

**OR-30****Chemical Constituents and Antimicrobial Activity of Essential Oils of *Goniothalamus Cylandrostigma* (Annonaceae) from Sarawak**Fasihuddin B Ahmad<sup>1,\*</sup>, Zaini B Assim<sup>1</sup>, Ismail B Jusoh<sup>2</sup> and Laily B Din<sup>3</sup>

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The leaf, bark and root oils of *Goniothalamus cylandrostigma* were obtained by hydrodistillation method and investigated by capillary GC and GC/MS. The chemical components were identified by comparison of their mass spectral data with those existing in the Wiley library, their retention indices and co-chromatography of some constituents with authentic samples. The oils and several reference compounds were further evaluated for their antimicrobial activity using broth microdilution methods. The bark and root oils were qualitatively similar but with some variation in levels of the individual constituents, with geranyl acetate as the most abundant compounds. The bark oil contained a higher amount of geranyl acetate (41.5%), geraniol (20.5%) and linalool (8.6%) than the root oil. However, the major group of compounds in the leaf oil of *G. cylandrostigma* was dominated by monoterpenoids and terpinen-4-ol (38.9%) and 1,8-cineole (17.7%) were the important representatives. The antimicrobial activity results showed that the essential oils of *G. cylandrostigma* exhibited strongest inhibitory activity against *S. epidermidis* and *Candida albicans*. Based on the results of the assay on standard samples, compounds such as geranyl acetate, geraniol, linalool and terpinen-4-ol in the oils might be responsible for the high antimicrobial activity.

**Keywords:** *Goniothalamus cylandrostigma*, Essential oil, Antimicrobial.

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