SP11_005_PA: OPTIMAL CONDITION FOR MEASURING BARK PH AND CONDUCTIVITY IN LABORATORY

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Abstract:

Air pollution can affect pH and conductivity of bark, which subsequently influence growth and biodiversity of corticolous lichens. This study aimed to find optimal condition for a simultaneous measure of pH and conductivity of bark in laboratory. The outermost parts of *Alstonia scholaris* bark (1-3 mm thick) at 1.3 meters above ground were collected. The bark samples were picked up from three different trees growing at Ramkhamhaeng University (Huamark, Bangkok). The samples were oven dried at 100 °C for 24 hours. Experiment A: barks were broken to small pieces but was not ground. Then, one gram of sample was submerged in 20 mL deionized water and placed under room temperature (no grinding or shaking). Experiment B: barks were ground and immerged in the deionized water and placed under room temperature (grinding but no shaking). Experiment C: samples were ground, soaked in the water, and placed on a shaker under room temperature (grinding and shaking). There were three replicates for each experiment. Bark pH and conductivity were measured at the beginning and at every 1 hour. We found that bark pH of the experiments A and B had similar trends and values. They were fluctuated during the first 2 hours and were stable after 3 hours at the value of 5.3. In contrast, the experiment C showed the lower pH value which was probably due to shaking. The bark conductivity of all experiments was also fluctuated at the beginning. They appeared to be stable after 3 hours at the value of 290 μS cm^{-1}. The values of bark conductivity from the experiments B and C were similar. For the experiment A however, the lower value was obtained which may be due to the sample preparation (no grinding). In conclusion, grinding sample with no shaking and then soaking in deionized water for at least 3 hours were appropriate for a simultaneous measure of the bark pH and conductivity in laboratory.