



The Host Tree Species of Mistletoe at the Sumber Agung DS Plant Collection Block in the Wan Abdul Rachman Grand Forest Park, Indonesia

Tarra Willis Darujowa¹, Indriyanto^{1*}, Surnayanti¹, Ceng Asmarahman¹

¹Department of Forestry, Faculty of Agriculture, Universitas Lampung, Indonesia

*Corresponding Author

ABSTRACT: Host trees and mistletoe are components that form parasitic associations. However, the existence of host trees and mistletoe in forest ecosystems also enriches the diversity of biological natural resources. Therefore, research was conducted at the Plant Collection Block in the Grand Forest Park to determine the existence of host trees and mistletoe, the level of attack and the level of association between mistletoe and host trees, and the correlation of the level of parasite attack with environmental factors. The method used was systematic sampling, a sampling intensity of 1%, and a sample plot design in the form of nested rectangular plots. The results showed that there were 6 species of mistletoe host trees, namely avocado, rubber, kapok tree, jackfruit, cocoa, and langsung, as well as 4 species of mistletoe, namely *Macrosolen cochinchinensis*, *Scurrula philippensis*, *Dendrophthoe falcata*, and *Dendrophthoe pentandra*. The percentage of mistletoe attack on host trees was very low (0.04-0.26%), so all host trees were categorized as healthy. A significant association occurred between the kapok tree with mistletoe *Dendrophthoe falcata* and between the cocoa with mistletoe *Dendrophthoe pentandra*, while the other two mistletoe species (*Macrosolen cochinchinensis* and *Scurrula philippensis*) were not significantly associated with host trees.

KEYWORDS: association, attack level, host tree, mistletoe.

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I. INTRODUCTION

A grand forest park is a type of conservation forest area. Grand forest parks are established to collect natural or artificial plants and/or animals, both native and/or non-native, for research, science, education, cultivation support, and environmental utilization (Pemerintah Republik Indonesia, 2024).

Wan Abdul Rachman Grand Forest Park is one of the grand forest parks located in Lampung Province, Indonesia with an area of 22,245.50 ha. The management of the grand forest park is carried out using a block system. There are 6 blocks in the Wan Abdul Rachman Grand Forest Park, namely the protection block, utilization block, plant and/or animal collection block, traditional block, rehabilitation block, and special block (UPTD Taman Hutan Raya Wan Abdul Rachman, 2017). The formation of such blocks aims to make the grand forest park management process more effective and efficient so that the grand forest park functions can run optimally.

A plant and/or animal collection block is a part of a grand forest park designated as an area for plant and/or animal collections (Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia, 2015). The plant and/or animal collection blocks in the Wan Abdul Rachman Grand Forest Park are spread across 13 locations with a total area of 2,120.10 ha. The plant and/or animal collection block closest to the capital of Lampung Province is the Sumber Agung DS plant and/or animal collection block with an area of 141.18 ha (UPTD Taman Hutan Raya Wan Abdul Rachman, 2017).

During preliminary observations, mistletoe was found on trees that make up the forest vegetation in the Sumber Agung DS plant and/or animal collection block. Mistletoe is a parasitic plant, most of which are members of the Loranthaceae family (Solikin, 2021), but some are members of the Viscaceae family (Haryanta & Susilo, 2018) and members of the Balanophoraceae family (Tjitrosoepomo, 1989). The existence of mistletoe on

host trees is a parasitic association that is detrimental to the host tree. However, mistletoe also has ecological and economic benefits (Prahamesti et al., 2025), as a component of the food web in the forest ecosystem (Indriyanto, 2024), as a food source for various species of birds that live in the forest, and as a source of raw materials for traditional medicines needed by the community (Prahamesti et al., 2025).

The existence of mistletoe can attract various species of birds that are seeking food. More mistletoe means a greater food supply for birds, thus improving bird populations. This can indicate favorable habitat conditions for fruit-eating birds (Annisa, 2022). Similarly, from an economic perspective, mistletoe is a useful plant for improving human health. For example, the tea mistletoe (*Scurrula oortiana*) has been shown to have health benefits, including treating hypertension, preventing tumors and cancer, and even relieving back pain after childbirth (Athiroh dan Mubarakati, 2021). Therefore, mistletoe is not merely seen as a nuisance plant, but also has important value for biodiversity and increases the potential of natural biological resources. However, if the density of the mistletoe population and the level of attack on the host tree are very high, it can negatively impact the host tree's growth. Information on the presence of mistletoe species and the level of attack on each host tree is essential for monitoring biodiversity conditions, ecological functions, and to monitor potential parasitic disturbances to host trees.

Several previous research have identified mistletoe species that live on various host trees. Tambunan & Raihandhany (2020) found three species of mistletoe in the arboretum around the ITB Ganesha campus, namely *Cuscuta australis* a member of the Convolvulaceae family, *Scurrula parasitica* and *Dendrophthoe pentandra* a members of the Loranthaceae family on various host trees. Prahamesti et al. (2025) found three species of mistletoe in farmers' cultivated areas within a traditional block within the Wan Abdul Rachman Grand Forest Park, namely *Dendrophthoe pentandra*, *Dendrophthoe falcata*, and *Scurrula parasitica* that found only on two host tree species (stink bean and cocoa). Meanwhile, at the 2021 plant collection block, four species of mistletoe were found, namely *Dendrophthoe pentandra*, *Macrosolen cochinchinensis*, *Dendrophthoe falcata*, and *Scurrula philippensis* that found on six host tree species (cocoa, rubber, jackfruit, avocado, mangse orange, and jointfir (Putri et al., 2021).

These research generally focus only on identifying the species of mistletoe and their host trees. To date, there is no data available on the level of damage caused by mistletoe attacks on each host tree, especially at the plant and/or animal collection blocks within the Wan Abdul Rachman Grand Forest Park. Therefore, this research was conducted with the aim of identifying the species of mistletoe host trees, identifying the species of mistletoe, analyzing the level of mistletoe attack on each host tree, analyzing the level of association between host trees and mistletoe, and analyzing the correlation between the level of mistletoe attack and environmental factors.

II. Methods

Research Site

The research was conducted from October to December 2025. The research location is the Sumber Agung DS plant and/or animal collection block, Bandar Lampung Resort in the Wan Abdul Rachman Grand Forest Park, Lampung Province, Indonesia. The research location map can be seen in Figure 1 as follows.

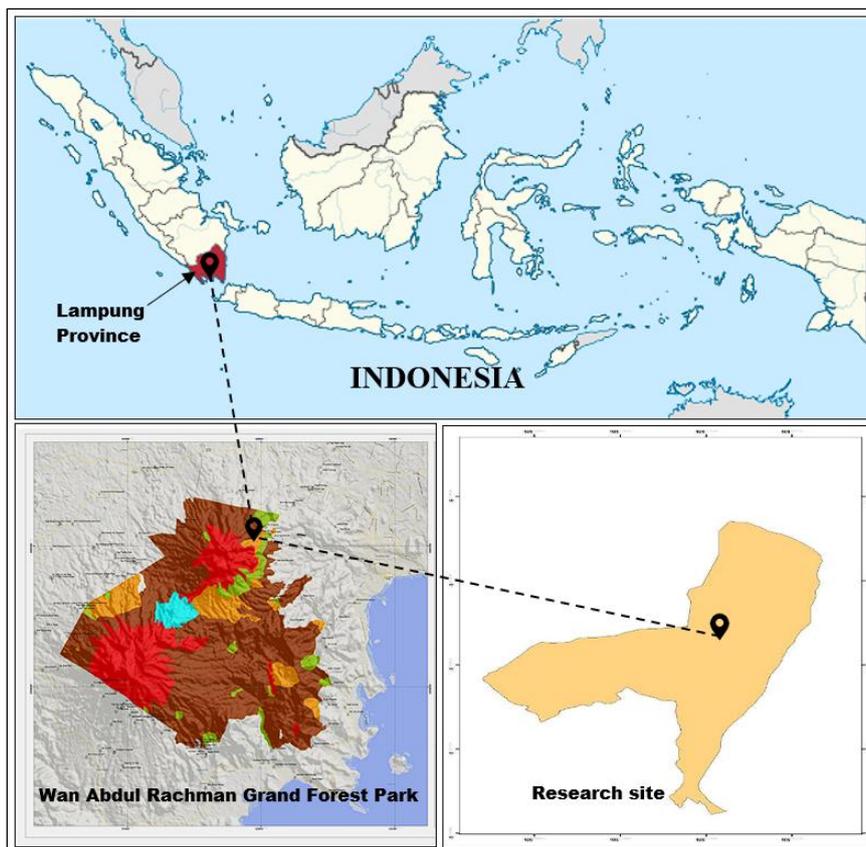


Figure 1. Map of research locations at the Sumber Agung DS plant and/or animal collection block, Bandar Lampung Resort in the Wan Abdul Rachman Grand Forest Park, Lampung Province, Indonesia (adapted from UPTD Taman Hutan Raya Wan Abdul Rachman, 2017).

Equipment

The equipment used for this research consists of string of raffia, wooden stake, measuring tapes, digital camera, GPS (global positioning system), haga meter, thermohyrometer, lux meter, a writing board, ballpoint pens, and tally sheets. In addition, use the mistletoe identification guide to find out the species of mistletoe (Haryanta, 2023; Haryanta & Susilo, 2018; Steenis et al., 2003; Uji & Sunaryo, 2008; Yong et al., 2018).

Data Acquisition

Data were collected through a vegetation survey on an area of 141.18 hectare, using a systematic sampling method with a sampling intensity of 1%. Thirty-five sample plots were used, each in the form of a nested rectangular plots. The shape and size of the nested plots in the nested rectangular plots design can be seen in Figure 2. The layout of the nested plots in the research area is presented in Figure 3.



Figure 2. Shape and size of the nested plots in the nested rectangular plots design (Indriyanto, 2021).

Remark: A= plot measuring 20 m x 20 m for observation of mature trees phase
 B= plot measuring 10 m x 10 m for observation of poles phase
 C= plot measuring 5 m x 5 m for observation of saplings phase
 D= plot measuring 2 m x 2 m for observation of seedlings phase and undergrowth

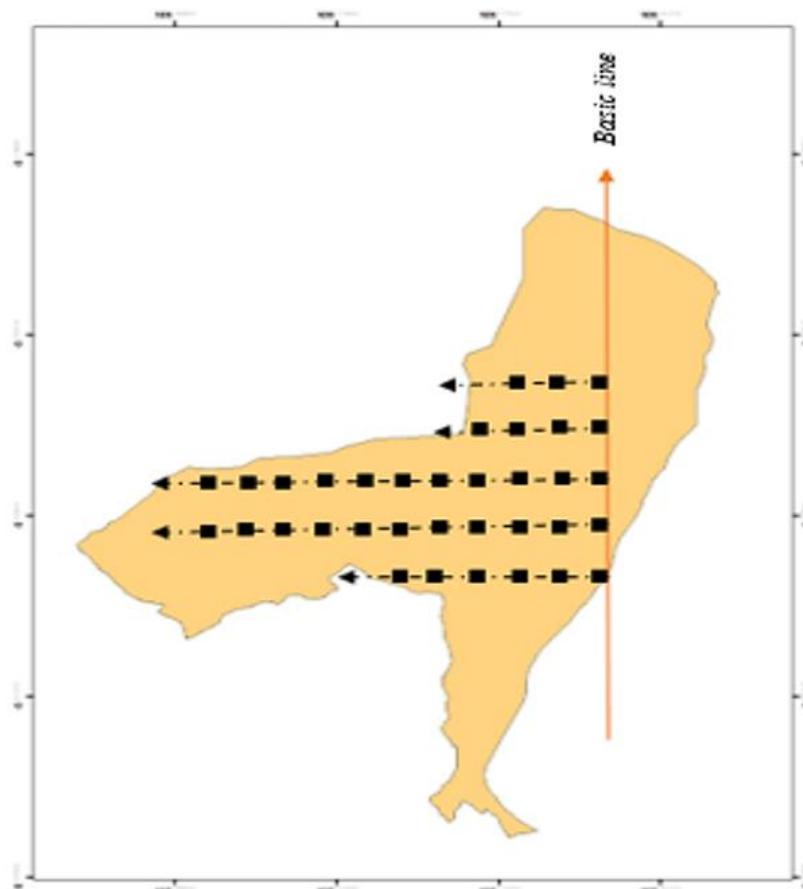


Figure 3. Layout of nested plots at the Sumber Agung DS plant and/or animal collection block in Wan Abdul Rachman Grand Forest Park, Lampung Province, Indonesia.

The data collected includes the species of trees that make up the forest stand, the number of individuals of each species of tree, the species of mistletoe, the number of individuals of each species of mistletoe, the species of trees that are hosts to the mistletoe, the number of tree branches attacked by mistletoe, and environmental conditions (air temperature, air humidity, solar radiation intensity, and altitude).

Data Processing

The density (D) of each tree species in the forest stand was analyzed to illustrate the population size of each tree species. The density of each tree species was calculated using the following formula (Indriyanto, 2021).

$$D = \frac{\text{amount of individuals of a plant species}}{\text{area of entire sample plot}} \quad (1)$$

The percentage (P) of the amount of branches that attacked by mistletoe for each species of tree was calculated using a formula adapted from the formula proposed by Kilmaskossu dan Nerokouw (1993) as follows.

$$P = \frac{\text{amount of branches that attacked by mistletoe}}{\text{total amount of branches}} \times 100\% \quad (2)$$

The level of mistletoe attack on the host tree is calculated based on the percentage of the amount of tree branches containing mistletoe, then the level of mistletoe attack is determined using the criteria approach proposed by Kilmaskossu and Nerokouw (1993) as follows (Table 1).

Table 1. Criteria for the level of mistletoe attack on host trees (adapted from Kilmaskossu and Nerokouw, 1993)

Number	Percentage of attack (%)	Value (score)	The level of attack
1.	0—<1	0	Healthy (not attacked)
2.	1—20	1	Very light attack
3.	21—40	2	Light attack
4.	41—60	3	Medium attack
5.	61—80	4	Heavy attack
6.	81—100	5	Very heavy attack

The association level between mistletoe and host trees was measured using the Ochiai Index (OI) formula proposed by Ludwig and Reynolds(1988 in Indriyanto, 2021).If OI= 0, then there is no association between the mistletoe and its host tree. If OI= 1, then the association occurs at the maximum level between the mistletoe and its host tree.The association level isdescribes the strength of the association between the mistletoe and its host tree.

$$OI = \frac{a}{(\sqrt{a+b})(\sqrt{a+c})} \quad (3)$$

Remark:

OI= Ochiai Index

a= amount of sample plots containing mistletoe species A and tree species B as its host.

b= amount of sample plots containing only host tree species B.

c= amount of sample plots containing only mistletoe species A.

Then an X² test was carried out to see whether the association was significant or not.

$$X^2 = \frac{(ad-bc)^2 \times n}{(a+b)(c+d)(a+c)(b+d)} \quad (4)$$

$$X^2_{corrected} = \frac{(|ad-bc| - \frac{n}{2})^2 \times n}{(a+b)(c+d)(a+c)(b+d)} \quad (5)$$

$$X^2_{table} = X^2_{(df;p)} = X^2_{(k-1;0.05)} \quad (6)$$

The X²table value is obtained with k-1 degrees of freedom and a significance level of 5%. The level of association is 2 species, so k = 2. In the X² table, it can be seen that X² (1; 0.05) = 3.84. If X²corrected > X²table, then there is an association and is stated as significant at a significance level of 5%. Conversely, if X²corrected < X²table, then there is no association.

III. RESULT AND DISCUSSION

The Density of Trees Population that Composing Forest GardenStands

There are 15 tree species found in the forest garden stands at the Sumber Agung DS plant and/or animal collection block. The tree species in question and the density conditions of each tree species population are presented in Table 2.

Table 2. Species of trees found in the forest garden stands at Sumber Agung DS plant and/or animal collection block, Bandar Lampung Resort, in Wan Abdul Rachman Grand Forest Park, Lampung Province, Indonesia

Number	Species of trees		Density of each growth phase (individual/ha)				Total density (individual/ha)
	Local name	Botanical name	Seedlings	Saplings	Poles	Mature trees	
1.	Avocado	<i>Persea americana</i>	71.4	22.8	5.7	9.3	109.3
2.	Rubber	<i>Hevea brasiliensis</i>	1,785.7	228.6	94.3	71.4	2,180.0
3.	Kapok tree	<i>Ceiba pentandra</i>				3.6	3.6
4.	Cocoa	<i>Theobroma cacao</i>	142.8	45.7	37.1	1.4	227.1

5.	Langsat	<i>Lansium domesticum</i>		14.3	1.4	15.7
6.	Jackfruit	<i>Artocarpus heterophyllus</i>			1.4	1.4
7.	Jointfir	<i>Gnetum gnemon</i>	142.9	8.6	6.4	157.9
8.	Nutmeg	<i>Myristica fragrans</i>	22.8	31.4		54.3
9.	Durian	<i>Durio zibethinus</i>	214.1	22.8	28.6	40.7
10.	Coffee *)	<i>Coffea canephora</i>	1,500.0	800.0	5.7	2,305.7
11.	Stink bean	<i>Parkia speciosa</i>			6.4	6.4
12.	Clove	<i>Eugenia aromatica</i>		34.3	2.8	37.1
13.	Candlenut	<i>Aleurites moluccana</i>		2.8	5.7	8.6
14.	Dogfruit	<i>Pithecellobium lobatum</i>	71.4	22.8		94.3
15.	Water apple	<i>Eugenia aquea</i>		2.8	0.7	3.6
			3,928.6	1,177.1	257.1	148.6
						5.511.4

Remark: *)= shrub group

Based on Table 2, the tree species found in the forest garden stands at the Sumber Agung DS plant and/or animal collection block, Tahura Wan Abdul Rachman have varying densities. Rubber and coffee trees have the highest densities, while kapok tree, jackfruit, petai, candlenut, and water apple trees have the lowest densities. The difference in density of each species of tree is due to the determination of the time of planting, in addition to the difference in density caused by competition, the survival ability of the tree, and the adaptability of the tree after being planted in the planting area.

The tree species composition within the forest garden stands at the plant collection block demonstrates the characteristics of a mixed forest garden dominated by cultivated plants. This reflects planting efforts to improve forest vegetation and enrich the plant species collected. High plant species diversity is expected to be maintained, although density distribution is uneven. This mixed stand pattern is very common in conservation areas in Indonesia where communities are located that depend on the forest for their livelihoods. Therefore, their cultivation activities in forest areas will influence the structure of forest vegetation (Maje, 2019).

In addition to diverse tree species, diverse plant families also support ecosystem stability through the ecological interaction functions between tree species such as shade, animal food provision, soil improvement, and so on, making forest plantation stands more resistant to biotic and abiotic disturbances (Magurran, 2021). The structure of forest garden stands, with woody plants of varying sizes and ages, can influence the microclimate of areas beneath the canopy. The factors of habitat, such as solar radiation intensity, air temperature, and humidity are support the existence of epiphytes and parasites such as mistletoe. The composition and structure of this vegetation influence changes in the population conditions of other organisms within the forest ecosystem (Solikin, 2021).

Species of Trees as Hosts for Mistletoe

Among the 15 woody plant species (trees and shrubs) that form the forest garden at the Sumber Agung DS plant and/or animal collection block, 6 tree species were found to be hosts for mistletoe, namely avocado, rubber, kapok tree, jackfruit, cocoa, and langsat. Four species of mistletoe were found, namely *Dendrophthoe falcata*, *Dendrophthoe pentandra*, *Macroselen cochinchinensis*, and *Scurrula philippensis*. The data about the species of mistletoe host trees and species of mistletoe are presented in Table 3.

Table 3. Species of host trees, species of mistletoe, and density of mistletoe on each host tree at Sumber Agung DS plant and/or animal collection block, Bandar Lampung Resort, in Wan Abdul Rachman Grand Forest Park, Lampung Province, Indonesia

Number	Species of host tree	Species of mistletoe	Density of mistletoe (individual/ha)
1.	<i>Persea americana</i>	<i>Macroselen cochinchinensis</i>	6.4
		<i>Scurrula philippensis</i>	3.6
		<i>Dendrophthoe pentandra</i>	2.9
2.	<i>Hevea brasiliensis</i>	<i>Macroselen cochinchinensis</i>	6.4
3.	<i>Ceiba pentandra</i>	<i>Dendrophthoe falcata</i>	2.1
4.	<i>Artocarpus heterophyllus</i>	<i>Dendrophthoe falcata</i>	2.1

5.	<i>Theobroma cacao</i>	<i>Dendrophthoe fentandra</i>	2.9
6.	<i>Lansium domesticum</i>	<i>Dendrophthoe pentandra</i>	2.9

Based on the data presented in Table 3 above, avocado trees (*Persea americana*) are hosts for 3 species of mistletoe, while the other 5 species of host trees that each become host 2 species of mistletoe. The differences in the species of mistletoe found on each species of host tree indicate that the occurrence of association depends on the suitability between the host tree and the mistletoe (Indriyanto, 2017). Other factors that support the occurrence of associations between host trees and mistletoe are the availability of mistletoe as a seed source, the existence of birds that eat the mistletoe fruit which are agents of spreading the mistletoe seeds, the ability of seeds to germinate on the bark of the host tree's branches (Muttaqin, 2016; Niu et al., 2024).

Differences in density between mistletoe species indicate variations in their ability to survive and adapt to host trees. Mistletoe species with higher densities and/or more host trees tend to be more dominant. Furthermore, morphological characteristics of the mistletoe, such as seed size and haustorium strength, also influence its survival and growth on host trees. Hutabarat *et al.* (2020) stated that mistletoe from the Loranthaceae family, such as the genera *Macroselen* and *Dendrophthoe*, are known to exhibit high adaptability to various host tree species.

The diversity of host trees where mistletoe grows indicates that the relationship between mistletoe and host is nonspecific. Mistletoe can utilize host trees with suitable vascular tissue characteristics, without having to rely on a single host species. This results in a single mistletoe species being found on multiple host tree species, especially in heterogeneous forest vegetation (Niu et al., 2024).

The Level of Mistletoe Attack on Host Trees

Mistletoe attack is a form of biotic disturbance that can affect the physiological condition of the host tree because mistletoe is a parasitic plant that utilizes organic matter and water from its host tree. The amount of host tree organs attacked by mistletoe can be used as an indicator of differences in the level of mistletoe attack. The level of mistletoe attack on tree species at the Sumber Agung DS plant and/or animal collection block in the Wan Abdul Rachman Grand Forest Park is presented in Table 4.

Table 4. The level of mistletoe attack on tree species at the Sumber Agung DS plant and/or animal collection block, Bandar Lampung Resort, in Wan Abdul Rachman Grand Forest Park, Lampung Province, Indonesia

The sample plot number	Species of host tree	Amount of all branches	Amount of branches attacked by mistletoe	Species of mistletoe	Percentage of attack (%)	The level of attack
3.	Avocado	15	2	<i>Macroselen cochinchinensis</i>	13.3	Very light attack
7.	Rubber	20	2	<i>Macroselen cochinchinensis</i>	10.0	Very light attack
14.	Rubber	14	1	<i>Macroselen cochinchinensis</i>	7.1	Very light attack
17.	Avocado	15	4	<i>Scurrula philippensis</i>	26.7	Light attack
18.	Avocado	15	1	<i>Scurrula philippensis</i>	6.7	Very light attack
21.	Rubber	18	2	<i>Macroselen cochinchinensis</i>	11.1	Very light attack
22.	Rubber	18	2	<i>Macroselen cochinchinensis</i>	11.1	Very light attack
23.	Avocado	15	1	<i>Scurrula philippensis</i>	6.7	Very light attack
23.	Avocado	18	2	<i>Scurrula philippensis</i>	11.1	Very light attack
25.	Kapok tree	15	1	<i>Dendrophthoe falcata</i>	6.7	Very light attack
27.	Avocado	10	2	<i>Dendrophthoe pentandra</i>	20.0	Very light attack
	Cocoa	10	1	<i>Dendrophthoe pentandra</i>	10.0	Very light attack
28.	Langsat	21	1	<i>Dendrophthoe pentandra</i>	4.8	Very light attack
29.	Rubber	12	1	<i>Macroselen cochinchinensis</i>	8.3	Very light attack
30.	Rubber	16	3	<i>Macroselen cochinchinensis</i>	18.7	Very light attack
	Jackfruit	22	1	<i>Dendrophthoe falcata</i>	4.5	Very light attack
	Kapok tree	10	1	<i>Dendrophthoe falcata</i>	10.0	Very light attack
34.	Rubber	16	1	<i>Macroselen cochinchinensis</i>	6.2	Very light attack
	Rubber	15	1	<i>Macroselen cochinchinensis</i>	6.7	Very light attack

35.	Cocoa	10	2	<i>Dendrophthoe pentandra</i>	20.0	Very light attack
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Based on the data in Table 4, the overall level of mistletoe attack on host trees included in the very light attack category, with a range of attack percentages from 4.5 to 20%. Only one species of mistletoe on the avocado tree in sample plot 17 had a light attack level, with an attack percentage of 26.7%.

If more tree branches are attacked by mistletoe, the level of mistletoe attack on the host tree will be greater. The level of mistletoe attack negatively affects the physiological processes of the host tree, so that at higher levels of attack, the host tree's physiological processes are disrupted. Although the mistletoe identified in this research is classified as a hemiparasites (halfparasites), if the mistletoe attack reaches a high level, it can have a negative impact on the health of the host tree. This is in accordance with the opinion of Hutabarat et al. (2020) that mistletoe can inhibit the vegetative growth of the host tree. If a tree branch contains many mistletoe and/or many tree branches are attacked by mistletoe, it can reduce the physiological condition and health of the host tree.

The Level of Association between Mistletoe and Host Tree

The association between trees and mistletoe is a type of parasitic interaction in which one party (the host tree) suffers a loss, while the other (the mistletoe) benefits (Indriyanto, 2017). Parasitic interactions in forest ecosystems remain crucial for building food chains, maintaining biodiversity, maintaining ecological niches, and maintaining the balance of forest ecosystems (Indriyanto, 2024; Odum, 1971). The degree of association between trees and mistletoe can illustrate the closeness of the living partnership between these two organisms (Indriyanto, 2021). The level of association between host trees and mistletoe at the Sumber Agung DS plant and/or animal collection block in the Wan Abdul Rahman Grand Forest Park can be seen in Table 5.

Table 5. Results of the analysis of the level of association between host trees and mistletoe at the Sumber Agung DS plant and/or animal collection block, Bandar Lampung Resort, in Wan Abdul Rachman Grand Forest Park, Lampung Province, Indonesia

Number	Species of host tree	Species of mistletoe	Index Ochiai	X ² _{corrected}	X ² _{table}	Association
1.	<i>Persea americana</i>	<i>Macroselen cochinchinensis</i>	0.213	0.0002	3.84	Not significant
		<i>Scurrula philippensis</i>	0.600	0.19	3.84	Not significant
		<i>Dendrophthoe pentandra</i>	0.348	0.001	3.84	Not significant
2.	<i>Hevea brasiliensis</i>	<i>Macroselen cochinchinensis</i>	0.528	1.50	3.84	Not significant
3.	<i>Ceiba pentandra</i>	<i>Dendrophthoe falcata</i>	0.580	4.82	3.84	Significant
4.	<i>Artocarpus heterophyllus</i>	<i>Dendrophthoe falcata</i>	0.408	0.73	3.84	Not significant
		<i>Dendrophthoe pentandra</i>	0.816	11.95	3.84	Significant
6.	<i>Lansium domesticum</i>	<i>Dendrophthoe pentandra</i>	0.408	0.73	3.84	Not significant

The association between host trees and mistletoe is not always significant even though the presence of mistletoe on a host tree is found. Based on the data on the existence of mistletoe on 6 species of host trees as presented in Table 5, it is evident that only two pairs of living associations are significantly associated. Two pairs of associations that were proven to be significant were kapok trees with *Dendrophthoe falcata* with an Ochiai Index of 0.58 and cocoa trees with *Dendrophthoe falcata* with an Ochiai Index of 11.95.

The association between trees and mistletoe is often not significant because mistletoe does not require a specific host tree. Muttaqin et al. (2016) stated that the existence of mistletoe on host trees is highly dependent on animals (e.g., birds) that eat the mistletoe fruit and then deposit the seeds according to the birds' migration routes. Birds that comfortably perch on a particular tree while eating the mistletoe fruit are more likely to associate with the host tree. Therefore, trees that are frequently perched by birds that eat mistletoe fruit will have a greater chance of receiving mistletoe seeds repeatedly, thus strengthening the likelihood of associations (Hutabarat et al., 2020).

IV. CONCLUDING REMARK

Conclusion

At the Sumber Agung DS plant and/or animal collection block in the Wan Abdul Rachman Grand Forest Park, there are six species of trees that serve as hosts for mistletoe out of 15 tree species collected in this area. The six species of mistletoe host trees are avocado, rubber, kapok tree, jackfruit, cocoa, and langsat. Four species of mistletoe were found, namely *Dendrophthoe falcata*, *Dendrophthoe pentandra*, *Macroselen cochinchinensis*, and *Scurrula philippensis*.

The level of Mistletoe attack on host trees are generally categorized as "very light attack". One species of mistletoe, namely *Scurrula philippensis* on an avocado tree was categorized as "light attack". The level of a mistletoe attack on a tree depends on the amount of branches attacked by the mistletoe.

Mistletoe doesn't require a specific host tree. The association between trees and mistletoe depends on the birds that feed on the mistletoe's fruit, which migrate and roost in trees, so that the mistletoe lives on trees which are often the perches of birds that eat the mistletoe fruit.

Recommendation

An inventory of the existence of mistletoe-eating bird species is necessary to analyze the potential for mistletoe seed dispersal. The existence of various species of mistletoe-eating birds in a habitat can prevent mistletoe from concentrating on only a few species of host trees and not only on a few individual of host trees.

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