



CHAPTER I

INTRODUCTION

Evodia is the genus of shrubs, mostly growing in tropical region (Tropical Asia), the African Islands and Australia. *Evodia* species belong to the subfamily Rutoideae of the family Rutaceae.

In Thailand, there are at least 7 valid species of *Evodia*, most of them are distributed in northern part and a few species in Peninsula. *Evodia* species in Thailand are listed below :-

<i>Evodia glomerata</i> Craib.	Mamuang noi มะม่วงนอย
<i>E. gracilis</i> Kurz.	Salium dong สะเลียมดง
<i>E. leptota</i> Merr.	Phia kra thing เฟี้ยกระทั่ง (Northern).
<i>E. latifolia</i> DC.	
<i>E. meliifolia</i> Benth.	Mak kaek มั๊กแคก Mak khaet มั๊กแคด (Lampang)
<i>E. roxburghiana</i> Benth.	Saam ngaam สามงาม Uam อวม (Peninsula)
<i>E. viticina</i> Wall.	Khom waan kho ขมหวานขอ Ma peen dam มะปิ่นดำ (Lampang) Mang pheag-sao มัน เฟงเช่า

(Smitinand, 1980; Burkill, 1935)

Evodia leptota Merr. (Synonyms : *Ilex leptota* Spreng.,
E. triphylla Sensus. & Hayata., *E. pteleaefolia* (Champ) Merr.,

E. awadan Sensu., *Zanthoxylum pteleaefolia* Champ. ex Benth. and *Melicope awadan* Sensu.) is distributed in southern part of China to Indo-china, Taiwan and northern part of Thailand (Li, 1963; Smitinand, 1980).

It is a small tree with branchlets terete and glabrous. Leaves glabrous; petioles about 7-10 cm long, 2.5-3.5 cm broad, acuminate at apex, cuneate at base, the margins entire, the lateral veins 6-8 on each side of the midrib, petiolules up to 5-10 mm long. Flower in axillary, glabrous cymes, calyx-lobes 4, imbricate; petals 4, yellowish-white, ovate-oblong, about 2 mm long, and 1 mm broad; stamens 4 included glabrous; ovary 4-celled, each 1-ovuled; style pubescent, the stigma 4 lobed. Capsules about 3 mm across; seeds shiny, about 2 mm across (Li, 1963).

E. leptota Merr. has bitter taste and is used as antipyretic, anti-inflammatory, antipruritic, analgesic and to dispel stagnant blood in China and Taiwan (Juan and Lee, 1981).

Externally, it is used for trauma, abscesses, wound infection, eczema, dermatitis and haemorrhoids (Juan and Lee, 1981).

E. gracilis Kurr. (Synonyms : *E. triphylla* DC., *E. larmarckiana* Benth., *Fagara triphylla* Lamk., *Xanthoxylum larmarckiana* Champ., *X. pteleaefolium* Champ. and *Lepta triphylla* Lour.) is distributed in Philippine Islands, Japan, China, Borneo, Burma and Thailand.

It is a meagre slender shrub, 0.9-1.5 m high, the branchlets quite terete, the young shoots puberulous; leaves 3- and occasionally 1-foliolate, opposite and almost alternate on the same plant, glabrous, on a 2.5-10 cm long hardly marginate petiole; leaflets lanceolate or broadly lanceolate, acuminate at both ends, shortly petiolated, 8.75-10 cm and up to 12.5-17.5 cm long, chartaceous; panicles small and contracted, much shorter than the petioles, puberulous, glabrescent, flowers small, whitish, on short but slender puberulous pedicels; petals 4, oblong-lanceolate, acute; ovary puberulous, 4-celled; carpels usually 4, 4.2-6.2 mm long, dotted, glabrous; seeds the size of a pepper-kernel, glossy black or brownish black (Kurz, 1912).

This plant has no established *in vitro* or *in vivo* activities, but in northern part of Thailand (Chiangmai) fresh leaves are used as vegetable and bitter tonic (Kurz, 1912; Hooker, 1897; Craib, 1931).

In the screening test for alkaloids, both leaves of *E. leptota* Merr. and of *E. gracilis* Kurz. have shown positive results with alkaloidal reagents but the patterns of alkaloids shown on TLC are different.

Recently, Smitinand combined these two species into one species and used the name *E. gracilis* Kurz. as a synonym of *E. leptota* Merr. At present, there is no report on isolation of alkaloids from these species. Accordingly, this present work is carried out on comparative studies of alkaloids occurring in the leaves of these plants in order to use chemotaxonomy as an implement of justification.