



CHAPTER I

INTRODUCTION

The genus *Pluchea* in the Compositae, tribe Inuleae, is comprised of 50 species distributed in the New World and Far East. A number of *Pluchea* species are noted for their ethnomedical properties, of which the reputed emmenagogue (Souza-Novelo, 1940; Eerhault, 1974) and abortifacient (Steggerda and Korsch, 1943). Activities of *Pluchea odorata* Cass. in the region of Central America and Caribbean are probably the best known. Extracts of *Pluchea lanceolata* L. have shown uterine relaxation activity at low doses (Prasad, *et al.*, 1965) and possibly both anti-implantation and abortifacient effects (Anon, 1978).

There are 2 species of *Pluchea* growing in Thailand (Smitinand, 1980) :-

- Pluchea eupatorioides* Kurz Khee paan ชี้ปาน (Shan-Chiang Mai); Khrai nun noi ไคร์นุ่นน้อย, Phak phaa ผักผา, Phak maa ผักมา (Lampang); Phak kaat ho ผักกาดห่อ, Monthao มนเทา, Yaa tut tuu หน้ำตุ้ตตุ้ (Loei); Naat kham หนาดคำ, Naat noi หนาดน้อย (Northern).
- P. indica* Less. Khluu ขลุ, คลู (Peninsular);

Khluu ขลุ (Central); Naat ngua
 หนาดงัว , Naat wua หนาดวัว (Udon
 Thani).

Pluchea indica Less. (Synonyms; *P. foliolosa* DC.,
Conyza corymbosa Roxb., *C. indica* Miq., *Baccharis indica*
 L.), is known in English as Indian Marsh Fleabane. It is
 an evergreen shrub, erect, much branched, 1-2 metres in
 height, all parts glabrous or the young shoot puberulous.
 Leaves obovate to cuneate-obovate, shortly petioled to
 almost sessile bluntish to acute 2.5-5 centimetres long,
 membranous sinuate-tooth, glabrous. The inflorescence is
 a compound, small, sessile or nearly so, forming usually
 glabrous terminal corymbs. The numerous heads are about
 5 millimetres long, bract rigid, the outer ones ovate and
 bluntish, the innermost ones linear, acute about 4 milli-
 metres long, florets pink-purple or lilac. The achenes
 are minute and ribbed, the pappus is white, scanty and
 spreading (Hooker, 1882; Kirtikar and Basu, 1935;
 Quisumbing, 1951).

This plant has no established *in vitro* or *in vivo*
 activities, although in Thailand and Java the leaves and
 root have been reported to possess astringent and anti-
 pyretic properties and are used as a diaphoretic in fevers.
 Fresh leaves are used in the form of poultices against
 atonic and gangrenous ulcers (The Wealth of India, 1948).
 Cigarettes prepared from the chopped stem bark are smoked
 to relieve the pain of sinusitis (Pongboonrod, 1971).

In Indo-China, the leaves and young shoots are crushed, mixed with alcohol and applied to the back in cases of lumbago and also used for rheumatic pains and in baths to treat scabies (perry, 1980).

A number of compounds have been isolated from *Pluchea* species, the most characteristic of which are the eudesmane derivatives in the cuauhtemone series from *Pluchea chingoyo* DC. (Chiang *et al.*, 1979), *P. foetida* (L.)DC. (Bohlmann and Mahanta, 1978), *P. odorata* Cass. (Nakanishi *et al.*, 1974; Bohlmann and Zdero, 1976) *P. rosea* Godfrey (Dominguez *et al.*, 1981) and *P. suaveolens* Kuntze (Bohlmann *et al.*, 1980a). There have been no previous reports of any phytochemical studies on *P. indica* Less.

This investigation deals with the isolation and separation of chemical compound(s) present in the leaves in order to contribute our knowledge of the constituents containing in this species and to search for compound(s) which might exert physiological effects.