BIOACTIVITY OF VOLATILE CONSTITUENTS OF RUTACEAE

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In continuation of our search for bioactive compounds from Sri Lankan plants we report here the antifungal, antibacterial and insecticidal activities of the volatile constituents of ten species belonging to the family Rutaceae.

The steam distillates of the leaves of all of the following ten plants showed antifungal activity in varying degrees: Acronychia pedunculata, Atalantia ceylanica, Atalantia monophylla, Clausena indica, Glycosmis pentaphylla, Limonia acidissima, Murraya koenigii, Murraya paniculata, Toddalia asiatica, and Zanthoxylum rhetsea. The following plants exhibited antibacterial activity against Staphylococcus aureus: Clausena indica, Limonia acidissima, Murraya paniculata, Toddalia asiatica and Atalantia monophylla. However, none of the species showed inhibitory activity against Escherichia coli.

The leaf distillates of Atalantia monophylla, Acronychia pedunculata, Atalantia ceylanica, Todallia asiatica and Murraya koenigii displayed significant insecticidal activity against Aphis craccivora.

Volatile constituents were isolated by passing steam over fresh plant leaves. The antifungal activity against Cladosporium cladosporioides was investigated using TLC-bioassay technique.[1] The antibacterial activity was measured using a modified tube dilution technique with subsequent sub-culture on semisolid medium to determine the minimum bactericidal concentration[2], against Escherichia coli & Staphylococcus aureus. Potter's spray tower[3,4] was employed to evaluate the insecticidal activity against Aphis craccivora reared on cowpea leaves.

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