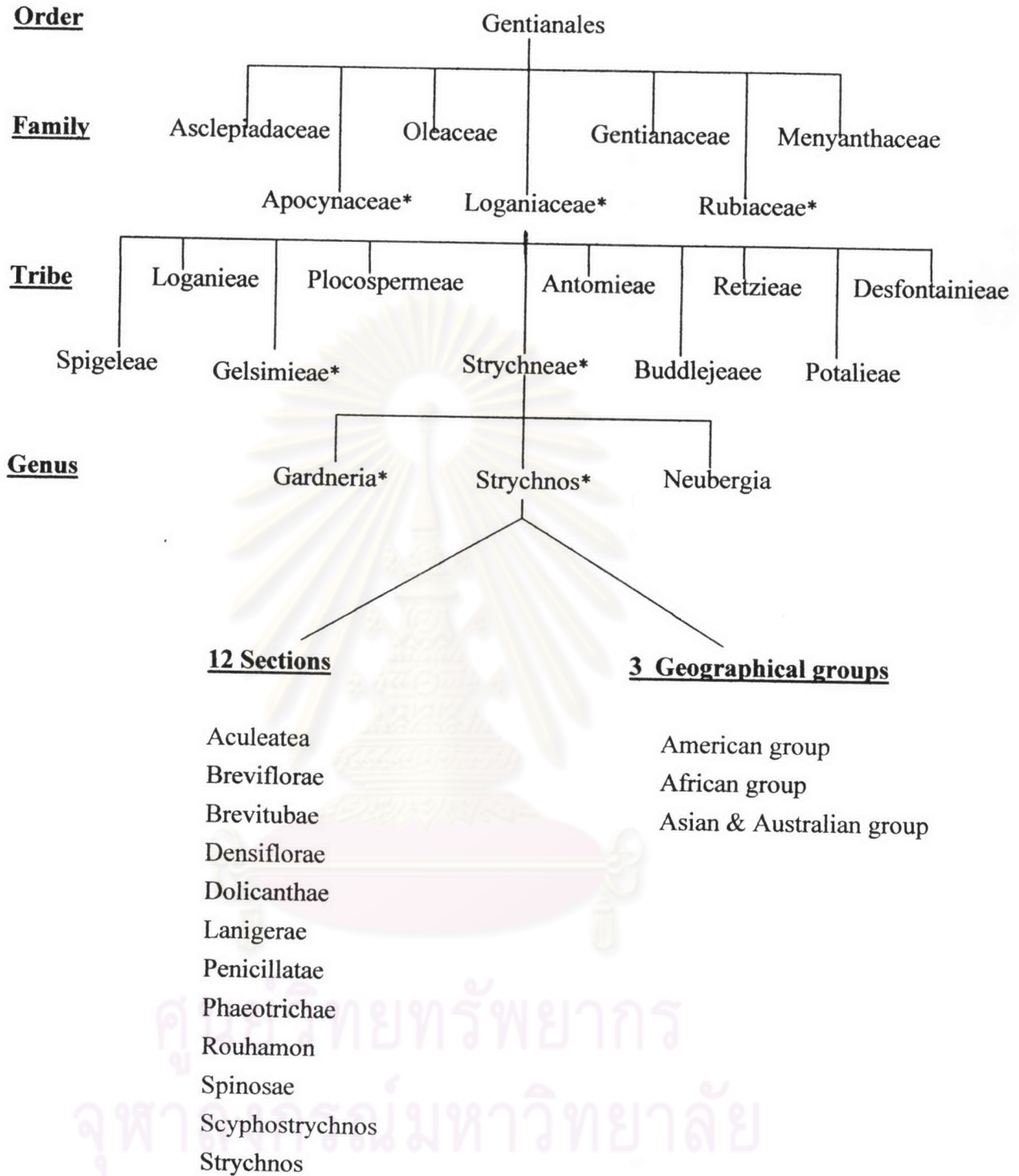


# CHAPTER I

## INTRODUCTION

The family Loganiaceae comprises some 470 species of plants classified into 29 genera. Among these, the numerically most important is the genus *Strychnos*, which is characterized by the special property of producing indole alkaloid (Massiot and Delaude, 1988). The genus is organized into 12 sections (Scheme 1), arranged according to a more or less natural system (Ohiri, Verpoorte and Baerheim-Svendsen, 1983). The genus comprises about 200 species which are pantropical in distribution and may be subdivided into three geographically separated groups. There are 75 species which are native to South and Central America (Krukoff, 1972), 75 species of Africa (Bisset, 1972b) and 44 species of Asia including Australia (Bisset, 1974). The Asian species are sources of strychnine and brucine, whereas the South American species are better known as the source of certain types of curare, of which the active constituents are dimeric *Strychnos* alkaloids.

The genus *Strychnos* was created by Linnaeus in 1753, after examination of specimens from the trees which produce nux vomica: *Strychnos nux-vomica* and *S. colubrina*. *Strychnos* species grow wild in equatorial and tropical areas. They may be tree, climbing shrubs, or even true lianas of large size and great strength. They display typical botanical characteristics which make them easy to recognize, such as opposite leaves, limbs with three to seven prominent veins running parallelly from base, and single, double, or quadruple curled tendrils in the case of lianas. (Massiot and Delaude, 1988). Among 44 recorded Asian *Strychnos* species, fourteen of them have been recorded to be found in Thailand and classified within 4 botanical sections: *Strychnos*, *Penicillatae*, *Brevitubae* and *Lanigeriae* (Table 1)



**Scheme 1.** Taxonomic background of the genus *Strychnos*

\* Taxan which are rich sources of indole alkaloids

Table 1. *Strychnos* species in Thailand

<i>Strychnos</i> species	Thai name	Section
<i>Strychnos axillaris</i> Colebr.	ขวากไ้	Penicillatae
<i>S. curtisii</i> King et Gamble	เถาปลอง	Lanigeriae
<i>S. ignatii</i> Berg	พญามือเหล็ก	Strychnos
<i>S. lucida</i> R. Br.	พญามือเหล็ก, พญามูลเหล็ก	Strychnos
<i>S. minor</i> Dennst.	คุดกาดแดง, พญาปล้องทอง	Lanigeriae
<i>S. myrioneura</i> Gilg	-	Lanigeriae
<i>S. nitida</i> G. Don	सानคิลอก	Strychnos
<i>S. nux-blanda</i> A. W. Hill	คุดกาขาว	Strychnos
<i>S. nux-vomica</i> Linn.	แสลงใจ	Strychnos
<i>S. polyantha</i> Pierre ex Dop	-	Lanigeriae
<i>S. rupicola</i> A. W. Hill	ขี้กาเครือ	Strychnos
<i>S. thorelii</i> Pierre ex Dop.	ของระอา, สะเอ็ง	Lanigeriae
<i>S. vanprukii</i> Craib	เถาช้าง	Brevitubae
<i>S. wallichiana</i>	เถาปลอง	Strychnos

*Strychnos vanprukii* Craib is known in Thai as “Thao chang” (Smittinand, 1980). This species is found growing in India, Indochina, Borneo, Malay peninsula and northern part of Thailand. The plant is a large woody climber with silvery grey to brown twigs without lenticels. Their leaves are lamina lanceolate to ovate, ovate-oblong, elliptic to oblong-elliptic, with acute to subtruncate base and acuminate to caudate apex with 3-plinerved. The inflorescences are 1-4.5 cm long. The corolla are green, 2.5-4 mm long, the corolla tube about half as long as the lobes. The filaments of the stamens are 1.2-2 mm in length and the anthers are 0.5-0.8 mm long. The diameter of fruits are 2 cm. They are red when ripe, with one seed in sub-globular shape (Griffin and Parnell, 1997).



Phytochemical and pharmacological information on this *Strychnos* species has<sup>4</sup> not been previously available. Therefore, it would be interesting to investigate the chemical composition of *S. vanprukii* in order to acquire useful information on its chemistry and chemotaxonomy. The aims of this present study are :

1. To isolate chemical constituents from *S. vanprukii* stem and determine their structures.
2. To investigate selected biological activities of some isolated compounds from *S. vanprukii*.



**Figure 1** *Strychnos vanprukii* Craib (Loganiaceae)

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