

Two new species of *Diptilomiopus* Nalepa (Acari: Eriophyoidea) from India

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Original research

ABSTRACT

Two new species, *Diptilomiopus indogangeticus* n. sp., infesting *Ficus tinctoria* subsp. *gibbosa* (Blume) Corner (Moraceae), and *Diptilomiopus mohanasundarami* n. sp., infesting *Mangifera indica* L. (Anacardiaceae), are described from West Bengal, India. *Diptilomiopus holoptelus* Chakrabarti and Mondal and *Diptilomiopus strebli* (Boczek) are possible junior synonyms of *Diptilomiopus integrifoliae* Mohanasundaram and *Diptilomiopus asperis* Ghosh and Chakrabarti, respectively.

Keywords Eriophyoid mites; Diptilomiopidae; *Diptilomiopus indogangeticus*; *Diptilomiopus mohanasundarami*; dye fig; mango

Zoobank <http://zoobank.org/465F8BB9-9D65-4138-B433-D0D12331EF04>

Introduction

During periodical samplings of eriophyoid mites from different host plants in West Bengal, India, two *Diptilomiopus* species on dye fig, *Ficus tinctoria* subsp. *gibbosa* (Blume) Corner (Moraceae) and mango, *Mangifera indica* L. (Anacardiaceae) were collected. In general, mites in the *Diptilomiopus* Nalepa (1916) are mostly distributed in the Oriental region. Newkirk and Keifer (1975) set *Sectipes* Keifer (1962) as a junior synonym of *Diptilomiopus*. Similarly, Hong and Zhang (1997) set *Vilaia* Chandratyia and Boczek (1991) as a junior synonym of *Diptilomiopus*. Craemer *et al.* (2005) confirmed this synonymy and transferred all additional 16 species described in *Vilaia* to *Diptilomiopus*. At present, 102 valid species of *Diptilomiopus* are known (Craemer *et al.*, 2017; Sur *et al.*, 2018; Amrine 2019, personal communication). So far 9 species of *Diptilomiopus* have been described on plants of the family Moraceae and 5 species on Anacardiaceae (Table 1). In this account, descriptions of two further *Diptilomiopus* species and keys for separating these from closely related species are provided. A note has been provided on *Diptilomiopus strebli* (Boczek, 1992 in Boczek and Chandratyia 1992) infesting *Streblus asperis* Lour. (Type locality- Dusit zoo, Bangkok, Thailand) and *Diptilomiopus holoptelus* Chakrabarti and Mondal, 1983 infesting *Holoptelea integrifolia* Planch (Type locality- Kalyani, Nadia, India) suspecting their possible synonymies with *D. asperis* Ghosh and Chakrabarti, 1989 and *D. integrifoliae* Mohanasundaram, 1981, respectively.

Material and methods

Eriophyoid mites were collected and mounted as described by Chakrabarti *et al.* (2017) and Hoyer's medium was used for mounting the specimens. The terminology and classification given by Lindquist (1996) and Amrine *et al.* (2003), respectively, are followed here. The specimens were examined with a phase contrast microscope Leica DM3000 and photographs

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Table 1 List of *Diptilomiopus* species found on plants of the families Moraceae and Anacardiaceae.

Species names	Host plants	Type localities
On Moraceae		
1. <i>D. artocarpae</i> Mohanasundaram, 1981	<i>Artocarpus heterophyllus</i> Lam	Musiri, Trichy District, Tamil Nadu, India
2. <i>D. asperis</i> Ghosh and Chakrabarti, 1989	<i>Streblus asperis</i> Lour.	Raghunathbari, Midnapur, West Bengal, India
3. <i>D. benjaminiae</i> (Boczek and Chandrapatya, 2002)	<i>Ficus benjamina</i> L.	Amphor Siracha, Chon-Buri Province, Thailand
4. <i>D. cumingis</i> Huang, 2001	<i>Ficus cumingii</i> Miq.	Taitung, Lanyu, Taiwan, China
5. <i>D. ficifolius</i> (Boczek and Oleczek, 1988)	<i>Ficus sur</i> Forsk., originally listed as its synonym <i>F. capensis</i> Thunb.	Abeokuta, Nigeria
6. <i>D. ficus</i> Attiah, 1967	<i>Ficus carica</i> L.	Sabahia, Egypt
7. <i>D. ficusis</i> Chakrabarti and Mondal, 1983	<i>Ficus hispida</i> L.	Kalyani, Nadia, West Bengal, India
8. <i>D. indicus</i> Chakrabarti and Pandit, 1996	<i>Ficus</i> sp.	Natawat, Jalpaiguri, West Bengal, India
9. <i>D. racemosae</i> (Chandrapatya and Boczek, 2001)	<i>Ficus racemosa</i> L.	Amphor Muang, Trank Province, Thailand
On Anacardiaceae		
1. <i>D. alagarmaliensis</i> Mohanasundaram, 1986	<i>Spondias pinnata</i> (L.) Kurz, originally listed as its synonym <i>S. mangifera</i> Wild.	Madurai, Alagarmalai, Tamil Nadu, India
2. <i>D. boueae</i> (Chandrapatya and Boczek, 2002)	<i>Bouea macrophylla</i> Griff.	Amphor Muang, Prachin Buri Province, Thailand
3. <i>D. cythereae</i> (Chandrapatya, 1991 in Chandrapatya and Boczek 1991)	<i>Spondias dulcis</i> Parkinson, originally listed as its synonym <i>S. cytherea</i> Sonnerat	Nakon Pathom, Thailand
4. <i>D. integrifoliae</i> Mohanasundaram, 1981	<i>Buchanania latifolia</i> Roxb., originally described from <i>Holoptelea integrifolia</i> Planch (Ulmaceae)	Coimbatore, Tamil Nadu, India
5. <i>D. panithus</i> (Boczek, 1989 in Boczek and Chandrapatya 1989)	<i>Mangifera indica</i> L.	Kasetsart University Campus, Bangkok, Thailand

were taken with Leica DFC295 camera. All measurements were made following Amrine and Manson (1996) and de Lillo *et al.* (2010) and are given in micrometres (μm). Measurements and means are rounded off to the nearest integer and refer to the length of the morphological characters unless specified otherwise. Drawings were made following de Lillo *et al.* (2010) and Amrine *et al.* (2003). In the text, measurements of the holotype are followed by the range of measurements of the paratypes plus holotype given in parentheses. Original descriptions and measurements of *D. strebli* (Boczek, 1992 in Boczek and Chandrapatya 1992) and *D. holoptelus* Chakrabarti and Mondal, 1983 were compared with *D. asperis* Ghosh and Chakrabarti, 1989 and *D. integrifoliae* Mohanasundaram, 1981 suspecting their possible synonymies. All type specimens are now deposited in the collection of the Post-Graduate Department of Zoology, Vidyasagar College, Kolkata- 700006, India. After publication, holotypes and paratypes will be deposited in public institutions: one slide with paratypes of each species will be deposited in the National Pusa Collection, Indian Agricultural Research Institute, New Delhi; the holotypes and the remnant paratypes will be deposited in the National Zoological Collection, Zoological Survey of India, Kolkata.

Results

Family: Diptilomiopidae Keifer, 1944

Subfamily: Diptilomiopinae Keifer, 1944

Diptilomiopus indogangeticus n. sp.

(Figures 1, 2)

Diptilomiopus ficivorus Sarkar, 2011: 120. **Invalid name, a thesis name.**

Zoobank: [5F402A24-ED4A-49FF-AFDD-7AB6C7CB6878](https://zoobank.org/5F402A24-ED4A-49FF-AFDD-7AB6C7CB6878)

Description

Female (n=15) — Live colour brown. Body fusiform, 145 (140–151), 67 (66–67) wide. Gnathosoma: 39 (38–39), abruptly curved down, palp setae *d* 6 (5–6), palp setae *ep* 3 (2–3). Prodorsal shield: 22 (22–24), 44 (44–46) wide, with complete network of cells composed of one central cell and a row of 12 cells on the anterior margin, a row of 7 cells on the posterior margin and in between these two rows another 6 cells; scapular tubercles 2 (2–3) and located ahead of shield margin; scapular setae *sc* absent. Leg I: 23 (23–24), femur 17 (16–17), femoral setae *bv* absent; genu absent; tibia 6 (5–6), tibial setae *l'* absent; tarsus 6 (5–6), tarsal setae *ft'* 30 (29–30), tarsal setae *ft''* 29 (29–31), setae *u'* 2 (2–3); empodium *em* 10 (10–11), deeply divided, each branch 6-rayed, solenidion ω 9 (9–10), knobbed. Leg II: 21 (20–21), femur 13 (13–14), femoral setae *bv* absent; genu absent; tibia 4 (4–5), tibial setae *l'* absent; tarsus 5 (5–6), tarsal setae *ft'* 25 (25–27), tarsal setae *ft''* absent, setae *u'* 2 (2–3); empodium *em* 10 (10–11), deeply divided, each branch 6-rayed, solenidion ω 9 (9–10), knobbed. Coxae I: 14 (14–15), with granules, sternal line present; setae *lb* absent; setae *la* 21 (21–22) and 8 (8–9) apart; coxae II: 14 (14–15), with granules as in coxae I, setae *2a* 31 (30–31) and 15 (15–16) apart, setae *la* located little ahead of *2a*. Opisthosoma: Dorsal annuli 64 (64–66) with two pairs of lateral ridges; ventral annuli 62 (60–63), with small, roundish microtubercles, last 8 (7–8) ventral annuli with elongated and linear microtubercles; setae *c2* absent; setae *d* 12 (10–12) on ventral annulus 20; setae *e* 15 (14–15) on ventral annulus 32; setae *f* 19 (19–21) on ventral annulus 49; setae *h1* absent, setae *h2* 32 (30–32). Genital coverflap: 16 (16–17), 22 (22–23) wide, with granules present on the basal part, setae *3a* 7 (7–8). Internal genitalia: Apodeme short, spermathecae rounded with short funnel-like spermathecal tubes.

Male — Not found.

Etymology — The specific epithet is masculine in gender and '*indogangeticus*' is derived from the locality of collections of infesting plants occurring Indo-Gangetic plane on the southern side of the River Ganges in Murshidabad district, West Bengal.

Type material — Holotype (circled): female (slide no. 1825/98/2016), 07 Aug. 2016, Chunakhali (24°07'44"N, 88°17'40"E, alt. 20 m a.s.l.), Murshidabad, West Bengal, India, from *Ficus tinctoria* subsp. *gibbosa* (Blume) Corner (Moraceae), coll. S. Sur. Paratypes: 2 females and 4 nymphs in the slide bearing the holotype and 15 females (slide no. 1826-1828/98/2016), collection data as in the holotype.

Additional specimens: 7 females and 9 nymphs (slide no. 1392/72/2006), 14 Oct. 2006, Amriti (24°20'38"N, 87°05'29"E, alt. 30 m a.s.l.), Malda, West Bengal from the same host plant, coll. S. Sarkar.

Relation to the host plant — Mites are vagrant on lower surface of leaves showing no apparent damage symptoms.

Differential diagnosis — *Diptilomiopus indogangeticus* n. sp. shows many similarities with *D. cayratus* Cheng *et al.*, 2012; *D. euscaphiae* Wang *et al.*, 2009; *D. lithocarpi* Wang *et al.*, 2009; *D. ligustri* Wang *et al.*, 2009 and *D. terstroemiae* Wang *et al.*, 2009 in having reticulated cellular network on prodorsal shield along with scapular tubercles and presence of palp setae *d* and *ep*. However, *D. indogangeticus* n. sp. can be separated from the above mentioned species by the absence of *h1* setae and having 6-rayed empodium. The above *Diptilomiopus* species are very close and can be separated by the following key.

Remarks — The name *Diptilomiopus ficivorus* appeared previously in the Ph.D thesis by Sarkar (2011) for this species.

Key to the closely related species (mentioned in the differential diagnosis) of *Diptilomiopus indogangeticus*

1. Empodium 3-rayed; on *Cayratia japonica* (Thunb.) Gagnep (Vitaceae).....
..... *D. cayratus* Cheng *et al.*, 2012
- Empodium at least 6-rayed 2

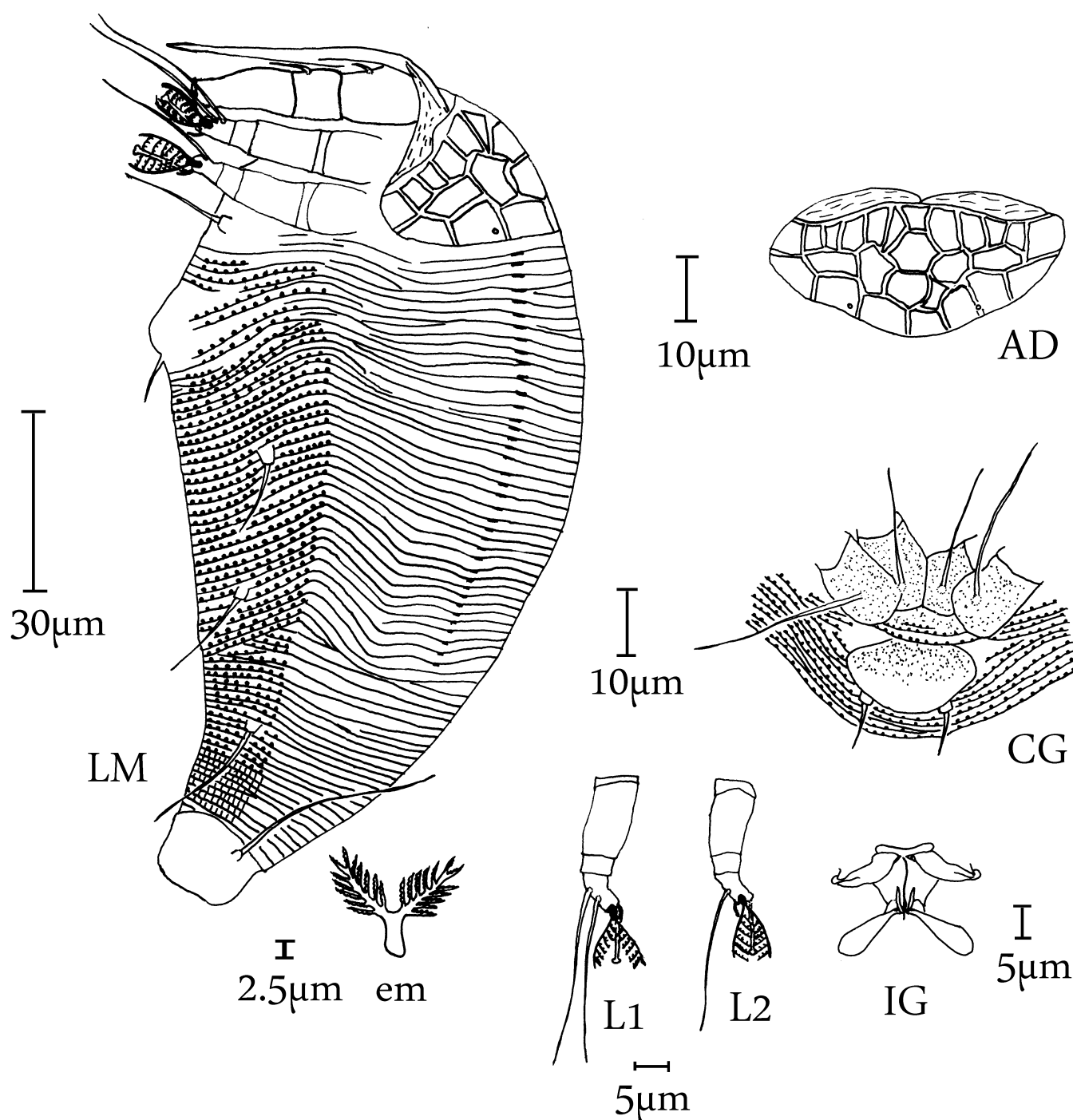


Figure 1 Schematic drawings of *Diptilomiopus indogangeticus* n. sp.: female: LM – lateral view of the mite; AD – dorsal view of prodorsal shield region; CG – coxi-genital region; L1 – leg I; L2 – leg II; Em – empodium; IG – internal genitalia.

2. *h1* setae absent; palp setae *v* lacking; empodium 6-rayed; on *Ficus tinctoria* subsp. *gibbosa* (Blume) Corner (Moraceae) *D. indogangeticus* n. sp.
— *h1* setae present; palp setae *v* present; empodium 7-rayed 3
3. Ventral annuli 62–64; genital coverflap sculptured with only granules; on *Lithocarpus glaber* (Thunb.) Nakai (Fagaceae) *D. lithocarpi* Wang *et al.*, 2009
— Ventral annuli at least 77; genital coverflap either with granules and small lines or only sculptured with basal short lines 4
4. Genital coverflap sculptured with basal short lines, dorsal annuli 60–71; on *Ligustrum quihoui* Carr. (Oleaceae) *D. ligustri* Wang *et al.*, 2009
— Genital coverflap with granules either at base or on whole coverflap region; dorsal annuli either 49–54 or 56–62 5
5. Prodorsal shield cells arranged in 4 rows and without unpaired central cell; dorsal annuli 49–54; granules present only at basal part of genital coverflap; on *Ternstroemia nitida* Merr. (Theaceae) *D. terstroemiae* Wang *et al.*, 2009
— Prodorsal shield cells arranged in 3 rows and with an unpaired central cell; dorsal annuli 56–62; granules present on whole genital coverflap; on *Euscaphis japonica* (Thunb.) Kanitz (Staphyleaceae) *D. euscaphiae* Wang *et al.*, 2009

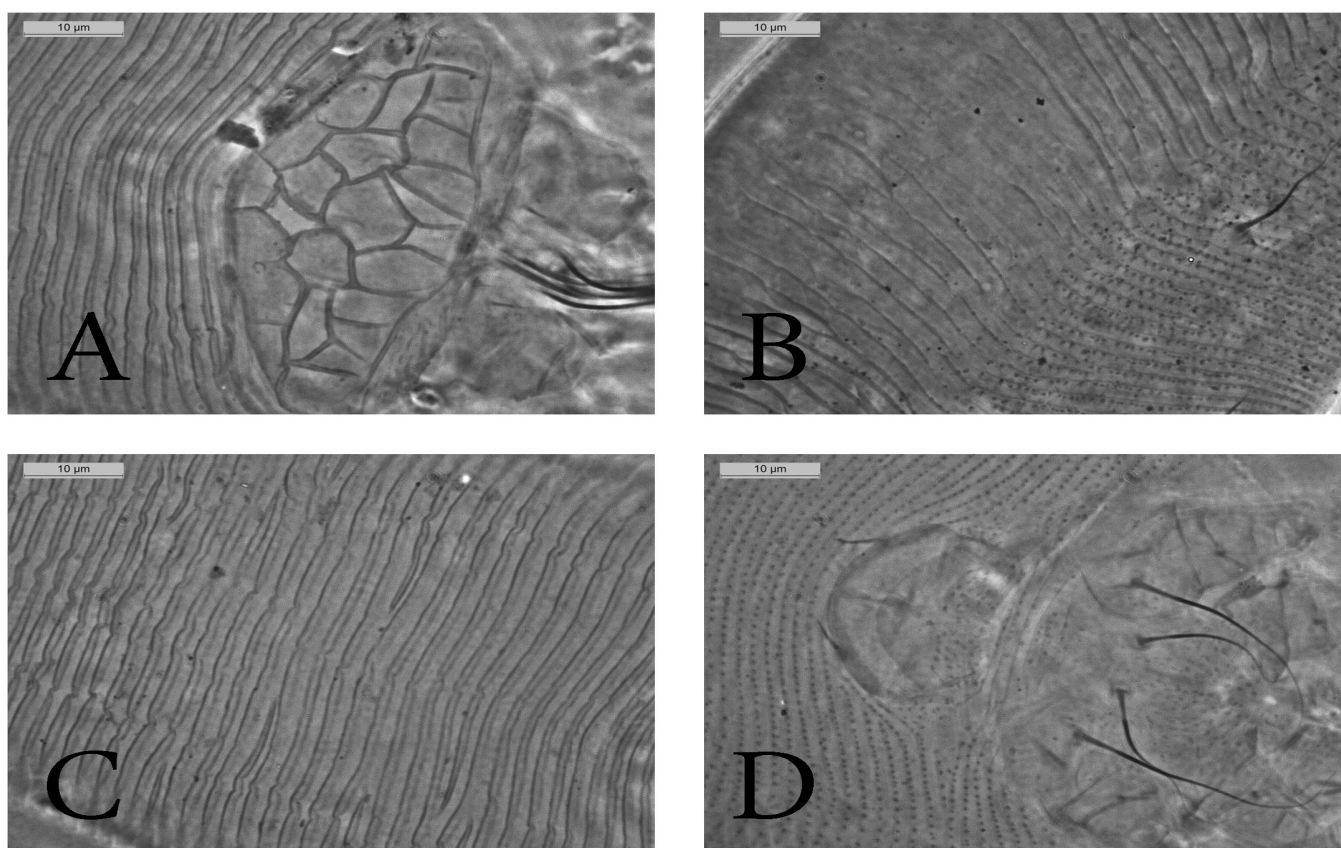


Figure 2 Light micrographs of *Diptilomiopus indogangeticus* n. sp.: female: A – prodorsal shield design; B – lateral view of annuli; C – dorsal ridges; D – coxi-genital region.

A further key can separate the *Diptilomiopus* species associated with plants within the family Moraceae.

Key to the *Diptilomiopus* associated with Moraceae

1. Genital coverflap with longitudinal scorings 2
— Genital coverflap either granulated or smooth 3
2. Prodorsal shield with median line present on both anterior and posterior 0.25 parts; 7-rayed empodium; on *Ficus hispida* (L.) *D. ficus* Chakrabarti and Mondal, 1983
— Prodorsal shield without median line; 5-rayed empodium; on *Artocarpus heterophyllus* Lam. *D. artocarpae* Mohanasundaram, 1981
3. Accessory setae *hl* present; on *Ficus benjamina* L. *D. benjaminiae* (Boczek and Chandrapatya, 2002)
— Accessory setae *hl* absent 4
4. Smooth genital coverflap; both coxae smooth; on *Streblus asperis* Lour. *D. asperis* Ghosh and Chakrabarti, 1989
— Granulated genital coverflap; at least one coxa ornamented 5
5. Both coxae granulated; prodorsal shield with 25 cells; on *Ficus tinctoria* subsp. *gibbosa* (Blume) Corner *D. indogangeticus* n sp.
— Either both coxae or at least one coxae smooth; prodorsal shield with less than 25 cells ... 6
6. Empodium 4-rayed; on *Ficus carica* (L.) *D. ficus* Attiah, 1967
— Empodium at least 6-rayed 7
7. Opisthosoma with smooth dorsal and ventral annuli; on *Ficus cumingii* (L.) *D. cumingis* Huang, 2001
— Opisthosoma with smooth dorsal and either microtuberculated or microstriated ventral annuli 8
8. Ventral annuli with microstriations; 22 cells on prodorsal shield; on *Ficus racemosa* L. *D. racemosae* (Chandrapatya and Boczek, 2001)
— Ventral annuli with microtubercles; either 26 or 18 cells on prodorsal shield 9
9. 26 cells on prodorsal shield with a central cell; both coxae smooth; on *Ficus* sp. *D. indicus* Chakrabarti and Pandit, 1996
— 18 cells on prodorsal shield without central cell; only coxae II smooth; on *Ficus capensis* Thunb. *D. ficifolius* (Boczek and Oleczek, 1988)

Diptilomiopus mohanasundarami n. sp.

(Figures 3, 4)

Diptilomiopus mangiferae Sarkar, 2011: 125. **Invalid name, a thesis name.**

Zoobank: <http://zoobank.org/act/5FCE349F-A4EE-4EC0-9D12-49A3CAFB2DA7>

Description

Female (n=15) — Live colour brown. Body fusiform, 146 (142–157), 74 (74–75) wide. Gnathosoma: 49 (46–49), abruptly curved down, palp setae *d* 7 (7–8), palp setae *ep* 3 (2–3). Prodorsal shield: 31 (31–33), 63 (63–64) wide; prodorsal shield with a central cell and a row

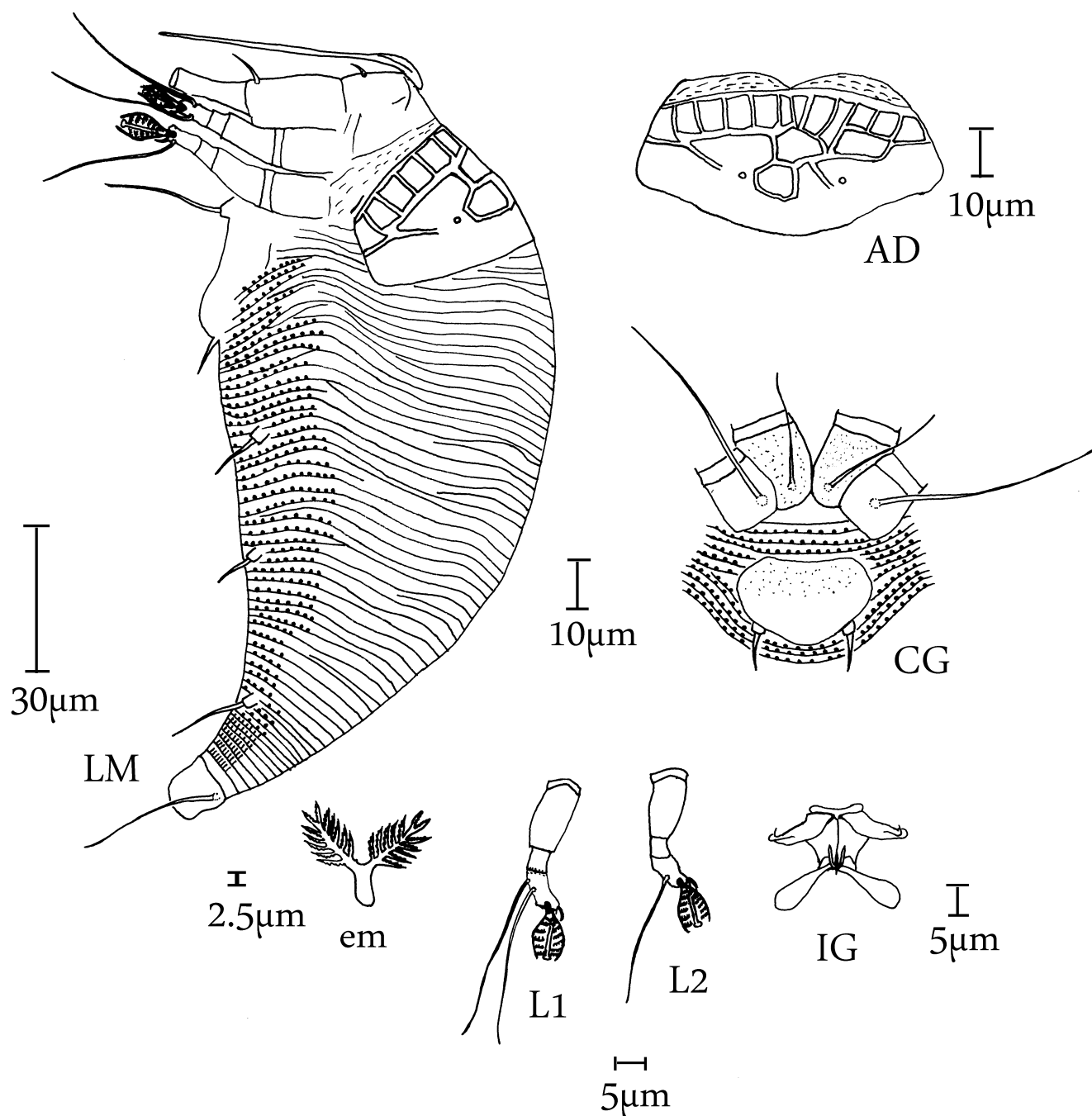


Figure 3 Schematic drawings of *Diptilomiopus mohanasundarami* n. sp.: female:- LM – lateral view of the mite; AD – dorsal view of prodorsal shield region; CG – coxi-genital region; L1 – leg I; L2 – leg II; Em – empodium; IG – internal genitalia.

of 12 cells on the anterior margin, besides, one cell below and one cell lateral to the central cell, other cell architecture on the posterior half of prodorsal shield not distinct; scapular tubercles 2 (2–3) and located ahead of shield margin but scapular setae *sc* absent. Leg I: 27 (27–29), femur 16 (16–17), femoral setae *bv* absent; genu absent; tibia 5 (4–5), tibial setae *l'* absent; tarsus 6 (5–6), tarsal setae *ft'* 39 (38–39), tarsal setae *ft''* 38 (38–40), setae *u'* 2 (2–3); empodium *em* 10 (10–12), deeply divided, each branch 6-rayed, solenidion ω 9 (9–10), knobbed. Leg II: 24 (24–25), femur 14 (14–15), femoral setae *bv* absent; genu absent; tibia 4 (3–4), tibial setae *l'* absent; tarsus 5 (5–6), tarsal setae *ft'* 34 (34–35), tarsal setae *ft''* absent, setae *u'* 2 (2–3); empodium *em* 10 (10–12), deeply divided, each branch 6-rayed, solenidion ω 9 (9–10), knobbed. Coxae I: 14 (14–15), jointed at base, with granules, sternal line present; setae *lb* absent; setae *la* 25 (24–26) and 5 (5–6) apart; coxae II: 13 (13–14), smooth, setae *2a* 49 (48–50) and 13 (13–14) apart, setae *la* located little ahead of *2a*. Opisthosoma: dorsal annuli 58 (58–60) and little undulated; ventral annuli 53 (52–55), with small, roundish microtubercles till 46th annuli, last 7 (7–8) ventral annuli with elongated and linear microtubercles; setae *c2* absent; setae *d* 12 (11–12) on ventral annulus 16; setae *e* 10 (10–11) on ventral annulus 27; setae *f* 18 (17–18) on ventral annulus 42; setae *hl* absent, setae *h2* 32 (32–33). Genital coverflap: 16 (16–17), 22 (22–23) wide, with very few granules on the basal part, setae *3a* 9 (9–10). Internal genitalia: Apodeme short, spermathecae rounded with short funnel-like spermathecal tubes.

Male — Not found.

Etymology — The specific epithet is masculine in gender and derived after the name of Prof. M. Mohanasundaram, eminent Acarologist from India.

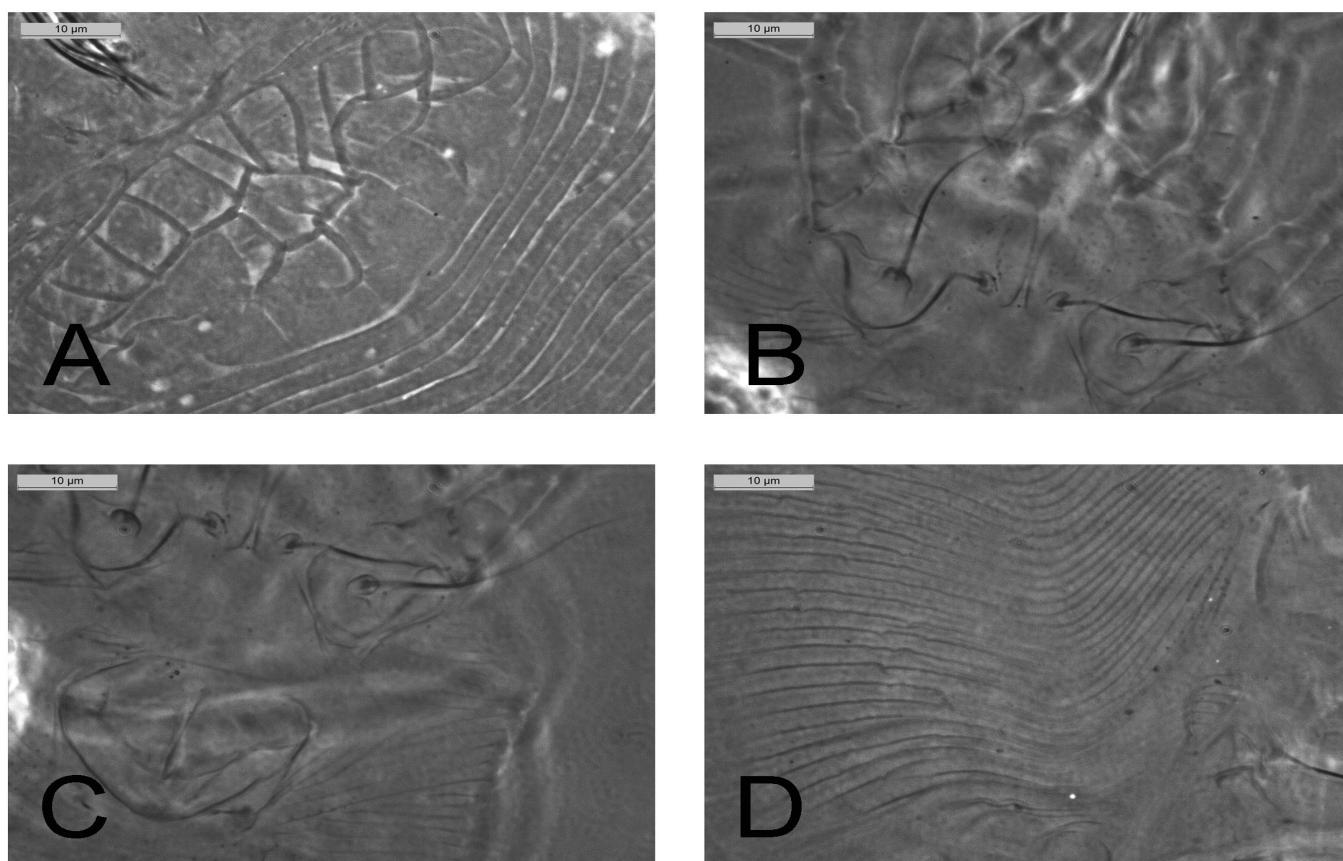


Figure 4 Light micrographs of *Diptilomiopus mohanasundarami* n. sp.: female: A – prodorsal shield design; B – coxal ornamentation; C – coxi-genital region; D – lateral view of annuli.

Type material — Holotype (circled): female (slide no. 1829/174/2017), 13 Jan. 2017, Kalyani (22°98'56"N, 88°26'44"E, alt. 11 m a.s.l.), Nadia, West Bengal, India, from *Mangifera indica* (L.) (Anacardiaceae), coll. S. Sur. Paratypes- 1 female and 2 nymphs in the slide bearing the holotype and 13 females and 8 nymphs (slide no. 1830-1833/174/2017), collection data as in the holotype.

Additional specimens: 5 females and 2 nymphs (slide no. 1375/91/2006), 24 Dec. 2006, 30 females and 4 nymphs (slide no. 1376-1380/91/2007), 09 Oct. 2007, Amriti (24°20'38"N, 87°05'29"E, alt. 30 m a.s.l.), Malda, West Bengal from the same host plant, coll. S. Sarkar.

Relation to the host plant — Mites are vagrant on lower surface of leaves showing no apparent damage symptoms.

Differential diagnosis — *Diptilomiopus mohanasundarami* n. sp. shows most similarities with *D. cerberae* (Chandrapatya, 1998 in Boczek and Chandrapatya 1998) and *D. meliae* (Boczek, 1998 in Boczek and Chandrapatya 1998) in having incomplete orientation of cells on posterior half of prodorsal shield and 6-rayed empodium. But *D. mohanasundarami* n. sp. can be separated from the above species in having a total of 15 cells on prodorsal shield (20 cells in *D. cerberae* and 17 cells in *D. meliae*).

Diptilomiopus mohanasundarami n. sp. remains distinct from *D. panithus*, another species of *Diptilomiopus* on *Mangifera indica* (L.) in having the prodorsal shield with 15 cells; only the coxae I are granulated and the opisthosoma is provided with 58 dorsal annuli and 53 ventral annuli (in *D. panithus* 16 cells are present on prodorsal shield, both coxae are granulated and the opisthosoma is provided with 43 dorsal annuli and 60 ventral annuli). Apart from this, cellular orientations on the prodorsal shield are totally different. Here, a key is given to separate the *Diptilomiopus* species on Anacardiaceae.

Remarks — The name *Diptilomiopus mangiferae* appeared previously in the Ph.D thesis by Sarkar (2011) for *D. mohanasundarami* for this species.

Key to the species of *Diptilomiopus* associated with Anacardiaceae

1. Dorsal annuli microtuberculated.....2
— Dorsal annuli smooth 3
2. Both coxae smooth; 11 cells on prodorsal shield; on *Spondias pinnata* (L.f.) Kurz.
..... *D. alagarmaliensis* Mohanasundaram, 1986
— Both coxae granulated; 17 cells on prodorsal shield; on *Spondias dulcis* Parkinson
..... *D. cythereae* (Chandrapatya, 1991 in Chandrapatya and Boczek 1991)
3. Prodorsal shield with incomplete network of 15 cells; on *Mangifera indica* (L.)
..... *D. mohanasundarami* n. sp.
— Prodorsal shield with complete network of cells 4
4. Only coxae I granulated; on *Bouea macrophylla* Griff.
..... *D. boueae* (Chandrapatya and Boczek, 2002)
— Both coxae granulated 5
5. Opisthosoma with 57–67 dorsal and 66–71 ventral annuli; prodorsal shield with 26 cells; on *Buchanania latifolia* Roxh. *D. integrifoliae* Mohanasundaram, 1981
— Opisthosoma with 43–45 dorsal and 60–62 ventral annuli; prodorsal shield with 16 cells; on *Mangifera indica* (L.) *D. panithus* (Boczek, 1989 in Boczek and Chandrapatya 1989)

Diptilomiopus asperis Ghosh and Chakrabarti, 1989

Diptilomiopus asperis Ghosh and Chakrabarti, 1989, Indian Journal of Acarology, 11 (1-2): 71.

Vilaia strebli Boczek, 1992: Boczek and Chandrapatya, 1992, Bull. Pol. Acads. Sci., Biol. Science., 40 (4): 272-273.

Diptilomiopus strebli (Boczek, 1992 in Boczek and Chandrapatya, 1992): Hong and Zhang, 1997. Syst. Ent., 22: 323.

Comments — *Diptilomiopus strebli* is identical in description and also from the same host but its type specimens could not be studied. This species is a possible junior synonym of *D. asperis*.

***Diptilomiopus integrifoliae* Mohanasundaram, 1981**

Diptilomiopus integrifoliae Mohanasundaram, 1981, Oriental insects, 15 (1): 49-51.

Diptilomiopus holoptelus Chakrabarti and Mondal, 1983, Acarologia, XXIV (3): 302-303.

Comments — *Diptilomiopus holoptelus* is morphologically identical with *D. integrifoliae* except for the number of rays on empodium, (the former with 7 rayed and the later with 5 rayed) and described from the same host but its original type specimens could not be studied. This species is probably a junior synonym of *D. integrifoliae*.

Remarks on the morphological groups within the genus *Diptilomiopus* — The species of *Diptilomiopus* are found on several unrelated host plants and a few species (Table 2) have been recorded on more than one host in contrast to most of the other eriophyoids which are host specific (Skoracka *et al.*, 2010). Species currently recorded on different hosts may contain cryptic species. Only morphological study is not sufficient to ascertain their cryptic nature (Li

Table 2 List of a few species of *Diptilomiopus* found on more than one host plant.

Name of the species	Host plants recorded	Type locality	References
1. <i>D. bengalensis</i> Chakrabarti and Mondal, 1979	i) <i>Gardenia jasminoides</i> Ellis (Rubiaceae) ii) <i>Azima tetracantha</i> Lam (Salvadoraceae)	India: West Bengal: Nadia, Kalyani	Chakrabarti and Mondal 1979 Mohanasundaram 1984
2. <i>D. camerae</i> Mohanasundaram, 1981	i) <i>Lantana camera</i> L. (Verbenaceae) ii) <i>Cissus vitiginea</i> (L.) W. Theob, originally listed as its synonym <i>Vitis vitiginea</i> Kuntze (Vitaceae) iii) <i>Hymenodictyon excelsum</i> (Roxb.) Mabberley (Rubiaceae)	India: Tamil Nadu: Aliyarnagar near TNAU farm	Mohanasundaram 1981 Mohanasundaram 1984 Ghosh 1989
3. <i>D. cuminis</i> Chakrabarti <i>et al.</i> , 1992	i) <i>Syzygium cumini</i> (L.) Skeels (Myrtaceae) ii) <i>Morinda persicifolia</i> Buch.-Ham. (Rubiaceae)	India: West Bengal: Bankura, Dubrakone	Chakrabarti <i>et al.</i> , 1992 Ghosh 1989
4. <i>D. integrifoliae</i> Mohanasundaram, 1981	i) <i>Holoptelea integrifolia</i> Planch (Ulmaceae) ii) <i>Neolamarkia kadamba</i> (Roxb.) Bosser, originally listed as its synonym <i>Anthocephalus kadamba</i> (Rubiaceae)	India: Tamil Nadu: Coimbatore	Mohanasundaram 1981; Chakrabarti and Mondal 1983 Das 1983
5. <i>D. thangaveli</i> Mohanasundaram, 1983	i) <i>Casearia tomentosa</i> Roxb. (Salicaceae) ii) <i>Tagetes</i> sp. (Asteraceae)	India: Tamil Nadu: Chidambaram	Mohanasundaram 1983 Mohanasundaram <i>et al.</i> , 1985

et al., 2014). Application of other tools such as molecular studies, host transfer experiments etc., may “clarify taxonomic uncertainties”. However, different subgroups within this genus have not been confirmed yet, but four groups viz. i) having complete network of cells on prodorsal shield or incomplete cell-like ornamentation and ii) another group may be based on the presence or absence of scapular tubercles (apparently there is a tendency of reduction of scapular tubercles in the species of *Diptilomiopus*) may be presumed. The two species herein described present scapular tubercles but in *D. indogangeticus* **n. sp.** complete network of cells are present on prodorsal shield while in *D. mohanasundarami* **n. sp.** the cells are incomplete on posterior part of prodorsal shield.

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