SP11_015_PA: A PRELIMINARY INVESTIGATION OF TOTAL VOLATILE ORGANIC COMPOUNDS (TVOCs) PRODUCED BY CULTURES OF LICHEN-FORMING FUNGI

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Abstract:

During incubation of 18 lichen-forming fungi cultures on solid medium, total volatile organic compounds (TVOCs) and formaldehyde were investigated using a handheld Air Quality monitor machine (Dienmern, DM106). Two *Anisomeridium* species isolates SUK13 and SUK369 and two *Arthonia* species isolates NKP49 and NKP156 produced high TVOCs above 9.999 mg/m^3. This measurement also included the formaldehyde values for each isolate *i.e*., 0.959, 0.729, 1.008, and 1.139 mg/m^3, respectively. However, the common lichen-forming fungi in the family Trypetheliceae such as *Trypethelium subeluteriae* (KY783), *Asthothelium sp.* (PNG61) and *Marcelaria cumingii* (K11) usually produced TVOCs ranging from 0.104 to 0.338 mg/m^3 which were lower than the former group. The quantity of formaldehyde produced from the latter group was also in lower range of 0.020-0.086 mg/m^3. This is the first report of TVOCs and formaldehyde produced from the cultures of the lichen-forming fungi. Analysis of these TVOCs should be further studied for their roles and applications.