

CHAPTER VDISCUSSION AND CONCLUSION

The Sematophyllaceae is in general recognized as a member of the pleurocarpous mosses with regularly or irregularly pinnate branches and elongate leaf cells, and the identification of species as well as their descriptions are mainly based on characters of the leaves in detail.

Forty species in this family were taken part in this study and were investigated thoroughly. The comparative morphology of the leaf shows two main distinctions of characters (I) the presence of the midrib, and no alar cells at the leaf base. (II) the absence of the midrib, but alar cells present, being obscure to prominent.

Through this investigation the identification is then made possible on the basis of typical leaf characters together with the following apparent morphological characters. The arrangement of the leaves on stems and branches, the arrangement of leaf cells at the margin, the smooth or papillose character of the leaf cells, and the number and character of the alar cells.

Among the forty species studied, only three species have the midribs; they are Aerobryopsis longissima, Aerobryidium filamentosum and Stereophyllum anceps.

The other 37 species have no midribs and can be divided into three groups.

1. Six species with obscure alar cells: They are Foreauella orthothecia, Taxiphyllum taxirameum, Taxithelium alare, Taxithelium arnottii, Taxithelium nopalense, Taxithelium vernieri.
2. Five species with equally developed large alar cells in several horizontal rows: they are Gammiella pterogonoides, Brotherella amblystegia, Mastopoma perundulatum, Trismegistia lancifolia, Trismegistia rigida
3. Twenty six species with large alar cells in one horizontal row: they are Acanthocladium longipilum, Acanthocladium deflexifolium, Acanthocladium penicillatum, Acanthocladium surculare, Acanthocladium piliferum, Acanthorrhynchium papillatum, Acroporium aciphyllum, Acroporium diminutum, Acroporium hamulatum, Acroporium hermaphroditum, Acroporium lamprophyllum, Acroporium laosianum, Acroporium punctuliferum, Acroporium secundum, Acroporium sigmatodontium, Chionostomum rostratum, Clastobryum serrulatum, Meiothecium microcarpum, Sematophyllum caespitosum, Sematophyllum microcladiellum

Sematophyllum pheanicum, Sematophyllum subhumile
Sematophyllum tristiculum, Trichosteleum boschii,
Trichosteleum chaetomitriopsis, Trichosteleum hamatum.

In comparing the leaf cells, three distinct groups were found in the Sematophyllous mosses.

1. The group with smooth leaf cells i.e
Sematophyllum subhumile.
2. Leaf cells unipapillate i.e
Acanthorrhynchium papillatum.
3. Leaf cells pluripapillate i.e
Trichosteleum hamatum

From the present investigation in which a mode of identification by the use of the morphological character of the leaves is introduced, it is evident that a systematic work is still imperfect, and it would not be completed unless enough materials are available to make an intensive study, in both taxonomic account and geographical distribution as well.

On the matter of geographical distribution within the country, it is also quite hard to explain the distribution pattern rightly. What the writer can do is to try to limit the locality without altitudinal consideration by mapping forty known species collected at random from widely scattered parts of Thailand.

Of all genera, the genus Acroporium seems to be widely distributed; whilst Acanthocladium, Acanthorrhynchium, Aerobryidium, Aerobryopsis, Brotherella, Chionostomum, Clastobryum, Foreauella, Gammiella, Mastopoma, Meiothecium, Stereophyllum, Trichosteleum are confined to the northern part of Thailand, Sematophyllum, Taxithelium, Acanthorrhynchium and Trismegistia are probably growing throughout the country.

Table I Distribution of Sematophyllous mosses in Thailand

Localities	Species number *	Total
Bangkok	34	1
Chanburi	36,37	2
Chiengmai	1,2,3,4,5,16,17,18,21,23, 30,31, 32,33, 38	15
Kanchanaburi	3	1
Loei	2,12,17	3
Nakhonnayok	30	1
Nakhonratchasima	38	1
Nakhonsawan	11, 21,24,29,30	5
Nakhonsrithamarat	7,8,9,10,14,15 32,35,39 40	10
Pattani	32,39	2
Phuket	11,34	2
Phisanulok	4,6,12,20	4
Prachinburi	2,4,5,6,12,13,14,19,22,25 26,28,29, 36,37,39	16
Prachuapkhirikhun	31	1
Surattani	6,27,34	3
Udon thani	2,4,5,12,16,21,24,29,30 40.	10

* Species code number as listed on page 6 - 7

Figure XLI

Distribution of Sematophyllous mosses in the
Northern part of Thailand.

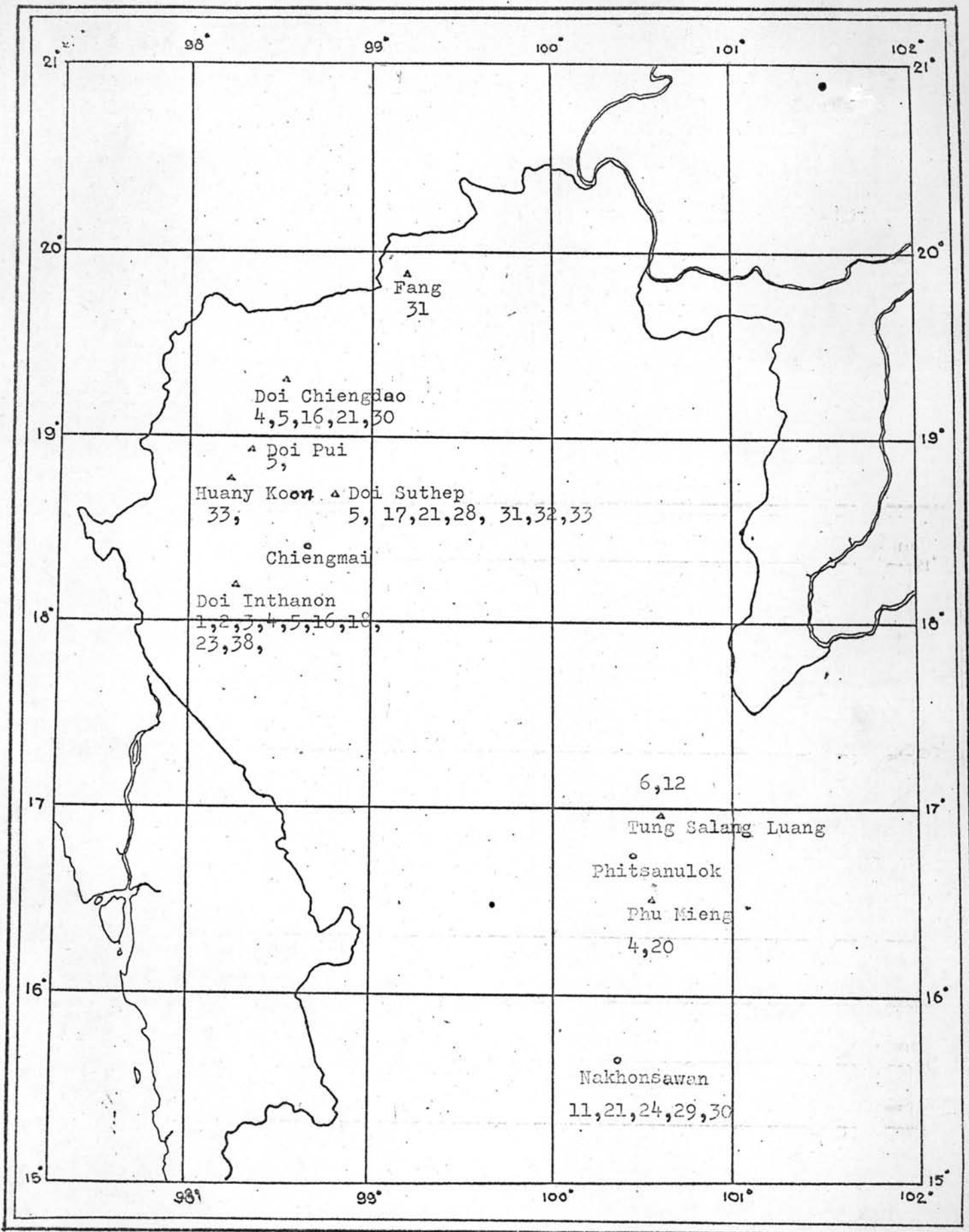


Figure XLII

Distribution of Sematophyllous mosses in the
Northeastern part of Thailand.

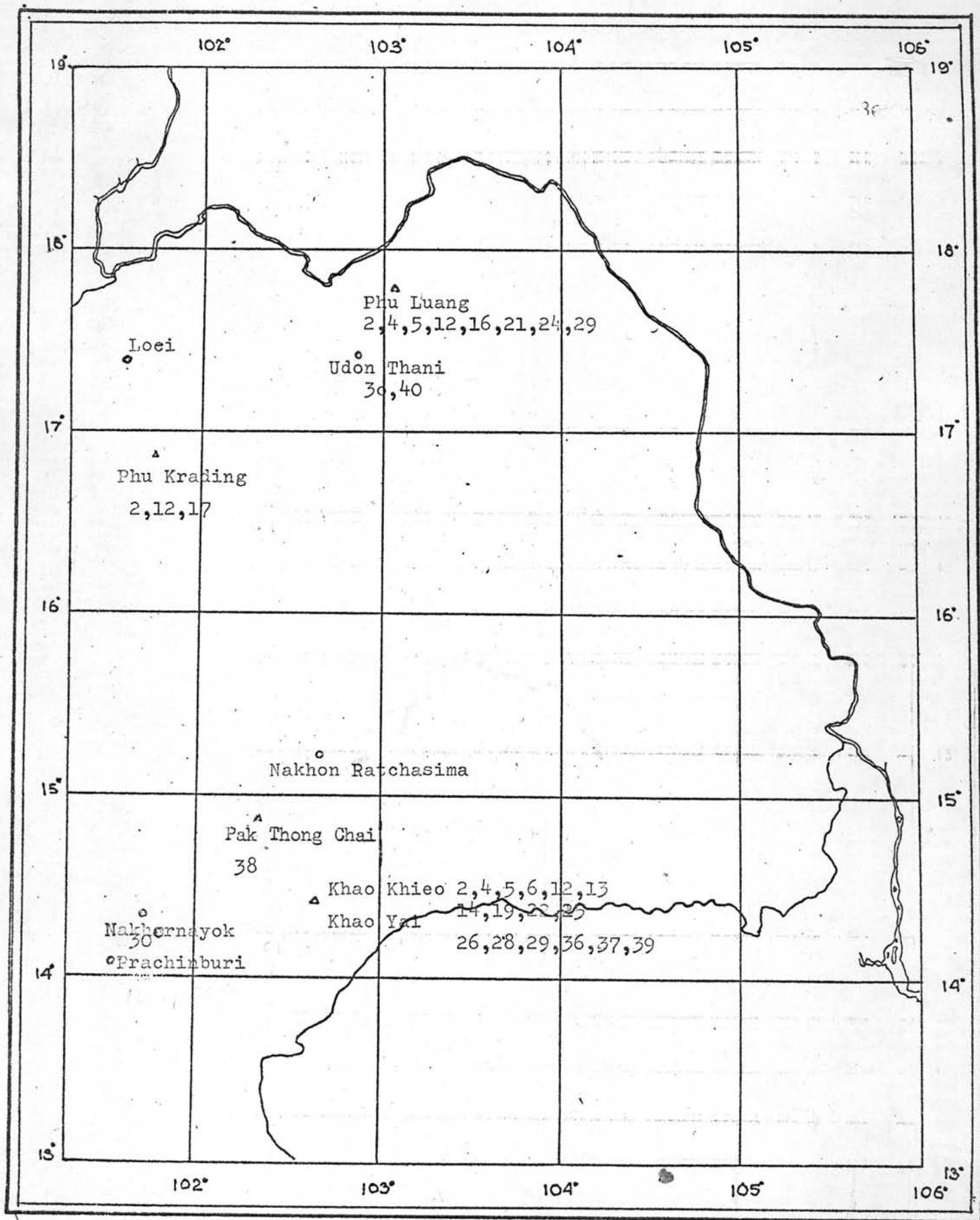


Figure XLIII

Distribution of Sematophyllous mosses in the
(Central part, Southern part and Western part of Thailand)

