Studies on secondary metabolites produced by the endophytic fungus *Pestalotiopsis microspore* from *Manilkara zapota*

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Endophytic fungi are considered to be a very good source of bioactive natural products.Some endophytic fungi have developed the ability to produce the same or similar bioactive substances as those originating from the host plants. In the current study, as a continuation of our search for bioactive compounds from Sri Lankan flora, we investigated secondary metabolites of the endophytic fungus *Pestalotiopsis microspore*, which was isolated from the fruits of *Manilkara zapota* of the family Sapotaceae. *P. microspore*, was cultured in potato dextrose broth media. TLC autobiography analysis found that EtOAc extract obtained from the culture broth and mycelium of *P. microspore*displayed antifungal activity against *C. cladosporioides*. In addition, antioxidant activity was also demonstrated by DPPH radical scavenging assay (IC_{50} 63.5 ppm). However, it was inactive in the assays of brine shrimp lethality, phytotoxicity against *Lactuca sativa* (inhibition of root and shoot growth), α-amylase inhibitionand anticandidal activity against *Candida tropicalis*. Chromatographic separation of the EtOAc extract of the broth and mycelium led to the isolation of a new azaphilonoid named pitholide E (**1**), in addition to previously identified pitholide B (**2**), pitholide D (**3**), pestalotin (LL-P880α) (**4**), PC-2 (**5**), LL-P880β (**6**), tyrosol (**7**) and 4-oxo-4*H*-pyran-3-acetic acid (**8**). The structures of the known compounds were determined by NMR spectroscopic data analysis and by comparison with reported data. Compounds **1**, **4**, **6** and **7** were evaluated for antioxidant and antifungal activity against *C. cladosporioides*, but none of them showed any significant activity. This is the first report of the isolation of the endophytic fungus *P. microspore* from *M. zapota* and the isolation of compounds **1-5**, **7** and **8** from *P. microspore*.

Keywords: *endophytic fungi, Manilkara zapota; Pestalotiopsis microspore*