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Previous volumes (2010-2017): 250 € / year (4 issues)
Acarologia, CBGP, CS 30016, 34988 MONTFERRIER-sur-LEZ Cedex, France

The digitalization of Acarologia papers prior to 2000 was supported by Agropolis Fondation under the reference ID 1500-024 through the « Investissements d’avenir » programme (Labex Agro: ANR-10-LABX-0001-01)

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New records of flat mites (Acari: Tenuipalpidae) from India

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\textbf{Short note}

\begin{table}[h]
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\begin{tabular}{|c|c|}
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\textbf{ABSTRACT} & \\
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Six species of Tenuipalpidae are reported for the first time from India among the seventeen species from South Bengal in the current collection. Among them, three species belong to the genus \textit{Brevipalpus}, \textit{B. melichrus} Pritchard and Baker, \textit{B. mitrofanovi} (Pegazzano) and \textit{B. turrialbensis} Manson; one species of the genus \textit{Cenopalpus}, \textit{C. picitilis} Chaudhri; and the remaining two species belong to the genus \textit{Tenuipalpus}, \textit{T. crassulus} Baker and Tuttle and \textit{T. leipoldti} Meyer. & \\
\hline
\end{tabular}
\end{table}

\textbf{Keywords}  \textit{Brevipalpus}, \textit{Tenuipalpus}, \textit{Cenopalpus}, plant mite

\textbf{Zoobank}  http://zoobank.org/F5BD89F1-2336-4659-9929-70B044B5B805

\textbf{Introduction}

The Tenuipalpidae (Acari: Prostigmata: Tetranychoida) commonly known as flat mites or false spider mites is cosmopolitan in distribution and economically very important pest species as they infest fruit trees, vegetables, crops, medicinal, ornamental and other economic plants and causes economic loss. More than 1100 species under 38 genera of flat mites are reported across the world (Beard et al., 2014). Presently 102 species under 15 genera are found in India as per latest record by Gupta and Mandal (2015). In present study we report seventeen tenuipalpid species from southern part of West Bengal of which six species are new to the Indian fauna.

\textbf{Materials and methods}

We conducted monthly field survey from 3 January 2015 to 29 December 2017 in various agri-horticultural crop fields, as well as forest and grassland of southern part of West Bengal, India. A total of 2762 leaf samples were brought to the laboratory and examined under a stereoscopic research microscope (Motic SMZ-168 Stereo Zoom Microscope). Mite specimens were temporarily preserved in 70% ethyl alcohol and were cleared in lactic acid (50%) for 24-48 hours then mounted on slides in Hoyer’s medium (Walter and Krantz, 2009) and slides were dried on a hot-plate at 40°C for further taxonomic identification. Mites were initially examined under Motic DM-B1 Digital Microscope. For further analysis and detailed characterization NIKON Eclipse 50i DIC microscope was used.

The specimens were identified using the key of Mitrofanov (1973 a, b); Meyer (1993); Beard et al. (2012, 2015); Gupta and Mandal (2015) and Welbourn et al. (2017). For the classification the catalogue of Mesa et al., (2009) and checklist of Khanjani et al., (2013) were consulted. The specimens are deposited in the National Zoological Collection of Zoological Survey of India, Kolkata.

\textbf{How to cite this article} Mitra S. et al. (2018), New records of flat mites (Acari: Tenuipalpidae) from India. \textit{Acarologia} 58(4): 850-854; DOI 10.24349/acarologia/20184291
Results

Genus Brevipalpus Donnadieu

*Brevipalpus californicus* (Banks, 1904)


**Distribution** — California, India, Pakistan.

*Brevipalpus cucurbitae* Mohanasundaram, 1982

**Material examined** — 3♀ and 1♂, Contai [21.7811° N, 87.7450° E], East Midnapore, West Bengal on *Cucurbita maxima* Duchesne, 12 March 2015, coll. Subhasree Mitra. 2♀ and 1♂, Arambag [22.8728° N, 87.7911° E], Hoogly, West Bengal on *Psidium guajava* L. 23 August 2015, coll. Subhasree Mitra.

**Distribution** — India.

*Brevipalpus essigi* Baker, 1949


**Distribution** — California, India, Mexico.

*Brevipalpus euphorbiae* Mohanasundaram, 1982

**Material examined** — 1♀ and 1♂, Baharampur [24.0988° N, 88.2679° E], Murshidabad, West Bengal on *Croton sp.*, 22 January 2016, coll. Subhasree Mitra. 2♀ and 1♂, Birati [22.6636° N, 88.4273° E], North 24 Parganas, West Bengal on *Terminalia chebula* Retz. 20 August 2015, coll. Subhasree Mitra.

**Distribution** — India.

*Brevipalpus lewisi* McGregor, 1949


**Distribution** — California, India, Pakistan.

*Brevipalpus melichrus* Pritchard & Baker, 1952

**Material examined** — 5♀ and 2♂, Jayrampoti [22.9253° N, 87.6149° E], Bankura, West Bengal on *Nyctanthes arbor-tristis* L. 1 June 2015, coll. Subhasree Mitra. 3♀ and 1♂, Kamarpur [22.8976° N, 87.6556° E], Bankura, West Bengal on *Ocimum tenuiflorum* L. 2 June 2015, coll. Subhasree Mitra.

**Distribution** — California, India.

**Remarks** — New record from India.
**Brevipalpus mitrofanovi** (Pegazzano, 1975)

**Material examined** — 6♀ and 1♂, Raidighi [22.0012°N, 88.4354°E], South 24 Parganas, West Bengal on *Rosa chinensis* Jacq. 8 June 2016, coll. Subhasree Mitra. 2♀ and 2♂, Kalikapur [22.5009°N, 88.3949°E], South 24 Parganas, West Bengal on *Citrus aurantiifolia* (Christm.) Swingle 11 April 2016, coll. Subhasree Mitra.

**Distribution** — India, Italy.

**Remarks** — New record from India.

**Brevipalpus obovatus** Donnadieu, 1875


**Distribution** — Cosmopolitan.

**Brevipalpus phoenicis** Geijskes, 1939


**Distribution** — Cosmopolitan.

**Brevipalpus rica** Chaudhri, 1972


**Distribution** — India, Pakistan.

**Brevipalpus turrialbensis** Manson, 1963


**Distribution** — Costa Rica, India.

**Remarks** — New record from India.
Genus *Cenopalpus* Pritchard & Baker

*Cenopalpus picitilis* (Chaudhri, 1971)


**Distribution** — Pakistan, India.

**Remarks** — New record from India.

Genus *Tenuipalpus* Donnadieu

*Tenuipalpus bassale* Mohanasundaram, 1988

**Material examined** — 3♀ and 1♂, Narendrapur [22.4391°N, 88.3968°E], South 24 Parganas, West Bengal on *Hibiscus rosa-sinensis* L. 13 February 2016, coll. Subhasree Mitra.

**Distribution** — India.

*Tenuipalpus crassulus* Baker and Tuttle, 1972

**Material examined** — 4♀ and 1♂, Barasat [22.7228°N, 88.4806°E], North 24 Parganas, West Bengal on *Hibiscus rosa-sinensis* L. 11 July 2016, coll. Subhasree Mitra. 3♀ and 1♂, Dumdum [22.6471°N, 88.4317°E], Kolkata, West Bengal on *Aegle marmelos* (L.) Corrêa 24 March 2017, coll. Subhasree Mitra.

**Distribution** — Guatemala, India, Netherland, Washington.

**Remarks** — New record from India.

*Tenuipalpus crassus* Andre, 1953


**Distribution** — France, India.

*Tenuipalpus leipoldti* Meyer, 1993


**Distribution** — India, South Africa.

**Remarks** — New record from India.

*Tenuipalpus leptadeniae* Mohanasundaram, 1995


**Distribution** — India.

**Acknowledgements**

The authors are thankful to the Director, Zoological Survey of India, Kolkata and indebted to the Head, Department of Zoology, University of Calcutta for providing laboratory and infrastructural facilities to conduct this work. We are grateful to the anonymous reviewers for their valuable suggestions for improvement of the manuscript. The work has been supported by DST-FIST, UGC/UPE-II facilities. Our sincere gratitude to Dr. S.K Gupta, former Emeritus Scientist of MoEF and DST, Govt. of India, for his guidance in identification.
References


