

## **A Survey of Medicinal Weeds of Family Acanthaceae and Family Asteraceae in Chonburi, Thailand**

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(Received for publication: 04 April 2006)

### **Abstract**

A survey was conducted to categorize medicinal weeds which belong to family Acanthaceae and family Asteraceae found in Chonburi Province, Thailand. Places sampled in 12 areas of 4 districts were residential areas, agricultural lands, plantations, uninhabited areas, along the seashore and some aquatic habitats. In total, 25 species were cataloged belonging to 20 genera in 2 families: in family Acanthaceae 7 genera, 11 species and in family Asteraceae 13 genera, 14 species. The medicinal characteristics of each species were studied in collaboration with traditional herbal medicine providers as well as by information from historical articles. The frequency of occurrence and medicinal characteristics of the weeds are discussed.

**Keywords:** *Acanthaceae, Asteraceae, Chonburi, medicinal weeds, survey, Thailand*

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### **Introduction**

Many researchers of the world have conducted work on the medicinal plants, that have benefits for medical sciences, agricultural sciences and veterinary, etc. Those researchers have surveyed medicinal plants from many areas of the world and have extracted compounds from these plants for inhibiting the growth of organisms and avoiding from viral infections. The plants for medicine have been utilized for many diseases such as antipyretics, cardiovascular effect, gastrointestinal effect, pregnant tonic and treatment for postnatal symptoms, anti-emetic and treatment for epilepsies, etc. (Pantarod et al., 2001; Pichiansunthorn et al., 1999). The medicinal plants have also been used for agricultural sciences against organisms such as insects, mites, ticks, nematodes and other inverte-

brates, fungi, bacteria, viruses and viroids. (Prayoonrat, 1993-2001; Kummee et.al., 2002; Panutat and Vatanyospaisain, 2002). On the other hand, they could be as allelopathy with higher plants parasite and weed, etc. The use of medicinal plants instead of synthetic substances, which cause many problems for a man, animals and plants, may give benefit to the countries in tropical zone because the tropical zone has a lot of medicinal plants (Prayoonrat, 1993-2001; Simpson and Ogorzaly, 1986).

The diversity of distribution of medicinal plants in tropical zone is high including crop lands, forest, uninhabited areas, residential areas, roadsides, seaside, watersides, water sources, etc. (Prayoonrat, 1993-2001). Surveys of weeds in Thailand have been done in rice fields and cotton

fields in cropland, but any survey on medicinal weeds in particular has never been carried out so far. Therefore, it should be surveyed of medicinal weeds in Chonburi province, Thailand.

### Methods

Twelve stations, about 25 km<sup>2</sup> each, were established to represent the ecological sub-regions within four districts in Chonburi province. These were at Ban-Bueng, Nong-Chak, Nong-Sum-Sak in Ban-Bueng district; Ta-Kam, Tung-Khang, Bang-Chang, Na-Ma-Toom, Phanut-Nikom in Phanut-Nikom district; Bang-Koa, Pan-Tong, Map-Pong in Pan-Tong district; and Bang-Phra in Sri-Ra-Cha district.

Medicinal weeds belonging to the families Acanthaceae and Asteraceae were surveyed in these stations including agricultural lands, nonagricultural areas, residential areas, some aquatic habitats, roadsides and mangrove forests. Plant samples were collected in plastic bags for making herbarium specimens to make sure that the specimens should include complete parts of each plant (stems, roots, leaves, flowers and seeds). The specimens were kept as a dried form (herbarium) or in a 5% formalin solution (Prayoonrat, 1993-2001). Photographs were taken for all of the specimens in the field and of herbarium specimens.

After collecting these medicinal weeds, their scientific names were identified by using taxonomic keys (Smitinand and Larsen, 1970-1998). The common names of these medicinal weeds and their local use as folk medicines were studied by interviewing a number of local people and nine traditional herbal medicine providers in those districts. In addition, their local names and medicinal properties were searched in many publication resources.

### Results and Discussion

Medicinal plants found were following 25 species of 20 genera belonging to these two fami-

lies.

#### Family Acanthaceae:

- Acanthus ebracteatus* Vahl. (Figure 1)
- A. ilicifolius* Linn.
- Andrographis paniculata* Wall.ex Nees.
- Asystasia gangetica* T. Anders.
- Barleria cristata* Linn.
- B. lupulina* Lindl. (Figure 2)
- B. prionitis* Linn. (Figure 3)
- B. strigosa* Willd. (Figure 4)
- Hygrophila erecta* Hochr.
- Rhinacanthus nasutus* (Linn.) Curz. (Figure 5)
- Ruellia tuberosa* Linn.



Figure 1 *Acanthus ebracteatus* Vahl.



Figure 2 *Barleria lupulina* Lindl.



Figure 3 *Barleria prionitis* Linn.



Figure 4 *Barleria strigosa* Willd.



Figure 5 *Rhinacanthus nasutus* (Linn.) Curz.



Figure 6 *Ageratum conyzoides* Linn.



Figure 7 *Eupatorium odoratum* Linn.



Figure 8 *Xanthium strimarium* Linn.

**Family Asteraceae (Compositae):**

- Ageratum conyzoides* Linn. (Figure 6)
- Blumea balsamifera* DC.
- Eclipta prostrata* Linn.
- Elephantopus scaber* Linn.
- Emilia sonchifolia* DC.
- Enydra fluctuans* Lour.
- Eupatorium odoratum* Linn. (Figure 7)
- Pluchea indica* Less.
- Spilanthes acmella* Murr.
- Synedrella nodiflora* Gaertn.
- Vernonia cinerea* Less.
- V. elliptica* DC.
- Wedelia urticifolia* DC.
- Xanthium strimarium* Linn. (Figure 8)

Many medicinal weeds in these two families could be found in Chonburi province because there are diverse places, such as seaside, forests including mangrove forests, agricultural areas and non-agricultural lands. The differences in physical environment of this region may result in such a different distribution of weed species and in the occurrence of various medicinal weeds (Prayoonrat, 1993-2001; Anderson, 1995).

For the properties of medicinal weeds, there are a lot of research and recommendations of the local people and traditional herbal medicine providers. In Chonburi province, there are a lot of traditional herbal medicine providers. As these medicine providers could use many weeds to cure serious diseases and common diseases, they should search such plants in other places and extract some medicinal weeds to know their properties for drugs as well as carry out studies on plant and animal protection.

**Acknowledgement**

The author is thankful to the nine traditional herb medicine providers for their help in identifying the medical properties of weeds and to Dr. Kashane Chalermwat, Dean of Faculty of Science,

Burapha University, for his assistance in preparing the manuscript.

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