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A comparative study on the leaf feeding activities of *Raphidopalpa femoralis* (Coleoptera; Chrysomelidae) on two cucurbits and their wild relatives

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New varieties of *Cucumis melo* and *Momordica charantia* are highly susceptible to the leaf feeding insect pest *Raphidopalpa femoralis*. Feeding of *R. femoralis* on leaves of the *M. maderspatana* and *M. dioica* which are wild relatives of *C. melo* and *M. charantia*, respectively have been rather poorly documented in Sri Lanka. Thus, present study investigated the comparative analysis of *R. femoralis* damage on selected crops and their respective wild relatives by leaf feeding bioassays, host preference studies using olfactometre, and leaf card index in the field.

Feeding bioassay results of *R. femoralis* on leaves of crop plant *C. melo* and its wild type *M. maderspatana* indicated that the mean damage of the wild plant *M. maderspatana* was significantly higher than that of the crop plant *C. melo* ($P < 0.05$). In contrast, mean damage of *R. femoralis* on leaves of crop plant *M. charantia* were significantly higher than the wild plant *M. dioica* leaves ($P < 0.05$).

Food choice tests using two crop plants and the respective two wild relatives indicated that the leaves of *M. maderspatana* had the highest mean damage (0.6483 ± 0.057), while *C. melo* had the lowest damage (0.0056 ± 0.0069). The leaf damage of *M. charantia* and *M. dioica* were recorded as 0.4078 ± 0.0433 and 0.1533 ± 0.0080 respectively. Leaf card Index studies conducted under the field conditions revealed that the damage of the crop plant leaves were significantly different ($P < 0.05$) than the damage of its wild plant leaves.

Olfactometre studies indicated that *R. femoralis* had significantly higher positive responses to the leaves and leaf extractions of wild plant *M. maderspatana* than that of crop plant *C. melo* ($P < 0.05$). However, leaves and leaf extractions of crop plant *M. charantia* had significantly higher positive responses than the wild relative, *M. dioica* ($P < 0.05$). Present research findings give much important preliminary information related to *R. femoralis* damages in selected cucurbits and their wild relatives.

Keywords: *Raphidopalpa femoralis*, *Cucumis melo*, *Momordica charantia*, *Mukia maderspatana*, *Momordica dioica*