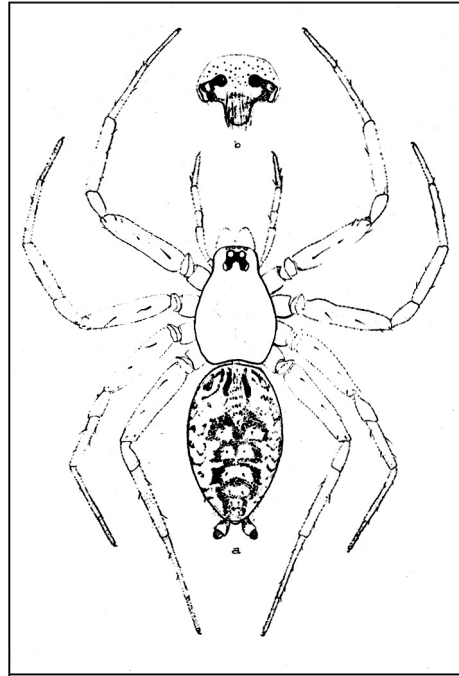


**Hippasa holmerae** Thorell (Araneae: Lycosidae): a new predator of rice leafhoppers and planthoppers

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*Hippasa holmerae* Thorell, a lycosid spider, inhabits dryland areas such as earthen embankments of irrigation canals or reservoirs near paddy fields in the Philippines. It seeks shelter in soil crevices and actively moves over the water surface in search of prey on rice plants. When caged on rice plants infested with brown and whitebacked planthoppers or green leafhoppers, the spider readily preys on those species. It also was observed to prey on two species of legume insect pests: *Amrasca biguttula*



(Shiraki) and *Ophiomyia phaseoli* (Tyron).

The adult spider can readily be distinguished from other paddy field lycosids by the slightly procurved anterior and strongly recurved posterior eyes; the presence of three promarginal and retromarginal teeth on the chelicerae; brown legs and cephalothorax; slant posterior region of the carapace; longitudinal black band on the midsternum; brown cardiac area on the dorsum of the dark brown abdomen; and large posterior spinnerets, which are twice the length of those in the anterior position (see figure).

*Hippasa holmerae* is a new item for the Philippines and Asian checklist of spiders inhabiting rice fields. ■

*Hippasa holmerae* Thorell, female dorsal view (a) and epigynum (b).

**Parasa bicolor** (Walk), a new pest of rice in Manipur

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During the 1980 kharif, *Parasa bicolor* (Lepidoptera: Limacodidae) was widespread in hundreds of acres of rice in the east district of Ukhrul state, where shifting/terrace rice cultivation is practiced. An average of 35% damage to the standing rice crops was caused by the insect in Kamjong areas of the district. But in some pockets of Phungyar subdivision, the loss of the standing crops was above 90%.

Larvae, active in the morning, consume leaves from the tips toward the base. Several popular local varieties of rice — Sangsun, Tarangphou, Meiringnu, Bumpani, Angangphou, Changbi, and Singuingou — are susceptible to the insect.

So far, the insect has not been found on either high-yielding varieties or local varieties grown in the valley rice belt of the central district of the State. However, when the insects were released in the laboratory, the entire foliage of a 9-11 tiller-hill of IR24 was eaten by 3-4 caterpillars within 48 hours. In the

laboratory, the insects fed on seedlings as well as young transplanted plants. In the fields, the plants in the maximum tillering to early flowering stages were more susceptible to the pest.

The insect has been identified as

*Parasa bicolor* (Walk) by Dr. Y. S. Rao of the Central Rice Research Institute, Cuttack, India. This report constitutes the first one on the occurrence of this pest on rice in Manipur. ■

**Effects of method of nitrogen application on the incidence of rice leaffolder**

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Studies on the effect of nitrogen levels on the occurrence of leaffolder on rice

have revealed that pest infestation increased with increasing nitrogen level. An experiment conducted at PES, Tirur, in the 1979-80 samba (Jul-Aug to Nov-Dec) showed that a significant increase in percentage of leaffolder damage to leaves was achieved only by a very high level of nitrogen — 200 kg N/ha. The N was applied basally (1/2 the amount) and topdressed in 2 doses, 25 and 45 days after transplanting (DT).

Effect of nitrogen levels and method of application on leaffolder damage to rice at 60 DT<sup>a</sup>, 1979-80 samba, Tamil Nadu, India.

Application method	Leaves damaged by leaffolder (%)		
	75 kg N/ha	150 kg N/ha	Mean <sup>b</sup>
All N applied basally	11.7	30.4	21.1 c
1/2 N basal + 1/2 N topdressed	7.3	20.4	13.9 b
All N applied by applicator at 15 DT	9.0	12.1	10.6 b
All N applied by paper balls at 15 DT	8.9	11.5	10.2 b
1/2 N by applicator at 15 DT + 1/2 N topdressed at 35 DT	11.1	10.8	10.9 b
1/2 N by paper balls at 15 DT + 1/2 N topdressed at 35 DT	13.2	14.7	14.0 b
No nitrogen	5.3	4.8	5.1 a

<sup>a</sup> DT = days after transplanting. <sup>b</sup> Means followed by a common letter are not significantly different at the 5% level.