

Bioactive Metabolites Produced by *Penicillium* sp.1 and sp.2, Two Endophytes Associated with *Alibertia macrophylla* (Rubiaceae)

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In the course of our continuous search for bioactive metabolites from endophytic fungi living in plants from the Brazilian flora, leaves of *Alibertia macrophylla* (Rubiaceae) were submitted to isolation of endophytes, and two species of *Penicillium* were isolated. The acetonitrile fraction obtained in corn from a culture of *Penicillium* sp.1 afforded orcinol (**1**). On the other hand, *Penicillium* sp.1 cultivated in potato-dextrose-broth furnished two different compounds, *cyclo*-(L-Pro–L-Val) (**2**) and uracil (**3**). The chromatographic fractionation of the acetonitrile fraction obtained from *Penicillium* sp.2 led to three dihydroisocoumarins, 4-hydroxymellein (**4**), 8-methoxymellein (**5**) and 5-hydroxymellein (**6**). Compounds **5** and **6** were obtained from the *Penicillium* genus for the first time. Additionally, metabolites **1–6** were evaluated for their antifungal and acetylcholinesterase (AChE) inhibitory activities. The most active compounds **1** and **4** exhibited detection limits of 5.00 and 10.0 µg against *Cladosporium cladosporioides* and *C. sphaerospermum*, respectively. Compound **2** showed a detection limit of 10.0 µg, displaying potent AChE inhibitory activity.

Key words: *Penicillium*, *Alibertia macrophylla*, Endophytic Fungi, Acetylcholinesterase