**Incidence of whorl maggot in Onattukara, Kerala, India**

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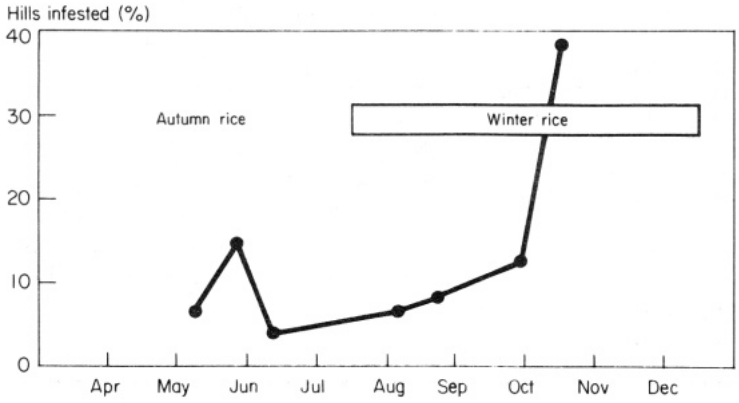
The larvae of the rice whorl maggot *Hydrellia philippina* migrate to the furled central whorl of rice leaves and feed on them, nibbling the inner margin. When unfurled, infested leaves are disfigured, with whitish blotches. Plants are stunted and do not tiller satisfactorily.

The extent and periods of whorl maggot infestation were studied in the 1977 winter rice and 1978 autumn rice at Kayamkulam. In autumn, infestation symptoms appeared in the first week of June and reached a maximum level (16%) tile last week of June. Low infestation continued until the first week of July. In winter, infestation commenced soon after planting. Infestation was 8% in September, and 12% in October; then it peaked at 39% the first week of November (see figure). In both seasons, the peak infestation occurred 50–60 clays before harvest.




Extent of infestation and periods of occurrence of *H. philippina* in Onattukara, Kerala, India.

In whorl maggot control, applying a water solution of carbofuran to the root zone 3 to 4 days after transplanting was superior to the conventional broadcast application. ■

**Some predatory spiders on brown planthopper and other rice pests**

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The observation that some insecticides cause resurgences of brown planthopper (BPH) populations has renewed interest in pest parasites and predators. Through periodic surveys conducted front the heading to the ripening stages of rice in Hooghly and Midnapore districts, West Bengal, the following spiders were observed to prey on BPH and other insects:

Family : Araneidae

- *Araneus* sp.

  Host: *Nilaparvata lugens, Nephotettix* spp., Arambagh, West Bengal.

- *Neoscona theisi* (Walckenaer)

  Host: *Nilaparvata lugens, Nephotettix* spp., Balagarh, West Bengal.

Family: Lycosidae

- *Lycosa* sp.

  Host: *Nilaparvata lugens, Nephotettix* spp., *Tettigella spectra,* Panshkura, West Bengal.

- *Pardosa annandalei* (Gravely)

  Host: *Leptocorisa acuta, Recilia dorsalis, Tettigella spectra,* Pandua, West Bengal.

Family: Oxyopidae

- *Oxyopes* sp.

  Host: *Nilaparvata lugens, Nephotettix* spp., Pandua, West Bengal.

Family: Salticidae

- *Marpissa* sp.

  Host: *Leptocorisa acuta, Nephotettix* spp., *Peregrinus maidis,* Pandua, West Bengal.

- *Marpissa decorata* Tikader

  Host: *Nilaparvata lugenss, Nephotettix* spp., *Sogatella furcifera,* Egra, West Bengal.

Family: Tetragnathidae

- *Tetragnatha mandibulata* (Walckcnaer)

  Host: *Leptocorisa acuta, Nephotettix* spp., Pandua, West Bengal.

Family: Theridiidae

- *Theridion* sp.

  Host: *Nilaparvata lugens, Recilia dorsalis,* Balagarh, West Bengal. ■

**Rice mealybug outbreak in Bangladesh, 1979**

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Widespread and severe outbreaks of the rice mealybug *Heterococcus rehi* were noted in Bangladesh during the drought years 1950, 1957, 1966, and 1972. Drought intensity caused extensive infestation in 1979. Infestation was most serious in late boro (Feb-Jun) and early aus (Mar-Jul) but the insect also attacked the broadcast aman (deepwater rice) crop before flooding, and the transplanted aman crops.

All varieties, traditional or improved, were susceptible. Damage to the aus crop in Rangpur district varied from 0 to 100%. In Bogra and Rangpur districts, the aus crop losses were estimated at 15% and 30%, because of the combined effect of drought and mealybug.

Sheath blight and sheath rot were associated with mealybug infestation. Rice in sandy soil or in soil with low water-holding capacity was attacked more severely than rice in other soils.

The following insecticide sprays are recommended for mealybug control: 0.75 fenthion 50 EC, 0.06% diazinon 60 EC, 0.1% phosphamidon 100, 0.1% dicrotophos 100, and 0.03% fenitrothion 50 EC.

Recommended mechanical and physical control measures include the removal of infested plants at the post-panicle initiation stage, burying them in the soil, and replanting. Extension workers and farmers have been advised to monitor the rice crop regularly during