

**Chemistry and bioactivity of secondary metabolites from
Pestalotiopsis microspora, an endophytic fungus from *Manilkara zapota***

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Endophytes are now considered as an outstanding source of bioactive compounds. In a continuation of our studies towards the search for bioactive compounds from Sri Lankan flora we investigated the secondary metabolites of the endophytic fungus *Pestalotiopsis microspora* isolated from the fruits of *Manilkara zapota* of the family Sapotaceae. Fruits of the *M. zapota* are edible and popular in Sri Lanka. We have previously reported the isolation and identification of pestalotin (1) and hydroxypestalotin (2) from the endophytic fungus *P. microspora* from the same origin. Here we report the isolation and identification of three more secondary metabolites pithaloide B (3), pithaloide D (4) and a new pithaloide having an additional lactone ring (5).

An endophytic fungus isolated from the fruits of *M. zapota* was identified as *P. microspora* by molecular means. Large scale culturing was carried out by inoculating pure culture of the fungus to PDB medium, which were allowed to stand at room temperature for 10 days, and then incubated while shaking every other day on a laboratory shaker for another 20 days. The medium was filtered after one month and the filtrate was extracted with ethyl acetate (EtOAc). Residual mycelium was extracted with EtOAc using sonicator. TLC analysis indicated the similarity of the two EtOAc extracts. Hence the two extracts were combined and screened for antioxidant activity (DPPH assay), α -amylase inhibition activity, antifungal activity against *Cladosporium cladosporioides*, phytotoxicity against *Lactuca sativa* seed germination, brine-shrimp toxicity against *Artemia salina* and anti-candidal activity against five candidal species. Chromatographic separation of EtOAc extract furnished compounds 3–5 with yellow fluorescence together with 1 and 2. Bioactivity studies of the isolates are in progress. This is the first report of the isolation of *P. microspora* from *M. zapota* as well as pitholides from *P. microspora*.

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