

## On the Phytophagous and Predatory Mites on some Medicinal Plants occurring in Sundarbans area of West Bengal

INDRANI SAMADDAR, HIMANI BISWAS and S. K. GUPTA\*

Post Graduate Department of Zoology, Krishnagar Govt. College,  
Krishnagar, Nadia-741101 (West Bengal); and

\*Medicinal Plants Research and Extension Centre, Ramakrishna Mission Ashrama,  
Narendrapur, Kolkata-700103.

E-mail : itsmeisamaddar@gmail.com

### Introduction

Sundarban is located in Ganga-Brahmaputra delta by the Bay of Bengal and it is the world's largest single tract mangrove system covering 4100sq.kms, of which 2/3 areas come under Bangladesh and remaining 1/3 is in India (W.B). UNESCO in 1997 declared Sundarbans as a World Heritage Site. It is having the largest number of mangrove species, many of which are having medicinal values. There are several others which also have medicinal properties.

Many of those medicinal plants are known to inhabit a variety of mite species, the exploration and documentation of those have been neglected so far. In view of that and keeping in mind the fact that this area is immensely rich with medicinal plants, the present study was undertaken and accordingly surveys were conducted to some of those areas and the present paper embodies the results thereof.

### Material and Methods

The collection sites were : 1. Sagar Island (21.7269°N, 88.1096°E), 2. Gosaba (22.1652°N, 88.8079°E), and 3. Dhamakhali and Jeliakhali (22.3615°N, 88.8645°E). The surveys were conducted during January to July 2017. The mites were collected by directly examining the leaves in the field under 20x hand lens. The mites after collection were preserved in vials containing 70% ethyl alcohol. Many a times the leaf samples were also brought to the laboratory and those were examined under stereo binocular microscope for collection of mites. The mounting was done in Hoyer's medium. The identification was done by consulting the updated literature. All the identified species have been listed with their localities, hosts/habitats and relative abundance.

### Results

The identification of mites from Sundarban area of West Bengal revealed the occurrence of 33 species under 19 genera, 11 families belonging to 3 orders and all those have been listed in Table 1 giving their hosts/habitats, relative abun-

dance and remarks. This report includes 5 species of mites which form new records for India. The members belonging to phytophagous and predatory mites were represented by 17 species and 16 species, respectively.

It may be mentioned in this connection that the previous works like Gupta (2005, 2012) Gupta et al., (2007), Lahiri et al. (2004) have also published records of mites on medicinal plants, but the area of surveys which were covered in the present report were not included in their studies.

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Table 1. List of mites collected on medicinal plants from the Sundarbans area of West Bengal.

Classification	Host & Habitat	Locality	Relative abundance	Remarks	
<b>PHYTOPHAGOUS GROUP</b>					
<b>Order I : PROSTIGMATA</b>					
<b>Family 1 : Tetranychidae</b>					
1.	<i>Eutetranychus orientalis</i> (Klein)	<i>Carica papaya</i>	A, B	3	Z1
2.	<i>Oligonychus punicae</i> (Hirst)	<i>Gmelina arborea</i>	A, C	2	Z3
3.	<i>Oligonychus sapienticolus</i> Gupta	<i>Musa sapienticola</i>	C	3	Z2
4.	<i>Tetranychus ludeni</i> Zacher	<i>Eugenia jambolana</i>	A, B	3	Z2
5.	<i>Tetranychus neocaledonicus</i> Andre	<i>Psidium guajava</i>	A, B	2	X, Z3
6.	<i>Tetranychus macfarlanei</i> Baker & Pritchard	<i>Acacia auriculiformis</i>	C	1	X, Z3
7.	<i>Tetranychus fijiensis</i> Hirst	<i>Abelemoschus moschatus</i>	C	3	X, Z2
8.	<i>Tetranychus hypogaeae</i> Gupta	<i>Cinnamomum tamala</i>	B	3	X, Z3
9.	<i>Schizotetranychus tephrosiae</i> Gutierrez	<i>Ixora coccinea</i>	A	3	Z3
10.	<i>Schizotetranychus masoni</i> Gupta	<i>Azadirachta indica</i>	A, B	3	X, Z3
11.	<i>Aplonobia sphaeralceae</i> (Tuttle & Baker)	<i>Citrus reticulata</i>	A, B	3	X, Z3
12.	<i>Ptobia harti</i> (Ewing)	<i>Oxalis corniculata</i>	C	2	Z1
<b>Family 2 : Tenuipalpidae</b>					
13.	<i>Brevipalpus mitrofanovi</i> Pegazzano	<i>Ocimum sanctum</i>	A	2	X, Z2
14.	* <i>Brevipalpus trinidadensis</i> Baker	<i>Phoenix dactylifera</i>	A, C		X, Z2, NRI
15.	<i>Brevipalpus phoenicis</i> (Geijskes)	<i>Justica adhatoda</i>	A	3	X, Z2
16.	<i>Raoiella indica</i> Hirst	<i>Cocos nucifera</i>	A, C	2	Z3
<b>Family 3 : Tarsonemidae</b>					
17.	<i>Eotarsonemus</i> sp.	<i>Justica adhatoda</i>	A	3	X, Z3
<b>PREDATORY GROUP</b>					
<b>Family 4 : Cunaxidae</b>					
18.	* <i>Cunaxa evansi</i> Den Heyer	<i>Ocimum sanctum</i>	A	3	X, NRI, Z3
19.	* <i>Cunaxa terrula</i> Smiley	<i>Justica adhatoda</i>	C	3	NRI, Z3
<b>Family 5 : Eupodidae</b>					
20.	<i>Eupodes sigmoidensis</i> Strandmann & Goff	<i>Musa sapienticola</i>	C	3	X, Z3
<b>Family 6 : Stigmaeidae</b>					
21.	<i>Agistemus fleschneri</i> Summers	<i>Solanum melongena</i>	C	3	Y, Z3
<b>Family 7 : Erythraeidae</b>					
22.	<i>Erythraeus orientalis</i> Khot	<i>Acacia auriculiformes</i>	C	3	Y, Z3
<b>Family 8 : Raphignathidae</b>					
23.	<i>Raphignathus</i> sp.	<i>Mangifera indica</i>	C	3	Z3
<b>Family 9 : Tydeidae</b>					
24.	<i>Pronematus</i> sp.	<i>Cocos nucifera</i>	A	3	X, Z3
<b>Order II : MESOSTIGMATA</b>					
<b>Family 10 : Phytoseiidae</b>					
25.	<i>Amblyseius largoensis</i> (Muma)	<i>Citrus limon</i>	A, C	2	Z3
26.	* <i>Amblyseius coffeae</i> De Leon	<i>Cinnamomum tamala</i>	B	3	NRI, Z3
27.	* <i>Amblyseius fletcheri</i> Schicha	<i>Scutellaria javanica</i>	C	3	Y, NRI
28.	<i>Amblyseius cucurbitae</i> Rather	<i>Carica papaya</i>	A	3	Z3
29.	<i>Euseius ovalis</i> (Evans)	<i>Murraya koenigii</i>	A	3	Z2
30.	<i>Euseius rhododendronis</i> (Gupta)	<i>Heliotropium indicum</i>	C	3	Y, Z3
31.	<i>Euseius coccinea</i> (Gupta)	<i>Momordica charantia</i>	A	3	Y, Z3
32.	<i>Neoseiulus longispinosus</i> (Evans)	<i>Mangifera indica</i>	C	3	Z3

## Order III : ASTIGMATA

## Family 11 : Glyciphididae

33.	<i>Glyciphagus destructor</i> (Schrank)	<i>Musa sapienticola</i>	C	3	Y, Z4
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## Abbreviations :

X=New host record, Y=New habitat record, Z1=Highly damaging, Z2=Moderately damaging, Z3=Casual occurrence, Z4=Accidental occurrence,\*Species earlier not recorded from India.

A=Sagar island, B=Gosaba, C=Dhamakhali and Jeliakhali.

1=highly abundant (greater than 10mites/leaf); 2=less abundant or moderate (between 5-10/leaf); 3=least abundant (less than 5/leaf).

### Conference Announcement

School of Life Sciences,  
Department of Zoology,  
Dr. B.R. Ambedkar University,  
Agra (U.P.)

The International Conference entitled on  
"Science, Technology and Social Humanities"  
will be held on 26th Feb to 28th Feb 2018.

The Venue is School of Life Sciences, Dr.  
B.R. Ambedkar University, Agra.

All are requested to participate. Please  
Contact us at e-mail given below.

Dr. R.B. Singh  
Organising Secretary  
E-mail: rbsinghugc@gmail.com

Dr. Surendra Singh  
Convener  
E-mail: drsinghraghavzoology@gmail.com