

VARIATIONS ON GROWTH OF TROPICAL LICHENS AT KHAO YAI NATIONAL PARK, THAILAND

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Abstract: Growth rate of tropical lichens were observed during 1999 to 2012 in five forest at Khao Yai National Park. The crustose lichens consisted of 146 thalli (45 species) and 160 thalli (28 species) of the foliose were monitored for 13 years in various forest types at different seasons of the years. Thallus expansion, as a mean to observe growth, were measured by drawing thallus outline over transparent sheet. Growth rate were calculated by increasing diameter of thalli at time intervals. The results show that thalli of the foliose and crustose lichens remain intact for 11% and 25% respectively. The dry dipterocarp forest (DDF) supported the highest proportion of intact thalli accounted for 58% of the crustose and 22% of the foliose. However, the humid forests such as the dry evergreen forest (DEF), the lower montane forest (LMF), the tropical rain forest (TRF) and the secondary forest (SF) support lower proportion of intact thalli. The average and ranges of growth rates for the crustose lichens were 2.23 (1.52 to 3.13) mm/year and those of the foliose were 4.40 (1.51 to 8.95) mm/year. The maximum growth rate among the crustose was 7.47 mm/year measured from *Porina* sp.1 in TRF and that of the foliose was 11.7 mm/year measured from *Heterodermia hypoleuca* in LMF. During 13 years of observation, the average growth rates of the crustose lichens varies from year to year measured 2.19, 2.26, 2.84, 2.54, 2.55, 2.42, 2.28, 2.50, 2.54, 2.41, 2.41, 1.93 and 1.79 2.23 mm/year. During the same period those of the foliose thalli grew 6.63, 7.97, 7.35, 7.42, 5.86, 5.44, 4.27, 6.42, 6.76, 6.70, 5.99, 5.47 and 3.52 4.40 mm/year. Variation of lichen growth was possibly influenced by variability of climate. Further studies and long term investigation are necessary to elucidate this issue, and to be used to observe the effects of climate change.

Acknowledgements: We would like thank to Mr. Nimitr Osathanon for being the pioneer of the field work, the member of Lichens Research Unit at Ramkhamhaeng University, the officers at Khao Yai National Park, the Royal Forest Department and Resource and Environmental Management Division.

Keywords: crustose, foliose, lichens, growth rate