PHYSICOCHEMICAL CHARACTERIZATION AND FTIR ANALYIS OF THE ESSENTIAL OIL FROM ALMACIGA (*Agathis philippinensis* Warb.) GUM

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ABSTRACT

Almaciga (*Agathis philippinensis)* is one of the few conifer timber species endemic to the Philippines. It is highly valued for its resin which is the world- renowned Manila copal (hard resin). Manila copal have been reportedly employed in treating asthma, headaches, myalgia and even arthritis. An ethnomedical documentation of Manila copal usage also reported the utilization of the resin for stomachache, ulcers and dysentery. However, there is only limited literature regarding the Almaciga gum (the softer resin). To provide supplemental data regarding the Almaciga gum, this study was conducted to characterize the physicochemical properties and to identify the major functional groups of the essential oil extracted from its resin. The essential oil was extracted using a makeshift steam distillation set- up with a total yield of 3.20%. The essential oil was found to have a refractive index of 1.4731± 0.0002, a density of 0.8502±0.0039 g/mL, and a specific gravity of 0.8527±0.0039. Odor, color and appearance were evaluated using the organoleptic method. Major functional groups were identified from Fourier Transform – Infrared Spectroscopy (FTIR) which suggested that limonene is the major component.