H_H0037: FOLIICOLOUS LICHEN IN MANGROVE FOREST AT CHANTHABURI AND TRAT PROVINCES

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Abstract: Foliicolous lichen one hundred and twenty-eight samples from four phorophyte trees at Thasorn learning center and ecotourism mangrove forest Chanthaburi province and Koh Kood, Trat Provinces were compiled during November 2012 to February 2014 and taxonomic catalogued into eleven families seven-teen genera and thirty species. Twelve taxa were previously reported and eighteen taxa*; Anisomeridium guttuliferum*, *Aspidothelium geminiparum*, *Bacidina pseudohyphophorifera*, *Bapalmuia nigrescens*, *Byssoloma anomalum*, *B. polychromum*, *B. subdiscordans* var. *puertoricensis*, *B. vezdanum*, *Cryptothecia inexpectata*, *Enterographa perez-higaredae*, *Eugeniella newtoniana*, *Fellhanera naevia*, *Graphis pinicola, Mazosia bambusae*, *M. conica*, *M. tenuissima*, *Porina deremensis* and *Tapellaria epiphylla*, were new records to Thailand. The highest species diversity of lichen was recovered twenty-five taxa on *Heritiera littoralis* tree.

Introduction: Foliicolous lichens are leaf-inhabiting species which are usually found in high and low land forests, including mangrove forest. However study of foliicolous lichens in Thailand are not productive. The first preliminary survey from Thailand was published by[1] who listed 34 foliicolous lichen species from a few sites in Khao Yai National Park. Later the new species and new records of foliicolous lichen from Thailand were reported by[2]Nevertheless The foliicolous lichens in mangrove forest have been ignored. To complete lichen flora checklists of Thailand, the study expands on the known taxonomy, diversity and distribution of foliicolous lichens in Thailand and also provides information for the conservation and sustainable utilization of biodiversity resources in Thailand.

Methodology: Lichen gathering specimens were performed at Thason learning center and ecotourism mangrove forest Chanthaburi province (12˚22’20.45”N 102˚20’30.14”E)and Koh Kood, Trat province (11°39′30″N 102°32′32″E) during November 2012 to February 2014. All specimens were examined with OLYMPUS SZ30 dissecting microscopes and OLYMPUS CH compound microscopes. Anatomical features were studied on hand-cut sections of thallus and of ascomata mounted in tap water. Photos were taken with a Dino-Eye AM-7023. The iodine reaction of the hymenium and ascospores were studied in Lugol’s iodine solution. All records were synthesized and catalogued according to[2-7] keys.

Results and Discussion: The foliicolous lichen from three phorophyte trees at Thasorn learning center and ecotourism mangrove forest Chanthaburi province were collected sixty-two specimens. They were identified in to seven families nine genera and eleven species Table1. comprising of six species which have been reported and five species as new records to Thailand. When compared to previously reported in published literature[1,2,8,9] whereas the foliicolous lichenized fungi at Koh Kood, Trat province were gathered sixty-six samples form three phorophyte trees and were able to taxonomic classify into eight families thirteen genera twenty-four species Table 2.. Nine species were recorded and fifteen species were new records to Thailand. Both of two sites are surrounded by sea water and subjected to south-west and north-east monsoon. The dry or hot season comprises the months of January to April, while the rest of the year forms the rainy season. Thus the climate is hot and humid

suitable for lichen occurring on upper surface of leaves of evergreen shrubs and trees. The upper surfaces of leaves are an important substratum for an diverse community of obligately foliicolous lichen [1].it was *Heritiera littoralis* Dryand., Aiton that had twenty-eight highest lichen species. However, the two members of lichen family Arthoniaceae; *Cryptothecia candida* and *C. inexpectata*, grew very well under leaf surface of *Heritiera littoralis*.

Table1. Lichen taxa from three phorophyte leaves at Thasorn Learning Center andEcotourism Mangrove Forest, Chanthaburi Province.

		Phorophyte leaves			
Family	**Lichen taxa**	*Acrostichum aureum*	*Heritiera littoralis*	*Sonnertia ovate*	Total
ARTHONIACEAE	*Cryptotheciacandida*		13		13
	Cryptotheciainexpectata [a]		10		10
ASPIDOTHELIACEAE	*Aspidothelium geminiparum* [a]		6		6
ECTOLECHIACEA	*Lasioloma arachnoideum*		2		2
GOMPHILLACEAE	*Tricharia vainioi*	2	3		5
GRAPHIDACEAE	*Graphis pinicola* [a]		3		3
PHYSCIACEAE	*Dirinaria aegialita*		10		10
	Dirinaria picta		6		6
PILOCARPACEAE	*Byssoloma subdiscordans*		3		3
	Eugeniella newtoniana [a]			1	1
	Tapellaria epiphylla [a]		3		3

[a]New record to Thailand

Table2. Lichen taxa from three phorophyte leaves at Koh Kood Trat Province.

Family	Lichen taxa	Phorophyte leaves			
		Acrostichum aureum	*Cymbidium aloifolium*	*Heritiera littoralis*	Total
ARTHONIACEAE	*Cryptotheciacandida*			10	10
	Cryptotheciainexpectata [a]			11	11
ECTOLECHIACEA	*Lasioloma arachnoideum*			1	1
GOMPHILLACEAE	*Tricharia vainioi*		1	7	8
MONOBLASTIACEAE	*Anisomeridiumguttuliferum* [a]			1	1
	Caprettia amazonensis			2	2
PILOCARPACEAE	*Bapalmuia nigrescens* [a]		1		1
	Byssoloma anomalum [a]			1	1
	Byssoloma polychromum [a]			5	5
	Byssoloma subdiscordans var. puertoricense[a]			1	1
	Byssoloma vezdanum [a]			1	1
	Eugeniellanewtoniana [a]		1		1
	Fellhaneranaevia [a]			1	1
PORINACEAE	*Porina deremensis* [a]		2	1	3
RAMALINACEAE	*Bacidina pseudohyphophorifera* [a]			4	4
ROCCELLACEAE	*Enterographa perez-higaredae* [a]			2	2
	Mazosia bambusae [a]		1		1
	Mazosia conica [a]			1	1
	Mazosia dispersa		1	1	2
	Mazosia melanophthalma		2		2
	Mazosia phyllosema			1	1
	Mazosia pseudobambusae		1	1	2
	Mazosia rotula	1			1
	Mazosia tenuissima [a]		1	2	3

[a] New record to Thailand

Conclusion: A survey of the two sites study for foliicolous lichenized fungi within the mangrove forest at eastern part, Chanthaburi and Trat provinces, of Thailand during November 2012 to February 2014 supported the high interest in adding many new records to the flora of Thailand. New records were most apparent in taxa with a tropical distribution. It is also apparent that several undescribed species have been found, mainly represented by sterile foliicolous crustose lichens.

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