Lecanoraceae at Phu Luang Wildlife Sanctuary (PLWS), Loei Province

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Abstract: The collecting samples of Lecanoraceae which compiled on bark and rocks from 5 different forest types including lower montane scrub forest, tropical rainforest, lower montane rain forest, dry evergreen forest and dry dipterocarp forest at the elevation 700-1,555 meters above sea levels during June 2008 to November 2009, were two hundred and fifty-eight specimens. The samples were taxonomically identified into 4 genera 19 species namely *Lecanora achroa, L. allophana, L. argentata, L. argopholis, L. caesiosora, L. carpinea, L. cenisia, L. dispersa, L. intricata, L. lividocarnea, L. marginata, L. pallida, L. phaeocardia, L. subimmersa, Lecidella carpathica, Pyrrhospora gowardiana, Ramboldia heterocarpa, R. russula, R. siamensis* and three species of *Lecanora* PL.1-J, *L*. PL. 2-J and *Ramboldia* PL. 1-J were expected to be new to science discovering. However *Ramboldia deficiens* Sriprang & Kalb (ined.) have been newly descriped. Nearly almost all of Lecanoraceae distributed in lower montane scrub forest. Two species of *Lecanora achroa* and *L. argentata* have been shown wildly distribution in all forest types.

Introduction: Lecanoraceae is the largest family of lichen-forming fungi (Ascomycotina: Lecanorales) that includes 24 genera 435 species which are distributed throughout the world (Kirk *et al*., 2001). Previous studies reported thirty-three species of Lecanoraceae from Thailand (Aptroot *et al*., 2007; Papong *et al*., 2009; Wolseley *et al*., 2002). This family is characterized by thallus like those of crustose to foliose, rarely lacking, usually with rhizoids. Ascomata apothecial, sessile to constricted at the base or immersed; thalline margin present or absent, when present mostly concolorous with the thallus or hyaline, in some species soon becoming excluded; true excipulum usually poorly developed in lecanorine and aspicilioid taxa, well developed in biatorine and lecideine taxa (Lumbsch, 2004). Ascospores simple or rarely 1-5-septate, cylindrical, oblong-ellipsoidal, ellipsoidal or globose, hyaline and asci 8-spored to multispored, *Lecanora*-type, elongate-clavate to broadly clavate. Species of this family can be found in all kind of habitats. The purpose of this study were to explore biodiversity of Lecanoraceae and construct key characteristics and later to conserve the diversity as well as bring about sustainable uses.

Methodology: The family Lecanoraceae growing on bark and rocks were collected from various forest types were taxonomically identified according to Brodo *et al*., (2001), Elix, (2004), Kalb *et al*., (2008) and Lumbsch, (2004). For secondary metabolites analysis, microchemical test and thin layer chromatography (TLC) technique were carried out (White and James, 1985).

Results, Discussion and Conclusion: Two hundred and fifty-eight specimens of Lecanoraceae lichens were collected at PLWS from five forest types; dry evergreen forest (DEF), dry dipterocarp forest (DDF), lower montane rain forest (LMRF), lower montane

scrub forest (LMSF) and tropical rainforest (TRF). The study had identified four genera and twenty-three species. Of which nineteen taxa were known species and *Ramboldia deficiens* Sriprang & Kalb (ined.) (Fig.1) was newly descriped species. While three taxa of *Lecanora* PL.1-J, *L*. PL. 2-J and *Ramboldia* PL. 1-J are expected to be new of science discovering to Thailand (Table 1.). The percentage of lichen specimens explorer in DEF, DDF, TRF, LMRF and LMSF were 4, 9, 12, 17 and 58 respectively (Fig.2). However, *Lecanora achroa* and *L. argentata* (Fig.3) are general acquired almost all forest types. The great deal of taxa densities were 22 species from one hundred and fifty specimens in LMSF, 12 and 13 species from thirty-two and fourty-three in TRF and LMRF, while in DEF and DDF were confined at five and nine species. Due to taxa diversities depend on the vegetation communities of PLWS, in which the vegetations were affected by climate, edaphic elevation and biotics in such environment considering to form the forest types (Santisuk, 2007).

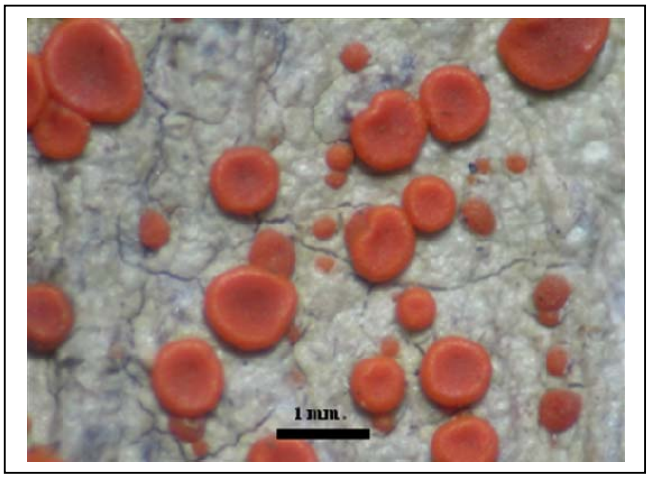

Figure 1. *Ramboldia deficiens* Sriprang & Kalb (ined.).

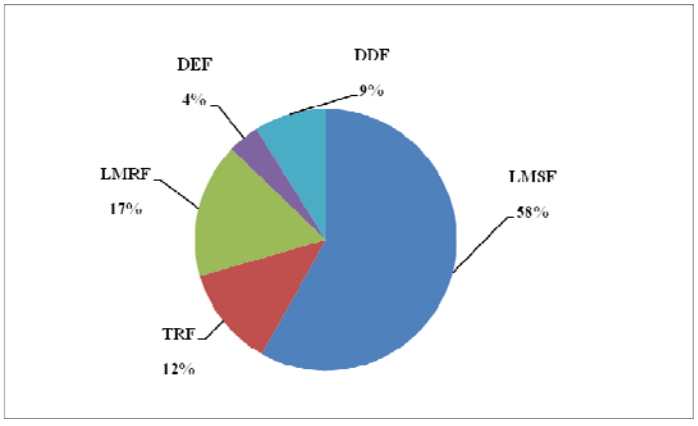

Figure 2. The percentage of lichen collecting samples family Lecanoraceae from five forest types

Table 1. The checklists of Lecanoraceae lichen in five forest types at Phu Luang Wildlife Sanctuary.

		no. of samples in forest types					
Genera	Species	LMSF	TRF	LMRF	DEF	DDF	Total
Lecanora	*achroa*	7	4	3	2	3	19
	allophana	13	1	1		1	16
	argentata	3	4	2	1	1	11
	argopholis	2	1		1	1	5
	caesiosora	3	2	3			8
	carpinea	5					5
	cenisia	1					1
	dipersa	2	3	1		2	8
	intricata	4					4
	lividocarnea	9	2	3	2		16
	maginata	6	3			3	12
	pallida	13	2	2			17
	phaeocardia	13	4		4		21
	PL.1-J	12	1	1			14
	PL.2-J	1					1
	subimmersa	14	2	5			21
Lecidella	*carpathica*	4					4
Pyrrhospora	*gowardiana*	2					2
Ramboldia	*deficiens*			11		7	18
	heterocarpa	11					11
	russula	5	3	4		2	14
	siamensis	15		7		3	25
	PL.1-J	5					5
Total		150	32	43	10	23	258

(LMSF = lower montane scrub forest, TRF= tropical rainforest, LMRF = lower montane rain forest, DEF = dry evergreen forest,DDF = dry dipterocarp forest)

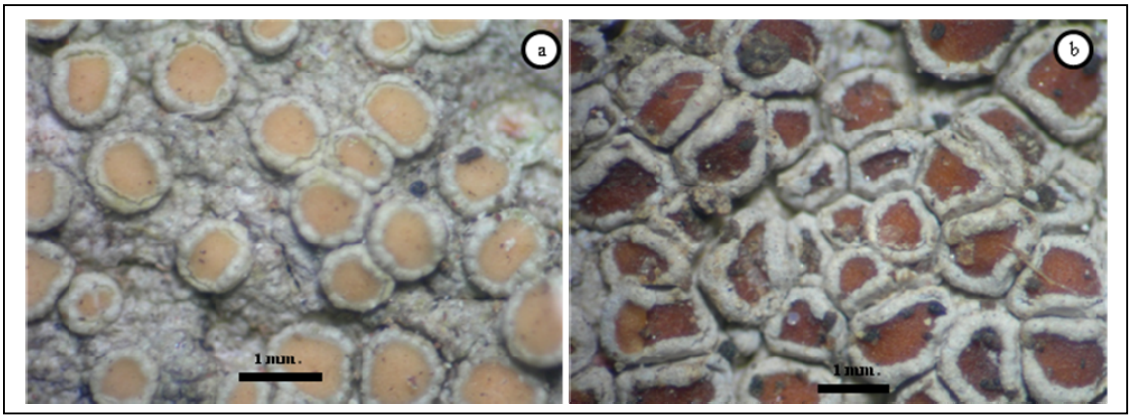

Figure 3. Two common species of a) *Lecanora achroa* b) *L. argentata*

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