Potential of the antifungal activity of the weed, *Ageratina riparia* (Regel) R. M. King and H. Rob. in the control of anthracnose disease in banana fruits

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Ageratina riparia (Regel) (R.M. King and H. Rob.) of the family Asteraceae is an invasive weed distributed widely in the montane regions of the Central Province of Sri Lanka. It is native to New Mexico and West Indies and today is widespread in many regions in the world. It has become a noxious invader in the up-country, wet zone of Sri Lanka, invading many natural and man-made ecosystems.The present study was carried out to investigate the antifungal active components of the weed, *A. riparia* and their ability to control banana anthracnose disease caused by the fungus, *Colletotrichum musae*. The methanol extract of the aerial part of *A. riparia* was subjected to activity guided fractionation and methylripariochromene A was isolated as a bioactive compound. In a slide germination assays against *C. musae*, the methanol extract and methylripariochromene both showed their potency in inhibiting the growth of conidia, the latter possessing greater activity. However, the assessment of the anthracnose disease control in banana fruits was carried out using the methanol extract since it appeared as a practical and low cost option. Significantly, in banana, the methanol extract exhibited a promising reduction of the anthracnose lesions, under visual observation, specially at high concentrations (3000 ppm). Brine shrimp micro-well cytotoxicity assay was carried out for the methanol extract, methyl ripariochromene and the commercial fungicide Bavistin FL. Cytotoxicity of Bavistin FL was much higher (100 % mortality at 250 ppm) compared to the methanol extract (100% mortality at 1000 ppm) and methylripariochromene A (100% mortality at 500 ppm). Thus, the aerial part of the weed, *A. riparia* may be commercially exploited as a natural alternative to commercially available fungicides for its ability to control banana anthracnose disease.