



Some New Reports of Insect Associated Mites from west Bengal

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ABSTRACT

Some new records of mites associated with insects (Order: Diptera, Hymenoptera, Orthoptera) from West Bengal are given in this communication. Eighteen species of mites belonging to 12 families, 3 orders, collected from, Narendrapur campus and adjoining areas, South 24 Parganas, West Bengal are reported here giving collection data, status,

importance, if any

KEYWORDS : Diptera, Hymenoptera, Orthoptera, Insects, Mites, West Bengal

1. Introduction

The Mites associated with insects are of manifold importance as some of those are parasitic (both external and internal), some are predator, some are phoretic while there are many which are of accidental occurrence. Those which are predators or parasitic are of immense importance as they by the virtue of their predatory and parasitic behavior on insects, especially those which are of economic importance, act as effective biocontrol agents. So far as survey and documentation of these mites are concerned, not much work has been done from India and whatever little has been done are from South India (Ramaraju, K. & Mohanasundaram, M., 1999) and very little from eastern India in general and Bengal in particular (Gupta A, Chatterjee M., Sanyal A.K. and Gupta S.K., 1974). Since very little study has been made on insect associated mites from Narendrapur campus and adjoining areas (West Bengal) and as that area is rich with vegetation of diverse nature, it was worthwhile to undertake the study of insect associated mites of these area along and the results thereof is presented in this paper.

2. Materials and Methods

Insects were collected from Narendrapur campus and adjoining areas, located in South 24 Parganas district of West Bengal with the help of an insect collecting net. The collected insect specimens were then examined under a stereo-binocular microscope for collecting the mites associated with those. The insect groups collected and examined for mites were members of the orders Diptera, Hymenoptera and Orthoptera. Different parts of the insect body like the underside of proboscis, wing base, legs, area between head and thorax, antennae, etc. were examined for occurrence of mites. The collected mite specimens were temporarily mounted in lactic acid for microscopic examination and those were identified by taking the help of junior author.

3. Results and discussion

The Results of the of Insect associated Mites from Narendrapur and adjoining areas reveals the occurrence of a total of 18 species belonging to 15 genera, 12 families and 3 orders. Out of these, there were 8 species which were predatory in nature, 7 species were phoretic and 2 species were parasitic in nature. There was also 1 species found as accidental (Table 1).

Out of 18 mite species the occurrence of *Spinibdella depressa* Euing, *Scutacarus* sp., *Dermatophagoides farinae* Hughes, *Tyrophagus* sp. on the insects of order Diptera, *Cheyletus fortis* Oudemans and *Lasioseius kshamae* Bhattacharyya on the insects of the order Hymenoptera and *Suidasia medanensis* Oudemans on the insect of order Orthoptera, were not reported earlier from India. The species *Acarus gracilis* Hughes and *Arrenurus stecki* Zawao were most abundant while *Tyrophagus* sp., *Trombidium* sp., *Lasioseius kshamae* Bhattacharyya, *Hypoaspis vacua* Michael were least abundant. *Acarus gracilis* Hughes was found on *Musca domestica*, *Apis mellifera* and *Gesonula punctifrons* while *Arrenurus stecki* Zawao were found on *Musca domestica* and *Apis mellifera*.

Regarding their economic importance it is unfair from the present study to make any comment as it is a very preliminary study.

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Table 1 : Diversity of Mites associated with Insects belonging to the order Diptera, Hymenoptera, Orthoptera from Narendrapur campus and adjoining areas, West Bengal

| Sl. No | Name of Mite | Name of Insect | Location | Period of occurrence | Status | Nature of association |
|--------|---------------------------------|------------------------|-------------|----------------------|--------|-----------------------|
| | Order-Prostigmata | | | | | |
| | Arrenuridae | | | | | |
| 1 | <i>Arrenurus congener</i> Daday | <i>Musca domestica</i> | Narendrapur | November '15 | 2 | Parasitic mite |
| 2 | <i>Arrenurus stecki</i> Zawao | <i>Musca domestica</i> | Sonarpur | October '15 | 3 | Parasitic mite |
| | | | Narendrapur | February '16 | 1 | Parasitic mite |
| | | | Narendrapur | April '16 | 1 | Parasitic mite |

| Sl. No | Name of Mite | Name of Insect | Location | Period of occurrence | Status | Nature of association |
|--------|--|-----------------------------|-------------|----------------------|--------|-----------------------|
| | | <i>Apis melifera</i> | Sonarpur | March'16 | 1 | Parasitic mite |
| | | | Narendrapur | January'16 | 1 | Parasitic mite |
| | Bdellidae | | | | | |
| 3 | <i>Spinibdella depressa</i> Euing* | <i>Musca domestica</i> | Sonarpur | October'15 | 2 | Predatory mite |
| | Trombididae | | | | | |
| 4 | <i>Trombidium</i> sp. | <i>Apis melifera</i> | Narendrapur | February'16 | 1 | Phoretic mite |
| | Cheyletidae | | | | | |
| 5 | <i>Cheyletus fortis</i> Oudemans* | <i>Apis melifera</i> | Narendrapur | March'16 | 1 | Predatory mite |
| | | | Sonarpur | December '15 | 1 | Predatory mite |
| | | | | February'16 | 1 | Predatory mite |
| 6 | <i>Cheyletus aversor</i> Rudendorf | <i>Musca domestica</i> | Narendrapur | January'16 | 2 | Predatory mite |
| | Scutacaridae | | | | | |
| 7 | <i>Scutacarus</i> sp.* | <i>Musca domestica</i> | Narendrapur | January'16 | 2 | Phoretic mite |
| | | | | February'16 | 3 | Phoretic mite |
| | Order-Astigmata | | | | | |
| | Saproglyphidae | | | | | |
| 8 | <i>Suidasia medanensis</i> Oudemans* | <i>Gesonula punctifrons</i> | Narendrapur | February'16 | 2 | Phoretic mite |
| | | | | March'16 | 2 | Phoretic mite |
| | Pyroglyphidae | | | | | |
| 9 | <i>Dermatophagoides farinae</i> Hughes* | <i>Musca domestica</i> | Narendrapur | October'15 | 2 | Accidentally found |
| | Anoetidae | | | | | |
| 10 | <i>Sennertia xylocopi</i> Sarangi et al. | <i>Apis melifera</i> | Narendrapur | February'16 | 1 | Phoretic mite |
| | | <i>Musca domestica</i> | Sonarpur | March'16 | 1 | Phoretic mite |
| | Acaridae | | | | | |
| 11 | <i>Acarus gracilis</i> Hughes | <i>Apis melifera</i> | Narendrapur | October'15 | 1 | Phoretic mite |
| | | | | February'16 | 3 | Phoretic mite |
| | | <i>Apis melifera</i> | Narendrapur | March'16 | 1 | Phoretic mite |
| | | <i>Musca domestica</i> | Sonarpur | January'16 | 1 | Phoretic mite |
| | | <i>Gesonula punctifrons</i> | Sonarpur | March'16 | 2 | Phoretic mite |
| 12 | <i>Tyrophagus</i> sp.* | <i>Musca domestica</i> | Narendrapur | December'16 | 1 | Phoretic mite |
| | Order-Mesostigmata | | | | | |
| | Ascidae | | | | | |
| 13 | <i>Proctolaelaps bulbosus</i> Moraes | <i>Musca domestica</i> | Narendrapur | February'16 | 3 | Predatory mite |
| | | <i>Apis melifera</i> | Sonarpur | March'16 | 1 | Predatory mite |
| 14 | <i>Lasioseius bengalensis</i> Chatterjee and Gupta | <i>Musca domestica</i> | Narendrapur | April'16 | 2 | Predatory mite |
| 15 | <i>Lasioseius kshamae</i> Bhattacharyya* | <i>Apis melifera</i> | Narendrapur | March'16 | 1 | Predatory mite |
| 16 | <i>Blattisocius everti</i> Britto et al. | <i>Apis melifera</i> | Narendrapur | February'16 | 1 | Predatory mite |
| | Macrochelidae | | | | | |
| 17 | <i>Macrocheles muscaedomesticae</i> Scopoli | <i>Musca domestica</i> | Narendrapur | January'16 | 2 | Phoretic mite |
| | Laelapidae | | | | | |
| 18 | <i>Hypoaspis vacua</i> Michael | <i>Musca domestica</i> | Sonarpur | March'16 | 1 | Predatory mite |

*these are newly reported on aforesaid insects from India

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