

## CHAPTER I



## INTRODUCTION

The nepenthaceae or the pitcher-plant family occurs in Tropical Asia, Malay Islands, North of Australia, New Caledonia, Madagascar and the Seychelles. (Hooker, 1975). This family comprises only one genus, *Nepenthes* (Mabberley, 1993).

Hooker J.D. described the characters of Nepenthaceae in the Flora of British India, volume 5 (1975) as follows :-

Climbing or prostrate evergreen undershrubs. **Leaves** alternate, exstipulate, midrib stout, produced into a peduncle which bears a pitcher of various forms, nerves parallel ; pitcher with 2 longitudinal ribs or wings in front, at first closed by a lid which opens and becomes erect or reflected, inner surface covered below the middle with glands that secrete water ; mouth with a revolute and closely ribbed margin (peristome). **Inflorescence** terminal or lateral ; flowers racemose rarely paniced, dioecious, small, green or brownish. **Perianth** 4-, rarely 3- partite ; segments oblong, glandular within. **Male flower**, stamens 4-16, united in a column crowned by the usually connate anthers with extrorse dehiscence. **Female flower**, ovary superior, 4-rarely 3-gonous, 4-3 celled ; stigma sessile, discoid, 4-3 lobed. **Ovules** numerous, in many series, attached to the septa. anatropous, ascending. **Capsule** coriaceous, loculicidally 4-3 valved. **Seeds** very numerous, minute,

imbricate, testa membranous, produced into a thread at each end ; albumen fleshly ; embryo axile, straight, cotyledons linear, radicle short inferior.

In Thailand, five species of *Nepenthes* are found (Smithinand, 1980):

<i>Nepenthes ampullaria</i> Jack	ช่อหม้อแกง	Chomo-kaeng
	หม้อแกงค่าง	Mokaeng Khaang
	หม้อแกงลิง	Mokaeng Ling (Pattani)
	בלางอ็ก็ก	Blaa-ngo-kue-ko (Malay-Pattani)
<i>N. kampotiana</i> Lec.	น้ำเต้าพระฤๅษี	Namtao phraruesee (Loei)
<i>N. mirabilis</i> Druce	กระบอกน้ำพราน	Kra bok nam phraan
<i>(N. phyllamphora</i> Willd.)	เขนงนายพราน	Khaneng naai phraan
	หม้อข้าวหม้อลิงแกง	Mokhaao mokhaeng ling
	เหน่งนายพราน	Neng naai phraan (Peninsular)
	ปูโยะ	Puu-yo (Malay-Pattani)
	ลิ่งค่นายพราน	Lueng naai phraan (Phatthalung)
	หม้อแกงค่าง	Mokhaeng khaang (Pattani)
	หม้อข้าวลิง	Mokhaao ling (Chanta-buri)
<i>N. smilesii</i> Hemsl.	น้ำเต้าพระฤๅษี	Namtao phraruesee (Loei)
<i>N. thorelii</i> Lec.	น้ำเต้าลม	Namtao lom (Ubon Ratchathani)

*N. thorelii* Lec. is native to Thailand and Malaysia. (Mc Makin, 1988). This plant is found in the north-eastern and southern regions of Thailand.

The characteristic features of *N. thorelii* Lec. are described in Wild Flowers of Thailand (Smithinand, 1975) as follows:

A perennial, climbing insectivorous plant, up to 5 m long. **Leaves** with a pitcher at the distal end for insect-catching purpose. **Flowers** unisexual, greenish or brownish perianth, on a long raceme in upper leaf-axile ; males and females on different plants. Stamens 4-16 forming a mass. **Fruit** an oblong capsule, about 2 cm long, splitting into 4 parts at maturity. Flowering all the year round. The pitcher is really an extension of the leaf which secretes a weak enzyme. Insects lured by its colour and odour, slipped on the waxy lip, fallen in and drowned, and later will be digested.

In Malay peninsular, roots from *N. ampullaria* Jack are boiled and formed into a poultice to treat stomachache and dysentery. A decoction or infusion of the stem is drunk to treat the remittent fever. In Indonesia, water from unopened pitchers of *N. boschiana* Korth. was used by the natives as a remedy for inflamed eyes. (Perry, 1980).

On the survey of Malaysian medicinal plants for antimicrobial activity, Nakanishi *et al.* (1965) found that a methanol extract of *N. albomarinata* exhibited the growth of *Bacillus subtilis*, *Staphylococcus aureus* and *Proteus vulgaris*. But there are no reports about the medicinal uses of these plants in Thailand.

With reference to the plants in this genus, a number of phytochemical reports have appeared. However, up to this date, neither a chemical nor a biological investigation of *N. thorelii* has been described. This study was undertaken in an effort to isolate and identify the chemical constituents of *N. thorelii*.