Antifungal effect of *Croton aromaticus* against *Rhizopus* spp. isolated from banana and papaya

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Synthetic fungicides are widely used to control postharvest diseases of fruits all over the world. Numerous plant extracts have been identified to have antimicrobial properties *in vitro* and are potential alternatives for synthetic fungicides. *Rhizopus* species are common on fruits after harvest resulting in transit rot. Present study was an attempt to evaluate the antifungal effect of ethanolic extract of *Croton aromaticus* (Kappettiya) leaves *in vitro* against growth of *Rhizopus* sp. and *Rhizopus stolonifer* isolated from banana and papaya, respectively. Surface sterilized (NaOCl (3% W/V)) diseased banana and papaya fruit tissues were cultured on PDA plates in order to obtain pure cultures of possible fungi and they were identified by morphological and microscopic characteristics, following identification keys and by comparing with cultures available in the Department of Botany, University of Kelaniya. Inhibitory effect of the ethanolic extract of *C. aromaticus* was investigated by well diffusion method with 1 mg/ml, 5 mg/ml, 10 mg/ml, 30 mg/ml, 50 mg/ml, 100 mg/ml, 200 mg/ml and 300 mg/ml concentrations with the positive control (Captan) and negative control (DMSO). Significant ($P< 0.05$) inhibitory effects were exhibited by the ethanolic extract of *Croton aromaticus* leaves against both test fungi. The highest mycelial growth inhibitions of *Rhizopus* sp. and *Rhizopus stolonifer* were observed at 100 mg/ml and 200 mg/ml concentrations respectively. *Rhizopus stolonifer* was inhibited more effectively than *Rhizopus* sp. by the above ethanolic extract. Minimum inhibitory concentration of mycelial growth of both fungi was 30 mg/ml. TLC analysis revealed the presence of four compounds with Rf values of 0.6, 0.7, 0.8 and 0.9. Phytochemical analysis of ethanolic extract exhibited constituents including alkaloids, terpenoids, quinones, phytosterols and flavonoids. Hence, the results of the present investigation indicated the possibility of using ethanolic extract of *Croton aromaticus* leaves against transit rot mould *Rhizopus* isolated from banana and papaya.