

A Study on the Morphology and Socio-economy of *Clinogyne dichomata* Salish

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Abstract

The plants of *Clinogyne dichomata* (Thin-pin) are distributed in Zalun Township and its environ. In this research, the morphological characters and the procedure of mat-making are thoroughly studied and fully described. Natural habits, inflorescences and flowers have also been photographed. In this area, local people have been operating the mat-making in many villages for ages. This study consists of three parts: harvesting, processing and marketing about 'Thin-pin' plants profusely illustrated with color photographs.

Keywords: Morphology, Socio-economy, harvesting, processing, marketing

Introduction

The plant of *Clinogyne dichotoma* Salish belongs to the family Marantaceae. This family contains 30 genera and 400 species and it is grown in tropical herbaceous perennial plants (Trase & Evans, 1978; Kress et al., 2003)

In family Marantaceae, the leaves either in rosettes and on penduncle of inflorescence or cauline, distichous, the midrib distinctly thickened beneath, petiole distinctly broadened into sheath towards the base. Flowers zygomorphous, unbranched, floral parts of inflorescences subspiciform, flower pairs usually with a distinct common pedicel which at apex is divided into 2 very unequal branches, the rhizomes are creeping and subterranean or erect, with or without tuber-like runners with large or small-like organs. It is terrestrial, climbing herb or shrub-like, usually unarmed, non-aromatic plants and without milky latex. (Backer, 1968; Hundley & Chit Ko Ko, 1987).

Clinogyne dichotoma Salish is shrub, stem woody, branches slender. Upper leaves ovate-oblong, outer bract lanceolate, flowers white; sepals lanceolate, petals oblanceolate; staminal tube as long as the largest lobes, lip flat. (Hooker, 1897)

Many rural people have traditionally used mats to be applied with a utensil of their houses. The mats are more popular and important than others in many villages in Zalun Township in which the mat-making as mostly family business supports the local people for extra earning though not primary. The mats can be obtained from Thin-pin plants. These plants are widely distributed in Zalun Township and its environs.

So, many local people can operate the good job of mat-making. In study of Kaw-Kat village, almost all villagers have been operating the job, though it is not their main occupation.

Materials and Methods

The specimens of Thin-pin were collected from Kaw-ket village in Zalun Township. The vegetative and reproductive parts were collected during their flowering period.

Socio-economical data presented in the paper based on interviews with informants and local people and on our own observation during several trips to the region. Research was

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done in during period of April to October, 2014. Data collection method for this study was done the authoritative interviews.

The harvesting, processing and marketing about mats-making are observed using photographs during the study period.

Results

Scientific name	-	<i>Clinogyne dichotoma</i> Salish syn. <i>Maranta dichotoma</i> Wall.
Common name	-	unkown
Myanmar name	-	Thin-pin
Family	-	Marantaceae

Morphological characters

Shrubs, 0.6-1.5 m height (Figure 1, a). Leaves alternate, simple, cauline, exstipulate. Inflorescences (Figure 1, b) terminal of cymes. Flowers (Figure 1, c) bracteate, pedicellate, ebracteolate, complete, bisexual, irregular, zygomorphic, cyclic, trimerous, epigynous; sepals 3, aposepalous, valvate, petaloid (white), superior; petals 3, apopetalous, imbricate, petaloid (white), tubular, unequal 3-lobed, superior; fertile stamen 1, the anther 1-celled, staminodes variously petaloid, longitudinal dehiscence; ovary (3), syncapous, tricarpellary, the placentation axile, style long, stout, stigma capitates, hood, inferior. Fruit loculicidal capsule.

Flowering period	-	June - March
Fruiting period	-	August - May
Economic uses	-	Mats, hats, purses and ropes



(a) Habit



(b) Inflorescences



(c) Flowers

Figure (1) (a) Habit, (b) Inflorescences and (c) flowers of *Clinogyne dichotoma* Salish.

Socio-economical studies

The Socio-economical study can be divided into three parts: harvesting, processing and marketing.

(a) Harvesting

The thin-pin plants can be harvested once at two years or three years from January to March, when the plants reached matured size. After harvesting (Figure 2, a), the branches of leaves are cut from the stem by using knife (Figure 2, b). The cut stems are split into two parts and dried by the sun in the field (Figure 2, c). Then, the split parts (Figure 2, d) are made into bundles. The dried bundle contains about 450-500 parts. The dried bundles are transported from the field to the house by workers. The mat-makers buy the dried bundles from the sale of thin-pin store house. And then, the dried bundles are carried by boats, carts and truck cars.



(a) After harvesting



(b) Selecting



(c) After Selecting



(d) Cutting

Figure (2) Harvesting

(b) Processing

The dried bundles of stems (Thin-pin) are soaked in water only one night. They are removed from the water next day (Figure 3). Afterward, the soaking stems are placed either in the house or at the eaves. The stems (Thin-pin) are split with into two or three parts and then the parts of stems (Thin-pin) are soaked in water again. These parts of stems are divided by pulling into three parts (Figure 4). The upper part is called smooth layer (a-chaw), the middle part is called lower layer (a-pein) and the last part is called Thin-u. These layers are dried in the sun. After the dried layers are made into bundles and kept on the shelf. Before making the mats, the smooth or lower layers are sprayed with water. After that the chief mat-maker started to make a portion sheet of upper or lower layer (a-ku). Then, the portion sheets are made a full sheet by mat-makers. The upper and lower full sheets are transported to mat-tailor. The full sheets (upper and lower sheets) brought two surfaces into contact by mat-

tailor. Before sewing the mat, the upper surface is drawn to mark the line using pencil and edges of two layers and put inside. Finally, the mats are sown by mat-tailors (Figure 5).

(c) Marketing

The mat-making is mostly worked by throughout the year. So the monthly income is impossible. The mat-maker can do the fishing, cultivating at the same time, it is the primary business for many local grower and the mat-making can secondary for them.

The price of a thin-pin garden is 45,000-50,000 kyats depends on the planting of thin-pin. The harvesting can cost 3000 kyats for person a day one. The price of a mat is 1,000 kyats to 20000 kyats depending on the size and shape of the mats. The local people use mat dimension; e.g. Lay-thit, Thone-taung, Thone-taung-htwar and Chauk-taung and so on. The price of Lay-thit mat is 2,000 kyats, Thone-taung is 6,000 kyats, Thone-taung-htwar is 7,000 kyats and Chauk-taung is 20,000 kyats and so on.

In the study area, the daily wages of a worker is about 2,500 kyats depending on individual skill in mat-making. The mat-marker can make a full sheet for each day and earns 2,500 kyats for each sheet. The mat-making supports food and clothing of the local people. The chief mat-maker and employers are profitable than the mat-makers (workers).



(a) transporting by boat



(b) before sinking in water



(c) sinking in water



(d) shaking and carrying from water



(e) removing water

Figure (3) Procedures of mat-making (field of work environment)



(a) separating the stems



(b) pulling separated stem



(c) after drying the layer



(d) keeping the layers



(e) preparation for mat



(f) preparation for mat-making

Figure (4) Procedures of mat-making (household of workplace)



(a) before the sewing



(b) preparing and sewing for mat



(c) starting and sewing a mat



(d) starting and sewing a mat



(e) after the sewing

Figure (5) Procedures of mat-sewing (household of workplace)

Discussion and Conclusion

The Thin-pin plant belongs to the family Marantaceae. This family contains 30 genera and 400 species. This family is grown in tropical herbaceous perennial plants and the genus of *Maranta* sp. includes 23 spp.

These plants are shrubs, leaves alternate and simple, inflorescences terminal, flowers white and fruits loculicidal capsule. The rhizomes of this plants are creeping and subterranean. Terrestrial, usually unarmed, non-aromatic plants and without milky latex.

The mat-making has been widely worked in household articles for long time in Zalun Township. The local growers do not use both fertilizer and insecticide for this plantation. It is

worked from raw materials at high cost finished goods without the machinery of factory. The thin-pin plantation and mat-making are their family business and can be used by posterity. Its income is supported to the livelihood of the local people at Zalun Township.

According to the objectives of this research, the data collection is carried out to the local people in the study area. We are familiar with the people in the villages and therefore did not face any problem while gathering information about uses of the plants. Their keen and active participation are mainly support to complete the data collection in this study.

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