Ethnobotany of Tai Dam in Nakhon Sawan Province, Thailand.

Vongkamjan Suphawan

The Faculty of Science and Technology, Nakhon Sawan Rajabhat University,
Muang District, Nakhon Sawan Province, 60000, Thailand.

Abstract

The objective of this work was to study the vegetation in the daily life of Tai Dam. The data was collected from July 2016 to December 2016. Plant specimens were identified and photographed. Each plant species is described with its family name, scientific name, Thai name and its utilization. The results indicated that the Tai Dam people focused primarily on how plants are used, managed and perceived across human societies. A total of 88 species in 48 families were described. The family Fabaceae has the highest number of recorded species (9 species). A total of 80 species were used as food, 42 species for medicine and 7 species for construction and 7 species had other uses.

Key words: utilization of plants, Tai Dam, Nakhon Sawan, ethnobotany, vegetation

Introduction

Ethnobotany is the scientific study of the relationships that exist between peoples and plants. Sometimes new relationships develop as people migrate, and this generates new or modified ethnobotanical knowledge. Ethnobotany is an integrative, multi-disciplinary field of learning (Wikipedia, 2016).

Tai Dam or Song Dam, or people who wear black, have their unique lifestyle from Vietnam and Laos, from where their ancestors migrated into Thailand 200 years ago. They migrated from Mung La in Vietnam to Laos and to Thailand. The original settlement of Thai Song Dam people in Thailand was in Phetchaburi. Now they have moved to Suphanburi, Nakhonpathom, Samutsakhon, Samutsongkhram, Nakhon Sawan, and Phitsanulok. Boonsanong Chourykaew, provinces (https://botatropasia.sciencesconf.org/76128/document, 2016). The aim of the present research was to study the diversity and the utilization of natural vegetation in daily life of the Thai Song Dam tribal village. In this study, 88 species in 48 families were found. The most common families were Apocynaceae (7 species), followed by Lamiaceae (4 species) and Rutaceae (4 species). Common plant species in Thai Song Dam daily life were Eclipta prostrata (L.) L., Colocasia esculenta L. Schott, Wolffia globosa (Roxb.) Hartog & Plas, Crateva adansonii subsp. trifoliata (Roxb.) Jacobs, Cleome gynandra L., Cleome viscosa L., Melientha suavis Pierre., Indigofera tinctoria L., Thyrsostachys siamensis Gamble, Morinda coreia Ham., Citrus lucida (Scheff.) Mabb., and Zanthoxylum rhetsa DC. Each plant species with their family name, scientific name together with local name and the utilization, are described. A study on the ethnobotany of Thaisongdum

community in Huyyang village, Changwat Kanchanaburi and Dontong village, Changwat Nakhon Pathom, was conducted during November 2000 to October 2001 by Sumalee Tongdonae and Yingyong Paisooksantivatana (http://www.lib.ku.ac.th /KU CONF / KC 440 5018. pdf, 2016) Plant samples were collected from forest communities and home gardens. Data on each plant species was obtained by interviewing the villagers in both villages. A total of 156 species in 126 genera and 59 families were identified which is equivalent to 60 % of all species collected. They were used as medicine (140 species, 120 genera and 59 families), food (80 species, 67 genera and 47 families) and miscellaneous uses (dye, brooms, ceremonial, etc. 33 species, 31 genera and 21 families) equal to 54.69, 31.25 and 12.89 % of all plant used, respectively. Regarding the indigenous knowledge, Dontong villagers had a greater knowledge of plant uses than Huyyang villagers, which was higher in the older women.

Research Aims

To study the diversity and utilization of some plants in Tai Dam.

Research Methodology

Rapid Rural Appraisal and surveys of forest areas and botanical gardens were employed in data collection. The data was collected from July 2016 to December 2016. Plants specimens were identified and photographed. Each plant species with its family name, scientific name, Thai name and its utilization, were recorded. The results indicated that the Tai Dam people focused primarily on how plants are used, managed and perceived across human societies.

Results

A summary of recorded plants in the site is given in Table 1.

Table 1 List of plants used in Thai Dam culture in Nakhon Sawan province.

Scientific name		**Families name**	**Utilization**			
			food	**medicine**	**constructions**	**others**
Acacia pennata Wild. subsp. insuavis	(Lace) Nielsen.	Fabaceae	√			
Adenium obesum	(Forssk.) Roem. & Schult	Apocynaceae				√
Albizia lebbeck	L.	Fabaceae	√		√	

Scientific name		Families name	Utilization			
			food	medicine	constructions	others
Allium sativum	Linn	Alliaceae	√	√		
Allium ascalonicum	L.	Alliaceae	√			
Ananas bracteatus	(Lindl.) Schult.& Schult.	Bromeliaceae	√			
Anethum graveolens	Linn.	Umbelliferae	√	√		
Annona squamosa	L.	Annonaceae	√	√		
Apomoea aquatica	Forssk.	Convolvulaceae	√			
Areca catechu	L.	Arecaceae		√		
Artocarpus heterophyllus	Lamk.	Moraceae	√			
Azadirachta indica var. siamensis	A. Juss., Valeton	Meliaceae	√	√	√	
Basella alba	L.	Basellaceae	√			
Beilschmiedia globularia	Kurz	Lauraceae	√			
Benincasa hispida	(Thunb.) Cogn.	Cucurbitaceae	√			
Boesenbergia pandurata	(Roxb.) Schltr.	Zingiberaceae	√	√		
Borassus flabellifer	Linn.	Palmae	√		√	

Scientific name		Families name	Utilization			
			food	medicine	constructions	others
Brassica chinensis	Jusl.	Cruciferae	√			
Brassica juncea	L.	Brassicaceae	√			
Brassica oleracea	L.	Brassicaceae	√			
Calotropis gigantea	L.	Apocynaceae		√		√
Capsicum annuum	L.	Solanaceae	√	√		
Carica papaya	L.	Caricaceae	√			
Ceiba pentandra	(L.) Gaertn.	Malvaceae	√			√
Cephalostachyum pergracile	Munro	Poaceae	√		√	
Citrus aurantifolia	(Christm.) Swingle	Rutaceae	√			
Citrus hystrix	DC.	Rutaceae	√	√		
Cleome gynandra	L.	Cleomaceae	√			
Clitoria macrophylla	Wall.	Fabaceae	√	√		
Coccinia grandis	(L.) Voigt	Cucurbitaceae	√	√		
Cocos nucifera	L.	Arecaceae	√	√		
Colocasia antiquorum	Schott	Araceae	√			
Colocasia esculenta	(L.) Schott	Araceae	√			
Comphrena globosa	L.	Amaranthaceae				√

Scientific name		Families name	Utilization			
			food	medicine	constructions	others
Crateva adansonii DC. supsp. trifoliata	(Roxb.) Jacobs	Capparidaceae	√	√		
Crateva magna	(Lour.) DC.	Capparidaceae	√	√		
Cucumis sativus	L.	Cucurbitaceae	√			
Cucurbita maxima	Duchesne	Cucurbitaceae	√			
Curcuma longa	L.	Zingiberaceae	√	√		
Cymbopogon citratus	(DC. ex Nees) Stapf.	Poaceae	√	√		
Eryngium foetidum	Linn.	Umbelliferae	√	√		
Glinus herniarioides	(Gagnep.) Tardieu	Molluginaceae	√			
Gynura pseudochina var.hispida	Thwaites	Asteraceae		√		√
Helianthus annuus	L.	Asteraceae	√			
Hibiscus sabdariffa	Linn	Malvaceae	√	√		
Hylocereus undatus	(Haw.) Britton & Rose	Cactaceae	√			
Ipomoea batatas	(L.) Lam.	Convolvulaceae	√			
Jasminum sambac	(L.) Aiton	Oleaceae		√		√

Scientific name		Families name	Utilization			
			food	medicine	constructions	others
Lagenaria siceraria	(Mol.) Standl.	Cucurbitaceae	√			
Leucaena glauca	Benth.	Fabaceae	√	√		
Limonia acidissima	L.	Rutaceae	√			
Luffa acutangula	(L.) Roxb	Cucurbitaceae	√			
Luffa cylindrica	Roxb	Cucurbitaceae	√			
Mangifera indica	L.	Anacardiaceae	√	√	√	
Marsilea crenata	C.	Marsileaceae	√			
Melodorum fruticosum	Lour.	Annonaceae				
Mentha cordifolia	Opiz ex Fresen	Lamiaceae	√	√		
Momordica charantia	L.	Cucurbitaceae	√	√		
Morinda citrifolia	L.	Rubiaceae	√	√		
Moringa oleifera	Lam.	Moringaceae	√	√		
Muntingia calabura	L.	Muntingiaceae	√			
Musa sapientum	L.	Musaceae	√	√		
Nelumbo nucifera	Gaerth.	Nymphaeaceae	√	√		
Nymphaea lotus	Linn	Nymphaeaceae	√			
Ocimum africanum	Lour.	Lamiaceae	√			
Ocimum basilicum	L.	Labiatae	√			
Ocimum tenuiflorum	L.	Lamiaceae	√	√		

Scientific name		Families name	Utilization			
			food	medicine	constructions	others
Olax scandens	Roxb.	Olacaceae	√	√		
Oroxylum indicum	(L.) Benth. exKurz	Bignoniaceae	√	√		
Oryza sativa	L.	Poaceae	√			
Pandanus amaryllifolius	Roxb.	Pandanaceae	√	√		
Phyllanthus acidus	(L.) Skeels	Phyllanthaceae	√			
Piper betle	L.	Piperaceae		√		
Piper sarmentosum	Roxb.	Piperaceae	√	√		
Pithecellobium dulce	(Roxb.) Benth.	Fabaceae	√			
Psidium guajava	L.	Myrtaceae	√	√		
Saccharum officinarum	L.	Poaceae	√	√		
Sandoricum kaetjape	Merr.	Meliaceae	√		√	
Senna siamea	(Lam.) Irwin & Barneby	Fabaceae	√	√		
Sesbania grandiflora	(L.) Desv.	Fabaceae	√	√		
Solanum capsicoides	All.	Solanaceae	√			
Solanum torvum	Sw.	Solanaceae	√			
Tamarindus indica	L.	Fabaceae	√	√	√	

Scientific name		Families name	Utilization			
			food	medicine	constructions	others
Telosma minor	Craib	Asclepiadaceae	√			
Tiliacora triandra	Diels	Menispermaceae	√	√		
Vigna sinensis	Savi. A	Fabaceae	√			
Zingiber nigra	Rosc.	Zingiberaceae	√	√		
Zingiber officinale	(Gaertn.) B. L. Burtt	Zingiberaceae	√	√		
Zinnia violacea	Cav.	Asteraceae				√
Total 89 species			80	42	7	7

Conclusion and Discussion

In Thailand, there are approximately 5,000 species of food plants. 150 species are grown as food for humans and animals but only 20 species are commonly used as major food for humans today, such as rice, corn, potato, etc. (Baimai V., 1995). There are 1,160 species of medicinal plants listed in a medicinal plant encyclopedia and 192 medicinal plants commonly used in Thailand. In the Tai Dam community, there are 88 species in 48 families. The family Fabaceae has the highest number of recorded species (9 species), followed by the family Cucurbitaceae (8 species and Zingiberaceae (4 species). A total of 80 species were used as food, 42 species for medicine, 7 species for construction, and 7 species were used for other purposes. The results of the study by Sumalee Tongdonae1 and Yingyong Paisooksantivatana. (2016) indicated that plants used for medicinal purposes were greater than those used for food. This contrasts with the present study because Tai Dam in Nakhon Sawan have use species of food plants more than medicinal plants. Futures studies could include different uses and menus of foods in Tai Dam culture, compared with ethnic Thai uses.

Acknowledgements

I sincerely thank Dr. Bruce Sampson for his kindness, valuable guidance on medicinal plants in the world. I also thank The University Staff Development under Higher Education Research Promotion Project (USD-HERP) for giving me a fund to visit and study in Tai Dam village.

References

Baimai, V. 1995. **Status of biodiversity in Thailand.** Faculty of Science, Mahidol University, Bangkok.

Boonsanong Chourykaew, Wuttichai Ritti, Orawan Khwanmuang , and Preeya Phurahong. 2016. **Ethnobotany of Thai Song Dam in Nongchumpolneau Subdistrict, Khaoyoi District, Phetchaburi Province, Thailand**. Online Available: https://botatropasia. sciencesconf.org/76128/document, [December, 2016].

Sumalee Tongdonae1 and Yingyong Paisooksantivatana. 2016. **Ethnobotany of Thaisongdum Community in Changwat Kanchaburi and Changwat Nakhon Pathom**. Online Available: http://www.lib.ku.ac.th/KUCONF/KC4405018.pdf [December, 2016].

Vongkamjan S. and Sampson F.B. 2014. **30 important seed plants in Thailand.** Nakhon Sawan Rajabhat University.

Vongkamjan S. and Sampson F. B. 2014. **Utilization of some plants in Hawaiian and Thai cultures.** In: International Conference on Arts and Cultures in creative Economy. June 1st-2nd, 2014. Rambhai Barni Rajabhat University. Chantaburi, Thailand.

Wikipedia, the free encyclopedia. 2016. **Ethnobotany.** http://en.wikipedia.org/ wiki/ Ethnobotany [25, March].