## Assessment of parasitoid community of *Plutella xylostella* on crucifers around Kandy area

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*Plutella xylostella* (L), diamondback moth (DBM) (Lepidoptera: Yponomeutidae) is one of the economic pests of crucifers, particularly on cabbage. Biological control of DBM using parasitoids has been proposed. The objective of this study was to assess the parasitoid community of DBM on cabbage and radish in the Kandy area.

A plot of cabbage (50 $m^2$) and a plot of radish (40 $m^2$) were established in the premises of University of Peradeniya and in the premises of Horticultural Crop Research and Development Institute, Gannoruwa,respectively. The fields were maintained from October 2004 to March 2005. The fields were bordered to uncultivated land. The plants were examined for DBM at weekly intervals from transplanting to harvesting. Randomly selected 12 cabbage plants and 60 radish plants were examined on each sampling date. Additional samples were collected in two farmer fields at Pilimathalawa and Pananwala at irregular time intervals. The samples were brought to the laboratory and larvae and pupae were reared individually in plastic vials (2.5 cm diameter and 5 cm height) until the emergence of adult. Emerged adults were preserved and identified.

Infestation of DBM was first found 30 days after transplanting of cabbage and 20 days after seeding of radish. The first appearance of infestation in the field may be greatly influenced by the population level of DBM in the area. Population level of DBM fluctuated at a low average in both fields. Three species of parasitoids were found; a larval parasitoid, *Apanteles plutellae* (Kurdjumov) (Braconidae); a pupal parasitoid, *Diadromus collaris* (Gravenhorst) (Ichneumonidae) and a larval-pupal parasitoid, *Oomyzus sokolowskii* (Kurdjumov) (Eulophidae). All the three species were present in Gannoruwa and Pananwala fields and only *A. plutellae* and *O. sokolowskii* were present in Peradeniya and Pilimathalawa fields. *Apanteles plutellae* was the most abundant parasitoid, with a maximum

parasitism of 18.2% and 62.9%, followed by *O. sokolowskii* (24.5% and 33.3%) and *D. collaris* (7.5% and 9.1%) in Gannoruwa and Pananwala fields, respectively. In Peradeniya field, maximum parasitism was 66.6% by *O. sokolowskii* and 20.8% by *A. plutellae*. Average total parasitism was 30.1 % with the maximum of 50 % in Peradeniya field and those were 30.4% and 67% in Gannoruwa field. *Apanteles plutellae* and *O. sokolowskii* appeared to be widely distributed in Kandy area compared with *D. collaris.* Parasitoid community plays a considerable role in suppression of DBM population even in the farmers' fields irrespective to intense cultivation practices.