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***AN IDENTIFICATION OF ANGIOSPERMS IN KEMBANG NATURE RESERVE, JEPARA REGENCY***

**Maila Shofa Maghfiroh\*, Enni Suwarsi Rahayu, & Talitha Widiatningrum**

Postgraduate Science Education Study Program, Universitas Negeri Semarang, Indonesia

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\*Corresponding author: [Mailashofa@students.unnes.ac.id](mailto:Mailashofa@students.unnes.ac.id)

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**Abstract**

*Based on the diversity of angiosperms which are widespread throughout the world and play an important role, identification is necessary, especially in flora reserves. This study aims to determine the type of angiosperms in the Kembang Nature Reserve, Jingotan Village, Kembang District, Jepara Regency. The method used in this research was the shipping method from Pal 2 to Pal 6 of the Kembang Nature Reserve cruise line using a purposive sampling technique. The results of the study found that 30 angiosperms, 9 species from the monocot class and 21 species from the dicot class. The monocot class includes 9 species: *Vanilla planifolia*, *Ottochloa nodosa*, *Zingiber zerumbet*, *Arenga pinata*, *Salacca zalacca*, *Tacca palmata*, *Costus speciosus*, *Amorhophallus variabilis*, and *Amorphophallus muelerri* Blume. 21 species belonging to the class of dicots, namely *Tectona grandis*, *Clerodendrum japonicum*, *Lantana camara*, *Leea indica*, *Sauropus androgynus*, *Elephantopus* sp., *Paederia foetida*, *Cyclea barbata*, *Anacardium occidentale*, *Dracontomelon dao*, *Mangifera indica*, *Teuapera cubeba*, *Cocephala*, *Clerodendrum infortunatum*, *Ficus septica*, *Artocarpus altilis*, *Cinnamomum iners*, *Dysoxylum densiflorum*, *Dysoxylum gaudichaudianum*, and *Dysoxylum densiflorum*.*

**Keywords:** Angiosperms; Identification; Flower Nature Reserve

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## INTRODUCTION

Indonesia has been known as the center of world biodiversity since it has forests that function as the lungs of the world. The existence of Indonesian forests is an ecosystem with the largest species richness in the world that can maintain a global climate balance (Kementerian Lingkungan Hidup Dan Kehutanan Republik Indonesia, 2020). One of the efforts to protect forests in Indonesia is to make them into Nature Reserves. Kembang Nature Reserve is administratively located in Jinggotan Village, Kembang District and Jepara Regency. This area was designated through the Letter of Brigade II Forestry Planology Number: 2736/V/6/PLK dated 3 August 1961, but there has been no determination from the Ministry of Forestry. Kembang Nature Reserve has an area of 1.8 Ha and is geographically located between 6°30'11.01" South Latitude and 110°47'53.56" East Longitude. This area is adjacent to the highway and Perhutani area which is only composed by one type of ecosystem, namely the type of natural forest ecosystem (Chrystanto et al., 2015).

Flowering plants or *Angiospermae* are closed seed plants that belong to the largest group of vascular plants in the

kingdom plantae with a large number of species (Huda et al., 2020; Zahroini et al., 2019). *Angiospermae* plants are estimated to account for 90% of all plant species that are widespread in the world, equivalent to 235,000-400,000 species or 236,000-352,000 species of flowering plants (Bahadur et al., 2015). Angiosperms also include plants that dominate in terrestrial ecosystems and are classified as the most successful organisms throughout life (Magallón, 2009).

The division *Angiosperms* is divided into monocots and dicots, both of them have different characteristics in their roots, stems, leaves, flowers and seeds. Monocot plants have cotyledons or single cotyledon leaves, have a fibrous root system, leaf types are often parallel or curved with flat margins, vascular systems in stems are spreading type, and flower crowns are generally three or multiples thereof. Dicot plants have two cotyledons in their seeds, the root system is generally tapped (when grown from seeds), the type of stem vessels that are arranged concentrically, the leaf bones are generally pinnate or finger-shaped, and the flower petals are generally four or five in number and multiples of them (Tarigan et al., 2020).

Kembang Nature Reserve has a limited area (1.8 Ha), hence the types that exist in this area are also limited. The highest number of species found in the Kembang Nature Reserve area is at the tree life stage, while the least number of species found comes from the grass life stage where only one type of grass is found, it is due to the dense canopy cover in the area. The type of creeping grass dominates in this area, while for the life stage of trees, the mahogany type is the most common in the area. Flower Nature Reserve growing species of *Kedoya* (*Dysoxylum amooroides*), *Wuru* (*Actinodaphne* sp.), *Teak* (*Tectona grandis*), *Juwet* (*Eugenia cuminii*), *Trembesi* (*Samaneasaman*), *Trembesi* (*Samaneasaman*), *Trench gulun* (*Protium javanicum*), *Kepuh* (*Sterculia foetida*), and *Kecapi* (*Sandoricum koetjapi*). Meanwhile, around Kembang Nature Reserve is a production forest of Perum Perhutani with teak plant species (Chrystanto et al., 2015). Several types of plants that grow in the area indicate that the richness of Angiosperm plants in Kembang Nature Reserve is abundant.

Ecologically, Angiosperm plants create an ecosystem balance through symbiosis with insects and microorganisms around them, for example as a source of food and shelter,

pollinators or other ecological functions (Kurniawati & Martono, 2015). *Angiospermaes* plants also have an important role for humans to improve the economy such as the use of agriculture, medicinal plants, and others (Huda et al., 2020). Based on the diversity of *Angiospermae* plants that are widespread in the world and have an important role, it is necessary to identify *Angiospermae* plants, especially in the Flower Nature Reserve area, given the large diversity of flowering plants that are owned in the area.

## RESEARCH METHODS

This research was a qualitative descriptive study using plant data found in the Kembang Nature Reserve, Jinggotan Village, Kembang District and Jepara Regency. During the research process, *Angiospermaes* were identified and described systematically using various literatures.

Sampling of Angiosperm plants was carried out during February 2022 using the cruise method with a purposive sampling technique. The cruising method is carried out by tracing the cruising path from Pal 2 to Pal 6 in the Kembang Nature Reserve, Jinggotan Village, Kembang District and Jepara Regency. The Purposive Sampling technique here is a

strategy or method of sampling with a specific purpose in a study. The samples taken were adapted to the presence of plants capable of representing *Angiospermae* plants that live in the right and left cruising lanes on the path Pal 2 to

Pal 6 of the Kembang Nature Reserve. The data collected is in the form of habitat, plant morphology, and the scientific name of the Angiospermae plant in the area.



Figure 1. Map of Roaming Routes at the Research Location of the Kembang Nature Reserve, Jepara  
(Source: Google Maps, 2022)

The tools and materials used in this study were stationery, cell phones/digital cameras, identification keys, identification pictures, label paper, plastic, lux meters, pH meters, altimeters, thermo hygro, distilled water, and Angiosperm plants. The data analysis technique in this study was carried out qualitatively by referring to the model from Miles and Huberman (1994),

namely data reduction, data presentation, and drawing a conclusion.

## RESULTS AND DISCUSSION

The results of the identification of Angiosperm plants in Kembang Nature Reserve found as many as 30 species, consisting of 9 species of monocot class and 21 species of dicot class (Table 1). The results showed that the number of species in the Dicotyledoneae class dominated growth in Kembang Nature

Reserve area of Jinggotan Village, Kembang District, Jepara Regency compared to the Monocotyledoneae class.

The spread of Angiosperm plants in Kembang Nature Reserve is influenced by biotechnology factors. Biotechnology factors are generally divided into two, namely abiotic and biotic factors. Abiotic factors such as altitude, temperature, air humidity, soil moisture, pH and light intensity. Meanwhile, biotic factors related to the living conditions of plants consist of morphological, phenological, physiological, and molecular changes in

response to adaptation (Wasilah et al., 2019).

In addition to identifying the types of Angiosperm plants, the study also measured altitude, air humidity, soil moisture, air temperature, and soil pH to determine abiotic factors. Measurements were taken during the research. The results of measuring abiotic factors in the Kembang Nature Reserve, Jinggotan Village, Kembang District, Jepara Regency are 112-121 meters above sea level, air humidity 80-98%, soil moisture 80-98%, air temperature 29-310C, soil pH 7, and light intensity 883 lux meters.

Table 1. Types of *Angiospermae* Plants in the Kembang Nature Reserve, Jinggotan Village, Kembang District, Jepara Regency

No	Local Name	Scientific name	Class
1.	Vanilla	<i>Vanilla planifolia</i>	<i>Dicotyledoneae</i>
2.	Crocodile nest grass	<i>Ottochloa nodosa</i>	<i>Dicotyledoneae</i>
3.	Lempuyang	<i>Zingiber zerumbet</i>	<i>Dicotyledoneae</i>
4.	Palm tree	<i>Arenga Pinnata</i>	<i>Dicotyledoneae</i>
5.	Snakefruit	<i>Salacca zalacca</i>	<i>Dicotyledoneae</i>
6.	Mouse Gadung	<i>Tacca palmata</i>	<i>Dicotyledoneae</i>
7.	Fresh/white Pacing	<i>Costus speciosus</i>	<i>Dicotyledoneae</i>
8.	Iles-iles	<i>Amorphophallus sp</i>	<i>Dicotyledoneae</i>
9.	Porang	<i>Amorphophallus muelerri</i>	<i>Dicotyledoneae</i>
10.	Teak	<i>Tectona grandis</i>	<i>Monocotyledoneae</i>
11.	Wild Pagoda	<i>Clerodendrum japonicum</i>	<i>Monocotyledoneae</i>
12.	Chicken Poop	<i>Lantana camara</i>	<i>Monocotyledoneae</i>
13.	Ginggiyang	<i>Leea Indica</i>	<i>Monocotyledoneae</i>
14.	cough	<i>Sauropus androgynus</i>	<i>Monocotyledoneae</i>
15.	Palm Liman	<i>Elephantopus sp</i>	<i>Monocotyledoneae</i>
16.	Sembuhan leaves / fart leaves	<i>Paederia foetida L</i>	<i>Monocotyledoneae</i>
17.	Cincau	<i>Cyclea barbata</i>	<i>Monocotyledoneae</i>
18.	Cashew cashew / monkey cashew	<i>Anacardium occidentale</i>	<i>Monocotyledoneae</i>
19.	Raven Tree	<i>Dracontomelon mangiferum/ Dracontomelon dao</i>	<i>Monocotyledoneae</i>
20.	Mango tree	<i>Mangifera indica</i>	<i>Monocotyledoneae</i>
21.	pitiful	<i>Tetracera indica</i>	<i>Monocotyledoneae</i>
22.	Cubeb	<i>Piper cuba</i>	<i>Monocotyledoneae</i>
23.	Lamboro	<i>Leucaena leucocephala</i>	<i>Monocotyledoneae</i>
24.	Senggugu	<i>Clerodendrum infortunatum</i>	<i>Monocotyledoneae</i>
25.	Beware	<i>Ficus septica</i>	<i>Monocotyledoneae</i>

26.	Breadfruit Tree	<i>Artocarpus altilis</i>	<i>Monocotyledoneae</i>
27.	Tejo	<i>Cinnamomun iners Blume</i>	<i>Monocotyledoneae</i>
28.	Welah	<i>Dysoxylum densiflorum</i>	<i>Monocotyledoneae</i>
29.	Kedoya	<i>Dysoxylum gaudichaudianum</i>	<i>Monocotyledoneae</i>
30.	Carlang	<i>Dysoxylum spectacular</i>	<i>Monocotyledoneae</i>

Some pictures of Angiospermae which have been documented during the plants in the Kembang Nature Reserve study can be seen in Figure 2.

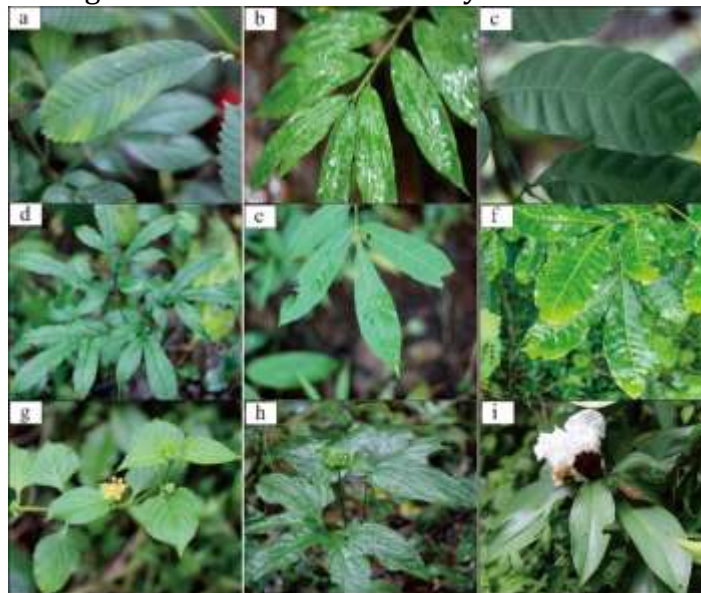


Figure 2. (a) Mempelas (*Tetracera indica*), (b) Lempuyang (*Zingiber zerumbet*), (c) Rau tree (*Dracontomelon mangiferum/ Dracontomelon dao*), (d) Iles-iles (*Amorphophallus* sp), (e) Kedoya (*Dysoxylum gaudichaudianum*), (f) Carlang (*Dysoxylum spectabile*), (g) Chicken Dung (*Lantana camara*), (h) Gadung Tikus (*Tacca palmata*), (i) Fresh/white Pacing (*Costus speciosus*)

The description of the 30 species of *Angiosperm* plants found in Kembang Nature Reserve can be seen in Table 2.

Table 2. Description of *Angiospermae* Plants in the Kembang Nature Reserve, Jinggotan Village, Kembang District, Jepara Regency

No	Local Name	Description
<b><i>Dicotyledoneae</i></b>		
1.	vanilla ( <i>Vanilla planifolia</i> )	<i>Vanilla (Vanilla planifolia)</i> is a plant that has knuckle stems with a diameter of 1-2 cm. Vanilla stems are light green when they are young and dark green when they are old (Hadisutrisno, 2004). Leaf length ranges from 8-25 cm. The tip of the leaf is tapered, the base of the leaf is rounded, and the leaf edge is flat (Andira, 2015; Jamaludin & Ranchiano, 2021). Vanilla flowers include compound interest. Generally the flowers will bloom only 1-3 flowers each day. Vanilli fruit resembles a capsule with a short stem. This fruit gives off a distinctive aroma when dry(Jamaludin & Ranchiano, 2021).
2.	Crocodile nest grass ( <i>Ottochloa nodosa</i> )	<i>Ottochloa nodosa</i> often called crocodile nest grass is a weed plant that has shoots that grow up to 30-120 cm. The leaves are parallel and long tapered. Crocodile nest grass flowers in loose panicles 7.5-20 cm long, have slender branches, and spread as they mature. In addition, it has fibrous roots and is commonly found in forests, forest edges, open land, and often fights with other plants.(Paiman, 2020).

3.	Lempuyang ( <i>Zingiber zerumbet</i> )	Lempuyang ( <i>Zingiber zerumbet</i> ) belongs to the Zingiberaceae family whose growth habitus is spread. The leaves of the lempuyang plant are in the form of a single leaf with alternating arrangements. At the base of the leaf there is a leaf tongue (ligula) which varies in color (white, purplish white, and greenish white). The color of the ligula matches the hue of the stem. Lempuyang plants have lateral type flowers that grow attached to pseudo stems. The flowers are attached to bunches that are not too large in size, which is 1-2 cm (Wahyuni et al., 2013).
4.	Palm tree ( <i>Arenga pinnata</i> )	The sugar palm tree ( <i>Arenga pinnata</i> ) is a large, solitary tree with a height of up to 12 m. The leaves of the compound palm tree are pinnate like coconut leaves. The length of the leaves can reach 5 m with petioles reaching 1.5 m. Young palm leaves always stand upright at the top of the stem, while young leaves are still rolled up soft like paper (Mardianto & Andini, 2020). Separate male and female sugar palm flowers, large, inflorescence stalks emerging from the stem, 1-1.5 m long on each rachille. Palm fruit is formed from the pollination of male flowers on female flowers (Kurnia et al., 2014).
5.	Snakefruit ( <i>Salacca zalacca</i> )	Salak ( <i>Salacca zalacca</i> ) is a plant that grows with fibrous roots. The bark of the salak is covered with many sharp thorns as a means of self-defense from disturbance by other organisms. The color of the stem is green and the inside is white. The salak leaf type is pinnately compound with a length ranging from 3-7 meters. In one salak plant has three kinds of flowers namely male flowers, female flowers, and perfect flowers. Salak generally has a dioecious flowering system, except for Bali salak (Fananiar et al., 2019).
6.	Mouse Gadung ( <i>Tacca palmata</i> )	The mouse gadung plant ( <i>Tacca palmata</i> ) is a small perennial plant that has a small, oblong rhizome. Single leaf with 3-7 finger bones, narrow base and tapered tip. Stems solid / not hollow. Umbrella-shaped flowers, and small round red fruit (Kurnia et al., 2014).
7.	Fresh/white Pacing ( <i>Costus speciosus</i> )	Fresh/white Pacing ( <i>Costus speciosus</i> ) is a herbaceous plant with a height of 0.5-3 m. The petiole is up to 1.5 cm long. The elongated leaf blade is lanceolate to oblong in shape, the tip is tapered, on the underside the hair is light green while the upper surface is smooth with a darker green color. The base of the leaf is blunt, the leaf edge is flat, the leaf flesh is like a bone with curved veins (cervinesis). Fresh Pacing has a wet stem (herbaceous), round in shape (teres), smooth stem surface (laevis), direction of growth of upright stems (erectus), branching on pseudo monopodial stems. Fresh/white pacing flowers are seated flowers, in the form of tight terminal grains, and are white and red in color (Liunokas & Bilik, 2021).
8.	Iles-iles ( <i>Amorphophallus sp.</i> )	Iles-iles ( <i>Amorphophallus sp.</i> ) is a member of the Araceae family which is a wild type. The leaves are small, the tips of the leaves are pointed and dark green. Iles-iles stalks have smooth, purplish-green bark with white spots. On the surface of the tuber there are nodules, fine fibrous and white. Iles-iles at each branch meeting did not have bubbles/frogs (Sumarwoto, 2005).
9.	Porang ( <i>Amorphophallus muelerri</i> )	Porang ( <i>Amorphophallus muelerri</i> ) is a type of tuber plant. This plant is a shrub (herb) that can grow in tropical and sub-tropical regions. Porang plants have erect, soft, smooth green or black stems with white spots. Single stem splits into three secondary stems and will split into stalks as pseudo stems. Its morphological development is in the form of a single finger finger supported by a round petiole. Porang tubers consist of two kinds, namely stem tubers which are in the ground and frog tubers (bulbil) which are found at the base of each branch or stalk which functions as a generative breeding tool (Sari & Suhartati, 2015).
<b>Monocotyledoneae</b>		
10.	Teak ( <i>Tectona grandis</i> )	Teak tree ( <i>Tectona grandis</i> ) is a large tree, straight trunked, can grow up to 30-40 m, has large leaves, and the leaves will shed in the dry season. Teak leaves are generally large, obovate, opposite, with very short stalks. Teak flowers are compound, located in large panicles. The fruit is round, slightly flattened, 0.5-2.5 cm in size, has coarse hair with a thick core, has 2-4 seeds

		(generally only one grows). The fruit is covered by enlarged flower petals which inflate like small balloons (Hartono et al., 2020).
11.	Wild Pagoda ( <i>Clerodendrum japonicum</i> )	Wild pagoda ( <i>Clerodendrum japonicum</i> ) is a deciduous shrub with a height of up to 3 m. The wild Pagoda's trunk was filled with fine hairs. Wild pagoda leaves are single-stemmed, located opposite each other, ovoid wide with 3 wavy grooves, serrated edges, and up to 30 cm long. The flower of this wild pagoda plant is a type of compound interest. Wild pagoda grows in tropical forests, especially along rivers, open areas up to 500 meters above sea level (Jannah & Safnowandi, 2018; Rindengan et al., 2020).
12.	Chicken Poop ( <i>Lantana camara</i> )	Chicken droppings ( <i>Lantana camara</i> ) is a shrubby plant and generally reaches 1-4 m in height. When young, the stems of chicken droppings are green in color, slightly square in shape and thorny with a diameter of 2-4 mm. Then the stem will become more rounded brownish gray with a diameter of 150 mm when mature. The leaves of <i>Lantana camara</i> are single leaves, dark green in color, and have pinnate leaves. <i>Lantana camara</i> flowers are compound flowers and have fruit like buni fruit and are shiny black when they are ripe (Dalimartha, 2000).
13.	Ginggiyang ( <i>Leea Indica</i> )	Ginggiyang ( <i>Leea indica</i> ) is a shrub with a height of up to 5 m. <i>Leea indica</i> stems are erect, woody and green. The leaves of <i>Leea indica</i> are green, compound, alternate and pinnate leaf reinforcement. <i>Leea indica</i> flowers are androgynous. <i>Leea indica</i> fruit is round and black. <i>Leea indica</i> has a taproot and is brown in color. This plant species is spread from the lowlands to an altitude of 1,700 meters above sea level (Paramawidhita, 2023).
14.	Cough ( <i>Sauropus androgynus</i> )	Katuk ( <i>Sauropus androgynus</i> ) is a herbaceous plant that grows for years and has a taproot. Katuk leaves are even compound leaves, small in size, dark green in color with a length of 5-6 cm. The flowers are small, dark red to yellowish with red spots. Katuk fruit is round, small in size like buttons, white and has 3 seeds (Rachim et al., 2020).
15.	Palm Liman ( <i>Elephantopus sp.</i> )	Tapak liman ( <i>Elephantopus sp.</i> ) is a herbaceous plant that is perennial, upright, striking because of its dark green color with strong lance-shaped roots. The stem is round, stiff and hard. The leaves below the root rosette, on petioles in the form of short fronds, extend to obovate, and irregularly grooved. The anthers on tapak liman flowers are attached. The fruit is narrow hard and in the form of long steps (Anggraini, 2004).
16.	Sembuhan leaves / fart leaves ( <i>Paederia foetida</i> )	Semmbuhan ( <i>Paederia foetida</i> ) or fart leaves since the leaves have a very pungent odor. Sembukan leaves belong to the Rubiceae tribe, have soft stems with a diameter of 0.5 cm, but can reach 10 m in length (Abriyanto et al., 2012). Sembukan has leaves that are round and elongated, measuring 6-10 cm in length and 3-5 cm in width (Nurcahyanti & Wandra, 2012). Sembukan leaf flowers are arranged as compound interest. Sembukan plants have fruits that are round, shiny, yellow in color, and have a diameter of 4-6 mm (Hidayat et al., 2020).
17.	Cincau ( <i>Cyclea barbata</i> )	Grass jelly ( <i>Cyclea barbata</i> ) is a liana plant that has a rough and thorny stem surface. Grass jelly leaves are heart-shaped, tapered at the tip, rounded at the base, curved leaf arrangement, long petiole, and rough leaf surface. Male flowers with downy petals and interlocking corolla. The female flowers are clustered on a slightly rounded head. This plant can be used as an astringent and antipyretic (Hasan et al., 2018).
18.	Cashew cashew / monkey cashew ( <i>Anacardium occidentale</i> )	Cashew/monkey has a tree trunk that is asymmetrical and dark brown. Cashew leaves are single, stemmed, 4-22.5 cm long, 2.5-15 cm wide. The leaf blade has green pinnate bones (Dalimartha, 2000). The flowers on the cashew plant are white. The fruit part has a pseudo-fruit which is reddish-yellow in color, soft-fleshed, and watery. This part is an enlarged fruit stalk. Besides that, cashew fruit also has an actual fruit which is commonly called cashew, which is a stone fruit that has a kidney-like shape with a very hard skin and two pieces of seeds which contain sap. (Ambardini, 2014).



19.	Raven Tree ( <i>Dracontomelon mangiferum/ Dracontomelon dao</i> )	Rau tree is a tree with a height of up to 40 m. Rau tree trunks up to 100 cm in diameter, straight, and buttresses up to 3 m high. The bark is gray-brown or red-brown. The leaves of the rau tree are oddly pinnate. Rau tree flowers are compound, small and yellowish white. Young fruit is green and ripe fruit is yellow to brown. Rau trees grow well in lowland forests at an altitude of 1,000 meters above sea level. This plant species can grow on alluvial and swamp soils(Pitopang et al., 2011).
20.	Mango tree ( <i>Mangifera indica</i> )	The Mango tree ( <i>Mangifera indica</i> ) grows as a tree with an upright trunk, many branches, and a shady green title all year round. Mature trees can reach 10-40 m in height. The mango tree has a very long taproot, which can reach 6 m. Mango tree leaves are single, with a spread location, without a pedestal. The length of the petiole varies from 1.25-12.5 cm, the base is enlarged and on the upper side there is a groove. The panicle-shaped flowers of the mango tree are formed from terminal branches, consisting of several thousand individual flowers(Oktavianto et al., 2015).
21.	pitiful ( <i>Tetracera indica</i> )	Mempelas ( <i>Tetracera indica</i> ) is a plant that has a bush (shrub) habitus with a terrestrial way of life. Mempelas has a single leaf, dark green in color, slender in shape with a slightly hairy leafy surface. On the petioles, the petioles are slightly hairy and the leaves (phyllotaxis) alternate. The root system of the plant melas is taproot. The stem is woody, round in shape, the surface of the stem is rough and slightly peeling. The direction of growth is creeping stems (repens) and not gummy(Diana et al., 2021);(Fitrya et al., 2009).
22.	Cubeb ( <i>Piper cuba</i> )	Cucumber ( <i>Piper cubeba</i> ) is a plant of the pepper tribe (Piperaceae). Cucumber stems are bare and have short pubescent hairs, shoots are grayish-magenta to reddish-brown, and their climbing roots are reddish-brown. Cucumber leaves are brown when young, and dark green when mature. Cucumber flowers are arranged in inflorescences in the form of grains. Male and female inflorescences on cubeb are found on separate plants. Separate male and female inflorescences indicate diesis inflorescence type. There are two types of fruiting in cubes, namely loose and tight(Kusumarini & Ariyanti, 2015).
23.	Lamtoro ( <i>Leucaena leucocephala</i> )	Lamtoro or often called Chinese petai ( <i>Leucaena leucocephala</i> ) is a plant from the leguminous tribe. The lamtoro plant has upright brownish-white or reddish-brown stems, has fork-shaped stem branches, small leaf shapes with two double pinnate veins, with a total of 4-8 pairs, and each petiole fin has 11-22 leaf stalks. . Lamtoro flowers are white which are bangkol or rounded flowers, and include compound flowers resembling a cup without leaf pads, and are capable of self-pollinating (Purwanto, 2011).
24.	Senggugu ( <i>Clerodendrum infortunatum</i> )	Senggugu is a flowering shrub or shrub. The stem is erect, up to 0.5-4 m high, unbranched and produces circular leaves. The leaves of <i>Clerodendrum infortunatum</i> are pinnate and broad. The stem is hollow, arranged in four whorls on very short petioles. The inflorescence is very large, consisting of white compound flowers. The round fruit turns bluish-black or black when ripe, and is covered with a red crescent-shaped calyx. The seeds are with or without endosperm(Basit et al., 2011).
25.	Beware ( <i>Ficus septica</i> )	Awar-awar ( <i>Ficus septica</i> ) is a tree- or shrub-like plant with a height of 1-5 meters. The main stem is crooked, soft, round cylindrical branches, hollow, bare, and lymph nodes. <i>Ficus septica</i> has a single supporting leaf, large, very pointed, single leaf, stemmed, leaves alternate or facing each other, and stems 2.53 cm. The type of flower of the awar-awar plant is a compound arrangement of pots in pairs and short stems. Some plants have male flowers and gal flowers. The fruit on the awa-awar plant is of the pot type, fleshy green-gray, and has a diameter of 1.5-2 cm. This plant can be found on roadsides, shrubs and open forests(Diana et al., 2021).
26.	Breadfruit Tree ( <i>Artocarpus altilis</i> )	Breadfruit tree ( <i>Artocarpus altilis</i> ) is a plant that has a height of 20-40 m. The stem is upright, has branches that are neatly arranged and far apart with leaves located at the ends of the branches. The leaves of the breadfruit tree

		reach a length of 50-70 cm, a width of 25-50 cm, a wide pinnate leaf spine, and a rough green leaf surface. Breadfruit tree flowers are light green and grow at the ends of the branches. Breadfruit tree seeds are brown and about 2.5 cm in size (Yumni et al., 2021).
27.	Tejo ( <i>Cinnamomum iners</i> )	The tejo tree ( <i>Cinnamomum iners</i> ) is a plant with a height of 24 m and a diameter of 60 cm. The bark is grayish brown, smooth, with lenticels. Subopposite or opposite leaves, have three veins, and the size of the leaves is 5-30 x 2.5-13 cm. Tejo tree flowers are whitish with a length of 5-7 mm. The fruit is oblong in carpel with a size of 1.5 x 1 cm. Basically, this plant lives in a wet climate and can live at altitudes ranging from 500-1,500 meters above sea level. The tejo tree grows faster when it is in the lowlands, but the skin it produces is thinner and it smells less fragrant (Paramawidhita, 2023).
28.	Welah ( <i>Dysoxylum densiflorum</i> )	Welahan ( <i>Dysoxylum densiflorum</i> ) or often also referred to as cempaga (Java) is a member of the Meliaceae family. The welahan plant is a woody tree with a height of up to 40 meters and a diameter of up to 1.2 meters. Welahan leaves are oval-lanceolate in shape. The fruit is oval in shape with a length of between 3-6 cm. Welahan can grow well if it is in the lowlands to an altitude of 1,700 meters above sea level (Sumarya, 2020).
29.	Kedoya ( <i>Dysoxylum gaudichaudianum</i> )	Kedoya trees are plants that grow in primary and secondary forests up to an altitude of 1,800 meters above sea level. Kedoya trees can grow up to 36 m. The first small kedoya leaves do not develop, the next are single, then the compound pinnate is odd. Leaf blade oblong or round like an egg, rounded base, flat edge and sharp tip. Kedoya flowers are white to yellow-brown. The flesh is yellow-brown with seeds 1-10 mm long (Dharma et al., 2014).
30.	Carlang ( <i>Dysoxylum spectacular</i> )	Type <i>Dysoxylum sp.</i> is a type of plant that adapts well to conditions of lack of light or water with a tree height of up to 18 m. This type also has large roots, so it is very good to use in conserving soil and preventing landslides in the TNGC area, especially on land with steep slopes (Iskandar et al., 2021).

## CONCLUSION

Based on the results of the study, it was found that as many as 30 species of *Angiospermae* plants were found in the Kembang Nature Reserve, Jinggotan Village, Kembang District, Jepara Regency. 9 species belong to the monocot class, namely *Vanilla planifolia*, *Ottochloa nodosa*, *Zingiber zerumbet*, *Arenca pinata*, *Salacca zalacca*, *Tacca palmata*, *Costus speciosus*, *Amorphophallus variabilis*, and *Amorphophallus muelerri* Blume. 21 species belong to the dicot class, namely *Tectona grandis*, *Clerodendrum japonicum*, *Lantana camara*, *Leea indica*, *Sauropus androgynus*, *Elephantopus sp.*,

*Paederia foetida*, *Cyclea barbata*, *Anacardium occidentale*, *Dracontomelon dao*, *Mangifera indica*, *Tetracera indica*, *Piper cubeba*, *Leucaena leucocephala*, *Clerodendrum infortunatum*, *Ficus septica*, *Artocarpus altilis*, *Cinnamomum iners*, *Dysoxylum densiflorum*, *Dysoxylum gaudichaudianum*, and *Dysoxylum densiflorum*.

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