

CHAPTER I



INTRODUCTION

Myriopteron Griff. is a small genus in the Periplocaceae, a closely related family of the well-known Asclepiadaceae. Plants in this genus are found distributing from Assam to Malay Peninsula (Shaw, 1988), possessing the characteristic features which are described as follows (Hooker, 1885):-

A glabrous or pubescent slender twining shrub. Leaves opposite, long-petioled. Flowers small, in lax paniculate cymes from opposite axils . Calyx minutely glandular within. Corolla rotate; lobes narrow, overlapping to the right, twisted to the left, broadly conic in bud. Coronal scales 5, at the back of the filaments, filiform from a broad base. Stamens at the base of the corolla, filaments connate below into a ring with alternating teeth; anthers conniving over and adherent to the stigma, tips membranous; pollen-masses in pairs in each cell, appendages of the corpuscles 2-fid. Stigma convex, 2-fid. Follicles short, turgid, straight; with many longitudinal membranous wings. Seeds comose.

According to the Index Kewensis (Hooker and Jackson, 1885) , there are four species of this genus as shown below:-

1. *Myriopteron jenkinsia* Wall.ex Voight
2. *M. vicarya* Wall.ex Voight

3. *M. horsfieldii* Hook.f.
4. *M. paniculatum* Griff. (*M. extensum* Schum.)

Myriopteron extensum (Wight) K. Schum. is the only one species of the genus *Myriopteron* which is reported to be found in Thailand (Tem Smitinand, 1980). The synonyms of this species are *M. paniculatum* Griff., *Streptocaulon extensum* Wight, *S. extensum* Wight var. *paniculatum* Kurz, and *S. horsfieldii* Miq. (Hooker, 1885; Craib and Kerr, 1951).

The description of *Myriopteron extensum* Schum. follows that of the genus as below (Hooker, 1885):-

A woody twiner. Leaves 8.5-12 by 5-6 cm, very variable in length and breadth, rounded oblong or elliptic, acuminate or subcaudate, base rounded or acute, membranous, finely pubescent or glabrate beneath; nerve 5-7 pairs, slender, arched; petiole very slender, 2.5-3.5 cm long. Inflorescences cymose, 7-17 cm; peduncles and brachiate branches very slender, quite glabrous; bracts few, chiefly at the forks; pedicels capillary, top turbinate. Sepals minute, rounded ovate. Petals whitish, 1 cm diameter; lobes lanceolate. Follicles 7 by 2 cm, straight, narrowed to the obtuse tip, base rounded, pericarp thin. Seeds 1 cm long, ovoid, narrowed to the tip. coma 2.5 cm.

In Thailand, *Myriopteron extensum* Schum. has been employed as a folk medicine in the name of "Cha em". This name is also referred to other species of plants used as Thai herbal medicine. Such species, all are members of the

Leguminosae, include *Glycyrrhiza glabra* Linn., *Glycyrrhiza uralensis* Fisch. and *Albizia myriophylla* Benth.

The two species of *Glycyrrhiza* , known in the common name as "Liquorice" and in Thai name as "Cha em thet" , are exotic plants. Their major active constituent is the sweet principle named glycyrrhizin which on hydrolysis yields glycyrrhetic acid, a triterpenoid acid having a haemolytic action, and two molecules of glucuronic acid. Other constituents of liquorice include flavonoids and isoflavonoids, chalcones, coumarins, triterpenoids, sterols and others (Leung, 1980).

Albizia myriophylla Benth., "Cha em thai" or "Cha em paa" for Thai common names, is native to Thailand. Phytochemical studies of this plant have been reported the presence of few saponoside in the stem as well as catechin tannin in the wood (Sasorith, 1967) and the isolation of a spermidine alkaloid named palustrine from the bark together with the detection of other alkaloids and triterpenoid in the same part (Surang Homchantara, 1985).

As for the species used in this research, *Myriopter-on extensum* Schum., there have been no previous reports on phytochemical investigation. The root of this plant has long been used in Thailand as an expectorant, an antitussive, and for treatments of a throat disease and an eyesore (Sangium Pongboonrod, 1950). It is remarkable that the medicinal uses

of the plant are similar to those of liquorice and *Albizia myriophylla* Benth.

Up to now, there have been no former reports on phytochemical study of any species in the *Myriopteron*, in addition that *M. extensum* Schum. is the only one species of medicinal "Cha em" which has not been previously reported of chemical constituents; therefore, this investigation deals with the isolation, purification and identification of chemical compound(s) present in the stem of the plant in order to contribute our knowledge of constituent(s) containing in this species. The results of this work are expected to provide valuable information in the field of chemotaxonomy and phytochemistry. Moreover, it might be used to explain the similarity in medicinal uses between *M. extensum* Schum. and the other species of medicinal "Cha em".