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MITES OCCURRING ON SOME FRUIT TREES IN HOWRAH DISTRICT OF WEST BENGAL WITH ECONOMIC IMPORTANCE –

Botany

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ABSTRACT

Exploration for occurrence of mites on some fruit trees in different parts of Howrah district of West Bengal conducted during 2018-19, revealed the occurrence of 19 species of mites belonging to 14 genera, 11 families and 3 orders. Out of those, 9 species each belonged to phytophagous and predatory groups, respectively while the remaining one belonged to fungal feeding group. The species like *Oligonychus mangiferus, Panonychus citri* and *Aceria litchii* were abundantly encountered and were of importance as pests. Likewise, predatory mites like *Agistemus fleschneri, Euseius ovalis* and *Amblyseius largoensis* were of predatory importance.

KEYWORDS

INTRODUCTION :
No earlier study was conducted on mites infesting fruit trees from Howrah district of West Bengal though mites are becoming important pests on many of the fruit trees. Gupta (2012) in his book listed several mite species from fruit trees in India but the representative mite species from Howrah district was not many. Therefore, a study was carried out during 2018-19 to document the mites on fruit trees from this region with their economic importance, if any. The present paper is based on that study.

MATERIAL AND METHODS :
Various fruit trees in different places of Howrah district were explored for occurrence of mites. Those were collected with a fine brush and preserved in 70% ethyl alcohol. The identification was done by the junior author.

Results and Discussion :
List of mite species collected with their host/habitat records and importance, if any, are mentioned below:
Order: Trombidiformes
Group: Phytophagous
Family : Tetranychidae

1. *Oligonychus mangiferus* Rahman & Sapna
Collection Records: This mite was collected from *Mangifera indica* at Bagnan, Howrah district of West Bengal, in April,2019.

Remarks: High population of all stages was seen on upper surface of leaves. The infested leaves turned brown.

2. *Oligonychus indicus* (Hirst)
Collection Records: This mite was collected from *Musa paradisiaca* at Amta, Howrah district of West Bengal, in November,2018.

Remarks: This mite colonized scatterdly on under surface of banana leaves. The feeding produced whitish patches. Colonies were covered with thin webs.

3. *Oligonychus tylus* Baker & Pritchard
Collection Records: It was collected from *Musa paradisiaca* at Andul, Howrah district of West Bengal, in November,2018.

Remarks: This damage like chlorosis of leaves was recorded only once.

4.*Panonychus citri* (McGregor)
Collection Records: This mite was collected from *Carica papaya* at Santragachi, Howrah district of West Bengal, in March,2019.

Remarks: A heavy population of this mite was seen on undersurface of papaya leaves especially in association with the petiolar attachment with leaf lamina. Mealy bug was also found in association with this mite. The infested leaves turned brownish and withered.

Family : Tenuipalpidae

5. *Brevipalpus karachiensis* Chaudhri et al.
Collection Records: It was collected from *Psidium guajava* at Bagnan, Howrah district of West Bengal, in March,2019.

Remarks: It was seen on under surface of leaves, producing brownish patches.

6. *Brevipalpus deleoni* Baker & Pritchard
Collection Records: This mite was collected from *Citrus limon* at Amta, Howrah district of West Bengal, in December,2018.

Remarks: This damage was recorded only once.

7.*Fungitarsonemus* sp.
Collection Records: It was collected from *Carica hispida* at Andul, Howrah district of West Bengal, in January,2019.

Remarks: Occasionally this mite was found moving on undersurface of leaves.

Family : Eriophyidae

8. *Aceria litchii* (Keifer)
Collection Recods: It was collected from *Litchi chinensis* at Santragachi, Howrah district of West Bengal, in May,2019.

Remarks: This mite formed heavy population on undersurface of leaves, more near the midribs, produced chocolaty brown erineum.

9. *Aceria mangiferae* (Sayed)
Collection Records: This mite was collected from *Mangifera indica* at Shibpur, Howrah district of West Bengal, in April,2019.

Remarks: This was collected from mango buds, the buds dried up.

Group: Predatory
Family: Bdellidae

10.*Bdellodes affinis* (Atyeo)
Collection Records: This mite was collected from *Carica papaya* at Santragachi, Howrah district of West Bengal, in March,2019.

Remarks: Found from colony of mealy bug.
Family: Eupodidae

11.*Eupodes* sp.
Collection Records: It was collected from *Mangifera indica* at Bagnan, Howrah district of West Bengal, in May,2019.

Remarks: scatterdly found on undersurface of leaves.

Family: Stigmaeidae

12.*Agistemus fleschneri* Summers
Collection Records: This mite was collected from *Carica papaya* at Shibpur, Howrah district of West Bengal, in March,2019.

Remarks: This predatory mite was found in association with *Oligonychus mangiferus*, appears to be a good predator.

Family: Cunaxidae

13. *Cunaxa anacardae* Gupta
Collection Records: It was collected from *Carica papaya* at Santragachi, Howrah district of West Bengal, in February,2019.

Remarks: Occurred in colony of *Panonychus citri*, found feeding on eggs.

Family: Tydeidae

14.*Tydeus schusteri* (Andre & Naudo)
Collection Records: This mite was collected from *Mangifera indica* at Bagnan, Howrah district of West Bengal, in April,2019.

Remarks: Found in association with *Oligonychus mangiferus*, feeding not observed.

Order: Mesostigmata

Family: Phytoseiidae

15.*Euseius ovalis* (Evans)
Collection Records: It was collected from *Musa paradisiaca* at Rupnarayanpur, Howrah district of West Bengal, in November,2018.

Remarks: Good predator of all stages of *Oligonychus tylus* on banana.

16.*Amblyseius herbicoloides* McMurtry & Moraes
Collection Records: It was collected from *Mangifera indica* at Santragachi, Howrah district of West Bengal, in March,2019.

Remarks: Only occasionally encountered.

17. *Amblyseius largoensis* (Muma)
Collection Records: This mite was collected from *Mangifera indica* at Chengaiel, Howrah district of West Bengal, in March,2019.

Remarks: Abundantly found in mango, good predator of *Oligonychus mangiferus* eggs.

18. *Transeius tetranychivorus* Gupta
Collection Records: It was collected from *Litchi chinensis* at Santragachi, Howrah district of West Bengal, in May,2019.

Remarks: This good predatory mite found in the colony of *Aceria litchii*, feed on this eriophyid mites.

Group: Fungal feeding

Order: Sarcoptiformes

19.Orbatid mites (Unidentified)
Collection Records: This mite was collected from *Mangifera indica* at Shibpur, Howrah district of West Bengal, in April,2019.

Remarks: Associated with fungal growth on the respective host, importance unknown.

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