

# *Photographic Guide to the Family Melastomataceae on Dominica*

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## **Abstract:**

This is a photographic field guide of the plant family Melastomataceae, a common plant family on the island of Dominica. This project has been prepared as a guide to help future Texas A&M Dominica study abroad students and instructors easily identify the many species of Melastomes that they encounter on their different trips over the island. Each page has the genus and species name of the Melastome, and a description with pictures of both sides of the leaves, stems, entire plant, flowers and location where it was seen. Seventeen species of melastomes were successfully photographed and identified during Study Abroad Dominica.

## **Introduction:**

The family Melastomataceae is the seventh largest flowering plant family. It includes 244 genera and at least 3,360 species. Around 30 of the species are found growing on the island of Dominica. The plants of the family Melastomataceae occur commonly as shrubs and small trees with very few occurrences as an herb or larger tree. One of the most distinctive features of the family is their oval shaped leaves with 3 or 5 main veins running from the base all the way to the tip of the leaf. This unique characteristic is what easily identifies a plant to this family. Different species of the plant occur in different habitats and altitudes such as lowland coastal forest, cultivated land, or forest in secondary succession, mid-elevation rainforest, and high elevation areas. The species *Clidemia hirta* is very commonly seen anywhere you go and is found in disturbed or cultivated vegetation areas. This species is native to Dominica but invasive to the Pacific Tropical Islands. The species

*Tibouchina grandifolia* has a very brilliant purple flower and is often seen as an ornamental flower in yards or along roadsides. One species I found, *Dissotis rotundifolia*, is actually native to the Pacific Islands and is a common ornamental plant, but has become an invasive species on Dominica. This field guide focuses on the species that are found around the Springfield Estate, and on the various trips the class takes across the island.

### **Materials and Methods:**

First a checklist was made of the different Dominican species of Melastomes and where they are commonly found. The different species were found during hikes in groups to Middleham Falls, Syndicate Trail, the Carib Territory, Emerald Pool, Freshwater Lake, Boeri Lake, Elfin Forest, and Boiling Lake. Individually some species were found on hikes around the Springfield Estate on both the Mt. Joy and Massacre trails. Pictures were taken of each species using a Nikon CoolpixL20 digital camera. A picture was taken of the flower and fruit (if available), the stem, top and bottom of leaves, and the entire plant. The pictures were edited with Picasa photo editor for clarity. The pictures were then compiled on a Microsoft Word document, each species having its own page with a description and the pictures. The species were identified with the Dominica Illustrated Flora field guide, the Archbold Herbarium, and the aid of Elvis, Adam Martin, Dr. Lacher, and Iara Lacher.

### **Results:**

The guide contains a collection of melastomes that I was able to photograph during our hikes across Dominica. There are identified here in this guide, 17 species of Melastomataceae on Dominica. Not all species of Dominica were located. I also was not able to find flowers for all of the species found during my stay in Dominica.

## **Discussion:**

This guide is a good visual reference for the species of Melastomataceae found on Dominica. It is a helpful visual aid when trying to differentiate between the many species of melastomes encountered while out on trips. This project can be continued. In the future pictures of species that are lacking can be added to the guide. Also pictures taken of the flowers or fruits that weren't found could be added to enhance the field guide.

## **Acknowledgements:**

I would like to thank Elvis Stedman, Adam Martin, and Dr. Lacher for their help in locating, and identifying these plants. I would like to thank Dr. Heyman for his clear close up photo of *Clidemia umbrosa*. I would also like to thank Lara Lacher for her assistance in photographing the plants and aiding me in using the Archbold Herbarium.

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**Charianthus**

***Charianthus alpinus***

Location: Trail to Boiling Lake

Description: Small tree grows 2-3ft. Leaf veins reddish beneath. Leaves smooth.



***Charianthus purpureus***

Location: Freshwater Lake

Description: Leaves have deeply indented veins. Leaf stems red. Flowers bright reddish-pink and fruit black. Grows up to 4ft. tall. (photo D=indented veins)



## **Clidemia**

### ***Clidemia hirta***

**Location:** Very common in Springfield and areas of cultivated, disturbed or secondary forest. Native to Dominica and the rest of Tropical America but invasive to tropic islands of the Pacific.

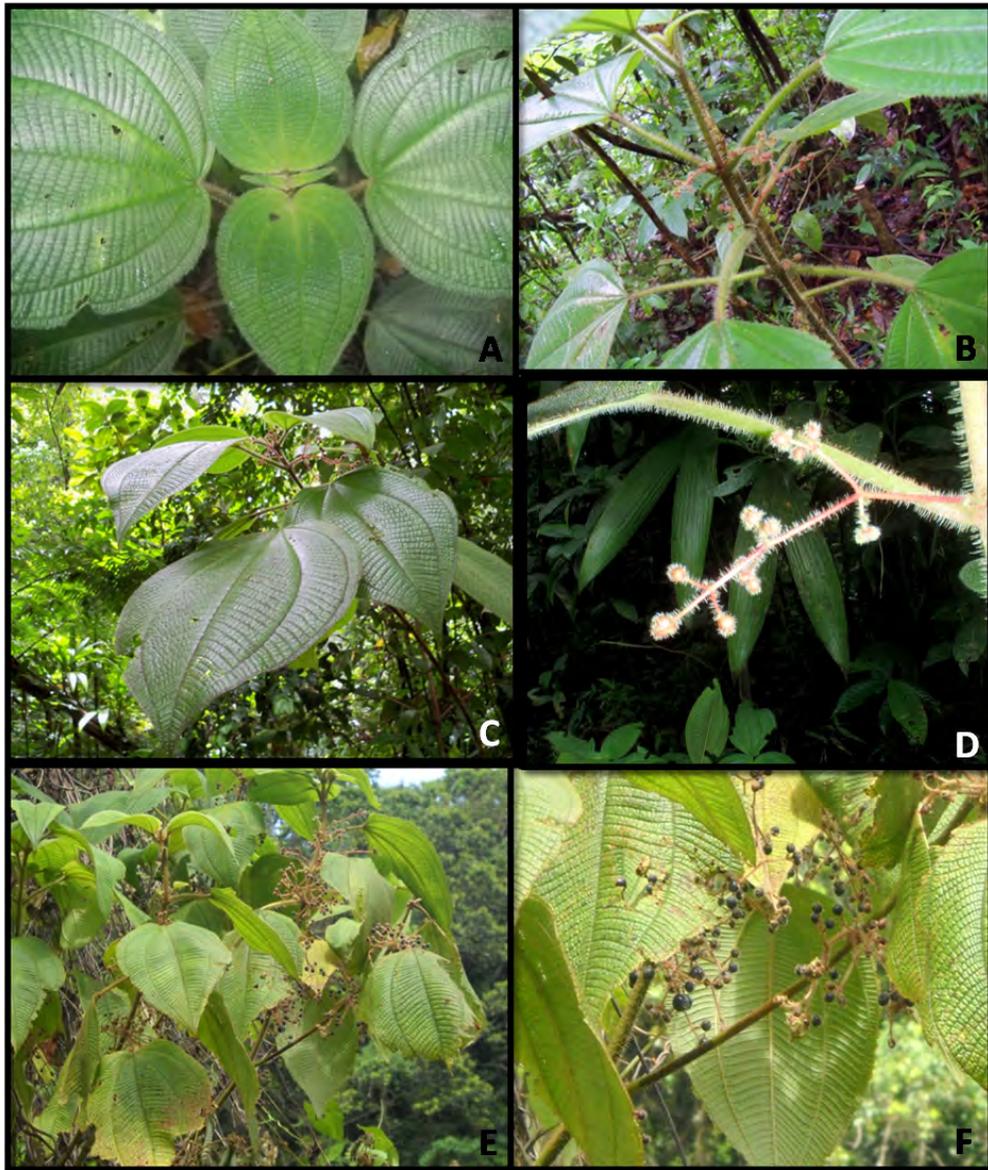
**Description:** Shrub around 3 ft. tall. Leaves and stems all hairy. Leaves have five veins ranging from 7-15 cm. The flowers are white with 5 petals and the fruit is black. (photo C&E hairy stems & leaves)



***Clidemia umbrosa***

Location: Middleham Falls, Emerald Pool, Road near Syndicate, common in disturbed areas

Description: Larger shrub to 8ft. hairy stems and leaves. Leaves large up to 30cm. White flowers.



# Conostegia

## *Conostegia montana*

Location: Middleham Falls

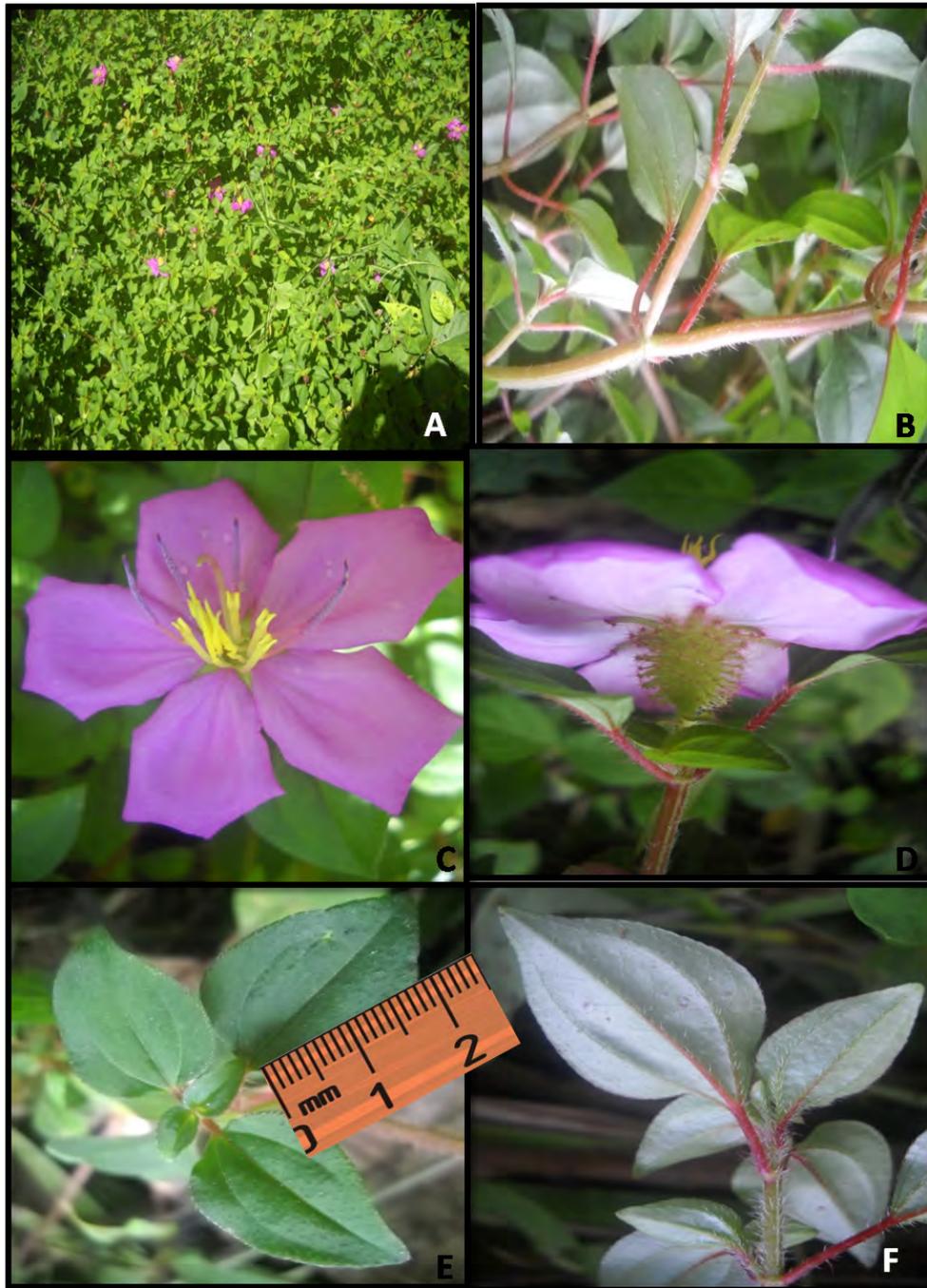
Description: Hairless with green veins. Leaves up to 22cm. Leaf stem 5 cm.



***Dissotis rotundifolia***

Location: Springfield

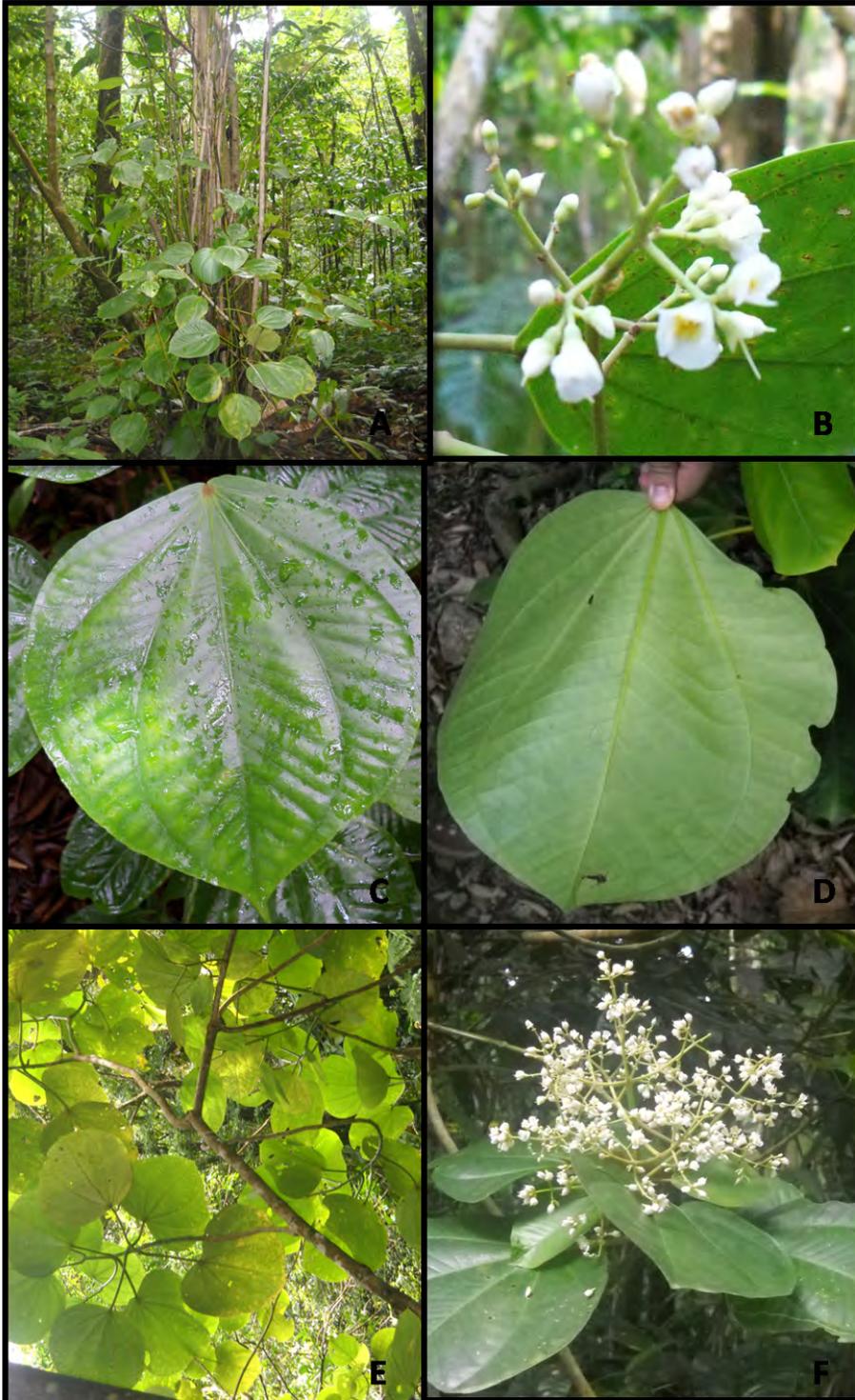
Description: Native to Pacific Tropical Islands but invasive to Caribbean islands. Commonly cultivated. Herbaceous vine ground cover. Tiny 2-2.5 cm leaves and bright magenta flower with yellow stamens. (photo E 2-2.5cm leaf)



***Graffenrieda latifolia***

Location: Middleham Falls, Emerald Pool, mature rainforest

Description: Grows up to a 9m tree. Thick green stems and hairless green leaves up to 20cm. Leaves fan shaped. Flowers white inflorescences. (photo E looking up at tree)



## Miconia

### *Miconia coriacea*

Location: Middleham Falls, elfin forest

Description: Deep impressed veins of leaves up to 11cm. White flowers with small bracts, fruit black.

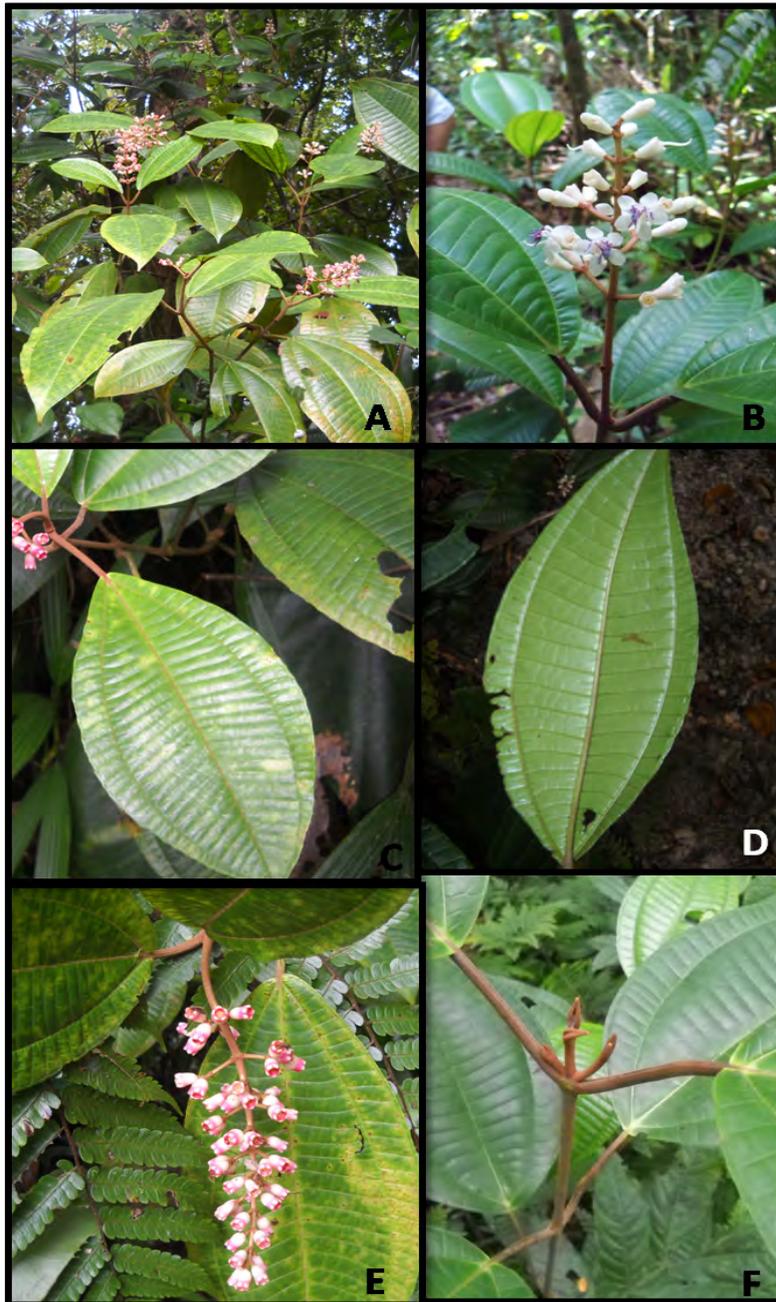
Grows to 4ft. tall. (photo C bracts under flowers and fruits)



***Miconia furfuracea***

Location: Middleham Falls, Emerald Pool

Description: Dark green glossy leaves. Reddish hairs underneath leaves on veins. Flowers inflorescences, and fruit pink to black. (photo E pinkish fruit)



***Miconia globuliflora***

Location: Middleham Falls, Freshwater Lake, trail to Boiling Lake, elfin forest

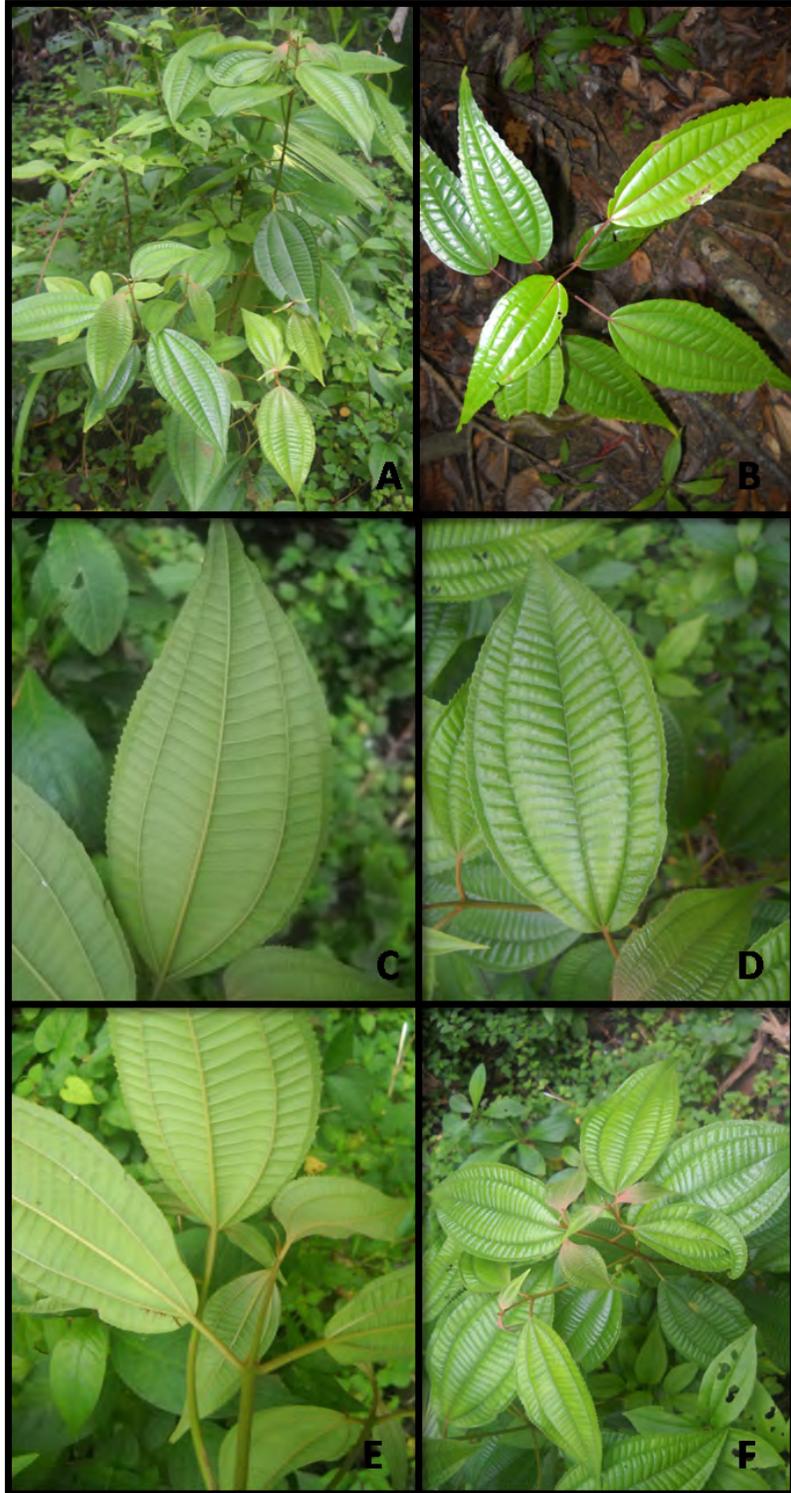
Description: Thick hairless green leaves. Reddish hairs at nodes. Has tiny white flowers and small blue-purple berries. Grows 2-3m tall.



***Miconia laevigata***

Location: Middleham Falls, Syndicate Rainforest

Description: Long finely toothed leaves. 3cm leaf stem. (photo B young toothed leaf)



***Miconia mirabilis***

Location: Middleham Falls, Emerald Pool, Syndicate Forest

Description: Only tree form of miconia up to 20m tall with a 4 segmented fluted trunk. Leaves dark green on top and pale beneath with salmon colored veins. White flowers 5 petals and black fruits.

(photo B young plant, photo D dark top and pale bottom of leaf)



***Miconia trichotoma***

Location: Middleham Falls, very common

Description: Distinct red veins on top and bottom. Rough leaves up to 21 cm. Leaf stem 3cm.

(photo C & D red veins on top and bottom of leaf)



***Nepsera aquatica***

Location: Middleham Falls

Description: Woody red stems. Small leaves up to 3 cm. Leaf stems red. Tiny delicate four petal white flowers. Grow 2-2.5ft. tall. (photo B woody stem, photo F 2-3cm leaf)



***Pterolepis glomerata***

Location: Freshwater Lake

Description: Small leaf up to 2cm. Single pale pink flower. Grows to 1ft. tall.

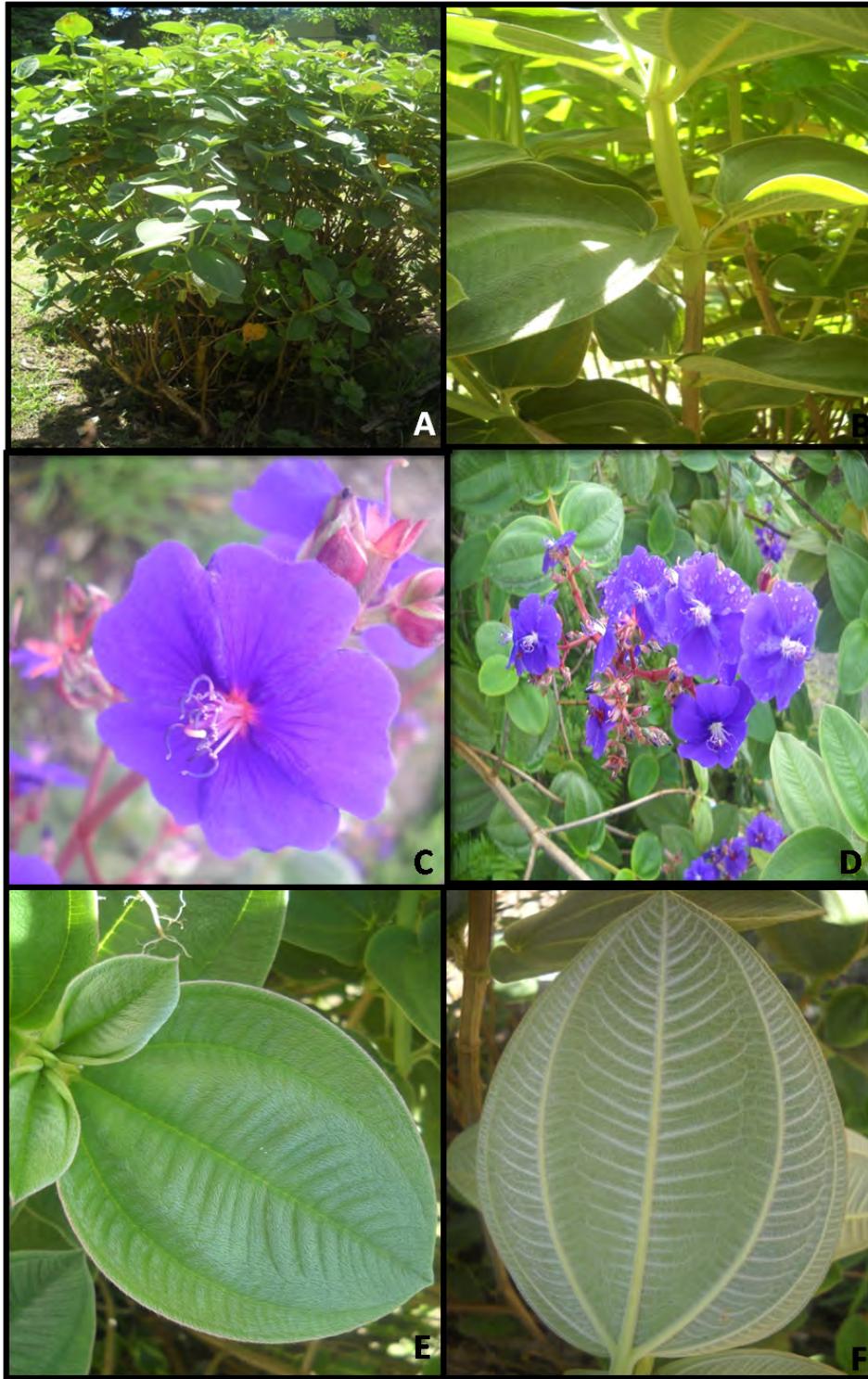


## **Tibouchina**

### ***Tibouchina grandiflora***

Location: Road to Middleham, Imperial Highway, Springfield

Description: Common ornamental plant. Large 11cm soft hairy leaves, and thick stems. Flowers vibrant purple inflorescences. (photo B thick stem, photo E soft hairy leaf)



***Tibouchina ornata***

Location: Freshwater Lake

Description: clearly identifiable, tiny thin leaves less than 1cm. Bushy, 2ft. tall. Does not appear to be a melestome. Bright fuchsia flowers with yellow stamens. (photo C tiny leaves)

