Regression analysis of the linear model log a = log Q - m log P in different prey densities.

PH density	Parameter estimate[a]			
	m + s.e.	log Q	F	P
5	0.439 ± 0.283	0.322	2.40	0.14*
10	0.556 ± 0.243	0.268	5.23	0.03*
20	0.103 ± 0.206	0.251	0.25	0.63[ns]
30	0.486 ± 0.191	0.242	6.46	0.02*
60	0.707 ± 0.122	0.288	33.63	<0.01**

[a]ns = not significant, * = significant at p = 0.05, ** = significant at p = 0.01.

For BPH densities of 5 and 20, the regression was not significant It was significant for BPH densities of 10, 30, and 60 (see table). Mutual interference appears to intensify with increase in prey density. The *m* values for BPH densities of 10 and 30 were not significant, but *m* was significantly large for the BPH density of 60. This means that the spiders aggregate at higher hopper densities increasing the chances of encountering each other. At low hopper densities, the spiders disperse to about one spider/plant, and there is less chance that spiders will encounter each other.

We observed some cannibalism, especially in cages with three spiders. ■

Fluctuation of yellow stem borer (YSB) populations in Raichur, Karnataka, India

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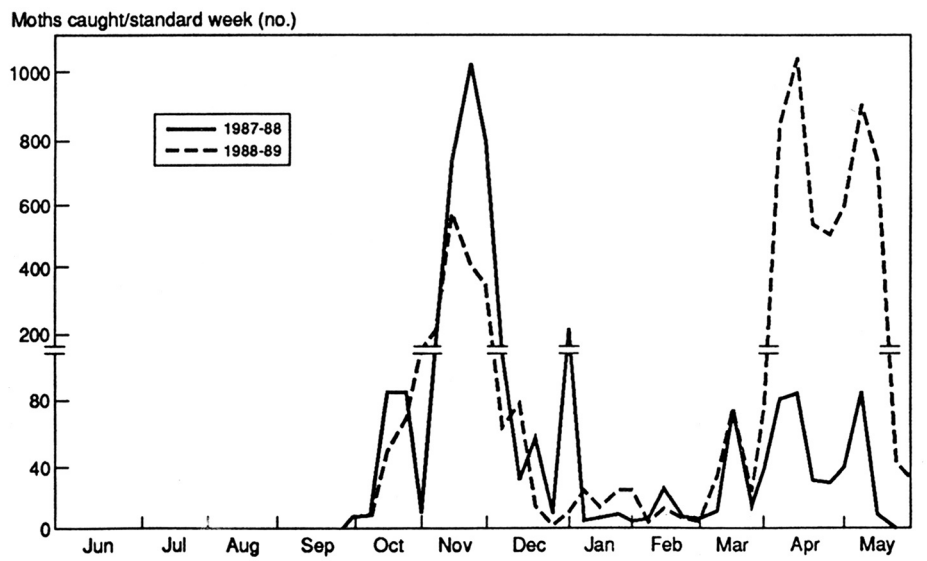
We used a modified Robinson model light trap with 160-W mercury lamp 1987-88 and 1988-89 to generate information on population fluctuations of YSB *Scirpophaga incertulas* (Walker) to use in the integrated pest management program.

Two peak activity periods were observed both years (see figure). The first peak was Oct-Dec: moths caught per standard week ranged from 9 to 1,015 in 1987 and 4 to 559 moths in 1988.

The second peak was Mar-May: moths caught ranged from 4 to 82 in 1988 and 26 to 1,042 in 1989. The insect was inactive Jun-Sep both years. More moths were caught Mar-May 1989 because canal water supply for the rice crop was low and most farmers did not apply plant protection measures.

These findings suggest that YSB counts to evaluate the need for crop protection measures should be made in the field the first week of Oct for wet season and during the first week of Mar for summer crops. ■



Population fluctuation of YSB *Scirpophaga incertulas* (Walker). Karnataka, India, 1987-89.

Toxicity of insecticides to mirid bug predator of rice brown planthopper

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We tested 10 selected commercial formulations in the glasshouse for their toxicity to the predator *Cyrtorhinus lividipennis* (Reuter). Insecticide formulations were prepared with distilled water and sprayed (using a fine atomizer) to the runoff stage on potted 30-d-old TN1 plants. Control was distilled water only. Adult mirid bugs (30/treatment) were caged on the plants 4 h after spraying and mortality recorded 18 h later.

Synthetic pyrethroids cypermethrin, fluvalinate, and fenvalerate were highly toxic to the mirid bug (LC_{50} values of 0.00036, 0.0045, and 0.0053, respectively) (see table). Quinalphos also was toxic (0.008 LC_{50}). The insecticides methomyl and ethofenfox were relatively safe (LC_{50} values of 0.024 and 0.041, respectively). The remaining insecticides exhibited moderate toxicity. ■

Toxicity of insecticides (LC_{50} values) to mirid bug.

Insecticide	LC_{50}	Range
Cypermethrin	0.00036***	0.00039-0.00017
Fenvalerate	0.0053**	0.007 -0.004
Fluvalinate	0.0045**	0.006 -0.0033
BPMC	0.0073**	0.0094 -0.0057
Quinalphos	0.008**	0.010 -0.006
Chlorpyrifos	0.0095**	0.012 -0.008
Furathiocarb	0.0117**	0.0152 -0.0091
Monocrotophos	0.0129**	0.0163 -0.0102
Methomyl	0.024*	0.0299 -0.0194
Ethofenprox	0.0406*	0.0456 -0.036

[a]* = log * 10^3; ** = log * 10^4; *** = log * 10^5

Feeding and food assimilation by two species of rice leaffolders (LF) on selected weed plants

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Several weed plants present in the ricefields are reported to be alternate hosts for rice LF. We studied the feeding rates and