</i>	W.N. Takeuchi 9026, P. Katik LAE62248, A. Floyd 5503, T.G. Hartley 10101A	Forest Resarch Institute, Lae; Near Bumayong, Lae subdistrict; Busu Rvr, Lae; Busu Rvr, N of Lae
Fabaceae	<i>Abrus precatorius</i>	P. Katik s.n., H. Streimann NGF 47734, E.E. Henty NGF 10594.	Bumayong, Lae; Bulolo- Lae rd, NW of Bulolo; Nadzab, Lae;
Fabaceae	<i>Acacia holosericea</i>	A.N. Millar NGF18836	Scout Hall, Lae.
Fabaceae	<i>Adenanthera novo-guineensis</i>	H. Streimann & A. Kairo NGF47867, J.S. Womersley NGF43915, H. Streimann NGF47867	Timni Village, Lae – Bulolo Rd.; Sankwep River, Lae; Timni village Lae-Bulolo Rd
Fabaceae	<i>Aeschynomene</i>	M.J. Coode NGF46153	Markham Bridge near Lae
Fabaceae	<i>Aeschynomene indica</i>	A. Floyd NGF5549, T.G. Hartley 11777, T.G. Hartley 10489, E. Henty	Lae Wharf near Labu Barge landing; Burep Rvr, NE of Lae; Oomsis Ck, W of Lae; Agricultural Station near Lae
Fabaceae	<i>Aganope heptaphylla</i>	P. Katik NGF37991, B. Verdcourt 4963 & P. Katik	Singawa, Lae; Singawa Coconut Estate
Fabaceae	<i>Aganope leptophylla</i>	E.E. Henty NGF11660	Three Mile near Lae
Fabaceae	<i>Alysicarpus vaginalis</i>	T.G. Hartley 10266, E.E. Henty NGF11510	Near Butibum Rvr, N of Lae; Markham Bridge, Lae
Fabaceae	<i>Archidendron</i>	W. Takeuchi 16665, W. Takeuchi 16660	Lae, hills above 9-10 miles; Lae, hills above 9-10 miles
Fabaceae	<i>Canavalia rosea</i>	T.G. Hartley 10250A, H. Streimann NGF39403	Malahang, NE of Lae; Wagan, Lae
Fabaceae	<i>Codariocalyx gyrooides</i>	K.J. White NGF10184	Oomsis near Lae

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Fabaceae	<i>Derris koolgibberah</i> subsp. <i>pseudoinvoluta</i>	et al 53, J.S. Womersley NGF15395	Boana, near Lae; National Botanic Gardens, Lae
Fabaceae	<i>Eriosema</i>	J.S. Womersley NGF11691	Markham Point near Lae
Fabaceae	<i>Galactia muelleri</i>	E.E. Henty NGF10685	Erap near Lae
Fabaceae	<i>Glycine tomentella</i>	E.E. Henty NGF13640	Erap near Lae
Fabaceae	<i>Indigofera</i>	E.E. Henty NGF10591, E.E. Henty NGF10589	Erap Rvr near Lae; Near Lae
Fabaceae	<i>Indigofera hirsuta</i>	K. Kerenga LAE73812	Wampit LA, Lae subprovince
Fabaceae	<i>Indigofera trifoliata</i>	H. Streimann NGF44415, J. Womersley NGF3254, J. Wiakabu LAE70381	Sum-Sum, Lae-Bulolo Rd; Markham Valley near Lae; W of Lae-Bulolo Rd, SW shores of Lake Wanum
Fabaceae	<i>Lonchocarpus</i>	J. Vandenberg & E. Mann NGF42287	Simolala Is, Lae subdistrict;
Fabaceae	<i>Macroptilium actoperpereum</i>	J. Wiakabu LAE70341	Erap Agriculture Experimental Station, lae subdistrict
Fabaceae	<i>Maniltoa psilogyne</i>	C. Sewelu LAE76306	Lae Botanic Gardens, Lae.
Fabaceae	<i>Ormocarpum</i>	H. Streimann s.n. & A. Kairo, J. Wiakabu & T. Umba LAE72345	Waga Village, Lae; National Botanic Gardens, Lae
Fabaceae	<i>Ormocarpum orientale</i>	H. Streimann NGF39171, J. Vandenberg s.n. & E. Mann, T.G. Hartley 10469, K. Kerenga s.n., J. Vandenberg NGF42285, B. Verdcourt 4962 & P. Katik, T.G. Hartley 11064, J. Womersley NGF3252, D.B. Foreman & T. Whiffin LAE60340, S.E. Garrett-Jones ANU21024, E.E. Henty NGF11988,	Waga village, Lae; Simolala Is, Lae subdistrict; Singaua Plantation, E of Lae; Apo beach, Lae subprovince; Simolala Is, Lae subdistrict; Singawa, near Lae; Coast of Huon Gulf, NE of Lae; Red Hill near Lae; Markham Point, Lae; Markham Point, Lae; Markham Point, near Lae;
Fabaceae	<i>Paraderris elliptica</i>	E.E. Henty NGF57114	Markham Rd near Lae
Fabaceae	<i>Paraderris montana</i>	P. Van Royen NGF20077, E.E. Henty NGF20974	Markham Rvr Mouth, W of Lae; Lae Botanical Gardens
Fabaceae	<i>Pueraria phaseoloides</i>	E.E. Henty NGF16673	Lae Area
Fabaceae	<i>Pycnospora lutescens</i>	J.S. Womersley 3251	Markham Valley near Lae
Fabaceae	<i>Sesbania cannabina</i> var. <i>cannabina</i>	P. Van Royen NGF16500, H. Streimann NGF35869, A. Floyd 5653, H. Streimann NGF27883	Markham Rvr, near Markham Bridge, NW of Lae; Sankwep near Lae; Lae, Morobe; Markham Bridge, near Lae
Fabaceae	<i>Acacia auriculiformis</i>	R.D. Hoogland 6548, A.N. Millar 22.	Botanic Garden, Lae; Lae Botanic Gardens.
Fabaceae	<i>Acacia holosericea</i> var. <i>holosericea</i>	A.N. Millar NGF18836	Scout Hall, Lae.
Fabaceae	<i>Aeschynomene americana</i> var. <i>glandulosa</i>	E.E. Henty NGF16788	Lae Botanic Gardens, Lae.
Fabaceae	<i>Albizia lebbekoides</i>	J.S. Womersley LAE55325	Lae Botanic Garden, Lae
Fabaceae	<i>Albizia procera</i>	J.J. Havel & A. Kairo NGF17326, J.M. Simaga 1820, T.G. Hartley 10203A, J.M. Simaga 1821, J.S. Womersley NGF4648, A.N. Millar 94	Kamkun. Lae; Near Nazab Airport, Lae; Nadzab, W of Lae; Near Nadzab Airport, Lae City; Nadzab near Lae; Lae Botanic Gardens;
Fabaceae	<i>Alysicarpus ovalifolius</i>	H. Streimann NGF27882	Markham Bridge, near Lae
Fabaceae	<i>Archidendron</i>	P. Katik LAE77974, P. Katik LAE77975, H. Streimann LAE52760	Oomsis LR, near Oomsis Rvr, Lae; Gabensis LA, Lae; Buso, Lae subdistrict
Fabaceae	<i>Archidendron glabrum</i>	A.N. Millar NGF14412, K.J. White NGF10468, W. Takeuchi 17074, E.E. Henty NGF11930, J. Waine 60, E.E. Henty NGF11532, T.G. Hartley 11325, E.E. Henty NGF11930, C.T. White NGF1541, H. Streimann NGF47853, W. Takeuchi 17081	Oomsis LA, near Lae; Oomsis near Lae; Lae, hills near Taraka; Oomsis LA, near Lae; National Botanical Gardens, Lae; Atzera, Lae; Along Busu & Sankwep Rvrs N of Lae; Oomsis LA, near Lae; Lae, Morobe; Wampit Lae-Bulolo Rd; Lae, hills near Taraka
Fabaceae	<i>Archidendron lucyi</i>	H. Streimann NGF24351	Nouth of Mo Rvr, Lae Sub-district

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Fabaceae	<i>Archidendron parviflorum</i> var. <i>longipes</i>	T.G. Hartley 11325, J.S. Womersley NGF37428, T.G. Hartley 10551, B.C. Stone LAE53072	Along Busu and Sankwep Rvrs N of Lae; Sankwep LA, Lae; Oomsis Ck, W of Lae; Markham Rvr, detour near Lae;
Fabaceae	<i>Archidendron ptenopum</i>	A. Kairo NGF44212	Buso, Lae subdistrict
Fabaceae	<i>Caesalpinia bonduc</i>	J.S. Womersley 3177, Anonymous 5698, A.N. Millar NGF14536, leg. ign. LAE5698, H. Streimann NGF44309, T.G. Hartley 9732	Rainara Rvr, W of Lae; Oomsis FS, W of Lae; Red Hill, NW of Lae; S.I.L. Guesthouse Lae; Near Perinin Rvr Bridge, WSW of Lae; Situm LA, ENE of Lae; Sum Sum, Bulolo-Lae road, NNW of Bulolo
Fabaceae	<i>Calopogonium mucunoides</i>	Anonymous 5640, M.J. Coode NGF29522	Lae, Morobe; Wharf, Lae
Fabaceae	<i>Canavalia cathartica</i>	T.G. Hartley 10185	Burep Rvr, NE of Lae
Fabaceae	<i>Cassia</i>	J.S. Womersley NGF19035, G. Leach NGF33264	Garagos, Lae subdistrict; Lae Botanic Garden
Fabaceae	<i>Cassia bartoni</i>	A.N. Millar 25773 & A. Kairo, A. Kairo NGF45352, H. Streimann 27893 & A. Kairo, J. Wiakabu & Y. Lelean LAE72351, A. Kairo 27976 & J. Timothy	Gurakor, Lae subdistrict; Asubazo, SE of Garaina, Lae subdistrict; Markham Bridge, near Lae; National Botanic Gardens, Lae; Wampit, Lae subdistrict
Fabaceae	<i>Cassia fistula</i>	R.D. Hoogland s.n., T.G. Hartley 9655	Botanic Garden, Lae; Lae Botanic Garden
Fabaceae	<i>Cassia javanica</i>	T.G. Hartley 11019, A.N. Millar 18	Along Lai-Bulolo Rd, S of Garagos; Lae Botanic Gardens
Fabaceae	<i>Cassia renigera</i>	H. Streimann NGF27893, Wiakabu LAE72351	Markham Bridge near Lae; National Botanic Gardens, Lae
Fabaceae	<i>Castanospermum australe</i>	B.J. Conn, et al. 5902	Oomsis, SW of Oomsis, Lae
Fabaceae	<i>Centrosema molle</i>	G. Argent NGBF1033	Lae Area
Fabaceae	<i>Clitoria ternatea</i>	T.G. Hartley 9878	Markham Rvr Valley, W of Lae
Fabaceae	<i>Colvillea racemosa</i>	J.R. Croft s.n.	Erap Livestock Station, WNW of Lae
Fabaceae	<i>Crotalaria calycina</i>	T.G. Hartley 10276, J.S. Womersley NGF17611, J.S. Womersley NGF9074, J.S. Womersley s.n., E.E. Henty NGF16713, A.N. Vinas 319 & A. Kairo	Near Butibum Rvr, N of Lae; Bumbu Valley LR, Lae; Busu Rvr, Lae; National Botanic Gardens, Lae; Buso Village, Lae
Fabaceae	<i>Crotalaria ferruginea</i>	T.G. Hartley 10273, J. Wiakabu LAE70385	Near Butibum Rvr, N of Lae; Betwn Patep Village and Zenag on Lai-Bulolo Rd
Fabaceae	<i>Crotalaria goreensis</i>	Anonymous 5498	Lae Botanic Gardens, Lae
Fabaceae	<i>Crotalaria incana</i> subsp. <i>Incana</i>	E.E. Henty s.n.	Lae Area
Fabaceae	<i>Crotalaria incana</i> subsp. <i>purpurascens</i>	E.E. Henty NGF10652	Lae Area
Fabaceae	<i>Crotalaria micans</i>	C.T. White NGF1598	Lae Area
Fabaceae	<i>Crotalaria montana</i>	J. Womersley NGF3258, T.G. Hartley 12257	Markham Valley Rd, Lae; Marham Point Bluff, W of Lae
Fabaceae	<i>Crotalaria montana</i> var. <i>angustifolia</i>	T.G. Hartley 12257, S.E. Garrett-Jones ANU 21164	Markham Point Bluff, W of Lae; W of Lake Wanum, Lae subdistrict
Fabaceae	<i>Crotalaria pallida</i>	M.J. Coode NGF29512	Lae Area
Fabaceae	<i>Crotalaria quinquefolia</i>	A.N. Millar NGF9964, E.E. Henty NGF10657	Lae Botanic Garden, Lae.
Fabaceae	<i>Crotalaria spectabilis</i>	E.E. Henty NGF11548	Lae Botanic Garden, Lae.
Fabaceae	<i>Crotalaria spectabilis</i> subsp. <i>spectabilis</i>	A. Kairo s.n., E.E. Henty s.n.	Sokopo, S of Garaina, Lae subdistrict; Lae Botanic Gardens
Fabaceae	<i>Crotalaria zanzibarica</i>	K. Kerenga s.n., H. Streimann NGF39402, S.E. Garrett-Jones ANU 21039, B. Verdcourt 4949, E.E. Henty & G. Larivita, Verdcourt 4949	Apo beach, Lae subprovince; Wagan, Lae; Near Markham Bridge, Lae; B. Verdcourt 4949, SW of Milford Haven Wharf, Lae; SW of Milford Haven Wharf, Lae
Fabaceae	<i>Cynometra</i>	P.F. Stevens LAE58054	Bottom of Mt Shungol, Lae subdistrict
Fabaceae	<i>Cynometra katikii</i>	W.N. Takeuchi 9027, J. Wiakabu & Y. Lelean LAE72348, Verdcourt 5090 & E.E. Henty.	Lae Botanic Garden, Lae.
Fabaceae	<i>Cynometra ramiflora</i>	H. Streimann, et al. NGF39425, H. Streimann NGF45215	Buso, Lae subdistrict; Buso, Lae subdistrict

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Fabaceae	<i>Dalbergia koolgibberah</i> subsp. nov.	A.N. Millar NGF9960	Markham Rd near Lae
Fabaceae	<i>Dendrolobium umbellatum</i> var. <i>umbellatum</i>	T.G. Hartley 12262, E.E. Henty NGF11677, H. Streimann NGF27881, K.J. White TNG9551	S side of Busu Rvr, N of Lae; Busu Rvr, near Lae; Markham Bridge, near Lae; Busu Rvr, near Lae
Fabaceae	<i>Derris</i>	P. Katik LAE70799, H. Streimann NGF39461, P. Katik NGF37991, P. Katik NGF37995, M. Jacobs 9621, P. van Royen NGF20077, T.G. Hartley 10436	Markham Bridge, Lae; Wagan Village, Lae subdistrict; Singawa, Lae subdistrict; Singawa subdistrict; SE of Lae; Markham Rvr, W of Lae; Singaua Plantation, E of Lae
Fabaceae	<i>Derris pseudo involuta</i>	J.S. Womersley 15395	Lae Botanic Garden, Lae.
Fabaceae	<i>Derris trifoliata</i>	E.E. Henty NGF9868	Lae Area
Fabaceae	<i>Desmodium gangeticum</i>	E.E. Henty NGF10669	Erap, near Lae
Fabaceae	<i>Desmodium hentyi</i>	E.E. Henty NGF11922	Atzera Range near Lae
Fabaceae	<i>Desmodium heterocarpon</i> var. <i>strigosum</i>	J.S. Womersley NGF17677, E.E. Henty NGF9811, T.G. Hartley 10268	Busu Rvr, N of Lae; Busu LA, near Lae; Near Butibum Rvr, N of Lae
Fabaceae	<i>Desmodium sequax</i>	A.N. Millar NGF9973	Patep near Lae
Fabaceae	<i>Desmodium tortuosum</i>	E.E. Henty NGF11515, E.E. Henty NGF9816, J.S. Womersley	Nadzab, near Lae; Busu LA, near Lae; Lae, Morobe
Fabaceae	<i>Desmodium triflorum</i>	M. Coode NGF29582	Lae Area
Fabaceae	<i>Desmodium velutinum</i>	G. Argent, T.G. Hartley 11343, J.S. Womersley NGF17678, C.T. White NGF1560	Lae, Morobe; N side of Busu Rvr, N of Lae; Busu Rvr, N of Lae; Lae, Morobe
Fabaceae	<i>Dioclea hexandra</i>	J. Wiakabu LAE70384, J.S. Womersley NGF43664	S of Timini Village, Lae Bulolo Rd; Bumbu Rvr, near Lae
Fabaceae	<i>Entada phaseoloides</i>	et al. LAE74302, P. Katik NGF37993	Apo beach, Lae subprovince; Singawa, Lae subdistrict
Fabaceae	<i>Erythrina</i>	A.N. Millar NGF13818, E.E. Henty NGF13665	Wanaru Plantation near Lae; Markham Rvr, Lae
Fabaceae	<i>Erythrina fusca</i>	J. Womersley NGF3223, J. Wiakabu LAE72340	Labu near Lae; Lae Botanic Gardens
Fabaceae	<i>Falcataria moluccana</i>	P. van Royen N.G.F. 16494, J.S. Womersley NGF43671, E.E. Henty N.G.F. 14386	Leiwomba Plantation, Lae; Gurakor, Lae subdistrict; Oomisis LA, near Lae
Fabaceae	<i>Flemingia parviflora</i>	J. Womersley NGF3261	Markham Valley near Lae
Fabaceae	<i>Hylodesmum laxum</i>	E.E. Henty NGF11933	Oomsis LA near Lae
Fabaceae	<i>Indigofera suffruticosa</i>	H. Streimann NGF47879	Erap Rvr Bridge, Lae subdistrict
Fabaceae	<i>Inocarpus</i>	J.S. Womersley NGF9087, T.G. Hartley NGF12288, J.S. Womersley NGF37152, T.G. Hartley 11073	Busu Area, Lae; Near Busu Rvr, NE of Lae; Bumbu Rd, Lae; Huon Gulf, NE of Lae
Fabaceae	<i>Inocarpus fagifer</i>	P. Homot LAE76324, E.E. Henty NGF11521, E.E. Henty NGF11521, E.E. Henty 14845A, J. Waine 39	Lae Botanical Gardens, Lae; Maralumi Ck, Erap.
Fabaceae	<i>Inocarpus papuanus</i>	J. Wiakabu LAE72334, P. Katik NGF46790	Lae Botanical Gardens, Lae; Bupo Rvr, near Lae.
Fabaceae	<i>Intsia</i>	T.G. Hartley 9740	Malahang coast, NE of Lae
Fabaceae	<i>Intsia bijuga</i>	T.G. Hartley 9740, F.T. Vickery NGF1400, J.S. Womersley NGF14199, A. Floyd 5721, J.S. Womersley 3275, A.N. Millar GH1	Malahang coast, NE of Lae; Foothills near Yalu, Lae; Near Oomsis, Lae-Wau Rd; Lae Botanical Gardens; Yalu, near Lae; Lae Botanical Gardens
Fabaceae	<i>Kingiodendron alternifolium</i>	P. Katik NGF46873	Buaru Ck, Lae
Fabaceae	<i>Koompassia grandiflora</i>	H. Streimann NGF24276, J.R. Croft & Y. Lelean LAE68565, J.S. Womersley LAE55350	Ana village, SW of Morobe; Natter Bay LA, SE of Lae; Garagos Valley near Wampit, Lae subdistrict
Fabaceae	<i>Macropsychanthus lauterbachii</i>	A.N. Miller NGF13855, J. Wiakabu & T. Umba LAE 70384, A.N. Miller NGF13819, P. Van Royen NGF21061	Bumbu Rvr near Lae; S of Timini village; Bumbu Rvr near Lae, Atzera Ra

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Fabaceae	<i>Macropsychanthus lauterbachii</i> var. <i>hirsutus</i>	A.N. Millar NGF13855, A.N. Millar NGF13819	Bumbu Rvr near Lae
Fabaceae	<i>Macroptilium lathyroides</i>	P. Katik LAE74819, M.J. Coode NGF46157	Bumayong, Lae subprovince; Lae, Lae subdistrict
Fabaceae	<i>Maniltoa</i>	J. Orabi LAE76313, W. Takeuchi 5632	Lae Botanical Gardens; University of Technology, Lae
Fabaceae	<i>Maniltoa</i>	W.N. Takeuchi 6955, W.N. Takeuchi 7071, W.N. Takeuchi 7197, W.N. Takeuchi 7195, S.E. Garrett-Jones ANU 21188, S.E. Garrett-Jones ANU 21195, E.E. Henty NGF20984, J. Womersley NGF3198, T.G. Hartley 9931, T.G. Hartley 11030, J.M. Simaga U.T. 1793, T.G. Hartley 12340, J.S. Womersley NGF48650, J.S. Womersley NGF43869, E.E. Henty NGF42905	Forest Resarch Institute Botanical Gardens; Forest Resarch Institute Botanical Gardens; Forest Resarch Institute Botanical Gardens; Forest Research Institute Botanical Gardens; Forest Research Institute Botanical Gardens; Yanamugi Lake, Lae subdistrict; Lae Botanical Gardens; Galu Rd, Lae; Near Butibum Rvr, N of Lae; S of Busu Rvr, N of Lae; university of Technology, Lae; Near Burep Rvr, NE of Lae; Garagos Hill on Wagan Rd, Lae subdistrict; Gurakor, Lae-Wau Rd; Lae Botanical Gardens
Fabaceae	<i>Maniltoa lenticellata</i>	J.S. Womersley s.n. & J. Vandenberg, P. Katik s.n., T.G. Hartley 12340, P. Van Royen NGF20066, A.N. Millar s.n.	Kassam Pass, Lae subdistrict; Buaru Ck, Lae subdistrict; Near Burep Rvr, NE of Lae; Lae-Markham Rd; Kassam Pass, Lae subdistrict
Fabaceae	<i>Maniltoa mariettae</i>	J. Womersley 3198	Yalu near Lae
Fabaceae	<i>Maniltoa psilogyne</i>	O.G. Gideon LAE57575, P. Katik NGF37987, P. Katik NGF37985, T.G. Hartley 9931, P. Katik NGF37987, J. Wiakabu LAE72346, E.E. Henty s.n., K. Fazang LAE78711, J.S. Womersley 46456 & P. Katik,	Lae Botanic Garden, Lae; Gurakor LR; Butibam Rvr.
Fabaceae	<i>Maniltoa schefferi</i>	H. Streimann 44168, J.J Havel 17309, J. Wiakabu & Y. Lelean LAE72356, T.G. Hartley 11030	Lasanga Is, Lae subdistrict; Oomsis Ck, Lae subdistrict; Lae Botanical Gardens; Sankwep LA, Lae subdistrict; S of Busu Rvr, N of Lae
Fabaceae	<i>Millettia</i>	E.E. Henty NGF11574	Markham Rd near Lae
Fabaceae	<i>Millettia pinnata</i>	K. Kerenga et al. LAE74291, J.S. Womersley & J. Vandenberg NGF37196, H. Streimann NGF44278, C.T. White NGF1553, P. Katik NGF46782, J.S. Womersley NGF37109	Apo beach, Lae subprovince; Kassam Pass, Lae subdistrict; Lasanga Is, Lae subdistrict; Lae, Morobe; Aruki Village, Lae subdistrict; Bumbu Rvr, NE from Lae
Fabaceae	<i>Mimosa diplosticha</i> var. <i>diplosticha</i>	H. Streimann NGF25884, Anonymous, J.H. Willis	Banglum, Lae-Bulolo Rd; National Botanic Gardens, Lae; Butibum Rd Bridge betwn Lae and High Tech Institute
Fabaceae	<i>Mimosa invisa</i>	H. Streimann NGF25884	Banglum, Lae-Bulolo Rd
Fabaceae	<i>Mimosa pigra</i>	E.E. Henty NGF12423	Lae Botanic Garden, Lae.
Fabaceae	<i>Mimosa pudica</i>	M.J. Coode NGF29506, T.G. Hartley 10267, L. Kusunan 8, S.E. Garrett-Jones ANU 21037, L. Oki LAE79260	Lae, Morobe; Near Butibum Rvr, N of Lae; National Botanical Garden, Lae; Near Markham Bridge, Lae; National Botanical Garden, Lae
Fabaceae	<i>Mucuna albertisii</i>	C.T. White NGF1595, P. Van Royen NGF16324	Milford Haven near Lae; Red Hill Rd, Lae-Oomsis Rd
Fabaceae	<i>Mucuna bennettii</i>	A.N. Millar NGF12288	Lae Botanic Garden, Lae.
Fabaceae	<i>Mucuna brachycarpa</i>	J.S. Womersley NGF37111	Lae Botanic Gardens, Lae.
Fabaceae	<i>Mucuna gigantea</i>	J. Wiakabu LAE70382	Lake Wanum, W of Lae-Bulolo Rd
Fabaceae	<i>Mucuna novoguineensis</i>	A.N. Millar NGF18776, A.N. Millar NGF14636, H. Okada 4346, B.C. Stone LAE53809, J.S. Womersley NGF3210	Lae Botanical Gardens; Lae Botanical Gardens; Gumboak Strm, Busu Rvr, Lae; Lae, Morobe; Lae, Morobe
Fabaceae	<i>Mucuna platyphylla</i>	C.T. White, et al. NGF1595	Milford Haven, near Lae
Fabaceae	<i>Mucuna pruriens</i> subsp. <i>Novoguineensis</i>	T.G. Hartley 10172, A. Floyd 5783, M. Coode NGF29884	Burep Rvr, NE of Lae; Yalu near Lae; Busu near Lae
Fabaceae	<i>Mucuna schlechteri</i>	H. Streimann NGF24308	Ana Village, SW of Morobe
Fabaceae	<i>Mucuna warburgii</i>	A.N. Millar NGF12288	Lae Botanic Gardens, Lae.
Fabaceae	<i>Mundulea sericea</i>	K.R. Woolliams NGF29375	Lae Botanic Gardens, Lae.

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Fabaceae	<i>Pachyrhizus erosus</i>	C.Can Den Bos. NGF49269	Bubia Agricultural Station, Lae subdistrict
Fabaceae	<i>Paraserianthes falcataria</i> subsp. <i>Falcatoria</i>	J.S. Womersley NGF43671, P. Van Royen NGF16494	Gurakor, Lae subdistrict; Leiwomba Plantation, Atzera Range near Lae
Fabaceae	<i>Peltophorum pterocarpum</i>	R.D. Hoogland 6474	Lae Botanic Garden, Lae.
Fabaceae	<i>Pericopsis mooniana</i>	P. Van Royen NGF20096, Wiakabu Iwagu LAE72329, J.J. Havel NGF17302	Lae Botanical Gardens, Lae.
Fabaceae	<i>Phaseolus</i>	A. Floyd 5656	Lae Area
Fabaceae	<i>Phaseolus lunatus</i>	J.S. Womersley NGF19038	Patep, Lae
Fabaceae	<i>Phylacium bracteosum</i>	P. Katik LAE70795, J.S. Womersley NGF13452, P. Katik LAE74822, T.G. Hartley 10150	Near Bumayong settlement, Lae; Busu Rvr near Lae; Bumayong, Lae subdistrict; Burep Rvr, NE of Lae
Fabaceae	<i>Piptadenia novoguineensis</i>	E.E. Henty NGF9887	Markham Rd near Lae
Fabaceae	<i>Prosopis insularum</i>	H. Streimann NGF27915 & A. Kairo	Markham Point, near Lae
Fabaceae	<i>Prosopis insularum</i> subsp. <i>novoguineensis</i>	T.G. Hartley 10957, J.S. Womersley NGF11835	S Side of Markham Rvr, W Of Lae; Oomsis Ck, Lae
Fabaceae	<i>Pterocarpus indicus</i>	W. Takeuchi 4309, T.G. Hartley 9737, B. Geana BG004 & S. Sennart, J. Vandenberg NGF42134, T.G. Hartley TGH9611, E.E. Henty NGF20622, M. Galore NGF17558, K. Kerenga LAE74475, E. Gray NGF3316, Anonymous NGF263, F.T. Vickery NGF1419, C.K. Ingram NGF906, J.S. Womersley NGF15393, W. Takeuchi 4309, M. Galore NGF17558, J. Vandenberg NGF42134, F.T. Vickery NGF1419, C.K. Ingram NGF906, L.S. Smith NGF1184, E. Gray NGF3316, Anonymous NGF263, K. Kerenga LAE74475, T.G. Hartley 9611, E.E. Henty NGF27145, T.G. Hartley 9737, E.E. Henty NGF20622	Near Unitech Campus; Malahang along coast, NE of Lae; National Botanic Garden, Lae; Lae-Bulolo Rd; Lae; N Side of Markham Rvr; Abunaka Plantation near Lae; Yalu near Lae; Betwn Busu & Bupu Rvrs, N of Lae
Fabaceae	<i>Pueraria lobata</i>	H. Streimann NGF47878, Anonymous, E.E. Henty NGF10592	Erap Rvr Bridge, Lae subdistrict; Near Busu Rvr, Lae; Erap Rvr near Lae
Fabaceae	<i>Pueraria phaseoloides</i> f. <i>sericans</i>	Anonymous 5689	Lae Area
Fabaceae	<i>Rhynchosia acuminatissima</i>	W. Takeuchi 17073	Hills near Taraka, Lae
Fabaceae	<i>Samanea saman</i>	R.D. Hoogland 6533	Along Markham Rd, Lae
Fabaceae	<i>Saraca declinata</i>	J. Wiakabu & T. Umba LAE72333	Strip behind Gulf Motel, Botanic Gardens, Lae
Fabaceae	<i>Saraca indica</i>	J. Wiakabu & T. Umba LAE72338	Corner of Milfordhaven & Huon rd, Lae
Fabaceae	<i>Schleinitzia novo-guineensis</i> var. <i>novo-guineensis</i>	T.G. Hartley 10957, J.S. Womersley 11835, E.E. Henty N.G.F. 9887, T.G. Hartley 10957A, H. Streimann NGF27915	S side of Markham Rvr, W of Lae; Oomsis Ck, Lae; Markham Rd near Lae; Along Markham Rvr, W of Lae; Markham Point near Lae
Fabaceae	<i>Senna alata</i>	T.G. Hartley 10103, T.G. Hartley 12188	Bewapi Ck, W of Lae; S side of Busu Rvr, N of Lae
Fabaceae	<i>Senna hirsuta</i>	E.E. Henty NGF10511	Lae Area
Fabaceae	<i>Senna occidentalis</i>	Anonymous 5499	Lae Botanic Gardens, Lae
Fabaceae	<i>Serianthes hooglandii</i>	B.C. Stone LAE53556	Lae Botanic Gardens, Lae.
Fabaceae	<i>Serianthes hooglandii</i> subsp. <i>hooglandii</i>	B.C. Stone 10256	Lae Botanic Garden, Lae.
Fabaceae	<i>Sesbania grandiflora</i>	P. Van Royen NGF16471	Lae Botanic Gardens, Lae
Fabaceae	<i>Strongylodon lucidus</i>	P. Van Royen NGF16336, J.S. Womersley NGF3175, leg.ign. NGF5687, A.N. Millar NGF14535, A.N. Millar NGF14545, Anonymous 5687, J.S. Womersley NGF3175	Leiwomba Planation, Lae-Markham Rd; Lae, Morobe; Lae, Morobe; Coronation Drive, Lae; Coronation Drive, Lae; Lae, Morobe; Lae, Morobe
Fabaceae	<i>Stylosanthes</i>	P. Van Royen NGF20091, NGF20091	Mumeng Plateau, Lae-Zenag; Mumeng plateau, Lae

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Fabaceae	<i>Tamarindus indica</i>	W.N. Takeuchi 7196	Forest Resrch Institute Botanical Gardens, Lae
Fabaceae	<i>Tephrosia</i>	S.E. Garrett-Jones ANU21123, T.G. Hartley 11876, A. Floyd 5390	Lake Wanum, NE shore, Lae subdistrisct; Near village of Yalu, NW of Lae; Markham River, Lae
Fabaceae	<i>Tephrosia candida</i>	A. Floyd 5390	Markham Rvr, Lae
Fabaceae	<i>Tephrosia purpurea</i>	H. Streimann NGF47875, E.E. Henty NGF10590, J. Wiakabu LAE73367, H. Streimann NGF47875	Near Nadzab Airstrip, Lae; Erap Rvr, near Lae; Near Erap bridge along Boana Rd, Lae subprovince; Near Nadzab Airstrip, Lae
Fabaceae	<i>Tephrosia purpurea var. pubescens</i>	T.G. Hartley 11876, E.E. Henty NGF10590	Near village of Yalu, NW of Lae; Near Lae
Fabaceae	<i>Tephrosia vestita</i>	C.T. White NGF1507	Lae Area
Fabaceae	<i>Uraria lagopodioides</i>	M.J. Coode NGF29541, H. Streimann NGF30722	Markham Bridge near Lae; Old Lae Rd, Red Hill, Oomsis, Lae
Fabaceae	<i>Vigna marina</i>	H. Streimann NGF39404, C.T. White NGF1596, I. Favasalu NGF47779, E.E. Henty NGF9867	Wagan, Lae; Milford Haven near Lae; Musik Is. near Buso Village, Lae; Lae, Morobe
Fabaceae	<i>Vigna umbellata</i>	E.E. Henty NGF49841	Lae Area
Fabaceae	<i>Zornia diphylla</i>	H. Streimann NGF47874	Near Nadzab Airstrip, Lae subdistrict
Fagaceae	<i>Lithocarpus</i>	C. Ridsdale NGF31622, A.N. Vinas 300 & A. Kairo, P. Katik LAE64191 & F. Essig, A.N. Millar NGF23865, R.J. Johns NGF47443, H. Streimann & D.B. Foreman NGF24492, E.E. Henty NGF14875, M. Galore & P.F. Stevens LAE50186, A. Kairo NGF44213	Kui, Lae subdistrict; Head of Buso Rvr, S of Buso Camp, Lae; Situm LA, Lae; Gurakor. Lae subdistrict; S of Oomsis, Lae subdistrict; Buso, Lae subdistrict; Boana, Lae subdistrict; N of Lae; Buso, Lae subdistrict
Fagaceae	<i>Lithocarpus celebicus</i>	E.E. Henty NGF14385, J.S. Womersley NGF17622, N.M.U. Clunie & P. Katik LAE63028, M. Galore & P.F. Stevens LAE50186, E.E. Henty NGF14385, K.J. White NGF9555, P. Van Royen NGF16326, T.G. Hartley 11085, J.S. Womersley NGF17622, N.M.U. Clunie LAE63404	Oomsis LA near Lae; Oomsis LA, Lae; Garagos Mountain LR, Lae subdistrict; 2 mile N of Lae; Oomsis LA near Lae; Oomsis near Lae; Oomsis LA near Lae; Busu Rvr, N Of Lae; Oomsis LA, Lae subdistrict; Garagos Mountain LA, Lae subdistrict
Fagaceae	<i>Lithocarpus lauterbachii</i>	J.S. Womersley NGF15314	Lae-Wau Rd, near Lae
Fagaceae	<i>Castanopsis acuminatissima</i>	M. Jacobs 9557, J.S. Womersley & J. Vandenberg NGF37197, T.G. Hartley 10509	SE of Lae on the coast; Kassam Pass, Lae subdistrict; Oomsis Ck, W of Lae
Fagaceae	<i>Lithocarpus megacarpus</i>	P.F. Stevens LAE58029	Kisingam, Mt Dilmargi, Lae
Fagaceae	<i>Lithocarpus vinkii</i>	A.N. Millar NGF23865, C. Ridsdale NGF31622, J.R. Croft LAE68493, A. Kairo NGF44213	Gurakor, Lae subdistrict; Kui, Lae subdistrict; Natter Bay LA, SE of Lae; Buso, Lae subdistrict
Flacourtiaceae	<i>Casearia</i>	A.N. Millar NGF11739, A.N. Millar GH65, A.N. Millar NGF12032, R.J. Johns NGF47003, P. Katik s.n. & K. Taho	Wanaru Plantation, Markham Rd, Lae; Lae Botanic Garden; Oomsis, Lae; Oomsis ILA, Lae
Flacourtiaceae	<i>Flacouria zippelii</i>	E.E. Henty NGF11524, T.G. Hartley 11894, E.E. Henty NGF10691, E.E. Henty NGF14390, T.G. Hartley 9884, E.E. Henty NGF10555, E.E. Henty NGF11524	Maralumi Ck, Erap, Lae; Near Butibum Rvr, N of Lae; Erap near Lae; Oomsis LA near Lae; Near Butibum Rvr, N of Lae; Near Lae; Erap near Lae
Flacourtiaceae	<i>Homalium</i>	D. Fryar, J.S. Womersley NGF37477	Lae, Morobe; Buheim Rvr, W of Lae
Flacourtiaceae	<i>Homalium foetidum</i>	T.G. Hartley 10122A, M. Coode NGF29553, W. Williams NGF128, A. Floyd 5484, A. Floyd 5703, H. Streimann 8372, J.S. Womersley NGF37477, T.G. Hartley 10122, D. Fryar NGF3359, W. Takeuchi 17113, W. Williams NGF128	NE along Butibum Rvr, Lae; Lae, Morobe; Busu Rvr Area, NE of Lae; Lae, Morobe; Lae, Morobe; Ridge betwn Busu & Butibum Rvrs, NNW of Lae; Buheim Rvr, W of Lae; Burep Rvr NE of Lae; Busu Rvr near Lae; Hills near Taraka, Lae; Busu Rvr Area NE of Lae
Flacourtiaceae	<i>Itoa staphii</i>	J.S. Womersley & P. McEwin NGF37423, J.S. Womersley NGF19059	Sankwep LA, Lae subdistrict; Garagos near Wampit, near Lae

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Flacourtiaceae	<i>Ryparosa</i>	T.G. Hartley 11443, P. Katik & F. Steven NGF46786, T.G. Hartley 10043	N of Lae; Sunwep LA, Lae subdistrict; Oomsis Ck, W of Lae
Flacourtiaceae	<i>Ryparosa javanica</i>	K.J. White NGF10484, P. Katik s.n., E.E. Henty NGF11927	Oomsis, near Lae; Sunkwep LR, Lae sub-district; Oomsis LA near Lae
Flacourtiaceae	<i>Casearia clutiafolia</i>	L. Kusunan 2, Takeuchi W. N. 8941, T.G. Hartley 9929, T.G. Hartley 11051, T.G. Hartley 10834, J. Vandenberg NGF42297, Anonymous 5519, T.G. Hartley 9887, T.G. Hartley 10958, E.E. Henty NGF10605, J.S. Womersley 14200, H. Streimann 8652, E.E. Henty NGF11542, E.E. Henty NGF14378, K.J. White 9548	Lae Botanic Gardens, Lae; near the Butibum Rvr; Water Kiseling near Lae; Markham Rvr, W of Lae; Nadzab near Lae; near Oomsis, Wangang, SE of Lae; Maramumi Ck, near Lae; Busu Rvr near Lae.
Flacourtiaceae	<i>Casearia rhynchophylla</i>	T.G. Hartley 10417, T.G. Hartley 11090	Oomsis Ck, W of Lae; S of Busu Rvr, N Of Lae
Flacourtiaceae	<i>Flacouria clutifolia</i>	H. Streimann 8652	Wagang, SE of Lae
Flacourtiaceae	<i>Flacourtia rukam</i>	P. Oliver LAE86443, P. Marai LAE76356, P. Lamei LAE89500	Lae Botanic Garden, Lae.
Flacourtiaceae	<i>Pangium edule</i>	W. Takeuchi 16550; T.G. Hartley TGH10073	Lae; Bewapi Ck, W of Lae
Flacourtiaceae	<i>Ryparosa calotricha</i>	T.G. Hartley 12337, E.E. Henty NGF11927, T.G. Hartley 10043, T.G. Hartley 11359, T.G. Hartley 12337, T.G. Hartley 11359	Near Burep Rvr, NE of Lae; Oomsis LA near Lae; Oomsis Ck, W of Lae; S of Garagos Rvr, Lae-Bulolo Rd; Near Burep Rvr, NE of Lae; S of Garagos Rvr, Lae-Bulolo Rd
Flagellariaceae	<i>Flagellaria indica</i>	H. Streimann NGF44283, Anonymous NGF4718	Lasanga Is, Lae subdistrict; Lae Botanic Gardens
Gentianaceae	<i>Cotylanthera tenuis</i>	H. Streimann NGF47947	Siwore, SE of Garaina, Lae subdistrict
Gentianaceae	<i>Exacum tetragonum</i>	T.G. Hartley 13080, P. van Royen NGF20078	Below Red Hill, W of Lae; Red Hill, Lae-Bulolo Rd
Gentianaceae	<i>Fagraea</i>	C. Ridsdale NGF31657, T.G. Hartley 12201, A.N. Millar NGF18834, E.E. Henty NGF12425, P. Katik LAE70705, T.G. Hartley 10141, E.E. Henty NGF11681	Helicopter Site No 2, Lae subdistrict; Near Butibum Rvr, N of Lae; Lae Botanic Gardens; Lae, Morobe; Lae, Morobe; Lae Botanic Gardens; Burep Rvr, NE of Lae; Markham Point near Lae
Gentianaceae	<i>Fagraea ceilanica</i>	P. Lamei LAE89452 & K. Fazang, K. Taho LAE72399, Anonymous 4652, J.R. Croft LAE68501, W.N. Takeuchi 9049	Lae Botanic Gardens; Natter Bay LA, SE of Lae.
Gentianaceae	<i>Fagraea fragrans</i>	A.N. Millar GH96	Lae Botanic Gardens, Lae
Gentianaceae	<i>Fagraea obovata</i>	A.N. Millar NGF13854	Lae Botanic Gardens, Lae
Gentianaceae	<i>Fagraea racemosa</i>	A.N. Millar NGF18859, A.N. Millar GH88, O.K. Paul LAE87532, Anonymous NGF4716, T.G. Hartley 9685, J.R. Croft LAE68510, W. Takeuchi 5631	Lae Botanic Gardens; Below Red Hill, W of Lae; Natter Bay LA, SE of Lae; Near Bumayong, Lae
Gentianaceae	<i>Fagraea woodiana</i>	J.S. Womersley NGF15313, A.N. Millar NGF18834	Lae-Wau Rd, Lae; Lae Botanic Gardens
Gentianaceae	<i>Fagraea elliptica</i>	T.G. Hartley 10964	Markham Rvr Point, W of Lae
Gesneriaceae	<i>Aeschynanthus kermesinus</i>	H.F. Winters 110	Near Partpe River, Lae
Gesneriaceae	<i>Agalmyla chalmersii</i>	P.F. Stevens LAE58015	Kisingam, Mt Dilmargi, Lae
Gesneriaceae	<i>Aeschynanthus</i>	T.G. Hartley 10426, P. van Royen s.n. & A.N. Millar, T.G. Hartley 10444, R.D. Hoogland 6461, H. Streimann NGF39146, P. Katik s.n. & K. Taho, J.R. Croft s.n. & Y. Lelean, E.E. Henty NGF11908, W. Takeuchi 17036, J.R. Croft LAE68559	Oomsis Ck, W of Lae; Zatari, SE Boana, Lae; Red Hill, W of Lae; Botanic Garden, Lae; Sum Sum Lae-Wau Rd; Momsalom Village, Lae Subdistrict; Kasanombe, road to Momsalom Village; Natter Bay LA, SE of Lae; Oomsis Ck, W of Lae; Range above Markham Point, Lae; Lae, hills near Taraka; Natter Bay LA,SE of Lae
Gesneriaceae	<i>Boea</i>	H. Streimann NGF44302, I. Favasalu NGF47781, J. S. Womersley LAE55399	Lasanga Is, Lae subdistrict; I. Buso village, Lae; Waria Rvr Gorge, Garaina, Lae subdistrict.

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Gesneriaceae	<i>Cyrtandra</i>	T.G. Hartley 12194, E.E. Henty NGF11954, T.G. Hartley 10455, E.E. Henty NGF11531, P. Van Royen NGF16486, A.N. Millar NGF13859, H. Okada 4227, A. Floyd 5590, E.E. Henty NGF14824	W of Lae; E.E. Oomsis LA near Lae; Oomsis Ck, W of Lae; E.E. Henty NGF11531, Atzera Range near Lae; Oomsis LA near Lae; Near Lae; Gabensis LA, Oomsis, Lae; A. Floyd 5590, Bewapi Ck near Lae
Gesneriaceae	<i>Cyrtandra</i>	J.S. Womersley NGF13426, R.F. Thorne 27463, J.S. Womersley NGF24776, E.E. Henty NGF11956, A.N. Millar NGF12218, H. Streimann NGF45245	Markham Rvr, Lae; Near Busu Rvr Bridge, NE of Lae; Oomsis LA near Lae; Oomsis LA near Lae; Oomsis near Lae; Patep No 2 Lae-Mumeng Rd
Gesneriaceae	<i>Cyrtandra wariana</i>	W. Takeuchi 17072	Hills near Taraka, Lae
Gesneriaceae	<i>Rhynchotechum</i>	J.S. Womersley NGF24776	Oomsis LA, near Lae
Gleicheniaceae	<i>Dicranopteris linearis var. altissima</i>	J.R. Croft 457, A. Floyd 5667, J.R. Croft 410	E of Mongi Rvr, Huon Peninsula, E of Lae; Markham Point, near Lae; Natter Bay, SE of Lae
Gleicheniaceae	<i>Gleichenia</i>	F.J. Taylor s.n.	Markham Rvr near Lae
Gleicheniaceae	<i>Gleichenia milnei</i>	J.R. Croft 431	E of Mongi Rvr, Huon Peninsula, E of Lae
Gnetaceae	<i>Gnetum</i>	C.T. White NGF1539, T.G. Hartley 10300, H. Streimann 8619, A. Floyd NGF5707, D. Forman, K. Farley & I. Noble NGF45847, M. Coode NGF32729, J.S. Womersley NGF19134, T.G. Hartley 9874, A.N. Millar NGF13900	Lae, Morobe; Bunga Rvr, NE of Lae; Markham-Oomsis Ridge, W of Lae; Markham Point, near Lae; Butibum LA, Lae subdistrict; Busu LA, Lae; Gnalangumbum, N of Lae; Near Butibum Rvr, N of Lae; Red Hill, Lae
Gnetaceae	<i>Gnetum costatum</i>	H. Streimann 8619, H. Streimann NGF23434, C. Ridsdale NGF31694	Markham-Oomsis Ridge, W of Lae; Ana Village, SW of Morobe; Near Maiama village, Lae subdistrict
Gnetaceae	<i>Gnetum gnemon var. ovalifolium</i>	T.G. Hartley 10602	N side of Markham Rvr, W of Lae
Gnetaceae	<i>Gnetum gnemonoides</i>	M. Jacobs 9690, M. Jacobs 9560,	Opposite Lasanga Is, SE of Lae; Opposite Lasanga Is, SE of Lae
Gnetaceae	<i>Gnetum gnemon</i>	T.G. Hartley 9769A, J. Womersley s.n., M. Galore LAE73011, K. Damas & P. Katik LAE74652, S.E. Garrett-Jones ANU 21104, J.R. Croft 68531 & Y. Lelean, H. Okada 4238, R.J. Johns NGF47434, M. Coode NGF29555, J.S. Womersley NGF43924, B.G. Briggs 3813, J.S. Womersley NGF3269, T.G. Hartley 9874	Near Markham Rvr, W of Lae; Yalu, near Lae; Boana Rd, Lae; Oomsis near Lae; Lake Wanum, Lae subdistrict; Natter Bay LA, SE of Lae; Gabensis LA, Oomsis, Lae; Oomsis near Lae; Bupu Rvr, E of Lae; Tributary of Busu Rvr; Gabensis LA, W of Lae; Yalu, near Lae; Near Butibum Rvr, N of Lae
Gnetaceae	<i>Gnetum latifolium</i>	J.R. Croft & Y. Lelean LAE68544, T.G. Hartley 12230, T.G. Hartley 10300	Natter Bay LA, SE of Lae; Near Yalu, NW of Lae; Bunga Rvr, NE of Lae
Gnetaceae	<i>Gnetum latifolium var. latifolium</i>	A.N. Millar NGF13900, J.S. Womersley NGF19134	Red hill, Lae; Gnalangumbum, N of Lae
Goodeniaceae	<i>Scaevola sericea</i>	H. Streimann s.n. & A. Kairo, E.E. Henty s.n., T.G. Hartley 9722, H. Streimann s.n., A.J. Hart 3314	Waga Village, Lae subdistrict; Lae, Morobe; Coastline at Malahang, NE of Lae; Lesanga Is, Lae subdistrict; Lae, Morobe
Goodeniaceae	<i>Scaevola taccada</i>	T.G. Hartley 9722, A.J. Hart NGF3314, E.E. Henty NGF14341, P. Van Royen NGF16317, H. Streimann NGF39161, C.T. White NGF1504, H. Streimann NGF44279	Malahang, NE of Lae; Lae, Morobe; Lae, Morobe; Solomon Sea Beach, E of Voco Point, Lae; Waga village, Lae subdistrict; Malahang Beach near Lae; Lasanga Is, Lae subdistrict
Grammitidaceae	<i>Grammitis pleurogrammoides</i>	J.R. Croft 920 & J.I. Marsh	Gurakor Ck, WSW of Lae
Grammitidaceae	<i>Grammitis torricelliana</i>	J.R. Croft 921 & J.I. Marsh	Gurakor Ck, WSW of Lae
Grammitidaceae	<i>Loxogramme scolopendrioides</i>	J.R. Croft 902 & J.I. Marsh, J.R. Croft 429A	Sankwep Rvr, N of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae
Grammitidaceae	<i>Ctenopteris</i>	J.R. Croft 919 & J.I. Marsh	Gurakor Ck, WSW of Lae
Grammitidaceae	<i>Ctenopteris repandula</i>	J.R. Croft 923 & J.I. Marsh	Gurakor Ck, WSW of Lae
Grammitidaceae	<i>Xiphopteris pumilum</i>	J.R. Croft 922 & J.I. Marsh	Gurakor Ck, WSW of Lae

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Haloragaceae	<i>Gonocarpus chinensis</i> subsp. <i>chinensis</i>	J.S. Womersley & E.E. Henty NGF11679, T.G. Hartley 12256	Markham Point, near Lae; Markham Point, W of Lae
Haloragidaceae	<i>Laurembergia coccinea</i>	P.F. Stevens 747	Markham Point, Lae
Heliconiaceae	<i>Heliconia papuana</i>	A.D. Poulsen 2698, H. Okada 4268	Yalu village, NW of Lae
Heliconiaceae	<i>Heliconia</i>	J.S. Womersley NGF43724	Sankwep Rvr, E of Lae
Hernandiaceae	<i>Hernandia</i>	J.S. Womersley NGF19175, A.N. Millar NGF18872	Lae Coastal Plain; Lae Botanical Gardens
Hernandiaceae	<i>Hernandia nymphaeifolia</i>	M. Heads 374, T.G. Hartley 11076, P. Van Royen NGF16470, R.W. Evans 44, T.G. Hartley 11076A	Lae area; Coastline, NE of Lae; Lae Botanical Gardens; Busu Rvr, E of Lae; Betwn Malahang and Lae
Hernandiaceae	<i>Hernandia ovigera</i>	A.N. Millar GH70	Lae Botanic Garden, Lae.
Hernandiaceae	<i>Hernandia ovigera</i>	A.N. Millar NGF18872, O.K. Paul LAE87541, T.G. Hartley 11076A, J. Waine 52, B. Conn 102 & A. Kairo, T.G. Hartley 9838, T.G. Hartley 10946, J.S. Womersley NGF4743, K.J. White NGF10475, A.N. Millar NGF13856, J. Womersley NGF3276, J.J. Havel & A. Kairo NGF17095, K. Kerenga LAE74439, D. Foreman, K. Farley & I. Noble NGF45844, C.E. Ridsdale NGF31682, P. van Royen NGF16470, J.S. Womersley NGF19175	Lae Botanical Gardens, Lae; betwn Malahang and Lae; S of Boana, Lae; Near Butibum Rvr, N of Lae; S side of Markham Rvr, W of Lae; Oomsis, near Lae; Yalu, near Lae; Nalungumbum LR; Bobadu, Lae; Butibum LA, Lae; near Maima village, Lae.
Himantandraceae	<i>Galbulimima belgraveana</i>	A. Kairo NGF24393	Kipu, S of Garaina. Lae subdistrict
Hydrocharitaceae	<i>Ottelia alismoides</i>	J.S. Womersley NGF8811, E.E. Henty NGF10553	Oomsis Ck, Lae-Bulolo Rd; Lae Botanical Gardens;
Hydrocharitaceae	<i>Ottelia</i>	T.G. Hartley 10468	Singaua Plantation, Coastline E of Lae
Hydrocharitaceae	<i>Vallisneria</i>	P. Van Royen NGF20056, E.E. Henty NGF10558	Butibum Rvr, E of Lae; Lae Botanic Gardens
Hymenophyllaceae	<i>Cephalomanes atrovirens</i>	A. Kairo NGF 45358, A. Floyd 5600	Asubazo, Waria Rvr, SE of Garaina, Lae subdistrict; Busu Rvr Hills, near Lae
Hymenophyllaceae	<i>Crepidomanes humile</i>	F.J. Taylor s.n.	Near Lae
Hymenophyllaceae	<i>Hymenophyllaceae</i>	H. Streimann 11288 & T. Umba	Near Perinin Rvr Bridge, WSW of Lae
Hymenophyllaceae	<i>Nesopteris intermedia</i>	A.G. Floyd 5628	Busu Rvr Hills near Lae
Hymenophyllaceae	<i>Trichomanes aphleboides</i>	J.R. Croft 411	Natter Bay, SE of Lae
Hymenophyllaceae	<i>Trichomanes densinervium</i>	J.R. Croft 385	Natter Bay, SE of Lae
Hymenophyllaceae	<i>Trichomanes javanicum</i>	J.R. Croft 448	E of Mongi Rvr, Huon Peninsula, E of Lae
Hymenophyllaceae	<i>Cephalomanes</i>	J.S. Womersley NGF17695	Butibum Village, near Lae
Hymenophyllaceae	<i>Cephalomanes apiifolium</i>	F.J. Taylor s.n.	Near Amara, Lae-Bulolo Rd
Hymenophyllaceae	<i>Crepidomanes aphleboides</i>	A. Floyd 5752, A. Floyd 5627, A. Floyd 5609	Trans-Busu Timber Lease near Lae; Busu Rvr Hills near Lae; Busu Rvr Hills, near Lae
Hymenophyllaceae	<i>Crepidomanes saxifragoides</i>	J.R. Croft LAE68534	Natter Bay LA, SE of Lae
Hymenophyllaceae	<i>Gonocormus minutus</i>	J.R. Croft 910 & J.I. Marsh	Gurakor Ck, WSW of Lae
Hymenophyllaceae	<i>Hymenophyllum</i>	J.R. Croft 451	E of Mongi Rvr, Huon Peninsula, E of Lae
Hymenophyllaceae	<i>Microgonium tahitense</i>	H. Streimann 80012	Situm LA, WNW of Lae
Hymenophyllaceae	<i>Trichomanes acrosorum</i> or aff.	J.R. Croft 447	E of Mongi Rvr, Huon Peninsula, E of Lae
Hymenophyllaceae	<i>Trichomanes obscurum</i>	J.R. Croft 392	Natter Bay, SE of Lae
Hymenophyllaceae	<i>Trichomanes proliferum</i>	J.R. Croft 450	E of Mongi Rvr, Huon Peninsula, E of Lae
Hymenophyllaceae	<i>Trichomanes saxifragoides</i>	J.R. Croft 400	Natter Bay, SE of Lae
Hymenophyllaceae	<i>Trichomanes tahitense</i>	J.R. Croft 1391	Markham Point, W of Lae

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Hypoxidaceae	<i>Molineria capitulata</i>	C. Davis	Lae Area
Hypoxidaceae	<i>Curculigo erecta</i>	E.E. Henty NGF10649	Lae Area
Icacinaceae	<i>Citronella</i>	P. Katik LAE70764	Sankwep LA, Lae
Icacinaceae	<i>Citronella suaveolens</i>	W. Takeuchi 5963, W. Takeuchi 5963	Near Bumayong, Lae; Near Bumayong, Lae
Icacinaceae	<i>Gomphandra</i>	J. Womersley NGF3203, T.G. Hartley 10282, T.G. Hartley 10282A	Yalu near Lae; Near Butibum Rvr, N of Lae; LA near Butibum Rvr, N of Lae
Icacinaceae	<i>Gomphandra montana</i>	T.G. Hartley 10586, W. Takeuchi 5935, W. Takeuchi 6963	S of Gurukor along Lae-Bulolo Rd; Near Bumayong, Lae; Hill adjacent to Bumayong settlement, Lae
Icacinaceae	<i>Gomphandra papuana</i>	J. Waine 03, H. Okada 4324, W. Takeuchi 17110	Lae Botanic Garden, Lae; Gumboa strm, hill near Taraka.
Icacinaceae	<i>Gonocaryum litorale</i>	E.E. Henty NGF10680	Oomsis Ck near Lae
Icacinaceae	<i>Gonocaryum obovatum</i>	T.G. Hartley 11879	Near Yalu, NW Of Lae
Icacinaceae	<i>Medusanthera</i>	C.T. White NGF1571, H. Okada 4204, Anonymous NGF233, H. Streimann NGF21125, Anonymous NGF4642	Lae, Morobe; Gabensis, Lae; Corner of Narakapor Rd & Lae-Nadzab Rd; Markham Bridge near Lae; Near Lae
Icacinaceae	<i>Medusanthera papuana</i>	T.G. Hartley 10600A, P. Van Royen NGF20065, P. Van Royen NGF16487	N Side Markham Rvr, W of Lae; Lae-Marknam Rd near Markham Bridge; Oomsis LA, NW of Lae
Icacinaceae	<i>Platea</i>	T.G. Hartley 10482	W of Lae at Oomsis Ck
Icacinaceae	<i>Platea excelsa</i>	A.N. Vinas 291 & A. Kairo	Buso Rvr, SW of Buso Camp, Lae
Icacinaceae	<i>Platea latifolia</i>	J. Wiakabu LAE72372	Lae Botanic Gardens, Lae
Icacinaceae	<i>Platea parviflora</i>	E.E. Henty NGF11994	Range above Markham Point near Lae
Icacinaceae	<i>Rhyticaryum longifolium</i>	T.G. Hartley 11342	Busu Rvr, N of Lae
Icacinaceae	<i>Ryticaryum</i>	E.E. Henty NGF11958	Oomsis LA near Lae
Icacinaceae	<i>Ryticaryum longifolium</i>	T.G. Hartley 11342, J.R. Croft LAE68486	Busu Rvr, N of Lae; Natter Bay LA, SE of Lae
Icacinaceae	<i>Citronella brassii</i>	J.S. Womersley NGF17612, J.S. Womersley NGF37478, T.G. Hartley 10562, T.G. Hartley 10237	Bumbu Valley LR near Lae; Buheim Rvr, W of Lae; Oomsis Ck, W of Lae; Near Butibum Rvr, N of Lae
Icacinaceae	<i>Medusanthera laxiflora</i>	H. Streimann NGF21125, K.J. White NGF9545, J. Womersley NGF3222, L. Saega LAE76320, M. Tavune LAE76360, S.N. Gibson LAE76333, H. Streimann NGF21125, K.J. White NGF9668, H. Streimann 8607, W. Takeuchi 17123, J.S. Womersley NGF11356, T.G. Hartley 10498, H. Streimann 8607, J. Waine 42, P. Lamei LAE89492 & K. Fazang,	Markham Bridge, near Lae; Near Busi Bridge, Lae; Yalu near Lae; Lae Botanical Gardens; Lae Botanical Gardens; Lae Botanical Gardens; Markham Bridge near Lae; Lae Botanical Gardens; Markham Point, W of Lae; Hills near Taraka, Lae; Oomsis Ck LA, near Lae; Oomsis Ck, W of Lae; Markham Point, W of Lae; National Botanic Gardens, Lae; Lae Botanical Gardens
Icacinaceae	<i>Merrilliodendron megacarpum</i>	J. Wiakabu LAE72370, P. Katik LAE70818	Lae Botanical Gardens, Lae.
Icacinaceae	<i>Platea excelsa var. borneensis</i>	J.J. Havel & A. Kairo NGF17235	Markham Point, Lae
Icacinaceae	<i>Polyporandra scandens</i>	T.G. Hartley 10461, T.G. Hartley 10302, W. Takeuchi 17107	Oomsis Ck, W of Lae; Bunga Rvr, NE of Lae; Hills near Taraka, Lae
Icacinaceae	<i>Stemonurus</i>	P. Van Royen NGF20069, G. Larivita LAE70579, T.G. Hartley 11334	Markham Rvr Mouth, W of Lae; Markham Point, Lae subdistrict; Atzera Range, N of Lae
Icacinaceae	<i>Stemonurus ammui</i>	H. Streimann 8673, H. Streimann 8658, P. Katik LAE62213	Labu Swamp, WNW of Lae; Labu Swamp, WNW of Lae; W of Singaua Plantation, Lae subdistrict
Icacinaceae	<i>Urandra umbellata</i>	J.S. Womersley NGF4604, J.S. Womersley NGF19201, E.E. Henty NGF13646	Lae, Morobe; Markham LA, Lae; Lae, Morobe
Juglandaceae	<i>Engelhardtia rigida</i>	J.S. Womersley NGF19037, K.J. White NGF10195	Patep, Lae Wau Rd; Oomsis near Lae

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Lamiaceae	<i>Callicarpa</i>	K.J. White NGF9675, de Kok, et al. 1275, J.S. Womersley NGF43601, T.G. Hartley 9729	Lae Botanic Gardens; Gabensis, Lae; Bupo Rvr, E of Lae; Malahang, NE of Lae
Lamiaceae	<i>Callicarpa arborea</i>	E.E. Henty NGF11987, A.N. Millar NGF18849, A.N. Millar NGF9777	Busu Rvr near Lae; Lae Botanic Gardens; Lae Botanic Gardens
Lamiaceae	<i>Callicarpa longifolia</i>	E.E. Henty NGF11980, A.N. Millar NGF12223, E.E. Henty NGF11694	Busu Rvr near Lae; Busu Rvr near Lae; Buembi Rvr near Lae
Lamiaceae	<i>Clerodendrum brassii</i>	W. Takeuchi 17114	Hills near Taraka, Lae
Lamiaceae	<i>Clerodendrum phyllomega</i>	T.G. Hartley 11887, T.G. Hartley 10109	Busu Rvr, N of Lae; Busu Rvr, N of Lae
Lamiaceae	<i>Coleus scutellarioides</i>	Garrett-Jones S.E. s.n., Garrett-Jones S.E. s.n.	Markham Point, Lae; Redhill Swamp, Lae
Lamiaceae	<i>Faradaya splendida</i>	T.G. Hartley 12283, M. Jacobs 9551, A.N. Millar & J.S. Womersley NGF14606, E.E. Henty NGF10646, P. van Royen NGF20071	Along Bunga, NE of Lae; Lasanga Is, SE of Lae; Tuamina Rvr, Lae-Wau Rd; Lae Botanic Gardens; E bank of Markham Rvr, W of Lae
Lamiaceae	<i>Gmelina dalrympleana</i>	C.E. Ridsdale NGF33855	Lae Botanic Gardens, Lae.
Lamiaceae	<i>Leucas aspera</i>	A. Kairo 652, P. Stevens LAE50333	Garagos Rvr, Lae-Bulolo Rd, W of Lae; Lae junction of Huon & Milfordhaven Rds
Lamiaceae	<i>Marsypianthes chamaedrys</i>	E.E. Henty NGF49750E, L. Oki LAE79258	Lae Ela Motors Yard; National Botanical Gardens
Lamiaceae	<i>Pogostemon stellatus</i>	H. Streimann NGF47848 & A. Kairo	Zenag, Lae-Bulolo Rd
Lamiaceae	<i>Premna serratifolia</i>	E.E. Henty NGF11509, A.N. Millar NGF18873, C.T. White NGF1590, H. Streimann NGF39162, T.G. Hartley 9724	Lae, Morobe; Lae Botanic Gardens; Lae, Morobe; Waga village, Lae; Malahang, NE of Lae
Lamiaceae	<i>Vitex trifolia subsp. trifolia</i>	J.S. Womersley 4711, E.E. Henty s.n., P. van Royen NGF16492,	Nadzab, Botanic Gardens, Lae; Nadzab, near Lae; Nadzab Airstrip, N of Lae;
Lamiaceae	<i>Vitex trifolia var. subtrisecta</i>	E.E. Henty NGF10588, E.E. Henty NGF11514, P. Van Royen NGF16492	Nadzab near Lae; Nadzab near Lae; Nadzab Airstrip, N of Lae
Lamiaceae	<i>Callicarpa cumingiana</i>	J.S. Womersley NGF2906, C.T. White NGF1677, K.J. White NGF9675	Lae, Morobe; Lae, Morobe; Lae Botanic Gardens
Lamiaceae	<i>Callicarpa erioclona</i>	T.G. Hartley 10020	Oomsis Ck, W of Lae
Lamiaceae	<i>Callicarpa farinosa</i>	E. Woodley, E.E. Henty NGF10506	Buso, on coast S of Lae; Lae, Morobe
Lamiaceae	<i>Callicarpa longifolia</i>	R.J. Johns NGF47231, J.F. Veldkamp 6167, E.E. Henty NGF11694, M. Fallen 335 & Y. Lelean, R.J. Johns NGF47231, A.N. Millar NGF12223	Maniau, Lae subdistrict; Sangkewp LA near Lae; Buembi Rvr, near Lae; Sangkewp LA, near Lae; Maniau Lae subdistrict; Busu Rvr near Lae
Lamiaceae	<i>Callicarpa pentandra</i>	T.G. Hartley 11910, J.S. Womersley NGF2906, C.T. White NGF1677, A.N. Millar NGF9777, E.E. Henty NGF10506, T.G. Hartley 9729	Malahang NE of Lae; Lae, Morobe; Lae, Morobe; Lae Botanic Gardens; Lae, Morobe; Malahang, NE of Lae
Lamiaceae	<i>Callicarpa tomentosa</i>	E.E. Henty NGF11987, T.G. Hartley 9648	Busu Rvr near Lae; Lae Botanic Gardens
Lamiaceae	<i>Callicarpa tomentosa var lanata</i>	J.S. Womersley NGF43601	Bupo Rvr, E of Lae
Lamiaceae	<i>Clerodendrum</i>	A.N. Millar NGF9972, T.G. Hartley 11887	Patep near Lae; Busu Rvr, N of Lae
Lamiaceae	<i>Clerodendrum buchananii</i>	S.E. Garret-Jones 21181, T.G. Hartley 10198, T.G. Hartley 10598, M. Fallen 301 & Y. Lelean	Red hill area, near Lae-Wau Rd; Burep Rvr, NE of Lae; Markham Rvr, W of Lae; Sangkewp LA, SW of Lae
Lamiaceae	<i>Clerodendrum buchananii var. fallax</i>	E.E. Henty NGF9827, J.S. Womersley NGF8807, K.J. White NGF10201, C.T. White NGF1538, A.N. Millar GH6	Lae Botanic Garden, Lae; Oomsis Crk, Lae-Bulolo Rd.
Lamiaceae	<i>Clerodendrum buruanum f. lindawianum</i>	T.G. Hartley 10598	Markham Rvr, W of Lae
Lamiaceae	<i>Clerodendrum cunninghamii</i>	A.N. Millar NGF9972	Patep near Lae

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Lamiaceae	<i>Clerodendrum inerme</i>	T.G. Hartley 11068, T.G. Hartley 9741, E.E. Henty NGF11516, T.G. Hartley 9741A	Huon Gulf, NE of Lae; Malahang, NE of Lae; Markham Valley, Lae; Malahang Beach NE of Lae
Lamiaceae	<i>Clerodendrum inerme</i> Var. <i>oceanicum</i>	E.E. Henty NGF11516	Lae Markham Valley
Lamiaceae	<i>Clerodendrum longiflorum</i> var. <i>pubescens</i>	P van Royen NGF15002, J.S. Womersley NGF9518, E.E. Henty NGF10697	Bulolo-Lae, along Snake Rvr; Lake Wannum, near Lae; Nadzab near Lae
Lamiaceae	<i>Clerodendrum tomentosum</i>	W. Moi NGF25985 & N. Inu	Red Hill Swamp, Lae
Lamiaceae	<i>Coleus</i>	A. Kairo s.n. & H. Streimann	Saru Rvr, SE of Garaina, Lae subdistrict
Lamiaceae	<i>Dysophylla</i>	H. Streimann NGF47848, T.G. Hartley 9689	Zenag, Lae-Bulolo Rd; Old Lake Bed below Red Hill, W of Lae
Lamiaceae	<i>Gmelina moluccana</i>	T.G. Hartley 10467A, T.G. Hartley 10467, T.G. Hartley 11024, M. Galore LAE50185, F.T. Vickery NGF1428, J. Wiakabu LAE73347	Burep Rvr, NE of Lae; Singaua Plantation E of Lae; Garagos Rvr, Lae-Bulolo Rd; N of Lae; Lae, Morobe; Near Nwa Campsite, Lae-Bulolo Rd
Lamiaceae	<i>Gmelina palawensis</i> var. <i>novoguineensis</i>	M. Jacobs 9536	Opposite Lasanga Is, SE of Lae
Lamiaceae	<i>Gmelina sessilis</i>	A.N. Vinas 228	Buso, SE of Lae
Lamiaceae	<i>Hyptis capitata</i>	P. Lamei LAE894766 & K. Fazang, M. Fallen 285, Y. Lelean & O. Akakvara	Lae Botanical Gardens; Near Markham Bridge, S of Lae
Lamiaceae	<i>Hyptis pectinata</i>	K. Kerenga s.n. & Y. Lelean	Situm, Lae subprovince
Lamiaceae	<i>Hyptis suaveolens</i>	E.E. Henty s.n., B.J. Conn 5006 & K. Fazang, E.E. Henty LAE72451	Snake Rvr near bridge on Lae-Bulolo Rd; Yalu, W of Lae; Snake Rvr near bridge on Lae-Bulolo Rd
Lamiaceae	<i>Premna</i>	J.S. Womersley NGF19041, P. Katik LAE64185 & F. Essig	Patep, Lae-Wau Rd; Situm LA, Lae
Lamiaceae	<i>Premna corymbosa</i>	S.H. Rogstad 789	Aluki village, on coast E from Lae
Lamiaceae	<i>Premna dallachiana</i>	E.E. Henty NGF11513	Nadzab near Lae
Lamiaceae	<i>Premna herbacea</i>	P. van Royen NGF20087, T.G. Hartley 13081, S.E. Garrett-Jones NU21036, S.E. Garrett-Jones s.n., M. Coode NGF40164 & P. Katik	Red Hill, Lae-Bulolo Rd; Below Red Hill, Lae-Bulolo Rd, W of Lae; Red hill area, Lae; Redhill area, Lae subdistrict; Red hill swamp, SW of Lae
Lamiaceae	<i>Premna obtusifolia</i>	D. Damas LAE88250, T.G. Hartley 9724, A.N. Millar NGF18873, H. Streimann NGF39162, C.T. White NGF1590	Lae Botanic Garden, Lae; Malahang, NE of Lae; Wagang village; Labu, near Lae
Lamiaceae	<i>Salvia misella</i>	E.E. Henty NGF10503, E. Henty NGF9829	Lae, Morobe; Near Lae Botanic Gardens
Lamiaceae	<i>Solenostemon scutellarioides</i>	W. Moi s.n. & N. Inu, W. Moi & N. Inu NGF25989, B. Conn, et al. 6	Red Hill, Lae subdistrict; Red Hill, Lae subdistrict; Boana, Lae subdistrict
Lamiaceae	<i>Teijsmanniodendron</i>	T.G. Hartley 10433, T.G. Hartley 11074	Singaua Plantation, E of Lae; Huon Gulf, NE of Lae
Lamiaceae	<i>Teijsmanniodendron hollrungii</i>	P. van Royen NGF20070, T.G. Hartley 10433, T.G. Hartley 11074	Markham Rvr, W of Lae; Along the coast, E of Lae at Singaua plantation; Coast of Huon Gulf, NE of Lae
Lamiaceae	<i>Vitex cofassus</i>	T.G. Hartley 10154, F.T. Vickery NGF1421, D. Fryar NGF3347, E.E. Henty NGF10530, J. Cavanaugh NGF866, T.G. Hartley 9631b, G. McDonald NGF13008, D. Fryar NGF3347, T.G. Hartley 9631b, S.H. Rogstad 781, E.E. Henty NGF10530, E.E. Henty NGF10530, A.G. Floyd 5388, A. Gray NGF3313, J.S. Womersley NGF3313, F.T. Vickery NGF1421, T.G. Hartley 10154, E. Gray NGF3313	Burep Rvr, NE of Lae; Lae, Morobe; Yalu near Lae; Near Markham Rvr, Lae; Yalu near Lae; Near Butibum Rvr, N of Lae; Oomsis via Lae; Yalu near Lae; Near Butibum Rvr, N of Lae; Aluki village area, E from Lae on coast; Markham Rvr near Lae; Lae, Morobe; Lae, Morobe; Lae, Morobe; Yalu near Lae; Burep Rvr, NE of Lae; Lae, Morobe
Lamiaceae	<i>Vitex trifolia</i>	E.E. Henty NGF11514, T.G. Hartley 10466, P. van Royen NGF16492, E.E. Henty NGF10588	Nadzab near Lae; Along coast at Singaua Plantation, E of Lae; Nadzab Airstrip, N of Lae; Nadzab near Lae
Lamiaceae	<i>Vitex trifolia</i> var. <i>trifolia</i>	J.S. Womersley NGF4711, T.G. Hartley 10466	Lae Botanical Gardens; Singaua Plantation, E of Lae

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Lamiaceae	<i>Viticipremna novae-pommeraniae</i>	T.G. Hartley 11350, J.S. Womersley NGF19135, T.G. Hartley 11350A, J.J. Havel & A. Kairo NGF17325, T.G. Hartley 10082, A.N. Millar NGF9782, E.E. Henty NGF29143, E.E. Henty NGF29143, A.N. Millar NGF9782, E.E. Henty NGF29143, J.S. Womersley NGF19134, T.G. Hartley 10082	Area betwn Busu & Butibum Rvrs, N of Lae; Gnalangumbum, N of Lae; Lae Botanic Gardens; Gnalan Gumbum, Lae subdistrict; Bewapi Ck, W of Lae; Lae Botanic Gardens; Busu Rvr near Lae; Busu Rvr near Lae; Lae Botanic Gardens; Busu Rvr, near Lae; Gnalangumbum, N of Lae; Bewapi Ck, W of Lae
Lauraceae	<i>Actinodaphne nitida</i>	C. Ridsdale NGF31637	Near Kui, Lae
Lauraceae	<i>Actinodapne</i>	W. Takeuchi 17121	Lae, hills near Taraka
Lauraceae	<i>Cassytha filiformis</i>	D.E. Symon 10658	Erap Rvr Bridge, Highlands Highway, W of Lae
Lauraceae	<i>Cinnamomum aromaticum</i>	A.N. Millar GH50	Lae Botanic Garden, Lae.
Lauraceae	<i>Cryptocarya</i>	J.R. Croft LAE68529, P. Katik LAE74971, A. Kairo 425, J.J. Havel & A. Kairo NGF17206, H. Streimann 8622, G. Larivita LAE67107, A.N. Millar GH75, P. Katik s.n.	Natter Bay LA, SE of Lae; Lae Botanic Gardens; Busu Rvr, NNW of Lae; Gnalan Gumbum, Lae subdistrict; Markham-Oomsis Ridge, W of Lae; Sankwep LR near Lae; National Botanic Gardens; Near Oomsis Ck, Lae
Lauraceae	<i>Cryptocarya cordifolia</i>	J.S. Womersley NGF17617	Bumbu Valley LR, Lae
Lauraceae	<i>Cryptocarya gigantocarpa</i>	J. Waine 37, Kuria T. K., et al. LAE87043	Lae Botanic Garden, Lae.
Lauraceae	<i>Cryptocarya iridescent</i>	T.G. Hartley 12395	Busu Rvr, N of Lae
Lauraceae	<i>Cryptocarya multipaniculata</i>	G. Larivita LAE67108	Sankwep LR near Lae
Lauraceae	<i>Endiandra</i>	P. Katik LAE62221, J.J. Havel NGF17207, P.F. Stevens LAE54748, A. Kairo 426	Garagos LR, Lae; Gnalan Gumbum, Lae; Markham Point, Lae; Busu Rvr, NNW of Lae
Lauraceae	<i>Endiandra clemensii</i>	P. Katik NGF46881	Sankwep LR, Lae
Lauraceae	<i>Endiandra glauca</i>	T.G. Hartley 10104	Busu Rvr, N of Lae
Lauraceae	<i>Endiandra grandiflora</i>	P. Katik NGF46880	Sankwep LR, Lae
Lauraceae	<i>Litsea</i>	E.E. Henty NGF49840, H. Streimann 8656, A. Kairo 724, A.N. Millar GH76, A.N. Millar GH108, P. Katik LAE70706, K. Kerenga LAE74232, H. Streimann 8656, et al. s.n.	Lae Botanical Gardens, Lae; Labu Swamp, WNW of Lae; Wagau, SW of Lae; Labu village near Lae.
Lauraceae	<i>Litsea domarensis</i>	A.N. Millar GH62, J.S. Womersley NGF3310	Lae Botanic Garden, Lae.
Lauraceae	<i>Beilschmiedia</i>	P.F. Stevens LAE54743	Markham Point, Lae
Lauraceae	<i>Cinnamomum</i>	E.E. Henty NGF49891, D. Nawe LAE76310, T. Jimbo LAE76336	Lae Botanic Gardens, Lae
Lauraceae	<i>Cinnamomum hentyi</i>	E.E. Henty NGF10583	Busu LA near Lae
Lauraceae	<i>Cinnamomum zeylanicum</i>	Van Den Bos C. NGF49284	Bubia AS, Lae subdistrict
Lauraceae	<i>Cryptocarya alleniana</i>	A.N. Millar NGF14633, T.G. Hartley 12284	Lae Botanic Garden; Along Bunga Rvr, NE of Lae
Lauraceae	<i>Cryptocarya depressa</i>	Anonymous NGF3368, W. Takeuchi 5964	Lae, Morobe; Near Bumayong, Lae
Lauraceae	<i>Cryptocarya laevigata</i>	G. Larivita LAE67109, M. Jonathan LAE76348	Sankwep LR, near Lae; Lae Botanic Gardens
Lauraceae	<i>Cryptocarya laviegata</i>	P. Marai LAE76355	Lae Botanic Gardens, Lae
Lauraceae	<i>Cryptocarya timoriiana</i>	A.N. Millar NGF18853,	Lae Botanic Gardens, Lae
Lauraceae	<i>Cryptocarya womersleyi</i>	J.S. Womersley s.n., T.G. Hartley 11926	Partep Ck, Lae - Wau Rd; Busu Rvr, N of Lae
Lauraceae	<i>Litsea engleriana</i>	A. Kairo NGF17367	Near Kipu, S of Garaina. Lae subdistrict
Lauraceae	<i>Litsea guppyi</i>	R.G. Wright NGF11103, E.E. Henty NGF13635, K.J. White NGF9655	Lae Botanic Garden, Lae; Mumin Cr, Lae.

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Lauraceae	<i>Litsea irianensis</i>	T.K. Kuria et al. LAE87059, J. Wiakabu LAE72389, A.N. Millar NGF18867	Lae Botanic Garden, Lae.
Lauraceae	<i>Litsea timoriana</i>	A.G. Floyd, E.E. Henty NGF13659, T.G. Hartley 9841, W. Takeuchi 5934, K.J. White NGF10202, T.G. Hartley TGH11870, T.G. Hartley TGH9928, A.N. Millar NGF9911, E.E. Henty NGF10664, J.S. Womersley NGF4302, W. Moi & N. Inu NGF25960	3 mile Agriculture station, Lae; Bumbu River near Lae; Near Butibum Rvr, N of Lae; Near Burayang, Lae; National Botanic Gardens, Lae; Butibum Rvr, N of Lae; Near the Butibum Rvr, N of Lae; Markham Rd near Lae; Oomsis near Lae; Lae, Morobe; Markham Point, Lae
Lecythidaceae	<i>Barringtonia asiatica</i>	T.G. Hartley 10868, J.M. Simaga 1824	Singaua, E of Lae; Poroman building, Unitech Campus, Lae
Lecythidaceae	<i>Barringtonia calyptrocalyx</i>	E.E. Henty NGF13675, W. Takeuchi 17024, J. Waine 57	Bumbu LA, near Lae; Lae, hills near Taraka; National Botanical Gardens, Lae
Lecythidaceae	<i>Barringtonia calyptrocalyx var. mollis</i>	J.S. Womersley NGF3299	Lae Area
Lecythidaceae	<i>Barringtonia clemensii</i>	M. Jebb 960	LIL TRP, E of Lae
Lecythidaceae	<i>Barringtonia racemosa</i>	E.E. Henty NGF16504	Foreshore, Lae
Lecythidaceae	<i>Barringtonia samoensis</i>	T.G. Hartley 10561	Oomsis Ck, W of Lae
Lecythidaceae	<i>Planchonia papuana</i>	T.K. Kuria, et al. LAE87061, A.N. Millar NGF18856, T.G. Hartley 10839, T. Kuria LAE87061, T.G. Hartley 10839, K.J. White NGF9672, J.J. Havel NGF17211, R.W. Evans 65, E.E. Henty NGF13653, F.T. Vickery NGF1423	Lae Botanic Garden, Lae; Markham Rvr Valley, W of Lae; Markham Point, near Lae; Yalu near Lae.
Leeaceae	<i>Leea</i>	P. Katik LAE64182 & F. Essig, C.T. White NGF1526, P.F. Stevens LAE58006, A.N. Millar GH11	Situm LA, Lae; Lae, Morobe; Sankwep LA near Lae; National Botanic Gardens, Lae
Leeaceae	<i>Leea indica</i>	A. Floyd 5506	Busu Rvr, Lae
Leeaceae	<i>Leea macrocarpus</i>	J. Waine 48, W.N. Takeuchi 9048B, P. Lamei LAE89501 & K. Fazang, P. Homot, et al. LAE90164	Lae Botanic Garden, Lae.
Leeaceae	<i>Leea tetramera</i>	H. Morte LAE79218	Lae Botanic Garden, Lae.
Leeaceae	<i>Leea zippeliana</i>	T.G. Hartley 11931, T.G. Hartley 12394	Busu Rvr, N of Lae; Busu Rvr, N of Lae
Leeaceae	<i>Leea</i>	Anonymous NGF224	Corner of Lae-Nadzab Rd & Narakapor Rd
Lemnaceae	<i>Spirodela punctata</i>	E.E. Henty LAE72454	Lae-Bulolo Rd
Lemnaceae	<i>Spirodela</i>	E.E. Henty LAE72454	Pond beside Lae-Bulolo Rd, S of Baiune Rvr, Wau subdistrict
Linaceae	<i>Durandeaa</i>	T.G. Hartley 12267, T.G. Hartley 9820A, T.G. Hartley 9888	Along Burep Rvr, NE of Lae; Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae
Linaceae	<i>Durandeaa pentagyna</i>	H. Streimann 8654	Labu Swamp, WNW of Lae
Linaceae	<i>Hugonia jenkinsii</i>	T.G. Hartley 9820	Near Butibum Rvr, N of Lae
Lindsaeaceae	<i>Lindsaea</i>	A. Bellamy 13, T.G. Hartley 12334	Buso, S of Lae; Near Butibum Rvr, W of Lae
Lindsaeaceae	<i>Lindsaea bakeri var. bakeri</i>	J.R. Croft 391	Natter Bay, SE of Lae
Lindsaeaceae	<i>Lindsaea ensifolia subsp. ? agatii</i>	J.R. Croft 403	Natter Bay, SE of Lae
Lindsaeaceae	<i>Lindsaea lucida subsp. brevipes</i>	A. Floyd 5710, J.R. Croft 391A, J.R. Croft 436	Markham Point, near Lae; Natter Bay, SE of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae
Lindsaeaceae	<i>Lindsaea microstegia</i>	J.R. Croft 449, J.R. Croft 454	E of Mongi Rvr, Huon Peninsula, E of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae
Lindsaeaceae	<i>Lindsaea repens var. sessilis</i>	J.R. Croft 434	E of Mongi Rvr, Huon Peninsula, E of Lae
Lindsaeaceae	<i>Tapeinidium longipinnulum</i>	J.R. Croft 1393, J.R. Croft 432	Markham Point, W of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae
Lindsaeaceae	<i>Tapeinidium novoguineense</i>	J.R. Croft 456	E of Mongi Rvr, Huon Peninsula, E of Lae
Lindsaeaceae	<i>Lindsaea bakeri</i>	J.R. Croft 1390	Markham Point, W of Lae

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Lindsaeaceae	<i>Lindsaea cultrata</i>	A. Floyd 5626	Busu Hills, near Lae
Lindsaeaceae	<i>Lindsaea obtusa</i>	J.R. Croft 409, J.R. Croft 409A, J.R. Croft 442	Natter Bay, SE of Lae; Natter Bay, SE of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae
Lindsaeaceae	<i>Lindsaea tenuifolia</i>	J.R. Croft 390, J.R. Croft LAE68557, A. Floyd 5599	Natter Bay, SE of Lae; Natter Bay LA, SE of Lae; Busu Rvr Hills, near Lae
Lindsaeaceae	<i>Sphenomeris retusa</i>	J.R. Croft, et al. 326, A. Floyd NGF7210, T.G. Hartley 11889, R.D. Hoogland 3674	Sankwep Rvr, N of Lae; Near Patep Ck, Bulolo-Lae Rd; Busu Rvr, N of Lae; Near Patep Ck, Bulolo-Lae Rd
Lindsaeaceae	<i>Tapeinidium</i>	H. Streimann NGF47736	Bulolo-Lae Rd, NW of Bulolo
Loganiaceae	<i>Neuburgia</i>	C.T. White NGF1584, J.S. Womersley NGF24854, P. Katik LAE74738, T. Motley 2311, P. Katik LAE64176 & F. Essig, J.J. Havel & A. Kairo NGF17197	Lae, Morobe; Near Timne, Lae-Wau Rd; Near Sankwep Rvr, Lae subprovince; Sago swamp Rd towards Bulolo, Lae; Situm LA, Lae; Oomsis Forestry Station, Lae
Loganiaceae	<i>Neuburgia corynocarpa</i>	W. Takeuchi 7144, T.G. Hartley 10125, J.S. Womersley NGF37131, P. Katik LAE56362, R. Evans 66	Labu swamp, Lae; Burep Rvr, NE of Lae; Near Lae; Lae Botanical Gardens; Collected Trans-Busu, Lae
Loganiaceae	<i>Strychnos</i>	M. Coode NGF32906, C.T. White NGF1691, C.T. White NGF1744, K.J. White NGF10200, J.S. Womersley NGF11836, T.G. Hartley 10565	Bupu Rvr near Lae; Lae, Morobe; Lae, Morobe; Oomsis Ck near Lae; Oomsis Ck, Lae; Oomsis Ck, W of Lae
Loganiaceae	<i>Geniostoma weinlandii</i>	T.G. Hartley 11761, E.E. Henty NGF11696, P. Katik NGF46872	Near Butibum Rvr, N of Lae; Buembi Rvr near Lae; Sunkwep LR, Lae;
Loganiaceae	<i>Mitrasacme elata</i>	T.G. Hartley 12242, J.S. Womersley 4608, H. Streimann NGF44228	Markham Point Bluff, W of Lae; Lae Dept. of Forests Nursery; Old Malahang Airstrip, Lae;
Loganiaceae	<i>Mitrasacme elata var. elata</i>	J.S. Womersley 4608	Nursery, Department of Forests, Lae
Loganiaceae	<i>Strychnos minor</i>	T.G. Hartley 11857, T.G. Hartley 11848	Burep Rvr, NE of Lae; Burep Rvr, NE of Lae
Lomariopsidaceae	<i>Logramma</i>	J.S. Womersley NGF17699	Butibum Valley, Lae
Lomariopsidaceae	<i>Bolbitis</i>	T.G. Hartley 9873	Near the Butibum Rvr, N of Lae
Lomariopsidaceae	<i>Bolbitis heteroclita</i>	J.R. Croft 913 & J.I. Marsh, J.R. Croft 897 & J.I. Marsh	Gurakor Ck, WSW of Lae; Oomsis LA, W of Lae
Lomariopsidaceae	<i>Bolbitis sinuata</i>	J.R. Croft 841, J.R. Croft 896 & J.I. Marsh	Atzera Range, W Taraka, Lae; Oomsis LA, W of Lae
Lophopyxidaceae	<i>Lophopyxis maingayi</i>	J.S. Womersley NGF43908	Aluki Area E of Lae
Loranthaceae	<i>Amyema friesiana</i>	R.J. Johns s.n.,	Maniau, Lae Sub-District;
Loranthaceae	<i>Dendrophthoe falcata</i>	E.E. Henty LAE72422	Abunaka near Lae
Loranthaceae	<i>Amyema</i>	P. Van Royen NGF16323, J. Vandenberg NGF42293, P. Katik LAE64180 & F. Essig, B.J. Conn 5284, J.J. Havel NGF17430, J.R. Croft LAE68520	Solomon Sea Beach E of Voco Point; Sapa village Lae Subdistrict; Situm LA, Lae; Lae International Hotel grounds; Natter Bay LA, SE of Lae
Loranthaceae	<i>Amyema finisterrae</i>	M. Jacobs 8679,	Kasanombe, N of Lae
Loranthaceae	<i>Amyema friesianum</i>	W. Takeuchi 4312	wastelot near Unitedech campus, Lae
Loranthaceae	<i>Amyema seemenianum subsp. melastomifolium</i>	R.J. Johns s.n., J.R. Croft s.n. & Y. Lelean	Maniau, Lae Subdistrict; Natter Bay LA, SE of Lae
Loranthaceae	<i>Amyema seemenianum subsp. seemenianum</i>	M.J.E. Coode s.n., J. Wiakabu s.n. & N.A. Vinas, K. Kerenga s.n., M.J.E. Coode s.n., E.E. Henty s.n.,	Lae, Lae Subdistrict; National Botanic Gardens, Lae; K. Kerenga s.n., 15 Aug 1978 Papua New Guinea, Morobe: Markham Point, Subprovince Lae; Lae, Lae Subdistrict; Abunaka, near Lae;
Loranthaceae	<i>Amyema sp.</i>	Conn B. J. 5284, et al., Aneilema humile Commelinaceae L. Kusunan 5	Lae International Hotel grounds; National Botanical Garden, Lae

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Loranthaceae	<i>Decaisnina hollrungii</i>	W.N. Takeuchi 9022, H. Streimann s.n., T.G. Hartley 10094, H. Streimann s.n., H. Streimann s.n., P. Katik s.n. & K. Taho, M. Jacobs 8656, W.N. Takeuchi 9022	Lae municipality; Ana Village, SW of Morobe; Busu Rvr, N of Lae; Musi Is, Buso, Lae; Lae, Morobe; Kasanombe, Lae subdistrict; Kasanombe, N of Lae; Lae municipality
Loranthaceae	<i>Decaisnina triflora</i>	Decaisnina triflora Loranthaceae P. P. Katik s.n.	Mt Jasop, near Musom, Lae subprovince
Loranthaceae	<i>Dendrophthoe curvata</i>	W. Takeuchi 4325, K. Kerenga s.n., T.G. Hartley 10129, D.G. Frodin s.n. & E.K. Naoni, T.G. Hartley 10437, et al. 51, M.J.E. Coode s.n., E.E. Henty 72422, A.N. Millar s.n., T.G. Hartley 9734, T.G. Hartley 12339, T.G. Hartley 10183, E.E. Henty s.n., B.J. Conn 51, W. Takeuchi 4325	Near Atzera range, near Lae; Markham point, Lae; Burep Rvr, NE of Lae; Bualing Haus, Lae Town; Singaua Plantation, E of Lae; Boana, Lae; Lae, Morobe; Abunaka near Lae; Wampit Hill, Lae-Wau Rd; Malahang, NE of Lae; Burep Rvr NE of Lae; Abunaka near Lae; Boana, near Lae; near Atzera range, near Lae
Loranthaceae	<i>Macrosolen eochinchinensis</i>	K. Kerenga LAE74279	Markham Point, Lae subdistrict
Loranthaceae	<i>Macrosolen geminatus</i>	T.G. Hartley 9690, K. Kerenga s.n., P. Katik 70834, H. Streimann s.n. & F.C. Students	Old lake bed below Red Hill, W of Lae; Markham Point, Lae subprovince; Erap Rvr, Boana Rd; Saru Rvr, SE of Gaiaina, Lae subdistrict
Loranthaceae	<i>Sogerianthe sessiliflora</i>	K. Kerenga s.n., T.G. Hartley 10140	Markham Point, Lae; Burep Rvr, N of Lae
Loxogrammaceae	<i>Loxogramme parksii</i>	W.N. Takeuchi 8899	Lae Area
Luzuriagaceae	<i>Geitonoplesium</i>	T.G. Hartley 9801	Lake Wanum, W of Lae
Lycopodiaceae	<i>Huperzia nummularifolia</i>	H. Streimann & F.C. Students NGF45048, W.N. Takeuchi 9005	Tiaure Village, S of Garaina, Lae subdistrict; Forest Resarch Institute Botanical Gardens
Lycopodiaceae	<i>Huperzia phlegmaria</i>	W.N. Takeuchi 8911	Lae Area
Lycopodiaceae	<i>Lycopodium</i>	T.G. Hartley 10145, T.G. Hartley 11888	Burep Rvr, NE of Lae; Busu Rvr, N of Lae
Lycopodiaceae	<i>Lycopodium circinnatum</i>	W. Takeuchi 17092	Hills near Taraka, Lae
Lycopodiaceae	<i>Lycopodiella cernua</i>	Anonymous 5639	Lae Area
Lycopodiaceae	<i>Lycopodium carinatum</i>	J.R. Croft 424	Natter Bay, SE of Lae
Lycopodiaceae	<i>Lygodium</i>	Taylor F. J. s.n.	Markham Rvr near Lae
Lycopodiaceae	<i>Lygodium circinatum</i>	T. K. Kuria, et al. LAE87028, J.R. Croft 396	Atzera Hill, West Taraka, Lae; Natter Bay, SE of Lae
Lythraceae	<i>Lythrum erythrocarpa</i>	T.G. Hartley 10563	Oomsis Ck, W of Lae
Lythraceae	<i>Sonneratia caseolaris</i>	H. Streimann & A. Kairo NGF39407, J.J. Havel & A. Kairo NGF17198, J.S. Womersley & P. Katik NGF43740, Anonymous NGF954, T.G. Hartley 10254B, P. van Royen NGF16319, T.G. Hartley 10254, T.G. Hartley 10254A, J.S. Womersley NGF15307, T.G. Hartley 10254B, J.M. Simaga 1822, J.J. Havel & A. Kairo NGF17198, P. van Royen NGF16319, N.C. Duke AIM838	Wagan, Lae; Labu Swamp, Lae; Labu Lakes near Lae; Lae, Morobe; Singaua, E of Lae; Solomon Sea Beach, E of Voco Point, Lae; Beach area at Malahang, Lae; Beach near Malahang, Lae; Near Oomsis, Lae; Singaua, E of Lae; Along the Highlands Highway, near Munum Village; Labu swamp, Lae subdistrict; Solomon Sea Beach, E of Voco Point, Lae; Labu Lakes near Lae
Lythraceae	<i>Lagerstroemia archeriana</i>	J. Wiakabu LAE72378	Lae Botanic Gardens, Lae.
Lythraceae	<i>Lagerstroemia archeriana</i> subsp. <i>Archeriana</i>	J. Wiakabu LAE72378	Lae Botanic Gardens, Lae.
Lythraceae	<i>Lagerstroemia floribunda</i>	O.G. Gideon LAE77107, J.S. Womersley	Lae Botanical Gardens, Lae.
Lythraceae	<i>Lagerstroemia speciosa</i>	J. Wiakabu LAE72353, J. Wiakabu & Y. Lelean LAE72352, A.N. Millar GH28	Lae Botanical Gardens, Lae.
Lythraceae	<i>Lagerstroemia tomentosa</i>	J. Wiakabu & Q.K. Damas LAE72374	Lae Botanic Gardens, Lae.
Lythraceae	<i>Lawsonia inermis</i>	A.N. Millar GH164, E.E. Henty NGF10509, Larivita & P. Katik LAE72307	Lae Botanic Garden, Lae; China Town, Lae.

## Lae Flora

Magnoliaceae	<i>Elmerrillia tsiampacca</i>	J.S. Womersley NGF11357, C.T. White NGF1672	Oomsis Ck, LA near Lae; Lae, Morobe
Magnoliaceae	<i>Elmerrillia tsiampacca</i> subsp. <i>tsiampacca</i> var. <i>glaberrima</i>	T.G. Hartley 9950	Near Butibum Rvr, N of Lae
Magnoliaceae	<i>Michelia champaca</i>	J. Wiakabu 72386, A.N. Millar GH120	Lae Botanical Gardens; National Botanic Gardens, Lae
Malpighiaceae	<i>Malpighia coccigera</i>	A.N. Millar GH104	Lae Botanic Gardens, Lae.
Malpighiaceae	<i>Tristellateia</i>	T.G. Hartley 9731	Malahang along coast, NE of Lae
Malvaceae	<i>Abroma augustum</i>	Hartley 10054, Argent NGF 1035, E.E Henty NGF 9824, T.G. Hartley TGH 10539, J.R. Croft & Y. Lelean LAE 68511.	Oomsis ck, W of Lae; Lae; Netter Bay LA, SE of Lae; Lae Botanic Gardens; Oomsis ck, W of Lae; Oomsis ck, W of Lae; Netter Bay LA, SE of Lae;
Malvaceae	<i>Abutilon</i>	A.N. Millar NGF14619.	Sum Sum, Lae-Wau Rd.
Malvaceae	<i>Commersonia</i>	T.G. Hartley 9918	Busu Rvr, N of Lae
Malvaceae	<i>Commersonia bartramia</i>	R.F. Thorne 27481 & T. Henty, T.G. Hartley TGH9918, E.E. Henty NGF9814, T.G. Hartley 10272, A.N. Millar NGF18851, T.G. Hartley 9700A, A.N. Millar s.n., P.F. Stevens LAE50196, T.G. Hartley 9918	Markham Rvr W of Lae, Above Busu Rvr, N of Lae; Busu LA near Lae; Near Butibum Rvr, N of Lae; Lae Botanic Gardens; Butibum Rvr, N of Lae; National Botanic Garden, Lae; Gabensis, Lae; Above Busu Rvr, N of Lae
Malvaceae	<i>Heritiera littoralis</i>	J.S. Womersley, T.G. Hartley 11078, T.G. Hartley TGH11078A, T.G. Hartley 11078A, H. Streimann NGF25573, J.S. Womersley NGF43744, T.G. Hartley TGH11598	Labu near Lae; Huon Gulf, NE of Lae; Malahang Beach, NE of Lae; Malahang Beach, NE of Lae; Labu Swamps, Lae; Labu Lakes near Lae; Along the coast betwn Malahang and Lae
Malvaceae	<i>Hibiscus papuodendron</i>	P. Van Royen NGF20064, E.E. Henty NGF10575, Dadswell NGF1693, E.E. Henty & Royen van P. NGF16711, T.G. Hartley 10835, E.E. Henty NGF10538, E.E. Henty NGF14822, C.T. White NGF1693	Lae-Markham Rd near Markham Bridge; Near Lae; Lae, Morobe; Busu Rvr near Lae; W of Lae on Lae-Nadzab Rd; Near Markham Rvr, Lae; Bewapi Ck near Lae; Lae, Morobe
Malvaceae	<i>Malvastrum</i>	H. Streimann 8518	Rainara Rvr, W of Lae
Malvaceae	<i>Melochia corchorifolia</i>	E.E. Henty NGF14783; H. Streimann 8518	Lae, Morobe; Rainara Rvr, W of Lae
Malvaceae	<i>Pterocymbium</i>	J.S. Womersley 3183, T.G. Hartley 11040	Yalu near Lae; S of Busu Rvr, N of Lae
Malvaceae	<i>Pterocymbium stipitatum</i>	J.S. Womersley NGF4305	Yalu near Lae
Malvaceae	<i>Sida rhombifolia</i> var. <i>maderensis</i>	L. Oki LAE79254	Lae Botanic Garden, Lae.
Malvaceae	<i>Sterculia edelfeltii</i>	P. Katik NGF46736, NGF5489	Suinim Village, near Buso Rvr, Lae subdistrict; Lae, Morobe
Malvaceae	<i>Sterculia lepidotostellata</i>	T.G. Hartley TGH10241	Near Butibum Rvr, N of Lae
Malvaceae	<i>Sterculia macrophylla</i>	J.J. Havel NGF17096 & A. Kairo, E.E. Henty NGF11603, H.E. Dadswell NGF1552 & Smith, A.N. Millar NGF23235	Near LA Rd Lae subdistrict; Atzera Range, Markham Valley, near Lae; Lae area; Lae Botanic Gardens
Malvaceae	<i>Sterculia perryae</i>	T.G. Hartley TGH12190	S side of Busu Rvr, N of Lae
Malvaceae	<i>Sterculia porphyrlana</i>	NGF234	Yalu near Lae
Malvaceae	<i>Sterculia quadrifida</i>	D. Fryar 3354	Busu Rvr near Lae
Malvaceae	<i>Sterculia schlechteri</i>	T.G. Hartley TGH11095, T.G. Hartley TGH11920	S of Busu Rvr, N of Lae; Busu Rvr, N of Lae
Malvaceae	<i>Sterculia schumanniana</i>	M.A. Benjamin s.n.	Sunkwep, Lae subdistrict
Malvaceae	<i>Sterculia shillinglawii</i> subsp. <i>malacophylla</i>	J.S. Womersley NGF19200, J.S. Womersley NGF19140, T.G. Hartley 10152, E.E. Henty NGF10596, J.S. Womersley NGF3360, E.E. Henty NGF10596, A.N. Millar GH122, M. Coode NGF32578 & C. Ridsdale, M. Coode NGF32578 & C. Ridsdale, J.S. Womersley NGF3360, A.N. Millar GH122	Markham LA, Lae; Near Markham Rvr, Lae; Burep Rvr, NE of Lae; Nadzab near Lae; Lae, Morobe; Nadzab near Lae; Lae Botanic Gardens; Lae, Morobe; Lae, Morobe; Lae., Morobe; Lae Botanic Gardens

## Lae Flora

Malvaceae	<i>Thespesia patellifera</i>	J.S. Womersley NGF13425	Markham Rvr near Lae
Malvaceae	<i>Brachychiton Carruthersii</i>	K. Fazang LAE78732	Lae Botanic Garden, Lae.
Malvaceae	<i>Heritiera trifoliolata</i>	E.E. Henty NGF14382	Oomsis LA near Lae
Malvaceae	<i>Hibiscus</i>	H. Streimann & F.C. Students NGF43481, A.N. Millar GH197, A.N. Millar GH84	Saru Rvr, SE of Garaina, Lae subdistrict; Lae Botanical Gardens; Lae Botanical Gardens; Along the roadside of Perenir Rvr, Lae
Malvaceae	<i>Hibiscus lepidotus</i>	T.G. Hartley 10835	W of Lae on Lae-Nadzab Rd
Malvaceae	<i>Hibiscus rosa-sinensis</i>	R.D. Hoogland 6526	Lae Area
Malvaceae	<i>Hibiscus schizopetalus</i>	R.D. Hoogland 6504	Lae Area
Malvaceae	<i>Hibiscus tiliaceus</i>	D. McIntosh 3315, A.N. Millar GH12, E.E. Henty NGR11522, H. Streimann NGF39406, H. Streimann NGF25911, H. Streimann & A. Kairo NGF39406, R.J. Johns NGF47001	Lae, Morobe; Lae Botanical Gardens; Maralumi Ck, Erap near Lae; Wagan, Lae subdistrict; Sum Sum, Lae Rd; Wagan, Lae subdistrict; Herzog Ranges near Markham Bridge, Lae subdistrict
Malvaceae	<i>Hibiscus tiliaceus</i> subsp. <i>tiliaceus</i>	T.G. Hartley 9723	Malahang, NE of Lae
Malvaceae	<i>Hibiscus trianum</i>	A.N. Millar GH84,	Lae Botanic Gardens, Lae.
Malvaceae	<i>Kleinhowia hospita</i>	P. Oliver LAE87539 & T. Kuria, M. Coode NGF29540, E.E. Henty NGF9823, H. Streimann 8511, Anonymous NGF266, W. Moi & N. Inu NGF25962, T.G. Hartley TGH9645	Lae Botanical Gardens, Lae; Garagos, Lae-Bulolo Rd; Yalu near Lae; Oomsis, near Lae.
Malvaceae	<i>Malvaceae</i>	J.S. Womersley NGF19200, H. Streimann 8659, M. Jacobs 9639, T.G. Hartley 10450, A.N. Millar GH105, Anonymous 5489, M. Coode NGF32578, NGF234, T.G. Hartley 10520, K. Kerenga LAE74469, R.F. Thorne 27488 & T. Henty, J.R. Croft LAE68503 & Y. Lelean, T.G. Hartley 10088, J. Regaldo 1183 & P. Katik, T.G. Hartley 10152, J. Regaldo 1236 & P. Katik, J.S. Womersley NGF3274, Anonymous NGF234, J.M. Simaga 3026, T.G. Hartley 11095, T.G. Hartley 9663, J.S. Womersley NGF17799, J.S. Womersley NGF19140, T.G. Hartley 11920, A.N. Millar NGF23235	Markham LA, Lae; Labu Swamp, WNW of Lae; SW of Lae on coast; Oomsis Ck, W of Lae; Lae Botanic Gardens; Lae, Morobe; Lae, Morobe; Corner of Narakapoot and Lae-Nadzab Rd; Oomsis Ck, W of Lae; Lae Golf course; Point along Markham Rvr, W of Lae; Natter Bay LA, SE of Lae; Busu Rvr, N of Lae; Along road to Gabadek(Gobari), N of Lae city; Burep Rvr, NE of Lae; LR to Mt. Garagos from Gebensis village, W of Lae City; Yalu near Lae; Corner of Narakapoot and Lae-Nadzab Rd; Unitech Campus grounds, near Green Lodge; S of Busu Rvr, N of Lae; Markham Rvr, W of Lae; Oomsis LA, Lae; Near Markham Rvr, Lae; Busu Rvr, N of Lae; Lae Botanic Gardens
Malvaceae	<i>Malvastrum coromandelianum</i>	E.E. Henty 10682	Erap near Lae
Malvaceae	<i>Melochia odorata</i>	Anonymous 5494, G. Larivita LAE67111, Native NGF5494, A.N. Millar NGF9298, K.J. White NGF9550	Lae, Morobe; Rd betwn Apo Rd & Aruki villages near Lae; Lae, Morobe; Bupu Rvr, near Lae; Busu Rvr near Lae
Malvaceae	<i>Melochia umbellata</i>	S.E. Garrett-Jones ANU21163, B. Conn, et al. 98, T.G. Hartley TGH10003A, R.F. Thorne 27437 & T. Henty, T.G. Hartley TGH10003, E.E. Henty NGF11538, M. Fallen, et al. 289	Redhill area, near Lae-Wau Rd; S of Boana, Lae; Oomsis Ck area, Lae-Bulolo Rd; Near bridge over Busu river, NE of Lae; Oomsis Ck, W of Lae; Maralumi Ck, Erap near Lae; Near Markham Bridge, S of Lae
Malvaceae	<i>Pterocymbiumbecariei</i>	T.G. Hartley TGH11040, J.S. Womersley 3183, T.G. Hartley TG9916, J.J. Havel & A. Kairo NGF17018, J.J. Havel & A. Kairo NGF17094, R.W. Evans 37	S of Busu Rvr, N of Lae; Yalu near Lae; Busu Rvr, N of Lae; Gnlangumbum, Lae subdistrict; Nalungumbum, near LA Rd, Lae subdistrict; Busu Rvr, E of Lae
Malvaceae	<i>Schoutenia ovata</i>	O.K. Paul LAE87542, P. Oliver LAE87542	Lae Botanical Gardens, Lae.
Malvaceae	<i>Sida rhombifolia</i>	T.G. Hartley 9676	Along Oomsis Ck, W of Lae
Malvaceae	<i>Sterculia ampla</i>	T.K. Kuria, et al. LAE87060, E.E. Henty NGF11603	Lae Botanic Garden, Lae; Atzera Ra.
Malvaceae	<i>Sterculia clemensiae</i>	J.J. Havel NGF17096, T.G. Hartley 12190	Near LA Rd, Lae subdistrict; S Side of Busu Rvr, N of Lae
Malvaceae	<i>Sterculia conwentzii</i>	Anonymous 5495	Lae Area

## Lae Flora

Malvaceae	<i>Sterculia morobensis</i>	M. Jacobs 9663	SE of Lae on coast
Malvaceae	<i>Sterculia oncinocarpa</i>	T.G. Hartley TGH10520, NGF921, J. Cavanaugh NGF859, E.E. Henty NGF10551	Oomsis Ck, W of Lae; Lae area; Yalu area near Lae; Lae Botanical Gardens
Malvaceae	<i>Sterculia parkinsonii</i>	Dadswell NGF1552, M. Fallen 278 & Y. Lelean	Lae, Morobe; Near Markham bridge, S of Lae
Malvaceae	<i>Sterculia shillinglawii</i>	C.T. White NGF1649, T.G. Hartley TGH12184, Native Coll. NGF5495, E.E. Henty NGF9830, P. Oliver LAE86448, T.G. Hartley TGH10088, T.G. Hartley TGH10450, T.G. Hartley TGH10152, A.N. Millar GH80, NGF262	Yalu near Lae; S side of Busu Rvr, N of Lae; Lae, Morobe; National Botanical Garden, Lae; Lae Botanical Gardens; Busu Rvr, N of Lae; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae; Lae Botanic Gardens; Lae Botanical Gardens; Yalu near Lae
Malvaceae	<i>Thespesia</i>	T.G. Hartley 9723, T.G. Hartley 11066, T.G. Hartley 10124, J.S. Womersley NGF13425	Malahang on coastline, NE of Lae; Huon Gulf, NE of Lae; Burep Rvr, NE of Lae; Markham Rvr near Lae
Malvaceae	<i>Thespesia populnea</i>	H. Streimann NGF39405	Wagan, Lae
Marantaceae	<i>Phrynum</i>	J.S. Womersley NGF9400	Oomsis near Lae
Marantaceae	<i>Phrynum macracephalum</i>	T.G. Hartley 9914, Anonymous 5581	Busu Rvr, N of Lae; Lae Diddymans Ck
Marantaceae	<i>Cominsia</i>	A.N. Millar GH93	Lae Botanic Gardens, Lae
Marantaceae	<i>Cominsia gigantea</i>	Anonymous 5539	Lae Area
Marantaceae	<i>Donax canniformis</i>	Anonymous NGF4715, T.G. Hartley 9673A, T.G. Hartley 9673	Lae Botanic Gardens, Lae
Marattiaceae	<i>Marattia</i>	J.R. Croft J. 900 & J.I. Marsh	Gurakor Ck, W of Lae
Marattiaceae	<i>Marattia grandifolia</i>	J.R. Croft 900 & J.I. Marsh, J.R. Croft 900-B & J.I. Marsh	Gurakor Ck, W of Lae; Gurakor Ck, W of Lae
Marattiaceae	<i>Marattia papuana</i>	J.R. Croft 1387, J.R. Croft 1389	Markham Point, W of Lae; Markham Point, W of Lae
Marattiaceae	<i>Angiopteris evecta</i>	A. Floyd NGF5660, Takeuchi W. N. 9018, A. Floyd s.n.	Near Lae, Morobe; Lae municipality, Morobe; Wasan Swamp near Lae
Marattiaceae	<i>Marattia papuana</i>	J.R. Croft 1388	Markham Point, W of Lae
Melastomataceae	<i>Melastoma cyanoides</i>	T.F. Daniel 6584, T. Kuria LAE87016, T.G. Hartley 12356, J. Womersley NGF12745, D.B. Foreman LAE60360, J.S. Womersley NGF8990, T.G. Hartley 12356	Buana and Kusip Rd, NE of Lae-Madang Highway; Atzera hill, West Taraka, Lae; Near Buso Rvr, NE of Lae; Patep Ck, Lae-Wau Rd; Gurakor Ck, Lae; Lae, Morobe; Near Buso Rvr, NE of Lae
Melastomataceae	<i>Astronia holrrungii</i>	T.G. Hartley 10425,	Oomsis Ck, W of Lae
Melastomataceae	<i>Astroniidium</i>	W. Takeuchi 16411 & D. Ama	Near Bubia, Lae
Melastomataceae	<i>Astroniidium insulare</i>	J.R. Croft LAE68570 & Y. Lelean	Natter Bay LA, SE of Lae
Melastomataceae	<i>Diplectria</i>	J. Regalado 1241 & P. Katik	LR to Mt. Garagos, from Gabensis village, W of Lae
Melastomataceae	<i>Dissochaeta densta</i>	M. Jacobs 9676	Lasanga Is, SE of Lae
Melastomataceae	<i>Heterocetron elegans</i>	C. Yallen LAE79265	Lae Botanic Garden, Lae.
Melastomataceae	<i>Medinilla musofo</i>	Anonymous 5580	Diddymans Ck, Lae
Melastomataceae	<i>Medinilla plumosa</i>	R.J. Johns NGF47198	Muniau, Lae subdistrict
Melastomataceae	<i>Medinilla radicans var. quadrifolia</i>	P.F. Stevens LAE54754 & N. Martin, J.S. Womersley NGF17794, P. van Royen NGF20154, E.E. Henty NGF14809, E.E. Henty NGF14835, E.E. Henty NGF11996, Native NGF5580, T.G. Hartley 10242	Markham Point, Lae; Oomsis LA, Lae; Markham Point, Lae; Oomsis Ridge, Lae; Cliff-Top above Busu Rvr, Lae; Markham Point, near Lae; Lae Botanical Gardens; Near the Butibum Rvr, N of Lae
Melastomataceae	<i>Melastoma malabathricum subsp. <i>Malabathricum</i></i>	T.G. Hartley 10263, T.G. Hartley 11927, T.G. Hartley 9664	Near Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae; Markham Point, W of Lae
Melastomataceae	<i>Melastoma montanum</i>	D.B. Foreman LAE60359	Gurakor Ck, Lae
Melastomataceae	<i>Miconia hookeriana</i>	P. Lamei LAE89473 & K. Fazang	Lae Botanic Gardens, Lae.

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Melastomataceae	<i>Otanthera</i>	J. Womersley NGF12745	Patep Ck, Lae-Wau Rd
Melastomataceae	<i>Poikilogyne</i>	M. Jacobs 8626, T.F. Daniel 6587, J.S. Womersley NGF43600, T.G. Hartley 10099	Kasanombe, N of Lae; Buana and Kusip Rd, NE of Lae-Madang Highway; Bupo Rvr, E of Lae; Busu Rvr, N of Lae
Melastomataceae	<i>Poikilogyne cordifolia</i>	J.S. Womersley NGF3211, J.S. Womersley NGF43600, K.J. White NGF9547, H. Streimann NGF45232	Atzera Ranges, near Lae; Bupo Rvr, E of Lae; Busu Rvr bridge, near Lae; Busu, Kawea Mountain, Lae
Melastomataceae	<i>Poikilogyne cordifolia var. ledermannii</i>	K.J. White 9547	Near Busu Bridge near Lae
Melastomataceae	<i>Astronia</i>	A.N. Millar NGF18854, J.S. Womersley NGF3211, T.G. Hartley 10425	Lae Botanic Gardens; National Botanical Garden, Lae
Melastomataceae	<i>Creochiton novoguineensis</i>	P.F. Stevens LAE54749 & N. Martin, R.J. Johns NGF47207	Markham Point, Lae; Muniau, Lae
Melastomataceae	<i>Medinilla</i>	J.S. Womersley NGF9085, J.S. Womersley NGF15311, J.S. Womersley NGF17794, R.J. Johns NGF47198, E.E. Henty NGF11990, J.S. Womersley NGF15311, E.E. Henty NGF11996, K.J. White NGF10335	Trans Busu LA, near Lae; Gurakor, Lae-Wau Rd; Oomsis LA, Lae; Muniau, Lae subdistrict; Markham Point near Lae; Gurakor, Lae-Wau Rd; Markham Point near Lae; Ridge above Markham Rvr Bridge, Lae
Melastomataceae	<i>Medinilla crassinervia</i>	T.G. Hartley 10484, W. Takeuchi 9056	Oomsis Ck, W of Lae; Atzera Range, Taraka, Lae
Melastomataceae	<i>Medinilla forbesii</i>	E.E. Henty NGF11990	Markham Point, near Lae
Melastomataceae	<i>Medinilla maluensis</i>	K.J. White NGF10335	Ridge above Markham Rvr Bridge, Lae
Melastomataceae	<i>Medinilla markgrafii var. markgrafii</i>	M. Jacobs 8611	Kasanombe, N of Lae
Melastomataceae	<i>Melastoma</i>	E.E. Henty NGF11988, T.F. Deniel 6578, W. Takeuchi 8808, D.B. Foreman LAE60359, T.G. Hartley 12248, A.N. Millar NGF9740, J. Regalado 1244 & P. Katik	Markham Point near Lae; Buana and Kusip Rd, NE of Lae-Madang Highway; Atzera Range, Lae; Gurakor Ck, Lae; Markham Point, W of Lae; Near Busu Rvr near Lae; Mt. Garagos, W of Lae
Melastomataceae	<i>Memecylon</i>	Anonymous NGF4643, J.S. Womersley & J. Vanderberg NGF43543, J.R. Croft LAE68500 & Y. Lelean, P. Katik LAE62217	Near Lae; Sankwap LA, Lae; Natter Bay LA. SE of Lae; Garagos LR, Lae
Melastomataceae	<i>Memecylon schraderbergense</i>	T.G. Hartley 10601, T.G. Hartley 11637, W. Takeuchi 15326, T.G. Hartley 11903	N Side of Markham Rvr, W of Lae; Near Butibum Rvr, N of Lae; Atzera Range near Bubia, Lae; Oomsis Ck, W of Lae-Bulolo Rd
Melastomataceae	<i>Memecylon torricellense</i>	W. Takeuchi 16241	Near Bubia, Lae
Melastomataceae	<i>Osbeckia</i>	T.F. Daniel 6585	Rd to Buana & Kusip, NE of Lae-Madang Highway
Melastomataceae	<i>Otanthera bracteata</i>	T.K. Kuria, et al. LAE87016	Atzera Hill, W Taraka, Lae
Melastomataceae	<i>Poikilogyne callantha</i>	R.J. Johns NGF47241	Maniau, Lae subdistrict
Melastomataceae	<i>Pternandra coerulescens var. cyanea</i>	T.G. Hartley 11913	Markham Point, W of Lae
Melastomataceae	<i>Pternandra cyanea</i>	J.S. Womersley NGF11684	Markham Point, near Lae

## Lae Flora

Meliaceae	<i>Aglaia</i>	J.S. Womersley NGF43676, J.S. Womersley NGF37429, H. Streimann & D.B. Foreman NGF28547, E.E. Henty NGF11604, J.S. Womersley NGF19167, A.N. Millar GH34, A.N. Millar NGF13862, J.M. Simaga 1830, J.M. Simaga 1827, A.N. Millar NGF9798, A.N. Millar GH109, P. Katik LAE64190 & F. Essig, D.J. Mabberley 1769, A.N. Millar NGF48562, H. Streimann 8653, H. Streimann 8359, Anonymous NGF226, F.T. Vickery NGF700, S. Womersley NGF37429, P. van Royen NGF16490, J.S. Womersley NGF19167, J.R. Croft LAE68526, E.E. Henty NGF11604, T.G. Hartley 10315A, W.R. Barker LAE66773, A.N. Millar GH34, A.N. Millar GH109	Bupu River, Lae; Sankwep LA, Lae; Buso, Lae; Atzera Ranges near Lae; Near Oomsis, Lae; Lae Botanic Gardens; Lae-Wau Road near Patep; Wau-Bulolo road, near Oomsis Works Dept Camp.; Oomsis near Lae; Lae Botanic Gardens; Situm LA, Lae; Tributary of R. Sankwep, Lae; Lae Botanic Garden; Labu Swamp, WNW of Lae; Busu river, NNW of Lae; 9Mile Post Lae-Nadzab Rd; Morobe, Lae; Sankwep LA, Lae; W bank of Busu river, E of Lae; Near Oomsis, Lae; Natter Bay LA, SE of Lae; Atzera Ranges, near Lae; Yalu NW Lae, Lae-Nadzab Road; Lae Botanic Garden near War Cemetery; Lae Botanic Gardens; Lae Botanic Gardens
Meliaceae	<i>Aglaia</i>	T.D. Pennington 8100, T.G. Hartley 11047, T.D. Pennington 8048, T.G. Hartley 10476, T.G. Hartley 11775, T.G. Hartley 10079, T.G. Hartley 9897, T.G. Hartley 10566, G. Hartley 10315A, Anonymous NGF226, M. Jacobs 9627, R.W. Evans 21, H. Streimann 8653, M.J.E. Coode 3996, J. Wiakabu & K. Kerenga LAE73359, P. Van Royen NGF16481, P. Katik LAE74768, J.R. Croft & Y. Lelean LAE68526, W.R. Barker LAE66771, M. Jacobs 9610, W.R. Barker LAE66769, W.R. Barker LAE66770,	Bumbu LA, near Lae; Busu Rivr, N of Lae; Bumbu LA, near Lae; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae; Bewapi Ck, W of Lae; Markham Rvr, Lae; Oomsis Ck, W of Lae; Yalu, NW of Lae; Nine Mile Post Lae-Nadzab Rd; SE of Lae, opposite Lasanga Island; Lae Busu River Lae; Labu Swamp, WNW of Lae; Sankwed LA, near Lae; Abunaka Plantation, near Lae; Oomsis LA, NW of Lae; Mt. Jasop, near Musom; Natter Bay LA, SE of Lae; Sankwep LA, Lae; SE of Lae, opposite Lasanga Island; Sankwep LA, Lae; Sankwep LA, Lae;
Meliaceae	<i>Aglaia agglomerata</i>	R.W. Evans 21	Lae Bupu River, Lae
Meliaceae	<i>Aglaia argentea</i>	L.S. Smith NGF1183, J. Waine 33	Busu-Bupu Rivers N of Lae; National Botanical Gardens, Lae
Meliaceae	<i>Aglaia brownii</i>	W. Takeuchi 15464	Atzera Range above Bubia, Lae
Meliaceae	<i>Aglaia cucullata</i>	Anonymous NGF903, C.T. White NGF1697, J.S. Womersley NGF9064, Anonymous NGF904, J. Wiakabu LAE73359, C.T. White NGF1566, C.T. White NGF1702, C.T. White NGF1609, F.T. Vickery NGF700	Lae Area; Morobe, Lae; Trans-Busu LA, Lae; Morobe, Lae Area; Abunaka Plantation near Lae; Morobe, Lae; Morobe, Lae; Morobe, Near Yalu; Morobe, Lae
Meliaceae	<i>Aglaia flavida</i>	J.J. Havel NGF11195	Garagos Lae-Bulolo Road
Meliaceae	<i>Aglaia lawii</i>	Anonymous NGF226, J. Womersley NGF3187, J. Womersley NGF3202, Kuria T. K. LAE87040, NGF21	Yalu, Lae-Nadzab Road; Yalu near Lae; Yalu near Lae; Lae National Botanic Garden; Morobe, Lae
Meliaceae	<i>Aglaia lepidopetala</i>	P.F. Stevens	Waterfall Busama, Lae
Meliaceae	<i>Aglaia subminutiflora</i>	T.G. Hartley 11021, H. Okada 4250 & P. Katik, T.G. Hartley 11047, T.G. Hartley 11043, T.G. Hartley 13076, H. Okada 4250,	S of Garagos Rvr Bridge, Lae-Bulolo Road; Gabensis ILA, Oomsis, Lae; Busu Rvr N of Lae; S of Busu Rvr, N of Lae; Oomsis Ck, W of Lae; Gabensis LA, Oomsis, Lae;
Meliaceae	<i>Aphanamixis</i>	A.N. Millar NGF18845, B.J. Conn 20, et al., A.N. Millar GH9, K.J. White NGF9694, 15 Apr 1958 Papua New Guinea, Morobe: Lae Botanical Gardens T.D. Pennington 8095, J.R. Croft LAE68488, S.H. Rogstad 775	Lae Botanic Gardens; Natter Bay LA, SE of Lae; Aluki village, E of Lae along coast.
Meliaceae	<i>Aphanamixis grandifolia</i>	J. Wiakabu & T. Umbo LAE72387	Lae Botanic Gardens, Lae
Meliaceae	<i>Aphanamixis myrmecophila</i>	P.F. Stevens LAE54759, K.J. White NGF9691	Lae Botanic Gardens, Lae
Meliaceae	<i>Cedrela odorata</i>	K. Taho, J. Wiakabu & D. Wabo LAE72400	Lae Botanic Gardens, Lae

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Meliaceae	<i>Chisocheton weinlandii</i>	J. Waine 13	Lae Botanic Garden, Lae.
Meliaceae	<i>Dysoxylum pettigrewianum</i>	E.E. Henty NGF11530	Atzera Range near Lae
Meliaceae	<i>Toona ciliata</i>	J.S. Womersley NGF13424, J. Womersley s.n., Anonymous NGF1, J.S. Womersley NGF3326, J. Womersley NGF3246	Oomsis Lae-Wau Rd, Lae; Lae, Morobe; Lae, Morobe; Lae, Morobe; Yalu near Lae
Meliaceae	<i>Vavaea</i>	T.G. Hartley 10171A, T.G. Hartley 11859, T.G. Hartley 10171	Butibum Rvr, N of Lae; Burep Rvr, NE of Lae; Near Butibum Rvr, N of Lae
Meliaceae	<i>Vavaea tubiflora</i>	T.G. Hartley 11056, D.J. Mabberley 1768	S of Busu Rvr, N of Lae; Tributary of Rvr, Sankwep, N of Lae
Meliaceae	<i>Xylocarpus granatum</i>	J.S. Womersley NGF46462, J.J. Havel 17199	Labu Lakes near Lae; Labu Swamp, Lae subdistrict
Meliaceae	<i>Aglaia</i>	T.G. Hartley 9897	Markham Rvr, Lae
Meliaceae	<i>Aglaia carrii</i>	Aglaia carrii Meliaceae 11021	S of Garagos Rvr bridge, Wau
Meliaceae	<i>Aglaia lepiorrhachis</i>	T.G. Hartley 11775	Burep River, NE of Lae
Meliaceae	<i>Aglaia lepiorrhachis</i>	T.G. Hartley 12344, T.G. Hartley 11847	Near Burep Rvr, NE of Lae; Near Burep Rvr, NE of Lae
Meliaceae	<i>Aglaia rimosa</i>	J.S. Womersley NGF43864	Garagos Ck, logging road, Lae
Meliaceae	<i>Aglaia sapindina</i>	T.G. Hartley 11031, C.T. White NGF1720, W.R. Barker LAE66772, J. Womersley NGF3187, J. Womersley NGF3187, C.T. White, H.E. Dadswell & S.L. Smith NGF1573, C.T. White, H.E. Dadswell & S.L. Smith NGF1575, M. Fallen 299 & Y. Lelean, A.N. Millar NGF9913, J.S. Womersley NGF19053, J. Waine 31, A.N. Millar NGF48562, C.T. White, H.E. Dadswell & S.L. Smith NGF1720, W. Takeuchi 16323, M. Fallen 305 & Y. Lelean, W. Takeuchi 16243, P.F. Stevens & H. Streimann LAE54729, W.R. Barker LAE66773,	S of Busu Rvr, N Of Lae; Morobe, Lae; Lae Botanic Garden; Yalu near Lae; Yalu near Lae; Morobe, Lae; Near Lae; Sangkewp LA, SW of Lae; Markham Road, near Lae; Patep 35 miles from Lae; National Botanical Gardens, Lae; Lae Botanic Garden, Lae; Morobe, Lae; Near Bubia, Lae; Sangkewp LA, SW of Lae; Near Bubia, Lae; Near Markham Bridge, Lae; Botanic Garden near War Cemetery, Lae;
Meliaceae	<i>Aglaia sapindina</i>	C.T. White NGF1575, W. Takeuchi 4635, A.N. Millar NGF18846, J. Womersley NGF3202, E.E. Henty NGF12445, C.T. White NGF1573, J.S. Womersley NGF19053	Near Lae; Busu river, NW of Bumayong, Lae; Lae Botanic Gardens; Yalu near Lae; Busu river, Lae; Morobe, Lae; Patep, Lae
Meliaceae	<i>Aglaia sapindina</i>	P. Katik LAE62242, W. Moi & N. Inu NGF25958, C.T. White NGF1720, C.T. White NGF1573,	Markham Bridge, Lae; Markham Point, Lae; Morobe, Lae; Morobe, Lae;
Meliaceae	<i>Aglaia schlechteri</i>	T.G. Hartley 11031, T.G. Hartley 12212	S of Busu River, N Of Lae; near Butibum Rvr, N of Lae
Meliaceae	<i>Aglaia silvestris</i>	T.G. Hartley 10521	Oomsis Creek, Lae
Meliaceae	<i>Aglaia spectabilis</i>	R.W. Evans 46, J.S. Womersley NGF11837, J.J. Havel NGF11195,	Trans Busu LA, Lae; Oomsis Ck, Lae; Garagos Lae-Bulolo Rd,
Meliaceae	<i>Aglaia spectabilis</i>	T.D. Pennington 8055	Busu LA, near Lae
Meliaceae	<i>Aglaia tomentosa</i>	A.N. Millar NGF13862, T.G. Hartley 10566	Near Patep, Lae-Wau Rd; Oomsis Ck, W of Lae
Meliaceae	<i>Amoora Meliaceae</i>	J.S. Womersley NGF11837, J. Havel s.n. & A. Kairo, G. McDonald 5145	Oomsis Ck, Lae; Garagos, Lae-Bulolo rd.; Lae Botanic Gardens;
Meliaceae	<i>Aphanamixis lauterbachii</i>	A.N. Millar s.n.	Botanic Garden, Lae

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Meliaceae	<i>Aphanamixis polystachya</i>	M. Fallen 277, M. Tavune LAE76363, K.J. White NGF9694, T.G. Hartley TGH12290, Anonymous NGF243, T.G. Hartley 11035, Takeuchi W. N. 8952, J.R. Croft & Y. Lelean LAE68488, A.N. Millar NGF18845, W.R. Barker & P. Katik LAE66756, T.G. Hartley TGH11035	Near Markham Bridge; Lae Botanic Gardens; Lae Botanical Gardens; Near the Buso rvr NE of Lae; Corner of Lae-Nadzab Rd & Narakapoor Farm; S of Busu Rvr N of Lae; Regrowth area near Lae; Natter Bay LA, SE of Lae; Lae Botanical Garden; Markham Bridge, NW Lae-Oomsis Rd, Lae; S of Busu Rvr, N of Lae
Meliaceae	<i>Chisocheton</i>	C.T. White NGF1740, Anonymous 5618, E.E. Henty NGF11526, J.S. Womersley NGF24848, A. Kairo NGF30901, T.G. Hartley 10995, T.G. Hartley 12397, J.S. Womersley NGF17609, J. Vandenberg NGF42298, C.T. White NGF1533, T.G. Hartley 12193	Lae, Morobe; Lae, Morobe; Maralumi Ck, Erap, Lae; Near Timme village, Wau Rd, Lae; Oomsis near Lae; Oomsis Ck, W of Lae; Lae, Morobe
Meliaceae	<i>Chisocheton ceramicus</i>	Anonymous NGF22, D.B. Foreman LAE60347, E.E. Henty NGF29141, Coode & Cropley, J. Waine 14, H. Okada 4290 & P. Katik, C.T. White NGF1725, P.F. Stevens LAE58001, T.G. Hartley 9902, J. Waine 19, D.J. Mabberley 1720, Anonymous NGF913, C.T. White, H.E. Dadswell & L.S. Smith NGF1650	9 miles, Lae Nadzab Rd; Sankwep LA near Lae; Busu RVr near Lae; National Botanical Gardens, Lae; Sunkwep LA, Lae; Lae, Morobe; Sankwep LA near Lae; Markham Rvr, Lae; National Botanical Gardens, Lae; Tamiloa Plantation, W of Lae; Lae Area; Lae, Morobe
Meliaceae	<i>Chisocheton ceramicus</i>	T.G. Hartley 9902, C.T. White NGF1725, T.D. Pennington 8058, P.F. Stevens LAE58001, J.B. Fisher 86-13, C.T. White NGF1650, T.D. Pennington 8051, C.T. White NGF1509	Markham Rvr, Lae; Lae, Morobe; Oomsis ck, near Lae; Sankwep LA near Lae; Along Lae-Wau Rd; Lae, Morobe; Busu LA, near Lae; Lae, Morobe
Meliaceae	<i>Chisocheton cumingianus</i>	T.G. Hartley 12397, C.T. White NGF1740, Anonymous NGF699, J.S. Womersley NGF24848, P. Katik NGF46749	S Side Busu Rvr, N of Lae; Lae, Morobe; Wau Rd near Lae; Buaru Ck, Lae
Meliaceae	<i>Chisocheton cumingianus</i> subsp. <i>cumingianus</i>	P.F. Stevens LAE56003, P.F. Stevens LAE58007, T.D. Pennington 8052	Sankwep LA near Lae; Sankwep LA near Lae; Busu LA, near Lae
Meliaceae	<i>Chisocheton lasiocarpus</i>	Anonymous NGF238, J.S. Womersley NGF3244, C.T. White NGF1704, Anonymous NGF905, T.G. Hartley 10603, H. Streimann NGF17299, Anonymous NGF238, T.G. Hartley 9901, L.S. Smith NGF1185, T.G. Hartley 10954, Anonymous NGF911, K.J. White NGF9667, Anonymous NGF695, L.S. Smith NGF1185, J.S. Womersley NGF3208	Lae-Nadzab Rd; Yalu near Lae; Lae, Morobe; Lae Area; Markham Rvr, W of Lae; Crooked Ck near Lae-Wau Rd; Corner of Narakapoor and Nadzab-Lae Rd; Markham Rvr, W of Lae; Betwn Busu & Bupu Rvrs, N of Lae; Markham Rvr, W of Lae; Lae Area; Lae Botanic Gardens; Lae, Morobe; Betwn Busu and Bupu Rvrs, N of Lae; Yalu near Lae
Meliaceae	<i>Chisocheton longistipitatus</i>	J.S. Womersley NGF19176	Garagos near Lae
Meliaceae	<i>Chisocheton morobeanus</i>	W. Takeuchi 8972, M. Jacobs 8702	Markham Rvr, Lae; Busu LA, N of Lae
Meliaceae	<i>Chisocheton sapindinus</i>	H. Okada 4237, A. Kairo & H. Streimann NGF30901	Gabensis LA, Oomsis, Lae; Oomsis, Lae
Meliaceae	<i>Chisocheton schumannii</i>	P.F. Stevens	Lae Botanic Gardens, Lae
Meliaceae	<i>Dysoxylum</i>	J.S. Womersley NGF11838, Anonymous NGF2907, K.J. White NGF9698, J.M. Simaga 1834, F.T. Vickery NGF1417, G. McDonald 5142, W.N. Takeuchi 4323, J.S. Womersley NGF37151, H. Streimann NGF47842, A. Kairo 651, Anonymous 5619, C.T. White NGF1557, T.G. Hartley 10199, J.M. Simaga 1833, P. Katik LAE64186 & F. Essig, K.J. White NGF9670, Anonymous NGF18, et al 54, T.G. Hartley 10278, Anonymous NGF4721, E.E. Henty NGF11692, Anonymous NGF924, J.S. Womersley 3291	Oomsis CK, Lae; Lae, Morobe; Lae Botanic Gardens; Gabensis LA, Lae; Yalu near Lae; Lae Botanic Gardens; Atzera Range, Lae outskirts; Bumbu Rd, Lae; Zenag, Lae-Bulolo Rd; Patep No 1, Lae-Mumeng Rd; Lae, Morobe; Lae, Morobe; Burep Rvr, NE of Lae; J.M. Simaga 1833, Situm LA, Lae; Lae Botanic Gardens; Lae, Morobe; Boana, Lae; Near Butibum Rvr, N of Lae; Lae, Morobe; E of Lae; Buembi Rvr near Lae; Lae Area, Morobe; Yalu near Lae
Meliaceae	<i>Dysoxylum alliaceum</i>	W. Takeuchi 16659	Hills above 9-10 mile, Lae

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Meliaceae	<i>Dysoxylum arborescens</i>	N.A. Vinas LAE72324, T.G. Hartley 10095, W.N. Takeuchi 8948, Anonymous NGF5603, T.G. Hartley 10960, E.E. Henty NGF10578, T.G. Hartley 9924, J. Waine 18, T.G. Hartley 9640, O.K. Paul LAE87524, T. Kuria LAE87040, J. Wiakabu LAE72373	Lae Botanical Gardens, Lae; Busu Rvr, N of Lae; Diddymans Ck, Lae; near Butibum Rvr, N of Lae.
Meliaceae	<i>Dysoxylum bamleri</i>	T.G. Hartley 11862, W. Takeuchi 6976	Butibum Rvr, N of Lae; Hills adjacent to Busu Rvr, Lae
Meliaceae	<i>Dysoxylum caulostachyum</i>	A.N. Millar GH49	Lae Botanic Gardens, Lae
Meliaceae	<i>Dysoxylum gaudichaudianum</i>	E.E. Henty NGF27496, E.E. Henty NGF10502, J. Waine 17, T.K. Kuria, et al. LAE87037, E.E. Henty NGF9900	NGI Area, Lae; Golf Links, Lae; Lae Botanic Garden
Meliaceae	<i>Dysoxylum hapalanthum</i>	Takeuchi W. N. 8950	Regrowth areas near Lae
Meliaceae	<i>Dysoxylum parasiticum</i>	H. Okada 4274, H. Okada 4280, A.N. Millar GH49, W.N. Takeuchi 4315, E.E. Henty NGF9832, G. Argent NGBF1064, C.T. White NGF1512, C.T. White NGF1551, W.N. Takeuchi 4315, H. Okada 4280, H. Okada 4280, K.J. White NGF9692, J. Waine 29, K.J. White NGF9674, W.R. Barker LAE66774	Gabensis LA, Oomsis, Lae; Sunkwep LA, Busu Rvr, Lae; Lae Botanic Gardens; Lae, Morobe; National Botanic Gardens, Lae; Forest Research Institute site, Lae; Lae, Morobe; Lae, Morobe; Lae, Morobe; Sunkwep LA, Lae; Sunkwep LA, Lae; Lae Botanic Gardens; National Botanical Gardens, Lae; Lae Botanic Gardens; Lae Botanic Gardens
Meliaceae	<i>Synoum glandulosum</i>	H. Streimann NGF47854	Wampit, Lae-Bulolo Rd
Meliaceae	<i>Toona surenii</i>	Anonymous NGF1, J.S. Womersley NGF13424, J.S. Womersley NGF3326,	Lae, Morobe; Oomsis, near Lae; Lae, Morobe
Meliosmaceae	<i>Meliosma pinnata</i>	W. Takeuchi 17126	Hills near Taraka, Lae
Menispermaceae	<i>Arcangelisia tympanopoda</i>	T.G. Hartley 10304	Bunga Rvr NE of Lae
Menispermaceae	<i>Macrococculus pomiferus</i>	H. Streimann NGF47855, P. Katik s.n. & G. Larivita	Wampit, Lae-Bulolo; Buso Rvr, Lae Subdistrict
Menispermaceae	<i>Parabaena</i>	Anonymous NGF9000	Lae Botanic Gardens, Lae.
Menispermaceae	<i>Stephania japonica var. discolor</i>	Anonymous NGF8999	Lae Botanic Gardens, Lae
Menispermaceae	<i>Tinospora dissitiflora</i>	A.N. Millar NGF12277, A.N. Millar NGF12270, A.N. Millar NGF12272	Bupu Rvr near Lae; Oomsis near Lae; Oomsis near Lae
Menispermaceae	<i>Chlaenandra ovata</i>	K.J. White NGF10461	Oomsis, Red Hill area near Lae
Menispermaceae	<i>Cocculus</i>	P. Van Royen NGF16265	10 mile, Nadzab Rd, Lae
Menispermaceae	<i>Hypserpa</i>	W.N. Takeuchi 8988	Lae Area
Menispermaceae	<i>Hypserpa polyandra</i>	T.G. Hartley 10504, T.G. Hartley 10280, P. van Royen 15019, J.S. Womersley 14620	N of Butibum Rvr, Lae; Near Butibum Rvr, N of Lae; Lake Wannum, near Lae; Watut Rvr, near Sum Sum, Lae-Wau Rd
Menispermaceae	<i>Parabaena tuberculata</i>	T.G. Hartley 11352, J. Waikabu LAE73340, G. Argent 1065, A.N. Millar NGF9769	Area betwn Busu & Butibum Rvrs, N of Lae; Near Markham Bridge, Lae subprovince; Lae Institute Site; Lae Botanical Gardens
Menispermaceae	<i>Stephania Menispermaceae</i>	H. Streimann NGF47719	W of Lae
Menispermaceae	<i>Stephania zippeliana</i>	A.N. Millar NGF9793, A.N. Millar NGF14407, A.N. Millar NGF9914	Oomsis near Lae; Lae Botanic Gardens; Markham Rd near Lae
Menispermaceae	<i>Tinospora</i>	J.S. Womersley NGF43907	Aluki Area, E of Lae
Menispermaceae	<i>Tinospora glabra</i>	P. Stevens LAE58002	Sankwep LA near Lae
Menyanthaceae	<i>Nymphoides indica</i>	B.J. Conn LAE69155	Lake Wanum, Lae subdistrict
Molluginaceae	<i>Mollugo pentaphylla</i>	M. Coode NGF32716, C.T. White NGF1683	Lae Botanical Gardens; Lae Kunai area along Vhell tracks
Monimiaceae	<i>Dryadodaphne novoguineensis subsp. <i>novoguineensis</i></i>	N.M.U. Clunie & P. Katik LAE63033	Garagos Mountain LA, Lae subdistrict

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Monimiaceae	<i>Kairoa suberosa</i>	W. Takeuchi 5999, W. Takeuchi 5929, W. Takeuchi 17008	Hills near Bumayong, Lae; Ridge behind 5 mile, Lae; Hills near Taraka, Lae
Monimiaceae	<i>Kibara</i>	J.S. Womersley NGF3311, H. Streimann LAE51926, Anonymous NGF4710, C.T. White NGF1527, W. Takeuchi 17043	Lae, Morobe; Garagos, Lae on Wau Rd; Lae Botanical Gardens; Lae, Morobe; Hills near Taraka, Lae
Monimiaceae	<i>Kibara formicarum</i>	T.G. Hartley 9932	Near Busu Rvr, N of Lae
Monimiaceae	<i>Kibara inamoena</i>	T.G. Hartley 10028, T.G. Hartley 10992, T.G. Hartley 12379	Oomsis Ck, W of Lae; S Side of Markham Rvr, W of Lae; Near Yalu, NW of Lae
Monimiaceae	<i>Kibara schlechteri</i>	J.S. Womersley 3182	Yalu near Lae
Monimiaceae	<i>Steganthera</i>	W.N. Takeuchi 9012	Lae municipality
Monimiaceae	<i>Steganthera hirsuta</i>	W. Takeuchi 5933, W. Takeuchi 5598, H. Okada 4319	Near Bumayong, Lae; Near Bumayong, Lae; Gumboak Strm, Busu Rvr, Lae
Moraceae	<i>Antiaropsis decipiens</i>	J.S. Womersley NGF19149, Ridsdale C. E. NGF31686, J.S. Womersley NGF19147	Oomsis Hill, Lae; Near Maiama Village, Lae subdistrict; Oomsis Hill, Lae, Lae-Wau Rd
Moraceae	<i>Antiaropsis decipiens</i>	T.G. Hartley 10836, E.E. Henty NGF10694, J.S. Womersley NGF19147	Markham Rvr Valley, W of Lae; Markham Valley, Erap near Lae; Oomsis Hill, near Lae
Moraceae	<i>Ficus adenisperma</i>	S.E. Garrett-Jones 21193, M. Coode 29580, A. Kairo 43489 & H. Streimann, T.G. Hartley 9859, A.N. Millar NGF9783, Anonymous 5620, Native collector s.n., H. Streimann 43490	Yanamugi lake, Lae subdistrict; Lae, Morobe; Saru Rvr, SE of Garaina, Lae subdistrict; Lae-Goroka Rd; Wanaru Plantation near Lae; Lae, Morobe; Lae, Morobe; Saru Rvr, SE of Garaina, Lae subdistrict
Moraceae	<i>Ficus albipila</i>	E.E. Henty 12427, E.E. Henty NGF13636	Near Lae; Erap near Lae
Moraceae	<i>Ficus albipila</i> var. <i>albipila</i>	E.E. Henty NGF13636	Erap near Lae
Moraceae	<i>Ficus archboldiana</i>	E.E. Henty NGF11619	Lae Area
Moraceae	<i>Ficus baeuerleinii</i>	T.G. Hartley 9615,	N side of Markham Rvr, W of Lae;
Moraceae	<i>Ficus baeuerleinii</i> var. <i>vulcaniformis</i>	E.E. Henty NGF14360	Oomsis LA near Lae
Moraceae	<i>Ficus benjamina</i>	T.G. Hartley TGH12220, A.N. Millar 14519, D.B. Foreman LAE 52300, J.R. Croft LAE68522, H. Streimann 44154, E.E. Henty 13612, E.E. Henty NGF13647	Near Erap, W of Lae-Goroka Rd; Lae-Wau Rd; Near Buso Village, Lae subdistrict; Natter Bay LA, SE of Lae; Buso Village, Lae subdistrict; Oomsis near Lae; Lae, Morobe
Moraceae	<i>Ficus bernaysii</i>	E.E. Henty NGF14367, J.S. Womersley NGF19174	Oomsis near Lae; Oomsis LA, near Lae
Moraceae	<i>Ficus calodictya</i>	T.G. Hartley 10898B	Liana. Markham Valley, W of Lae
Moraceae	<i>Ficus calopilina</i>	T.G. Hartley TGH10898, H. Streimann 44300, A. Floyd 5700	Markham Valley, W of Lae; Lasanga Is, Lae subdistrict; Lae, Morobe
Moraceae	<i>Ficus chrysolepis</i> subsp. <i>novoguineensis</i>	E.E. Henty NGF11658; E. J. H. Corner NGF12456	Lae Botanic Gardens, Lae
Moraceae	<i>Ficus comitis</i>	T.G. Hartley 11033, T.G. Hartley 11924, T.G. Hartley TGH110533	S of Busu Rvr, N of Lae; Busu Rvr, N of Lae
Moraceae	<i>Ficus congesta</i> var. <i>chalmersii</i>	E.J.H. Corner NGF12451, E.E. Henty NGF11973	Lae Botanical Gardens, Lae.
Moraceae	<i>Ficus drupacea</i>	S.E. Garrett-Jones ANU 21004	Lake Wanum, S Swamp, Lae subdistrict
Moraceae	<i>Ficus elastica</i>	J. Waine 32	Lae Botanic Garden, Lae.
Moraceae	<i>Ficus glaberrima</i> var. <i>bracteata</i>	J.S. Womersley NGF9067, E.E. Henty NGF29374, T.G. Hartley 10406	Trans-Busu Timber Area, Lae; Lae Botanic Gardens; Oomsis Ck, W of Lae
Moraceae	<i>Ficus gul</i>	J.S. Womersley 4308, E.E. Henty 14870, E.E. Henty NGF13656, A.N. Millar NGF18848	Lae, Morobe; Boana, Lae subdistrict; Lae, Morobe; Lae Botanic Gardens
Moraceae	<i>Ficus hispidioides</i> var. <i>succosa</i>	M. Coode NGF29581, A. Floyd s.n.	Lae, Morobe; Lae, Morobe
Moraceae	<i>Ficus itoana</i>	H. Streimann NGF24087, K.J. White NGF10188	Ana village, SW of Morobe; Oomsis near Lae

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Moraceae	<i>Ficus lawesii</i>	E.E. Henty NGF29374, T.G. Hartley 10298, E.E. Henty NGF13656	Lae Botanic Garden, Lae; along Bunga Rvr, NE of Lae.
Moraceae	<i>Ficus melinocarpa</i>	D.M. Osborn 41947	Oomsis near Lae
Moraceae	<i>Ficus microcarpa</i>	S.E. Garrett-Jones 21191	Yanamugi Lake, Markham Valley, Lae
Moraceae	<i>Ficus mollior</i>	E.E. Henty NGF29376, T.G. Hartley 10449, E.J. Corner NGF13538, A. Floyd 5701, E.E. Henty 14872	Lae Botanical Gardens; Red Hill, W of Lae; Lae, Morobe; Lae, Morobe; Boana, Lae subdistrict
Moraceae	<i>Ficus morobensis</i>	E. Baltisberger 11823	Patep, near Mumeng, WSW of Lae
Moraceae	<i>Ficus nodosa</i>	E.E. Henty NGF13637, A. Floyd 5720, J. Vandenberg 42127	Erap, near Lae; Lae, Morobe; Near Markham Rvr, Lae
Moraceae	<i>Ficus novoguineensis</i>	E.J. Corner NGF12456, E.E. Henty NGF11658	Lae Botanic Gardens, Lae
Moraceae	<i>Ficus odoardi</i>	J.S. Womersley NGF14074, A.N. Millar NGF9905, E.J. Corner NGF12455, E.E. Henty NGF11928, A.N. Millar GH87, E.E. Henty NGF10539	Red Hill near Lae; Lae Botanic Gardens; Lae Botanic Garden; Oomsis LA near Lae; Lae Botanic Gardens; Near Lae
Moraceae	<i>Ficus pantoniana</i>	E.E. Henty NGF13650, E.E. Henty NGF24556	Lae, Morobe; Tamiloa Plantation near Lae
Moraceae	<i>Ficus phaeosyce</i>	E.E. Henty NGF14389, C. Versteegh 5779	Oomsis Logging Area near Lae; Above Yalu near Lae
Moraceae	<i>Ficus pilulifera</i>	T.G. Hartley 11096	S of Busu Rvr, N of Lae
Moraceae	<i>Ficus polyantha</i>	P. Katik LAE62176, E.E. Henty NGF1669, F.T. Vickery NGF1409, K.J. White NGF9669, P. Lamei LAE89457 & K. Fazang	Lae Botanic Gardens, Lae
Moraceae	<i>Ficus porphyrochaete</i>	H. Streimann NGF47845, H. Streimann & A. Kairo NGF48945	Zenag, Lae-Bulolo Rd; Zenag, Lae-Bulolo Rd
Moraceae	<i>Ficus prasinicarpa</i>	H. Streimann NGF45207, H. Streimann NGF44299	Musi Island, Buso, Lae subdistrict; Lasanga Is, Lae subdistrict
Moraceae	<i>Ficus pseudojaca</i>	T.G. Hartley 11335	Atzera Range, N of Lae
Moraceae	<i>Ficus pungens</i>	H. Streimann 44325, K.R. Woolliams 211, T.G. Hartley 10164	Lasanga Is, Lae subdistrict; Lae, Morobe; Burep Rvr, NE of Lae
Moraceae	<i>Ficus pyrata</i>	J. Waikabu LAE72322	Lae Botanic Gardens, Lae.
Moraceae	<i>Ficus robusta</i>	E.E. Henty NGF13651	Atzera foothills near Lae
Moraceae	<i>Ficus septica</i>	A. Floyd NGF5702, T.G. Hartley TGH10840, Native collector for A. NGF5702, Geana Betty BG 005 & S. Sennart, P. Lamei LAE89468 & K. Fazang, M. Kawanamo LAE76349, E.E. Henty NGF11947, S. Aloysiis LAE76331	Lae Botanical Gardens, Lae; Malahang near Lae.
Moraceae	<i>Ficus spp.</i>	T.G. Hartley TGH10871, Mary Fallen. 316 & Yakas. Lelean., R.F. Thorne, et al. 27495	Markham Rvr, W of Lae; Sangkewp LA, SW of Lae; Markaham Point, W of Lae
Moraceae	<i>Ficus subcordata</i>	E.E.D. Henty NGF13612, J.S. Womersley NGF14070	Oomsis, near Lae; Red Hill, Lae-Wau Rd
Moraceae	<i>Ficus subcuneata</i>	J.R. Croft LAE68567, J. Croft & Y. Lelean LAE68567	Natter Bay LA, SE of Lae; Natter Bay logging area, LA, SE of Lae
Moraceae	<i>Ficus sublimbata</i>	M. Coode NGF25431	Lae Rifle Range
Moraceae	<i>Ficus subnervosa</i>	T.G. Hartley TGH12213,	Near Butibum Rvr, N of Lae
Moraceae	<i>Ficus subtrinervia</i>	E.E. Henty NGF11519, T.G. Hartley 11089, T.G. Hartley 12389, H. Streimann & F.C. Students NGF45010	Erap near Lae; S of Busu Rvr, N of Lae; Burep Rvr, NE of Lae; Saru Rvr, SE of Garaina, Lae subdistrict
Moraceae	<i>Ficus tinctoria</i>	J.S. Womersley NGF19039, A.N. Millar NGF14402, E.E. Henty NGF14373	Patep, Lae-Wau Rd; Red Hill near Lae; TAA Terminal, Lae

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Moraceae	<i>Ficus trachypison</i>	T.G. Hartley 10844, E.E. Henty NGF9838, H. Streimann LAE52759, E.E. Henty NGF 29377, J. Waine 16, E.J.H. Corner NGF12460	Busu Rvr, NW of Lae; Three Mile, Lae; Buso, Lae subdistrict; Lae Botanic Gardens; National Botanic Gardens, Lae; Lae Botanic Gardens
Moraceae	<i>Ficus trachypison var. pallida</i>	T.G. Hartley TGH11034, Anonymous 5636, E.E. Henty NGF29377, Native collector NGF5636, E.J.H. Corner NGF12460	S of Busu Rvr, N of Lae; Lae, Morobe; Lae, Morobe; Lae, Morobe; Lae Botanic Gardens
Moraceae	<i>Ficus trichocerasa</i>	E.E. Henty NGF11914, T.G. Hartley 11032	Busu Rd near Lae; S of Busu Rvr, N of Lae
Moraceae	<i>Ficus variegata</i>	E.J.H. Corner NGF13511, T.G. Hartley TGH10605, C.T. White, H.E. Dadswell & L.S. Smith NGF1718, J.S. Womersley NGF5140, E.E. Henty NGF20520, T.G. Hartley 10841, J. Vandenberg NGF42129	Busu Rd, Lae; Near Busu Rvr, NE of Lae; Lae, Morobe; Lae Botanic Gardens; Lae Botanic Gardens; Near Butibum Rvr, N of Lae; Near Markham Rvr, Lae
Moraceae	<i>Ficus virens var. virens</i>	A.N. Millar NGF 14618 & J.S. Womersley	Watut Rvr near Sum Sum, Lae-Wau Rd
Moraceae	<i>Ficus virgata var. sessilis</i>	T.G. Hartley 9646	Lae Botanic Gardens, Lae
Moraceae	<i>Ficus xylosycia</i>	T.G. Hartley TGH10522, T.G. Hartley TGH10131, M. Coode NGF32553	Busu Rvr, N of Lae; Burep Rvr NE of Lae; Lae, Morobe
Moraceae	<i>Ficus xylosycia var. cylindrocarpa</i>	J.S. Womersley NGF14211, T.G. Hartley 9842, T.G. Hartley 10522, T.G. Hartley 10131, EE Henty NGF11668	Busu Rvr near Lae; Near Butibum Rvr, N of Lae; Busu Rvr, N of Lae; Burep Rvr NE of Lae
Moraceae	<i>Streblus</i>	T.G. Hartley 11842	Burep Rvr, NE of Lae
Moraceae	<i>Trophis scandens</i>	J.S. Womersley 4741, J.S. Womersley NGF4304, A.N. Millar NGF14408	Yalu near Lae; Lae Area; Lae Botanic Gardens
Moraceae	<i>Trophis scandens subsp. scandens</i>	P. Van Royen NGF16493, T.G. Hartley 11323A, T.G. Hartley 11323, D.B. Foreman LAE60361	Nadzab Airstrip, N of Lae; Nadzab, W of Lae; Near junction of Busu & Sankwep Rvrs, N of Lae; Gurakor Ck, Lae
Moraceae	<i>Antiaris toxicaria subsp. macrophylla</i>	G.D. Weiblen GW2690	Lae Botanic Garden, Lae
Moraceae	<i>Antiaris toxicaria var. macrophylla</i>	C.T. White NGF1525, J. Womersley NGF3239, J. Womersley NGF3239	Morobe, Lae; Yalu W of Lae; Yalu W of Lae
Moraceae	<i>Artocarpus</i>	J.S. Womersley NGF9079	Lae Botanic Garden, Lae
Moraceae	<i>Artocarpus camansi</i>	Motley T.J. 28 & Zerega N.C.	Lae forest Research Institute forest, Lae-Wau Rd
Moraceae	<i>Artocarpus incisus</i>	L.S. Smith NGF1257	Lae Area
Moraceae	<i>Artocarpus refracta</i>	P. Katik NGF37986,	Hobu Rd, Lae;
Moraceae	<i>Artocarpus sepicanus</i>	Havel J.J. NGF17021,	Lae Area
Moraceae	<i>Artocarpus vriesianus</i>	J.S. Womersley NGF9079, T.G. Hartley TGH10053, T.G. Hartley TGH10093, E.E. Henty NGF16725, F.T. Vickery NGF1404, T.G. Hartley 12333, F.T. Vickery NGF1404, A.N. Millar GH3, A.N. Millar 3	Lae Botanic Garden; Oomsis Ck, W of Lae; Busu Rvr, N of Lae; 3 mile Forest Plot, Lae; FLae Bumbu Area; Near Butibum Rvr, N of Lae; Lae Bumbu Area; Botanic Gardens, Lae; Lae Botanic Garden
Moraceae	<i>Artocarpus vriesianus var. subsessilis</i>	E.E. Henty E.E. Henty NGF49742, NGF10586, Anonymous NGF236	Near Lae; Narakapoor Rd & Lae-Nadzab Rd
Moraceae	<i>Ficus</i>	W. Takeuchi 17104, T.G. Hartley 10605, M. Jacobs 8664, M. Jacobs 8670, M. Jacobs 8674, K. Taho LAE72401, M. Jacobs 9541, E.E. Henty NGF13651, A.N. Millar GH92A, R.F. Thorne 27495, A.N. Millar NGF18848, A.N. Millar GH87,	Hills near Taraka; Near Busu Rvr, NE of Lae; Kasanombe, N of Lae; Kasanombe, N of Lae; Lae Botanic Gardens; Lasanga Is, SE of Lae; Lae, Morobe; Lae Botanic Gardens; Markham Point, W of Lae; Lae Botanic Gardens; Lae Botanic Gardens;

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Moraceae	<i>Ficus</i>	T.G. Hartley 10845, J. Wiakabu LAE72401 & K. Taho, E.E. Henty NGF13656, A.N. Millar NGF18844, J.S. Womersley NGF14070, J. Regalado 1246, P. Katik & K. Taho NGF37920, W. Takeuchi 17122	Busu Rvr, NW of Lae; Lae Botanic Garden; Lae, Morobe; Lae Botanic Gardens; Red Hill, Lae-Wau Rd; Singaua Rd, E of Lae City; Kasanombe, N of Lae; Hills near Taraka, Lae
Moraceae	<i>Ficus ampelas</i>	A.N. Millar 18844, C.T. White, et al. 1727, J. Waine 22, A.N. Millar NGF18844, H. Streimann 44324, H. Streimann 45118	Lae Botanical Gardens, Lae; Lasanga Is, S of Lae; Buso Rvr, Lae.
Moraceae	<i>Ficus ampelas var. soronensis</i>	C.T. White NGF1727	Lae Area
Moraceae	<i>Ficus arfakensis</i>	D. Floyd 5712, J. Waine 23, K.J. White NGF10196, H. Streimann 47808, J.S. Womersley 43670, E.E. Henty NGF11599, M. Jacobs 9602, K.J. White 10106, J. Waine 24, A. Floyd 5712	Markham Point near Lae; National Botanic Gardens, Lae; Oomsis near Lae; Garagos, Lae-Bulolo Rd; Gurakor, Lae subdistrict; Atzera Range near Lae; Lasanga Is, SE of Lae; Oomsis near Lae; National Botanic Gardens, Lae; Markham Point near Lae
Moraceae	<i>Ficus armitti</i>	T.G. Hartley TGH9612	N side of Markham Rvr, W of Lae
Moraceae	<i>Ficus benjamina var. benjamina</i>	A.N. Millar NGF14519, J.R. Croft LAE68522	Lae-Wau Rd; Natter Bay LA, SE of Lae
Moraceae	<i>Ficus benjamina var. nuda</i>	E.E. Henty NGF13612	Oomsis near Lae
Moraceae	<i>Ficus botryocarpa</i>	J.S. Womersley NGF4310; P. Katik 11820	Lae, Morobe; Gawam, N of Wagan, ENE of Lae
Moraceae	<i>Ficus caseariooides</i>	T.G. Hartley 11907, T.G. Hartley 12249, T.G. Hartley 11886, J.S. Womersley 4309	Oomsis Ck, W of Lae; Markham Point, W of Lae; Busu Rvr, N of Lae; Lae, Morobe
Moraceae	<i>Ficus congesta</i>	T.G. Hartley TGH10845, E.J.H. Corner 12451, E.E. Henty 11973	Busu Rvr, NW of Lae; Lae Botanical Gardens; Lae, Morobe
Moraceae	<i>Ficus conocephalifolia</i>	E.J. Corner NGF12452, Native Collector 5579, E.E. Henty NGF10557, E.J. Corner NGF12453, Anonymous 5579	Lae Botanic Gardens; Didiman's Ck, Lae; Near Lae; Lae Botanic Gardens; Diddyman's Ck, Lae
Moraceae	<i>Ficus crassiramea</i>	T.G. Hartley TGH10010, E.E. Henty NGF11670, C.T. White NGF1723, M. Galore NGF17557	Oomsis Ck, W of Lae; Butibum near Lae; Territory of NG; PNGVR Training Area near Lae
Moraceae	<i>Ficus crassiramea var. patellifera</i>	G.L. Webster 15071 & R. Hildreth, T.G. Hartley 10010, E.E. Henty NGF11670, M. Galore NGF17557	Busu Rvr Area, N of Lae; Oomsis Ck, W of Lae; Butibum, near Lae; PNGVR Training Area near Lae
Moraceae	<i>Ficus erythrosperma</i>	T.G. Hartley 10955, C.T. White NGF1705, C.T. White, et al. 1696, W. Takeuchi 17027, E.E. Henty NGF13615, J.S. Womersley NGF19139, T.G. Hartley 10474	Markham Rvr Point, W of Lae; Lae, Morobe; Lae, Morobe; Hills near Taraka, Lae; Oomsis near Lae; Near Markham Rvr Bridge, Lae; Oomsis Ck, W of Lae
Moraceae	<i>Ficus funiculosa</i>	T.G. Hartley 10195, E.E. Henty NGF11537, J.S. Womersley 19138	Burep Rvr, NE of Lae; Atzera Range near Lae; Near Markham Rvr Bridge, Lae
Moraceae	<i>Ficus glaberrima</i>	T.G. Hartley 10298, E.E. Henty 13656, E.E. Henty 29374, T.G. Hartley 10406, J.S. Womersley 9067	Along Bunga Rvr, NE of Lae; Lae, Morobe; National Botanic Gardens, Lae; Oomsis Ck, W of Lae; Trans-Busu Timber area, Lae;
Moraceae	<i>Ficus hesperidiiformis</i>	A. Floyd NGF5679, T.G. Hartley TGH11871, Nima & J.S. Womersley NGF43665, J.S. Womersley NGF37464, E.J. Corner NGF13790, E.E. Henty NGF27144	Busu near Lae; Near the Butibum Rvr, N of Lae; Bumbu Rvr near Lae; Sankwep LA, Lae subdistrict; Lae by Airport; Lae, Morobe
Moraceae	<i>Ficus lancibracteata</i>	J. Waine 20, J. Waine 15	Lae Botanic Garden, Lae.
Moraceae	<i>Ficus oxymitroides</i>	P. van Royen & A.N. Millar NGF17520	Zatarl, from SE Boana, Lae subdistrict
Moraceae	<i>Ficus pantoniana var. pantonian</i>	T.G. Hartley 10898B, E.E. Henty NGF13650	Markham Valley Forest, W of Lae; Lae, Morobe
Moraceae	<i>Ficus saruensis</i>	H. Streimann & F.C. Students NGF45010	Saru Rvr, SE of Garaina, Lae subdistrict

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Moraceae	<i>Ficus subulata</i>	J.S. Womersley & E.E. Henty NGF14207, Anonymous 5613, M.G. Coode NGF25431, E.E. Henty NGF11950, A.N. Millar NGF9772, E.E. Henty NGF11948, Native collector NGF5613, A.N. Millar NGF9932, T.G. Hartley 10076, J.S. Womersley NGF11355, T.G. Hartley 9796, E.E. Henty NGF14818, P. Lamei LAE89495 & K. Fazang, C.T. White NGF1673, T.G. Hartley 12192, P. Homot, T. Magun & Numbo. G. LAE90163	Oomsis LA near Lae; Lae, Morobe; Lae Rifle Range, Lae subdistrict; Oomsis LA near Lae; Markham Rd near Lae; Oomsis LA near Lae; Lae, Morobe; Oomsis near Lae; Bewapi Ck, W of Lae; Oomsis Ck near Lae; W of Lae; Lae Botanical Gardens
Moraceae	<i>Ficus terminalis</i>	E.E. Henty NGF13647	Lae Area
Moraceae	<i>Ficus tinctoria</i> subsp. <i>tinctoria</i>	E.E. Henty NGF14373	Lae Area
Moraceae	<i>Ficus virens</i>	A.N. Millar NGF14618, Fosberg NGF12600	Near Sum Sum Lae-Wau Rd; Old Naramunki village, Erap Rvr near Lae
Moraceae	<i>Ficus virgata</i>	A.N. Millar NGF14402, T.G. Hartley TGH9646, W. Takeuchi 17122, J.S. Womersley NGF19039	Red Hill near Lae; Lae Botanical Gardens; Hills near Taraka, Lae; Patep, Lae-Wau Rd
Moraceae	<i>Ficus wassa</i>	C. Jermy 4488, M. Galore LAE50188, J. Waine 43, A.N. Millar GH92A	Buimo Ck, N E of Lae; N of Lae; National Botanic Gardens, Lae; Lae Botanical Gardens
Moraceae	<i>Maclura cochinchinensis</i>	E.E. Henty NGF10690	Erap near Lae
Moraceae	<i>Maclura cochinchinensis</i> var. <i>pubescens</i>	T.G. Hartley 9881	Markham Rvr Valley, W of Lae
Myristicaceae	<i>Endocomia macrocoma</i>	J.J. Havel & Kongara NGF17304	Oomsis, Lae
Myristicaceae	<i>Horsfieldia</i>	T.G. Hartley 11328, T.G. Hartley 10058, E.E. Henty NGF9834, A.N. Millar GH44, K.J. White NGF9682, A.N. Millar NGF14405, A.N. Millar NGF18860, K.J. White NGF9677, T.G. Hartley 11882, K.J. White NGF9681, G. Larivita LAE67101, T.G. Hartley 11029, A.N. Millar GH44, T.G. Hartley 10421, E.E. Henty NGF11960	Busu & Sankwep Rvrs, N of Lae; Oomsis Ck, W of Lae; Lae Botanical Gardens; Lae Botanical Gardens; Red Hill, Lae; Lae Botanical Gardens; Patep Rvr, S of Gurukor, Bordering Lae-Bulolo Rd; Lae Botanical Gardens; Markham Bridge near Lae; S of Garagos Rvr Bridge, Lae-Bulolo Rd; Lae Botanical Gardens; Oomsis Ck, W of Lae; Oomsis LA near Lae
Myristicaceae	<i>Horsfieldia basifissa</i>	K. Damas LAE79732	Kamiali, Lae
Myristicaceae	<i>Horsfieldia crux-melitensis</i>	H. Streimann NGF24092	Ana village, SW Morobe
Myristicaceae	<i>Horsfieldia hellwigii</i> var. <i>hellwigii</i>	R.J. Johns NGF47431, A.N. Millar NGF9770, Anonymous NGF240, G. Larivita & P. Katik LAE67101, Anon. NGF2568, K.J. White NGF9681, E.E. Henty NGF10540	Oomsis, Lae subdistrict; Lae Botanical Gardens; Corner Narakapoort Rd & Lae-Nadzab Rd; Markham bridge near Lae; Lae, Morobe; Lae Botanical Gardens; Munim near Lae
Myristicaceae	<i>Horsfieldia laevigata</i> var. <i>laevigata</i>	D. B. Foreman LAE52030, H. Streimann LAE51683	Mount Kawea, Buso, Lae subdistrict; Buso, Lae subdistrict
Myristicaceae	<i>Horsfieldia macrocoma</i> var. <i>trifida</i>	Anonymous 4651	Lae Area
Myristicaceae	<i>Horsfieldia pachycarpa</i>	S. Mark LAE52756	Buso, Lae subdistrict
Myristicaceae	<i>Horsfieldia spicata</i>	J. Waine 36, T.G. Hartley 10147, J. Waine 34	Lae Botanic Garden, Lae; Buep Riv, NE of Lae.
Myristicaceae	<i>Myristica clemensii</i>	T.G. Hartley 10519	Oomsis Ck, W of Lae
Myristicaceae	<i>Myristica concinna</i>	M. Jacobs 9572	On coast SE of Lae
Myristicaceae	<i>Myristica crassipes</i> subsp. <i>crassipes</i>	M. Jacobs 9564,	On the coast SE of Lae;

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Myristicaceae	<i>Myristica globosa</i>	T.G. Hartley TGH9662, T.G. Hartley 11436, T.G. Hartley 12375, T.G. Hartley TGH10194, E.E. Henty NGF11605, K.J. White NGF10476, E.E. Henty NGF10673, A.N. Millar NGF18866, M. Jacobs 9572, E.E. Henty NGF10546, J. Womersley NGF9403, T. Kuria LAE87044, A.N. Millar NGF9781, T.G. Hartley 11436, J. Womersley NGF3190, T.G. Hartley 10194, K.J. White NGF9697, K.J. White NGF9671, J. Womersley NGF3283	Lae Botanic Garden, Lae; Busu-Butibum Rvrs; Yalu, NW of Lae; Burep Rvr; Atzera Range; Oomsis Red Hill Area near; coast SE of Lae; Near Markham Rvr.
Myristicaceae	<i>Myristica globosa</i>	W.N. Takeuchi 8989, J. Womersley s.n., H. Morte LAE79216, P. Lamei LAE89470 & K. Fazang, J. Waine 35, L. Kusunan 9, T.G. Hartley 12375	Lae, Morobe; Oomsis near Lae; National Botanic Garden, Lae; Lae Botanical Gardens; National Botanic Gardens, Lae; National Botanical Gardens, Lae; National Botanical Gardens, Lae; Near Yalu, NW of Lae
Myristicaceae	<i>Myristica hollrungii</i>	E.E. Henty NGF11520, Anonymous NGF246, H. Streimann NGF25577, K.J. White NGF9699, T.G. Hartley 10431	Erap Maralumi Ck, Lae; Corner Lae-Nadzab Rd & Narakapoor Rd; Lae-Wau Rd near Gabensis Plantation; Lae Botanical Gardens; Singaua Plantation, E of Lae
Myristicaceae	<i>Myristica markgraviana</i>	T.G. Hartley 12198	Near Butibum Rvr, N of Lae
Myristicaceae	<i>Myristica sulcata</i>	M. Jacobs 9685, T.G. Hartley TGH11890	On the coast SE of Lae; Near Butibum Rvr, N of Lae
Myristicaceae	<i>Myristica umbrosa</i>	A. Floyd 5634, T.G. Hartley TGH11057, D.B. Foreman LAE52047	Busu Hills near Lae; S of Busu Rvr, N of Lae; Near Buso village, Lae
Myristicaceae	<i>Endocomia macrocoma</i> subsp. <i>prainii</i>	Anonymous NGF4651, E.E. Henty NGF11960, J.S. Womersley NGF37129	Lae, Morobe; Oomsis LA, near Lae; Sankwep LA, Lae
Myristicaceae	<i>Gymnacranthera farquhariana</i> var. <i>zippeliana</i>	T.G. Hartley 9944A, J.S. Womersley 13428, A.N. Millar NGF12035, E.E. Henty NGF10665, K.J. White NGF9683, J. Womersley NGF3205, A.N. Millar NGF9786, E.E. Henty NGF10516, T.G. Hartley 10501, T.G. Hartley 9944, C.E. Ridsdale NGF33858, E.E. Henty NGF10516, J.S. Womersley NGF13428, O.K. Paul LAE87533, E.E. Henty NGF10665, J.S. Womersley NGF19173, J.S. Womersley s.n.	Oomsis Ck Area; Atzera Range Foothills, Lae Botanical Gardens; Yalu near Lae; Bupu Rvr, near Lae; Sankwep LR
Myristicaceae	<i>Gymnacranthera paniculata</i>	P. Lamei LAE89493 & K. Fazang	Lae Botanic Gardens, Lae.
Myristicaceae	<i>Gymnacranthera paniculata</i> var. <i>zippeliana</i>	J. Waine 56, T.K. Kuria LAE87041	Lae Botanic Garden, Lae.
Myristicaceae	<i>Horsfieldia australiana</i>	T.G. Hartley 9738	Malahang coast, NE of Lae
Myristicaceae	<i>Horsfieldia hellwigii</i>	J. Worimbangu LAE76615, W.N. Takeuchi 9021, J. Worimbangu LAE76315, C.E. Ridsdale NGF33857	Lae Botanical Gardens, Lae.
Myristicaceae	<i>Horsfieldia irya</i>	P. Lamei LAE76357, H. Streimann NGF25577, P. Homot, et al. LAE90168, A.N. Millar GH68, T.G. Hartley TGH9738, L. Saega LAE76319	Lae Botanical Gardens, Lae-Wau Rd near Gabensis; Malahang coast, NE of Lae.
Myristicaceae	<i>Myristica</i>	A.N. Millar GH17, W. Takeuchi 16856, H. Streimann 8621, M. Jacobs 9564, R.F. Thorne 27526, J.S. Womersley NGF43999, H. Streimann NGF39446, H. Streimann NGF45115, H. Streimann NGF45142, K.J. White NGF10467, R.J. Johns NGF47447	Lae Botanic Garden, Lae; hills near Taraka; Markham-Oomsis Ridge, W of Lae; along coast SE of Lae; Oomsis LA, W of Lae; Sankwep LR; Buso Valley; Markham Point.
Myristicaceae	<i>Myristica</i>	H. Streimann NGF44258, E.E. Henty NGF10548, W. Takeuchi 5607, E.E. Henty NGF11944, G. Laravita LAE62234 & N.A. Vinas, J.S. Womersley NGF43999	Lasanga Is, Lae subdistrict; Near Markham Rvr, Lae; Near Bumayong, Lae; Oomsis LA near Lae; Gurakor LR, Lae subdistrict; Sankwep LR, Lae subdistrict

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Myristicaceae	<i>Myristica buchneriana</i>	J.S. Womersley NGF3220, J. Womersley NGF3206, J.J. Havel NGF17218, H. Streimann 8621, J. Womersley NGF3194, E.E. Henty NGF11944, T.G. Hartley 10511	Yalu near Lae; Atzera Range, near Lae; Garagos, Lae subdistrict; Markham-Oomsis Ridge, W of Lae; Yalu near Lae; Oomsis LA near Lae; Oomsis Ck, W of Lae
Myristicaceae	<i>Myristica chrysophylla</i> subsp. <i>chrysophylla</i>	E.E. Henty NGF10548, M. Jacobs 9574, T.G. Hartley 11023, P. Van Royen NGF16334, H. Streimann LAE51929, K.J. White NGF10467, J.S. Womersley NGF3255, J.S. Womersley NGF9405, K.J. White NGF9546	Near Markham Rvr, Lae; On coast SE of Lae; S of Garagos Rvr Bridge, Lae-Bulolo Rd; Oomsis LA, NW of Lae; Garagos, Lae; Oomsis, Red Hill Area near Lae; Red Hill Lower Wau Rd, near Lae; Oomsis near Lae; Near Busu Bridge, near Lae
Myristicaceae	<i>Myristica fatua</i>	H. Okada 4339, P. Lamei LAE89460 & K. Fazang	Gumboak Strm, Busu Rvr, Lae; Lae Botanical Gardens
Myristicaceae	<i>Myristica fragrans</i>	W.N. Takeuchi 8996, J. Waine 49, P. Katik NGF46785	Lae, Morobe; National Botanic Gardens, Lae; Lae Botanical Gardens
Myristicaceae	<i>Myristica grandis</i>	N.A. Vinas LAE72325	Lae Botanic Gardens, Lae.
Myristicaceae	<i>Myristica hooglandii</i>	T.G. Hartley TGH11852	Near Butibum Rvr, N of Lae
Myristicaceae	<i>Myristica inutilis</i> subsp. <i>Papuana</i>	M. Galore LAE50189, Anonymous NGF926	2 mile, N of Lae; Lae, Morobe
Myristicaceae	<i>Myristica subalulata</i>	D. Foreman NGF45845 & K. Farley, T.G. Hartley TGH10852, E.E. Henty NGF13648	Butibum LA, Lae; Busu Rvr, NW of Lae; Lae, Rainforest
Myristicaceae	<i>Myristica tubiflora</i>	H. Streimann NGF45142, D.B. Foreman LAE52061, H. Streimann LAE51668	Busu Valley, Lae subdistrict; Near Busu Village, Lae subdistrict; Busu, Lae subdistrict
Myrsinaceae	<i>Conandrium polyanthum</i>	D.B. Foreman LAE52040, H. Streimann NGF44176, T.G. Hartley 9660	Base of Mt Kawea, Busu. Lae subdistrict; Lasanga Is, Lae subdistrict; Lae Botanic Gardens
Myrsinaceae	<i>Embelia</i>	E.E. Henty NGF16710	Busu Rvr near Lae
Myrsinaceae	<i>Embelia cotinoides</i>	W. Takeuchi 17068	Hills near Taraka, Lae
Myrsinaceae	<i>Maesa</i>	T.G. Hartley 11036, J. Regalado 1179 & P. Katik	S of Busu Rvr, N of Lae; Gabake, N of Lae City
Myrsinaceae	<i>Maesa edulis</i>	Anonymous 3361, A.N. Millar NGF18868	Salamaua near Lae; Lae Botanical Gardens
Myrsinaceae	<i>Maesa haplobotrys</i>	T.G. Hartley TGH9650, A.N. Millar NGF18868, T.G. Hartley TGH11036, T.G. Hartley TGH11858, W. Takeuchi 17084	Lae Botanical Gardens, Lae; S of Busu Rvr, N of Lae; Burep Rvr, NE of Lae; Hills near Taraka, Lae.
Myrsinaceae	<i>Maesa papuana</i>	E.E. Henty NGF13682	Markham Point near Lae
Myrsinaceae	<i>Myrsinaceae</i>	K.J. White NGF10337	Markham Point, Lae subdistrict
Myrsinaceae	<i>Myrsine acrosticta</i>	E.E. Henty NGF13681, K.J. White NGF10337, E.E. Henty NGF13683	Markham Point Ridge, near Lae; Markham Point, Lae; Markham Point near Lae
Myrsinaceae	<i>Myrsine leucantha</i>	H. Streimann NGF45235	Buso, Kawea Mountain, Lae subdistrict
Myrsinaceae	<i>Tapeinosperma magnifica</i>	W. Takeuchi 16673 & D. Ama, W. Takeuchi 17106, W. Takeuchi 17088, W. Takeuchi 16673B & D. Ama, W. Takeuchi 16473	Hills near Taraka, Lae; Hills near Taraka, Lae; Hills near Taraka, Lae; Hills near Taraka, Lae; Hills near Taraka, Lae
Myrsinaceae	<i>Ardisia</i>	A.N. Millar NGF18875, A.N. Millar NGF13897, J. Wiakabu LAE72384	Lae Botanic Gardens, Lae; Red Hill, near Lae.
Myrsinaceae	<i>Ardisia</i>	Anonymous 5691, E.E. Henty NGF13683, C.T. White NGF1715	Lae near Bumbu Rvr; Markham Point near Lae; Lae, Morobe;
Myrsinaceae	<i>Ardisia elliptica</i>	K. Kerenga LAE73814	Lae Botanic Gardens, Lae.
Myrsinaceae	<i>Discocalyx</i>	T.G. Hartley 10059	Oomsis Ck, W of Lae
Myrsinaceae	<i>Embelia philippinensis</i>	C. Ridsdale NGF31665, T.G. Hartley 12266	Helicopter Site 2, Lae subdistrict; Burep Rvr, NE of Lae
Myrsinaceae	<i>Fittingia tubiflora</i>	C.E. Ridsdale NGF31667	Helicopter site 2, Lae

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Myrsinaceae	<i>Rapanea</i>	R.J. Johns s.n., J.S. Womersley s.n. & G. Larivita, J.S. Womersley s.n. & P. McEwin, E.E. Henty s.n., K.J. White s.n.	Muniau, Lae subdistrict; Garagos, Lae subdistrict; Summit of Mt Shongol, Lae subdistrict; Markham Point, near Lae; Markham Point/Markham Rivera Bridge, Lae
Myrsinaceae	<i>Rapanea ? leucantha</i>	H. Streimann NGF45235	Buso, Kawea Mountain, Lae subdistrict
Myrsinaceae	<i>Rapanea acuminatifolia</i>	A.N. Gillison s.n.	Upper Buso Area, Lae subdistrict
Myrsinaceae	<i>Tapeinosperma commutatum</i>	T.G. Hartley TGH11893	Near ButibumRvr, N of Lae
Myrtaceae	<i>Acmena</i>	E.E. Henty NGF14369	Oomsis LA
Myrtaceae	<i>Acmena acuminatissima</i>	A.N. Millar NGF12283, H. Streimann NGF24081, T.G. Hartley 11025, J.S. Womersley NGF43722, E.E. Henty NGF14369, T.G. Hartley 10040, H. Streimann & A. Kairo NGF47718, T.G. Hartley 10177, T.G. Hartley 12285, T.G. Hartley 10134, T.G. Hartley 11444	Bupu River near Lae; S.W. of Lae Sub-district; 2 miles S of Garagos River; Sankwep River; Oomsis LA; Oomsis Ck. 18 miles W of Lae; 15 miles W of Lae; Burep River. NE of Lae; Bunga River, NE of Lae; Burep River NE of Lae; Butibum River N of Lae
Myrtaceae	<i>Acmena triphlebia</i>	T.G. Hartley 10966	Markham River Point, W of Lae
Myrtaceae	<i>Eucalyptopsis papuana</i>	D.B. Foreman LAE52334, D.B. Foreman LAE52296	Near Buso Village, Lae subdistrict
Myrtaceae	<i>Eugenia</i>	J.S. Womersley NGF43722, T.G. Hartley 11766, J.S. Womersley NGF19221A, J.S. Womersley NGF19172, A.N. Millar GH121, J.S. Womersley NGF24774, A.N. Millar NGF9954, A.N. Millar NGF18870, T.G. Hartley 12285, H. Streimann NGF47718, T.G. Hartley 10506, J.S. Womersley NGF37484, M. Coode NGF32905, T.G. Hartley 10404, A.N. Millar GH121, J.S. Womersley NGF19169, J.S. Womersley	Sankwep Rvr, E of Lae; Near Butibum Rvr, N of Lae; Lae Botanic Garden; Oomsis, Lae; Lae Botanic Gardens; Oomsis LA near Lae; Lae Botanic Gardens; Lae Botanic Gardens; Along Bunga Rvr, NE of Lae; W of Lae; Oomsis Ck, W of Lae; Gabensis LR, Lae; Bupu Rvr near Lae; Oomsis Ck, W of Lae; Lae Botanic Gardens; Oomsis, Lae; Kassam Pass, Lae-Kainantu Rd
Myrtaceae	<i>Eugenia acuminatissima</i>	H. Streimann & A. Kairo NGF47718	West of Lae
Myrtaceae	<i>Eugenia samarangense</i>	G. Leach NGF33263	Lae Botanic Gardens, Lae
Myrtaceae	<i>Kania eugeniooides</i>	A.N. Gillison NGF44607	Upper Buso Area, Lae subdistrict
Myrtaceae	<i>Myrtella beccarii</i>	A. Bellamy B.6, E.E. Henty LAE72469	Buso, S of Lae; Buso, Lae subprovince
Myrtaceae	<i>Rhodamnia latifolia</i>	J.S. Womersley NGF19146, M. Jacobs 9604, E.E. Henty NGF11932, J.S. Womersley NGF7823, M. Jacobs 9604, J.S. Womersley NGF7823	Oomsis Hill, Lae; SE of Lae on coast; Oomsis LA, near Lae; Partep Ck, Lae-Wau Rd; SE of Lae, on coast; Partep Creek, Lae-Wau Rd
Myrtaceae	<i>Rhodamnia propinqua</i>	A. Kairo NGF44215	Buso, Lae subdistrict
Myrtaceae	<i>Syzygium</i>	leg. ign. NGF4744, P. Katik LAE64179 & F. Essig, J.S. Womersley & G. Larivita NGF48694, J.S. Womersley, A. Kairo NGF44204, K. Kerenga & Y. Lelean LAE72368, Y. Lelean LAE72349, A.N. Vinas 280 & A. Kairo, P. Lat LAE76325, D. Bogen LAE76341, M. Jonathan LAE76347, C. Sewelu LAE76305, S. Aloysius LAE76332, P. van Royen NGF20097	Lae Botanic Garden, Lae; Situm LA; Garagos; Partep Ck, Wau-Lae Rd; Buso; Atzera Range.
Myrtaceae	<i>Syzygium</i>	Kipiro Damas, et al. LAE79700	Kui village, PNGFRI, Lae
Myrtaceae	<i>Syzygium acuminatissimum</i>	T.G. Hartley TGH10117, T.G. Hartley TGH12285	Burep Rvr, NE of Lae; Along Bunga Rvr, NE of Lae
Myrtaceae	<i>Syzygium aeroranthum</i>	T.G. Hartley 12357	Buso Rvr, NE of Lae
Myrtaceae	<i>Syzygium amplum</i>	J.S. Womersley NGF24774, J.S. Womersley NGF43922, P. Lamei LAE89455 & K. Fazang, J.S. Womersley NGF43922	Oomsis LA, near Lae; Tributary of Busu Rvr, Lae subdistrict; Lae Botanical Gardens; Tributary of Busu Rvr, Lae subdistrict
Myrtaceae	<i>Syzygium angular pedicels</i>	K. Damas LAE79730	Kamiali WMA, Huon gulf, Lae

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Myrtaceae	<i>Syzygium aqueum</i>	T.G. Hartley 9892, J. Wiakabu & Y. Lelean LAE72365, P. van Royen & A.N. Millar NGF17518, E.E. Henty NGF10601, A. Floyd NGF7204, T.G. Hartley 9951, E.E. Henty NGF10601, P. Katik LAE0809	Near Butibum Rvr, N of Lae; Lae Botanic Gardens; Zitari, SE Boana, Lae subdistrict; Nasawapum, near Lae; Lae, Morobe; Near Butibum Rvr, N of Lae; Nasawapum near Lae; Sankwep LR, Lae
Myrtaceae	<i>Syzygium benjaminum</i>	J.S. Womersley & P. McEwin NGF37438	Summit of Mt Shongul, Lae
Myrtaceae	<i>Syzygium branderhorstii</i>	Larivita et al. LAE72312	Lae Botanic Garden, Lae.
Myrtaceae	<i>Syzygium buettnerianum</i>	T.G. Hartley TGH12449, F.T. Vickery NGF1429, M. Jacobs 9677, D.B. Foreman LAE52297, C.T. White NGF1578, J.S. Womersley NGF14193, C.T. White NGF1699, A.N. Millar NGF13899, K. Damas LAE79731	Slope bordering Markham Rvr, W of Lae; Yalu, foothills, Lae; SE of Lae on coast; Near Buso Village, Lae su-district; Lae, Morobe; Foot of Red Hill near Oomsis, Lae-Wau Rd; Lae, Morobe; Red Hill near Lae; Lae, Morobe
Myrtaceae	<i>Syzygium burepense</i>	T.G. Hartley 11054, T.G. Hartley 11885	Burep Rvr, NE of Lae; Busu Rvr, N of Lae
Myrtaceae	<i>Syzygium decipiens</i>	H. Streimann NGF45211	Musi Is, Buso, Lae subdistrict
Myrtaceae	<i>Syzygium dolichophyllum</i>	Lelean LAE72349	Lae Botanic Garden, Lae.
Myrtaceae	<i>Syzygium furfuraceum</i>	H. Streimann NGF47804; J.S. Womersley NGF19141, C. Ridsdale NGF31650, C. Ridsdale NGF31635, J.S. Womersley NGF37474, J.S. Womersley NGF11840, T.G. Hartley TGH10233, H. Streimann & D.B. Foreman NGF24430	Markham Point, Lae subdistrict; Near Markham Rvr Bridge, Lae; Kui, Lae subdistrict; Kui, Lae subdistrict; Sankwep LA, Lae; Oomsis Ck, Lae; Near Butibum Rvr, N of Lae; Mt. Kawea, Buso, Lae subdistrict
Myrtaceae	<i>Syzygium gonanthanthum</i>	et al. LAE72320, T.G. Hartley 12277, T.G. Hartley 9938, J. Wiakabu LAE72320, T.G. Hartley 12390, T.G. Hartley 12390, A.N. Millar NGF9966, E.E. Henty NGF11984	Lae Botanical Gardens, Lae; along Bunga Rvr, NE of Lae; Burep Rvr, NE of Lae; Gurakor Hill near Lae; Busu Rvr near Lae
Myrtaceae	<i>Syzygium hylophilum</i>	E.E. Henty NGF14411, E.E. Henty NGF11949	Oomsis LA, near Lae; Oomsis LA near Lae
Myrtaceae	<i>Syzygium iteophyllum</i>	T.G. Hartley TGH12368, T.G. Hartley TGH 9630, T.G. Hartley TGH 10309, T.G. Hartley TGH11438	N side of Busu Rvr, N of Lae; Near Butibum Rvr, N of Lae; Near Bunga Rvr, NE of Lae; Area betwn Busu & Butibum Rvrs, N of Lae
Myrtaceae	<i>Syzygium kandep</i>	H. Streimann, S. Sikuvea & A. Kairo NGF39431, H. Streimann NGF24476	Camp site, Buso, Lae subdistrict; Busu Rvr, Lae subdistrict
Myrtaceae	<i>Syzygium longipes</i>	H. Okada 4312, R.J. Johns NGF47429	Busu Rvr, Gumboak Strm, Lae; Oomsis, Lae subdistrict
Myrtaceae	<i>Syzygium megalospermum</i>	J.S. Womersley NGF37122	Sankwep LA, Lae subdistrict
Myrtaceae	<i>Syzygium nutans</i>	T.G. Hartley 10531, J. Wiakabu LAE72349, C. Ridsdale NGF31699, M. Jacobs 9629	Oomsis Ck, W of Lae; National Botanic Gardens, Lae; Near Maiama village, Lae subdistrict; SE of Lae on coast
Myrtaceae	<i>Syzygium stipulare</i>	J. Wiakabu & K. Kerenga LAE73361, P. Katik LAE56333	Oomsis Forestry Station, Lae subprovince; Natter Bay LA, SE of Lae; End of Sankwep LR, Lae
Myrtaceae	<i>Syzygium subcorymbosum</i>	J.S. Womersley NGF19088, H. Streimann NGF45106, D.B. Foreman LAE52289, T.G. Hartley TGH 10506, J.R. Croft LAE68489, D.B. Foreman LAE52317, T.G. Hartley TGH10404, G. McDonald NGF13007, J.S. Womersley NGF37432	Near Gabensis, Lae-Wau Rd, Lae subdistrict; Buso Rvr, Lae subdistrict; Buso Rvr, Lae subdistrict; Oomsis Ck, W of Lae; Natter Bay LA, SE of Lae; Buso Rvr, Lae subdistrict; Oomsis Ck, W of Lae; Oomsis via Lae; Sankwep Rvr, Lae subdistrict
Myrtaceae	<i>Syzygium thornei</i>	H. Streimann NGF45211	Musi Is, Buso, Lae subdistrict
Myrtaceae	<i>Syzygium tierneyanum</i>	J. Buderus NGF25835, J.S. Womersley NGF13456	Lae, Morobe; Bewapi Ck, Atzera Range, Lae

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Myrtaceae	<i>Syzygium trivene</i>	M. Jacobs 9617, J.S. Womersley & E.E. Henty NGF14209, J.S. Womersley NGF19169, leg. ign. NGF4744, T.G. Hartley 10197, A.N. Millar NGF9954, T.G. Hartley TGH11766, J.S. Womersley NGF19172, A.N. Millar NGF18870, J.S. Womersley NGF17615, T.G. Hartley 10070, J.R. Croft LAE68577, T.G. Hartley TGH11042, T.G. Hartley 10550, J.S. Womersley NGF13456, M. Jacobs 9645	SE of Lae on coast; Oomsis LA, near Lae; Oomsis, near Lae; National Botanic Gardens, Lae; Burep Rvr, NE of Lae; Lae Botanic Gardens; Near Butibum Rvr, N of Lae; Oomsis, Lae; Lae Botanic Gardens; Bumbu Valley LR, Lae subdistrict; Bewapi Ck, W of Lae; Natter Bay LA, SE of Lae; S of Busu Rvr, N of Lae; Oomsis Ck, W of Lae; Bewapi Ck, Atzera Range, near Lae; SE of Lae on coast
Myrtaceae	<i>Syzygium tympananthum</i>	J.S. Womersley NGF9070	Trans Busu Timber Area, Lae
Myrtaceae	<i>Syzygium verniciflorum</i>	T.G. Hartley 11332	Atzera Range, N of Lae
Myrtaceae	<i>Syzygium xylopiaceum</i>	I. Favasalu NGF47770, D.B. Foreman LAE52291, M. Jacobs 9654, A. Kairo & J. Emos NGF39095	Buso Village, Lae subdistrict; Buso Rvr, Lae subdistrict; SE of Lae on coast; Buso, Lae subdistrict
Myrtaceae	<i>Xanthostemon</i>	Larivita LAE72305, K. Taho LAE72397, A.N. Millar NGF22895, K. Fazang & A. Hitofumi LAE78728, J. Wiakabu LAE72362, A.N. Millar GH27	Lae Botanic Garden, Lae; Lasanga Is, Sof Lae
Myrtaceae	<i>Corymbia novoguineensis</i>	J. Wiakabu LAE72327, J.S. Womersley NGF41247	Lae Botanic Gardens, Lae
Myrtaceae	<i>Decaspermum</i>	T.G. Hartley 12366, M. Jacobs 9631, A.N. Millar NGF9940, T.G. Hartley 10988, T.G. Hartley 9754	Labu, Huon Gulf, S of Lae; Lae Botanic Gardens; Markham Rvr Point, W of Lae; Red Hill, W of Lae
Myrtaceae	<i>Decaspermum bracteatum</i>	NGF4714, Foreman D. B. LAE52322, H. Streimann & A. Kairo NGF47501	Lae Botanical Gardens, Lae; Buso Rvr; Red Hill swamp, Lae
Myrtaceae	<i>Decaspermum fruticosum</i>	T.G. Hartley TGH 12366, T.G. Hartley TGH10442, T.G. Hartley TGH 10988, A.N. Millar NGF9940,	Labu, Huon Gulf, S of Lae; Red Hill, W of Lae; Markham Rvr Point, W of Lae; Red Hill, W of Lae; Lae Botanic Gardens;
Myrtaceae	<i>Decaspermum neurophyllum</i>	R.J. Croft LAE68555	Natter Bay LA, SE of Lae
Myrtaceae	<i>Decaspermum paniculatum</i>	A.N. Millar NGF9927, Anonymous 4714	Markham Rd, Lae; Lae Botanic Gardens
Myrtaceae	<i>Eucalyptus deglupta</i>	A.N. Millar GH71, P. Katik LAE70701	Lae Botanic Gardens, Lae; Oomsis Nursery, Lae
Myrtaceae	<i>Eugenia</i>	J.J. Havel NGF11194 & A. Kairo, M. Jacobs SN, E.E. Henty NGF11984, J.S. Womersley NGF19141, J.S. Womersley NGF14208, T.G. Hartley 11895, A.N. Millar NGF9966, T.G. Hartley 10233, T.G. Hartley 12277, T.G. Hartley 9630, J.S. Womersley NGF37481, E.E. Henty NGF11949	Garagos, Lae-Bulolo Rd; Lasang Is, SE of Lae; Busu Rvr near Lae; Near Markham Rvr Bridge, Lae; Oomsis LA near Lae; Near Butibum Rvr, N of Lae; Gurakor near Lae; Near Butibum Rvr, N of Lae; Along Bunga Rvr, NE of Lae; Near Butibum Rvr, N of Lae; Garagos, Lae subdistrict; Oomsis LA near Lae
Myrtaceae	<i>Eugenia malaccensis</i>	A.N. Millar GH57, J.S. Womersley NGF3181	Lae Botanic Gardens; Yalu near Lae
Myrtaceae	<i>Eugenia papuasicum</i>	A.N. Millar NGF1899	Red Hill near Lae
Myrtaceae	<i>Octamyrthus insignis</i>	R. Croft LAE68515 & Y. Lelean	Natter Bay LA, SE of Lae
Myrtaceae	<i>Rhodamnia</i>	T.G. Hartley 10413	Oomsis Ck, W of Lae
Myrtaceae	<i>Rhodamnia blairiana var propinqua</i>	A. Kairo NGF 44215	Buso, Lae
Myrtaceae	<i>Rhodomryrtus</i>	J.M. Simaga 2036	Gabensis LA, Oomsis, Lae
Myrtaceae	<i>Rhodomryrtus kawaeaensis</i>	D.B. Foreman LAE52304	Mt Kawea, Lae subdistrict
Myrtaceae	<i>Rhodomryrtus pinnatinervis</i>	H. Streimann NGF24432 & D.B. Foreman	Mt.Kawea, Buso, Lae
Myrtaceae	<i>Syzygium</i>	H. Streimann NGF24096	Ana Village, SW of Morobe
Myrtaceae	<i>Syzygium</i>	T.G. Hartley 12357, J.S. Womersley NGF24849, H. Streimann & A. Kairo NGF35664, T.G. Hartley 11088	Buso Rvr, NE of Lae; Near Timne Village, Wau Rd, Lae; Wampit, Lae subdistrict; S of Busu Rvr, N of Lae

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Myrtaceae	<i>Syzygium</i>	A.N. Vinas 280 & A. Kairo, J.R. Croft LAE68548, K. Kerenga & Y. Lelean LAE72368, P. Katik LAE56333, H. Streimann 8620, A. Kairo 654, M. Jacobs 9585, H. Streimann NGF24286, J. Waine 10, H. Streimann NGF47804, A. Floyd 5683, T.G. Hartley 10879, P. Lamei LAE89490 & D. Damas	Buso Rvr, W of Buso Camp, Lae; Natter Bay LA, SE of Lae; Lae Botanic Gardens; End of Sankwep LR, Lae; Markham-Oomsis Ridge, W of Lae; Garagos Rvr, Lae-Bulolo Rd, W of Lae; SE of Lae on coast; Ana village, SW of Morobe; National Botanical Gardens, Lae; Markham Point, Lae subdistrict; Buso near Lae; Markham Rvr, W of Lae; Lae Botanical Garden
Myrtaceae	<i>Syzygium coalitum</i>	J.S. Womersley NGF46451	Timne village, Tuima Ck near Wampit, Lae subdistrict
Myrtaceae	<i>Syzygium effusum</i>	H. Streimann NGF45159, T.G. Hartley TGH 10418, H. Streimann NGF24483, T.G. Hartley TGH10481, H. Streimann NGF24301	Buso, Lae subdistrict; W of Lae at Oomsis Ck; Buso Rvr, Lae subdistrict; W of Lae at Oomsis Ck; Ana village, SW of Morobe
Myrtaceae	<i>Syzygium flavidum</i>	G. Larivita & P. Katik NGF72308	Lae Botanic Garden, Lae.
Myrtaceae	<i>Syzygium garagos</i>	J.S. Womersley NGF37481, J.J. Havel & A. Kairo NGF11194	Garagos, Lae; Garagos, Lae-Bulolo Rd
Myrtaceae	<i>Syzygium hylochare</i>	J.S. Womersley & G. Larivita NGF48694	Garagos, Lae subdistrict
Myrtaceae	<i>Syzygium lorentzianum</i>	M. Jacobs 9645, H. Streimann & D.B. Foreman NGF24497, H. Streimann NGF44155, J.R. Croft & Y. Lelean LAE68577, J.R. Croft & Y. Lelean LAE68496, H. Streimann NGF44179	SE of Lae on coast; Buso, Lae subdistrict; Buso Village, Lae subdistrict; Natter Bay LA, SE of Lae; Natter Bay LA, SE of Lae; Lasanga Is, Lae subdistrict
Myrtaceae	<i>Syzygium malaccense</i>	J.S. Womersley NGF3224, J.S. Womersley NGF19221A, T.G. Hartley 10047, K.J. White NGF10489, J.S. Womersley NGF3181	Labu near Lae; National Botanic Garden, Lae; Oomsis Ck, W of Lae; Near Bumbu Rvr, Lae; Yalu near Lae
Myrtaceae	<i>Syzygium novoguineensis</i>	T.G. Hartley 12214	Near Butibum Rvr, N of Lae
Myrtaceae	<i>Syzygium pachycladum</i>	J. Wiakabu & Y. Lelean LAE72357, P. Katik & K. Taho NGF37931	Lae Botanic Garden, Lae; Kasanombe, Rd to Momsalom Village.
Myrtaceae	<i>Syzygium pallens</i>	T.G. Hartley 10540	Oomsis Ck, W of Lae
Myrtaceae	<i>Syzygium pluviatile</i>	P. van Royen NGF20097	Lae-Markham Rd, base of Adzare range
Myrtaceae	<i>Syzygium recurvovenosum</i>	Versteegh & C. 5774	Near the Markham Bridge, Lae
Myrtaceae	<i>Syzygium samarangense</i>	et al. LAE72313, Benjamin LAE72313, J. Wiakabu LAE72364, Benjamin LAE72314, J. Wiakabu & Y. Lelean LAE72366, et al. LAE72314	Lae Botanical Gardens, Lae.
Myrtaceae	<i>Syzygium Saru River</i>	A. Kairo NGF45027	Saru Rvr, SE of Garaina, Lae subdistrict
Myrtaceae	<i>Syzygium sessiliflorum</i>	T.G. Hartley 10106, D.B. Foreman LAE52035, T.G. Hartley 10064, P. Katik LAE72309, J.S. Womersley NGF13455	Busu Rvr, N of Lae; Mt Kawea, Buso, Lae subdistrict; Bewapi Ck, W of Lae; National Botanical Gardens, Lae; Bewapi Ck, Atzera Range, near Lae
Myrtaceae	<i>Syzygium suborbiculare</i>	J.S. Womersley NGF37481	Garagos, Lae subdistrict
Myrtaceae	<i>Syzygium trachyanthum</i>	H. Streimann NGF45113	Buso Valley, Lae subdistrict
Myrtaceae	<i>Syzygium triphlebium</i>	T.G. Hartley 10966	Markham Rvr point, W of Lae
Myrtaceae	<i>Syzygium unplaced furfuraceum group</i>	T.G. Hartley TGH 12214, H. Streimann NGF24286, et al. LAE72313	Near Butibum Rvr, N of Lae; Ana village, SW of Morobe; Lae Botanical Gardens
Myrtaceae	<i>Syzygium versteegii</i>	J. Wiakabu & Y. Lelean LAE72361, Larivita & Katik LAE72310, P. Katik LAE72310, E.E. Henty NGF11971, J.S. Womersley NGF43726, O. Renagi LAE76322, J. Orabi LAE76314, P. Pomoso LAE76328	Lae Botanic Garden, Lae; Near Markham Bridge.
Myrtaceae	<i>Tristaniopsis macrosperma</i>	A.N. Gillison NGF44607	Upper Buso Area, Lae subdistrict
Myrtaceae	<i>Xanthomyrtus schlechteri</i>	M. Jacobs 9552	SE of Lae on coast

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Family	Species	Collector	Lae Area
Myrtaceae	<i>Xanthostemon kassikassi</i>	J.J. Havel NGF17234	
Najadaceae	<i>Najas</i>	P. Van Royen NGF15017, H. Streimann NGF47868, P. Van Royen NGF20093	Lake Wanum near Lae; Lae-Bulolo Rd near Markham Rvr; Lake Wanum, NW of Lae
Nelumbonaceae	<i>Nelumbo nucifera</i>	B.J. Conn, et al. LAE69145	Lake Wanum, Lae subdistrict
Nepenthaceae	<i>Nepenthes mirabilis</i>	T.G. Hartley 9757, T.G. Hartley 9757A, J. Womersley NGF3264, W. Moi NGF25984, K. Beamisl 1	Old Lake Bed below Red Hill, W of Lae; Lake Bed below Red Hill, SW of Lae; Red Hill, near Lae; Red Hill Swamp, Lae subdistrict; Oomsis, Lae
Nepenthaceae	<i>Nepenthes neoguineensis</i>	M. Jacobs 9658, M. Jacobs 9651	On the coast SE of Lae; SE of Lae on the coast
Nephrolepidaceae	<i>Nephrolepis falcata</i>	W.N. Takeuchi 8949, W.N. Takeuchi 8915, P. Lamei LAE89485 & K. Fazang	Lae, regrowth area; Lae, Morobe; Lae Botanical Gardens
Nyctaginaceae	<i>Ceodes umbellifera</i>	T.G. Hartley 11324	Along Busu & Sankwep Rvrs, N of Lae
Nyctaginaceae	<i>Pisonia</i>	C.T. White NGF1477, C.T. White NGF1478, B.C. Stone 9774	Lae, Morobe; Lae, Morobe; Markham Rvr near Lae; Sankwep LR, Lae
Nyctaginaceae	<i>Pisonia longilobistris</i>	J. Waine 28, T.G. Hartley 10061, J.J. Havel NGF17316, T.G. Hartley 10572, A.N. Millar NGF14414, B.C. Stone LAE53074, C.T. White NGF1477, C.T. White NGF1478, m T.G. Hartley 10061, A. Floyd NGF5397, P. van Royen NGF16252	Lae Botanic Garden, Lae; Oomsis Ck, W of Lae; Markham Rvr, near Lae.
Nyctaginaceae	<i>Pisonia umbellifera</i>	T.G. Hartley 10464, J.S. Womersley NGF2912, J.S. Womersley NGF37108, J.S. Womersley NGF6978	Oomsis Ck, W of Lae; Near Lae; Bumbu Rvr near Lae; Oomsis Ck, near Lae
Nyctaginaceae	<i>Ceodes</i>	A.N. Millar NGF14414, Womersley NGF6978	Oomsis LA near Lae; Oomsis Ck near Lae
Nyctaginaceae	<i>Ceodes longirostris</i>	A. Floyd 5397	Lae Area
Nyctaginaceae	<i>Pisonia muelleriana</i>	T.G. Hartley 10572	Oomsis Ck, W of Lae
Nymphaeaceae	<i>Nymphaea pubescens</i>	A.N. Millar NGF11799, P. van Royen NGF16250	Markham Rd, Lae; Markham Rvr, N of Markham bridge, Lae
Ochnaceae	<i>Schuurmansia henningsii</i>	T.G. Hartley TGH10447, M. Coode NGF40163, A.N. Millar GH100	Red Hill, W of Lae; Red Hill Swamp, SW of Lae; Lae Botanic Gardens
Olacaceae	<i>Olax imbricata</i>	M. Jacobs 8693	Busu LA N of Lae
Oleaceae	<i>Chionanthus ramiflora</i>	T.G. Hartley 12364, A.N. Millar 12278, T.G. Hartley 11769, C.T. White NGF1706, T.G. Hartley 10132B	Labu, S of Lae; Bupu Rvr near Lae; Burep Rvr, NE of Lae; Lae, Morobe; Burep River NE of Lae
Oleaceae	<i>Chionanthus riparius</i>	K.J. White NGF10346, K. Fazang LAE78737, W. Takeuchi 16559, J.S. Womersley NGF12376, J.J. Havel NGF17223, T.G. Hartley 12373	Oomsis near Lae; National Botanic Gardens, Lae; Lae, Morobe; Oomsis near Lae; Gnalan Gumbum, Lae; Burep Rvr, NE of Lae
Oleaceae	<i>Chionanthus sessiliflorus</i>	T.G. Hartley 11861, Anonymous 5522, J.S. Womersley NGF43603	Burep Rvr, NE of Lae; Lae Markham Bridge Site; Bupo Rvr, Lae
Oleaceae	<i>Jasminum elongatum</i>	H. Streimann LAE51931	Wau Rd, Lae
Oleaceae	<i>Jasminum gilgianum</i>	T.G. Hartley 11781B	Burep Rvr, NE of Lae
Oleaceae	<i>Jasminum longipetalum</i>	P. Van Royen NGF16489	Nadzab Airstrip, N of Lae
Oleaceae	<i>Linociera</i>	T.G. Hartley 12373	Burep Rvr, NE of Lae
Oleaceae	<i>Linociera sessiflora</i>	T.G. Hartley 9818	Near Butibum Rvr, N of Lae
Oleaceae	<i>Myxopyrum ovatum</i>	W. Takeuchi 16670	Hills near Taraka, Lae
Oleaceae	<i>Chionanthus brassii</i>	T.G. Hartley 11759, T.G. Hartley 11338, T.G. Hartley 9818, Anonymous 5585	Near Butibum Rvr, N of Lae; N Side of Busu Rvr, N of Lae; Near Butibum Rvr, N of Lae; Busu Bridge, Lae
Oleaceae	<i>Chionanthus sessiliflorum</i>	T.G. Hartley 9882, T.G. Hartley 11895	Near Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae
Oleaceae	<i>Jasminium turneri</i>	W. Takeuchi 5621	Igam Barracks, Lae

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Oleaceae	<i>Jasminum</i>	B.J. Conn, et al. LAE69153, H. Streimann LAE51931	Lake Wanum, Lae subdistrict; Garagos, Lae on Wau Rd
Oleaceae	<i>Jasminum schurmanii</i>	T.G. Hartley 11781B, T.G. Hartley 10161, T.G. Hartley 11781,	Burep Rvr, NE of Lae; Burep Rvr, NE of Lae; Burep Rvr, NE of Lae;
Oleaceae	<i>Jasminum turneri</i>	P. van Royen NGF16489	Nadzab Airstrip, N of Lae
Onagraceae	<i>Ludwigia decurrens</i>	P. Lamei LAE89477 & K. Fazang	Lae Botanic Gardens, Lae.
Onagraceae	<i>Ludwigia</i>	M.J. Coode NGF29527, T.G. Hartley 11615	Lae, Morobe; Lae, Morobe
Onagraceae	<i>Ludwigia hyssopifolia</i>	M. Fallen 354, T.G. Hartley 11615, A.N. Millar NGF35247, M.J.E. Coode NGF29527, T.B. Croat 52785, T.G. Hartley 10186, A.N. Millar NGF35248	LR pass village of Gabensis, SW of Lae; Lae, Morobe; Igam, Lae; Lae, Morobe; Vicinity of Lae, E of Igam Rd; Burep Rvr, NE of Lae; Igam, Lae
Onagraceae	<i>Ludwigia octovalvis</i>	L. Kusunan 6, M. Fallen 355, T.G. Hartley 9862, M. Fallen 326, Versteegh & C. 5769, T.G. Hartley 11614, J.S. Womersley NGF4623	Lae Botanic Garden, Lae; Rd to Lake Wanum, SW of Lae; Sangkwp LA; Markham Rvr Bridge.
Ophioglossaceae	<i>Ophioglossum pendulum</i>	W.N. Takeuchi 8892	Lae municipality
Ophioglossaceae	<i>Helminthostachys zeyalnica</i>	H. Streimann NGF27833, A. Floyd 5662	Oomsis, Lae subdistrict; Near Markham Point, Lae
Opiliaceae	<i>Cansjera leptostachya</i>	H.U. Stauffer 5543, T.G. Hartley 12384,	Lae-Bulolo Rd; Near Yalu, NW of Lae;
Opiliaceae	<i>Opilia amentacea</i>	T.G. Hartley 9626, M Jacobs 9600, W Takeuchi 16648	Near Butibum Rvr, N of Lae; coast SE of Lae; Hiil above 9-10mile
Opiliaceae	<i>Opilia</i>	P. Katik LAE64187 & F. Essig	Situm LA, Lae
Orchidaceae	<i>Acriopsis javanica var. javanica</i>	L. Kusunana 03	Lae Botanic Garden, Lae.
Orchidaceae	<i>Acriopsis liliifolia</i>	Takeuchi W. N. 8918, Takeuchi W. N. 8898, Takeuchi W. N. 8918,	Morobe, Lae; Morobe, Lae; Morobe, Lae
Orchidaceae	<i>Agrostophyllum elongatum</i>	T.G. Hartley 10144	Burep River NE of Lae
Orchidaceae	<i>Bulbophyllum cruttwellii</i>	M. Jacobs 8638	Kasanombe, N of Lae
Orchidaceae	<i>Bulbophyllum tortum</i>	A.G. Floyd 5394, A.N. Millar NGF9300	3 mile, Agricultural Station, Lae; Busu Rvr near Lae
Orchidaceae	<i>Calanthe engleriana</i>	T.B. Croat 52828, A.N. Millar NGF9227, A. Floyd NGF5780	Along Busu Rvr, SE of Lae; Lae Botanical Gardens; Markham Rvr, Lae
Orchidaceae	<i>Calanthe orthocentron</i>	T.G. Hartley 12369	N side of Busu Rvr, N of Lae
Orchidaceae	<i>Coelogyne asperata</i>	W.N. Takeuchi 8884	Lae Area
Orchidaceae	<i>Coelogyne fragrans</i>	A. Kairo s.n.	Soro, S of Garaina, Lae subdistrict
Orchidaceae	<i>Coelogyne pustulosa</i>	A. Millar NGF9223	Lae Botanic Gardens, Lae
Orchidaceae	<i>Dendrobium discolor var. discolor</i>	J.S. Womersley NGF8500	Lae Botanic Gardens, Lae
Orchidaceae	<i>Dockrillia delicata</i>	M.A. Clements 7280 & Ziesing (ex N. Howcroft	N. Howcroft s.n. ex Bulolo on Hoop Pine, Lae
Orchidaceae	<i>Epidendrum x obrienianum</i>	A.N. Millar GH14	Lae Botanic Gardens, Lae
Orchidaceae	<i>Euphlebiium coeloglossum</i>	R.D. Hoogland 6511	Lae Botanic Gardens
Orchidaceae	<i>Flickingeria</i>	R.D. Hoogland 6481	Lae Botanic Garden, Lae.
Orchidaceae	<i>Flickingeria comata</i>	A. Millar NGF9212	Lae Botanic Garden, Lae.
Orchidaceae	<i>Goodyera</i>	A. Floyd 5743	Trans-Busu Timber Lease near Lae
Orchidaceae	<i>Lepidogyne</i>	W. Takeuchi 15480, W. Takeuchi 16466	Atzera Range between Bubia and Taraka, Lae; Near Bubia, Lae
Orchidaceae	<i>Liparis</i>	T.G. Hartley 11771, T.G. Hartley 10559, T.G. Hartley 10143	Burep Rvr, NE of Lae; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae
Orchidaceae	<i>Luisia tristis</i>	W.N. Takeuchi 8896	Lae Area
Orchidaceae	<i>Malaxis</i>	J.S. Womersley NGF11690	Markham Point near Lae

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Orchidaceae	<i>Mischobulbum cordifolium</i>	H. Streimann s.n. & A. Kairo	Patep No 2, Lae-Mumeng Rd
Orchidaceae	<i>Nervilia</i>	H. Streimann NGF39090	Markham Point, Lae subdistrict
Orchidaceae	<i>Pedilonum bracteosum</i>	R.D. Hoogland 6451	Lae Botanic Garden, Lae.
Orchidaceae	<i>Pedilonum lawesii</i>	R.D. Hoogland 6457	Lae Botanic Garden, Lae.
Orchidaceae	<i>Phreatia</i>	H. Streimann NGF45250	Patep No. 2, Lae-Mumeng Rd
Orchidaceae	<i>Pomatocalpa marsupiale</i>	W.N. Takeuchi 8963	Lae Area
Orchidaceae	<i>Pseuderia</i>	P. Katik LAE74772	Mt Jasop, near Musom, Lae subprovince
Orchidaceae	<i>Pterostylis</i>	P. Katick NGF36993 & K. Taho	Kasanombe, Lae subdistrict
Orchidaceae	<i>Schoenorchis micrantha</i>	J. Wiakabu LAE73358	Oomsis Forestry Station, Lae subprovince
Orchidaceae	<i>Tainia trinervis</i>	H. Streimann NGF45249	Patep No. 2, Lae-Mumeng Rd
Orchidaceae	<i>Trichotosia</i>	A.N. Millar NGF12216	Oomsis near Lae
Orchidaceae	<i>Vrydagzynea elongata</i>	P. Van Royen NGF20073	Markham River mouth, Lae
Orchidaceae	<i>Vrydagzynea rivularis</i>	W. Takeuchi 17032	Hills near Taraka, Lae
Orchidaceae	<i>Agrostophyllum</i>	C.T. White NGF1558, Takeuchi W. N. 8889, A. Millar NGF9221	Morobe, Lae; Morobe, Lae; Lae Botanic Gardens
Orchidaceae	<i>Appendicula</i>	A. Kairo NGF24379	Gurakor, Lae-Wau Rd
Orchidaceae	<i>Bulbophyllum</i>	R.D. Hoogland 6487, J.S. Womersley LAE55398, R.D. Hoogland 6512, R.D. Hoogland 6449	Lae Botanic Garden; Waria Rvr Gorge, Garaina, Lae; Lae Botanic Garden; Lae Botanic Garden
Orchidaceae	<i>Bulbophyllum baileyi</i>	M.A. Clements, et al. 7275	Ex Lae area, Morobe Province
Orchidaceae	<i>Bulbophyllum chloranthum</i>	J.S. Womersley NGF46465	Labu Lakes, near Lae
Orchidaceae	<i>Bulbophyllum fletcherianum</i>	A.N. Millar GH161	Botanic Gardens, Lae
Orchidaceae	<i>Bulbophyllum maxillare</i>	A.N. Millar NGF9299	Busu Rvr near Lae
Orchidaceae	<i>Bulbophyllum robustum</i>	M.A. Clements, et al. 7267	Lae, N. Howcroft, Morobe
Orchidaceae	<i>Calanthe chrysantha</i>	J.M. Simaga 3027	Gabenisis LA, Lae
Orchidaceae	<i>Calanthe veratrifolia</i>	A.N. Millar NGF9227	Lae Botanic Gardens, Lae.
Orchidaceae	<i>Cleisostoma</i>	A.N. Millar NGF12217	Oomsis near Lae
Orchidaceae	<i>Dendrobium</i>	J.R. Croft 68527 & Y. Lelean	Natter Bay LA, SE of Lae
Orchidaceae	<i>Dendrobium</i>	A. Millar NGF9219, A.N. Millar NGF9992, A. Millar NGF9205, A.N. Millar NGF12290, A.N. Millar NGF9937, A.N. Millar NGF14526, A. Millar NGF9235, T.G. Hartley 10574, Garrett-Jones S.E. ANU 21158, R.D. Hoogland 6486, R.D. Hoogland 6578, R.D. Hoogland 6472, R.D. Hoogland 6484, R.D. Hoogland 6479, R.D. Hoogland 6482, R.D. Hoogland 6580	Lae Botanic Gardens; Oomsis near Lae; Gabensis; Patep along Lae-Bulolo Rd.

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Orchidaceae	<i>Dendrobium</i>	R.D. Hoogland 6535, R.D. Hoogland 6480, M.A. Clements, et al. 7282, M.A. Clements, et al. 7283, A.N. Millar NGF13813, R.J. Johns NGF47191, H. Streimann NGF45162, H. Streimann NGF45228, J.S. Womersley NGF46464, C.E. Ridsdale NGF31704B, H. Streimann NGF45227, P. Katik & K. Taho NGF37942, A.N. Millar NGF12290, N.M.U. Clunie & T. Umbo LAE63410, A.N. Millar NGF12220, P. Katik LAE64173 & F. Essig, T.G. Hartley 9693c	Lae Botanic Garden, Lae; Lae-Wau Rd; Muniau Village; Buso,s of Lae; Labu Lakes, Maiama Village; Natter Bay; Kasanombe; Oomsis Ridge; Garagos LA; Situd LA, Lae; Markham Rvr, W of Lae.
Orchidaceae	<i>Dendrobium araucaricola</i>	M.A. Clements 7266 & Ziesing (ex N. Howcroft	N. Howcroft ex Bulolo, Lae
Orchidaceae	<i>Dendrobium bifalce</i>	W.N. Takeuchi 8895, J.S. Womersley NGF8598	Lae, Morobe; National Botanic Gardens, Lae
Orchidaceae	<i>Dendrobium bracteosum</i>	J.S. Womersley NGF9058	Lae Botanic Gardens, Lae
Orchidaceae	<i>Dendrobium capituliflorum</i>	R.D. Hoogland 6459,	Lae Botanic Garden, Lae.
Orchidaceae	<i>Dendrobium fantasticum</i>	A.N. Millar NGF13813	Lae-Wau Rd
Orchidaceae	<i>Dendrobium flagellum</i>	M.A. Clements 7284 & Ziesing (ex N. Howcroft	Lae Botanic Gardens, Lae
Orchidaceae	<i>Dendrobium lineale</i>	J.R. Croft LAE68527, M.A. Clements, et al. 7272	Natter Bay LA, SE of Lae
Orchidaceae	<i>Dendrobium mirbelianum</i>	W.N. Takeuchi 9098	Near Lae
Orchidaceae	<i>Dendrobium pleianthum</i>	J.S. Womersley NGF15315,	Lae-Wau Rd, Lae;
Orchidaceae	<i>Dendrobium schwartzkopffianum</i>	W.N. Takeuchi 8908	Lae Area
Orchidaceae	<i>Dendrobium strepsiceros</i>	J.S. Womersley NGF9057	Lae Botanic Gardens, Lae
Orchidaceae	<i>Dendrobium subacaule</i>	A. Millar NGF9220	Lae Botanic Gardens, Lae
Orchidaceae	<i>Dendrobium subclausum</i>	Pike NGF12213	Lae Botanic Gardens, Lae
Orchidaceae	<i>Dendrobium sylvanum</i>	J.S. Womersley NGF9059	Lae Botanic Gardens, Lae
Orchidaceae	<i>Dendrobium tangerinum</i>	M.A. Clements 7274 & P. Ziesing	Lae, N. Howcroft ex Snake Rvr, Morobe
Orchidaceae	<i>Dendrobium zippelii</i>	J.S. Womersley NGF46464	Labu Lakes near Lae
Orchidaceae	<i>Diplocaulobium</i>	R.D. Hoogland 6495, R.D. Hoogland 6496, A.N. Millar NGF14524	Lae Botanic Gardens, Lae
Orchidaceae	<i>Diplocaulobium centrale</i>	A. Millar NGF9252	Partep near Lae
Orchidaceae	<i>Diplocaulobium ischnopetalum</i>	M.A. Clements 7270 & Ziesing (ex N. Howcroft	N. Howcroft ex Oomsis, above Lae
Orchidaceae	<i>Dipodium pictum</i>	A.N. Millar NGF12285	Bupu Rvr near Lae
Orchidaceae	<i>Flickingeria thysanochilum</i>	R.D. Hoogland 6481	Lae Botanic Garden, Lae.
Orchidaceae	<i>Grammatophyllum</i>	A.N. Millar NGF40800	Sankwep, E of Lae
Orchidaceae	<i>Grastidium peekelii</i>	A.N. Millar NGF14525	Lae Botanic Gardens, Lae.
Orchidaceae	<i>Habenaria</i>	P. Katik LAE77972	Oomsis LR, near Lae
Orchidaceae	<i>Habenaria bauerleni</i>	P. Katik LAE77972	Oomsis LR, Lae
Orchidaceae	<i>Habenaria rumphii</i>	T.G. Hartley 12246, T.G. Hartley 12246	Markham Point, W of Lae; Markham Point, W of Lae
Orchidaceae	<i>Hetaeria</i>	H. Okada 4253, J.S. Womersley NGF4627, J.S. Womersley 6245	Gabensis LA, Oomsis, Lae; Lae Botanical Gardens; Near Markham Rvr Bridge
Orchidaceae	<i>Hylophila</i>	J.S. Womersley NGF11689	Markham Point near Lae
Orchidaceae	<i>Mischobulbum papuanum</i>	T.G. Hartley 10998	Oomsis Ck, W of Lae

## Lae Flora

Orchidaceae	<i>Nervilia acuminata</i>	P. Katik LAE77971,	Oomsis LR, Lae subprovince;
Orchidaceae	<i>Oberonia</i>	A.N. Millar NGF9229	Lae Botanic Garden, Lae.
Orchidaceae	<i>Oberonia drepanophylla</i>	W.N. Takeuchi 8882	Lae municipality
Orchidaceae	<i>Pedilonum aemulans</i>	R.D. Hoogland 6460	Lae Botanic Garden, Lae.
Orchidaceae	<i>Pedilonum caliculi-mentum</i>	A.N. Millar NGF22922	Wagau, Lae subdistrict
Orchidaceae	<i>Phreatia micrantha</i>	W.N. Takeuchi 8907	Lae municipality
Orchidaceae	<i>Phreatia petiolata</i>	W.N. Takeuchi 8893	Lae Area
Orchidaceae	<i>Plocoglottis maculata</i>	A.N. Millar NGF12284, T.G. Hartley 10456	Bupu Rvr near Lae; Oomsis Ck, W of Lae
Orchidaceae	<i>Pomatocalpa</i>	A. Millar NGF9201	Lae Botanic Gardens, Lae
Orchidaceae	<i>Porphyrodesme papuana</i>	M.A. Clements 7276 & Ziesing (ex N. Howcroft	N. Howcroft s.n. ex Wompit, Lae
Orchidaceae	<i>Pseudovanilla</i>	T.G. Hartley 10471, W. Takeuchi 17031, P. Katik & F. Steven NGF46789, T.G. Hartley 10530, P. Katik NGF46773, H. Okada 4241, P. Katik NGF46773, H. Okada 4263, W. Takeuchi 17093	Oomsis Ck, W of Lae; Hills near Taraka, Lae; Bupo Rvr, Lae subdistrict; Oomsis Ck, W of Lae; Sunkwep Rd, Gwabari Ex-Service Station, Lae subdistrict; Gabensis LA, Oomsis, Lae; Sunkwep Rd, Gwabari Ex-Service Station, Lae subdistrict; Gabensis LA, Oomsis, Lae; Hills near Taraka, Lae
Orchidaceae	<i>Robiquetia gracilistipes</i>	W.N. Takeuchi 8999	Lae municipality
Orchidaceae	<i>Spathoglottis</i>	A.N. Millar NGF9257, T.G. Hartley 9756, T.G. Hartley 9603, T.G. Hartley 10414, Anonymous 5493	Bupu Rvr near Lae; Below Red Hill, W of Lae; Border of Lae-Goroka Rd, Ramu Rvr; Oomsis Ck, W of Lae; Lae, Morobe
Orchidaceae	<i>Thrixspermum platystachys</i>	W. N. Takeuchi 8894	Lae municipality
Orchidaceae	<i>Trichoglottis</i>	A.N. Millar NGF14634, P. Van Royen NGF16330, A.N. Millar NGF12289	Lae Botanic Gardens, Lae; Oomsis LA, NW of Lae.
Orchidaceae	<i>Trichoglottis papuana</i>	W. Takeuchi 9006	Lae municipality
Orchidaceae	<i>Trichotosia iodantha</i>	W.N. Takeuchi 9050	Lae Area
Osmundaceae	<i>Leptopteris alpina</i>	M. Jacobs 8652	Steep by airstrip, N of Lae
Oxalidaceae	<i>Averrhoa carambola</i>	K. Kerenga LAE74470, M.J.E. Coode NGF25433, J. Worimbangu LAE76316	Lae Botanic Gardens, Lae.
Oxalidaceae	<i>Oxalis neoguineensis</i>	J. Wiakabu LAE70387	Betwn Patep village & Zenag, Lae-Bulolo Rd
Oxalidaceae	<i>Oxalis thompsoniae</i>	A.N. Millar NGF12195	Kupandu, Wantoat, Lae subdistrict
Pandanaceae	<i>Galearia celebica</i>	J.S. Womersley NGF17703, T.G. Hartley 104731, J.J. Havel & A. Kairo NGF11198, E.E. Henty NGF14823, J.S. Womersley NGF24555, N. Kokori NGF43728, K.J. White NGF10456	Oomsis LA near Lae; Bewapi Ck near Lae; Timne village, Lau-Wau Rd
Pandanaceae	<i>Freycinetia</i>	J.S. Womersley NGF43683, T.G. Hartley 10162, W. Takeuchi 17091, W. Takeuchi 17013	Busu Rvr E of Lae; Burep Rvr, NE of Lae; Hills near Taraka, Lae; Hills near Taraka, Lae
Pandanaceae	<i>Freycinetia funicularis</i>	J.S. Womersley NGF17793	Oomsis LA, Lae
Pandanaceae	<i>Freycinetia inermis</i>	C.T. White NGF1659	Lae Area
Pandanaceae	<i>Freycinetia macrostachya</i>	B.C. Stone LAE53085	Lae Botanic Gardens, Lae.
Pandanaceae	<i>Pandanus lamprocephalus</i>	B.C. Stone LAE53528	Lae Botanic Gardens, Lae.
Pandanaceae	<i>Pandanus lauterbachii</i>	B.C. Stone LAE53061	Toward Bulolo from Lae
Pandanaceae	<i>Freycinetia salamauensis</i>	E.E. Henty NGF14361	Oomsis LA near Lae
Pandanaceae	<i>Pandanus castaneus</i>	B.C. Stone LAE53077	Markham Rvr, near Lae
Parkeriaceae	<i>Ceratopteris thalictroides</i>	J.R. Croft 65, Garrett-Jones S.E. ANU211 87	Lae, Morobe; Yanamugi Lake, Markham Valley

## Lae Flora

Passifloraceae	<i>Adenia</i>	P. Van Royen NGF20098, P. Katik LAE74970 & M. Galore, M.J.E. Coode NGF40186	Lae Botanic Gardens; Munun Village, Lae; Bupu river, N of Lae.
Passifloraceae	<i>Adenia forst</i>	P. Katik & G. Larivita LAE62062	Buso River, Lae
Passifloraceae	<i>Adenia heterophylla</i>	W. Takeuchi 5617	Igam Barracks, Lae.
Passifloraceae	<i>Adenia heterophylla</i> subsp. <i>australis</i>	N. Lowe NGF14790	Morobe, Lae
Passifloraceae	<i>Adenia heterophylla</i> subsp. <i>heterophylla</i>	A.N. Millar NGF9791, T.G. Hartley 10085,	Morobe, Lae; Bewapi Ck, W of Lae
Passifloraceae	<i>Adenia heterophylla</i> var. <i>heterophylla</i>	H. Streimann NGF39067, K. Kerenga & P. Katik LAE73906, J.S. Womersley NGF43720, T.G. Hartley 10085, P. Katik & G. Larivita LAE62062,	Labu, Lae Sub-District; Sankwep, Busu Rvr Rd, Lae; Busom Rvr, Lae; Bewapi Ck, W of Lae; Buso River, Lae Sub-District
Passifloraceae	<i>Adenta</i>	J.S. Womersley NGF43720	Busom Rvr, Lae
Passifloraceae	<i>Hollrungia</i>	M. Coode NGF29563, H. Streimann 41702, H. Streimann 41694, H. Streimann 41703	Bupu Rvr, E of Lae; Situm LA, ENE of Lae; Situm LA, ENE of Lae; Situm LA, ENE of Lae
Passifloraceae	<i>Passiflora foetida</i>	T.G. Hartley 9856, NGF2588, T.G. Hartley 9856A, M.J.E. Coode NGF29505, S.E. Garrett-Jones ANU21111, A.N. Millar NGF35236, M. Fallen 341	Junction of Lae - Goroko Rd & Erap Rvr; Busama near Lae; Nadzab, W of Lae; Waste ground near Lae wharf; Lake Wanum, Lae subdistrict; Site of Institute of Technical Education, Igam, Lae; Gabensis LR, SW of Lae
Passifloraceae	<i>Passiflora hollrungii</i>	P. Katik & K. Taho NGF37938	Kasanombe, Lae subdistrict
Passifloraceae	<i>Passiflora vitifolia</i>	A.N. Millar G.H.173	Lae Botanic Garden, Lae.
Passifloraceae	<i>Hollrungia aurantiooides</i>	M.J.E. Coode NGF29563	Bupu Rvr, E of Lae
Passifloraceae	<i>Passiflora</i>	P. Katik s.n. & K. Taho	Kasanomba, Lae subdistrict
Passifloraceae	<i>Passiflora foetida</i> var. <i>foetida</i>	T.G. Hartley 9856, T.G. Hartley 9856A, M.J. Coode NGF29505	Junction of Lae-Goroko Rd & Erap Rvr; Nadzab, W of Lae; Near wharf, Lae
Pentaphylacaceae	<i>Eurya</i>	T.G. Hartley 10949	Markham Rvr Point, W of Lae
Phormiaceae	<i>Dianella</i>	J. Womersley NGF3213, T.G. Hartley 12206	Yalu near Lae; Near Butibum Rvr, N of Lae
Phormiaceae	<i>Dianella ensifolia</i>	P.F. Stevens LAE50184	N of Lae
Phyllanthaceae	<i>Breynia</i>	I. Favares NGF47782	Buso Village, Lae;
Piperaceae	<i>Peperomia</i>	J.R. Croft LAE68523	Natter Bay LA, SE of Lae
Piperaceae	<i>Peperomia genella</i>	J.R. Croft LAE68523	Natter Bay LA, SE of Lae
Piperaceae	<i>Peperomia pellucida</i>	H. Morte LAE79219, T.G. Hartley 11626, Carol Yallen et.al LAE79268, A.N. Gillison NGF22237, Verdcourt 5221	Lae Botanic Garden, Lae.
Piperaceae	<i>Peperomia tenuipila</i>	M. Jacobs 8691	Kasanombe, N of Lae
Piperaceae	<i>Piper betle</i>	J.S. Womersley NGF4301, C.T. White NGF1569, T.G. Hartley TGH10462	Lae, Morobe; Lae, Morobe; Oomsis Ck, W of Lae
Piperaceae	<i>Piper caninum</i>	E.E. Henty NGF11986, T.G. Hartley TGH10036, E.E. Henty NGF14377, C.T. White NGF1554	Near Busu Rvr near Lae; Oomsis Ck, W of Lae; Busu Rvr, near Lae; Lae, Morobe
Piperaceae	<i>Piper macropiper</i>	T.G. Hartley 9839, W. Takeuchi 16552, Anonymous 5512, Native Coll. NGF5512, T.G. Hartley TGH11345, K.J. White NGF10457, H. Streimann 8660, T.G. Hartley 12376, M. Jacobs 9652	Near Butibum Rvr, N of Lae; Hills, Lae; Lae, Morobe; Lae, Morobe; N side of Busu Rvr, N of Lae; Oomsis near Lae; Labu Swamp, WNW of Lae; Near Yalu, NW of Lae; On coast SE of Lae

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Piperaceae	<i>Piper</i>	H. Streimann 8660, P. Lamei LAE89484 & K. Fazang, H. Streimann 8514, B.C. Stone LAE53071, M. Fallen 302, C.T. White NGF1569, E.E. Henty NGF14377, B.J. Conn 13, A. Masapuhaho & A. Kairo, B.J. Conn 73 & A. Kairo, B.J. Conn 73 & A. Kairo, H. Streimann 8368, T.G. Hartley 10462, J.S. Womersley NGF4303, K. Beamish, C.T. White NGF1554, T.B. Croat 52799, H. Streimann 8660, E.E. Henty NGF49283, C.T. White NGF1567	Labu Swamp, WNW of Lae; Lae Botanical Gardens; Markham Swamp, NW of Lae; Markham Rvr Detour, near Lae; Sangkewp LA, SW of Lae; Lae, Morobe; Busu Rvr, near Lae; Lae, Morobe; Between Boana & Guambot, Lae, Ridge betwn Busu & Butibum Rvrs, NNW of Lae; Oomsis Ck, W of Lae; Lae, Morobe; Lae Botanical Gardens; Lae, Morobe; Lae, Morobe; Busu Rvr LR, SE of Lae; Labu Swamp, WNW of Lae; Abunaka Plantation near Lae; Lae, Morobe
Piperaceae	<i>Piper abbreviatum</i>	A.N. Millar NGF12228, K.J. White NGF10474, A.N. Millar NGF9930, A.N. Millar GH99, A.N. Millar GH41, A.N. Millar GH47	Busu Rvr, near Lae; Oomsis near Lae; Oomsis near Lae; Lae Botanical Gardens; Lae Botanical Gardens
Piperaceae	<i>Piper aduncum</i>	Anonymous NGF4719, G. Argent NGBF1031, M. Fallen 280, E.M. Baltisberger 11819	Lae Botanical Gardens, Lae; near Markham bridge, S of Lae; Gawam, N of Wagang, ENE of Lae.
Piperaceae	<i>Piper celtidiforme</i>	T.G. Hartley TGH10534, B.J. Conn 13, A. Masapuhaho & A. Kairo	Oomsis Ck, W of Lae; Gizan, Lae
Piperaceae	<i>Piper celtidiforme f. celtidiforme</i>	T.G. Hartley 10534	Oomsis Ck, W of Lae
Piperaceae	<i>Piper mestonii</i>	B.C. Stone LAE53080, T.G. Hartley TGH10189, J. Regalado 1248 & P. Kati, J.S. Womersley NGF4303, C.T. White NGF1567, H.E. Dadswell & L.S. Smith	Markham Rvr, near Lae; Burep Rvr, NW of Lae; Along Singuana Rd, E of Lae city; Lae, Morobe; Lae, Morobe
Piperaceae	<i>Piper novoguineense</i>	T.G. Hartley TGH9839	Near the Butibum Rvr, N of Lae
Piperaceae	<i>Piper ornatum</i>	E.E. Henty LAE72529	Abunaka Pth, Lae
Piperaceae	<i>Piper plagiophyllum</i>	B.C. Stone LAE53071, T.G. Hartley 9620, T.G. Hartley 12187, E.E. Henty NGF13676	Markham Rvr Detour, near Lae; Butibum Rvr, N of Lae; S side of Busu Rvr, N of Lae; Bumbu LA, near Lae
Piperaceae	<i>Piper subbullatum</i>	T.G. Hartley 9620, E.E. Henty NGF11912, H. Streimann NGF47858	Butibum Rvr, N of Lae; Buso Rd, near Lae; Zenag, Lae-Bulolo Rd
Piperaceae	<i>Piper versteegii</i>	P. Van Royen 4180	Rd to Lae-Markham bridge
Pittosporaceae	<i>Pittosporum ferrugineum</i>	J.S. Womersley NGF3318, A.N. Millar NGF13896, D. Wabo LAE73232, T.G. Hartley 9791, T.G. Hartley 9684, T.G. Hartley 10950, E.E. Henty NGF9820, J.R. Croft LAE68551	Yalu near Lae; Red Hill near Lae; Red Hill swamp, Lae; Lake Wanum, W of Lae; Red Hill, W of Lae; Markham Rvr Point, W of Lae; Busu Bridge, near Lae; Natter Bay Lam SE of Lae
Pittosporaceae	<i>Pittosporum ferrugineum</i> subsp. <i>ferrugineum</i>	J. Croft 68551 & Y. Lelean, E.E. Henty NGF9820	Natter Bay LA, SE of Lae; Busu Bridge near Lae
Pittosporaceae	<i>Pittosporum sinuatum</i>	P. Katik LAE64177 & F. Essig, T.G. Hartley 11060, H. Okada 4283, M. Fallen 312, P. Katik NGF46884, T.G. Hartley 11864, T.G. Hartley 10567	Situm La, Lae; S of Busu Rvr, N of Lae; Sunkwep LA, Busu Rvr, Lae; Sangkewp LA, SW of Lae; Sankwep LR, Lae; Near Butibum Rvr, N of Lae; Oomsis Ck, W of Lae
Poaceae	<i>Apluda mutica</i>	H. Streimann & I. Favasalu NGF47739, J.H. Willis	Gabensis-Wagau Track, S of Gabensis, Lae; Lae High Techn. Institute;
Poaceae	<i>Axonopus fissifolius</i>	E.E. Henty 74	Lae Area
Poaceae	<i>Bambusa</i>	E.E. Henty NGF20975, C. King K140, Millar NGF15795, E.E. Henty NGF20975	Lae Botanic Garden, Lae
Poaceae	<i>Bambusa hirsuta</i>	E. Henty 20988, A.N. Millar 15795 & R.E. Holttum	Lae Botanic Garden, Lae
Poaceae	<i>Brachiaria dictyoneura</i>	E.E. Henty LAE72421	Three-Mile Pasture Plots, Lae
Poaceae	<i>Capillipedium parviflorum</i>	E.E. Henty & Royen van P. NGF16709	Busu Rvr near Lae
Poaceae	<i>Cenchrus ciliaris</i>	E.E. Henty NGF10566	Erap Livestock Station, near Lae
Poaceae	<i>Cenchrus echinatus</i>	E.E. Henty s.n.	Near Sasiang, Lae subdistrict

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Poaceae	<i>Centotheca lappacea</i>	J.S. Womersley 4620, L. Saraim, et al. LAE79289, R.J. Johns NGF47291	Lae Botanic Garden, Lae; Gabensis
Poaceae	<i>Chloris tenera</i>	E.E. Henty NGF9846	Wampit Rvr, Lae
Poaceae	<i>Cyrtococcum patens</i>	R.F. Thorne 27441	Near Busu Rvr Bridge, NE of Lae
Poaceae	<i>Digitaria violascens</i>	E.E. Henty 77	Lae Area
Poaceae	<i>Elionurus citreus</i>	H. Streimann & F.C. Students NGF45019	Saru River, SE of Garaina, Lae
Poaceae	<i>Eragrostis amabilis</i>	E.E. Henty NGF14795, E.E. Henty 75	Lae Botanic Garden, Lae; Lae airport
Poaceae	<i>Eragrostis brownii</i>	Students 45017	Saru Rvr, SE of Garaina, Lae subdistrict
Poaceae	<i>Eragrostis pilosa</i>	E.E. Henty 7, E.E. Henty 79, M.J.E. Coode NGF46154, A.N. Millar NGF35234, E.E. Henty NGF14796, M.J. Coode 3769, M.J. Coode NGF46154	Lae Aerodrome; Lae Aerodrome; Markham Bridge, Lae; Igam, Lae; National Botanic Gardens, Lae; Markham bridge, Lae; Markham Bridge, Lae
Poaceae	<i>Eriochloa procera</i>	E.E. Henty NGF29171	Munim, Lae
Poaceae	<i>Eulalia leptostachys</i>	P. van Royen & Millar A. N. NGF17500	Zatari, SE Boana, Lae subdistrict
Poaceae	<i>Eustachys</i>	J.S. Womersley NGF6962	Yalu Rvr near Lae
Poaceae	<i>Eustachys tener</i>	E.E. Henty NGF96	Lae Area
Poaceae	<i>Heteropogon contortus</i>	M. Pirkis s.n.	Wawin, Lae subdistrict
Poaceae	<i>Hyparrhenia rufa</i>	E.E. Henty NGF41943	Bubia, Lae subdistrict
Poaceae	<i>Imperata cylindrica</i>	A.N. Millar NGF35240, D. Foreman NGF45603, J.H. Willis	Igam, Lae subdistrict; Lae, Morobe; Lae High Tech Institute
Poaceae	<i>Isachne myosotis</i>	P. van Royen 17504 & A.N. Millar	Zatari, SE Boana, Lae subdistrict
Poaceae	<i>Ischaemum muticum</i>	H. Streimann NGF39065 & A. Kairo, T.G. Hartley 9739, T.G. Hartley 9739A	Labu, Lae subdistrict; Malahang coast, NE of Lae; Malahang Beach, NE of Lae
Poaceae	<i>Ischaemum polystachyum</i>	M. Coode NGF29579	Lae Area
Poaceae	<i>Leptaspis ureolata</i>	J. Waine 47	Lae Botanic Garden, Lae.
Poaceae	<i>Leptochloa capillacea</i>	E.E. Henty NGF49294	Markham Rvr near bridge, Lae subdistrict
Poaceae	<i>Leptochloa virgata</i>	Anonymous 105	Nadzab near Lae
Poaceae	<i>Melinis minutiflora</i>	E.E. Henty NGF11550	Markham Rd, near Lae
Poaceae	<i>Melinis repens</i>	M.J. Coode NGF29524, E.E. Henty 82, T.G. Hartley 9861	Lae Wharf; Lae, Morobe; Junction of the Lae - Goroka Rd & Ramu Rvr
Poaceae	<i>Misanthus floridulus</i>	P. van Royen & A.N. Millar NGF15665	Zatari, from SE Boana, Lae subdistrict
Poaceae	<i>Mnesithea granularis</i>	J.S. Womersley NGF3305A, T.G. Hartley 10269	Lae, Morobe; Near Butibum Rvr, N of Lae
Poaceae	<i>Mnesithea rottboellioides</i>	H.F. Winters s.n. & J.J. Higgins, J.S. Womersley NGF4649, P.F. Stevens LAE50200	Near Markham Rvr bridge near Lae; Nadzab, near Lae; Gabensis, Lae subdistrict
Poaceae	<i>Ophiuros exaltatus</i>	J.S. Womersley NGF4618	Lae Area
Poaceae	<i>Ophiuros tongcalingii</i>	J.S. Womersley NGF4618, J.H. Willis	Lae, Morobe; Lae High Tech Institute
Poaceae	<i>Oplismenus hirtellus</i>	A.N. Gillison 4	Teweapiakum Village, Lae subdistrict
Poaceae	<i>Panicum antidotale</i>	E.E. Henty NGF49142	Erap, Lae subdistrict
Poaceae	<i>Panicum maximum var. coloratum</i>	E.E. Henty H320	Lae Botanic Gardens, Lae.
Poaceae	<i>Panicum maximum var. trichoglume</i>	E.E. Henty NGF13641	Malahang Plantation, near Lae
Poaceae	<i>Panicum sarmentosum</i>	H. Streimann & A. Kairo NGF47949	Tiaura Village, S of Garaina, Lae subdistrict
Poaceae	<i>Paspalum</i>	E.E. Henty 95, E.E. Henty 69, E.E. Henty 67, E.E. Henty 108, E.E. Henty 68	Lae, Morobe; Lae, Morobe; Lae, Morobe; Lae, Morobe

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Poaceae	<i>Paspalum scrobiculatum</i>	T.G. Hartley 11609, M.J. Coode NGF29526, H.F. Winters s.n. & J.J. Higgins, T.G. Hartley 11609, C. Edwards NGF29167, M.J. Coode 3782, E.E. Henty NGF9875, E.E. Henty 7	Lae, Morobe; Lae, Wharf; Markham Rd near Lae; Lae, Morobe; Bubia, near Lae; Lae, Morobe; Lae, Morobe; Lae, Morobe
Poaceae	<i>Paspalum vaginatum</i>	E.E. Henty NGF9874	Lae Area
Poaceae	<i>Paspalum wettsteinii</i>	E.E. Henty LAE72440	Abunaka, Lae subdistrict
Poaceae	<i>Pennisetum polystachyon</i>	E.E. Henty 292	Lae Area
Poaceae	<i>Pennisetum purpureum</i>	E.E. Henty 307	Lae Botanic Gardens, Lae.
Poaceae	<i>Pseudoraphis spinescens</i>	J.S. Womersley NGF9092, J.S. Womersley	Lae Botanic Gardens, Lae
Poaceae	<i>Sacciolepis indica</i>	H. Streimann & F.C. Students NGF45018, P. van Royen 17501 & A.N. Millar, H. Streimann NGF45193, A. Kairo NGF45069	Saru Rvr, SE of Garaina, Lae subdistrict; Zatarl, from SE Boana, Lae subdistrict; Buso, Lae subdistrict; Kasu, S of Garaina, Lae subdistrict
Poaceae	<i>Setaria sphacelata</i>	E.E. Henty NGF41937	Bubia, Lae subdistrict
Poaceae	<i>Sorghum arundinaceum</i>	E.E. Henty TGH14764, M.J. Coode 3785	Lae, Morobe; Lae, Morobe
Poaceae	<i>Sorghum nitidum</i>	J.S. Womersley 3305	Lae Area
Poaceae	<i>Sorghum nitidum f. aristatum</i>	J.S. Womersley NGF3305	Lae Area
Poaceae	<i>Themeda triandra</i>	J.S. Womersley 3303, J. Womersley NGF3302, J.H. Willis	Lae, Morobe; Lae, Morobe; Lae High Tech Institute
Poaceae	<i>Vacoparis laxiflorum</i>	F.M. Bailey H284	Lae Area
Poaceae	<i>Arthraxon linifolius</i>	E.E. Henty NGF14873	Boana, Lae subdistrict
Poaceae	<i>Arundo donax var. donax</i>	E.E. Henty NGF10654	Lae Area
Poaceae	<i>Axonopus compressus</i>	E.E. Henty 112, M.J. Coode 3774	Lae, Morobe; Lae, Morobe
Poaceae	<i>Borthriochloa bladhii</i>	L. Saraim et al. LAE 79292	Lae Botanic Garden, Lae.
Poaceae	<i>Bothriochloa bladhii</i> subsp. <i>bladhii</i>	H.F. Winters s.n. & J.J. Higgins, E. Henty NGF20987	Markham Rvr bridge near Lae; Abunaka near Lae
Poaceae	<i>Brachiaria</i>	E.E. Henty NGF9873	Lae Area
Poaceae	<i>Brachiaria brizantha</i>	E.E. Henty NGF41936	In Introduction Plot. Bubia, Lae
Poaceae	<i>Brachiaria distachya</i>	E.E. Henty NGF9873	Foreshore, Lae
Poaceae	<i>Brachiaria humidicola</i>	E.E. Henty	Maralume, Lae on Property of Markham Farming
Poaceae	<i>Brachiaria pubigera</i>	E.E. Henty NGF29170	Nadzab, Lae
Poaceae	<i>Brachiaria ruziziensis</i>	E.E. Henty NGF41940	Bukia, Lae
Poaceae	<i>Capillipedium spicigerum</i>	E.E. Henty NGF16709	Busu Rvr near Lae
Poaceae	<i>Centotheca</i>	R.J. Johns 47291	Gabensis, Lae subdistrict
Poaceae	<i>Centotheca latifolia</i>	A. Kairo 43491 & H. Streimann	Saru Rvr, Garaina, Lae subdistrict
Poaceae	<i>Chionachne macrophylla</i>	H.F. Winters s.n. & J.J. Higgins	Markham Rd, near Lae
Poaceae	<i>Chloris inflata</i>	T.G. Hartley 11607	Lae Area
Poaceae	<i>Chrysopogon aciculatus</i>	J.S. Womersley s.n.	Lae Area
Poaceae	<i>Chrysopogon zizanioides</i>	E.E. Henty NGF9847	Lae Botanic Gardens, Lae
Poaceae	<i>Cymbopogon citratus</i>	J.S. Womersley, C.E. Edwards NGF13663	Lae, Morobe; Bubia Agricultural Station, Lae
Poaceae	<i>Cymbopogon globosus</i>	J.S. Womersley s.n.	Lae Area
Poaceae	<i>Cynodon dactylon</i> var. <i>dactylon</i>	E.E. Henty 104,	Nasa Wapun Markham Valley Rd near Lae

## Lae Flora

Poaceae	<i>Cyrtococcum oxyphyllum</i>	E.E. Henty NGF10598, H. Streimann NGF30931	Nadzab near Lae; Oomsis, Lae
Poaceae	<i>Dichanthium</i>	E.E. Henty 113	Lae Area
Poaceae	<i>Dichanthium annulatum</i>	Anonymous H318	Lae Botanic Garden, Lae.
Poaceae	<i>Digitaria bicornis</i>	T.G. Hartley 11608, E.E. Henty 110	Lae, Morobe; Lae, Morobe
Poaceae	<i>Digitaria insularis</i>	E.E. Henty NGF11527	Maralumi Ck, Erap, near Lae
Poaceae	<i>Digitaria longiflora</i>	M.J. Coode 3779	Near Lae
Poaceae	<i>Digitaria setigera</i>	A.N. Millar NFG35238	Igam, Lae
Poaceae	<i>Echinochloa colona</i>	J.S. Womersley 3300, T.G. Hartley 11632, T.G. Hartley 11625, J. Womersley s.n.	Lae, Morobe; Near Butibum Rvr, N of Lae; Territory of New Guinea, Lae; Lae, Morobe
Poaceae	<i>Echinochloa colonum</i>	A. Kapah, et al. LAE79281	Lae Botanic Garden, Lae.
Poaceae	<i>Eleusine indica</i>	A.N. Millar NFG35239, T.G. Hartley 11618, J.S. Womersley 3304, B. Conn 64, M.J. Coode 3767, A. Kapah LAE 79282, L. Saraim & K. Fazang, M.J. Coode NGF29514	Igam, Lae; Lae, Morobe; Lae, Morobe; NE of Boana, Lae; Markham Bridge, Lae; National Botanical Garden, Lae; Waste Ground near Wharf, Lae
Poaceae	<i>Garnotia stricta var. longiseta</i>	P.F. Stevens LAE58042	Kisingam, Mt Dilmargi, Lae
Poaceae	<i>Gigantochloa apus</i>	E.E. Henty NGF20990	Lae Botanic Garden, Lae.
Poaceae	<i>Imperata conferta</i>	C.T. White NGF1722, D. Foreman NGF45603	Lae, Morobe; Lae, Morobe
Poaceae	<i>Isachne albomarginata</i>	P. van Royen & A.N. Millar NGF17534	Zatarl, SE of Boana, Lae subdistrict
Poaceae	<i>Isachne confusa</i>	H. Streimann & F.C. Students NGF45032	Saru Rvr, SE of Garaina, Lae subdistrict
Poaceae	<i>Ischaemum barbatum</i>	T.G. Hartley 9786, S.E. Garrett-Jones ANU21027, J.S. Womersley NGF3303, H.F. Winters 318 & J.J. Higgins	Below Red Hill, W of Lae; Markham Point, Lae; Lae, Morobe; Near Markham Rvr bridge near Lae
Poaceae	<i>Ischaemum triticeum</i>	E.E. Henty	Abunaka Plantation, Lae subdistrict
Poaceae	<i>Ischaemum tropicum</i>	E.E. Henty NGF49749	Near Lae
Poaceae	<i>Leptochloa chinensis</i>	E.E. Henty s.n., E.E. Henty NGF11575	Markham Rd near Markham Valley, near Lae; Markham Rd near Markham Valley, near Lae
Poaceae	<i>Lophatherum gracile</i>	A. Kairo NGF43491	Saru Rvr, SE of Garaina Lae subdistrict
Poaceae	<i>Microstegium nudum</i>	E.E. Henty NGF14873	Near Busu Rvr, Lae
Poaceae	<i>Nastus</i>	A.N. Vinas 282 & A. Kairo	Buso Rvr, W of Buso Camp, Lae
Poaceae	<i>Opismenus compositus</i>	A. Floyd NGF5657, E.E. Henty 72	Malahang, Lae; Lae, Morobe
Poaceae	<i>Panicum luzonense</i>	J.S. Womersley NGF5386	Lae Area
Poaceae	<i>Panicum maximum var. pubiglume</i>	E.E. Henty NGF13641	Malahang Plantation, near Lae
Poaceae	<i>Panicum mindanaense</i>	E.E. Henty 87, E.E. Henty NGF42865	Milford Haven, Lae; Markham Point Ridge, Lae subdistrict
Poaceae	<i>Paspalum conjugatum</i>	G. Argent NGB1030, M.J. Coode NGF29530, T.G. Hartley 11610, L. Kusunan 10, H.F. Winters s.n. & J.J. Higgins	Lae, Morobe; Lae, Morobe; Lae, Morobe; National Botanic Garden, Lae; Markham Rd near Lae
Poaceae	<i>Paspalum paniculatum</i>	T.G. Hartley 11611, M.J. Coode 3773	Lae, Morobe; Lae, Morobe
Poaceae	<i>Pennisetum glaucum</i>	E.E. Henty NGF41941	Bubia, Lae subdistrict
Poaceae	<i>Phragmites karka</i>	W. Moi s.n. & N. Inu, W. Moi NGF25973	Red Hill Swamp, Lae subdistrict; Red Hill Swamp, Lae subdistrict
Poaceae	<i>Pogonatherum crinitum</i>	P.F. Stevens LAE58044,	Kisingam, Mt Dilmargi, Lae;
Poaceae	<i>Pseudopogonatherum</i>	A. Kairo NGF45067	Kasu, S of Garaina, Lae subdistrict
Poaceae	<i>Pseudopogonatherum irritans</i>	A. Kairo NGF45067	Kasu, S of Garaina, Lae subdistrict
Poaceae	<i>Racemobambos congesta</i>	P. van Royan 15659 & A.N. Millar	Zatari, SE Boana, Lae subdistrict

## Lae Flora

Poaceae	<i>Rottboellia cochinchinensis</i>	E.E. Henty E319, H.F. Winters s.n. & J.J. Higgins	Bubia, near Lae; Along Markham road near Lae
Poaceae	<i>Rottboellia exaltata</i>	C. Yallen LAE79264	Lae Botanic Garden, Lae.
Poaceae	<i>Saccharum spontaneum</i>	C.T. White NGF1721	Lae Area
Poaceae	<i>Sacciolepis myosuroides</i>	T.G. Hartley 9785, J.S. Womersley NGF3301, J.S. Womersley NGF3301, W. Moi 25990 & N. Inu	Below Red Hill, W of Lae; Lae, Morobe; Lae, Morobe; Red Hill Swamp, Lae subdistrict
Poaceae	<i>Schizostachyum lima</i>	E.E. Henty NGF20998	Lae Botanic Garden, Lae.
Poaceae	<i>Scrotophloa urceolata</i>	T.G. Hartley 9613, E.E. Henty NGF11600	N side of Markham Rvr, W of Lae; Atzera Range, near Lae
Poaceae	<i>Setaria parviflora</i>	E.E. Henty NGF9810, J. Womersley NGF3306	Busu LA near Lae; Lae, Morobe
Poaceae	<i>Setaria pumila</i> subsp. <i>pallidefusca</i>	J.S. Womersley NGF3306	Lae Area
Poaceae	<i>Setaria sphacelata</i> var. <i>sericea</i>	E.E. Henty NGF41937	Bubia, Lae subdistrict
Poaceae	<i>Sorghum</i>	E.E. Henty 14825, E.E. Henty NGF9848	Lae Botanical Gardens; National Botanic Gardens, Lae
Poaceae	<i>Sorghum halepense</i>	E.E. Henty 41942, Unreadable 273	Bubia, Lae subdistrict; Lae, Morobe
Poaceae	<i>Sorghum laxiflorum</i>	F.M. Bail 284	Lae Area
Poaceae	<i>Sporobolus sessilis</i>	E.E. Henty NGF14791	Lae Area
Poaceae	<i>Thuarea involuta</i>	E.E. Henty NGF14785	Lae Area
Podocarpaceae	<i>Phyllocladus hypophyllus</i>	R.J. Johns NGF47203	Muniau, Lae subdistrict
Podocarpaceae	<i>Podocarpus blumei</i>	J.S. Womersley NGF17790	Lae Botanic Garden, Lae.
Podocarpaceae	<i>Podocarpus grayae</i>	J.R. Croft LAE68571	Natter Bay LA, SE of Lae
Podocarpaceae	<i>Podocarpus neriiifolius</i>	T.G. Hartley 10525, H. Streimann & D.B. Foreman NGF24437, J.R. Croft & Y. Lelean LAE68571	Oomsis Ck, W of Lae; Mt Kawea, Buso, Lae; Natter Bay LA, SE of Lae
Podocarpaceae	<i>Decussocarpus wallichianus</i>	J.S. Womersley NGF17790, J. Waine 59, Anonymous W41	Lae Botanic Gardens, Lae; Oomsis LA.
Podocarpaceae	<i>Nageia wallichiana</i>	H. Streimann NGF44171, J.S. Womersley NGF17621, J.J. Havel & A. Kairo NGF17212, T.G. Hartley TGH10430, J.M. Simaga 366, C.J. Quinn UNSW4291, T.G. Hartley 10430, R. Hoff 2694, J.S. Womersley NGF17790, M.M. Poesi 81026, T.G. Hartley 9658, M.M. Poesi 81024	Lasanga Is, Lae subdistrict; Oomsis LA, Lae; Ridge above Oomsis, Lae subdistrict; Oomsis Ck, W of Lae; PNG University of Technology; Lae Botanical Gardens; Oomsis Ck, W of Lae; Lae Town; Lae Botanical Gardens; TITC campus, Bundi/Buimo Rd, Lae; Lae Botanical Gardens; TITC compound, Buimo Rd, Lae
Podocarpaceae	<i>Sundacarpus amara</i>	N.M.U. Clunie & P. Katik LAE63035	Garagos mountain LA, Lae subdistrict
Podocarpaceae	<i>Sundacarpus amarus</i>	N.M. Clunie LAE63035	Garagos mountain LA, Lae subdistrict
Polygalaceae	<i>Polygala chinensis</i>	H. Streimann NGF47797, C.T. White, et al. 1689, J.S. Womersley NGF4610	Markham Point, Lae; Lae, Morobe; National Botanic Garden Nursery, Lae
Polygalaceae	<i>Polygala triflora</i>	E.E. Henty NGF11544	Erap, Lae subdistrict
Polygalaceae	<i>Xanthophyllum</i>	B.C. Stone LAE53070	Markham Rvr detour, near Lae
Polygalaceae	<i>Eriandra fragrans</i>	J. Waine 50	Lae Botanic Garden, Lae.
Polygalaceae	<i>Polygala</i>	C.T. White NGF1685, H. Streimann & A. Kairo NGF47932, C.T. White NGF1689	Lae, Morobe; Kipu, S of Garaina, Lae subdistrict; Lae, Morobe
Polygalaceae	<i>Polygala linarifolia</i>	C.T. White NGF1685, T.G. Hartley 10274, E.E. Henty NGF11544, E.E. Henty NGF10668	Lae, Morobe; Near Butibum Rvr, N of Lae; Erap, Lae; Erap near Lae
Polygalaceae	<i>Polygala longifolia</i>	T.G. Hartley 12244	Markham Point bluff, W of Lae
Polygalaceae	<i>Polygala paniculata</i>	M. Lovave 005, M. Fallen 353	PNGFRI Research Permanent Plot area, Oomsis, Lae; Gabensis LR, SW of Lae
Polygalaceae	<i>Securidaca ecristata</i>	A.N. Millar NGF9917, M. Jacobs 9605	Oomsis Ck near Lae; SE of Lae on coast

## Lae Flora

Polygonaceae	<i>Homalocladium platycladum</i>	J.S. Womersley NGF9084	Markham Valley, Lae
Polygonaceae	<i>Muehlenbeckia platycladum</i>	J.S. Womersley NGF9084	Markham Valley, Lae
Polygonaceae	<i>Polygonum</i>	M. Fallen 356	Road to Lake Wanum, near cacao plantation, SW of Lae
Polygonaceae	<i>Polygonum chinense</i>	E.J. Corner NGF13714	Lae Area
Polypodiaceae	<i>Drynaria sparsisora</i>	J.R. Croft 64, H. Streimann NGF44291	Lae, Morobe; Lasanga Is, Lae subdistrict
Polypodiaceae	<i>Goniophlebium percussum</i>	P. Lamei LAE89488 & K. Fazang, J.R. Croft 665, A. Floyd 5708	Lae Botanical Gardens, Lae; Markham Point near Lae.
Polypodiaceae	<i>Lecanopteris sinuosa</i>	H. Streimann NGF44264, A. Kairo NGF44206	Lasanga Is, Lae subdistrict; Buso, Lae subdistrict
Polypodiaceae	<i>Lemmaphyllum accedens</i>	J.R. Croft 915-C & J.I. Marsh, R.J. Johns NGF47225, J.R. Croft 915-A & J.I. Marsh, J.R. Croft 462, J.R. Croft 915-B & J.I. Marsh	Gurakor Ck, WSW of Lae; Maniau, Lae subdistrict; Gurakor Ck, WSW of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae; Gurakor Ck, WSW of Lae
Polypodiaceae	<i>Microsorum linguiiforme</i>	J.R. Croft 70, W.N. Takeuchi 8886	Lae, Morobe; Lae municipality
Polypodiaceae	<i>Platycerium bifurcatum</i>	J.R. Croft 851	Lae Botanic Gardens, Lae
Polypodiaceae	<i>Pyrrosia lanceolata</i>	J.R. Croft 63, J.R. Croft 61	Lae, Morobe; Lae, Morobe
Polypodiaceae	<i>Pyrrosia princeps</i>	J.R. Croft 69, J.R. Croft 918 & J.I. Marsh, W. Takeuchi 5620	Lae, Morobe; Gurakor Ck, WSW of Lae; Igam Barracks, Lae
Polypodiaceae	<i>Aglaomorpha</i>	Takeuchi W. N. 8962	Morobe, Lae
Polypodiaceae	<i>Aglaomorpha drynarioides</i>	J.R. Croft 444	E of Mongi R., Huon Peninsula, E of Lae
Polypodiaceae	<i>Crypsinus enervis</i>	J.R. Croft 462A	E of Mongi Rvr, Huon Peninsula, E of Lae
Polypodiaceae	<i>Ctenopteris</i>	F.J. Taylor s.n.	Near Lae
Polypodiaceae	<i>Dendroconche kingii</i>	A. Floyd 5601	Busu, Rvr Hills, near Lae
Polypodiaceae	<i>Didymochlaena truncatula var. oceanica</i>	J.R. Croft 438	E of Mongi Rvr, Huon Peninsula, E of Lae
Polypodiaceae	<i>Drynaria rigidula</i>	W.N. Takeuchi 9002, T.G. Hartley 10575, J.R. Croft 422	Lae municipality and nearby areas; Oomsis Ck, W of Lae; Natter Bay, SE of Lae
Polypodiaceae	<i>Goniophlebium persicifolium</i>	J.R. Croft 435	E of Mongi Rvr, Huon Peninsula, E of Lae
Polypodiaceae	<i>Microsorium scolopendria</i>	J.R. Croft 412	Natter Bay, SE of Lae
Polypodiaceae	<i>Microsorium sibomense</i>	J.R. Croft 386	Natter Bay, SE of Lae
Polypodiaceae	<i>Microsorium subgeminatum</i>	J.R. Croft 888 & J.I. Marsh, J.R. Croft 690	Lae Botanical Gardens; Huon Rd near Milfordhaven Rd, Lae
Polypodiaceae	<i>Microsorum</i>	F.J. Taylor s.n., P.F. Stevens LAE50183, W. Takeuchi 5619	Bank above Markham Rvr near Lae; N of Lae; Igam Barracks, Lae
Polypodiaceae	<i>Microsorum grossum</i>	T.G. Hartley 10434	Singaua Plantation, E of Lae
Polypodiaceae	<i>Microsorum punctatum</i>	A. Floyd 5682	Busu near Lae
Polypodiaceae	<i>Microsorum scolopendria</i>	B.J. Conn, et al. LAE69152	Lake Wanum, Lae subdistrict
Polypodiaceae	<i>Phlebodium aureum</i>	J.R. Croft 670	Lae Botanic Gardens, Lae.
Polypodiaceae	<i>Pyrrhosia longifolia</i>	J.R. Croft 427	Lae Area
Polypodiaceae	<i>Pyrrosia</i>	A. Floyd 5756, A. Kairo NGF45425, H. Streimann NGF47714, T.G. Hartley 9784	Trans-Busu Timber Lease near Lae; Bulolo-Lae Rd, S of Bulolo; W of Lae; Old lake bed below Red Hill, W of Lae
Portulacaceae	<i>Portulaca oleracea</i>	M.J. Coode NGF29521, J.S. Womersley NGF14039	Lae Wharf; Lae Botanic Gardens
Portulacaceae	<i>Portulaca pilosa subsp. pilosa</i>	J.S. Womersley NGF9091	Nadzab near Lae
Portulacaceae	<i>Portulaca pilosa</i>	O. Gideon LAE76113	Lae Botanic Garden, Lae.
Portulacaceae	<i>Talinum triangulare</i>	O. Gideon LAE76107, P. Katik NGF46885	Lae Botanic Garden, Lae; near Lae Wharf
Primulaceae	<i>Lysimachia</i>	M. Jacobs 8687	Kasanombe, N of Lae

## Lae Flora

Proteaceae	<i>Finschia chloroxantha</i>	B. Bau LAE86359	PNG University of Technology Campus, Lae
Proteaceae	<i>Helicia finisterrae</i>	B.D. Foreman LAE59303, T.G. Hartley TGH10045, J.S. Womersley NGF37150, J. Wiakabu LAE73369, A.N. Millar NGF9971	Lae Botanical Gardens; Oomsis Ck, W of Lae; Bumbu Rvr, Lae; Buso LA, E of Lae; Patep near Lae
Proteaceae	<i>Grevillea papuana</i>	A. Kairo NGF43498 & H. Streimann, A.N. Gillison NGF44601, D.B. Foreman & H. Streiman LAE52025	Saru Rvr, SE of Garaina, Lae subdistrict; Upper Buso Area, Lae subdistrict; Mt Kawea, Buso, Lae subdistrict
Proteaceae	<i>Helicia</i>	J. Wiakabu LAE73369	Buso LA, E of Lae
Proteaceae	<i>Helicia albiflora</i>	D.B. Foreman LAE52298, A. Kairo 17365	Near Buso Village, Lae subdistrict; Saru Rvr, SW of Garaina, Lae subdistrict
Proteaceae	<i>Helicia latifolia</i>	A.N. Millar NGF9971	Patep near Lae
Proteaceae	<i>Helicia macrostachya</i>	J.S. Womersley LAE55386	Waria Rvr, Lae subdistrict
Proteaceae	<i>Stenocarpus moorei</i>	A. Kairo NGF43488, A. Kairo NGF39091, D.B. Foreman LAE52044, H. Streimann NGF44313, A. Kairo NGF39091	Saru Rvr, SE of Garaina, Lae subdistrict; Amboru Beach, Buso Village, Lae subdistrict; Near Buso Rvr, Lae subdistrict; Lasanga Is, Lae subdistrict; Amboru Beach, Buso Village, Lae subdistrict
Proteaceae	<i>Stenocarpus sinuatus</i>	B.J. Conn 3544	Lae Botanic Garden, Lae.
Psilotaceae	<i>Psilotum complanatum</i>	A. Kairo 723	Wagau, SW of Lae
Psilotaceae	<i>Psilotum</i>	A. Kairo s.n. & H. Streimann	Saru Rvr, SE of Garaina, Lae subdistrict
Psilotaceae	<i>Psilotum nudum</i>	R.J. Johns s.n., L.S. Smith NG148, A. Kairo 723, W.N. Takeuchi 8890	Maniau, Lae subdistrict; Betwn Busu & Bupu Rvrs, near Lae; Wagau, SW of Lae; Lae municipality
Pteridaceae	<i>Pteris melanocaulon</i>	H. Streimann NGF47856	Wampit, Lae-Bulolo Rd
Pteridaceae	<i>Pteris rosenstockii</i>	J.R. Croft, et al. 331	Sankwep Rvr, N of Lae
Pteridaceae	<i>Pteris warburgii</i>	J.R. Croft 904 & J.I. Marsh, J.R. Croft 842	Sankwep Rvr, N of Lae; Atzera Range, W of Taraka, Lae city
Pteridaceae	<i>Vittaria</i>	P. Katik LAE64189 & F. Essig	Situm LA, Lae
Pteridaceae	<i>Vittaria elongata</i>	W.N. Takeuchi 8888, T.G. Hartley 10423, J.R. Croft 67	Lae municipality; Oomsis Ck, W of Lae; Lae, Morobe
Pteridaceae	<i>Acrostichum aureum</i>	A. Floyd NGF5661	Wagar swamp, near Lae
Pteridaceae	<i>Crostichum speciosum</i>	J.R. Croft 402	Natter Bay, SE of Lae.
Pteridaceae	<i>Pteris</i>	W. Takeuchi 17103, J.S. Womersley NGF17694, T.G. Hartley 12385, T.G. Hartley 9834, P. Katik LAE64174 & F. Essig, W. Takeuchi 5592	Hills near Taraka, Lae; Butibum Valley, Lae; Burep Rvr, NE of Lae; Near Butibum Rvr, N of Lae; Situm LA, Lae; Near Bumayong, Lae
Pteridaceae	<i>Pteris gardneri</i>	J.R. Croft 393	Natter Bay, SE of Lae
Pteridaceae	<i>Pteris ligulata</i>	W.N. Takeuchi 8909	Lae Area
Pteridaceae	<i>Pteris papuana</i>	J.R. Croft LAE65334, A.G. Floyd NGF7322, L.S. Smith NG149	Sankwep Rvr, N of Lae; Butibum Rvr, Lae; Lae, Morobe
Pteridaceae	<i>Pteris torricelliana</i>	J.R. Croft 895 & J.I. Marsh	Oomsis LA, W of Lae
Pteridaceae	<i>Pteris tripartita</i>	A. Floyd NGF7202, Anonymous 5719, J.R. Croft 406	E of Markham Bridge, Bulolo-Lae Rd; Lae, Morobe; Natter Bay, SE of Lae
Pteridaceae	<i>Pteris vittata</i>	A.G. Floyd NGF7205, F.J. Taylor s.n.	Clear Water Ck, Lae-Bulolo Rd; Lae-Goroka Rd
Putranjivaceae	<i>Drypetes</i>	T.G. Hartley 11442	Betwn Busu & Butibum Rvrs, N of Lae
Putranjivaceae	<i>Drypetes longifolia</i>	Anonymous 5514, Anonymous 5587, J.S. Womersley NGF9072, H. Streimann NGF35868	Lae, Morobe; Busu Bridge, Lae; Trans Busu Timber Area, Lae; Sankwep near Lae
Ranunculaceae	<i>Clematis</i>	P. Van Royen NGF16060, A.N. Millar NGF14409, T.G. Hartley 11080, E.E. Henty NGF11678	Lae-Bulolo Rd; Oomsis LA near Lae; Huon Gulf, NE of Lae; Busu Rvr near Lae
Ranunculaceae	<i>Clematis javana</i>	Conn 84 & A. Kairo	Betwn Boanan and Buambot, Lae

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Ranunculaceae	<i>Clematis papuasica</i>	A. Floyd 5398, P. Katik LAE64171 & F. Essig, K.J. White NGF9731, Henty E E. NGF11678, A.N. Millar NGF14409	Lae, Morobe; Situm LA, Lae; National Botanic Gardens Lae; Busu Rvr near Lae; Oomsis LA near Lae
Rhamnaceae	<i>Alphitonia incana</i>	K.J. White NGF10187, M. Jacobs 9667, A.N. Millar NGF9794, T.G. Hartley 9940	Oomsis, near Lae; SE of Lae, opposite Lasanga Is.; Oomsis near Lae; Red Hill, W of Lae
Rhamnaceae	<i>Emmenosperma alphonoioides</i>	J.J. Havel NGF17214	Ridge above Oomsis, Lae
Rhamnaceae	<i>Smythea lanceata</i>	Verdcourt 4965 & P. Katik, T.G. Hartley 11075	Singawa Coconut Estate, Lae; Coast of Huon Gulf, NE of Huon Gulf
Rhamnaceae	<i>Ziziphus angustifolia</i>	J.J. Havel NGF17208, J.S. Womersley NGF43909, P. Van Royen NGF16335, J.S. Womersley NGF17702, P. van Royen NGF16335, E.E. Henty NGF10584, J.S. Womersley NGF17702, J.S. Womersley NGF43909, K.J. White NGF10482	Garagos, Lae subdistrict; Aluki Area, E of Lae; Leiwomba Plantation, Lae; Oomsis LA, Lae; Leiwomba Plantation, Lae; Busu LA near Lae; Oomsis LA, near Lae; Aluki Area, E of Lae; Oomsis near Lae
Rhamnaceae	<i>Alphitonia</i>	J. Regalado 1591, T.G. Hartley 9940,	Forestry camp above Oomsis, W of Lae City; Red Hill, W of Lae
Rhamnaceae	<i>Alphitonia macrocarpa</i>	M. Jacobs 9534, T.G. Hartley 11758, J. J. Havel NGF17213, J.S. Womersley NGF48649, H. Streimann NGF45034 & Students F. C., Henty E. E. N.G.F. 14885, T.G. Hartley 11058A, T.G. Hartley 11058, T.G. Hartley 10624A	SE of Lae on the coast, opposite Lasanga Is.; Near Butibum Rvr, N of Lae; Oomsis Creek, Lae; Garagos Hill on Wagau Rd, Lae; SE of Garaina; Markham Point, Lae; S of Busu river, N of Lae; Between Busu and Butibum Rivers, N of Lae; Along Busu River, N of Lae
Rhamnaceae	<i>Alphitonia moluccana</i>	A.N. Millar NGF9794	Oomsis near Lae
Rhamnaceae	<i>Colubrina papuana</i>	J.J. Havel NGF17214	Ridge above Oomsis, Lae
Rhamnaceae	<i>Gouania</i>	J. Regalado 1182, H. Streimann NGF26028, Anonymous TNG5692	Gabadek village Rd, N of Lae City; Perinin Rvr, Lae-Wau Rd; Bumbu Ck near Lae
Rhamnaceae	<i>Gouania leptostachya</i>	T.G. Hartley 10285, W.N. Takeuchi	Near Butibum Rvr, N of Lae; Lae, Morobe
Rhamnaceae	<i>Gouania microcarpa</i>	T.G. Hartley 10596, Native NGF5692	Busu Rvr, N of Lae; Bumbu Rvr near Lae
Rhamnaceae	<i>Rhamnus</i>	T.G. Hartley 12347	N Side of Busu Rvr, N of Lae
Rhamnaceae	<i>Rhamnus napalensis</i>	P. Katik NGF46876, T.G. Hartley 10115, T.G. Hartley 11784, T.G. Hartley 10096, T.G. Hartley 11784, T.G. Hartley 12347	Sunkwep LR, Lae; Burep Rvr, NE of Lae; Burep Rvr, NE of Lae; Busu Rvr, N of Lae; Liana, NE of Lae; N Side of Busu Rvr, N of Lae
Rhamnaceae	<i>Ventilago</i>	P. van Royen NGF16277, P. van Royen NGF16475	Lae Botanic Gardens; Markham Rd, Lae
Rhamnaceae	<i>Ziziphus djamuensis</i>	T.G. Hartley TGH11849	Burep Rvr, NE of Lae
Rhamnaceae	<i>Ziziphus papuanus</i>	M. Coode 3533	Markham point near Lae
Rhizophoraceae	<i>Ceriops tagal</i>	J.R. Croft LAE68539, A. Bellamy 16B	Natter Bay LA, SE of Lae; Buso S of Lae
Rhizophoraceae	<i>Gynotroches</i>	T.G. Hartley 10495, T.G. Hartley 10067, C. Ridsdale NGF31661, C. Ridsdale NGF31661	Oomsis Ck, W of Lae; Bewapi Ck, W of Lae; Helicopter Site Two, Lae subdistrict; Helicopter Site Two, Lae subdistrict
Rhizophoraceae	<i>Rhizophora apiculata</i>	J.R. Croft LAE68543, C.E. Ridsdale NGF31708, J.R. Croft LAE68537, K. Kerenga LAE74295, Anonymous NGF3362, J.S. Womersley NGF46463, J. Wiakabu LAE73379, J.S. Womersley NGF43739, J.S. Womersley NGF3362, P.B. Tomlinson 18x74A, J.S. Womersley NGF46463, J.R. Croft LAE68537, D.G. Frodin NGF26452, J.S. Womersley NGF43739	Natter Bay LA, SE of Lae; Helicopter site Ila, Lae; Natter Bay LA, SE of Lae; Apo Beach, Lae; Labu near Lae; Labu Lakes near Lae; Apo village, E coast Lae subdistrict; Labu Lakes near Lae; Labu near Lae; Seaward side, Singawa plantation, Lae; Labu Lakes, near Lae; Natter Bay LA, SE of Lae; Labu, near Lae; Labu Lakes near Lae

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Rhizophoraceae	<i>Bruguiera gymnorhiza</i>	P. Van Royen NGF20059, J.S. Womersley NGF43737, J.R. Croft LAE68541, Anonymous NGF3363, E.E. Henty NGF16505, J.S. Womersley NGF46461, J. Wiakabu LAE73377, P.B. Tomlinson, Vinas A. N. 237	Malahang Beach E of Lae; Labu Lakes near Lae; Natter Bay LA, SE of Lae; Labu near Lae; Lae, Morobe; Labu Lakes, near Lae; E Coast, Apo village, Lae; Mouth of Markham river, Lae; Yange Mangrove swamp, Lae
Rhizophoraceae	<i>Bruguiera parviflora</i>	J.S. Womersley NGF3364A, J.S. Womersley NGF43736, J.S. Womersley NGF3364, T.G. Hartley 10435A,	Labu near Lae; Labu Lakes near Lae; Labu near Lae
Rhizophoraceae	<i>Bruguiera sexangula</i>	J. Wiakabu LAE73378, T.G. Hartley 10435A, T.G. Hartley 10435, C.K. Ingram NGF950, J.S. Womersley NGF24638, E.E. Henty NGF16505	Apo village, E Coast of Lae; Near Singaua Plantation E of Lae; Singaua Plantation E of Lae; Lae, Morobe; Milfordhaven, near Lae; Lae, Morobe; Near Singaua Plantation E of Lae
Rhizophoraceae	<i>Carallia brachiata</i>	T.G. Hartley 10176A, T.G. Hartley TGH10176, D. Fryar NGF3342, T.G. Hartley THG11770, Paul O. K., et al. LAE87537, A.N. Millar NGF18861	Burep Rvr NE of Lae; Burep Rvr, NE of Lae; Yalu near Lae; Burep Rvr, NE of Lae; Lae Botanic Gardens; Burep Rvr NE of Lae
Rhizophoraceae	<i>Gynotroches axillaris</i>	T.G. Hartley 10067, T.G. Hartley 11059, M. Jacobs 9684, C.E. Ridsdale NGF31661, T.G. Hartley 10495, T.G. Hartley 12227	Bewapi Ck, W of Lae; Busu Rvr, N of Lae; SE of Lae on the coast; Helicopter Site Two, Lae subdistrict; Oomsis Ck, W of Lae; S side of Busu Rvr, N of Lae
Rhizophoraceae	<i>Rhizophora</i>	M. Jacobs	SE of Lae on coast
Rosaceae	<i>Prunus gazelle-peninsulae</i>	E.E. Henty NGF11910, T.G. Hartley 11363, T.G. Hartley 10153, M. Jacobs 8601	Busu Rd near Lae; Betwn Busu & Butibum Rvrs, N of Lae; Burep Rvr, NE of Lae; Kasanombe, N of Lae
Rosaceae	<i>Prunus schlechteri</i>	T.G. Hartley 11780, P. Katik NGF46858, G. McDonald NGF5144, W. Takeuchi 5958	Burep Rvr, NE of Lae; Bupo Rvr, Lae; National Botanic Garden, Lae; Near Bumayong, Lae
Rosaceae	<i>Prunus</i>	Nima NGF43862, J. Regalado 1593	Gurakor, Lae on Wau Rd; Forestry camp, W of Lae City
Rosaceae	<i>Prunus dolichobotrys</i>	Nima NGF43862, J.R. Croft LAE68549 & Y. Lelean, A. Kairo NGF45354	Gurakor, Lae on Wau Rd; Natter Bay LA, SE of Lae; Asubazo, SE of Garaina, Lae
Rosaceae	<i>Pygeum</i>	C.T. White NGF1511, T.G. Hartley 11780	Lae, Morobe; Burep Rvr, NE of Lae
Rosaceae	<i>Pygeum platyphyllum</i>	C.T. White NGF1736	Lae Area
Rosaceae	<i>Rubus moluccanus</i>	W. Takeuchi 15451	Atzera Range above Bubia, Lae
Rosaceae	<i>Rubus moluccanus</i> var. <i>glomeratus</i>	T.G. Hartley 10121, J.S. Womersley NGF3201, J.S. Womersley NGF43602	Burep Rvr, NE of Lae; Yalu near Lae; Bupo Rvr, E of Lae
Rousseaceae	<i>Carpodetus arboreus</i>	B. Conn, et al. 5	Boana, Lae
Rubiaceae	<i>Amaracarpus</i>	A. Kairo NGF44214, T.G. Hartley 9804, E.E. Henty NGF11534, T.G. Hartley 12225, T.G. Hartley 11091, A.N. Millar NGF12287, G.L. Webster 15096 & R. Hildreth, Anonymous 5615, J.S. Womersley 4610	Buso, Lae Subdistrict; Near Butibum Rvr, N of Lae; Atzera Range Markham Valley near Lae; Near Butibum Rvr, N of Lae; S of Busu Rvr, N of Lae; Oomsis near Lae; Busu Rvr area, N of Lae; Morobe, Lae; Lae Department of Forests Nursery
Rubiaceae	<i>Amaracarpus</i>	T.G. Hartley 9849, I. FavaSalu NGF47771	Near Butibum Rvr, N of Lae; Buso Village, Lae Sub-district; Near Butibum Rvr, N of Lae;
Rubiaceae	<i>Atractocarpus sessilis</i>	W. Takeuchi 17026	Lae, hills near Taraka
Rubiaceae	<i>Dolicholobium gertrudis</i>	P. Katik LAE74741	Mt. Jasop, near Musom, Lae
Rubiaceae	<i>Exallage lapeyrousi</i>	H. Streimann NGF47934 & A. Kairo	Kipu, S of Garaina, Lae subdistrict

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Rubiaceae	<i>Gardenia</i>	J.R. Croft LAE68507 & Y. Lelean, O.G. Gideon LAE57276, J.S. Womersley, O.G. Gideon LAE57275, J.S. Womersley NGF19170, K.J. White NGF10486, A. Floyd NGF5746, A.N. Millar GH46, E.E. Henty, C.E. Ridsdale NGF31659, T.G. Hartley 9792, E.E. Henty NGF10671, H. Streimann NGF45156, T.G. Hartley 11049	Natter Bay LA, SE of Lae; National Botanic Gardens, Lae; Sankwep LA, Lae; National Botanic Gardens, Lae; Oomsis near Lae; Oomsis near Lae; Busu Timber lease near Lae; Lae Botanical Gardens; Lae, Morobe; Lae, Morobe; Lake Wanum, W of Lae; Erap near Lae; Buso, Lae subdistrict; Burep Rvr, NE of Lae
Rubiaceae	<i>Gardenia clemensiae</i>	E.E. Henty NGF13649	Lae Area
Rubiaceae	<i>Gardenia gjellerupii</i>	C.E. Ridsdale NGF33849, K.R. Wooliams 208	Lae Botanical Gardens; National Botanic Gardens, Lae
Rubiaceae	<i>Gardenia hansemannii</i>	E.E. Henty NGF10671, J.R. Croft LAE68542 & Y. Lelean, T.G. Hartley 12453, C.T. White NGF1712	Along Maralumi Ck, Erap, near Lae; Natter Bay LA, SE of Lae; Oomsis Ck, W of Lae; Lae, Morobe
Rubiaceae	<i>Geophila repens</i>	T.G. Hartley 11020, P. Katik LAE70819	S of Garagos, Lae-Bulolo Rd; Lae Botanical Gardens
Rubiaceae	<i>Hedyotis corymbosa</i>	T.G. Hartley 11630, M.J.E. Coode 3557, J.F. Veldkamp 6155, T.G. Hartley 10191, J.S. Womersley NGF4607	Lae, Morobe; Opposite Herbarium, Lae; Air Niugini Lodge, Lae; Burep Rvr, NE of Lae; Department of Forest Nursery, Lae
Rubiaceae	<i>Hydnophytum</i>	P.F. Stevens LAE51126 & P. Katik, M. Jacobs 9669, C.T. White NGF1608, P. Katik LAE62058, Floyd A. G. NGF5395, T.G. Hartley 12282	Markham Point, Lae; SE of Lae on coast; Lae, Morobe; Buso Rvr, Lae; 3 mile Agriculture station, Lae; Bunga Rvr, NE of Lae
Rubiaceae	<i>Hydnophytum camporum</i>	T.G. Hartley 9825	Near Butibum Rvr, N of Lae
Rubiaceae	<i>Hydnophytum moseleyanum</i>	W. Takeuchi 16168c, T.G. Hartley 9781	Ridge above Bubia on track toward Taraka, Lae; Old lake bed below Red hill, W of Lae
Rubiaceae	<i>Ixora</i>	W. Takeuchi 16317, C.T. White NGF1680, W. Takeuchi 15318, R.F. Thorne 27470 & T. Henty, P.F. Stevens 758, T.G. Hartley 12179, S.H. Rogstad 777, W. Takeuchi 16139, T.G. Hartley 10538A, T.G. Hartley 11344, J.S. Womersley NGF9088, P. Katik NGF46761, M.J.E. Coode NGF32849, H. Streimann NGF24495 & D.B. Foreman, K.J. White NGF10458	Near Bubia, Lae; Lae, Morobe; Atzera Range near Bubia, Lae; Busu Rvr, NE of Lae; Markham Point, Lae; Oomsis Ck, W of Lae; Aluki village area, E from Lae; Near Bubia, Lae; Oomsis Ck, W of Lae; N Side of Busu Rvr, N of Lae; Trans-Busu LA near Lae; Buaru Ck, Lae; Markham Point, Lae; Buso, Lae subdistrict; Oomsis near Lae
Rubiaceae	<i>Ixora amplexifolia</i>	T.G. Hartley 10538,	Oomsis Ck, W of Lae
Rubiaceae	<i>Ixora timorensis</i>	H. Streimann & Foreman D. B. NGF24495, Native NGF5490	Buso, Lae subdistrict; Lae, Morobe
Rubiaceae	<i>Knoxia sumatrensis</i>	C.T. White NGF1688, P. Van Royen NGF20088	Lae, Morobe; Red Hill, Lae-Bulolo Rd
Rubiaceae	<i>Lasianthus</i>	K.J. White NGF10465, J.S. Womersley NGF19142, P. Katik NGF37980	Oomsis near Lae; Near Markham Rvr, Lae; Busom Rvr, Lae
Rubiaceae	<i>Lasianthus chlorocarpus</i>	A.N. Millar NGF11744, K.J. White NGF10465, E.E. Henty NGF14888, J.S. Womersley NGF19142	Markham Point, Lae; Oomsis-Red Hill area, near Lae; Ridge above Markham Point, Lae; Near Markham River Bridge, Lae
Rubiaceae	<i>Lasianthus cyanocarpus</i>	E.E. Henty NGF11909	Range above Markham Point, near Lae
Rubiaceae	<i>Mitracarpus hirtus</i>	E.E. Henty NGF49282, E.E. Henty NGF41958	Lae Botanical Gardens, Lae.
Rubiaceae	<i>Morinda</i>	E.E. Henty NGF10647, E.E. Henty NGF14811, K.J. White NGF10199, J.S. Womersley NGF17792, J.S. Womersley NGF11014, A.N. Millar NGF9918, T.G. Hartley 11914, K.J. White NGF10348, T.G. Hartley 10409, T.G. Hartley 11779, T.G. Hartley 10527	Busu LA near Lae; Markham Rd near Lae; Oomsis Ck, near Lae; Oomsis LA, Lae; Busu Rvr, Lae; Markham Rd near Lae; Markham Point, W of Lae; Oomsis Ck near Lae; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae; Oomsis Ck, W of Lae

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Rubiaceae	<i>Morinda citrifolia</i>	M. Tavune LAE76359, A.N. Millar GH64, T.G. Hartley 9789, A.N. Millar NGF18865, C.T. White NGF1577, NGF2574, J. Vandenberg NGF42289 & E. Mann, M. Jacobs 9702	Lae Botanical Gardens, Lae; Lake Wanum, W of Lae; Simolala Is, Lae; On coast SE of Lae
Rubiaceae	<i>Morinda citrifolia</i> var. <i>bracteata</i>	J. Wiane 51	Lae Botanic Garden, Lae.
Rubiaceae	<i>Morinda glomerata</i>	T.G. Hartley 10527	Oomsis Ck, W of Lae
Rubiaceae	<i>Morinda umbellata</i>	T.G. Hartley 11914, W. Takeuchi 17025, T.G. Hartley 11779, T.G. Hartley 11846, W. Takeuchi 15319, W. Takeuchi 17079, T.G. Hartley 10409, J.S. Womersley NGF17792, W. Takeuchi 16852, T.G. Hartley 10062	Markham Point, W of Lae; Hills near Taraka, Lae; Burep Rvr, NE of Lae; Burep Rvr, NE of Lae; Atzera Range, near Bubia, Lae; Hills near Taraka, Lae; Oomsis Ck, W of Lae; Oomsis LA, Lae; Hills near Taraka, Lae; Oomsis Ck, W of Lae
Rubiaceae	<i>Mussaenda aestuarii</i>	O.G. Gideon LAE57272, O.G. Gideon LAE57274, C.E. Ridsdale NGF31664	Near St. Martins Community School, Lae subprovince; Swamp Forest before Markham Bridge, Lae subprovince; Helicopter Site 2, Lae
Rubiaceae	<i>Mussaenda ferruginea</i>	W. Takeuchi 16298, A.N. Millar GH113, M. Jacobs 9700, A. White NGF11153, E.E. Henty NGF11663, M.J.E. Coode NGF32722 & K. Woolliams, O.G. Gideon LAE57580, O.G. Gideon LAE57336, A.N. Millar NGF14610, P. van Royen NGF15697 & A.N. Millar, A.N. Gillison 35, J.S. Womersley NGF17675, Native NGF4713, J.S. Womersley NGF37114, M.J.E. Coode NGF32562, O.G. Gideon LAE57313 & V. Demoulin, O.G. Gideon LAE57573, J.S. Womersley NGF17675, J.S. Womersley NGF3195	Near Bubia, Lae; Lae Botanical Gardens; On coast SE of Lae; Lae Botanical Gardens; Atzera Range near Lae; Busu LA, Lae; National Botanic Gardens, Lae; Range seperating Markham and Boana, Lae; Near Gurakor, Lae-Wau Rd; Zatari, SE of Boana, Lae; Monsalem, Lae; Busu Rvr, N of Lae; National Botanic Gardens, Lae; Sankwep LA, Lae; Red Hill Swamp Area, Lae; Markham Point, W of Lae; Hills above Sankwep, E of Lae; Busu Rvr, N of Lae; Lae, Morobe
Rubiaceae	<i>Mussaenda pilosissima</i>	O.G. Gideon LAE57335, T.G. Hartley 9693B, O.G. Gideon 57338, O. Gideon LAE57270,	Range seperating Markham and Boana, Lae; Bluff above Markham Rvr, W of Lae; Bank of Erap Rvr, Lae subdistrict; Near Oomsis Forest Station, Lae subprovince;
Rubiaceae	<i>Mussaenda scratchleyi</i>	A.N. Millar GH111, T.G. Hartley 9815, M.M.J.v. Balgooy 2, O.G. Gideon & S. Rogstad LAE77110, O.G. Gideon LAE57302, W. Takeuchi 15602, O.G. Gideon LAE57572, J.S. Womersley NGF43598, Native NGF4717, C.D. Sayers 200, M.J.E. Coode, et al. NGF32564	Lae Botanical Gardens; Near Butibum Rvr, N of Lae; Near Lae; Markham Point, Lae; Bumayong Settlement, Lae; Near Bubia, Lae; Hills above Sankwep, E of Lae; Bupo Rvr, E of Lae; Lae Botanical Gardens; Patep, Lai-Wau Rd, Mumeng; Redhill swamp area, Lae
Rubiaceae	<i>Mycetia javanica</i>	W. Takeuchi 16329	Near Bubia, Lae
Rubiaceae	<i>Myrmecodia tuberosa</i>	M. Jebb 344, M. Jebb 346, T.G. Hartley 9782, A.G. Floyd NGF5392, W. Takeuchi 16373	Beside Patep Ck, Lai-Bulolo Rd; Patep Ck, Lai-Bulolo Rd; Old lake bed below Red Hill, W of Lae; 3 mile Agriculture Station, Lae; Near Bubia, Lae
Rubiaceae	<i>Nauclea tenuifolia</i>	A.N. Millar NGF9963, J.S. Womersley NGF19144	Oomsis near Lae; Near Gabensis village, Lae
Rubiaceae	<i>Neonauclea acuminata</i>	K.J. White NGF10470, J. Womersley NGF3218	Oomsis near Lae; Yalu near Lae
Rubiaceae	<i>Neonauclea brassii</i>	C.E. Ridsdale NGF33862, E.E. Henty NGF10579	Lae Botanical Gardens, Lae.
Rubiaceae	<i>Neonauclea hagenii</i>	T.G. Hartley TGH10948, Anonymous 5602, J.S. Womersley NGF24654, H. Streimann NGF39164, T.G. Hartley TGH10165, A.N. Millar NGF13893	Markham Rvr Point, W of Lae; Butibum Ck, Lae; Ngalangumbum Rd, near Lae; Waga village, Lae; Burep Rvr, NE of Lae; Red Hill near Lae
Rubiaceae	<i>Oldenlandia corymbosa</i> var. <i>corymbosa</i>	J.S. Womersley 4607	Lae Department of Forests Nursery
Rubiaceae	<i>Ophiorrhiza</i>	E.E. Henty NGF11596, M.J.E. Coode & A. Gillison NGF25432, J.S. Womersley NGF4625, M. Fallen 311 & Y. Lelean, B.C. Stone LAE53068, J. Waine 09, Verdcourt, et al. 5099, A. Bellamy 253.	Atzera Range near Lae; Lae rifle range; National Botanic Garden, Lae; Sangkwp LA, SW of Lae; Markham Rvr detour, Lae; National Botanic Gardens, Lae; Path of Atzera Range, Lae; Gurakor Ck, WSW of Lae
Rubiaceae	<i>Ophiorrhiza glabrifolia</i>	J. Womersley NGF3176, J.S. Womersley 4625	Near Lae; Lae Botanical Gardens

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Rubiaceae	<i>Pavetta indica</i>	J.S. Womersley NGF3240	Lae Area
Rubiaceae	<i>Pavetta platyclada</i>	W. Takeuchi 15281B, A.N. Millar NGF13860, W. Takeuchi 16446, J.S. Womersley NGF3209, J.S. Womersley & J. Vanderberg NGF43565, T.G. Hartley 9961, J. Vandenberg NGF42295, K. Kerenga LAE73803, T.G. Hartley 9625, T.G. Hartley 10457	Atzera Range near Bubia, Lae; Near Lae; Near Bubia, Lae; Near Yalu, Lae; Busu Rvr forest area, Lae; Ridge above village of Yalu, Lae; Water Kiseling, Lae; Bumayoung, Lae; Near Butibum Rvr, N of Lae; Oomsis Ck, W of Lae
Rubiaceae	<i>Psychotria ramuensis var. pubescens</i>	J. Wiane 05	Lae Botanic Garden, Lae.
Rubiaceae	<i>Psychotria ampliphyrsa</i>	S.E. Garrett-Jones ANU21146, W. Takeuchi 16560	Markham Point, Lae; Hills above 10 mile, Lae
Rubiaceae	<i>Psychotria apiculata</i>	H. Streimann NGF24331, E.E. Henty NGF14816, M. Fallen, et al. 297, T.G. Hartley 9831	Ana village, SW of Morobe on Mo River, Lae; Bewapi Ck, near Lae; Sangkewp LA, SW of Lae; Near Butibum Rvr, N of Lae
Rubiaceae	<i>Psychotria croftiana</i>	H. Streimann NGF44189, J.R. Croft LAE68550, M. Jacobs 9636,	Lasanga Is, Lae Natter Bay LA, SE of Lae; SE of Lae on coast;
Rubiaceae	<i>Psychotria dipteropodioides</i>	J.S. Womersley NGF43716, T.G. Hartley 11039, T.G. Hartley 11760, T.G. Hartley 9930	Near Sankwep Rvr, E of Lae; S of Busu Rvr, N of Lae; Near Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae
Rubiaceae	<i>Psychotria hollandiae var. pioraensis</i>	A.N. Millar NGF11772, Native NGF4712, A.G. Floyd NGF5501	Lae Botanic Gardens, Lae
Rubiaceae	<i>Psychotria micralabastrum</i>	H. Streimann & A. Gillison NGF39440, E.E. Henty NGF10675, W. Takeuchi 16283, W. Takeuchi 15427, W. Takeuchi 16163, T.G. Hartley 10499, E.E. Henty NGF11939, J. Otiolo NGF16780, J.R. Croft & Y. Lelean LAE68572, C.E. Ridsdale NGF31687, P. van Royen NGF16477, R.F. Thorne 27536 & T. Henty	Zumbole Is, Lae; Oomsis, near Lae; Near Bubia, Lae; Atzera Range near Bubia, Lae; Ridge above Bubia, toward Taraka, Lae; W of Lae at Oomsis Ck; Oomsis LA, near Lae; Three Mile, Lae; Natter Bay LA, SE of Lae; Near Haiama village, Lae; LA, NW of Lae; Oomsis LA, W of Lae
Rubiaceae	<i>Psychotria olivacea</i>	T.G. Hartley 9745	Old lake bed below Red Hill, W of Lae
Rubiaceae	<i>Psychotria phaeochlamysioides</i>	J.S. Womersley NGF24856	Perinin River, Lae on Wau Road, Wau
Rubiaceae	<i>Psydrax cymigera</i>	A.N. Millar NGF9912, T.G. Hartley 10097, T.G. Hartley 10196, E.E. Henty NGF14376	Markham Rd, near Lae; Busu Rvr, N of Lae; Burep Rvr, NE of Lae; Busu Rvr, near Lae
Rubiaceae	<i>Randia</i>	E.E. Henty NGF11528, T.G. Hartley 10947, C. Ridsdale NGF33844, Native collector, H. Streimann NGF39445, T.G. Hartley 9846, A.N. Millar NGF18869, K.J. White NGF10662, T.G. Hartley 12453, T.G. Hartley 9656, K.J. White NGF9680, E.E. Henty NGF10662, Anonymous 4650, A.N. Millar NGF9933, H. Streimann & D.B. Foreman NGF24454, P. Katik & P.F. Stevens LAE51129, E.E. Henty NGF14855, R.F. Thorne 27454, K.J. White NGF9678, A. Floyd 5746, T.G. Hartley 10060, J.R. Croft & Y. Lelean LAE68490, M. Jacobs 9580, Verdcourt 5091, T.G. Hartley 10528	Markham Rd near Lae; Markham Rvr Point, W of Lae; Lae Botanic Gardens; Lae, Morobe; Lae, Morobe; Butibum Rvr, N of Lae; Lae Botanical Gardens; Markham Rd, Lae; Lae Botanic Gardens; Lae Botanic Gardens; Lae Botanic Gardens; Markham Rd, Lae; Lae, Morobe; Oomsis near Lae; Ridge to Kawea Mt, Buso, Lae subdistrict; Markham Point, Lae subdistrict; Bumbu LA, Lae subdistrict; Near Bridge over Busu Rvr, NE of Lae; On rainforest edge, Botanic Gardens, Lae; Trans-Busu Timber Lease near Lae; Oomsis Ck, W of Lae; Natter Bay LA, SE of Lae; SE of Lae on coast; Lae Botanic Gardens; Oomsis Ck, W of Lae
Rubiaceae	<i>Randia clemensiae</i>	H. Streimann NGF39445	Lae Area
Rubiaceae	<i>Randia ixoraeiflora</i>	H. Streimann NGF30930	Oomsis, Lae subdistrict
Rubiaceae	<i>Randia sp.</i>	C.E. Ridsdale	Lae Botanic Gardens, Lae.

## Lae Flora

Rubiaceae	<i>Spermacoce mauritiana</i>	E.E. Henty NGF29165, J.S. Womersley NGF14038, T.G. Hartley 11622, J.F. Veldkamp 6159, O.G. Gideon LAE76909, A.N. Gillison NGF22239, O.G. Gideon LAE76913, O.G. Gideon LAE76914	Lae, Morobe; National Botanic Gardens, Lae; Lae, Morobe; Air Niugini Lodge, Lae; Cassowary Rd, Lae; National Botanical Gardens, Lae; National Botanical Gardens, Lae; National Botanical Gardens, Lae
Rubiaceae	<i>Tarennia</i>	P. Katik LAE74759, T.G. Hartley 12191, J. Regalado 1233 & P. Katik, E.E. Henty NGF11991, H. Streimann NGF27842, E.E. Henty NGF13679, J.S. Womersley NGF3240	Mt Jasop near Musom, Sankwep Rvr, Lae; S side of Busu Rvr, N of Lae; LR to Mt. Garagos, W of Lae City; Ridge above Markham Point near Lae; Markham Point, Lae; Bumbu LA, near Lae; Lae, Morobe
Rubiaceae	<i>Tarennia buruensis</i>	W. Takeuchi 4317, T.G. Hartley 12179, T.G. Hartley 9937, T.G. Hartley 10452, C.T. White, et al. NGF1731, J.R. Croft & Y. Lelean LAE68517, C.T. White NGF1731, J. Vandenberg & J.S. Womersley NGF42295	Labu swamp, Lae; Oomsis Ck, W of Lae; Near Busu Rvr, N of Lae; Oomsis, W of Lae; Lae, Morobe; Natter Bay LA, SE of Lae; Lae, Morobe; Water Kiseling, Lae
Rubiaceae	<i>Tarennia mollis</i>	E.E. Henty NGF10662	Markham Rd, Lae
Rubiaceae	<i>Timonius clathratus</i>	T.G. Hartley 11844, T.G. Hartley 10008A, Y NGF232, T. Henty 27453, T.G. Hartley 10537, T.G. Hartley 10077, T.G. Hartley 10537, T.G. Hartley 11782, T.G. Hartley 10492, L.S. Smith NGF1550, M.A. Benjamin LAE67833, T.G. Hartley 10077, P. Katik NGF46793, R.F. Thorne 27453, T.G. Hartley 10492, J.S. Womersley NGF13431, T.G. Hartley 11782, T.G. Hartley 11844	Near Burep Rvr, NE of Lae; Lae-Bulolo Rd; Yalu NE of Lae; Near bridge over Busu Rvr, NE of Lae; Oomsis Ck, W of Lae; Bewapi Ck, W of Lae; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae; Oomsis Ck, W of Lae; Lae, Morobe; Sunkwep, Lae; Bewapi Ck, W of Lae; Sunkwep LR, Lae district; Near Busu Rvr Bridge, NE of Lae; W of Lae at Oomsis Ck; Atzera Range, Lae; Burep Rvr, NE of Lae; Near Burep Rvr, NE of Lae
Rubiaceae	<i>Uncaria bernaysii</i>	M.J.E. Coode, et al. NGF32571, M.J.E. Coode, et al. NGF29544, A.N. Millar NGF9962	Oomsis, Lae; Markham Bridge, Lae; Markham Rd, Oomsis near Lae
Rubiaceae	<i>Uncaria cordata</i>	H. Streimann NGF44323, A.N. Millar NGF14609	Lasanga Is, Lae subdistrict; Near Gurakor, Lae-Wau Rd
Rubiaceae	<i>Uncaria lanosa var appendiculata</i>	E.E. Henty NGF11961, C.E. Ridsdale NGF33860	Markham Bridge, Lae; Lae Botanic Gardens
Rubiaceae	<i>Urophyllum britannicum</i>	O.G. Gideon LAE76915, P. van Royen NGF15027, O.G. Gideon & J. Kainwaka LAE76937, O.G. Gideon & J. Kainwaka LAE76927	Markham Point, Lae; Oomsis LA, Lae; Oomsis Hill, Herzog Mt, Lae; Oomsis Hill, Herzog Mt, Lae
Rubiaceae	<i>Versteegia cauliflora</i>	T.G. Hartley 11877, E.E. Henty NGF14855, T.G. Hartley 10248, P. Katik NGF46822, T.G. Hartley 11877, J.R. Croft LAE68560, W. Takeuchi 17100, J.R. Croft & Y. Lelean LAE68560, W. Takeuchi 17017	Near village of Yalu, NW of Lae; Bumbu LA, Lae; Near Butibum Rvr, N of Lae; Musom Rvr, Lae; Near Yalu, NW of Lae; Natter Bay LA, SE of Lae; Hills near Taraka, Lae; Natter Bay LA, SE of Lae; Hills near Taraka, Lae
Rubiaceae	<i>Amaracarpus grandifolius</i>	T.G. Hartley 10553,	Oomsis creek, W of Lae
Rubiaceae	<i>Amaracarpus leucocarpus</i>	T.G. Hartley 11918, T.G. Hartley 11918, T.G. Hartley 9804	Near Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae; Near Butibum River, N of Lae
Rubiaceae	<i>Anthorrhiza echinella</i>	M. Jebb 605, M. Jebb 343, M. Jebb 342, C.R. Huxley 3463, M. Jebb 341	Patep ck, Perakle Pass on Lae-Bulolo Rd; Patep ck, Perakle Pass on Lae-Bulolo Rd; Patep ck, NW of Perakles Pass on Lae-Bulolo Rd; Patep ck, NW of Perakles Pass on Lae-Bulolo Rd
Rubiaceae	<i>Antirhea megacarpa</i>	T.G. Hartley 11439	Betwn Busu & Butibum Rvrs, N of Lae
Rubiaceae	<i>Atractocarpus decorus</i>	N.A. Vinas LAE72326,	Lae Botanic Gardens, Lae.
Rubiaceae	<i>Atractocarpus macarthuri</i>	Hartley T.G. 9836, P. van Royen NGF16498, C.E. Ridsdale NGF31698, W. Moi & N. Inu NGF25952	Near Butibum Rvr, N of Lae; Markham Point, Lae; Near Maiama village, Lae; Markham Point, Lae

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Rubiaceae	<i>Atractocarpus macarthuri</i>	Millar A. N. NGF18869, A.N. Millar GH46, J. Cavanaugh NGF858, Anonymous NGF915, C.T. White, et al. NGF1633, K.J. White NGF9678, T.G. Hartley 9629, H. Streimann 8606, K.J. White NGF9680, Hart A. J. NGF3312, J. Waine 11, J. Waine 11, J.S. Womersley NGF37117, H. Streimann & A. Kairo NGF17477, H. Streimann 8606, Hartley T.G 10528, Hartley T.G 9656, Hartley T.G 11049, Henty E. E. NGF16739	Lae Botanical Gardens, Lae; Yalu Area; near Butibum Rvr, N of Lae; Markham Point, W of Lae; Sankwep LA; along Wau - Lae Rd; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae; Busu Rvr, Lae.
Rubiaceae	<i>Atractocarpus sphaerocarpus</i>	N.A. Vinas LAE72326	Lae Botanic Gardens, Lae.
Rubiaceae	<i>Borreria</i>	T.G. Hartley 10275, T.G. Hartley 11629	Near the Butibum Rvr, N of Lae; Lae, Morobe
Rubiaceae	<i>Borreria laevis</i>	T.G. Hartley 11629, J.F. Veldkamp 6160	Lae Area;
Rubiaceae	<i>Borreria repens</i>	J.F. Veldkamp 6159	Air Nuigini Lodge, Lae
Rubiaceae	<i>Caelospermum salomonensis</i>	T.G. Hartley 11094, T.G. Hartley 12287	S of Busu Rvr, N Of Lae; Along the Bunga Rvr, NE of Lae
Rubiaceae	<i>Canthium</i>	A. Bellamy B. 10, A.N. Vinas 283 & A. Kairo, T.G. Hartley 10196	Buso, S of Lae; Buso Rvr, Lae; Burep Rvr NE of Lae
Rubiaceae	<i>Canthium brevipes</i>	H. Streimann NGF45158	Buso, Lae subdistrict
Rubiaceae	<i>Cyclophyllum</i>	A. Bellamy B. 10	Buso, S of Lae
Rubiaceae	<i>Cyclophyllum brevipes</i>	H. Streimann NGF45158, A.N. Vinas 283 & A. Kairo, J.R. Croft LAE68533	Buso, Lae subdistrict; Buso Rvr, W of Buso Camp, Lae; Natter Bay LA, SE of Lae
Rubiaceae	<i>Dolicholobium</i>	P. Katik LAE74741	Mt Jasop near Musom, Lae
Rubiaceae	<i>Gardenia tropidocarpa</i>	J.S. Womersley NGF19170	Oomsis near Lae
Rubiaceae	<i>Gynochtodes verticillata</i>	M. Jacobs 9670	Lasanga Is, SE of Lae
Rubiaceae	<i>Hedyotis</i>	E.E. Henty NGF11699, T.G. Hartley 10415, E.E. Henty NGF11989	Markham Point near Lae; Oomsis Ck, W of Lae; Markham Point near Lae
Rubiaceae	<i>Hedyotis herbacea</i>	E.E. Henty NGF11989	Markham Point near Lae
Rubiaceae	<i>Hedyotis schlechteri</i>	E.E. Henty NGF11699, M.J.E. Coode NGF32847	Markham Point near Lae; Markham Point, Lae
Rubiaceae	<i>Hedyotis verticillata</i>	T.G. Hartley 10415	Oomsis Ck, W of Lae
Rubiaceae	<i>Hydnophytum kelelense</i>	T.G. Hartley 9624a	Near Butibum Rvr, N of Lae
Rubiaceae	<i>Hydnophytum moseleyanum var. moseleyanum</i>	C.R. Huxley 3407, E.E. Henty NGF10650	Lae Botanical Gardens, Lae.
Rubiaceae	<i>Hydnophytum radicans</i>	C.T. White NGF1608, W. Takeuchi 16374, J.S. Womersley NGF19033, T.G. Hartley 12282, T.G. Hartley 12282, J.S. Womersley NGF19033	Lae, Morobe; Near Bubia, Lae; Agricultural Station, near Lae; Bunga Rvr, NE of Lae; Bunga Rvr, NE of Lae; Agricultural Station near Lae
Rubiaceae	<i>Hydnophytum tortuosum</i>	M. Jebb 309, M. Jebb 310, M. Jebb 308, M. Jebb 307	Coastal Mangrove swamp, E of Lae; Coastal Mangrove swamp, E of Lae; Coastal Mangrove swamp, E of Lae; Coastal Mangrove swamp, E of Lae
Rubiaceae	<i>Ixora moszkowskii</i>	T.G. Hartley 11891, T.G. Hartley 9816, T.G. Hartley 11344, T.G. Hartley 11843	Near Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae; N side of Busu Rvr, N of Lae; Burep river, NE of Lae
Rubiaceae	<i>Idenlandia corymbosa</i>	T.G. Hartley 10191, T.G. Hartley 11630	Burep Rvr, NE of Lae; Lae, Morobe
Rubiaceae	<i>Mitracarpus villosus</i>	E.E. Henty NGF49279, E.E. Henty NGF49282, T.G. Hartley 10275, E.E. Henty NGF20979, Carol Yallen et.al LAE79269, O.G. Gideon LAE76910	Angau Hospital, Lae; Lae Botanical Gardens; Near Butibum Rvr, N of Lae; Lae, Morobe; National Botanic Gardens, Lae; Cassowary Rd, Lae
Rubiaceae	<i>Morinda bracteata</i>	A.N. Millar NGF9918	Markham Rd, near Lae

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Rubiaceae	<i>Morinda hirtella</i>	T.G. Hartley 9787, J.S. Womersley NGF11014, T.G. Hartley 10133	Lake Wanum, W of Lae; Busu Rvr, Lae; Burep Rvr, NE of Lae
Rubiaceae	<i>Morinda umbellata var. papuana</i>	P. Katik NGF46857, W. Takeuchi 17079, W. Takeuchi 17025	Bupo Rvr, Lae; Hills near Taraka, Lae; Hills near Taraka, Lae
Rubiaceae	<i>Mussaenda</i>	C.T. White NGF1684	Lae Area
Rubiaceae	<i>Mussaenda</i>	O. Gideon LAE57304, J. Womersley NGF3263, O. Gideon LAE57271, H. Streimann 8674, Anonymous NGF4717, H. Streimann 8674, A.N. Millar GH3, Anonymous 4713, C.T. White NGF1684, K. Kerenga LAE74289, E.E. Henty NGF11663, A.N. Millar NGF14610, R.F. Thorne 27541 & T. Henty, O.G. Gideon LAE77109, O.G. Gideon LAE57271	Near Igam Army Barracks, Lae subprovince; Near Labu, Lae; Lae Technical School, Lae; Labu Swamp, WNW of Lae; Lae Botanical Gardens; Labu Swamp, WNW of Lae; Lae Botanical Gardens; Lae Botanical Gardens; Lae, Morobe; Oomsis Swamp, near the plantation, Lae; Atzera Range near Lae; Lae-Wau Rd; Near Markham Rvr bridge, W of Lae; Markham Bridge, Lae; Parer Station, Lae
Rubiaceae	<i>Mussaenda brachygyna</i>	T.G. Hartley 9744	Old Lake below Red Hill, W of Lae
Rubiaceae	<i>Mussaenda oreadum</i>	O.G. Gideon LAE57337	Range separating Markham and Boana, Lae
Rubiaceae	<i>Mussaenda pilosissima ssp. brevituba</i>	O.G. Gideon LAE57304 & E. Mare, O.G. Gideon LAE57270, C.T. White NGF1684, M.J.E. Coode, et al. NGF32560, T.G. Hartley 9693B	Near Igam Army Barracks, Lae; Near Oomsis Forest Station, Lae subprovince; Lae, Morobe; Redhill Swamp Area, Lae; Bluff above Markham River, W of Lae
Rubiaceae	<i>Mussaenda pilosissima subsp. Brevituba</i>	J.S. Womersley NGF19057, O.G. Gideon LAE57303 & E. Mare, T.G. Hartley 9750, O.G. Gideon LAE57269, Verdcourt, et al. 5045	Petap, near Lae; Mumayong Settlement, Lae; Old lake bed below Red Hill, W of Lae; Oomsis Forestry Station, near Lae; Oomsis Ck on road to Lae
Rubiaceae	<i>Mussaenda pilosissima subsp. pilosissima</i>	S.E. Garrett-Jones ANU211, O.G. Gideon LAE57338	Lake Wanum, E shore, Lae; Bank of Erap river, Boana, Lae
Rubiaceae	<i>Mussaenda procera</i>	H. Streimann NGF44287	Lasanga Is, Lae
Rubiaceae	<i>Myrmecodia</i>	K. Beamish 1	Zenag, Lae on Wau Rd
Rubiaceae	<i>Nauclea orientalis</i>	M.J.E. Coode & M. Galore NGF29539, T.G. Hartley TGH9860, J. Vandenberg NGF42126, E.E. Henty NGF10579, T.G. Hartley 12196, E.E. Henty NGF9831, M. Coode NGF29539, Streimann 8689	Lae P.N.G.V.R. Compound; Markham Valley; Bangalum Bridge Mumeng-Lae Rd, SSW of Mumeng, Lae Botanic Gardens; Near Butibum Rvr, N of Lae.
Rubiaceae	<i>Neolamarckia cadamba</i>	T.G. Hartley 10165, T.G. Hartley 10465, Womersley NGF24873	Burep Rvr, NE of Lae; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae; near Garagos
Rubiaceae	<i>Neonauclea</i>	T.G. Hartley 10948, K.J. White NGF10470, H. Streimann NGF39164, A.N. Millar NGF9963, J. Womersley NGF3218, A.N. Millar GH185, J.S. Womersley NGF24654, D. McIntosh NGF3309, T.G. Hartley 10512, J. Womersley NGF9402, J.S. Womersley NGF19144, T.G. Hartley 10007, T.G. Hartley 10577	Markham Rvr, W of Lae; Oomsis near Lae; Waga village, Lae; Oomsis near Lae; Yalu near Lae; Lae Botanical Gardens; Near Lae; Lae, Morobe; Oomsis Ck, W of Lae; Oomsis near Lae; Near Gabensis, Lae; Oomsis Ck, W of Lae; Markham Rvr Valley, W of Lae
Rubiaceae	<i>Neonauclea chalmersii</i>	C.T. White NGF1700	Lae Area
Rubiaceae	<i>Neonauclea clemensiae</i>	C.E. Ridsdale NGF33847, C.T. White NGF1607, C.E. Ridsdale NGF33847, E.E. Henty NGF9831, J. Womersley NGF9402, D. McIntosh NGF3309	Lae Botanical Gardens, Lae; Oomsis near Lae.
Rubiaceae	<i>Neonauclea lanceolata</i>	T.G. Hartley 10420, T.G. Hartley TGH10512, T.G. Hartley TGH10420, P. Katik NGF46879, T.G. Hartley TGH10007	Oomsis Ck, W of Lae; Oomsis Ck, W of Lae; Oomsis Ck, W of Lae; P. Katik NGF46879, Oomsis Ck, W of Lae
Rubiaceae	<i>Neonauclea maluensis</i>	C.E. Ridsdale NGF33862	Lae Botanic Gardens, Lae.
Rubiaceae	<i>Neonauclea obversifolia</i>	T.G. Hartley NGF10838, T.G. Hartley TGH12196, T.G. Hartley TGH11048	Markham Rvr valley, W of Lae; Near Butibum Rvr, N of Lae; Burep Rvr, NE of Lae

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Rubiaceae	<i>Pavetta</i>	A.N. Millar NGF13860, J.S. Womersley NGF9089, E.E. Henty NGF11946, A.N. Millar NGF14615, J.S. Womersley & E.J.H. Corner NGF13306, A.N. Vinas & G. Laravita LAE62229, C.T. White, H.E. Dadswell & S.L. Smith NGF1680, M.J.E. Coode NGF29562, E.E. Henty NGF13679	Lae, Morobe; Busu LA, Lae; Oomsis LA, near Lae; Wampit Hill, Lae-Wau Rd; Oomsis LA, Lae; Gurakor LR, Lae; Lae, Morobe; Bupu Rvr, E of Lae; Bumbu LA near Lae;
Rubiaceae	<i>Psychotria</i>	E.E. Henty NGF10675, M. Jacobs 9638, M. Jacobs 9554, H. Streimann NGF27899, Anonymous NGF3370, M. Jacobs 9614, H. Okada 4210, W. Takeuchi 16141, J.S. Womersley NGF43716, R. Thorne 27490 & T. Henty, T.G. Hartley 10240, T.G. Hartley 12351, H. Streimann 8500, W. Takeuchi 17903, A.N. Millar NGF13895, J. Vandenberg & J.S. Womersley NGF42300, H. Okada 4203, T.G. Hartley 10956, R.F. Thorne 27475, J.S. Womersley NGF14201, J.S. Womersley NGF24856	Oomsis near Lae; SE of Lae on coast; SE of Lae on coast; Markham Point near Lae; Yalu near Lae; SE of Lae on coast; Gabensis LA, Oomsis, Lae; Near Bubia, Lae; Near Sankwep Rvr, E of Lae; Ridge above Markham Point, W of Lae; Near Butibum Rvr, N of Lae; Bewapi Ck, W of Lae; Markham Swamp, NW of Lae; Hills near Taraka, Lae; Red Hill, Lae; Water Kiseling near Aruki village, Lae; Oomsis, Lae; Markham Rvr Point, W of Lae; Above Markham Point, W of Lae; Near Oomsis, Wau-Lae Rd; Perinin Rvr, Lae on Wau Rd
Rubiaceae	<i>Psychotria</i>	E.E. Henty NGF11946, E.E. Henty NGF11945, A.N. Millar NGF9909, E.E. Henty NGF11662, C.T. White NGF1728, A.G. Floyd 5782, A. Vinas 304 & A. Kairo, T.G. Hartley 12186, R.F. Thorne 27536, R.F. Thorne 27440, T.G. Hartley 10556, E.E. Henty NGF11939, R.F. Thorne 27470, C.T. White NGF1584, E.E. Henty NGF10670, A. Floyd 5623, E.E. Henty NGF11923, Anonymous NGF1728, H. Okada 4222, K.J. White NGF9696, J.R. Croft LAE68572, H. Streimann 8500, T.G. Hartley 9806A, P.F. Stevens LAE58019, A.N. Millar NGF11772, P. Van Royen 4183, E.E. Henty NGF11955, E.E. Henty, et al. NGF14351	Oomsis LA near Lae; Oomsis LA near Lae; Markham Rd near Lae; Atzera Range near Lae; Lae, Morobe; Yalu near Lae; Midway of Buso Rvr, SE of Buso Camp, Lae; S Side of Buso Rvr, N of Lae; Oomsis LA, W of Lae; Near Bridge over Buso Rvr, NE of Lae; Oomsis, W of Lae; Oomsis LA near Lae; NE of Lae, near suspension bridge over Buso Rvr; Lae, Morobe; Erap near Lae; Busu Hills, Lae; Atzera Range near Lae; Lae, Morobe; Gabensis LA, Oomsis, Lae; Lae Botanic Gardens; Natter Bay LA, SE of Lae; Markham Swamp, NW of Lae; South Pacific Timbers LA, N of Lae; Kisingam, Mt. Dilmargi, Lae; Lae Botanic Gardens; Near Markham Bridge, Lae; Oomsis LA, near Lae; Busu Rvr, Lae; Near Markham ridge, S of Lae
Rubiaceae	<i>Psychotria beccarii var. beccarii</i>	E.E. Henty NGF13677, E.E. Henty NGF11662, T.G. Hartley 10556, T.G. Hartley 9806A, M. Jacobs 9567, P. Katik LAE74736, T.G. Hartley 9806, C.T. White & H.E. Dadswell NGF1584, P. Katik s.n.	Bumbu LA, near Lae; Atzera Range near Lae; Oomsis Ck, W of Lae; South Pacific Timbers LA, near Butibum Rvr, N of Lae; SE of Lae on coast; Near Sankwep Rvr, Lae; Near Butibum Rvr, N of Lae; Lae, Morobe; Near Sankwep Rvr. Lae subprovince
Rubiaceae	<i>Psychotria butibumensis</i>	T.G. Hartley 9623, T.G. Hartley 9843, R.G. Wright NGF11101, E.E. Henty NGF16677, T.G. Hartley 9643, K.J. White NGF9696	Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae; Lae Botanic Gardens; Bumbu LA, Lae; Lae Botanic Gardens; Lae Botanic Gardens
Rubiaceae	<i>Psychotria chaunantha</i>	T.G. Hartley 10167	Burep Rvr, NE of Lae
Rubiaceae	<i>Psychotria chrysantha</i>	K. Kerenga LAE76425	Vuop Rvr, Lae
Rubiaceae	<i>Psychotria diplococca</i>	W. Takeuchi 17042	Hills near Taraka, Lae
Rubiaceae	<i>Psychotria diplococca var. brevifolia</i>	T.G. Hartley 10833, E.E. Henty NGF13672	Near Butibum Rvr, N of Lae; Bumbu LA, Lae
Rubiaceae	<i>Psychotria diplococca var. diplococca</i>	W. Takeuchi 16233, W. Takeuchi 15432, W. Takeuchi 16350, W. Takeuchi 15463, W. Takeuchi 15671	Near Bubia, Lae; Atzera Range near Bubia, Lae; Near Bubia, Lae; Atzera Range above Bubia, Lae; Near Bubia, Lae
Rubiaceae	<i>Psychotria diplococca var. mailanderi</i>	T.G. Hartley 9812, E.E. Henty NGF14856, P. Katik LAE74737, J.S. Womersley NGF3370, B.T. Croat 52819, A.G. Floyd NGF5623	Near Butibum Rvr, N of Lae; Bumbu LA, Lae; Near Sankwep Rvr, Lae; Yalu near Lae; Along LR, E of Igam Rd and Army base, Lae; Busu Hills, Lae
Rubiaceae	<i>Psychotria gideoniana</i>	P. Katik s.n.	Near Sankwep Rvr, Lae subprovince
Rubiaceae	<i>Psychotria hollandiae</i>	T.G. Hartley 10523	Busu Rvr, N of Lae

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Rubiaceae	<i>Psychotria hollandiae</i> var. <i>hollandiae</i>	M. Fallen 325 & Y. Lelean	Sangkewp LA, Lae
Rubiaceae	<i>Psychotria kamalii</i>	P. Katik LAE64193 & O. Gideon	Kui LA, S of Lae
Rubiaceae	<i>Psychotria leptothyrsa</i>	W. Takeuchi 9070, W. Takeuchi 17034, W. Takeuchi 17028, W. Takeuchi 17102	Atzera Range, Lae; Hills near Taraka, Lae; Hills near Taraka, Lae; Hills near Taraka, Lae
Rubiaceae	<i>Psychotria leptothyrsa</i> var. <i>leptothyrsa</i>	W. Takeuchi 16460, W. Takeuchi 17034, J. Wiakabu & K. Kerenga LAE73349, W. Takeuchi 17028	Near Bubia, Lae; Hills near Taraka, Lae; Near Voacanga Papua Trial Plot, Oomsis Forestry Station, Lae; Hills near Taraka, Lae
Rubiaceae	<i>Psychotria micrococca</i>	T.C. Whitmore, et al NGF1728, A.G. Floyd NGF5782, Anonymous NGF991, W. Takeuchi 16338, E.E. Henty NGF10670, W. Takeuchi 16157, T.G. Hartley 9963	Lae, Morobe; Yalu, near Lae; Lae, Morobe; Near Bubia, Lae; Along Maralumi cree, Erap, near Lae; Ridge above Bubia, toward Taraka, Lae; Ridge above village of Yalu, Lae
Rubiaceae	<i>Psychotria ramuensis</i> var. <i>pubescentia</i>	W. Takeuchi 15670	Near Bubia, Lae
Rubiaceae	<i>Psychotria talasensis</i>	S.E. Garrett-Jones ANU21156, A.N. Millar NGF9909, K. Kerenga LAE74440, P. van Royen & A. Floyd NGF5772, A.N. Millar NGF9999, P. van Royen NGF16057, H. Streimann NGF27899, A. Floyd NGF5525, T.G. Hartley 10956, J.S. Womersley NGF14201, J.S. Womersley NGF19438, W. Moi & N. Inu NGF25953, A.N. Millar NGF11773	W of Markham bridge, Lae; Markham Rd near Lae; Markham Point, Lae; Near Markham Bridge, Lae; Markham Rd, Lae; Near Markham Bridge, Lae; Markham Point near Lae; Markham Rvr bridge, Lae; Markham Rvr point, Lae; Foot of Red hill, near Oomsis Wau-Lae Rd; Markham Valley LA, near Markham Bridge, Lae; Markham Point, Lae; Markham Rd, Lae
Rubiaceae	<i>Randia dryadum</i>	A.J. Hart NGF3312	Lae, TNG
Rubiaceae	<i>Randia ixoriflora</i>	M. Jacobs 9689, K.J. White NGF10190, J.R. Croft & Y. Lelean LAE68533, T.G. Hartley 10427, T.G. Hartley 12295, A.N. Millar NGF14602, A.N. Millar NGF12287	SE of Lae on coast; Oomsis near Lae; Natter Bay LA, SE of Lae; Oomsis Ck, W of Lae; Oomsis Ck, W of Lae; Oomsis ridge, Lae; Oomsis ridge, near Lae
Rubiaceae	<i>Randia macrantha</i>	J. Wiakabu & T. Umba LAE72385, C.E. Ridsdale NGF33846, J. Wiakabu LAE72385	Lae Botanic Gardens, Lae
Rubiaceae	<i>Randia myristicoides</i>	T.G. Hartley 10568	Oomsis Ck, W of Lae
Rubiaceae	<i>Randia schumanniana</i>	P. Lamei LAE89491 & K. Fazang	Lae Botanic Gardens, Lae.
Rubiaceae	<i>Randia sessilis</i>	T.G. Hartley 9846, Native NGF4650, W. Takeuchi 7013, T.G. Hartley 9669, T.G. Hartley 10060	Butibum Rvr, N of Lae; Lae, Morobe; Busu Rvr, near Bumayong Settlement, Lae; Oomsis Ck, W of Lae; Oomsis Ck, W of Lae
Rubiaceae	<i>Randia sphaerocarpa</i>	K.R. Woolliams GH214, C.E. Ridsdale NGF33844	Lae Botanic Garden, Lae.
Rubiaceae	<i>Randia timon</i> var. <i>grandiflorus</i>	T.G. Hartley 10947	Markham Rvr Point, W of Lae
Rubiaceae	<i>Scyphiphora hydrophyllacea</i>	J.R. Croft & Y. Lelean LAE68538	Natter Bay LA, SE of Lae
Rubiaceae	<i>Spermacoce assurgens</i>	L. Oki LAE79257, M.J.E. Coode NGF29534, O.G. Gideon LAE76911, J.F. Veldkamp 6160, T.G. Hartley 11629	Lae Botanic Garden, Lae; Air Niugini Lodge, Lae.
Rubiaceae	<i>Spermacoce</i>	A.N. Gillison NGF22240, O. Gideon & I. Warbat LAE76908, O. Gideon LAE77108	Lae Botanic Gardens; Cassowary Rd, Lae; Lae Botanical Gardens
Rubiaceae	<i>Spermacoce brassii</i>	M. Jacobs 8686	Kasanombe, N of Lae
Rubiaceae	<i>Spermacoce ocyoides</i>	O.G. Gideon & I. Warbat LAE76908, O.G. Gideon LAE76912, O.G. Gideon LAE77108	Cassowary Rd, Lae; National Botanical Gardens, Lae; Lae Botanical Gardens
Rubiaceae	<i>Tarennia barbellata</i>	A.N. Millar NGF14615	Wampit Hill, Lae-Wau Rd
Rubiaceae	<i>Tarennia</i> sp.	P. Katik	Mount Jasop, near Musom, Sankwep Rvr, Lae subprovince

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Rubiaceae	<i>Timonius</i>	J.S. Womersley NGF3307, A.N. Millar NGF18847, J.S. Womersley NGF3308, P. Katik LAE74776, A.N. Millar GH10, C.E. Ridsdale NGF33848, A.N. Millar NGF12031, J.S. Womersley NGF13431, C.T. White NGF1550, H. Streimann 8362, H. Okada 4322 & P. Katik, T.G. Hartley 10407, L.J. Brass 29255, M. Jacobs 8649, J.S. Womersley NGF3296, L.S. Smith NGF1550, P. Katik LAE64193 & O. Gideon	Lae, Morobe; Lae Botanic Gardens; Lae, Morobe; Mt Jasop near Musom, Sankwep Rvr, Lae; Lae Botanic Gardens; Lae Botanic Gardens; Oomsis, Lae; Atzera Range near Lae; Lae, Morobe; Ridge betwn Busu & Butibum Rvrs, NNW of Lae; Gumboak strm, Busu Rvr, Lae; Oomsis Ck, W of Lae; Oomsis, Lae; Kasanombe, N of Lae; Yalu near Lae; Lae, Morobe; Kui LA, S of Lae
Rubiaceae	<i>Timonius clathratus var. timon</i>	T.G. Hartley 11045	S of Busu Rvr, N of Lae
Rubiaceae	<i>Timonius cyathocalyx</i>	M. Jacobs 9540	SE of Lae on coast
Rubiaceae	<i>Timonius densiflorus</i>	J.S. Womersley NGF3307, O.K. Paul LAE87543, T.G. Hartley 10497, P. Oliver LAE87543, T.G. Hartley 10005, T.G. Hartley 9823, J.S. Womersley NGF3308	Lae, Morobe; Lae Botanical Gardens; W of Lae at Oomsis Ck; Lae Botanic Gardens; Oomsis Ck, W of Lae; Near Butibum Rvr, N of Lae; Lae, Morobe
Rubiaceae	<i>Timonius kaniensis</i>	T.G. Hartley 10407, T.G. Hartley 10008, T.G. Hartley 10008A, J. Waine 12, T.G. Hartley 10008	Oomsis Ck, W of Lae; Oomsis Ck, W of Lae; Oomsis Ck area, along Lae-Bulolo Rd; National Botanic Gardens, Lae; Oomsis Ck, W of Lae
Rubiaceae	<i>Timonius laugerioides</i>	A.N. Millar NGF18847, C.E. Ridsdale NGF33848, T.G. Hartley 10497, A.N. Millar GH5, T.G. Hartley 9823,	Near Didyman Ck, Lae Botanic Gardens; Lae Botanic Gardens; Oomsis Ck, W of Lae; Lae Botanical Gardens; Near Butibum Rvr, N of Lae;
Rubiaceae	<i>Timonius timon</i>	J.S. Womersley NGF3296, T.G. Hartley 9939, S.E. Garrett-Jones ANU21035, T.G. Hartley 9792, P. Oliver LAE87545, S.E. Garrett-Jones ANU21171, K. Kerenga & P. Katik LAE77664, Paul O. K. LAE87545, M.J.E. Coode, A. Gillison & C.E. Ridsdale NGF32561, W. Moi & N. Inu NGF25974, D. Wabo LAE73233, S.E. Garrett-Jones ANU21173, K. Kerenga & P. Katik LAE77668	Yalu, near Lae; Red hill, W of Lae; Redhill area, Lae; Lake Wanum, W of Lae; Lae Botanic Gardens; Margin of Redhill swamp, Lae; Markham Point, near the bridge, Lae; Lae Botanical Gardens; Redhill swamp area, Lae; Redhill swamp, Lae; Red hill swamp, Lae; Margin of Redhill swamp, Lae; Bumayong, Lae
Rubiaceae	<i>Timonius timon var. buloloensis</i>	M. Jacobs 9626	SE of Lae on coast
Rubiaceae	<i>Uncaria</i>	A.N. Millar NGF9962, M. Jacobs 8699, T.G. Hartley 10443, M. Jacobs 9678, J.S. Womersley NGF14083, J. Regalado 1242 & P. Katik, M. Fallen 291 & Y. Lelean, T.G. Hartley 10157	Oomsis near Lae; Busu LA, N of Lae; Old Lake Bed below Red Hill, W of Lae; SE of Lae on coast; Red Hill near Lae; Logging Rd to Mt. Garagos from Gabensis, W of Lae City; Sangkewp LA, SW of Lae; Burep Rvr, NE of Lae
Rubiaceae	<i>Uncaria appendiculata</i>	J.S. Womersley NGF14083	Red Hill, near Lae
Rubiaceae	<i>Uncaria cordata var. cordata</i>	A.N. Millar NGF14609	Lae-Wau Rd
Rubiaceae	<i>Uncaria longiflora ssp. longiflora</i>	P. van Royen NGF16496	Markham Point, near Markham Bridge, Lae
Rubiaceae	<i>Uncaria sterophylla</i>	S.E. Garrett-Jones ANU21051	Lake Wanum, Lae
Rubiaceae	<i>Urophyllum</i>	M. Jacobs 8625, M. Jacobs 8627, M. Jacobs 9565, M. Jacobs 9692, H. Streimann NGF45132, P. van Royen NGF16331, P. van Royen NGF20131, P. van Royen NGF15026, E.E. Henty NGF13690, A.N. Millar NGF12286, E.E. Henty NGF11940, P. Katik & K. Taho LAE74810, P.F. Stevens LAE58037	Kasanombe, N of Lae; Kasanombe, N of Lae; SE of Lae on coast; SE of Lae on coast; Buso Valley, Lae; Oomsis LA, NW of Lae; Markham Point, Lae; Oomsis LA, Lae; Oomsis LA, Lae; Oomsis ridge, near Lae; Oomsis LA, Lae; Oomsis LA, Lae; Kisingam, Mt. Dilmargi, Lae

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Rubiaceae	<i>Urophyllum</i>	O.G. Gideon & S. Rogstad LAE77114, P. Katik & M. Benjamin LAE70771, C.E. Ridsdale NGF31654, A.N. Millar NGF12286, P. Katik & G. Larivita NGF38092, R.J. Johns NGF47232, P.F. Stevens & N. Martin LAE54737, P. Katik LAE74778, S.E. Garrett-Jones ANU21149	Hills behind Gabensis village, Lae; Garagos LR, Lae; Helicopter site 2, Lae; Oomsis near Lae; Gurakor LR, Gabensis, Lae; Maniau, Lae; Markham Point, Lae; Mt. Jasop, near Musom, Sankwep Rvr, Lae; Markham Point, Lae
Rubiaceae	<i>Urophyllum glaucescens</i>	J.R. Croft LAE68575, D.B. Foreman LAE52056	Natter Bay LA, SE of Lae; Near Buso village, Lae
Rubiaceae	<i>Urophyllum weichmannii</i>	T.G. Hartley 10485, T.G. Hartley 12250	Oomsis Ck, W of Lae; Markham Point-bluff bordering Markham Rvr, W of Lae
Rubiaceae	<i>Wendlandia</i>	P. Katik LAE74774	Mt. Jasop, near Musom, Sankwep Rvr, Lae
Rubiaceae	<i>Wendlandia buddleacea</i>	T.G. Hartley 10849, T.G. Hartley 10429	N of Busu Rvr, NW of Lae; Oomsis Ck, W of Lae
Rubiaceae	<i>Wendlandia paniculata</i>	T.G. Hartley 10849, S.E. Garrett-Jones ANU21152, T.G. Hartley 10429	N of Busu Rvr, NW of Lae; Markham Point, Lae; Oomsis Ck, W of Lae
Rutaceae	<i>Clausena brevistyla</i>	J.S. Womersley NGF14206, T.G. Hartley 12377	Nadzab, Lae; Near Yalu, NW of Lae
Rutaceae	<i>Euodia</i>	E.E. Henty 157	Malahang near Lae
Rutaceae	<i>Euodia alata</i>	K.J. White NGF9676	Lae Botanic Gardens, Lae
Rutaceae	<i>Euodia bonwickii</i>	T.G. Hartley TGH10113, T.G. Hartley TGH10503, T.G. Hartley TGH10187	Busu Rvr, N of Lae; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae
Rutaceae	<i>Euodia elleryana</i>	J. Regalado 1597	Oomsis, W od Lae city
Rutaceae	<i>Euodia hortensis</i>	O. Paul LAE86428, J.S. Womersley NGF11053	Lae Botanical Gardens, Lae.
Rutaceae	<i>Flindersia</i>	H. Streimann NGF44308	Lasanga Is, Lae subdistrict
Rutaceae	<i>Flindersia laevicarpa var. heterophylla</i>	C. Ridsdale NGF31636, H. Streimann NGF44308	Kui, Lae subdistrict; Lasanga Is, Lae subdistrict
Rutaceae	<i>Flindersia laevigata</i>	W. Takeuchi 16664	Hills above 9-10 mile, Lae
Rutaceae	<i>Glycosmis pentaphylla</i>	P. Katik LAE70821	Lae Botanic Gardens, Lae.
Rutaceae	<i>Halfordia kendack</i>	C.E. Ridsdale NGF31623, R.J. Johns NGF47200	Kui, Lae subdistrict; Maniau, Lae subdistrict
Rutaceae	<i>Lunasia amara var. amara</i>	A.N. Millar NGF12229, T.G. Hartley 11330	Busu Rvr near Lae; Sankwep Rvr, N of Lae
Rutaceae	<i>Melicope crassiramis</i>	E.E. Henty s.n., B. Conn 68, G. Larivita LAE67112 & P. Katik, Verdcourt. 5048	Boana, Lae subdistrict; NE of Boana, near Guambo, Lae
Rutaceae	<i>Melicope denhamii</i>	A.N. Millar GH81, T.G. Hartley 9652, D. Fryar NGF3353, P. Katik s.n., P. Katik NGF46877, D. Fryar s.n., K.J. White NGF9673, E.E. Henty, D. Fryar NGF3353, K.J. White s.n.	Lae Botanic Garden, Lae; Buaru Ck, Lae; Malahang near Lae.
Rutaceae	<i>Melicope pachypoda</i>	R.J. Johns s.n.	Maniau, Lae subdistrict
Rutaceae	<i>Zanthoxylum</i>	F.T. Vickery NGF1405	Bumbu Area, Lae
Rutaceae	<i>Citrus</i>	E.E. Henty NGF49274	Lae Area
Rutaceae	<i>Citrus aurantiifolia</i>	P. van Royen	Lae Area
Rutaceae	<i>Citrus macroptera</i>		Lae Area
Rutaceae	<i>Clausena brevistyla var. brevistyla</i>	J.S. Womersley NGF14206, T.G. Hartley 12377, E.E. Henty NGF10597	Nadzab, Lae; Near Yalu, NW of Lae; Nadzab, Lae
Rutaceae	<i>Euodia</i>	K.J. White NGF9690, J. Wiakabu LAE73737	Lae Botanic Gardens, Lae.
Rutaceae	<i>Euodia asteridula</i>	T.G. Hartley TGH9652	Lae Botanic Gardens, Lae
Rutaceae	<i>Flindersia amboinensis</i>	J. Wiakabu LAE73472, A.N. Millar NGF9798, T.G. Hartley TGH10516, A.N. Vinas 231	Betwn Guargor & Patep, Lae-Bulolo Rd; Oomsis near Lae; Oomsis Ck, W of Lae; Plot 3 Buso, SE of Lae

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Rutaceae	<i>Flindersia pimenteliana</i>	T.G. Hartley 10493	Oomsis Ck, W of Lae
Rutaceae	<i>Halfordia papuana</i>	C.E. Ridsdale NGF31623, E.E. Henty NGF11529	Kui, Lae subdistrict; Atzera Range near Lae
Rutaceae	<i>Lunasia</i>	A.N. Millar NGF12229, T.G. Hartley 11330	Busu Rvr near Lae; Sankwep Rvr, N of Lae
Rutaceae	<i>Lunasia amara</i>	J.R. Croft LAE68516, P. Katik NGF46859, K. Kerenga LAE77662, H. Okada 4344 & P. Katik, H. Okada 4309 & P. Katik, P. Katik NGF46859, H. Streimann NGF45420, J.S. Womersley NGF37123, J.S. Womersley NGF37103	Natter Bay LA, SE of Lae; Bupo Rvr, Lae; Sankwep LA, Lae; Gumboak Strm, Busu Rvr, Lae; Gumboak strm, Busu Rvr, Lae; Bupo Rvr, Lae; Sankwep, Lae; Sankwep LA, Lae; Sankwep Ridge near Busu, Lae
Rutaceae	<i>Melicope alata</i>	T.G. Hartley TGH10110	Busu Rvr, N of Lae
Rutaceae	<i>Melicope bonwickii</i>	A.N. Millar s.n., T.G. Hartley 10187, R.W. Evans 15, T.G. Hartley 10503, T.G. Hartley 10113	Oomsis near Lae; Burep Rvr, NE of Lae; Bulolo Gold Dredging Ltd, E of Lae; Oomsis Ck, W of Lae; Busu Rvr, N of Lae
Rutaceae	<i>Melicope durifolia</i>	J.S. Womersley	Patep, Lae-Wau Rd
Rutaceae	<i>Melicope elleryana</i>	A.N. Millar GH15, D. Fryar NGF3346, T.G. Hartley 9798, D. Fryar s.n., E.E. Henty NGF10603, C.T. White, et al. s.n., K.J. White s.n., D. Fryar NGF3346, R.W. Evans 3, J.M. Simaga s.n., W.N. Takeuchi 8809, NGF3174, C.T. White NGF1709, E.E. Henty s.n., C.T. White NGF1576, K.J. White NGF9690, Anonymous NGF202	Botanic Gardens Lae; Yalu, near Lae; Gabensis Plantation, W of Lae; Yalu, near Lae; Near Lae; Lae, Morobe; Lae Botanical Gardens; Yalu, near Lae; Burep Rvr, Lae; Near Oomsis, Lae; Near Lae; Yalu, near Lae; Lae, Morobe; Nasawapum, near Lae; Lae, Morobe; Lae Botanical Gardens; Yalu, near Lae
Rutaceae	<i>Melicope trachycarpa</i>	R.J. Johns s.n., P. Katik s.n. & K. Taho	Maniau, Lae subdistrict; Kasanombe, Lae subdistrict
Rutaceae	<i>Melicope xanthoxyloides</i>	T.G. Hartley 10110, G. McDonald 5141, G. Larivita & P. Katik LAE67112, NGF3173, K.J. White NGF9676, G. McDonald NGF5141, K.J. White s.n.	Busu Rvr, N of Lae; National Botanic Gardens, Lae; Rd betwn Apo and Aruki villages near Lae; Lae, Morobe; Lae Botanical Gardens; National Botanic Gardens, Lae; Lae Botanical Gardens
Rutaceae	<i>Micromelum minutum</i>	A.N. Millar NGF18833, T.G. Hartley 11873, W. Takeuchi 15535, E.E. Henty NGF10597, T.G. Hartley 11014, P. Katik NGF46764, J.S. Womersley NGF14204, E.E. Henty NGF10661, P. Katik NGF46739, E.E. Henty NGF10661, A.N. Millar NGF12281	Lae Botanical Gardens; Near Yalu village, NW of Lae; Near Bubia, Lae; Nadzab near Lae; S of Garagos Rvr, Wau; Buaru Ck, Lae; Lae-Nadzab Rd; Markham Rd, Lae; Suinim village near Busu Rvr, Lae; Markham Rd, Lae; Bupu Rvr, near Lae
Rutaceae	<i>Murraya paniculata</i>	D.B. Foreman LAE52067, B.J. Conn, et al. LAE69148	Near Bulolo on Lao-Bulolo Rd; Lake Wanum, Lae subdistrict
Rutaceae	<i>Tetracladia tetrandra</i>	H.U. Stauffer 5548 & T.C. Whitmore	NE Markham Point, Lae
Rutaceae	<i>Wenzelia dolichophylla</i>	H. Okada 4239	Gabensis LA, Oomsis, Lae
Rutaceae	<i>Zanthoxylum pluviatile</i>	F. T. Vickery NGF1405, J.S. Womersley NGF19198, T.G. Hartley 22349, T.G. Hartley 11349A, T.G. Hartley TGH11349	Lae, Morobe; Markham LA, Lae; Betwn Busu & Butibum Rvrs, N of Lae; Betwn Busu & Butibum Rvrs, N of Lae; Betwn Busu & Butibum Rvrs, N of Lae
Sabiaceae	<i>Sabia pauciflora</i>	W. Takeuchi 17030	Hills near Taraka, Lae
Sabiaceae	<i>Meliosma pinnata ssp. humilis</i>	P. van Royen & A.N. Millar NGF15693, M Jacobs 8683	Zatal, from S Boana, Lae, Kasanobe, N of Lae
Salicaceae	<i>Ryparosa maculata</i>	P. Katik & P.F. Steven NGF46786, T.G. Hartley 11443	End of Sunkwep LR, Lae subdistrict; N of Lae
Santalaceae	<i>Cladomyza uncinata</i>	H.U. Stauffer, et al. 5544, H.U. Stauffer, et al. 5545	Markham Point, Lae; Markham Point, Lae
Santalaceae	<i>Exocarpos latifolius</i>	H. Streimann NGF44310, J.R. Croft & Y. Lelean LAE68581, H. Streimann NGF39439, H. Streimann s.n., Anonymous LAE51666, J.R. Croft LAE68581, H. Streimann NGF39418, H. Streimann NGF44310, H. Streimann & A. Gillison NGF39439, J.R. Croft s.n. & Y. Lelean	Lasanga Is, Lae subdistrict; Natter Bay LA, SE of Lae; Zumbole, Lae subdistrict; Buso, Lae Subdistrict; Lae, Morobe; Natter Bay LA, SE of Lae; Buso, Lae subdistrict; Lasanga Is, Lae subdistrict; Zumbole Is, Lae subdistrict; Natter Bay LA, SE of Lae

## Lae Flora

Santalaceae	<i>Santalum</i>	J. Mandawali LAE76343	Lae Botanic Gardens, Lae
Santalaceae	<i>Scleropyrum aurantiacum</i>	J.R. Croft LAE68568, J. Croft s.n.	Natter Bay LA, SE of Lae; Natter Bay LA, SE of Lae
Santalaceae	<i>Dendromyza</i>	W. Takeuchi 16657, H.U. Stauffer, et al. 5547	Hills above 9-10 mile, Lae; NE, Markham Point
Santalaceae	<i>Dendromyza ledermannii</i>	T.G. Hartley 10500	Oomsis Ck, W of Lae
Santalaceae	<i>Dendromyza reinwardtiana</i>	E.E. Henty NGF14375	Busu River, Lae
Santalaceae	<i>Dendrotrophe varians</i>	E.E. Henty NGF13684, H.U. Stauffer, et al. 5546	Markham Point, near Lae; Markham Point, Lae
Santalaceae	<i>Henslowia</i>	T.G. Hartley 10500	Oomsis Ck, W of Lae
Santalaceae	<i>Santalum macgregorii</i>	S.P. Baip LAE76302, A. Sumareke LAE(01)	Lae Botanic Gardens, Lae
Sapindaceae	<i>Alectryon ferrugineum</i>	P. van Royen & Floyd A. G. NGF5777, J. Womersley NGF3270, N. Millar & P. van Royen NGF15851, E.E. Henty NGF14395, C.T. White NGF1707, G. Argent s.n., A.N. Millar s.n. & P. van Royen, J.S. Womersley s.n., B. Geana BG001 & S. Sennart, E.E. Henty s.n., C.T. White s.n., H.S. Dadswell & L.S. Smith, T.G. Hartley 9742, H. Streimann & A. Kairo NGF45253,	Above Yalu near Lae; Yalu near Lae; Near Oomsis, Lae; Lake Wanum, Lae; Morobe, Lae; Institute site, Lae, Morobe District; Near Markham Bridge, Lae; Yalu, near Lae; National Botanical Garden, Lae; Near Lae, Morobe district; Morobe District, Lae; Malahang, NE of Lae; National Botanical Gardens, Lae; Patep 2 Lae-Mumeng Road, Bulolo, Wau;
Sapindaceae	<i>Alectryon ferrugineum</i>	W.R. Barker LAE66501, M. Fallen 339, et al., NGF37472, M.J.E. Coode, A. Gillison & C.E. Ridsdale NGF32570, W. Takeuchi 4322, C.T. White, H.E. Dadswell & S.L. Smith NGF1707, P. van Royen NGF15849, A.N. Millar NGF11785, J. Waine 53	Sankwep River LA, Lae; Logging rd, Gabensis, SW of Lae; Sankwep LA, Lae; Oomsis, Lae; Lae outskirts, Atzera Range; Morobe, Lae; Near Markham Bridge, Lae; Oomsis Ck, Lae;
Sapindaceae	<i>Allophylus spp.</i>	J. Regalado 1255 & P. Katik, P. Katik 1180 & J. Regalado	Along Singaua rd east of Lae city; along road to Gabade (gobari), N of Lae city
Sapindaceae	<i>Cardiospermum halicacabum</i>	H. Streimann NGF47849	Near Mumeng, Bulolo-Lae Rd
Sapindaceae	<i>Cardiospermum halicacabum</i> var. <i>halicacabum</i>	H. Streimann NGF47849	Bulolo-Lae Rd, near Mumeng
Sapindaceae	<i>Dictyoneura obtusa</i>	A. Floyd NGF5776, C.T. White NGF1678, T.G. Hartley 11339, T.G. Hartley 10987, T.G. Hartley 10166, T.G. Hartley 12234	Markham Rvr above bridge, Lae; Lae, Morobe; N of Busu Rvr, N of Lae; Markham Rvr, W of Lae; Burep Rvr, NE of Lae; Near Yalu village, Lae
Sapindaceae	<i>Dimocarpus longan</i>	W. Takeuchi 17116	Hills near Taraka, Lae
Sapindaceae	<i>Dodonaea viscosa</i> subsp. <i>Viscosa</i>	C.E. Ridsdale s.n.	Near Maiama village, Lae subdistrict
Sapindaceae	<i>Elattostachys</i>	E.E. Henty 14792, P. Katik s.n. & K. Taho	Lake Wanum near Lae; Oomsis LA, Lae
Sapindaceae	<i>Elattostachys rubrofructus</i>	E.E. Henty NGF14792	Lake Wanum, near Lae
Sapindaceae	<i>Guioa</i>	W. Takeuchi 9081, J. Regalado 1178 & P. Katik, W. Dohon LAE73230, J. Vandenberg NGF42169, B.J. Conn LAE69146, T.G. Hartley 12208, M. Jacobs 8641, T.G. Hartley 12289,	Atzera Range, Lae; Along Rd to Gabadik, N of Lae City; Guragos LA, Lae; Wau on Lae Rd; Lake Wanum, Lae subdistrict; Near Butibum Rvr, N of Lae; Kasanombe, N of Lae; Near Buso Rvr, NE of Lae;
Sapindaceae	<i>Guioa acutifolia</i>	E.E. Henty NGF11523	Erap near Lae
Sapindaceae	<i>Guioa contracta</i>	T.G. Hartley 12208, T.G. Hartley 12208, W. Takeuchi 16156, T.G. Hartley 12221, Anonymous 4646, Native collector NGF4646, A.N. Millar NGF18858, H. Okada 4305 & P. Katik, K.J. White NGF10327	N of Lae; N of Lae; Ridge above Bubia, Taraka, Lae; Erap W of Lae; Near Lae; Lae Botanical Gardens; Gumboak stream, Busu Rvr, Lae; Oomsis near Lae
Sapindaceae	<i>Guioa koelreuteria</i>	G. McDonald NGF5145	Lae Botanic Garden, Lae.
Sapindaceae	<i>Guioa molliscula</i>	C.E. Ridsdale NGF31702	Near Maiama village, Lae

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Sapindaceae	<i>Harpullia aeruginosa</i>	J.S. Womersley NGF43596, M. Coode NGF32909, J. Womersley NGF3204, E.E. Henty NGF11693, J. Womersley 3292	Bupu Rvr, E of Lae; Bupu Rvr near Lae; Yalu near Lae; Bumbi Rvr near Lae; Busu Rvr near Lae
Sapindaceae	<i>Harpullia arborea</i>	C. Ridsdale NGF33851, J.S. Womersley NGF19179, P. van Royen NGF16473, A.N. Millar GH115, C. Kausik LAE79211	Lae Botanical Gardens; Near Bulolo on Lae Rd; Lae Botanical Gardens; Lae Botanical Gardens; National Botanic Garden, Lae
Sapindaceae	<i>Harpullia arborea</i> subsp. <i>arborea</i>	P. Van Royen NGF16473, J.S. Womersley NGF11839, P. van. Royen NGF15021, A.N. Millar NGF13898, T.G. Hartley 11355, E.E. Henty NGF10604	Lae Botanical Gardens; Oomsis Ck, Lae N bank of Lake Wannum, near Lae; Red Hill near Lae; S of Garagos Rvr along Lae-Bulolo Rd; Nadzab, near Lae
Sapindaceae	<i>Harpullia crustacea</i> var.	T.G. Hartley TGH11355	S of Garagos Rvr along Lae-Bulolo Rd
Sapindaceae	<i>Harpullia cupanioides</i>	T.G. Hartley 11355, Nima & J.S. Womersley NGF43857, J. Croft & Y. Lelean LAE68535	S of Garagos Rvr along Lae-Bulolo Rd; Gurakor, Wau Rd, Lae subdistrict; Natter Bay LA, SE of Lae
Sapindaceae	<i>Harpullia longipelata</i>	P. Pomoso LAE76327, S.P. Baip LAE76301, Y. Sila LAE76339, D. Nawe LAE76309, E.E. Henty NGF11693, T.G. Hartley 9886, T.G. Hartley 12361, J.S. Womersley NGF43596, J.S. Womersley NGF3204, T.G. Hartley 9844, C.T. White NGF1540, G.L. Webster 15067 & R. Hildreth, M.J. Coode NGF32909, D. Bega LAE79215(006 & K. Fazang, J.R. Croft LAE68535, J.S. Womersley NGF3292, P. Lamei LAE89498	Lae Botanical Gardens, Lae; Buembi Rvr near Lae; Butibum Rvr, N of Lae; Buso Rvr, NE of Lae; Yalu near Lae; Busu Ck Area; Sankwep Rvr, N of Lae; Bupu Rvr near Lae; Natter Bay LA, SE of Lae; Busu Rvr, near Lae.
Sapindaceae	<i>Lepidopetalum fructoglabrum</i>	T.G. Hartley 12354, T.G. Hartley 9948, A.N. Millar NGF12034, E.E. Henty NGF11597, J.J. Havel NGF17196	Bewapi Ck, W of Lae; Oomis Ck, W of Lae; Oomsis, Lae subdistrict; Atzera Range near Lae; Lake Daviumbu, Bulolo-Lae Rd, Bends Area
Sapindaceae	<i>Mischocarpus pyriformis</i> subsp. <i>retusus</i>	P. Katik & K. Taho NGF36981	Kasanombe, Lae
Sapindaceae	<i>Pometia pinnata</i>	A.N. Millar NGF14637, H. Okada 4270, F.T. Vickery NGF1407, J. Womersley NGF3273, T.G. Hartley 10074A, J.S. Womersley NGF11044, A.N. Millar NGF14637, P. Katik LAE64178 & F. Essig, J.S. Womersley NGF11358, E.E. Henty NGF10658	Bumbu Rvr, Lae subdistrict; Gabensis LA, Oomsis, Lae; Lae, Morobe; Yalu near Lae; Bewapi Ck, NW of Lae; Lae Botanic Gardens; Bumbu Rvr, Lae; Situm LA, Lae; Oomsis Ck near Lae; Lae Botanic Gardens
Sapindaceae	<i>Pometia pinnata</i> f. <i>glabra</i>	T.G. Hartley 10074A, D. Fryar 3343	Bewapi Ck, NW of Lae; Yalu near Lae
Sapindaceae	<i>Pometia tomentosa</i>	D. Fryar 3343, Anonymous NGF216	Yalu near Lae; Near Lae
Sapindaceae	<i>Sapindaceae</i>	Conn and Students 195, H. Streimann s.n.	Buso Rvr, Lae subprovince; Buso, Lae subdistrict
Sapindaceae	<i>Toechima elegans</i>	T.G. Hartley 10850	N of Busu Rvr, NW of Lae
Sapindaceae	<i>Toechima erythrocarpum</i>	T.G. Hartley 12341	Near Burep Rvr, NE of Lae
Sapindaceae	<i>Tristiropsis acutangula</i>	J.J. Havel 11193, R.W. Evans 75, T.G. Hartley 9647, C.T. White NGF1711, J. Womersley NGF3248, E.E. Henty 11525, T.G. Hartley TGH10312, T.G. Hartley TGH12275, C.T. White NGF1711, J.J. Havel & A. Kairo NGF11193, T.G. Hartley TGH9647	Garagos, Lae-Bulolo Rd; Yalu near Lae; Lae Botanic Gardens; Lae, Morobe; Yalu near Lae; Erap near Lae; Near Bunga Rvr, NE of Lae; Munum village, NW of Lae Markham Valley; Lae, Morobe; Near Garagos, Lae-Bulolo Rd; Lae Botanic Gardens
Sapindaceae	<i>Tristiropsis apetala</i>	T.G. Hartley 10312	Near Bunga Rvr, NE of Lae
Sapindaceae	<i>Tristiropsis subangula</i>	W. Takeuchi 4644	Busu Rvr, NW of Bumayong, Lae

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Sapindaceae	<i>Allophylus cobbe</i>	A.N. Millar NGF14607, J.S. Womersley s.n., T.G. Hartley 10119, J.S. Womersley s.n., P. Katik LAE70712, W. Moi & N. Inu NGF25964, J.S. Womersley NGF24639, A.N. Millar s.n., P. Katik s.n., J.S. Womersley NGF13453, T.G. Hartley 11069, T.G. Hartley 11928, T.G. Hartley TGH11928, T.G. Hartley TGH11635, W. Takeuchi 17080, P. Katik LAE70712, C.T. White NGF1529,	Lae Wau Rd; Busu River, near Lae; Burep River, NE of Lae; Malahang near Lae; Near Sankwep Rvr, Lae; Oomsis, Lae subdistrict; Malahang near Lae; Tuamina River, Lae-Wau Rd; Sunkwep LR, Lae sub-district; Busu River, near Lae; Liana, Huon Gulf, NE of Lae; Busu Rvr, N of Lae; Near Butibum River, N of Lae; Lae, hills near Taraka; Near Sankwep Rvr, Lae Subdistrict; Morobe, Lae;
Sapindaceae	<i>Arytera morobeana</i>	T.G. Hartley 11354, T.G. Hartley 11354	Betwn Busu & Butibum Rvrs, N of Lae; Betwn Busu & Butibum Rvrs, N of Lae
Sapindaceae	<i>Cupaniopsis</i>	G. Argent NGBF1063	Forest Research Institute, Lae
Sapindaceae	<i>Cupaniopsis curvidens</i>	T.G. Hartley 12233, M. Fallen 276 & Y. Lelean, E.E. Henty NGF10552, D. Wabo LAE73229, P. Lamei & K.F. Fazang LAE89458	Near Yalu, NW of Lae; Near Markham Bridge, S of Lae; Lae Botanic Gardens; Perenin Rvr, Lae; Lae Botanical Gardens
Sapindaceae	<i>Cupaniopsis macropetala</i>	A.N. Millar NGF14595, T.G. Hartley 9891, W. Takeuchi 17090, W. Takeuchi 17057, W. Takeuchi 16249, W. Takeuchi 16264, W. Takeuchi 16384	Oomsis Ridge, Lae; Near Butibum Rvr, N of Lae; Hills near Taraka, Lae; Hills near Taraka, Lae; Near Bubia, Lae; Near Bubia, Lae; Near Bubia, Lae;
Sapindaceae	<i>Cupaniopsis multidens</i>	W. Dohon LAE73229	Perenin Rvr, Lae
Sapindaceae	<i>Cupaniopsis platycarpa</i>	A.N. Millar NGF12271, Nima NGF43860, L.I. Brass 29225, E.E. Henty & Osborn NGF14803	Oomsis near Lae; Gurakor, outside Lae; Oomsis, Lae; Oomsis LA, Lae;
Sapindaceae	<i>Dictyoneura</i>	C.T. White NGF1678	Lae Area
Sapindaceae	<i>Dictyoneura bamleri</i>	K.J. White NGF9679, T.G. Hartley 10166, Millar GH79, T.G. Hartley 10987, D.G. Frodin & K. Naoni UPNG7033, T.G. Hartley 11339	Lae Botanic Gardens; Burep Rvr NE of Lae; Lae Botanic Gardens; Markham Rvr Point, W of Lae; Baubling Haus, Lae Town; Busu Rvr, N of Lae
Sapindaceae	<i>Dimocarpus</i>	W. Takeuchi 17077	Hills near Taraka, Lae
Sapindaceae	<i>Dimocarpus longan</i> subsp. <i>longan</i>	T.G. Hartley 12197, W. Takeuchi 17125, Dohon LAE73230	Near Butibum Rvr, N of Lae; Garagos Lae; hills near Taraka
Sapindaceae	<i>Dimocarpus longan</i> var. <i>longan</i>	T.G. Hartley 12197, J.J. Havel NGF17203	Near Butibum Rvr, N of Lae; Gnalan Gumbum, Lae
Sapindaceae	<i>Diploglottis australis</i>	P. Katik NGF46737	Suinim Village near Busu Rvr, Lae
Sapindaceae	<i>Dodonaea viscosa</i>	R.J. Johns s.n., T.G. Hartley 10289, C.E. Ridsdale NGF31703	Maniau, Lae subdistrict; Near Labu, Lae; Near Maiama village, Lae
Sapindaceae	<i>Elattostachys obliquinervis</i>	T.G. Hartley 12342	Near Burep Rvr, NE of Lae
Sapindaceae	<i>Ganophyllum falcatum</i>	C.T. White NGF1732, O.K. Paul, LAE87535, E.E. Henty NGF10510, C.T. White 1581, C.T. White NGF1732, A.G. Floyd NGF5389, J. Wiakabu LAE72382, E.E. Henty NGF10510	Lae, Morobe; Lae Botanical Garden; Lae, Morobe; Lae, Morobe; Lae, Morobe; Busu Bridge, Lae; Lae Botanical Gardens; Lae Botanical Gardens
Sapindaceae	<i>Guioa comesperma</i>	J.R. Croft & Y. Lelean LAE68482, C.T. White, H.E. Dadswell & S.L. Smith NGF1594, T.G. Hartley 9788, M.J.E. Coode, J.S. Womersley NGF43743, J.S. Womersley NGF14031, J.S. Womersley & P. Katik NGF43743, J. Waire 27	Natter Bay LA, SE of Lae; Labu, near Lae; Lake Wanum, W of Lae; Lae Botanical Gardens; Labu Lakes near Lae; Lake Wannum, W of Lae; Labu Lakes near Lae; National Botanic Gardens, Lae; N of Lae; N of Lae; Ridge above Bubia, Taraka, Lae; Erap W of Lae; Near Lae;
Sapindaceae	<i>Guioa diplopetala</i>	T.G. Hartley 12289	Near Buso Rvr, NE of Lae
Sapindaceae	<i>Guioa rigidiuscula</i>	T.G. Hartley 12221	Markham Rvr valley at Erap, W of Lae

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Sapindaceae	<i>Harpullia</i>	T.G. Hartley 9886, G.L. Webster 15067 & R. Hildreth, Nima NGF43857, A.N. Millar GH115, M. Fallen 303, D. Bogen LAE76342, P. Lat LAE76326, B.J. Conn LAE69147, P. Katik LAE62055	Near Butibum Rvr, N of Lae; Busu Ck Area, N of Lae; Gurakor, Lae on Wau Rd; Lae Botanical Gardens; Sangkewp LA, SW of Lae; Lae Botanical Gardens; Lae Botanical Gardens; Lake Wanum, Lae subdistrict; Buso Rvr, near Lae
Sapindaceae	<i>Harpullia thanatophora</i>	A.N. Millar GH150	Lae Botanic Garden, Lae.
Sapindaceae	<i>Koelreuteria bipinnata</i>	J. Wiakabu & A.N. Vinas LAE72376	Lae Botanic Gardens, Lae.
Sapindaceae	<i>Lepidopetalum xylocarpum</i>	W. Takeuchi 16236	Near Bubia, Lae
Sapindaceae	<i>Lepisanthes senegalensis</i>	J.S. Womersley 43866	Garagos Ck, Lae
Sapindaceae	<i>Mischocarpus</i>	J.S. Womersley NGF43866	Garagos Ck LR, Lae
Sapindaceae	<i>Pometia pinna forma glabra</i>	J. Regalado 1252 & P. Katik	Singaua Rd betwn Buso & Bulu Rvrs, E of Lae City
Sapindaceae	<i>Sarcopteryx squamosa</i>	W. Takeuchi 16662	Hill above 9-10 mile, Lae
Sapindaceae	<i>Toechima</i>	P. Katik LAE56334	Sankwep LR, Lae
Sapindaceae	<i>Toechima livescens</i>	T.G. Hartley 10850	N of Busu Rvr, NW of Lae
Sapindaceae	<i>Tristiropsis canarioides</i>	J.J. Havel & A. Kairo NGF11193	Near Garagos, Lae-Bulolo Rd
Sapindaceae	<i>Xerospermum</i>	J.J. Havel NGF17203	Gnalan Gumbum, Lae subdistrict
Sapindaceae	<i>Pometia</i>	T.G. Hartley 10514	Oomsis Ck, W of Lae
Sapotaceae	<i>Madhuca leucodermis</i>	O.K. Paul LAE87544	Lae Botanic Gardens, Lae.
Sapotaceae	<i>Magodendron venifici</i>	et al. s.n.	Gurakor, Lae-Bulolo Rd
Sapotaceae	<i>Palaquium amboinense</i>	C.T. White NGF1739, Batze 5115	Lae, Morobe; Busu Rvr near Bridge Lae
Sapotaceae	<i>Palaquium anteridifera</i>	J.S. Womersley NGF3225	Labu near Lae
Sapotaceae	<i>Palaquium galactoxylon var. salomonense</i>	P. Katik LAE70703, J.S. Wormersley s.n., F.T. Vickery NGF1402, L.S. Smith NGF1739, F.T. Vickery NGF1424, E.E. Henty NGF16724, A.N. Millar NGF9955, T.G. Hartley TGH10451	Lae Botanical Gardens, Lae; Bumbu Area; Yalu Foothills Area; 3 Mile Forest Plot, Lae; Oomsis Ck, W of Lae.
Sapotaceae	<i>Palaquium lobbianum</i>	Palaquium lobbianum Sapotaceae T.G. Hartley TGH 10086	Bewapi Ck, W of Lae
Sapotaceae	<i>Planchonella</i>	C.T. White NGF1726, K.J. White NGF10481, C.T. White NGF1653, J.R. Croft LAE68495, A.N. Millar NGF9955, E.E. Henty NGF10545, C.K. Ingram NGF999, C.K. Ingram NGF910	Lae, Morobe; Oomsis near Lae; Lae, Morobe; Natter Bay LA, SE of Lae; Lae Botanic Gardens; Near Lae; Lae Area; Lae Area
Sapotaceae	<i>Planchonella firma</i>	P. van Royen NGF16483	Oomsis LA, NW of Lae
Sapotaceae	<i>Planchonella hochreutineri</i>	W. Williams NGF125	Lae Area betwn Busu & Bupu Rvrs
Sapotaceae	<i>Planchonella torricellensis</i>	C.T. White NGF1726, Anonymous NGF213, T.G. Hartley 10075A	Lae, Morobe; 9 Mile Post, Lae-Nadzab Rd; Bewapi Ck, NW of Lae
Sapotaceae	<i>Pouteria</i>	J.R. Croft LAE68495, T.G. Hartley TGH10552, T.G. Hartley TGH11357	Natter Bay LA, SE of Lae; Oomsis Ck, W of Lae; Lae-Bulolo Rd, S of Garagos Rvr Bridge
Sapotaceae	<i>Pouteria anteridifera</i>	K.J. White NGF10345, F.T. Vickery NGF1398, T.G. Hartley 9851A, T.G. Hartley 9851, F.T. Vickery NGF1938, C.T. White NGF1535	Oomsis Ck near Lae; Bumbu Area, Lae; Near Butibum Rvr, N of Lae; Near Butibum Rvr, N of Lae; Bumbu Area, Lae; Lae, Morobe
Sapotaceae	<i>Pouteria chartacea</i>	E.E. Henty NGF11536	Atzera Range, Markham Valley near Lae
Sapotaceae	<i>Pouteria luzoniensis</i>	P. Lamei LAE89483 & K. Fazang	Lae Botanic Gardens, Lae.

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Sapotaceae	<i>Pouteria maclayana</i>	P. Lamei LAE89480 & K. Fazang, M. Jacobs 9573, T.G. Hartley 10071, J. Wiakabu LAE72395 & T. Umba	Lae Botanical Gardens; SE of Lae on the coast; Bewapi Ck, W of Lae; Lae Botanic Gardens
Sapotaceae	<i>Pouteria ovata</i>	D.M. Crayn 531 & R. Banka	Lae Botanic Gardens, Lae
Sapotaceae	<i>Pouteria sarcospermoides</i>	T.G. Hartley TGH11925, T.G. Hartley TGH10460, T.G. Hartley TGH 10044, T.G. Hartley 11340, T.G. Hartley TGH 11853	Busu Rvr, N of Lae; Oomsis Ck, W of Lae; Oomsis Ck, W of Lae; Busu Rvr, N of Lae; Butibum Rvr, N of Lae
Sapotaceae	<i>Pouteria torricellensis</i>	T.G. Hartley TGH10075A, E.E. Henty NGF10545, T.G. Hartley TGH10075, Anonymous NGF213	Bewapi Ck, NW of Lae; Near Lae; Bewapi Ck, W of Lae; 9 Mile Post, Lae-Nadzab Rd
Sapotaceae	<i>Buckella obovata</i>	P. Oliver, et al. LAE87715	NBG, Lae
Sapotaceae	<i>Buckella polymera</i>	P. Oliver, et al. LAE87714	Lae Botanic Garden, Lae.
Sapotaceae	<i>Burckella obovata</i>	O. Paul LAE87544, K. Taho LAE72398, Paul O. K., et al. LAE87715	Lae Botanic Gardens, Lae.
Sapotaceae	<i>Burckella polymera</i>	Paul O. K., et al. LAE87714	Lae Botanic Garden, Lae.
Sapotaceae	<i>Chrysophyllum roxburghii</i>	J.J. Havel NGF15465, J.J. Havel NGF17230, E.E. Henty NGF11983, T.G. Hartley 12350, C.T. White NGF1515, J.S. Womersley NGF9404, T.G. Hartley TGH 12349, T.G. Hartley 11866, C.T. White NGF1520, J. Womersley 3297, C.T. White NGF1545	Lae, Morobe; Garagos, Lae; Busu Rvr, Lae; Lae, Morobe; Oomsis near Lae; N side of Busu Rvr, N of Lae; N of Lae near the Butibum Rvr, N of Lae; Betwn Lae and Yalu; Yalu near Lae; Lae, Morobe
Sapotaceae	<i>Magodendron</i>	P. Katik LAE74799	Gurakor, Lae-Bulolo Rd
Sapotaceae	<i>Palaquium</i>	P. Katik LAE70703, Evans 26, Anonymous 5515, T.G. Hartley 11853	Lae Botanical Gardens, Lae; E of Lae; Busu Rvr near Bridge, Lae; Near Butibum Rvr, near Lae
Sapotaceae	<i>Planchonella solida</i>	D. Fryar 3344, T.G. Hartley 12270, C.T. White NGF1653, L.S. Smith NGF1653, T.G. Hartley 11445	Yalu, near Lae; Markham Point, W of Lae; Lae, Morobe; Lae, Morobe; N of Lae, betwn Butibum & Busi Rvrs
Sapotaceae	<i>Pouteria hochreutineri</i>	W. Williams NGF125	Lae Area
Sapotaceae	<i>Pouteria kaernbachiana</i>	School NGF17220, C.K. Ingram NGF910, C.K. Ingram NGF999, J.J. Havel NGF17220	Gnalan Gumbum, Lae subdistrict; Lae Area; Lae Area; Gnalan Gumbum, Lae subdistrict
Sapotaceae	<i>Pouteria lauterbachiana</i>	J.S. Womersley NGF13454, K.J. White NGF10481	Busu Rvr near Lae; Oomsis near Lae
Sapotaceae	<i>Pouteria obovata</i>	D. Fryar 3344, D.M. Crayn 531 & R. Banka	Yalu near Lae; Lae Botanic Gardens
Sapotaceae	<i>Pouteria pullenii</i>	P. Katik LAE74755	Mt Jasop near Musom, Lae
Sapotaceae	<i>Pouteria thrysodea</i>	J. Waine 44	Lae Botanic Garden, Lae.
Schizaeaceae	<i>Lygodium</i>	J.S. Womersley NGF7824, T.G. Hartley 10411, P.F. Stevens LAE50181, A. Floyd 5785, Anonymous 5699	Lae, Morobe; Oomsis Ck, W of Lae; N of Lae; Yalu near Lae; Lae, Morobe
Schizaeaceae	<i>Schizaea</i>	M. Jacobs 9545	SE of Lae on coast
Schizaeaceae	<i>Schizaea dichotoma</i>	T.G. Hartley 11909, J.R. Croft 463	Malahang, NE of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae
Schizaeaceae	<i>Lygodium microphyllum</i>	A. Floyd 5706	On Markham Point, near Lae
Schizaeaceae	<i>Lygodium salicifolium</i>	J.R. Croft 893 & J.I. Marsh, J.R. Croft 430	Oomsis LA, W of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae
Schizaeaceae	<i>Lygodium trifurcatum</i>	J.R. Croft 381	Natter Bay, SE of Lae
Schizaeaceae	<i>Lygodium versteegii</i>	J.R. Croft 388	Natter Bay, SE of Lae
Scrophulariaceae	<i>Lindernia crustacea</i>	W.R. Barker LAE67772, W. Takeuchi 17109	Lae Dowsett Housing Estate; Hills near Taraka, Lae
Scrophulariaceae	<i>Angelonia salicariifolia</i>	T.G. Hartley 9725,	Malahang, NE of Lae;
Scrophulariaceae	<i>Buchnera</i>	J. Wiakabu LAE70383,	SW Lake Wanum , W of Lae-Bulolo Rd;

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Scrophulariaceae	<i>Buchnera urticifolia</i>	H. Streimann NGF27914, T.G. Hartley 12247	Markham Point near Lae; Markham Point, W of Lae
Scrophulariaceae	<i>Scoparia dulcis</i>	E.E. Henty NGF10683, E.E. Henty NGF11618	Erap near Lae; Markham Valley, Lae
Scrophulariaceae	<i>Stemodia verticillata</i>	E.E. Henty NGF21000	Near Lae
Selaginellaceae	<i>Selaginella</i>	F.J. Taylor s.n., J.R. Croft 1397, Anonymous 5576, J.R. Croft LAE68518, J.R. Croft LAE65330, J.R. Croft 328, J.R. Croft LAE68519, R.F. Thorne 27460, G. Argent 1034, H. Streimann NGF45247	Lae-Bulolo Rd; Lae Lodge, Lae; Along Diddyman's Creek, Lae; Natter Bay LA, SE of Lae; Sankwep Rvr, N of Lae; Sankwep Rvr, N of Lae; Natter Bay LA, SE of Lae; R.F. Thorne 27460, Mt Gabensis, Lae; Patep No. 2, Lae-Mumeng Rd
Selaginellaceae	<i>Selaginella ciliaris</i>	J.S. Womersley	Department of Forests, Lae
Selaginellaceae	<i>Selaginella hieronymiana</i>	J.R. Croft 394	Natter Bay, SE of Lae
Selaginellaceae	<i>Selaginella schlechteri</i>	J.R. Croft 384	Natter Bay, SE of Lae
Selaginellaceae	<i>Selaginella weinlandii</i>	J.R. Croft 382	Natter Bay, SE of Lae
Selaginellaceae	<i>Selaginella angustiramea</i>	T.G. Hartley 9606	Along Lae-Bulolo Rd, S of Gurukor village
Selaginellaceae	<i>Selaginella kirstingii</i>	J.R. Croft 441	E of Mongi Rvr, Huon Peninsula, E of Lae
Selaginellaceae	<i>Selaginella velutina</i>	J.R. Croft 395	Natter Bay, SE of Lae
Simaroubaceae	<i>Quassia amara</i>	P. Oliver LAE86447	Lae Botanic Gardens, Lae.
Simaroubaceae	<i>Samadera indica</i>	C.T. White NGF1502	Behind Malahang Beach near Lae
Simaroubaceae	<i>Ailanthus integrifolia</i> subsp. <i>Integrifolia</i>	C.T. White NGF693, K. Ingram NGF693, D. Fryar NGF3340, J. Womersley NGF3245,	Yalu near Lae; Near Lae; Yalu near Lae; Yalu near Lae;
Simaroubaceae	<i>Picrasma javanica</i>	T.G. Hartley TGH10856, T.G. Hartley TGH12380	N of Busu Rvr, NW of Lae; Near Yalu, NW of Lae
Simaroubaceae	<i>Quassia indica</i>	T.G. Hartley TGH11073, P. Van Royen NGF20072, P. Katik s.n., J.S. Womersley NGF4605, H. Streimann NGF39160, Anonymous NGF947; J. Wiakabu LAE72371 & T. Umba	Coastal of Houn Gulf, NE of Lae; E bank of Markham Rvr, W of Lae; Near mouth of Markham Rvr, Lae subprovince; Markham Rvr, W of Lae; Labu near Lae; Waga village, Lae; Lae, Morobe
Smilacaceae	<i>Smilax</i>	C.T. White NGF1701, A.N. Millar NGF14404, M. Jacobs 9643, A.N. Millar GH116, T.G. Hartley 10448, T.G. Hartley TGH10193, A. Floyd 5541, M. Jacobs 9586, M. Jacobs 9608, T.G. Hartley TGH10448, A.N. Millar GH116, J. Regalado 1588	Lae, Morobe; Red Hill near Lae; SE of Lae on coast; Lae Botanic Gardens; Red Hill, W of Lae; Burep Rvr, NE of Lae; Busu Rvr, Lae; Busu Rvr, Lae; SE of Lae on coast; SE of Lae on coast; Red Hill, W of Lae; Lae Botanic Gardens; Forestry camp above Oomsis, W of Lae city
Smilacaceae	<i>Smilax australis</i>	A.N. Millar NGF14404	Red Hill, Lae
Smilacaceae	<i>Smilax blumei</i>	P. Katik NGF46882	Buaru Ck, Lae
Smilacaceae	<i>Smilax lanceaefolia</i>	C.T. White, et al. NGF1724	Lae Area
Smilacaceae	<i>Smilax ovata-lanceolata</i>	C.T. White, et al. NGF1701, M.J.E. Coode NGF29556, P. Katik NGF46882	Lae, Morobe; Bupu Rvr, E of Lae; Buaru Ck, Lae
Solanaceae	<i>Capsicum frutescens</i>	D.E. Symon 10656	Erap Exp Station Highlands Highway, W of Lae
Solanaceae	<i>Lycianthes kaernbachii</i>	A. Kairo & H. Streimann NGF30943, A. Kairo NGF30983	Sankwet LA, Lae; Sankwet Rvr, Lae
Solanaceae	<i>Solanum</i>	P. Katik LAE77975	Gabansi LA, Lae subprovince
Solanaceae	<i>Solanum anfractum</i>	T.G. Hartley 10033	Oomsis Ck, W of Lae
Solanaceae	<i>Solanum dallmannianum</i>	T.G. Hartley TGH11362	Area betwn Busu & Butibum Rvrs, N of Lae
Solanaceae	<i>Solanum dunalianum</i>	J.S. Womersley NGF37098, T.G. Hartley TGH10078, M. Coode, et al. NGF32569	Oomsis, Lae; Bewapi Ck, W of Lae; Oomsis, Lae subdistrict

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Solanaceae	<i>Solanum lasiocarpum</i>	T.G. Hartley 10405, H. Streimann 8498, M. Fallen 328 & Y. Lelean	Oomsis Ck, W of Lae; Garagos Rvr, W of Lae; Sangkwep LA, Lae
Solanaceae	<i>Capsicum</i>	T.G. Hartley 11880	Near Yalu, NW of Lae
Solanaceae	<i>Lycianthes</i>	Hoogland 8805	Lae Botanic Gardens, Lae.
Solanaceae	<i>Lycianthes oliveriana</i>	A.N. Vinas 306	Buso Rvr Midway, Lae
Solanaceae	<i>Physalis minima</i>	A.N. Millar NGF35250, H. Streimann 8348	Igam, Lae; Buso Rvr, NNW of Lae
Solanaceae	<i>Solanum americanum</i>	D.E. Symon 10624	Vegetable Market, Lae
Solanaceae	<i>Solanum americanum subsp. <i>Nodiflorum</i></i>	D.E. Symon 10624	Vegetable Market, Lae
Solanaceae	<i>Solanum erianthum</i>	E.E. Henty NGF10667, T.G. Hartley TGH10002, M. Fallen 342 & J. Wiakabu	Erap near Lae; Oomsis Ck, W of Lae; LR past Gabensis, SW of Lae
Solanaceae	<i>Solanum ferox</i>	H. Streimann 8498, T.G. Hartley TGH10405	Garagos Rvr, W of Lae; Oomsis Ck, W of Lae
Solanaceae	<i>Solanum grandiflorum</i>	J. Wiakabu LAE70377, E.E. Henty NGF16728	Lae Botanic Garden, Lae.
Solanaceae	<i>Solanum ledermannii</i>	T.G. Hartley 10136	Burep Rvr, NE of Lae
Solanaceae	<i>Solanum mankiense</i>	A.N. Vinas 290 & A. Kairo, A.N. Vinas 301 & A. Kairo	Buso Rvr, SW of Buso Camp, Lae; Mid-way of Buso Rvr, SE of Buso Camp, Lae
Solanaceae	<i>Solanum miniatum</i>	E.M. Canning CBG8203843	W of Lae, Lae-Bulolo Rd
Solanaceae	<i>Solanum oliverianum</i>	T.G. Hartley TGH10065, T.G. Hartley TGH10136, D.E. Symon 13896, R.D. Hoogland 8805 & R. Pullen	Bewapi Ck, W of Lae; Burep Rvr, NE of Lae; Bupu village, Lae-Bulolo Rd; Lae Botanical Gardens
Solanaceae	<i>Solanum torvoideum</i>	A.N. Vinas 301 & A. Kairo	Mid-way of Buso Rvr, SE of Buso Camp, Lae
Solanaceae	<i>Solanum torvum</i>	W. Moi NGF2597, P. Lamei LAE89467 & K. Fazang, J. Wabo LAE73231, W. Moi NGF25972 & N. Inu, D.E. Symon 10657	Red Hill Swamp, Lae ssubdistrict; Lae Botanical Gardens; Red hill swamp, Lae; Red hill swamp, Lae; Erap Rvr bridge, W of Lae
Solanaceae	<i>Solanum turraeafolium</i>	E.E. Henty NGF11957	Oomsis LA near Lae
Solanaceae	<i>Solanum umbonatum</i>	D.E. Symon 13895	Above Bupu village, Lae-Bulolo Rd
Solanaceae	<i>Solanum wrightii</i>	E.E. Henty NGF16728, D.E. Symon 10623, J. Wiakabu LAE70377 & T. Umbo	Lae, Morobe; Lae Botanical Gardens; National Botanic Gardens, Lae
Sonneratiaceae	<i>Duabanga moluccana</i>	J.S. Womersley NGF6974, E.E. Henty NGF14817, R.W. Evans 33, T.G. Hartley TGH10048, T.G. Hartley TGH10463	Oomsis Ck near Lae; Bewapi Ck near Lae; Bupu Rvr, E of Lae; Oomsis Ck, W of Lae; Oomsis Ck, W of Lae
Sonneratiaceae	<i>Sonneratia</i>	J.S. Womersley NGF43740	Labu Lakes near Lae
Stackhousiaceae	<i>Stackhousia</i>	C.T. White NGF1690	Lae Area
Stackhousiaceae	<i>Stackhousia intermedia</i>	T.G. Hartley 12245, W.R. Barker LAE67719 & P. Katik, C.T. White NGF1690, P. van Royen NGF20152, J.S. Womersley NGF15260, M.J.E. Coode NGF32840, A. Kairo s.n. & H. Streimann	Markham Point Bluff, W of Lae; Markham Point, Lae; Lai, Morobe; Markham Point, Lae; Near Zenag, Lai-Wau Rd; Markham Point, Lai; Kipu, S of Garaina, Lae subdistrict
Staphyleaceae	<i>Turpinia</i>	J.S. Womersley NGF19145	Oomsis Hill, Lai on Wau Rod
Staphyleaceae	<i>Turpinia pentandra</i>	T.G. Hartley TGH12239, F.T. Vickery NGF1413, J.S. Womersley NGF19145, T.G. Hartley THG12386	Near Butibum Rvr, N of Lae; Bumbu, Lae; Oomsis Hill, Lai on Wau Rd; Burep Rvr, NE of Lae
Staphyleaceae	<i>Turpinia brachypetala</i>	F.T. Vickery NGF1413, T.G. Hartley 12386, T.G. Hartley 12239	Bumbu, Lae; Burep Rvr, NE of Lae; Near Butibum Rvr, N of Lae
Strychnaceae	<i>Neuburgia</i>	A.N. Millar GH98, T.G. Hartley 10243, T.G. Hartley 9632	Lae Botanic Gardens; Near Butibum Rvr, N of Lae.
Symplocaceae	<i>Symplocos</i>	K.J. White NGF10191	Oomsis near Lae
Symplocaceae	<i>Symplocos cochinchinensis</i>	W. Takeuchi 16558	Hills above 10 mile, Lae

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Tectariaceae	<i>Tectaria</i>	W. Takeuchi 5618	Igam Barracks, Lae
Ternstroemiaceae	<i>Ternstroemia cherryi</i>	T.G. Hartley TGH11041, J.S. Womersley NGF43595, J.S. Womersley NGF43723, J. Merava NGF17170, C.T. White NGF1536, J.S. Womersley NGF37462, T.G. Hartley TGH11778, T.G. Hartley TGH11437, Anonymous 5586	Busu Rvr, N of Lae; Bupo Rvr, E of Lae; Sankwep Rvr, E of Lae; Garagos near Wau-Lae Rd; Lae, Morobe; Sankwep LA, Lae; Burep Rvr, NE of Lae; Area betwn Busu & Butibum Rvrs, N of Lae; Busu Bridge, Lae
Ternstroemiaceae	<i>Ternstroemia merrilliana</i>	T.G. Hartley TGH11898, J.S. Womersley NGF17796, H. Streimann NGF27912, T.G. Hartley TGH9693a, W.R. Barker & Lungat .Nugat. LAE67773, W.R. Barker LAE67770, A.N. Millar NGF12257	Near Butibum Rvr, N of Lae; Oomsis LA, Lae; Markham Point near Lae; Bluff above Markham Rvr, W of Lae; Lae Botanic Gardens; Lae Botanic Gardens; Gurakor, Lae
Theaceae	<i>Eurya</i>	W. Takeuchi 5638	Near Bumayong, Lae
Theaceae	<i>Adinandra</i>	P. Van Royen NGF16482	Oomsis LA, NW of Lae
Thelypteridaceae	<i>Christella dentata</i>	J.R. Croft 1253 & J.I. Marsh, J.R. Croft 1254 & J.I. Marsh	Busu High School, NE of Lae; Division of Botany Herbarium, Lae
Thelypteridaceae	<i>Macrothelypteris polypodioides</i>	A. Floyd 5728, J.R. Croft 414	Busu Rvr, near Lae; Natter Bay, SE of Lae
Thelypteridaceae	<i>Plesioneuron croftii</i>	J.R. Croft 413	Natter Bay, SE of Lae
Thelypteridaceae	<i>Plesioneuron tuberculatum</i>	A. Floyd 5595	Busu Rvr, near Lae
Thelypteridaceae	<i>Sphaerostephanos heterocarpus var. suprastrigosus</i>	J.R. Croft 419	Natter Bay, SE of Lae
Thelypteridaceae	<i>Sphaerostephanos unitus</i>	J.R. Croft 416	Natter Bay, SE of Lae
Thelypteridaceae	<i>Thelypteris</i>	J.R. Croft LAE65333	Sankwep Rvr, N of Lae
Thelypteridaceae	<i>Amphineuron logavensis</i>	T.G. Hartley 10025	Oomsis Cr, W of Lae
Thelypteridaceae	<i>Christella arida</i>	J.R. Croft 668	E of Markham Rvr bridge, near Lae
Thelypteridaceae	<i>Macrothelypteris</i>	H. Streimann NGF44149	Sum Sum, Lae-Bulolo Rd
Thelypteridaceae	<i>Macrothelypteris torresiana</i>	J.R. Croft 420	Natter Bay, SE of Lae
Thelypteridaceae	<i>Pneumatopteris</i>	F.J. Taylor s.n.	Markham Rvr near Lae
Thelypteridaceae	<i>Pneumatopteris sogerensis</i>	A. Floyd 5658	Wagan near Lae
Thelypteridaceae	<i>Pronephrium beccarianum</i>	J.R. Croft 443	E of Mongi Rvr, Huon Peninsula, E of Lae
Thelypteridaceae	<i>Sphaerostephanos</i>	J.R. Croft 1043-B & J.I. Marsh, J.R. Croft 1043-A & J.I. Marsh, A. Floyd 5593	Bula waterfall, near Busama, S of Lae; Bula waterfall, near Busama, S of Lae; Busu Rvr, near Lae
Thelypteridaceae	<i>Sphaerostephanos polycarpus</i>	J.R. Croft 421	Natter Bay, SE of Lae
Thymelaeaceae	<i>Gonystylus macrophyllus</i>	H. Streimann NGF44294, H. Streimann NGF24278	Lasanga Is., Lae subdistrict; Ana village, SW of Morobe
Thymelaeaceae	<i>Gyrinops ledermannii</i>	W. Jim LAE76312, A. Sumareke LAE76354	Lae Botanical Gardens, Lae.
Thymelaeaceae	<i>Phaleria</i>	D. Bega LAE79223(015 & K. Fazang, J.M. Simaga 1826, M. Fallen 295, P. Katik s.n. & K. Taho, J. Wiakabu LAE73370, Anonymous 4742, D. Tarere LAE76307, C.T. White NGF1605, E.E. Henty NGF11934, T.G. Hartley 10873, J.S. Womersley NGF13451	Lae Botanic Garden, Lae; near Oomsis, Works Camp; Sangkwp LA; Buso LA, E of Lae; Markham Rvr, W of Lae.
Thymelaeaceae	<i>Phaleria coccinea</i>	H. Okada 4223, A.N. Millar NGF9958, Y Sila LAE76340	Gabensis LA, Oomsis, Lae; Lae Botanic garden

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Thymelaeaceae	<i>Phaleria macrocarpa</i>	A.N. Millar NGF9960, J.S. Womersley NGF13451, Native NGF4742, T. Palpal LAE76338, T.G. Hartley 10873, A.N. Millar s.n., T.G. Hartley 9899, Anonymous NGF683, C.T. White NGF1605, P. Oliver LAE86422, J. Waine 45, T.G. Hartley 10986, C. Kausik LAE79212,	Markham Rd near Lae; Busu Rvr near Lae; National Botanic Gardens, Lae; Lae Botanic Gardens; Markham Rvr, W of Lae; National Botanic Garden, Lae; Markham Rvr, W of Lae; Lae, Morobe; Lae, Morobe; Lae Botanical Gardens; National Botanical Gardens, Lae; Markham Rvr Point, W of Lae; National Botanic Garden, Lae
Thymelaeaceae	<i>Phaleria octandra</i>	P. Lamei LAE89497	Lae Botanic Gardens, Lae.
Thymelaeaceae	<i>Phaleria perrottetiana</i>	E.E. Henty NGF11978, E.E. Henty NGF11934	Busu Rvr near Lae; Oomsis LA near Lae
Thymelaeaceae	<i>Phaleria sogerensis</i>	T.G. Hartley 11868, T.G. Hartley 10030, T.G. Hartley 10299	Near Butibum Rvr, N of Lae; Oomsis Ck, W of Lae; Bunga Rvr, NE of Lae
Thymelaeaceae	<i>Wikstroemia androsaemifolia</i>	J.S. Womersley	Partep, near Lae
Thymelaeaceae	<i>Pimelea cornucopiae</i>	H. Streimann & A. Kairo NGF47933	Kipu, S of Garaina, Lae
Thymelaeaceae	<i>Thecanthes cornucopiae</i>	H. Streimann & A. Kairo NGF47933	Kipu, S of Garaina, Lae
Thymelaeaceae	<i>Wikstroemia</i>	P. Van Royen NGF16327	Oomsis LA, NW of Lae
Tiliaceae	<i>Althoffia</i>	E.E. Henty NGF10606, A.N. Millar NGF9959, T.G. Hartley 9727, T.G. Hartley 10428, M.J. Coode NGF29538	Nasawapum near Lae; Oomsis near Lae; Malahang, NE of Lae; Oomsis Ck, W of Lae; Morobe, Lae
Tiliaceae	<i>Brownlowia argentata</i>	L.S. Smith NGF1256	Malahang Beach near Lae
Tiliaceae	<i>Colona</i>	Evans 13	Busu Rvr, E of Lae
Tiliaceae	<i>Grewia</i>	C.T. White NGF1568	Lae Area
Tiliaceae	<i>Grewia multiflora</i>	C.T. White NGF1568	Lae Area
Tiliaceae	<i>Microcos</i>	H. Streimann 8332, E.E. Henty NGF14359, J.S. Womersley LAE55251, J.S. Womersley NGF24847, J.S. Womersley NGF19058, Evans 73, K.J. White NGF10466, H. Streimann 8352, W. Takeuchi 4637, P. Lamei LAE76358, K.J. White NGF10471, A.N. Millar NGF9797, J.S. Womersley NGF24775	Busu Rvr, NNW of Lae; Oomsis LA, near Lae; Sankwep LR, Lae; Near Timne village, Wau Rd, Lae; Patep, near Lae, Wau Rd; Yalu, near Lae; Oomsis, Red hill area, near Lae; Busu Rvr, NNW of Lae; Buru Rvr, NW of Bumayong, Lae; Lae Botanical Gardens; Oomsis near Lae; Oomsis near Lae; Oomsis LA, near Lae
Tiliaceae	<i>Microcos pentandra</i>	Evans 73	Yalu, near Lae
Tiliaceae	<i>Microcos tetrasperma</i>	D. Bega LAE79216(007 & K. Fazang	Lae Botanic Garden, Lae.
Tiliaceae	<i>Corchorus aestuans</i>	E.E. Henty NGF49147	Malahang, Lae
Tiliaceae	<i>Microcos</i>	J.S. Womersley NGF3234, J.S. Womersley NGF24655	Red Hill, Lower Wau Rd near Lae; Ngalangumbum Rd near Lae
Tiliaceae	<i>Microcos bifida</i>	T.G. Hartley 12336, T.G. Hartley 11881, T.G. Hartley 9872, T.G. Hartley 10993	Near Butibum Rvr, N of Lae; Oomsis Ck, W of Lae; Near Butibum Rvr, N of Lae; Oomsis Ck, W of Lae
Tiliaceae	<i>Microcos grandiflora</i>	A.N. Millar NGF9797, H. Okada 4279, J.S. Womersley NGF3234	Oomsis near Lae; Oomsis, Lae; Red Hill, near Lae
Tiliaceae	<i>Trichospermum burretii</i>	A.N. Millar NGF9959, T.G. Hartley 10428	Oomsis, near Lae; Oomsis Ck, W of Lae
Tiliaceae	<i>Trichospermum tripyxis</i>	Anonymous NGF920	Lae area
Tiliaceae	<i>Triumfetta</i>	T.G. Hartley 10271	Near Butibum Rvr, N of Lae
Tiliaceae	<i>Triumfetta pilosa</i>	O.G. Gideon LAE78441	Lae-Wantaoat Rd
Trimeniaceae	<i>Trimenia papuana</i>	M. Jacobs 8606, P. Katik LAE56383 & K. Taho	Kasanombe, N of Lae; Near Kasanombe airstrip, Lae
Triuridaceae	<i>Sciaphila secundiflora</i>	H. Streimann NGF45144	Buso Valley, Lae subdistrict
Ulmaceae	<i>Celtis kajewskii</i>	J.S. Womersley NGF8810, J.S. Wormersley NGF3189	Oomsis Ck, Lae-Bulolo Rd; Yalu near Lae
Ulmaceae	<i>Celtis latifolia</i>	C.T. White NGF1694, C.T. White NGF1734, K.J. White NGF10459, E.E. Henty NGF10587	Lae, Morobe; Lae, Morobe; Oomsis near Lae; Busu LA near Lae

## Lae Flora

Ulmaceae	<i>Celtis luzonica</i>	J.S. Womersley NGF8810	Oomsis Ck, Lae-Bulolo Rd
Ulmaceae	<i>Celtis rigescens</i>	NGF8, J.S. Womersley NGF3185, F.T. Vickery NGF1410	Lae, Morobe; Yalu near Lae; Bumbu area Lae
Ulmaceae	<i>Gironniera celtidifolia</i>	A.N. Millar NGF13861	Lae-Wau Rd near Patep
Ulmaceae	<i>Parasponia</i>	M. Fallen 340	Gabensis LR, SW of Lae
Ulmaceae	<i>Celtis</i>	T.G. Hartley 12345, T.G. Hartley 11901, F.T. Vickery NGF1406, P. Katik LAE64188 & F. Essig, R.W. Evans 42, P. Van Royen NGF20094, Anonymous NGF225, A. Floyd 5751, Webster G. L. 15102 & R. Hildreth, T.G. Hartley 10307, C.T. White NGF1518, J.M. Simaga 1831, J.M. Simaga 1829	Near Burep Rvr, NE of Lae; Oomsis, W of Lae; Lae, Morobe; Situm LA, Lae; Busu Rvr, Lae; Leiwomba Plantation, Lae-Markham Rd; 9 Mile Post Lae-Nadzab Rd; Near Lae; Busu Rvr area, N of Lae; Near Bunga Rvr, NE of Lae; Lae, Morobe; Near Wampit, Lae; Labu LA near Lae
Ulmaceae	<i>Celtis nymanii</i>	R.W. Evans 41, F.T. Vickery NGF1410, J.S. Womersley NGF3185	Lae Busu Rvr; Lae Bumbu Area; Yalu near Lae
Ulmaceae	<i>Celtis philippensis</i>	T.G. Hartley TGH9819, J.S. Womersley NGF3188, T. Kuria, et al. LAE87036, D. Fryar NGF3356, J.S. Womersley NGF3189, J.S. Womersley NGF3184	Near the Butibum Rvr, N of Lae; Yalu near Lae; National Botany Garden, Lae; Busu Rvr near Lae; Yalu near Lae; Yalu near Lae
Ulmaceae	<i>Celtis philippensis</i> var. <i>philippensis</i>	D. Fryar NGF3356, T.G. Hartley TGH10307, E.E. Henty NGF10587, T.G. Hartley 11901, T. Kuria, et al. LAE87036	Busu Rvr near Lae; Near the Bunga Rvr, NE of Lae; Busu LA near Lae; Kuali Ck, S of Wau; Lae National Botanic Gardens
Ulmaceae	<i>Parasponia rigida</i>	J. Wiakabu LAE70388C, J. Wiakabu LAE70388A, J. Wiakabu LAE50617, P. Katik LAE77970, P. Katik LAE77969, K. Kerenga LAE56586, J. Wiakabu LAE70388, J. Wiakabu LAE70388B, P. Katik LAE77970	Opposite junction of Patep Ck and Lukupu Rvr, Lae-Bulolo Rd; Opposite junction of Patep Ck & Lukupu Rvr, Lae-Bulolo Rd; Near Lae, on Highlands highway; Erap to Boana Rd, Lae subprovince; Erap to Boana Rd, Lae subprovince; Mission station, Lae; Opposite Patep Ck & Lukupu Rvr, Lae-Bulolo Rvr; Opposite junction of Patep CK & Lukupu Rvr, Lae-Bulolo Rd; Erap to Boana Rd, Lae subprovince
Ulmaceae	<i>Parasponia rugosa</i>	H. Streimann NGF47847, K. Damas LAE74502, T.G. Hartley 10159, E.E. Henty LAE72464, K. Damas LAE74503, K. Damas LAE74502	Zenag, Lae-Bulolo Rd; Mumeng near Lae-Wau Rd; Burep Rvr, NE of Lae; 4 mile ck, near Lae; Wampit, Lae-Wau Rd; Mumeng, near Lae-Wau Rd
Ulmaceae	<i>Trema cannabina</i>	T.G. Hartley 10477, B.J. Conn, et al. LAE69151, J. Wiakabu LAE70301, T.G. Hartley 10477	Oomsis CK, W of Lae; Lake Wanum, Lae subdistrict; Opposite Patep Ck & Lukupu Rvr, Lae-Bulolo Rd; Oomsis Ck, W of Lae
Urticaceae	<i>Boehmeria</i>	T.G. Hartley 10148	Burep Rvr NE of Lae
Urticaceae	<i>Elatostema</i>	R.F. Thorne 27514, P. Katik & K. Taho NGF37916, E.E. Henty NGF11982, T.G. Hartley 10107, T.G. Hartley 11856, S.H. Rogstad 773, P.F. Stevens LAE58036, M. Jacobs, et al. 8615, M. Fallen, et al. 315, T.G. Hartley 11905, H. Streimann 8356, T.G. Hartley 10107	Oomsis LA, W of Lae; Kasanombe, Lae subdistrict; Near Busu Rvr, Lae; Busu Rvr, N of Lae; Near Butibum Rvr, N of Lae; Aluki village area, E from Lae; Kisingam, Mt Dilmargi, Lae; South Pacific Timbers LA, Butibum Rvr, N of Lae; Sangkewp LA, SW of Lae; Sangkewp LA, SW of Lae; Oomsis Ck, W of Lae; Busu Rvr, NNW of Lae; Busu Rvr, N of Lae
Urticaceae	<i>Elatostema beccarii</i>	A.N. Millar GH61, J. Waine 26	Lae Botanic Gardens, Lae.
Urticaceae	<i>Elatostema macrophyllum</i>	T. Kuria LAE87015	Atzera hill, West Taraka, Lae
Urticaceae	<i>Elatostema novoguineense</i>	P. Katik LAE70829	Musom village, Rd to Mt Jasop
Urticaceae	<i>Elatostema polioneurum</i>	Unknown NGF5513, E.E. Henty NGF13674	Lae, Morobe; Bumbu LA, near Lae
Urticaceae	<i>Elatostema sesquifolium</i>	T.G. Hartley 9621, A.N. Millar GH61	South Pacific Timbers LA, Butibum Rvr, N of Lae; Lae Botanic Gardens
Urticaceae	<i>Elatostema weinlandii</i>	E.E. Henty NGF11518	Oomsis near Lae
Urticaceae	<i>Elatostema weinlandii</i> var. <i>weinlandii</i>	leg. ign. NGF5513	Lae Area
Urticaceae	<i>Laportea</i>	T.G. Hartley 10032, P. Van Royen NGF20067, C.T. White NGF1675	Oomsis Ck, W of Lae; Lae-Markham Rd near Markham Bridge; Lae, Morobe

## Lae Flora

Urticaceae	<i>Laportea interrupta</i>	E.E. Henty NGF14781, E.E. Henty NGF42706, C. Kausik LAE79214	Showground, Lae; Abunaka Plantation, Lae; National Botanic Garden, Lae
Urticaceae	<i>Leucosyke</i>	E. E. Henty NGF10580, T.G. Hartley 10180, H. Streimann NGF44284, E.E. Henty NGF10508, T.G. Hartley 10024, T.G. Hartley 12185, J.R. Croft & Y. Lelean LAE68509, R.F. Thorne 27447, H. Okada 4335, E.E. Henty NGF14846	Busu LA, collected near Lae; Burep Rvr, NE of Lae; Lasanga Is, Lae subdistrict; Lae, Morobe; Oomsis Ck, W of Lae; Busu Rvr, N of Lae; Natter Bay LA, SE of Lae; Busu Rvr, NE of Lae; Gumboak Strm, Busu Rvr, Lae; Bumbu LA, Lae
Urticaceae	<i>Leucosyke capitallata</i>	E.E. Henty NGF10508, W. Takeuchi 9052, T.G. Hartley 10180, J.R. Croft LAE68509 & Y. Lelean, T.G. Hartley 10024, T.G. Hartley TGH10180, T.G. Hartley 9733, S.H. Rgstad 780, E.E. Henty NGF10580	Lae, Morobe; Lae, Morobe; Burep Rvr, NE of Lae; Natter Bay LA, SE of Lae; Oomsis Ck, W of Lae; Burep Rvr, NE of Lae; Malahang coast, NE of Lae; Aluki village area, E of Lae; Busu LA, near Lae
Urticaceae	<i>Nothocnide mollisima</i>	T.G. Hartley 12343, T.G. Hartley 9730	Near Burep Rvr, NE of Lae; Along coast at Malahang, NE of Lae
Urticaceae	<i>Nothocnide repanda</i>	O.K. Paul LAE87546, M. Coode NGF29567	Lae Botanical Gardens, Lae; Bupu Rvr, E of Lae
Urticaceae	<i>Nothocnide repandus</i>	E.E. Henty NGF14876, O. Paul LAE87546	Boana, Lae subdistrict; Lae Botanical Gardens
Urticaceae	<i>Oreocnide trinervis</i>	A.N. Millar NGF15628, R.F. Thorne 27465	Near Nadzab, Lae subdistrict; Bridge over Buso Rvr, NE of Lae
Urticaceae	<i>Pilea melastomoides</i>	P. vanRoyen NGF17538 & A.N. Millar	Zatari, SE Boana, Lae
Urticaceae	<i>Pilea papuana</i>	M. Jacobs 8675	Kasamnombe, N of Lae
Urticaceae	<i>Pipturus</i>	A.N. Millar NGF14522, A. Floyd 5729 & R.D. Hoogland	Sumsum, Lae-Wau Rd; On banks of Busu Rvr near Lae
Urticaceae	<i>Poikilospermum amboinense</i>	E.E. Henty NGF10574, T.G. Hartley 10310, C.T. White NGF1508, E.E. Henty NGF10572, T.G. Hartley 10149	3 mile near Lae; Near Bunga Rvr NE of Lae; Lae, Morobe; 3 miles near Lae; Burep Rvr NE of Lae
Urticaceae	<i>Pouzolzia pentandra ssp. Pentandra</i>	H. Streimann NGF47657	Buso Village, E of Lae
Urticaceae	<i>Pouzolzia zeylanica</i>	P. Katik LAE70822, T.G. Hartley 11623, E.E. Henty NGF49209	Near scout hall building, Lae; Lae, Morobe; Tamiloa Plantation near Lae
Urticaceae	<i>Procris pedunculata</i>	P.F. Stevens LAE58045	Kisingam, Mt. Dilmargi, Lae
Urticaceae	<i>Procris producta</i>	P. Katik LAE56399 & K. Taho	Near Kasanombe airstrip, Lae subdistrict
Urticaceae	<i>Cypholophus</i>	Cypholophus Urticaceae A. Kairo & H. Streimann NGF45243, A.G. Floyd & R.D. Hoogland NGF5729, H. Okada 4304, H. Okada 4304, T.G. Hartley 10584	Patep No.2, Lae-Mumeng Rd; Banks of Busu Rvr near Lae; Sunkwep LA, Lae; Sunkwep LA, Lae; S of Gurukor village, Lae-Bulolo Rd
Urticaceae	<i>Cypholophus decipiens</i>	T.G. Hartley 10148, J.S. Womersley NGF43599, M. Fallen 309, J.S. Womersley NGF43564 & J. Vandenberg	Burep Rvr NE of Lae; Bupo, E of Lae; Sangkwp LA, SW of Lae; Busu Rvr, Lae
Urticaceae	<i>Cypholophus friesianus</i>	T.G. Hartley 10584	S of Gurukor village, Lae-Bulolo Rd
Urticaceae	<i>Cypholophus nummularis</i>	E.E. Henty NGF14846, T.G. Hartley 12388	Bumbu LA, Lae; Burep Rvr, NE of Lae
Urticaceae	<i>Cypholophus rotundifolius</i>	A. Kairo NGF45243 & H. Streimann	Patep No.2, Lae-Mumeng Rd
Urticaceae	<i>Debregeasia</i>	A.N. Millar NGF12188, P. Katik & K. Taho NGF37918	Wantoat, Lae subdistrict; Kasanombe, Lae subdistrict
Urticaceae	<i>Dendrocnide</i>	H. Streimann 8349, C.E. Ridsdale NGF33859, T.G. Hartley 10038, H. Streimann 8349	Busu Rvr, NNW of Lae; Lae Botanic Gardens; Oomsis Ck, W of Lae; Busu Rvr, NNW of Lae
Urticaceae	<i>Dendrocnide cordata</i>	T.G. Hartley 10032	Oomsis Ck, W of Lae
Urticaceae	<i>Dendrocnide longifolia</i>	A.N. Millar NGF9288, E.E. Henty NGF9282, D.M. Crayn 563, P. van Royen NGF20067, A.N. Millar NGF9288, C.T. White NGF1675, E.J.H. Corner NGF12454	Oomsis near Lae; National Botanic Gardens, Lae; Lae Botanic Gardens; Near Markham Bridge, Lae; Oomsis near Lae; Lae, Morobe; National Botanic Gardens, Lae

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Urticaceae	<i>Dendrocnide nervosa</i>	H. Streimann 8355, T.G. Hartley 9946, C.T. White NGF1530, J. Regalado 1237, E.E. Henty NGF10674, K.J. White NGF10477	Busu Rvr, NNW of Lae; Oomsis Ck, W of Lae; Lae, Morobe; LR to Mt. Garagos from Gebensis village, W of Lae city; Oomsis, near Lae; Oomsis near Lae
Urticaceae	<i>Dendrocnide schlechteri</i>	T.G. Hartley 10038, C.E. Ridsdale NGF33859, E.E. Henty NGF14819	Oomsis Ck, W of Lae; Lae Botanic Gardens; Bewapi Ck, near Lae
Urticaceae	<i>Laportea decumana</i>	H. Streimann 8349	Busu Rvr, NNW of Lae
Urticaceae	<i>Leucosyke capitellata var. capitellata</i>	T. G. Hartley TGH10180	Burep Rvr, NE of Lae
Urticaceae	<i>Nothocnide</i>	T.G. Hartley 9730	Malahang, NE of Lae
Urticaceae	<i>Nothocnide melastomatifolia</i>	M. Coode NGF29567, A.G. Floyd NGF5391, T.G. Hartley 11341, P. Van Royen NGF20062	Bupu Rvr, E of Lae; 3 mile Agriculture Station, Lae; N side of Busu Rvr, N of Lae; Lae-Markham Rd near Markham Bridge
Urticaceae	<i>Oreocnide</i>	R.F. Thorne 27513 & T. Henty, C.T. White NGF1679, D.M. Crayn, et al. 564, A.N. Millar NGF14638	Oomsis LA, W of Lae; Lae, Morobe; Lae Botanical Gardens; Lae Botanical Gardens
Urticaceae	<i>Oreocnide rubescens</i>	A.N. Millar NGF14522, E.M. Baltisberger 11818, A.N. Millar NGF14638	Sumsum, Lae-Wau Rd; Gawam, N of Wagan, ENE of Lae; National Botanic Gardens
Urticaceae	<i>Pilea</i>	M. Jacobs 8631	Kasanombe, N of Lae
Urticaceae	<i>Pilea sp.</i>	I.J. Gressitt 119	Lae Area
Urticaceae	<i>Pilea venulosa</i>	M. Jacobs 8657	Kasanombe, N of Lae
Urticaceae	<i>Pipturus</i>	A.N. Millar NGF14522, J.R. Croft LAE68512, A. Floyd 5729, T.G. Hartley 9730, T.G. Hartley 12343, T.G. Hartley 11341, K.J. White NGF9664, C.T. White NGF1570, J. Vandenberg NGF42170, A.N. Millar NGF15628, T.G. Hartley 9666, J. Vandenberg NGF42171, E.E. Henty NGF14876	Sumsum, Lae-Wau Rd; Natter Bay LA, SE of Lae; Busu Rvr near Lae; Along coast at Malahang, NE of Lae; Near Burep Rvr, NE of Lae; N side of Busu Rvr, N of Lae; Lae Botanical Gardens; Lae, Morobe; Sankwep LR, Lae; Near Nadzab, Lae; Oomsis Ck, W of Lae; Sankwep LR, Lae; Boana, Lae subdistrict
Urticaceae	<i>Pipturus argenteus</i>	T.G. Hartley 9666, D. Bega LAE79213(004 & K. Fazang, K.J. White NGF9664, Anonymous NGF223, J. Vandenberg NGF42171, H. Streimann NGF44275, J. Vandenberg NGF42170, K.J. White NGF9664, M. Fallen 313, Y. Lelean & M. Franklin, A.N. Millar 15628, C.T. White, H.S. Dadswell & L.S. Smith NGF1570, J.R. Croft, et al. LAE68512, J.R. Croft & Y. Lelean LAE68512, M. Fallen 313 & Y. Lelean	Oomsis Ck, W of Lae; National Botanical Gardens, Lae; National Botanic Gardens, Lae; Yalu, near Lae; Sankwep LR, Lae subdistrict; Lasanga Is, Lae subdistrict; Sankwep LR, Lae subdistrict; National Botanic Gardens, Lae; Sangkwp LA, SW of Lae; Near Nadzab, Lae; Lae, Morobe; Natter Bay LA, SE of Lae; Bubia, near Lae; Sangkwp LA, SW of Lae
Urticaceae	<i>Poikilospermum</i>	P. Katik LAE70704, C.T. White NGF1692, K.J. White NGF9695, A.N. Millar NGF9767, E.E. Henty NGF10572, M. Fallen, et al. 281, A.N. Millar NGF18855, E.E. Henty NGF10574, T.G. Hartley 10149A, M.J.E. Coode NGF29564	Lae Botanic Gardens; Markham Bridge, S of Lae; Busu Rvr, N of Lae; Bupu Rvr, E of Lae
Urticaceae	<i>Pouzolzia</i>	E.E. Henty NGF11506, J.S. Womersley NGF3267, H. Streimann NGF47657, H. Streimann NGF47657, P. Van Royen NGF20081, C.T. White NGF1686, T.G. Hartley 10264, T.G. Hartley 9682	Markham Bridge, Lae; Near Labu, Lae; Buso Village, E of Lae; Buso village, E of Lae; Red Hill, Lae-Bulolo Rd; Lae, Morobe; Near Butibum Rvr, N of Lae; Below Red Hill, W of Lae
Urticaceae	<i>Pouzolzia hirta</i>	T.G. Hartley 10264, C.T. White NGF1686	Near Butibum Rvr, N of Lae; Lae, Morobe
Urticaceae	<i>Pouzolzia pentandra</i>	T.G. Hartley 9682, P. van Royen NGF20081, T.G. Hartley 11931a, J.S. Womersley NGF3267	Old lake bed below Red hill, W of Lae; Swamp at base of Red Hill, Lae-Bulolo Rd; Busu Rvr, N of Lae; Near Labu, Lae

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Urticaceae	<i>Procris</i>	E.E. Henty, et al. NGF29140, P. van Royen 15695 & A.N. Millar, P.F. Stevens LAE58045, P. van Royen NGF17538 & A.N. Millar, T.G. Hartley 11905	Busu Rvr, near Lae; Zatari, SE Boana, Lae; Kisingam, Mount Dilmargi, Lae; Zatari, SE Boana, Lae; Oomsis Ck, near Lae
Urticaceae	<i>Procris frutescens</i>	T.G. Hartley 11905, E.E. Henty NGF29140	Oomsis Ck, W of Lae; Busu Rvr, near Lae
Verbenaceae	<i>Lantana camara</i>	A. Gillison NGF25072, J.S. Womersley NGF19036	Bulolo on Lae Rd; Gurakor, near Lae
Verbenaceae	<i>Stachytarpheta jamaicensis</i>	M.J. Coode NGF29510, J.S. Womersley NGF11545	Waste ground near Wharf, Lae; Lae, Morobe
Verbenaceae	<i>Duranta erecta</i>	R.D. Hoogland 6573	Markham Valley, Lae
Verbenaceae	<i>Lantana camara var. camara</i>	A. Gillison NGF25072	Bulolo on Lae Rd
Verbenaceae	<i>Phyla nodiflora</i>	S.E. Garrett-Jones s.n., E.E. Henty s.n., E.E. Henty NGF10688	Yanamugi Lake, Lae subdistrict; Erap, near Lae; Erap near Lae
Verbenaceae	<i>Stachytarpheta</i>	T.G. Hartley 9917	Above Busu Rvr, N of Lae
Verbenaceae	<i>Stachytarpheta australis</i>	P.F. Stevens LAE54761, M. Coode NGF29887	Busama, Lae subdistrict; Beside Busu Rvr, Lae
Verbenaceae	<i>Stachytarpheta cayennensis</i>	M. Coode NGF29887, E.E. Henty NGF11551, T.G. Hartley 9917, P.F. Stevens LAE54761, T.G. Hartley 12209	Beside Busu Rvr, Lae; Markham Rd, near Lae; Above Busu Rvr, N of Lae; Busama, Lae subdistrict; Near Butibum Rvr, N of Lae
Violaceae	<i>Rinorea bengalensis</i>	H. Streimann s.n.	Ana Village, SW of Morobe
Violaceae	<i>Viola diffusa subsp. Apoensis</i>	P.F. Stevens LAE58047	Kisingam, Mt Dilmargi, Lae
Violaceae	<i>Rinorea</i>	H. Okada 4215	Gabensis LA, Oomsis, Lae
Violaceae	<i>Rinorea horneri</i>	P. Katik s.n.	Gurako Gabansis village, Lae subdistrict
Viscaceae	<i>Notothixos leiophyllus</i>	P. Katik 70833, H. Streimann NGF45038	Rd to Boana, Erap Rvr, Lae subprovince; Waria River, SE of Garaina, Lae subdistrict
Vitaceae	<i>Cayratia</i>	W. N. Takeuchi 9030	Forest Resrch Institute Botanical Gardens, Lae
Vitaceae	<i>Cayratia geniculata</i>	M. Fallen 334, A.N. Millar NGF9775, A. Floyd 5784, E.E. Henty NGF29144, T.G. Hartley 10087, W. Takeuchi 5636, T.G. Hartley TGH11883	Sangkwep LA, near Lae; Lae Botanic Gardens; Yalu near Lae; Busu Rvr, Lae; Bewapi Ck, W of Lae; Near Igam Barracks, Lae; Patep Rvr, Lae-Bulolo Rd
Vitaceae	<i>Cissus aristata</i>	T.G. Hartley 12378	Near Yalu, NW of Lae
Vitaceae	<i>Cissus hastata</i>	A. Floyd 5730	Busu Rvr near Lae
Vitaceae	<i>Cissus repens</i>	H. Streimann NGF47733, A.N. Millar GH31, P. Homot, T. Magun & Numbo. G. LAE90169	Bulolo, NW on Lae Rd; Lae Botanic Gardens; National Botanical Garden, Lae
Vitaceae	<i>Tetrastigma maluensis</i>	M.J.E. Coode 3532	Markham point near Lae
Vitaceae	<i>Tetrastigma schlechteri</i>	C.T. White NGF1657	Lae Area
Vitaceae	<i>Cayratia japonica</i>	A.N. Millar NGF14608, Kuria T. K., et al. LAE87010	Lae-Wau Rd; Yalu, near Lae
Vitaceae	<i>Cayratia lineata</i>	E.E. Henty NGF10565, W. Takeuchi 6968	3 mile near Lae; Hills adjacent to Bumayong settlement, Lae
Vitaceae	<i>Cayratia maritima</i>	T.G. Hartley 10861	Singaua E of Lae
Vitaceae	<i>Cissus</i>	R.F. Thorne 27477, J.M. Simaga 1835, W. Takeuchi 17096 & D. Ama	Markham Point, W of Lae; Gabensis LA, Lae; Hills near Taraka, Lae
Vitaceae	<i>Cissus javana</i>	M. Jacobs 9592, Balgooy v. J.M.M. 5, T.G. Hartley 9883, J.S. Womersley NGF17610, M. Galore LAE50187, A.N. Millar NGF12275, M. Galore LAE50187, F. Thorne 27477 & T. Henty	Opposite Lasanga Is, SE of Lae; Rd betwn Lae & Markham Rvr, near Lae; Near Butibum Rvr, N of Lae; Bumbu Valley LA, Lae; Hills near Taraka, Lae; N of Lae; Bupu Rvr near Lae; N of Lae; Ridge above Markham Point along Markham Rvr, W of Lae
Vitaceae	<i>Tetrastigma</i>	J.S. Womersley NGF9407, A. Floyd 5731	Oomsis near Lae; Busu Rvr near Lae
Vitaceae	<i>Tetrastigma lauterbachianum</i>	A.N. Millar NGF9773	Lae Area

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Vitaceae	<i>Tetragastigma maluense</i>	P. Van Royen NGF20063	Lae-Markham Rd near Markham Bridge
Vitaceae	<i>Tetragastigma strumarum</i>	C.T. White NGF1534	Lae Area
Vittariaceae	<i>Vaginularia subfalcata</i>	J.R. Croft 68	Lae Area
Vittariaceae	<i>Vittaria</i>	A. Kairo NGF45356, H. Streimann NGF45200	Asubazo, Waria Rvr, SE of Garaina, Lae; Buso, Musi Is, Lae
Vittariaceae	<i>Antrophyum plantagineum</i>	Takeuchi W. N. 8891, J.R. Croft 429	Natter Bay, SE of Lae; E of Mongi R., Huon Peninsula, E of Lae
Vittariaceae	<i>Monogramma</i>	W.N. Takeuchi 8900	Lae Area
Vittariaceae	<i>Vittaria scolopendrina</i>	J.R. Croft 408, J.R. Croft 455	Natter Bay, SE of Lae; E of Mongi Rvr, Huon Peninsula, E of Lae
Xanthophyllaceae	<i>Xanthophyllum papuana</i>	C.T. White NGF1606, C.K. Ingram NGF957, F.T. Vickery NGF1412, J.S. Womersley NGF43666 & Nima, M. Coode, T.G. Hartley 10137, T. Kuria, et al. LAE87042, F.T. Vickery NGF1412, R.W. Evans 67	Lae, Morobe; Bumbu Rvr near Lae; Lae Botanical Gardens; Burep Rvr, NE of Lae; Trans-Busu area, Lae
Xyridaceae	<i>Xyris</i>	J.S. Womersley NGF14195, W. Moi & N. Inu NGF25995, J.S. Womersley & J. Vandenberg NGF37419	Red Hill near Oomsis, Wau-Lae Rd; Red Hill Swamp, Lae subdistrict; Red hill swamp, Lae-Wau Rd
Xyridaceae	<i>Xyris capensis var. schoenoides</i>	W. Moi & N. Inu NGF25995	Red Hill Swamp, Lae subdistrict
Xyridaceae	<i>Xyris complanata</i>	P. Van Royen NGF20079, J.S. Womersley NGF14195	Red Hill Swamp, Lae-Bulolo Rd; Red Hill near Oomsis, Lae
Xyridaceae	<i>Xyris pauciflora</i>	T.G. Hartley 9680	Below Red Hill, W of Lae
Zingiberaceae	<i>Alpinia</i>	A. Floyd 5666, P. Katik LAE64194 & O. Gideon, A. Floyd 5749, E.E. Henty NGF49207, E.E. Henty NGF11700, A. Floyd 5659, R.F. Thorne 27527, R.F. Thorne 27527,	Markham Point, Lae; Kui LA, S of Lae; Trans-Busu Timber Lease near Lae; Near Lae; Markham Point near Lae; Lae Malahang; Oomsis LA, W of Lae; Oomsis LA, W of Lae
Zingiberaceae	<i>Amomum aculeatum</i>	Poulsen A.D 2700, A. Floyd NGF 5502	Yalu village, NW of Lae; Busu River, Lae
Zingiberaceae	<i>Etlingera labellosa</i>	A.D. Poulsen 2701 & T. Magun	Yalu village, NW of Lae
Zingiberaceae	<i>Etlingera sp.</i>	P. Homot, LAE90172	Lae Botanic Garden, Lae.
Zingiberaceae	<i>Hornstedtia cyathifera</i>	P. van Royen 5763, A. Floyd 5598, A. Floyd 5621	Trans-Busu Timber Lease near Lae; Busu Hills, Lae; Busu Hills, Lae
Zingiberaceae	<i>Pleuranthodium</i>	M. Coode NGF25429, A.D. Poulsen 2697 & T. Magun	Lae, Morobe; Yalu village, NW of Lae
Zingiberaceae	<i>Curcuma longa</i>	A.N. Millar GH51, E.E. Henty NGF49196, A. Floyd 5652	Lae Botanic Garden; Abunaka Plantation near Lae
Zingiberaceae	<i>Hornstedtia scottiana</i>	A. Floyd 5511, A.D. Poulsen 2699 & T. Magun, A. Floyd 5625	Busu Rvr, Lae; Yalu village, NW of Lae; Busu Hills
Zingiberaceae	<i>Riedelia corallina</i>	H. Okada 4293	Sunkwep LA, Busu Rvr, Lae
Zingiberaceae	<i>Riedelia hollandiae</i>	A. Floyd 5748	Busu Rvr near Lae

## **Appendix B – Fauna species and habitats recorded within the study area**

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Common Name	Species Name	Family Name	Conservation Status	Habitat types						Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	Floodplains	Hills/Foothills	
IUCN	PNG									
Australasian Darter	<i>Anhinga novaehollandiae</i>	ANHINGIDAE								D
Black winged-Kite	<i>Elanus caeruleus</i>	ACCIPITRIDAE			X					D
Pacific Baza	<i>Aviceda subcristata</i>	ACCIPITRIDAE		X			X			
Long-tailed Honey Buzzard	<i>Henicopernis longicauda</i>	ACCIPITRIDAE		D			D			
Pygmy Eagle	<i>Hieraetus weiskei</i>	ACCIPITRIDAE		X			X			
Gurney's Eagle	<i>Aquila gurneyi</i>	ACCIPITRIDAE	NT	R	X					
Variable Goshawk	<i>Accipiter hiogaster</i>	ACCIPITRIDAE			X				X	
Grey-headed Goshawk	<i>Accipiter poliocephalus</i>	ACCIPITRIDAE			X			X		
Collared Sparrowhawk	<i>Accipiter cirrocephalus</i>	ACCIPITRIDAE					X			
Papuan Harrier	<i>Circus spilocephalus</i>	ACCIPITRIDAE		R					D	
Black Kite	<i>Milvus migrans</i>	ACCIPITRIDAE		X	X	X	X	X	X	X
Whistling Kite	<i>Haliastur sphenurus</i>	ACCIPITRIDAE		X		X	X	X	X	
Brahminy Kite	<i>Haliastur indus</i>	ACCIPITRIDAE		X	X	X	X	X	X	
White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	ACCIPITRIDAE								D
Buff-banded Rail	<i>Gallirallus philippensis</i>	RALLIDAE							D	
Pale-vented Bush-hen	<i>Amauornis moluccana</i>	RALLIDAE					X			
Australasian Swamphen	<i>Porphyrio melanotus</i>	RALLIDAE					D		D	

Common Name	Species Name	Family Name	Conservation Status	Habitat types				Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	
White-headed Stilt	<i>Himantopus leucocephalus</i>	RECURVIROSTRIDAE						D
Masked Lapwing	<i>Vanellus miles</i>	CHARADRIIDAE						D
Pacific Golden Plover	<i>Pluvialis fulva</i>	CHARADRIIDAE						D D
Little Ringed Plover	<i>Charadrius dubius</i>	CHARADRIIDAE						D D
Whimbrel	<i>Numenius phaeopus</i>	SCOLOPACIDAE						D D
Grey-tailed Tattler	<i>Tringa brevipes</i>	SCOLOPACIDAE						D D
Common Sandpiper	<i>Actitis hypoleucos</i>	SCOLOPACIDAE						D D
Long-toed Stint	<i>Calidris subminuta</i>	SCOLOPACIDAE						D
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	SCOLOPACIDAE						D
Brown Noddy	<i>Anous stolidus</i>	LARIDAE						D
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	LARIDAE						D D
Greater Crested Tern	<i>Thalasseus bergii</i>	LARIDAE						D
Lesser Crested Tern	<i>Thalasseus bengalensis</i>	LARIDAE						D
Sooty Tern	<i>Onychoprion fuscatus</i>	LARIDAE						D
White-winged Tern	<i>Chlidonias leucopterus</i>	LARIDAE						D
Rock Dove	<i>Columba livia</i>	COLUMBIDAE					X	

Common Name	Species Name	Family Name	Conservation Status	Habitat types				Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	
Amboyna Cuckoo-Dove	<i>Macropygia amboinensis</i>	COLUMBIDAE		X			X	
Bar-tailed Cuckoo-Dove	<i>Macropygia nigrirostris</i>	COLUMBIDAE		X	X	X	X	
Great Cuckoo Dove	<i>Reinwardtoena reinwardti</i>	COLUMBIDAE		X				
Common Emerald Dove	<i>Chalcophaps indica</i>	COLUMBIDAE		X				
Pacific Emerald Dove	<i>Chalcophaps longirostris</i>	COLUMBIDAE		X				
Stephan's Emerald Dove	<i>Chalcophaps stephani</i>	COLUMBIDAE		X				
New Guinea Bronzewing	<i>Henicophaps albifrons</i>	COLUMBIDAE		X				
Thick-billed Ground Pigeon	<i>Trugon terrestris</i>	COLUMBIDAE		X				
Peaceful Dove	<i>Geopelia placida</i>	COLUMBIDAE						D
Pheasant Pigeon	<i>Otidiphaps nobilis</i>	COLUMBIDAE	R				X	
Wompo Fruit Dove	<i>Ptilinopus magnificus</i>	COLUMBIDAE		X			X	
Pink-spotted Fruit Dove	<i>Ptilinopus perlatus</i>	COLUMBIDAE		X			X	
Ornate Fruit Dove	<i>Ptilinopus ornatus</i>	COLUMBIDAE		X				
Superb Fruit Dove	<i>Ptilinopus superbus</i>	COLUMBIDAE		X				
Coroneted Fruit Dove	<i>Ptilinopus coronulatus</i>	COLUMBIDAE		X			X	
Beautiful Fruit Dove	<i>Ptilinopus pulchellus</i>	COLUMBIDAE		X			X	

Common Name	Species Name	Family Name	Conservation Status	Habitat types					Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	Floodplains	
Claret-breasted Fruit Dove	<i>Ptilinopus viridis</i>	COLUMBIDAE		X					
Orange-bellied Fruit Dove	<i>Ptilinopus iozonus</i>	COLUMBIDAE		X	X	X	X		
Purple-tailed Imperial Pigeon	<i>Ducula rufigaster</i>	COLUMBIDAE		X	X				
Pinon's Imperial Pigeon	<i>Ducula pinon</i>	COLUMBIDAE		X	X	X			
Zoe's Imperial Pigeon	<i>Ducula zoeae</i>	COLUMBIDAE		X	X			X	
Pied Imperial Pigeon	<i>Ducula bicolor</i>	COLUMBIDAE						D	D
Papuan Mountain Pigeon	<i>Gymnophaps albertisii</i>	COLUMBIDAE		X					
Ivory-billed Coucal	<i>Centropus menbeki</i>	CUCULIDAE		X	X	X			X
Black-billed Coucal	<i>Centropus bernsteini</i>	CUCULIDAE					X	X	
Pheasant Coucal	<i>Centropus phasianinus</i>	CUCULIDAE						D	D
Dwarf Koel	<i>Microdynamis parva</i>	CUCULIDAE		X	X	X			
Pacific Koel	<i>Eudynamys orientalis</i>	CUCULIDAE		X	X	X			
Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>	CUCULIDAE						X	
White-eared Bronze Cuckoo	<i>Chrysococcyx meyerii</i>	CUCULIDAE			X	X			
White-crowned Cuckoo	<i>Cacomantis leucolophus</i>	CUCULIDAE			X				

Common Name	Species Name	Family Name	Conservation Status		Habitat types					Trophies and Pets
			PNG	IUCN	Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	Floodplains	
Chestnut-breasted Cuckoo	<i>Cacomantis castaneiventris</i>	CUCULIDAE		X			X	X		
Brush Cuckoo	<i>Cacomantis variolosus</i>	CUCULIDAE					X	X		
Oriental Cuckoo	<i>Cuculus optatus</i>	CUCULIDAE							D	
Eastern Barn Owl	<i>Tyto javanica</i>	TYTONIDAE							D	
Barking Owl	<i>Ninox connivens</i>	STRIGIDAE						D		
Papuan Frogmouth	<i>Podargus papuensis</i>	PODARGIDAE							D	
Large-tailed Nightjar	<i>Caprimulgus macrurus</i>	CAPRIMULGIDAE							D	
Moustached Treeswift	<i>Hemiprocne mystacea</i>	HEMIPROCNIDAE		X			X			
Glossy Swiftlet	<i>Collocalia esculenta</i>	APODIDAE		X		X	X	X		
Papuan Spine-tailed Swift	<i>Mearnsia novaeguineae</i>	APODIDAE							X	
White-throated Needletail	<i>Hirundapus caudacutus</i>	APODIDAE			X					
Oriental Dollarbird	<i>Eurystomus orientalis</i>	CORACIIDAE							X	
Hook-billed Kingfisher	<i>Melidora macrorrhina</i>	ALCEDINIDAE		X		X	X	X		
Common Paradise Kingfisher	<i>Tanysiptera galatea</i>	ALCEDINIDAE		X		X	X			
Rufous-bellied Kookaburra	<i>Dacelo gaudichaud</i>	ALCEDINIDAE			X		X			
Forest Kingfisher	<i>Todiramphus macleayii</i>	ALCEDINIDAE		X		X	X	X		X
Sacred Kingfisher	<i>Todiramphus sanctus</i>	ALCEDINIDAE						X	X	

Common Name	Species Name	Family Name	Conservation Status	Habitat types					Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	Floodplains	
Yellow-billed Kingfisher	<i>Syma torotoro</i>	ALCEDINIDAE				D			
Little Kingfisher	<i>Ceyx pusillus</i>	ALCEDINIDAE							X
Blue-tailed Bee-eater	<i>Merops philippinus</i>	MEROPIDAE							D
Rainbow Bee-eater	<i>Merops ornatus</i>	MEROPIDAE							X
Blyth's Hornbill	<i>Rhyticeros plicatus</i>	BUCEROTIDAE	P	X	X	X			
Oriental Hobby	<i>Falco severus</i>	FALCONIDAE	R			X			
Peregrine Falcon	<i>Falco peregrinus</i>	FALCONIDAE	R	X					
Palm Cockatoo	<i>Probosciger aterrimus</i>	CACATUIDAE	P	X	X	X			
Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	CACATUIDAE	R	X	X	X	X		
Pesquet's Parrot	<i>Psittichas fulgidus</i>	PSITTACULIDAE	VU		X	X	X		
Buff-faced Pygmy Parrot	<i>Micropsitta pusio</i>	PSITTACULIDAE			X				
Papuan King Parrot	<i>Alisterus chloropterus</i>	PSITTACULIDAE			X				
Eclectus Parrot	<i>Eclectus roratus</i>	PSITTACULIDAE			X	X	X	X	X
Red-cheeked Parrot	<i>Geoffroyus geoffroyi</i>	PSITTACULIDAE			X	X	X		
Red-flanked Lorikeet	<i>Charmosyna placensis</i>	PSITTACULIDAE			X				
Fairy Lorikeet	<i>Charmosyna pulchella</i>	PSITTACULIDAE			D				
Black-capped Lory	<i>Loriis lory</i>	PSITTACULIDAE			X		X		
Dusky Lory	<i>Pseudeos fuscata</i>	PSITTACULIDAE			X	X	X		

Common Name	Species Name	Family Name	Conservation Status	Habitat types					Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	Floodplains	
Coconut Lorikeet	<i>Trichoglossus haematodus</i>	PSITTACULIDAE		X	X	X	X	X	
Edwards's Fig Parrot	<i>Psittaculirostris edwardsii</i>	PSITTACULIDAE	R					X	
Orange-breasted Fig Parrot	<i>Cyclopsitta gulielmitertii</i>	PSITTACULIDAE					X		
Double-eyed Fig Parrot	<i>Cyclopsitta diophthalma</i>	PSITTACULIDAE		X	X				
Papuan Pitta	<i>Erythropitta macklotii</i>	PITTIDAE		X	X	X			
Hooded Pitta	<i>Pitta sordida</i>	PITTIDAE		X					
White-eared Catbird	<i>Ailuroedus buccoides</i>	PTILONORHYNCHIDAE		X	X	X			
Fawn-breasted Bowerbird	<i>Chlamydera cerviniventris</i>	PTILONORHYNCHIDAE			X		X	X	
White-shouldered Fairywren	<i>Malurus alboscapulatus</i>	MALURIDAE				X			
Streak-headed Honeyeater	<i>Pycnopygius stictocephalus</i>	MELIPHAGIDAE		X		X			
Tawny-breasted Honeyeater	<i>Xanthotis flaviventer</i>	MELIPHAGIDAE		X	X	X	X		
New Guinea Friarbird	<i>Philemon novaeguineae</i>	MELIPHAGIDAE		X	X	X	X		
Long-billed Honeyeater	<i>Melilestes megarhynchus</i>	MELIPHAGIDAE		X					

Common Name	Species Name	Family Name	Conservation Status	Habitat types				Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	
Rufous-banded Honeyeater	<i>Conopophila albogularis</i>	MELIPHAGIDAE		X		X	X	
Varied Honeyeater	<i>Gavicalis versicolor</i>	MELIPHAGIDAE			X			
Forest Honeyeater	<i>Meliphaga montana</i>	MELIPHAGIDAE		X				
Scrub Honeyeater	<i>Meliphaga albonotata</i>	MELIPHAGIDAE		X	X			
Rusty Mouse-warbler	<i>Crateroscelis murina</i>	ACANTHIZIDAE		X	X	X		
Large-billed Gerygone	<i>Gerygone magnirostris</i>	ACANTHIZIDAE		D				
Yellow-bellied Gerygone	<i>Gerygone chrysogaster</i>	ACANTHIZIDAE		X				
Green-backed Gerygone	<i>Gerygone chloronota</i>	ACANTHIZIDAE		X				
Papuan Babbler	<i>Garritornis isidorei</i>	POMATOSTOMIDAE		X				
Slaty-headed Longbill	<i>Toxorhamphus poliopterus</i>	MELANOCHARITIDAE		X				
Spotted Jewel-babbler	<i>Ptilorrhoa leucosticta</i>	PSOPHODIDAE				X		
Brown-headed Jewel-babbler	<i>Ptilorrhoa geislerorum</i>	PSOPHODIDAE				X		
Chestnut-backed Jewel-babbler	<i>Ptilorrhoa castanonota</i>	PSOPHODIDAE		X				
Yellow-breasted Boatbill	<i>Machaerirhynchus flaviventer</i>	MACHAERIRHYNCHIDAE				X		

Common Name	Species Name	Family Name	Conservation Status	Habitat types					Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	Floodplains	
White-breasted Wood-swallow	<i>Artamus leucorynchus</i>	ARTAMIDAE				X			
Lowland Peltops	<i>Peltops blainvillii</i>	ARTAMIDAE		X	X	X			
Black Butcherbird	<i>Melloria quoyi</i>	ARTAMIDAE		X					
Hooded Butcherbird	<i>Cracticus crassicus</i>	ARTAMIDAE		X	X	X			
Boyer's Cuckoo shrike	<i>Coracina boyeri</i>	CAMPEPHAGIDAE		X					
Common Cicadabird	<i>Coracina tenuirostris</i>	CAMPEPHAGIDAE							D
Black-shouldered Cicadabird	<i>Coracina incerta</i>	CAMPEPHAGIDAE		D					
White-winged Triller	<i>Lalage tricolour</i>	CAMPEPHAGIDAE		X			X		
Varied Triller	<i>Lalage leucomela</i>	CAMPEPHAGIDAE		X					
Crested Pitohui	<i>Ornorectes cristatus</i>	OREOICIDAE		X	X	X			
Grey Whistler	<i>Pachycephala simplex</i>	PACHYCEPHALIDAE		X					
Sclater's Whistler	<i>Pachycephala soror</i>	PACHYCEPHALIDAE		X					
Rusty Pitohui	<i>Pseudorectes ferrugineus</i>	PACHYCEPHALIDAE		X	X	X			
Grey Shrike-thrush	<i>Colluricincla harmonica</i>	PACHYCEPHALIDAE		X			X		
Hooded Pitohui	<i>Pitohui dichrous</i>	ORIOLIDAE		X	X	X			
Brown Oriole	<i>Oriolus szalayi</i>	ORIOLIDAE		X	X	X	X	X	
Spangled Drongo	<i>Dicrurus bracteatus</i>	DICRURIDAE			D			D	

Common Name	Species Name	Family Name	Conservation Status		Habitat types					Trophies and Pets
			IUCN	PNG	Floodplains	Hills/Foothills	Swamp/mangrove forest	Grasslands	Rivers and Lakes	
Willie Wagtail	<i>Rhipidura leucophrys</i>	RHIPIDURIDAE						X	X	
Northern Fantail	<i>Rhipidura rufiventris</i>	RHIPIDURIDAE		D						
Sooty thicket-fantail	<i>Rhipidura threnothorax</i>	RHIPIDURIDAE			X	X	X			
White-bellied Thicket Fantail	<i>Rhipidura leucothorax</i>	RHIPIDURIDAE			X		X		X	
Rufous-backed Fantail	<i>Rhipidura rufidorsa</i>	RHIPIDURIDAE			X	X			X	
Golden Monarch	<i>Carterornis chrysomela</i>	MONARCHIDAE		D						
Frilled Monarch	<i>Arses telescopthalmus</i>	MONARCHIDAE			X	X	X			
Leaden Flycatcher	<i>Myiagra rubecula</i>	MONARCHIDAE			X					
Shining Flycatcher	<i>Myiagra alecto</i>	MONARCHIDAE						X		
Grey Crow	<i>Corvus tristis</i>	CORVIDAE			X					
Torresian Crow	<i>Corvus orru</i>	CORVIDAE			X	X	X	X	X	
Glossy-mantled Manucode	<i>Manucodia ater</i>	PARADISAEIDAE	P	X			X			
Crinkle-collared Manucode	<i>Manucodia chalybatus</i>	PARADISAEIDAE	P	X	X	X	X			
Magnificent Riflebird	<i>Ptiloris magnificus</i>	PARADISAEIDAE	P	X	X					
Growling Riflebird	<i>Ptiloris intercedens</i>	PARADISAEIDAE	P	X						
Magnificent Bird-of-paradise	<i>Diphylloides magnificus</i>	PARADISAEIDAE	P	D						
King Bird-of-Paradise	<i>Cicinnurus regius</i>	PARADISAEIDAE	P	X	X	X				
Raggiana Bird-of-Paradise	<i>Paradisaea raggiana</i>	PARADISAEIDAE	P	X	X	X				

Common Name	Species Name	Family Name	Conservation Status		Habitat types				Trophies and Pets
			IUCN	PNG	Hills/Foothills	Floodplains	Swamp/mangrove forest	Grasslands	
Black-sided Robin	<i>Poecilodryas hypoleuca</i>	<i>PETROICIDAE</i>			X	X	X		
White-faced Robin	<i>Tregellasia leucops</i>	<i>PETROICIDAE</i>			X				
Torrent Flyrobin	<i>Monachella muelleriana</i>	<i>PETROICIDAE</i>							X
Horsfield's Bush Lark	<i>Mirafra javanica</i>	<i>ALAUDIDAE</i>						D	
Pacific Swallow	<i>Hirundo tahitica</i>	<i>HIRUNDINIDAE</i>						X	X
Papuan Grassbird	<i>Megalurus macrurus</i>	<i>LOCUSTELLIDAE</i>						D	
New Guinea White-eye	<i>Zosterops novaeguineae</i>	<i>ZOSTEROPIDAE</i>			X				
Metallic Starling	<i>Aplonis metallica</i>	<i>STURNIDAE</i>					X		
Singing Starling	<i>Aplonis cantoroides</i>	<i>STURNIDAE</i>						X	X
Yellow-faced Myna	<i>Mino dumontii</i>	<i>STURNIDAE</i>			X	X			X
Golden Myna	<i>Mino anais</i>	<i>STURNIDAE</i>				X	X	X	X
Olive-crowned Flowerpecker	<i>Dicaeum pectorale</i>	<i>DICAEIDAE</i>							D
Black Sunbird	<i>Leptocoma aspasia</i>	<i>NECTARINIIDAE</i>					D		D
Olive-backed Sunbird	<i>Cinnyris jugularis</i>	<i>NECTARINIIDAE</i>			X				
House Sparrow	<i>Passer domesticus</i>	<i>PASSERIDAE</i>						X	X
Eurasian Tree Sparrow	<i>Passer montanus</i>	<i>PASSERIDAE</i>						X	X
Streak-headed Mannikin	<i>Lonchura tristissima</i>	<i>ESTRILDIDAE</i>			X				X
Great-billed Mannikin	<i>Lonchura grandis</i>	<i>ESTRILDIDAE</i>				X		X	X

Common Name	Species Name	Family Name	Conservation Status	Habitat types					Trophies and Pets
				Rivers and Lakes	Anthropogenic habitats	Grasslands	Swamp/mangrove forest	Floodplains	
Chestnut-breasted Mannikin	<i>Lonchura castaneothorax</i>	ESTRILDIDAE			X				
<b>SNAKES</b>									
Brown Tree Snake	<i>Boiga irregularis</i>	COLUBRIDAE			X				
Snake spp	<i>Dendrelaphis calligaster</i>	COLUBRIDAE			X				X
Amethystine Python	<i>Morelia amethistina</i>	PYTHONIDAE		R	X				
Green Tree Python	<i>Morelia viridis</i>	PYTHONIDAE		R	X		X		
<b>FROGS</b>									
Cane Toad	<i>Bufo marinus</i>	BUFONIDAE			X	X	X	X	
White-lipped Tree Frog	<i>Litoria infrafrenata</i> <i>infrafrenata</i>	HYLIDAE							X
<b>TURTLES</b>									
New Guinea Snapping Turtle	<i>Elseya novaeguineae</i>	CHELONIDAE							X
Leatherback Turtle	<i>Dermochelys coriacea</i>	DERMOCHELYIDAE	CR						D
[Variegated Giant Softshell Turtle]	<i>Pelochelys signifera</i>	CHELONIDAE	EN						X
<b>CROCODILES</b>									
Saltwater Crocodile	<i>Crocodylus porosus</i>	CROCODYLIIDAE							X

Common Name	Species Name	Family Name	Conservation Status	Habitat types					Trophies and Pets
				IUCN	PNG	Hills/Foothills	Floodplains	Swamp/mangrove forest	
<b>LIZARDS AND GECKOS</b>									
Mangrove Monitor	<i>Varanus indicus</i>	VARANIDAE	R		X	X			
Emerald Monitor	<i>Varanus prasinus</i>	VARANIDAE	R	X	X	X			
<b>MAMMALS</b>									
Raffray's Bandicoot	<i>Peroryctes raffrayana</i>	PERORYCTIDAE							X
Eastern Common Cuscus	<i>Phalanger orientalis</i>	PHALANGERIDAE							X
Bandicoots	<i>Echymipera/ Peroryctes</i> sp (p)	PERORYCTIDAE		X	X			X	X
Micropteran Bats	<i>Microptera</i> spp.	Suborder MICROCHIROPTERA		X	X	X	X	X	
Feral Pig	<i>Sus scrofa x celebensis</i>	SUIDAE		X	X	X	X	X	
Giant Flying Fox	<i>Disteochurus pennatus</i>	ACROBATIDAE						X	