

CHAPTER 4

MATERIALS AND METHODS

5.1 Materials

5.1.1 Specimen collecting equipments

- plastic bags
- hand lens
- field note
- camera
- films (colour print and transparency slide)
- altimeter
- tags

5.1.2 Identification equipments

- dissecting microscope
- dissecting needles
- razor blades
- Petri dishes
- Related taxonomic literatures

5.2 Methods

5.2.1 Literature review

The related literatures were explored from the libraries at the Professor Kasin Suvathabhandu Herbarium, Department of Botany, Chulalongkorn University (BCU) and the Forest Herbarium, Royal Forest Department (BKF). The basic information of the study site such as location, area, boundary, topography, climate, Flora, transportation and study site were studied in advance from the park's brochure before field trips.

5.2.2 Exploration and collection

Six duplicates of bryophyte specimens were collected and photography were taken for each species. Plotless method was employed, specimens were gathered along the existing forest trails, extending about 5 m from both sides. Monthly interval was designed for field trips during May 1999-July 2002. Ecological data, habit and some diagnostic characters of each species were noted.

5.2.3 Laboratory study

Dried herbarium specimens were prepared as described in Boonkerd et al. (1987) and deposited at the Professor Kasin Suvathabhandu Herbarium, Department of Botany, Faculty of Science, Chulalongkorn University (BCU). Both internal and external morphological characters were studied. Bryophyte specimens were identified using both keys and descriptions from taxonomic literatures, such as Flora, Manual, Monograph, Research papers, handbook, etc. as shown in the references. Specimens of each species were proved for identity by comparison to the voucher herbarium specimens deposited at BCU, BKF, Department of Biology,

Faculty of Science, Ramkhamhaeng University (BRU), University of Malaya herbarium (KLU) and the Herbarium, Singapore Botanic Garden (S). Nomenclature and arrangement of taxa in this thesis follow New Manual of Bryology (Schuster, 1984).

Dichotomous keys to genera and species were constructed for determining each taxon in the study area. Author of scientific names and their abbreviation used in this thesis are in accordance with “International Plant Names Index” (The Plant Names Project, 1999). Description of each species was prepared, base solely on specimens collected from Khao Luang. In addition, other information, including line drawing, ecological data, and geographical distribution for each species was prepared. The technical term used in this paper were follow “Mosses and Other Bryophytes, an Illustrated Glossary” (Malcolm & Malcolm, 2000).