New antimicrobial, mosquito larvicidal and other metabolites from two *Artabotrys*species

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Abstract

Azabicycloheptenoylditerpene 1-((2E,6E,10E)-3,7,11,15-tetramethylhexadeca-2,6,10,14-tetraenyl)-2-azabicyclo[2.2.1]hept-5-en-3-one (artamodamide, 1), diphenylpentanoid (E)-1,5-bis(4-hydroxyphenyl)-pent-1-en-3-one (artamenone, 2) and N-methoxy-5-oxoaporphinoid (artamonteirine, 3) were isolated as new metabolites from Artabotrys modestus Diels ssp macranthus Verdc. and Artabotrys monteiroae Oliv. (Annonaceae), together with several known compounds. Structures of the isolated compounds were established based on analysis of their spectroscopic data. Some of the compounds exhibited antimicrobial activity (minimum inhibitory concentration values between 2.5 and 20 μg mL−1) and varying levels of mosquito larvicidal potency. These results further indicate the versatility of the family Annonaceae in accumulating bioactive natural products with diverse chemical structures and wide spectra of biological activities, and hence suggesting the need to conserve Annonaceae species that are potentially vulnerable to extinction.

Keywords: Annonaceae, Artabotrys modestus , Artabotrys monteiroae , azabicycloheptenoylditerpene, diphenylpentanoid, N-methoxy-5-oxoaporphinoid, antimicrobial, larvicidal