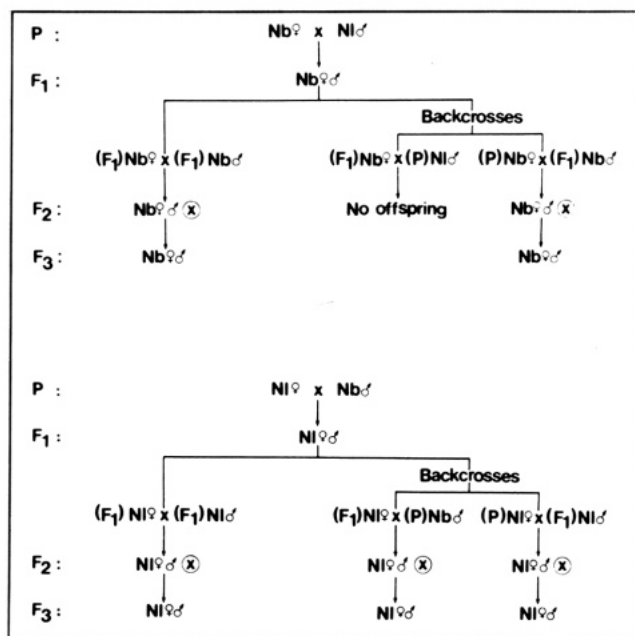


2. Schematic diagram of the genetic crosses between *N. bakeri* (Nb) and *N. lugens* (NI), IRRRI, 1982.



hatchability. Hatchability was 11 and 21% in the direct and reciprocal interspecific crosses, while hatchability in conspecific crosses was 86 and 91%.

2. The genitalic characters of F<sub>1</sub> progenies of the interspecific crosses resembled those of their respective immediate female parent. When selfed to produce

F<sub>2</sub>, and backcrossed, a similar genetic transmission mechanism was found. An exception was a backcross involving (F<sub>1</sub>)Nb♀ x (P)NI♂, which failed to produce any offspring. The mechanisms for such maternal inheritance may involve:

- cytoplasmic inheritance, wherein the characters are determined or controlled by independent cytoplasmic genes;
- maternal effects, wherein the characters are controlled by nuclear genes, but behave through the effects produced in the maternal cytoplasm; or
- gynogenesis, wherein the sperm serves only to activate the egg and plays no further part in fertilization nor contributes to the genetic constitution of the embryo.

These observations indicate the existence of some pre- and post-mating barriers between *N. bakeri* and *N. lugens*. Their genetic incompatibility negates possibility of interspecific hybridization occurring in nature. □

### *Microvelia atrolineata* Bergroth, a predaceous bug of *Nilaparvata lugens* (Stål)

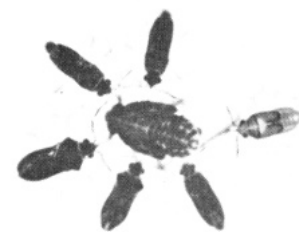
Gubbaiah, junior entomologist, Regional Research Station, VC Farm, Mandya, Karnataka, India

Veliid bug *Microvelia atrolineata* was found for the first time in Karnataka during a survey for natural enemies of brown planthopper (BPH) *Nilaparvata lugens* during 1982 wet season. The bugs were feeding on BPH nymphs.

Veliid adults and nymphs were found on the water surface around BPH-infested

rice hills. When BPH nymphs dropped onto the water, the veliid bugs paralyzed and fed upon them. As many as six veliid bugs (see figure) attacked a single BPH nymph. There were 10-12 veliid bugs/400 cm<sup>2</sup> when the crop was at milk stage. Bugs are active and run on the water surface. Population did not fluctuate at different water levels as long as the field remained saturated.

Because veliid bugs feed voraciously on first- and second-instar BPH nymphs, they may contribute to significant pest mortality. □



Veliid bugs attacking a BPH nymph.

## Pest management and control NEMATODES

### Root-knot nematode damage to rice in West Bengal, India

A. K. Pal, district plant protection officer, Balurghat, West Dinajpur, West Bengal, and A. Jayaprakash, assistant nematologist, Central Plant Protection Training Institute, Hyderabad, Andhra Pradesh, India

Root-knot nematode damaged about 8 10 ha of aus (Mar-Jun) paddy in the drylands of Islampur and Balurghat subdivisions of West Dinajpur. Foliage yellowed, number of tillers and yield were reduced, and plants lost growth vigor.

Plant analysis showed 30 galls and 90 females with or without egg masses/10 g of rice roots. Varieties IET2233,

IET1444, and CNM25, grown on seed farms in Islampur and Chopra, were seriously damaged. The nematode also attacked standing crops in farmer fields in Balurghat and Tapan Block.

Nematodes were cultured on TN1. Measurements were:

10 females: length = 395-490 μm, width = 290-350 μm, stylet = 11 μm,