

**Isolation and characterization of spiciferone A from an endophytic fungus  
*Phoma macrostoma* isolated from *Artocarpus altilis* fruits**

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This study focuses on the chemistry and bioactivity of secondary metabolites produced by an endophytic fungus from the fruit of *Artocarpus altilis* (family Moraceae). *A. altilis*, commonly known as “Del” in Sri Lanka. Its fruits are known as breadfruit and cooked as a starchy staple food. Various parts of *A. altilis* are used to cure many diseases. An endophytic fungus isolated from the fruits of *A. altilis* was identified as *Phoma macrostoma* by molecular means. Pure culture of *P. macrostoma* was inoculated into twenty 1 L-Erlenmeyer flasks, each containing 400 mL potato dextrose broth media, allowed to incubate at room temperature for 10 days and shaken every other day for another 18 days. After four weeks the culture broth and mycelia were extracted with EtOAc separately. The mycelia were further extracted with MeOH. Concentration of the extracts under reduced pressure using a rotary evaporator gave two EtOAc extracts and a MeOH extract. The two EtOAc extracts were combined due to the close similarity of the TLC pattern. Bioassay screening indicated that the combined EtOAc extract was active in brine shrimp lethality assay (IC<sub>50</sub> 78 ppm), exhibited DPPH radical scavenging activity (IC<sub>50</sub> 738 ppm) and had phytotoxic activity inhibiting root (IC<sub>50</sub> 906 ppm) and shoot (IC<sub>50</sub> 558 ppm) growth. The MeOH extract was active in DPPH radical scavenging assay (IC<sub>50</sub> 508 ppm). Chromatographic separation of the EtOAc extract furnished spiciferone A (**1**), which was identified by detailed analysis of NMR data. Spiciferone A (**1**) is a polyketide-derived fungal metabolite with a bicyclic unit comprised of a fully substituted  $\gamma$ -pyrone and a cyclohexenone and reported as a plant growth inhibitor. This is the first report of the isolation of *P. macrostoma* as an endophyte from the fruit of *A. altilis* and the isolation of **1** as a secondary metabolite from *P. macrostoma*.

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