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RECORDS OF SOME PHYTOPHAGOUS AND PREDATORY MITES AND INSECTS ON LEAFY ORNAMENTAL AND FLORICULTURAL PLANTS FROM SOUTH 24 PARGANAS OF WEST BENGAL

Zoology

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ABSTRACT

This paper deals with the records of 25 species of mites under 14 genera, 8 families,3 orders and 9 species of insects under 7 genera,6 families and 2 orders, occurring on leafy ornamental and floricultural plants at Narendrapur campus of Ramakrishna Mission and its adjoining areas. There were 2 species of mites viz. *Eutetranychus orientalis* on *Nerium indicum* and *Oligonychus biharensis* on *Polyalthia longifolia* were found as most injurious pests while among insects *Aphis gossypii* on *Tagetes erecta* and *Kola vesta* on *Pleumeria* sp. Were most important pests. The mite species *Euseius ovalis* on *Hibiscus rosa-sinensis* and *Euseius alstoniae* on *Malvaviscus arboreus* were important predators. Among insects there was not a single predatory species.

KEYWORDS

Mites; Insects; Leafy Ornamental; Floricultural plants; South 24 Parganas.

INTRODUCTION-

The campus of Ramakrishna Mission Ashram, Narendrapur, spread over 150 acres of land have diverse types of leafy ornamental and floricultural plants. Many of those plants were found infested with both mites and insects, of which, some were phytophagous doing noticeable damage of different degrees and on the contrary, there were some which were potentially important as predators. Since so far not much study has been undertaken to explore and document the mites, this study was undertaken to explore and document the mites and insects of those plants from Narendrapur campus and its adjoining areas and the present paper embodies the results thereof. Though earlier nothing has been done exclusively on mites and insects occurring on leafy ornamental and floricultural plants of South 24 Parganas but Gupta(212) reported over 50 species of mites from 51 types of such plants from India which included a few from South 24 Parganas also.

METERIAL AND METHODS-

The fortnightly surveys were conducted to collect mites and insects from leafy ornamental and floricultural plants available at Narendrapur campus during August 217- March 218. The collection of both mites and insects were done by directly examining the leaves under 20x lens in the field and collecting the specimens with a fine brush. Besides, some infested leaves were also brought to the laboratory for examining under stereo binocular microscope and collecting the mites. The preservation was done in 70% alcohol for mites and soft bodied insects and some insects were kept dry. The mites were mounted in the Hoyer's medium and the identification was done by the authors themselves as well as for insects, the help of ZSI experts was also taken.

RESULTS AND DISCUSSION-

The identification of collected mites revealed the occurrence of a total of 25 species under 14 genera 8 families and 3 orders. This included 15 species under 7 genera, 4 families and 1 order of phytophagous mites and the corresponding figures for predatory mites were 10, 7, 4 and 2, respectively. All those species have been listed in Table-1 along with their hosts/habitats, localities, relative abundance as well their economic importance under remarks column. Likewise, there were, 9 species of insects under 7 genera, 6 families and 2 orders as listed in Table-2 and all were phytophagous in nature. The other relevant data have also been given there. Both Tables 1 and 2 are self-explanatory.

Table 1: List of phytophagous and predatory mites collected from leafy ornamental and floricultural plants at Narendrapur campus and adjoining areas during August, 2017 to March, 2018.

Order/ Suborder	Family	Species	Host /habitat	Locality	Relative abundance 1:Highly abundant 2: Moderately abundant 3: Least abundant	Remarks
Trombidiforme/ Prostigmata	1.Tetranychidae	1.*Eutetranychus africanus* Tucker 2.*Eutetranychus orientalis* Klein 3.*Eutetranychus maximae* Nassar and Ghai	*Tabernaemontanadivaricata* *Tabernaemontanadivaricata, Helianthus annuus, Nerium indicum*	Narendrapur Baruipur	3 1	Casual occurrence Severe infestation occurred on upper leaf surface, causing browning of leaves and cater defoliation. Casual infestation, no damage noticed

		4.Oligonychus iseilemae Hirst	*Hibiscus rosa-sinensis*	Narendrapur	2	Occasionally encountered, causing production of yellow spots on leaves
		5.Oligonychus biharensis Hirst	*Polyalthia longifolia, Mussaenda corymbosa*	Canning	2	Huge population noticed on undersurface of rose leaves, causing chlorosis
		6.Panonychus citri Mc Gregor	*Rosa indica, Codiaeum variegatum*	Gosaba	1	High population on *Polyalthia longifolia,* undersurface of leaves turning those initially to yellowish then turned into brown.
		7.Tetranychus macfarlanei Baker and Pritchard	*Polyalthia longifolia, Mussaenda corymbosa*	Narendrapur	1	Occasionally encountered, damage symptoms were not noticed
		8.Tetranychus neocaledonicus Andre	*Chrysanthemum* sp.	Namkhana		Occasionally encountered, damage symptoms were not noticed
		9.Tetranychus ludeni Zacher	*Chrysanthemum* sp. *Dahlia sp.*	Narendrapur	2	Occasionally encountered, damage symptoms didn't appear
		10.Brevipalpus californicus Banks	*Tagetes erecta, Tabernaemontana divaricata*	Diamond Harbour	2	Occurred on undersurface of leaves, producing brownie patches scatteredly.
		11.*Brevipalpus karachiensis* Chaudhri, Akbar and Rasool	*Codiaeum varievatum*	Namkhana	2	No noticeable damage
	2.Tenuipalpidae	*12. Brevipalpus deleoni* Pritchard and Baker	*Bauhinia variegata, Tagetes erecta*	Diamond Harbour	2	Occasionally occurred
		13. Brevipalpus phoenicis Geijskes	*Rosa centifolia*		3	Rarely encountered, poor population
		14.Aceria crotalariae Channabasuvanna	*Cestrum noctrum*	Pakhiraloi	2	Recorded as vagrants.

		15.Polyphagotarsonemus latus Banks	*Crotalaria* sp.	Dhamakhali Namkhana	3	Good population on younger leaves causing crinkling
	3.Eriophyidae 4.Tarsonemidae		*Tagetes erecta*	Narendrapur	1 1	

Table 2: List of insects

Order/ Suborder	Family	Species	Host /habitat	Location	Relative abundance	Remarks
Hemiptera	1.Aphididae	1. *Aphis* sp.	*Bauhinia variegata*	Gosaba	2	
		2.Aphis gossypii Glover	*Tagetes erecta*	Dhamakhali	2	Colony found on undersurface of leaves,infested leaves turned yellow
		3.Aphis craccivora Koch	*Hibiscus rosa-sinensis, Bauhinia variegata*	Canning	2	Poor population, no noticeable damage
	2. Cicadellidae	*4. Kola vesta* Distant	*Pleumeria* sp.	Baruipur	3	Population of all stages found on undersurface of leaves scatteredly
	3. Coccidae	*5. Coccus* sp.	*Catharanthus roseus*	Gosaba	2	Colony found on twigs, no damage
	4. Margarodidae	*6. Icerya* sp.	*Bauhinia variegata, Tagetes erecta*	Narendrapur	2	
	5.Pseudococcidae	*7.Ferrisia virgata* Cockerell	*Dahlia* sp.	Narendrapur	1	Occurred on undersurface of leaves and also on twigs ,affected plants became weak
		8. Planococcus sp.	*Dahlia* sp.	Narendrapur	3	Occurred on undersurface of leaves
Thysanoptera	6.Thripidae	*9. Thrips* sp.		Namkhana		Infestation severe on rose leaves, infested

			Hibiscus rosa - sinensis, Rosa indica, Tabernaemontana divaricata		3	leaves develop brownish patches. Population of all stages found on undersurface of leaves.

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