

Association of two types of viruses with stunted, yellow rice plants in southern Sri Lanka

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Stunted rice plants with yellow discoloration were observed in maha season (Sep-Feb) 1986-87 in Monaragala and Hambantota districts. Insect transmission tests with brown planthopper *Nilaparvata lugens* and green leafhopper *Nephotettix virescens* showed that the disease can be transmitted to TNI plants by *N. virescens*.

The second youngest leaf of plants collected from affected fields were

Incidence of RTBV and RTSV in rice plants collected from fields in Angunukolapelessa Sri Lanka, 1986-87.

Location	Variety	Plants tested (no.)	Plants (%) infected with		
			RTBV+RTSV	RTBV	RTSV
Muthukandiya, Monaragala	BG94-1	20	75	20	5
	BG400-1	20	90	10	—
Medamulana, Hambantota	BG94-1	40	50	12.5	12.5
Angunulrolapelessa, Hambantota	BG94-1	10	10	60	30
	TNI (check)	10	0	0	0

homogenized individually. The sap was mixed with an equal amount of latex (Difco-Bacto Latex 0.81) suspension sensitized with antisera to rice tungro bacilliform virus (RTBV) or rice tungro spherical virus (RTSV) and shaken for 45 min. The presence of latex particle

clumps in the sap indicated virus antigens.

Most of the samples tested contain RTBV or RTSV alone or both (see table), indicating tungro disease and the association of RTBV and RTSV with tungro in Sri Lanka. □

Pest Control and Management

INSECTS

Biotype populations of *Nilaparvata lugens* in Hunan, China

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We collected brown planthopper (BPH) populations from 12 districts across Hunan Province during 1980-84 and 1986 to detect biotypes of *N. lugens*. Mudgo, ASD7, Ptb 33, Babawee, and Rathu Heenati were used as standard differential varieties. TNI was the susceptible check.

Germinated seeds were sown in a 60 × 30 × 10 cm seedbox with 5 cm row spacing, 3 replications per variety. A week after sowing, seedlings were thinned to 20/ row. Plants were infested with 5 second- or third-instar nymphs per seedling at the 2- to 3-leaf stage. Grading for plant damage began when 80% of the susceptible check plants were dead and was repeated twice, at 2-d intervals. The final rating was an average of the three gradings.

Damage in all but two differential varieties was below 3; ASD7 scored

Varietal reaction to populations of *N. lugens* collected in Hunan, China, 1980-86.

Collection site	Score ^a					
	TNI	Mudgo	ASD7	Ptb 33	Babawee	Rathu Heenati
			1980			
Changsha	9	1.3	1.6	1.5		
			1981			
Changsha	9	1.0	1.6	1.0		
Yueyang	9	1.0	1.0	1.0		
			1982			
Ningxiang	9	1.1	3.9	1.4		
Yiyang	9	1.7	3.0	1.0	1.0	
Changde	9	1.0	1.0	3.0		
Hengyang	9	1.2	1.1	2.2		
Xiangtan	9	1.3	3.9	2.0	2.2	
			1983			
Guiyang	9	1.0	1.0	3.0		
Lingling	9	2.3	2.3	2.3	1.0	
Shaoyang	9	1.0	1.6	1.6	1.6	
Huaihua	9	1.6	2.0	3.0	3.0	
Yongshun	9	2.3	1.3	3.0	3.6	
Changsha	9	0.3	1.3	0.6	0.6	
			1984			
Changsha	9	1.0	2.3	1.6	1.0	
			1986			
Yiyang	9	1.6	3.6	1.0	1.0	1.0
Changsha	9	1.0	1.6	1.6	1.0	1.0

^a 1-3 = resistant. 5-9 = susceptible.

below 3 with populations from 3 sites and Babawee with the population from Yongshun in 1983 (see table). All

populations of *N. lugens* in Hunan can be considered to belong to biotype 1.

In 1976, hybrid rice was first released

in Hunan. In 1983, hybrid varieties HA79317-7 and Xiangwanxian-1 which have moderate resistance to BPH, were grown in about 6% of the hybrid rice area (36% of the Hunan rice area). One of HA79317-7's parents is IR36;

Xiangwanxian-1 is a cross with ASD7 (both IR36 and ASD7 carry gene *bph 2*). Most hybrid rice varieties appeared to be moderately resistant in the field. Most local improved varieties were susceptible to BPH. This

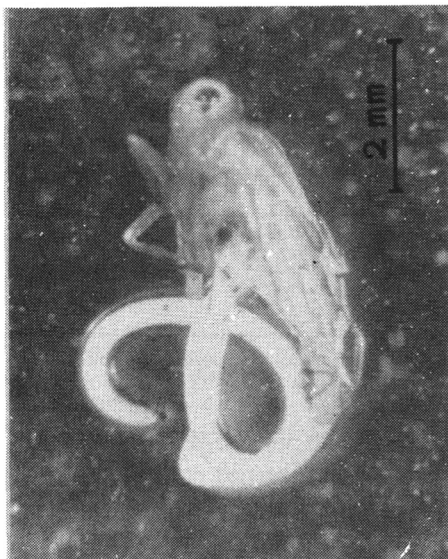
investigation suggests that HA79317-7 and Xiangwanxian-1 and the hybrid combinations currently used, that are not known to have resistance genes, have not caused the phenotypic changes in *N. lugens* populations of Hunan. □

A parasitic nematode in white striated planthopper (WSPH) of rice

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The occurrence of parasitic nematodes in some leafhoppers and planthoppers of rice has been reported in many places. *Nephotettix* spp., *Nilaparvata lugens* (Stål) and *Sogatella furcifera* (Horvath) were reported to have been parasitized by two parasitic nematodes — *Agamermis unka* and *Hexamermis* sp.

We have encountered some individuals of WSPH *Nisia nervosa* (Motsch), another planthopper occasionally seen on rice, parasitized by an unclassified nematode (see figure). The nematode measures about 2-3.5 cm long. About 12% of field-collected WSPH were observed to be parasitized during the winter months (Nov-Dec) at Annamalainagar.



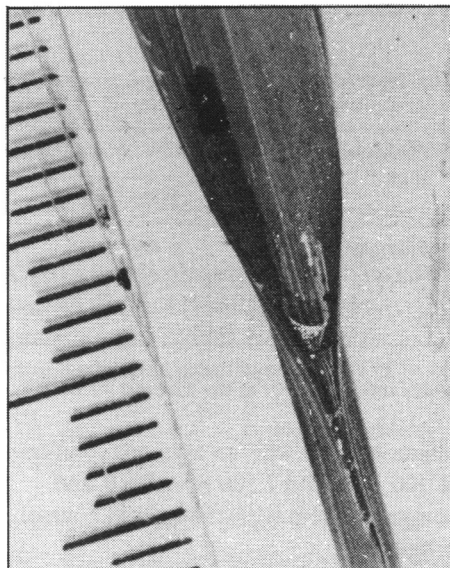
Nisia nervosa adult parasitized by nematode.

A new rice leaffolder (LF) in Kerala

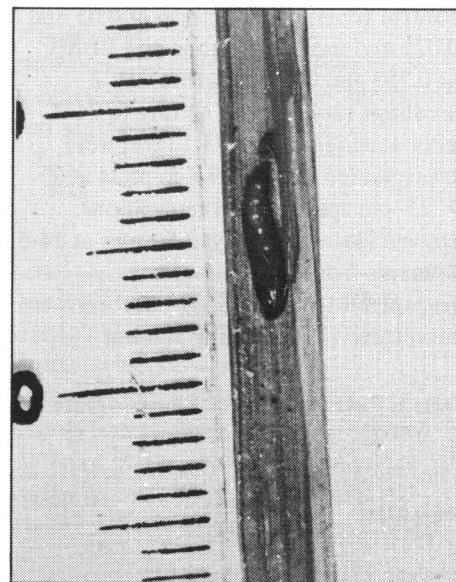
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LF infestation in Kerala has so far been attributed mainly to a single species, *Cnaphalocrocis medinalis* Guenée. But recent reports from other states indicate that the LF population is a multispecies complex. Observation of LF-damaged leaves in ricefields in and around RARS revealed a new species, *Brachmia atrotraea* Meyrick (family Gelechiidae), which was earlier reported in Cuttack, Orissa, and Madurai, Tamil Nadu, and in Malaysia. The population is commonly found in leaves of ratoon rice and in weeds.

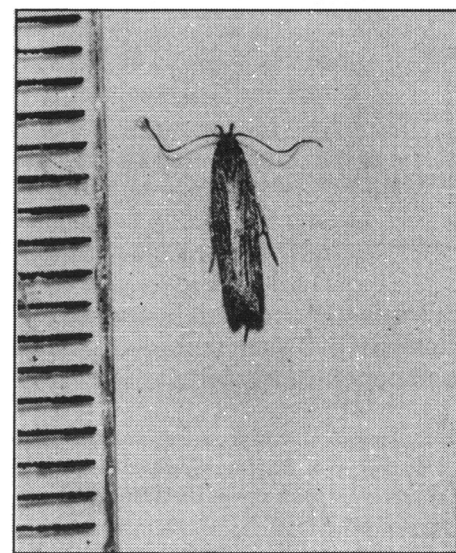
The fully grown larva is distinguished from other LF in having a distinct black head and a prothoracic shield. It folds rice leaves longitudinally, mostly from the tip, and feeds by scraping the epidermal tissues (Fig. 1). Larval length is about 9 mm.



1. Larva of *Brachmia atrotraea* with its leaf fold. Kerala, India, 1987.



2. Pupa of *B. atrotraea*.



3. Adult of *B. atrotraea*.

The brownish larva, measuring about 6 mm, pupates in the folded leaf (Fig. 2). The pale strawcolored and small adult emerges within 1 wk (Fig. 3). Probably because its damage is similar to that caused by *C. medinalis*, *B. atrotraea* went unnoticed. □