# INSECTICIDAL ACTIVITY OF ARYLALKENES

A.M.A. PRIYADARSHANI, V. KUMAR AND N. WEERASEKERA

*Department of Chemistry, Faculty of Science, University of Peradeniya*

Previous studies of *Zingiber purpureum* had shown the presence of an arylalkene, (E)-1-(3',4'-dimethoxyphenyl)butadiene which was active against *Aedes aegypti* with $LC_{50}$ of 6.5 ppm and against the bruchid, *Callosobruchus maculatus* with $LC_{50}$ of 2 mg.[1] The compound also showed oviposition deterrent and ovicidal effects against the bruchid.

The arylalkene was however unstable when exposed to light and air. Structurally related compounds were therefore synthesized in order to study the structure-activity relationship to obtain stable arylalkenes with the same or enhanced activity.

Arylalkenes were synthesized using the Wittig reaction. Aromatic aldehydes substituted with hydroxy and methoxy groups at different positions on the aromatic ring were reacted with Witting reagents of different lengths (1 to 4 carbons).

*Para* methoxy substituted arylalkenes were generally found to have strong insecticidal activity against *Callosobruchus maculatus* in the residual film bioassay. In the seed treatment bioassay, these compounds showed oviposition deterrent and ovicidal effects against the bruchid.

However the result against *Aedes aegypti* did not show any consistent pattern in the relationship between structure and activity.