

## A Fungistatic Chromene from *Ageratum conyzoides*

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*Ageratum conyzoides* L. is an annual herb in the tropics and subtropics whose extracts are known to possess pharmacological and biocidal activity. We report on the bioactivity of a secondary metabolite (a chromene) isolated from the shoots of *A. conyzoides* against some plant pathogenic fungi. Organic solvent extracts from the shoots were tested for antifungal activity against the plant pathogenic fungi *Rhizoctonia solani*, *Sclerotium rolfsii*, *Botryodiplodia theobromae*, *Phomopsis theae* and *Fusarium* species growing *in vitro* on potato dextrose agar medium. The crude *n*-hexane extract completely inhibited the growth of *R. solani* and *S. rolfsii*. The *n*-hexane extract was chromatographed over a column of silica gel followed by activity-guided fractionation to give an antifungal principle. Structure elucidation by detailed analysis of <sup>1</sup>H, <sup>13</sup>C NMR and mass spectroscopy identified the active compound as precocene II. The growth of *R. solani* and *S. rolfsii* was completely inhibited by precocene II at a concentration of 80–100 ppm. The sclerotia of *R. solani* and *S. rolfsii* were also completely suppressed by 150 ppm of precocene II. Sub-culture of these inhibited fungi onto precocene II-free medium restored growth of the fungus, indicating that precocene II is fungistatic. Crude or refined extracts from *A. conyzoides* offer the possibility of biocontrol of plant pathogenic fungi.

KEY WORDS: *Ageratum conyzoides*; Asteraceae; antifungal activity; fungistasis; *Rhizoctonia solani*; *Sclerotium rolfsii*; chromene; precocene II.

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