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PP11. Chemical composition and antimicrobial properties of the essential oils of two *Guadua* Kunth species (Poaceae-Bambusoideae)

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Bamboos are described as one of the most important renewables, easily obtained, and valuable of all forest resources. Brazil is the country with the greatest diversity of bamboo species in the New World [1]. One of the most important bamboo groups growing in South America belongs to the *Guadua* genus, from which two species, *G. angustifolia* Kunth. and *G. chacoensis* (Rojas Acosta) Londoño & P.M. Peterson, are morphologically closely related. Due to the taxonomic difficulties presented by the *Guadua* complex, the main objective of this work was to evaluate the potential of their volatile oils for distinguishing the closely related species and to evaluate new potential applications for these plants. Leaves of the taxa were collected at an Experimental Unit from the Agronomical Institute from Campinas (IAC) located in Tatuí-SP. The essential oils were obtained by hydrodistillation for 4 h, and component identification was performed by GC/MS [2]. The yields were found to be 0.027% and 0.00079% (w/w), for *G. angustifolia* and *G. chacoensis*, respectively. Terpenes and terpene-related compounds accounted for most of the compositions of the two samples. The major compounds of *G. angustifolia* oil were hexahydrofarnesyl acetone (23.1%) and (*Z*)-phytol (21.3%), while *G. chacoensis* oil was characterized by (*E*)-β-ionone (8.8%), hexadecanoic acid (6.8%), hexadecenoic acid (6.5%), (*Z*)-phytol (5.3%) and (*E*)-α-ionone (5.0%). The antimicrobial activity was assayed by a microdilution method in microplates [2] against *Aspergillus brasiliensis*, *Candida albicans*, *Escherichia coli*, *Pseudomonas aeruginosa* and *Staphylococcus aureus*; none of the oils exerted any considerable activity (MIC > 250 µg/mL), as only extracts with MIC < 100 µg/mL can be considered as candidates for developing new antimicrobial agents [3].

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