

CHAPTER 2

LITERATURE REVIEW

History of bryophyte study in Thailand

The first study of bryophytes in Thailand was carried out between 1899 and 1900 when Danish botanist Johannes Schmidt collected bryophyte specimens from Koh Chang. All collected specimens were sent to the Botanical Museum in Copenhagen (Brotherus, 1901; Stephani, 1902). Two years later, A. F. G. Kerr, an English physician, arrived in Bangkok, he is the great and important plant collector for the flora of Thailand Project. During his long stay in Thailand, he had collected bryophytes and other plant groups throughout the country. The total of about 25,000 specimens were deposited in Bangkok (BK), Kew (K) and the British Museum (BM) (Larsen, 1979).

C. C. Hosseus, a German botanist, collected bryophytes in northern and northwestern Thailand during 1904-1905 (Brotherus, 1911; Stephani, 1911). His collections were deposited in Munich herbarium (M). In 1932, Dixon (1932, 1935) published the first checklist of Thai mosses based on Kerr's collections and all known literatures, including 220 species. Then, 3 years later Dixon updated his checklist to 300 species. It was noted that bryophytes from the northern part of the country were collected during November to December 1957 (Giesy & Richard, 1959).

Between the late 1950s and the early 1970s it had been the golden period of bryophyte study in Thailand. Numerous joint botanical expeditions were undertaken by Danish, Dutch, French and Japanese botanists together with Thai counterparts. Several Thai-Danish expeditions were carried out between 1958 and 1970 by the team consisting of Ch. Charoenphol, B. Hansen, K. Larsen, T. Santisuk, T. Smitinand, T. Sorensen, and E. Warncke. Their unidentified bryophyte collections were about 7,000 packets. These bryophyte specimens were distributed to many herbaria in Europe with duplicates were kept at BKF (Larsen, 1979).

During the same period (1950s-1970s) numerous botanical expeditions were also undertaken by Japanese botanists, for example, K. Yoda, H. Ogawa, & T. Umesao (Horikawa & Ando 1964), and M. Tagawa & N. Kitagawa (Noguchi, 1973; Kitagawa; 1967, 1968, 1969a, 1969b; Inoue, 1974). Their collections were deposited in many herbaria in Japan, such as, National Science Museum, Tokyo (TNS), Kyoto University, Kyoto (KYO) and Hattori Botanical Laboratory Herbarium.

A. Touw and E. Hennipman, two Dutch botanists, visited Thailand during 1965-1966, had collected ferns and bryophytes from many provinces. About 4,200 specimens were collected, including 2,800 specimens of mosses and 1,400 specimens of liverworts (Touw, 1968; Kitagawa, 1978, 1979). The first two sets are deposited at the Rijksherbarium (L) and the Royal Forest Herbarium, Bangkok (BKF). The remaining sets had been distributed by the Rijksherbarium.

Almost at the same period, P.P. Tixier, a French botanist, studied bryophyte specimens at BKF (Tixier & Smitinand, 1966) together with specimens collected from Ranong Province (Tixier, 1970). The second checklist of Mosses in Thailand was published, comprising 516 species (Tixier, 1971).

During 1980-1982, bryophyte specimens were collected in the mangrove forests from Chantaburi, Trat, Ranong, Pangnga, Krabi, and Satun Provinces. 111

specimens were collected, including 5 species of mosses and 22 species of leafy liverworts. (Thaithong, 1984).

In 1985, R. Sornsamran collected bryophytes at the Sakaerat Experiment Station, Nakhon Ratchasima Province. About 520 specimens were collected including 9 species of mosses and 22 species of liverworts (Sornsamra, 1988). In 1995, a checklist of bryophytes in Thailand was published (Sornsamran & Thaithong, 1995). From the 925 species, 2 species of hornwort, 644 species of mosses and 279 species of liverworts were listed based on published papers from 1900-1970.

S. He, staff of Missouri Botanical Garden (MO) published "Mosses flora of Thailand" based on Thailand.Thai-Danish expeditions and all known literature up to 1996, including 620 species and 31 subspecific taxa belonging to 190 genera and 52 families (He, 1997). It is latest update checklist mosses of Thailand.

In addition, there are some generic revisions of bryophytes in Thailand, such as, *Frullania* (Hattori, Thaithong and Kitagawa, 1997), *Bazzania*, *Leucolejeunea*, *Cephalozia* and *Cephaloziella* (Kitagawa; 1967, 1968, 1969a), Sphagnaceae (Hansen, 1961), Plagiochilaceae (Inoue, 1974), and Sematophyllaceae (O. Manop, 1977).