

ไลเคนแบบแผ่นงาน ในเขตรักษาพันธุ์สัตว์ป่าภูหลวง จังหวัดเลย

DISCOLICHENS AT PHU LUANG WILDLIFE SANCTUARY, LOEI PROVINCE

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บทคัดย่อ: จากจำนวนไลเคน 226 ตัวอย่าง ที่รวบรวมได้บนพื้นที่ 4 สภาพป่า คือ ป่าไม้พุ่ม, ป่าดิบชื้น, ป่าดิบเขา และป่าเต็งรัง ในเขตรักษาพันธุ์สัตว์ป่าภูหลวง จังหวัดเลย ระหว่างเดือนมิถุนายน 2551 ถึงเดือนพฤษภาคม 2552 ที่ระดับความสูงตั้งแต่ 700-1,555 เมตร จากระดับน้ำทะเล เมื่อวิเคราะห์ทางอนุกรมวิธานของไลเคน สามารถจำแนกได้ 9 วงศ์ 11 สกุล 28 ชนิด โดย 5 ชนิด คือ *Caloplaca ferruginea*, *Haematomma infuscum*, *Lecanora allophana*, *L. carpinea* และ *L. pallida* จัดเป็นไลเคนที่ไม่เคยมีรายงานการพบในประเทศไทยมาก่อน และ 6 ชนิด คือ *Bacidia* PL.1, *Brigantiaea* PL.1, *Lecanora* PL.1, *Lecanora* PL.2, *Placynthella* PL.1 และ *Ramboldia* PL.1. คาดว่าจะเป็นชนิดใหม่ของโลก ความหลากหลายของชนิดไลเคนแบบแผ่นงานในป่าไม้พุ่ม, ป่าดิบเขา, ป่าดิบชื้น และป่าเต็งรัง คิดเป็นเปอร์เซ็นต์ได้ 64, 24, 8 และ 4 ตามลำดับ

Abstract: The total of 226 specimens on four ecoforest types, bush forest, tropical rain forest, hill evergreen forest and dry dipterocarp forest, at Phu Luang Wildlife Sanctuary of Loei Province, during June 2008 to May 2009 at the elevation 700-1,555 meters above sea levels. The samples were identified into 9 families 11 genera 28 species. Five species, *Caloplaca ferruginea*, *Haematomma infuscum*, *Lecanora allophana*, *L. carpinea* and *L. pallida*, were expected to be new record of Thailand. Six species, *Bacidia* PL.1, *Brigantiaea* PL.1, *Lecanora* PL.1, *Lecanora* PL.2, *Placynthella* PL.1 and *Ramboldia* PL.1, were expected to be new species of the world. The species diversity of discolichens in bush forest, hill evergreen forest, tropical rain forest and dry dipterocarp forest were 64, 24, 8 and 4 percent respectively.

Introduction: Phu Luang Wildlife Sanctuary covers an area of 897 square kilometers and is located in the south of Loei Province in northeast Thailand. Phu Luang consists of many mountains with the altitude ranging 400-1,550 meters above sea level. There are various kinds of forests such as mixed deciduous forest, dry evergreen forest and hill evergreen forest. The area is plenty of wildlife and plants, such as maple trees, white and red rhododendrons, including mosses, ferns and especially lichens. Lichens are abundant and have never been explored extensively. For discolichens are crustose lichens on many kind of

substrate. Discolichens are apothecia disc shaped, with a margin containing algae cell call “lecanorine apothecium” the margin is usually the same as the thallus but apothecia lacking the thalline margin call “leciadiene or biatorine apothecium”, ascospore; colourless, simple, transeptate to muriform found so many divers taxa in four forest type. This study aims to explore the diversity of discolichens and making records of potentially new taxa.

Methodology: The collected samples were treated into air dry for herbarium preservation. Taxonomic identification is based on morphology, anatomy as well as chemical products by using spot test and Thin layer chromatography (TLC). The characters used for determine genera and species are follow: thallus colour, leciadiene and lacanorine apothecium, exciple, paraphyses, ascus and ascospores according to White and James (1985) and Elix and Ernst-Russell (1993).

Results, Discussion and Conclusion: This study is able to identify nine families, eleven genera and twenty eight species from 226 specimens of discolichens collected from four forest types; bush forest (BF), tropical rain forest (TRF), hill evergreen forest (HEF) and dry dipterocarp forest (DDF) at Phu Luang Wildlife Sanctuary (Table1.). The discolichens diversity of bush forest, hill evergreen forest, tropical rain forest and dry dipterocarp forest were 64, 24, 8 and 4 percent respectively. (Fig. 1). High diversity of discolichens were found in bush forest, The largest numbers of species were found on *Lithocarpus sp.* and *Rhododendron sp.* This host species is dominant tree in bush forest, Among 22 species found in this areas, *Lecanora pallida* and *Haematomma infuscum* were the dominant species, dry dipterocarp forest had the lowest diversity, two species of lichens. In fact, The species diversity of discolichens are distributing widely throughout different elevation gradients, substrates, climates, and environmental conditions. However, species composition varied among different types of forests and trees species are more important for attachment of

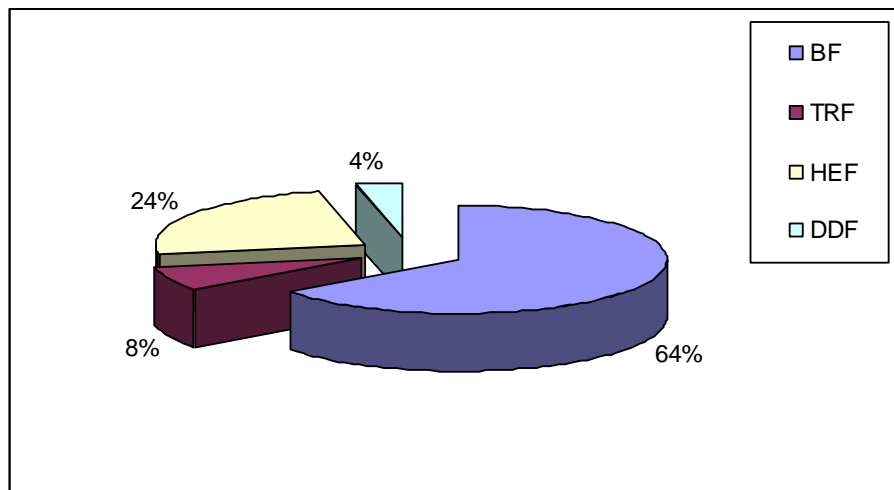


Figure 1. Percent of lichen taxa that belong to 7 genera found in bush forest (BF), hill evergreen forest (HEF), tropical rain forest (TRF) and dry dipterocarp forest (DDF) at Phu Luang wildlife Sanctuary

Table 1. Families, genera and species of discolichens in four forest types at Phu Luang Wildlife Sanctuary.

Order	Family	Genera-species	no. of samples in forest types			
			BF	TRF	HEF	DDF
Gyalectales	Gyalectaceae	<i>Dimerella nepalensis</i>	5			
Lecanorales	Bacidiaceae	<i>Bacidia spadicia</i>	1			
		<i>Bacidia</i> PL.1	2			
	Brigantiaaceae	<i>Brigantiaea leucoxantha</i>			16	
		<i>B.</i> PL.1			4	
	Lecanoraceae	<i>Biatora spaeroides</i>	2			
		<i>B. vernalis</i>	7			
		<i>B. desmaspora</i>	1			
		<i>Lecanora allophana</i>	14	1	1	1
		<i>L. carpinea</i>	5			
		<i>L. cenisea</i>	1			
		<i>L. pallida</i>	18	1	1	
		<i>L.</i> PL.1	10			
		<i>L.</i> PL.2	12			
		<i>Ramboldia russula</i>				4
	<i>R.</i> PL.1				11	7
	Megalosporaceae	<i>Megalospora tuberculosa</i>	13			
	Haematommataceae	<i>Haematomma wattii</i>	13	3	2	
		<i>H. collatum</i>	6			
		<i>H. infuscum</i>	15	1	1	
<i>H. africanum</i>		3				
<i>H. rufidulum</i>		2				
Trapeliaceae	<i>Placynthiella</i> PL.1	2				
Teloschistales	Letrouitiaceae	<i>Letrouitia transgressa</i>		11	12	
		<i>L. vulpina</i>			3	
	Telochistaceae	<i>Caloplaca ferruginea</i>	1			
		<i>C. flavorubescens</i>	7			
		<i>C. furfuracea</i>	6			

(BF = bush forest, TRF= tropical rain forest, HEF = hill evergreen forest, DDF = dry dipterocarp forest)

discolichens. The family Lecanoraceae consisted of the largest number of species, widely distributed in almost areas of study at Phu Luang Wildlife Sanctuary. The most widely distributed species are *Haematomma infuscum*, *H. wattii*, *Lecanora allophana* and *L. pallida*. However, *Brigantiaea leucoxantha*, *Letrouitia transgressa* and *Ramboldia* PL.1 were mostly inhabited hill evergreen forest at Khok Huai Toey, Huai Nam San and Phuluang Wildlife Research Station. Five species, *Caloplaca ferruginea*, *Haematomma infuscum*, *Lecanora allophana*, *L. carpinea* and *L. pallida*, were new records for the first time of Thailand (Fig. 2). Six species, *Bacidia* PL.1, *Brigantiaea* PL.1, *Lecanora* PL.1, *Lecanora* PL.2, *Placynthella* PL.1 and *Ramboldia* PL.1, were expected to be new species of the world.

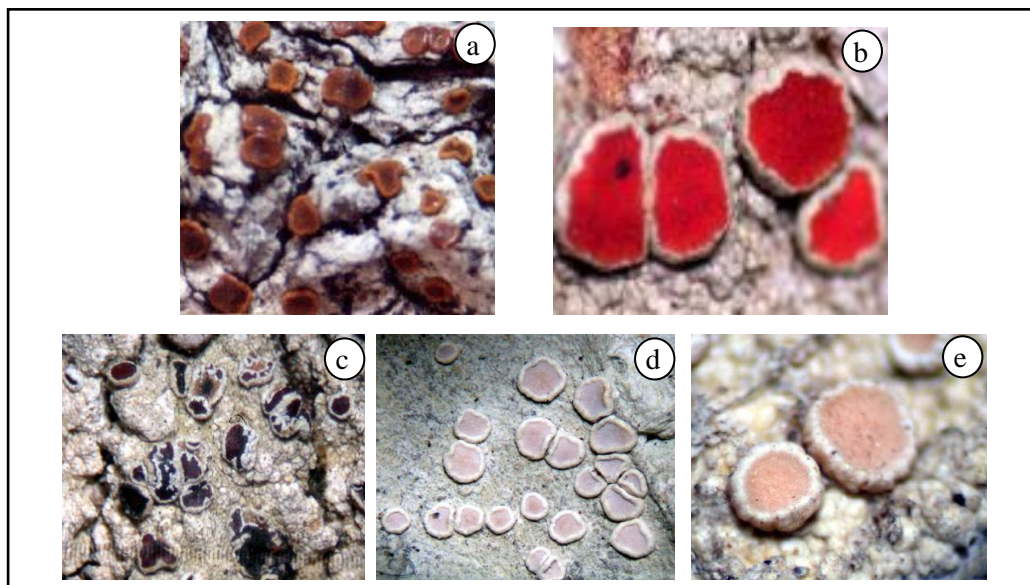


Figure 2. Five species were new records of Thailand. a) *Caloplaca ferruginea*
b) *Haematomma infuscum* c) *Lecanora allophana* d) *Lecanora carpinea* e) *Lecanora pallida*

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Keywords: lichens, discolichens, lecanorales, new record, new species, biodiversity