B-27: Host preferences of the rice pest *Leptocorisa oratorius:* an electroantennogram and a laboratory behaviourial assay

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Leptocorisa oratorius (Hemiptera: Coreidae) is one of the serious pests of rice (*Oryza sativa* L.) in Asia and the Pacific region. In this region *L.oratorius* has caused crop losses as high as 50%. No satisfactory method is available for the control of this pest.

It is known that the flowering-grain development stage of the rice plant is attractive to *L.oratorius*. Rice is the most suitable host for *L.oratorius* while there are other weedy grasses belonging to Graminae which are acceptable hosts whilst some others are only marginal hosts.

The purpose of the present study is to investigate the attraction of *L.oratorius* to different parts of rice plant, other possible acceptable and marginal hosts of this pest by electroantennography (EAG) and a behaviourial assay with the view of isolating a host attractant for this pest.

For the EAG investigation *Oryza sativa* L (Rice - most suitable host), Pennisetum spicatum L Koern (Bajiri- acceptable host), *Imperata arundinaceae.* Cyrill (Illuk-a.h), *Piper nigrum* L and *Mangifera indica* (pepper & mango-marginal hosts), *Erythrina variegata* L (Erabadu-m.h) were considered. For behaviourial assay on different varieties of rice, BG 94/1, BG 1492, BG 303 and AT 303 were used.

The dose response curve of *L.oratorius* to the steam distillates of milk producing grains had a maximum response of 0.80 mV at a dose of 100 μl. In the behaviourial assay a maximum of 74% insects were attracted to the baited arm at a dose of 0.75 ml. The BG rice varieties were slightly more attractive to the pest than the AT variety although this difference was not significant ($p > 0.05$ ANOVA, Scheffe's test).

In this study the green volatile mixture in the family Graminae was more attractive to *L.oratorius* compared to those of the non-Graminae and this difference was significant ($p < 0.05$, ANOVA, Scheffe's test). The presence of some specific volatiles at a specific ratio in Graminae plants can thus be expected. Rice plant, seems to have attractive volatiles during all stages of its life cycle as indicated by the high EAG values ranging from 0.6-1.0 mV. However during very young and mature stages the rice volatiles are significantly less attractive ($p < 0.05$) than the flowering and developing grain stage. The highest EAG was elicited by the developing rice grain which produced "milk". It is thus likely that a specific attractant/s is produced by the developing rice grain to which the pest is highly attractive. The behaviourial assay showed that the BG rice varieties produce slightly more attractive volatiles than those of AT varieties.