Inventory and Identification of Medicinal Plants Based on Habitus at Karangsari Research Station

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Abstract. Medicinal plants play an important role in improving health, many medicinal plants have not identified the type or efficacy. The purpose of this study was to identify and inventory medicinal plant species based on their habitus, benefits and parts used using participatory observation methods. The results of the observations identified that 48% consisted of undergrowth habitus, 29% consisted of shrubs habitus, 7% consisted of lianas, and 16% consisted of woody trees. Of the 31 species with 26 families have uses as traditional medicine for various diseases. The results of this identification need to be documented as a form of preservation in support of plant conservation and pharmacological studies in the discovery of new drugs. The identification results need to be informed to the surrounding community so that they can develop processed herbal products as added value, and can also market these products. Expectations from the results of this study coincide with increasing the income of the surrounding community and health

Keywords: medicinal plants; habitus; identification; conservation

1 Introduction

Medicinal plants have been widely used throughout human history and knowledge about how to use medicinal plants has been passed down from generation to generation through various ways, and modern science has devoted attention through various studies to the uses of these medicinal plants (Yong Ouk, et al, 2014). The use of natural ingredients as traditional medicine is increasing because of human awareness to return to nature (Latifah Siti, et al, 2020).

The use of herbal medicines is increasing worldwide especially in developing countries about 80 percent of the general population, and the global market for these medicinal plants with plant derivatives is estimated to reach 25.6 billion dollars in 2015 and increase to 35.4 billion dollars by 2020. (Alonso Castro, et al, 2017). A number of plants and plant species have the potential to provide value-added products and compounds for medicinal and therapeutic applications, so that in this condition it is necessary to continue to study in looking at sources and cultivation techniques of medicinal plants (Sheedy, 2010). Plants are rich sources of medicines and increase health problems and this urges researchers to revitalize natural products without harming the body (Priyanka, 2015), just as sintoc cinnamon is one of the medicinal plants that produces essential oils from the roots, leaves, and bark. (Ismail, et al, 2019). Traditional medicines derived from medicinal plants play an important role throughout the world (Malyavantam, 2019), and play a role in the treatment of several diseases in remote areas (Roy et al, 2018). Many medicinal plants for various types of diseases such as

hypertension, anti-tumor, and diabetes and are potential sources of anti-oxidants (Yeshi, et al, 2017), (Sedighi et al, 2017). It is also necessary to find several types, properties, and components of medicinal plants (Kumar, et al, 2017).

Plants have a variety of nutrients, but this condition has not been used optimally. Medicinal plants have the potential to be developed and need to have certainty as to improve the quality and suitability of their clinical trials (Fitzgerald, et al, 2020). Regarding its use, today's society has a tendency to return to using medicinal plants taken directly from nature, but the community is constrained by knowledge of the use of medicinal plants because there are still many unknown types and benefits of other medicinal plants (Mayangsari A *et al,* 2019). It is necessary to document various medicinal plants to be used as a treatment for various diseases (Sabraan, et al, 2016).

Medicinal plants are assets that need to be continuously explored, researched, developed, optimized for their use and development and saved by cultivation in order to remain sustainable (Noorhidayah *et al* 2017). Seeing this condition, information on medicinal plants based on their habitus and their use needs to be done, so this study aims to identify and inventory medicinal plant species based on their habitus, benefits, and parts used at Karangsari research station and is expected to add information related to medicinal plants and their use for medicinal plants. wide community

2 Methodology

This research was conducted at Karangsari Research Station, Kuningan Regency, West Java. The research was conducted in April 2021. This research was conducted using a qualitative descriptive method with participatory observation techniques. The variables observed in this study were (1) identification of species, (2) morphological characteristics, (3) efficacy and methods of utilization of medicinal plants. While the data collection procedures include: (1) direct observation by means of field surveys to obtain a clear picture of the habitat of medicinal plants, (2) conducting in-depth interviews with predetermined informants, (3) taking theoretical samples, namely plant species. the drug used, the local or regional name is recorded, the efficacy, aspects and utilization are recorded, then make herbarium specimens for description and identification purposes in determining the scientific name, (4) documenting.

3 Results And Discussion

3.1. Identification of the Diversity of Medicinal Plant Species

Based on the results of field observations, there were 31 species of medicinal plants in the Karangsari Research Station area, belonging to 26 families. The types and families of medicinal plants can be seen in Table 1.

**Table 1.** Types and families of medicinal plants in the Karangsari Research Station area

No	Name Type	Name Region	Family
1	*Tithonia diversifolia*	Kipahit	Asteraceae
2	*Lantana camara*	Duria	Verbenaceae
3	*Sida rhombifolia*	Sidaguri	Malvaceae

4	*Achyranthes aspera*	Jarong	Amaranthaceae
5	*Centella asiatica*	Antanan	Apiaceae
6	*Elaeocarpus sphaericus*	Jenitri	Elaeocarpaceae
7	*Melastoma candidum*	Harendong	Melastomataceae
8	*Chromolaena odorata*	Kirinyu	Asteraceae
9	*Salonum torvum*	Takokak	Solanaceae
10	*Conyza*	Jalentir	Asteraceae
11	*Hidrocotyle sibthorpioides*	Bandotan	Araliaceae
12	*Alpinia malaccensis*	Laja goah	Zingiberaceae
13	*Imperata cylindrical*	Alang-alang	Poaceae
14	*Cyperus rotundus*	Rumput Teki	Cyperaceae
15	*Plantago major*	Sangkoba	Plantaginaceae
16	*Curculigo orchioides*	Congkok	Liliaceae
17	*Typhonium flagelliforme*	Keladi Tikus	Araceae
18	*Polygala paniculata*	Tatarasonan	Polygalaceae
19	*Begonia aptera*	Begonia	Begoniaceae
20	*Eleusine indica*	Jampang	Poaceae
21	*Mimosa pudica linn*	Putri Malu	Mimosaceae
22	*Orthosiphon aristatus*	Kumis Kucing	Lamiaceae
23	*Phyllanthus niruri*	Meniran	Euphorbiaceae
24	*Oxalis corniculata*	Calincing	Oxalidaceae
25	*Amomum cocineum*	Tepus	Zingiberaceae
26	*Cyathea contaminans*	Paku Tiang	Cyatheaceae
27	*Leucaena leucocephala*	Lamtoro	Fabaceae
28	*Syzygium polyanthum*	Salam	Myrtaceae
29	*Persea americana*	Alpokat	Lauraceae
30	*Calliandra calothyrsus*	Kaliandra	Fabaceae
31	*Ficus variegate*	Kondang	Moraceae

Source: results of observations and processing of information, 2021

Based on the number of species owned by each family, medicinal plant data are grouped into three, namely the first group consists of a family that has 1 species totaling 22 families including Verbenaceae, Malvaceae, Amaranthaceae, Apiaceae, Elaeocarpaceae, Melastomataceae, Solanaceae, Araliaceae, Cyperaceae, Plantaginaceae, Liliaceae , Araceae, Polygalaceae, Begoniaceae, Mimosaceae, Lamiaceae, Euphorbiaceae, Oxalidaceae, Cyatheaceae, Myrtaceae, Lauraceae, Moraceae. The second group consists of the Zingiberaceae, Poaceae, and Fabaceae families with 2 species each and the third group is a family with 3 species, namely Asteraceae.

The results of observations show that there are medicinal plant habitus in the Karangsari research station area in the form of shrubs, undergrowth, lianas and also woody tree plants, with the composition shown in Figure 1. The habitus of understorey species is 48 percent because the area of this area was an area that used to be restoration. for reforestation areas so that with this land openness it supports and stimulates lower plants to grow and develop while lianas are only 7 percent because these plants have smaller hosts. With so many types of medicinal plants whose habitus are undergrowth, it indicates that they are a source of medicines that are no less important than medicinal plants whose habitus is trees. According to Abdiyani, S, 2008, understorey plays a very important role in nutrient cycles, reducing erosion, increasing infiltration, sources of germplasm, sources of medicines, animal feed and forest animals and so on.
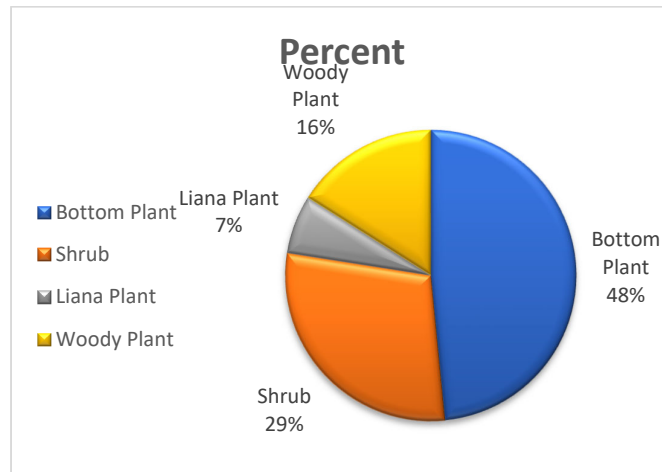
Figure 1. Medicinal Plant Habitus

Of the 31 species found at the Karangsari research station, only a few species were used by the local community for medicine. Though the potential of the area is rich in medicinal plants. Medicinal plants whose benefits have been identified such as for itching, fever, rheumatism, diabetes, burns, and so on (Table 1), so that the surrounding community can take advantage of and seek to cultivate these plants as medicine to be used directly or processed. into a medicinal product. This is also an effort to preserve the area and species of medicinal plants as local wisdom, as is the case in Madura and Bali (Jadid, et al, 2017). Similar to the Tengger area, there are 30 identified species with 20 families including medicinal plants that have been used in the surrounding area (Jadid N, 2020).

3.2. Efficacy of Medicinal Plants and Parts used

The medicinal plants identified in the Karangsari area have shown many properties and uses to treat various diseases. The surrounding community has not taken advantage of all the existing medicinal plants, because they are not sure about the types and uses of these plants. Through this observation, the types and uses can be identified as shown in Table 2.

Table 2. Various types of medicinal plants and their uses

Name of Plant Type	Used Part	Benefit
Shrub		
Kipahit/*Tithonia diversifolia*	Leaf	Itching medicine, scabies, diabetes
Duria/ *Lantana camara*	Leaf	Rheumatism, boil asthma, fever, itchy
Sidaguri/ *Sida rhombifolia*	Leaf, root	Malaria,cough, diarrhea, out of breaths
Jarong/ *Achyranthes aspera*	Root	Fever, malaria, tonsils, urinary stones, cholesterol
Antanan/ *Centella asiatica*	Leaf	Fever, hepatitis, hemorrhoids, diarrhea
Jenitri/ *Elaeocarpus sphaericus*	Fruit	Heart, diarrhea
Harendong/ *Melastoma candidum*	Leaf, fruit, stem	Diarrhea, hepatitis, cough,

		wound
Kirinyu/ *Chromolaena odorata*	leaf	Indigestion, cholesterol, gout, heart
Takokak/ *Salonum torvum*	root	Gout,anemia, stomach,diabetes, high blood pressure

Bottom Plant

Jalentir/ *Conyza*	leaf, stem	Malaria, digestion, insect bites, skin, infection
Bandotan/ *Hidrocotyle sibthorpioides*	Leaf,stem,root	Flu, fever, diarrhea, rheumatism, itchy
Laja goah/ *Alpinia malaccensis*	Stem, fruit	Boil, skin, spices
Alang-alang/ *Imperata cylindrical*	Root, stem	Bleeding, fever reducer
Rumput Teki/ *Cyperus rotundus*	Leaf, root	Skin, diarrhea, sore eyes
Sangkoba/ *Plantago major*	leaf	Digestion, diabetes
Congkok/ *Curculigo orchioides*	Leaf, stem, root	Fever, anti -inflammatory, pain relief
Keladi Tikus/ *Typhonium flagelliforme*	Root, leaf, stem	Inflammatory, asthma cough
Tatarasonan/ *Polygala paniculata*	Leaf, root	Itchy, anti cancer, anti bacterial
Begonia/ *Begonia aptera*	Leaf, stem	Cough, fever, menstrual pain
Jampang/ *Eleusine indica*	Root, stem	Fever, typus, seizures, kidney
Putri Malu/ *Mimosa pudica linn*	leaf	Diabetes, cough, fever
Kumis Kucing/ *Orthosiphon aristatus*	leaf	Asthma, cough, high blood pressure
Meniran/ *Phyllanthus niruri*	leaf	Diabetes, hepatitis
Calincing/ *Oxalis corniculata*	Leaf, root, stem	Fever, flu, diarrhea, hepatitis, eye drops

Liana Plant

Tepus/ *Amomum cocineum*	Leaf, stem, fruit, root	fever
Paku Tiang/ *Cyathea contaminans*	leaf	Wound healer,

Woody Plant

Lamtoro/ *Leucaena leucocephala*	Fruit, leaf	Diabetes, swollen wound
Salam/ *Syzygium polyanthum*	Leaf, stem, root,skin	Cholesterol, heart
Alpokat/ *Persea americana*	Fruit, leaf	Diarrhea, stomach ache, diabetes
Kaliandra/ *Calliandra calothyrsus*	fruit	digestion
Kondang/ *Ficus variegate*	Fruit,sap	Anti-cancer, anti-oxidant,antidote

Source: results of observations and processing of information, 2021

4 Conclusion

The Karangsari research station area has a diversity of medicinal plant species from various habitus. The identification results showed that 48% consisted of undergrowth habitus, 29% consisted of shrubs habitus, 7% consisted of lianas, and 16% consisted of woody trees.

Of the 31 species and 26 families identified in this area need to be documented as a form of conservation to support plant conservation and pharmacological studies, as well as the surrounding community can develop added value through processed herbal products so as to increase the income of local communities.

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