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AN INDUCED SHELL MUTANT IN GROUNDNUT (*ARACHIS HYPOGAEA* L.)

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Rust disease caused by *Puccinia arachidis* Speg., leaf miner (*Aproaerema modicella* Dev.) and drought are the major biotic and abiotic stresses limiting groundnut productivity in India. NCAC 17090, a Valencia Bunch genotype has been reported to be resistant to rust[1] and drought[2] and tolerant to leaf miner[2] and is frequently used as a donor for infusing resistance to these stresses since it has an acceptable testa colour (rose). However, its shell is thick, highly reticulated which makes it a poor sheller and unattractive. Hence, with a view to improving the shell characteristic of NCAC 17090 a study was taken up.

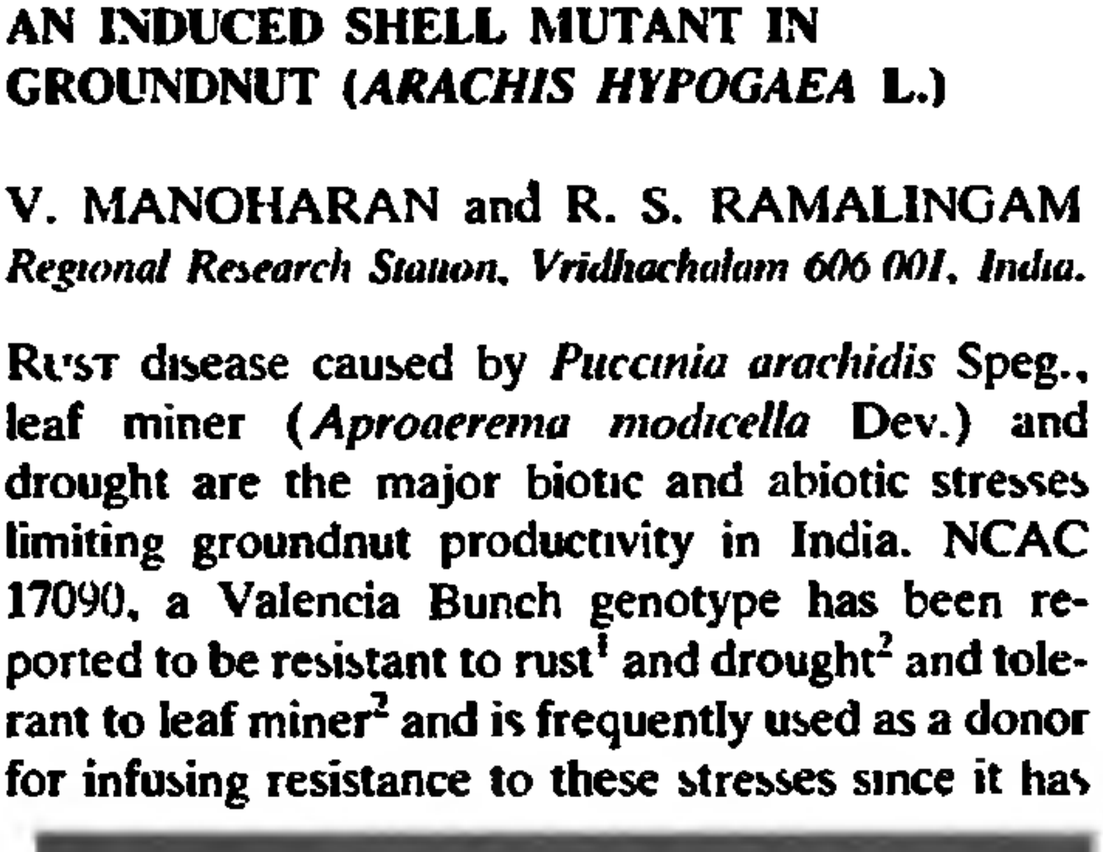

Figure 1.

Table 1 *Shelling (%) and reaction to biotic stresses of the mutants*

Mutants/control	Shelling %	Reaction to rust/leaf miner (1–9 scale)	
		Rust	Leaf miner
Smooth shelled	72.0	2	4
	72.5	3	4
	71.5	2	4
Control	68.0	2	4

The kernels of NCAC 17090 were treated with 25, 50 and 75 krad of gamma rays. For each dose 60 seeds were treated and sown along with untreated control in three replications during summer 1987. The M_2 generation was raised on M_1 plant basis. For each M_1, 20 seeds were sown in a progeny line and the remaining seeds, if any, were bulked dose-wise and raised as bulk in *Kharif* 1987.

Among the progenies, one family (NCAC 17090–25 KR–14) in 25 krad treatment segregated for shell characters, i.e. 15 with normal types and three variants. The variants in the progeny exhibited smooth shell and small pods (figure 1) while retaining other features of untreated control. These three mutants were advanced to M_3 generation and they were found to breed true. In order to study the genetics of these mutants studies are in progress to effect crosses.

The breeding behaviour of the mutants in respect of shell character and reaction to rust[3] and leaf miner[4] was recorded according to the methods reported earlier. The shelling percentage of the plant progenies was higher when compared to that of the parents and they were equally resistant to rust and leaf miner as their parents (table 1).

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ON THE OCCURRENCE OF STYLET-BEARING NEMATODES ASSOCIATED WITH MANGROVES OF GANGETIC ESTUARY, WEST BENGAL, INDIA

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MANGROVES are very specialized forest ecosystem found at the land-see interface of the tropical and subtropical regions of the world bordering the sheltered sea coast and estuaries. The Gangetic estuary, located at the confluence of the river Ganges and Bay of Bengal, is unique in harbouring world's most luxurient mangrove swamp, the deltaic Sundarbans. This very vibrating ecosystem supports numerous benthic life forms in the form of micro, meio and macro benthos. Nematodes are found to be the predominant meiofaunal component amongst the litter soil fauna in this complex environment.

Although a good number of plant parasitic nematodes of the order Tylenchide and Dorylaimide have been reported from brackish water[1], sand dunes[2] and mangrove swamps[3] from American, Australian and European subcontinents respectively, records of stylet-bearing plant parasitic nematodes from Sundarbans mangrove swamps of the Indian territory are limited with the exception of a solitary report[4]. The present paper reports on the occurrence of some stylet-bearing nematodes encountered during the study of nematode fauna of mangrove swamp and adjoining sandy beaches of the Gangetic estuary associated with roots of various mangrove vegetations. The current monitoring may help to elucidate on the high salt tolerance of the nematode specimens of this dynamic environment.

Soil samples were collected from estuarine habitats at the following locations:

1. Habitat – a: Intertidal mudflat at Harinbari of Sagar Island (21°37 to 21°52 N and 88°03 to 88°11 E), habitat sheltered, important mangrove vegetations are *Acanthus ilicifolius* L, *Excoecaria agallochia* L and *Bruguiera gymnorhyza* (L) Lam, salinity 28‰ S.

2. Habitat – b: Intertidal sandflat at Gangasagar of Sagar Island, habitat exposed, dominant mang-

Table 1 *Stylet-bearing nematodes associated with mangrove flora of Gangetic estuary, West Bengal*

Orders	Families	Species	Habitats
Dorylaimida	Leptonchidae	*Proleptonchus paucipapillatus* (Meyl 1965; Goseco *et al* 1974)	c
		Doryllium aestuarii (Timm, 1967)	b
		Dorylaimoides sp.	a
	Dorylaimidae	*Laimydorus parabastiani* (Paetzold 1958; Siddiqui 1969)	b
		Timmus sp.	a
	Aporcilainiedae	*Thonus* sp.	a
	Nygolaimidae	*Nygolaimus* sp.	b
		Nygolaimoides sp.	a
	Longidoridae	*Paralongidorus* sp.	a
	Belondridae	*Paraoxydirus* sp.	a
	Nygellidae	*Nygellus* sp.	b
Tylenchida	Anguinidae	*Indoditylenchus sundarbanensis* (Sinha *et al* 1955)	c
	Tylenchidae	*Tylenchus* sp.	c
	Criconematidae	*Hemicriconemoides sundarbanensis* (Ganguly & Khan, 1983)	a
		Nothocriconema sp. nov.	a
	Hopelaimidae	*Helichotylenchus* sp.	b
	Pratylenchidae	*Hirschmanniella gracilis* (De Man, 1880; Luc & Goodey, 1963)	b