A comparison of the relationships of moss in the Ton Tok Waterfall area, where temperature, humidity, living organisms, and ground cover differ.

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Abstract

Study of factors affecting the diversity of moss at Ton Tok Waterfall The purpose of the study was to study the optimal conditions of moss growth on the temperature and relative humidity of the air, as well as the characteristics of ground cover and canopy plants on moss diversity during October 2025-January 2025. The results of the study showed that there were 2 types of moss, 9 types of moss and dwelling mosses, with similar growth conditions of temperature and relative humidity. The average temperature is 27.65°C - 28.3°C, the average relative humidity is 66%- 68%, and the density of vegetation cover is similar. The average value of canopy plants is 93.75%-100%, and the average of ground cover plants is 43.75%-18.75%, which results in the presence and diversity of moss in the area around Ton Tok Waterfall.

Keywords : Moss , Tontok Waterfall , Temperature , Humidity

Research Questions

1.How does air temperature and relative humidity affect moss diversity?
2. How do ground cover and canopy plants differ from moss diversity?

Introduction

Mosses are plants in the group of bryophytes that are characterized by the lack of water and food pipes like higher evolved plants. Therefore, it usually grows well in areas with high humidity and not much sunlight. Although mosses are small plants, they are extremely important for the ecosystem, helping to retain moisture in the soil. Reduce soil erosion It creates a suitable environment for small organisms to live in, and it can also be an indicator of the changing environment in the area in Ton Tok Waterfall. Temperature, humidity, and soil cover cover the canopy, which are important factors that directly affect the growth and life of mosses. The right temperature will allow the moss to continue to photosynthesize and grow. While humidity is the main factor necessary for the survival of mosses. The canopy cover also plays an important role in finding mosses because it helps maintain a stable temperature and humidity, which is conducive to the growth of mosses and the ability of mosses to survive in the area of Ton Tok Waterfall. Therefore, the purpose of this research was to study the relationship between moss detection and environmental factors such as temperature, relative humidity, and soil cover in the area of Ton Tok Waterfall, which is an area with diversity and clear changes in the environment according to the distance from the data source. The data collection was carried out at the Ton Tok Waterfall area by dividing the sample collection points into two phases, namely the waterfall area (wetting phase) and the surrounding area (moderate wet phase) at each point to record the type and quantity of moss, as well as to measure the temperature, relative humidity, and amount of vegetation covering the canopy of the ground cover plants. Waterfall areas and comparative studies of moss found in areas with different temperatures, humidity, and vegetation cover are important to help us better understand the relationship between mosses and the environment. The data obtained from the study can be applied to assess the quality of ecosystems. Green space management Conservation of biodiversity, including the use of mosses as ecological indicators in scientific research and teaching. The results of the study may help to realize the importance of maintaining a balanced and suitable environment for small organisms that are often overlooked like mosses. Despite being a small plant, it plays a huge role in the existence of the ecosystem as a whole.

Research Methods

1. Research Preparation Stage
1) Set up a study point.
2) Research Gathering knowledge and theories related to research
3) Define the purpose of the study.
4) Determine the sampling point in the study area.
2. Processing and data collection
1) Planning research activities
2) Conduct a survey of the area to be researched.
3) Perform measurements of air quality, temperature, relative humidity and vegetation cover soil
and canopy vegetation.
Globe Testing Methods
Principles of Atmosphere Measurement Methods
Principles of Biosphere Land Cover Measurement Methods
Analysis and conclusion of research findings
1) Use the data obtained to analyze and compare the relationship.2) Make a comparative graph
3) Summary of Experiment Results



Results

Based on a comparative study, the relationship of moss in the Ton tok waterfall areawith different temperatures, humidity, organisms and land cover. The survey was conducted at 2 points and measured according to the GLOBE project standards, and the results were summarized as
follows:in terms of air quality, it was found that the waterfall area and the surrounding area of the waterfall had a similar temperature and relative humidity both times, with the average temperature being 27.65°C - 28.3°C. in terms of soil cover and canopy vegetation, it was found that in the waterfall area and the surrounding area of the waterfall, there were similar dense ground cover and canopy vegetation both times, with the average relative humidity being 66%-68%.

Survey Points	Average air temperature (°C)	Average Relative Humidity (%)
Ton Tok Waterfall area	27.65	68
The area around Ton Tok Waterfall	28.3	66

Survey Points	Average canopy cover (%)	Average vegetation cover (%)	Tree height (m)
Point 1	100	43.75	12.335
Point 2	93.75	18.75	9.0035

Designation of study points

The researcher conducted a study on the habitat area of mosses from October 2025 to January 2025. Palian, Palian, Trang Province By studying the waterfall and the surrounding area of TonTok Waterfall. By walking in the opposite direction of the flow of the waterfall for a distance of
300 meters

Conclusion

According to the results of the two surveys of temperature and relative humidity of the air, it was found that the temperature in the area of Ton Tok Waterfall and the surrounding area of Ton Tok Waterfall was 27.67-28.3.°C and the relative humidity was 66-68%, which reflects that the environment near the water source is conducive to maintaining humidity and the temperature is suitable for the life and spread of moss. In terms of soil cover and canopy cover, it was found
that there was an average density of 93.75-100% of canopy vegetation. There is an average of 18.74-43.75% of vegetation cover, which reduces direct light exposure and maintains
temperature and humidity in the area. As a result, the environment is suitable for the encounter and diversity of mosses and is consistent with the set objectives and research que

References

Kanchana - Thanop Khun Sasithorn Sukthai Jiranan Chandakul explores moss on the nature study route of Man Daeng Waterfall. From July to October 2016, a total of 97 moss samples werefound, classified according to morphology and anatomy, 17 families, 22 genera, 28species, divided into 15 species of upright moss and 13 species of horizontal moss. Phiboon
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