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PPD-05

Lichens as Bioindicators of Changes in Climatic Conditions and Air Pollution

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In modern times, the study of changes in climatic conditions and air pollution have become very significant. Naturally occurring bioindicators have an important role in sensing environmental changes. Lichens are suitable as bioindicators due to their slow growth rate and long-life span. Lichen consists of an algal component (phycobiont) and a fungal component (mycobiont) living in symbiotic association with each other. Lichens have good sensitivity to changes in various environmental conditions and air pollutants because due to lack of vascular system, they absorb water and nutrients passively from the environment. Biomonitoring methods involving lichens are cost-effective as compared with other physical and chemical monitoring tools. Changes in the diversity of different lichen species, their morphology and physiology act as indicators of variations in climate and quality of air. Due to their quality of binding and subsequently concentrating toxic elemental pollutants within their fungal mycelium, lichens can be used for biomonitoring of concentrations of different toxic elemental pollutants in the air. In the present study, the role of lichens as natural bioindicators for evaluating climate changes and air pollution has been reviewed.

Keywords: Lichens, Biomonitoring, Climate change, Air pollution

PPD-06

Biodiversity of the Lichens Family Physciaceae in Mangrove Forest at Eastern Sea Coast on the Gulf of Thailand

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One thousand eight hundred and thirty-two specimens of lichen family Physciaceae were collected during February 2011 - March 2016 from 33 dominant trees in the mangrove forest of Chachoengsao, Chantaburi Chonburi, Rayong and Trat provinces. The specimens were identified into 40 species and eight genera (*Amandinea*, *Baculifera*, *Buellia*, *Cratiria*, *Dirinaria*, *Physcia*, *Pyxine* and *Stigmatochroma*). The common taxa were *Dirinaria picta*, *Physcia undulata*, *Pyxine cocoes* and *Buellia triseptata*. The highest diversity of the Physciaceae was found on *Rhizophora apiculata* Blume with the second richest taxa recorded from *Lumnitzera racemosa*, *Baculifera remensa*, *Buellia reagenella*, *Buellia rubroreagens*, *Stigmatochroma glaucotheca* were new records for Thailand, whereas three taxa, *Buellia* sp., *Buellia* sp.1, and *Physcia* sp.1, were expected to be new to science.

Keywords: Taxonomy, Diversity, Identification, Tropical lichens