

**DIVERSITY OF PLANT FAMILY FABACEAE IN POCUT MEURAH INTAN GREAT FOREST PARK AREA, ACEH BESAR**

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**Abstract**

*Fabaceae family plants are found everywhere, this is in accordance with the general habitat of Fabaceae plants that can grow in lowland areas. The Fabaceae family is one of the third largest families included in the members of the Angiospermae which are easily found in the Pocut Meurah Intan Forest Park area, Aceh Besar. The purpose of this study was to identify and analyze the diversity of plant species from the Fabaceae family. The study was conducted on November 16, 2024 using a descriptive observation method, by dividing the Tahura area into several plots. Then, samples were taken to be identified based on the characteristics of the Fabaceae family. The results of this study found 6 species from the Fabaceae family, namely acacia (*Acacia auriculiformis*), mimosa pudica (*Mimosa pudica*), tamarind (*Tamarindus indica*), keranji (*Dialium indum*), telang (*Clitoria ternatea*), angsana (*Pterocapus inducus*). So it can be concluded that in the Pocut Meurah Intan Tahura area there are several species from the fabaceae family. Keywords: Plant diversity, Fabaceae family, Pocut Meurah Intan Forest Park.*

**INTRODUCTION**

Fabaceae family plants are found everywhere, this is in accordance with the general habitat of Fabaceae plants that can grow in lowland areas. The Fabaceae family is one of the third largest families that are included in the members of the Angiospermae which are easily found in the surrounding environment which have various morphologies or statures ranging from herbs, seedlings, shrubs and trees. Almost all Fabaceae families have similarities that are their characteristics, namely pod-shaped fruit (Assyifa et al., 2023). The Fabaceae family is a member of the Fabales order which is characterized by pod-type fruit. This family is widely distributed throughout the world and consists of 18,000 species included in 650 genera. Based on the characteristics of flowers and seeds, botanists divide the Fabaceae family into three subfamilies, namely Caesalpinioideae, Faboideae, and Mimosoideae. This family is one of the flowering plant families with high economic value. Many of its members have been cultivated as food crops, fruit producers, ornamental plants, medicinal plants, land cover, producers of wood, oil, gum, natural dyes, insecticides, erosion control, and reclamation. (Hariyati et al., 2018).

Morphologically, members of the Caesalpinioideae sub-tribe have distinctive characteristics, namely bilaterally symmetrical flowers, sepals that are detached or attached to each other, five corollas that are detached and pinnate on flower buds, stamens that are detached or attached at the base, dimorphic or heteromorphic stamens, and in general the seeds do not have pleurograms. The Faboideae sub-tribe can be

easily recognized based on its morphological characteristics, namely bilaterally symmetrical flowers with a butterfly-like corolla shape, because it consists of a flag section, a pair of keels, and a pair of wings.

The stamens are divided into two bundles where 9 stamens are attached to each other and one other stamen is free or all ten stamens are attached to each other. In addition, all members of Faboideae do not

has pleurogram on its seeds. The Mimosoideae subfamily has distinctive morphological characteristics, including small flowers with radial symmetry, corm inflorescences, five-lobed calyx leaves that are attached to each other to form a tube, five-petal leaves that are attached to each other at the base and close on the flower bud, and seeds have open pleurograms (Irsyam & Priyanti, 2016).

Pocut Meurah Intan Forest Park, Aceh Besar is a conservation, inventory, research and exploration area for various types of unique and interesting flora and fauna. Pocut Meurah Intan Forest Park is located in a forest area in the Seulawah Agam mountain area with a land area of around 6,220 hectares. Tahura has a natural ecosystem, rivers, forests, grasslands and peatlands. (Kehutanan et al., 2022). In the Tahura PMI area, we have successfully identified 6 types of plants from the Fabaceae family, including acacia (*Acacia auriculiformis*), Mimosa pudica, tamarind (*Tamarindus indica*), keranji (*Dialium indum*), telang (*Clitoria ternatea*), Angsana (*Pterocapus inducus*). This study aims to analyze the diversity of plants from the Fabaceae family found in the Tahura Pocut Meurah Intan area, Aceh Besar Regency.

## METHODS

This research was conducted on Saturday, November 16, 2024, precisely in the Pocut Meurah Intan Forest Park area, Aceh Besar. The tools used during this research include a digital camera, stationery, and flora books as references. The materials used when conducting this research are plants found in the Pocut Merah Intan Tahura area. The method used in this research is the descriptive observation method. The workflow carried out in this research includes determining the research location, observing the types of plants in the Pocut Meurah Intan Tahura area, recording the characteristics of each type of plant, and describing the conditions and diversity of plants found in the area.

Berdasarkan hasil pengamatan, didapatkan 6 jenis tumbuhan family Fabaceae dikawasan Taman Hutan Raya Pocut Meurah Intan, Aceh Besar. Keenam jenis tumbuhan tersebut terbagi ke dalam 3 subfamily, yaitu subfamily Faboideae, Caesalpinioideae dan Mimosoideae. Subfamily Faboideae diperoleh 2 spesies yaitu

spesies yaitu *Clitoria ternatea* dan *Pterocarpus indicus*. Subfamily Caesalpinioideae diperoleh 2 spesies yaitu *Tamarindus indica* dan *Dialium indum*. Sedangkan subfamily Mimosoideae diperoleh 2 spesies yaitu *Acacia auriculiformis* dan *Mimosa pudica* (Hariyati et al., 2018).

## RESULTS AND DISCUSSION

### 1. *Clitoria ternatea* (Bunga telang)

Tumbuhan telang termasuk ke jenis tumbuhan herba subfamily Faboideae , tinggi 10-30 cm, batang (caulis) kecil, lunak, berwarna hijau, terdapat sulur untuk membelit. Akar (radiz) berupa akar tunggang. Daun (folium) tidak lengkap, majemuk, pertulangan menyirip, bangun daun bulat telur, dan tepi daun rata. Bunga (flos) majemuk tak berbatas, bentuk tandan, lengkap, tumbuh dari ketiak daun, kelopak (calyz) berwarna hijau, sepal berjumlah 2 helai yang saling berhadapan, mahkota (corolla) berwarna biru tua cerah dengan gradasi kuning dibagian tengah, berkelamin dua, benang sari (stamen) 10 buah dan 1 buah putik (pistillum). Buah (fructus) bertipe buah polong, bertangkai pendek, berwarna hijau saat masih muda dan berwarna coklat saat sudah tua, didalamnya terdapat biji (semen) yang banyak (Ade, 2023).



Kingdom	: Plantae
Division	: Magnoliophyta
Class	: Magnoliopsida
Order	: Fabales
Family	: Fabaceae
Genus	: Clitoria
Species	: <i>Clitoria ternatea</i> L

### 2. *Pterocarpus indicus* (Angsana Plant)

A medium-sized tree up to 40 m tall, many trunks like boards, grunting and crooked, trunk diameter reaching 350 cm, light or brown bark, injured bark exudes red fluid; many large branches bloom widely. Leaves are arranged alternately, compound pinnate type. Flowers are produced simultaneously on the entire tree, small but very dense, yellow. The fruit is plate-shaped, the edges are thin, the middle contains slightly protruding seeds, fibrous; young fruit is green, changes color to bright or brown, fruit falls blown by the wind (Hean, 2004)



Kingdom : Plantae  
Division : Magnoliophyta  
Class : Magnoliopsida  
Order : Fabales  
Family : Fabaceae  
Genus : Pterocarpus  
Species : *Pterocarpus indicus Willd.*

(Asih, 2021).

### 3. *Tamarindus indica* (Tamarindus plant)

The characteristics of the tamarind tree are that the tree is always green with a dense and spreading crown, has a woody stem. The type of compound leaves is up to 15 cm long and has 8-18 leaflets with a leaflet length of 1-3.5 cm. The flowering period of the tamarind tree usually occurs in spring and summer, and the fruiting period is during the rainy season. The flowers are dominated by yellow with pink spots, on the flower stalk consisting of 5-10 flowers.

Tamarind fruit type is shaped like a pod, slightly curved and enveloping the seeds. Each pod contains 1-10 seeds and is wrapped in sticky flesh. The seeds are up to 18 mm long, round and flat, dark brown or shiny black with a smooth seed coat (Sabila, 2024).



Kingdom : Plantae  
Division : Magnoliophyta  
Class : Magnoliopsida  
Order : Fabales  
Family : Fabaceae  
Genus : Tamarindus  
Species : *Tamarindus indica L.*

(Asih, 2021).

### 4. *Dialium indum* (Keranji Plant)

The *Dialium indum* L plant is 10-25 m tall. The stem is upright, round, and thorny. The leaves are compound with a length of 2-4 cm and a width of 1-2 cm. This plant produces pods with a cotton-like texture that is orange in color and the seeds are round and flat, have a white seed membrane, a smooth, black surface. (Dwi Poetra, 2019)

Kingdom: Plantae



Divis : Magnoliophyta  
Class : Magnoliopsida  
Order : Fabales  
Family : Fabaceae  
Genus : Dialium  
Species : *Dialium indum L.*  
(Asih, 2021)

### 5. *Acacia auriculiformis* (Acacia plant)

The acacia tree is a tree that has a straight trunk with branches that have thorns attached to the edges of each stem crown. stem. morphological characteristics of acacia plants with sympodial stems where the main stem is not clearly visible with plagiotropic branches, the height of the stem can grow up to 15 m, a tree with a thick and smooth brown-gray skin texture. The leaves of the acacia plant are compound pinnate, oval with flat leaf edges, the length of the acacia leaves can reach 5 - 20 cm with a width of 1 - 2 cm. Acacia fruit is in the form of green pods when young and turns brown when old, with oval and flat brown seeds (Isabela et al., 2022).



Kingdom : Plantae  
Phylum : Magnoliophyta  
Class : Magnoliopsida  
Order : Fabales  
Family : Fabaceae  
Genus : Acacia  
Species : *Acacia auriculiformis A. Cunn.*

(Asih, 2021).

### 6. *Mimosa pudica* (Sensitive Plant)

The sensitive plant is classified as a climbing or lying herbaceous plant, with a height of 21 cm. The stem with hairs pointing slanting down and scattered curved thorns. The pinnate compound leaves and flat-edged leaves have opposite leaf positions and are included in the legume family. The stems and leaves are red. The flowers are arranged compound on a flower base (cob) together in a round shape, with thorny stems. The petals are very small, 4-pointed, like a white membrane. Stamens 4, loose, purple. Flat pods, the shape of the line between the seeds is not deep, 2-4 segments, 1-2 cm

long, 4 mm wide. Plants with leaves that close by themselves when touched and reopen after a while. This plant grows in open areas with sufficient sunlight (Agil, 2021).



Kingdom : Plantae  
Division : Magnoliophyta  
Class : Magnoliopsida  
Order : Fabales  
Family : Fabaceae  
Genus : Mimosa  
Species : *Mimosa pudica* L.  
(Asih, 2021).

### CONCLUSION

Based on the results of research in the Pocut Meurah Intan Forest Park area, Aceh Besar, 6 types of species were found from the Fabaceae family. The Fabaceae family is a member of the fabales order which is characterized by legume-type fruit. The six species are divided into 3 subfamilies, namely the Mimosaidae, Caesalpinioideae and Faboideae subfamilies. Species from the Mimosaidae subfamily are *Acacia auriculiformis* and *Mimosa pudica*, species from the Caesalpinioideae subfamily are *Tamarindus indica* and *Dialium indum*. While species from the Faboideae subfamily are *Clitoria ternatea* and *Pterocarpus indicus*

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