



ABSTRACT

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Title: Taxonomy and Distribution of Mosses in Mts. Palaypalay/Mataas na Gulod National Park, Luzon Island, Philippines
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Degree: Master of Science
Major: Biology
Date Started: June 2002
Date Completed: May 2003

STATEMENT OF THE PROBLEM:

This study aimed to determine the taxonomy and distribution of mosses in Mts. Palaypalay/Mataas na Gulod National Park (MPP/MGNP), Luzon Island, Philippines.

Specifically, the study aimed to answer the following:

1. What are the species of mosses found in MPP/MGNP?
2. How are the species of mosses distributed in

MPP/MGNP in terms of:

- a. habitat;



b. substrate, and

c. elevation?

3. How are mosses distributed in MPP/MGNP with respect to elevation during wet and dry seasons?

SCOPE AND COVERAGE:

The study focused on the determination of the different species of mosses found in MPP/MGNP and the relationship of elevation on its distribution during wet and dry seasons. The study was conducted from June 2002 to May 2003.

METHODOLOGY:

The study employed the descriptive type of research. Species of mosses were collected using convenience-sampling method. Methods on collection, preservation and identification of mosses follow the standard procedure being practiced in Philippine National Herbarium of the National Museum.

MAJOR FINDINGS:

The following findings resulted from this investigation:

1. A total of 237 samples of mosses were collected along the forest trails and riverbanks of the study area during the dry and wet seasons. These were represented by 41 species belonging to 15 families namely Sematophyllaceae represented by 9 species; Dicranaceae with 5



species ; Calymperaceae with 4 species; Leucobryaceae, Hypnaceae, Thuidiaceae, Neckereaceae and Fissidentaceae with 3 species each; Bartramiaceae with 2 species and Hookeriaceae, Spiridentaceae, Pottiaceae, Entodontaceae, Hypopterygiaceae and Leskeaceae with 1 specie each.

2. Distribution of moss species

2.1. Habitat – 36 or 87.80% of the species found in MPP/MGNP were collected from forest area and 28 or 68.29% from riverbanks. It was observed that some species in the forest area (e.g. *Calymperes* sp., *C. cuculligerum*, *D. perarmatum*, *Dicranoloma* sp., *E. rubicundus*, *. bowringii*, *O. albidum*, *P. revoluta*, *P. tjlbonensis*, *P. decurvata*, *S. rainwardtii*, *T. kerlanum* and *V. dubyana*) were not encountered in riverbanks.

2.2. Substrate – Mosses occur on a wide variety of substrates such as soil, barks, rocks, log and even in tree roots. Rock was the common type of substrate that moss species in the area were found with a percentage distribution of 39.76% comprising 33 different species followed by rotten log with 41.46%, then by bark and soil with 34.15% and 31.71% respectively. Tree root was observed to have the fewest species found with a percentage distribution of 7.23% comprising only of 6 different species.

2.3. Elevation – Species richness was high in 300-399 masl



having percentage distribution of 95.12% comprising of 39 different species. On the contrary, least percentage distribution, 14.63% were observed in station 5. Almost equal number of species were found in station 1 and 3 with 41.46% and 43.90%, respectively.

3. A total of 38 moss species were collected during wet season and 28 were collected during dry season. These species were distributed and found at different elevations.

During wet season, most species were recorded from Station 2 (300-399) comprising of 31 moss species with an average relative humidity of 79.89% and an average temperature of 25.48°C. The least species were recorded from Station 5 (600-684) with an average relative humidity of 48.00% and average temperature of 23°C during the same season. During dry season, a total of 26 species were recorded from Station 2 and again least species were recorded from Station 5 with average relative humidity of 64% and temperature of 32°C.

Statistical analysis shows that during wet season there is a moderate positive correlation between relative humidity and species distribution with P-value of 0.45 and weak negative correlation between temperature and species distribution with P-value of -0.08. This indicates that during this period, species distribution of mosses increases when there is a slight increased in the humidity, and there is a less tendency



that species of mosses will decrease as temperature increases. During dry season, there is moderately positive correlation between relative humidity and species distribution with P-value of 0.68 and strong negative correlation between temperature and species distribution with P-value of -0.9 . This means that as humidity increases during dry season the number of species also increases and as temperature increases there is a big tendency that number of species of mosses will decrease.

Conclusions

Based on the findings presented, the following conclusions were drawn.

1. A total of 41 species of mosses belonging to 15 families were identified from 5 stations established in MPP/MGNP at 200 – 684 masl.
2. Most of the species of mosses were found in forest area than riverbanks of MPP/MGNP. They occur mostly in rock substrates. Others were found in soil, bark, log and tree root. Some species were restrictedly found in limited substrate.
3. The number of species tends to be positively correlated with relative humidity and negatively correlated with temperature both during wet and dry seasons.



Recommendations

1. Other sampling techniques should be employed in future studies.
2. Physical factors such as temperature, humidity, light and pH of substrate should be considered in determining the abundance and distribution of mosses.
3. Frequency of sampling should be increased.

