



## MITES ON SOME PLANTATION CROPS IN HOWRAH DISTRICT OF WEST BENGAL WITH THEIR ECONOMIC IMPORTANCE

### Botany

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### ABSTRACT

The present paper reports the occurrence of a total of 19 species belonging to 15 genera, 9 families, 3 orders collected from some plantation crops grown in Howrah district of West Bengal. This includes 9 species each of phytophagous and predatory groups while the other one includes a fungal feeding mite. Among the phytophagous group, *Tetranychus fijiensis* on coconut and *Raoiella indica* on arecanut caused noticeable damage on leaves. The occurrence of all others were of stray nature having no economic importance.

### KEYWORDS

#### INTRODUCTION:

The mites are increasingly becoming important pests of plantation crops like coconut, arecanut, date palm, black pepper etc. (Gupta 2012). Since no investigation was done earlier about these mites especially on these plants in Howrah district of West Bengal and since this district is rich with plantation crops especially coconut and arecanut, the present study was taken up to find out diversity of these mites by conducting surveys during 2018-2019 in some parts of Howrah and the present paper is based on that study.

#### MATERIALS AND METHODS:

Various plantation crops, viz. coconut, black pepper, arecanut, date palm, etc. 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 mites collected with their host/habitat records and importance:

**GROUP:** PHYTOPHAGOUS

**ORDER:** TROMBIDIFORMES

**SUBORDER:** PROSTIGMATA

**FAMILY:** TETRANYCHIDAE

##### 1) *Tetranychus lombardini* Baker & Pritchard

**Collection records:** This mite was collected on *Cocos nucifera* in Santragachi, Howrah district of West Bengal, in October 2018.

**Remarks:** Poor occurrence, no damage done on plant.

##### 2) *Tetranychus fijiensis* Hirst

**Collection records:** This mite was collected on *Cocos nucifera* in Andul, Howrah district of West Bengal, in November 2018.

**Remarks:** Good infestation on ventral surface of leaves forming colony covered with thin webs. The feeding produced white patches on infested leaves.

##### 3) *Eotetranychus hirsti* Pritchard & Baker

**Collection records:** This mite was collected on *Cocos nucifera* in Amta, Howrah district of West Bengal, in December 2018.

**Remarks:** Accidental occurrence.

**FAMILY:** TENUIPALPIDAE

##### 4) *Brevipalpus obovatus* Donnadieu

**Collection records:** This mite was collected on *Phoenix dactylifera* in Andul, Howrah district of West Bengal, in November 2018.

**Remarks:** Occurred on under surface of leaves, producing brownish

patches.

##### 5) *Brevipalpus lewisi* Mc Coregor

**Collection records:** This mite was collected on *Cocos nucifera* in Andul, Howrah, West Bengal, in January 2019.

**Remarks:** Occurred on under surface of leaves, producing brownish patches.

##### 6) *Brevipalpus phoenicis* Geij.

**Collection records:** This mite was collected on *Cocos nucifera* in Santragachi, Howrah district of West Bengal, in January 2019.

**Remarks:** Mite colonised on under surface of leaf, feeding caused brownish patches.

##### 7) *Raoiella indica* Hirst

**Collection records:** This mite was collected on *Areca catechu* in Bagnan, Howrah district of West Bengal, in February 2019.

**Remarks:** Heavy infestation on ventral surface of leaves, produced reddish patches, all stages of mites were seen.

**FAMILY:** TARSONEMEDAE:

##### 8) *Polyphagotarsonemus latus* (Banks)

**Collection records:** This mite was collected on *Phoenix dactylifera* in Amta, Howrah district of West Bengal, in March 2019.

**Remarks:** Scattered population was seen on ventral surface of leaves, no noticeable damage symptoms produced.

##### 9) *Tarsonemus confusus* Ewing

**Collection records:** This mite was collected on *Cocos nucifera* in Bagnan, Howrah district of West Bengal, in February 2019.

**Remarks:** Stray occurrence, no damage done.

**GROUP:** PREDATORY

**FAMILY:** BDELLIDAE

##### 10) *Bdellodes affinis* Atyeo

**Collection records:** This mite was collected on *Cocos nucifera* in Andul, Howrah district of West Bengal, in January 2019.

**Remarks:** Very poor population, known to be a good predator of spider mites but such behaviour was not seen in the present study.

**FAMILY:** EUPODIDAE

##### 11) *Eupodes sigmoidensis* Strandtmann & Goff

**Collection records:** This mite was collected on *Cocos nucifera* in Amta, Howrah district of West Bengal, in March 2019.

**Remarks:** Stray occurrence on ventral surface of leaves, these mites jumped when disturbed.

**FAMILY:** IOLINIDAE

**12) *Pronematus fleschneri* Baker**

**Collection records:** This mite was collected on *Piper nigrum* in Bagnan, Howrah district of West Bengal, in January 2019.

**Remarks:** Scattered occurrence on ventral surface of leaves, found in association with spider mites.

**13) *Pronematus sextoni* Baker**

**Collection records:** This mite was collected on *Piper nigrum* in Santragachi, Howrah district of West Bengal, in February 2019.

**Remarks:** Scattered occurrence on ventral surface of leaves, found in association with spider mites.

**ORDER:** MESOSTIGMATA

**FAMILY:** PHYTOSEIIDAE

**14) *Euseius ovalis* (Evans)**

**Collection records:** This mite was collected on *Cocos nucifera* in Bagnan, Howrah district of West Bengal, in December 2018.

**Remarks:** Occasionally encountered in the colony of *Brevipalpus* sp.

**15) *Amblyseius largoensis* (Muma)**

**Collection records:** This mite was collected on *Cocos nucifera* in Uluberia, Howrah district of West Bengal, in January 2019.

**Remarks:** Very common on coconut, fed on immatures of *Tetranychus fijiensis*, appeared to have economic importance as predator.

**16) *Scapulaseius suknaensis* (Gupta)**

**Collection records:** This mite was collected on *Phoenix dactylifera* in Amta, Howrah district of West Bengal, in March 2019.

**Remarks:** Stray occurrence.

**17) *Paraphytoseius orientalis* (Ghai & Menon)**

**Collection records:** This mite was collected on *Phoenix dactylifera* in Andul, Howrah district of West Bengal, in October 2018.

**Remarks:** Found in association with tarsonemid mite, economic importance unknown.

**FAMILY:** ASCIDAE

**18) *Lasioseius mcgregori* Chant**

**Collection records:** This mite was collected on *Cocos nucifera* in Bagnan, Howrah district of West Bengal, in November 2018.

**Remarks:** Found in colony of *Raoeilla indica*, feeding not observed.

**GROUP:** FUNGAL FEEDER

**ORDER:** SARCOPTIFORMES

**SUB ORDER:** ORIBATIDA

**FAMILY:** ORIBATIDAE

**19) *Oppia* sp.**

**Collection records:** This mite was collected on *Piper nigrum* in Santragachi, Howrah district of West Bengal, in March 2019.

**Remarks:** Fungal association on black pepper.

**REFERENCES:**

1. Gupta, S.K. 2012 Handbook. Injurious and beneficial mites infesting agri-horticultural crops in India and their management. Nature books India. New Delhi. 342 pp.