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Redescription and illustration of eight eriophyoid mites (Acari: Prostigmata: Eriophyoidea) with emphasis of their host plants from family Moraceae in Egypt

Ashraf, S. Elhalawany[1]; Ahmad, I. Amer[2] and Amira, E. Mesbah[2]

[1]Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt.

[2]Cotton and Crops Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt.

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Abstract:

Superfamily Eriophyoidea (Acari: Prostigmata) is tiny haplodiploid mites and strictly phytophagous, making galls, forming nests and living freely on plants. During the present study a survey of eriophyoid mites associated with plants of the family Moraceae from Egypt was studied. The results indicated that eight eriophyoid species were collected. These are, two species were belonging to family Diptilomiopidae and the remaining six to family Eriophyidae. They were *Diptilomiopus ficus* Attiah, 1967 and *Rhyncaphytoptus ficifoliae* Keifer, 1939 (family: Diptilomiopidae) and *Aceria fica* (Cotté, 1920); *Aceria benghalensis* (Soliman and Abou–Awad, 1977), *Aceria sycamori* (Soliman and Abou–Awad, 1977); *Neotegonotus sycamori* Abou–Awad, 1984, *Tegolophus niloticus* Abou–Awad, 1984 and *Aceria mori* (Keifer, 1939) (family: Eriophyidae). Redescription of these eight species (different stages) are presented and illustrated based on females, males and immature stages. A key to eriophyoid mite species associated with family Moraceae in Egypt is provided.

Introduction

Family Moraceae includes about 1,500 species in 53 genera. Most of the species are on trees or shrubs of the tropics or subtropics, but a few species are indigenous to temperate regions. The most important groups of this family are *Morus* spp. and *Ficus* spp. (Venkataraman, 1972). *Ficus carica* L. has been cultivated for a long time in various places worldwide for its edible fruit. It is assumed to originate from Western Asia and spread to the Mediterranean by humans; it is also a good source of food for fruit–eating animals in the tropics (Zohary and Hopf, 2000).

Up to date 121 eriophyoid species has been recorded from plants of the family Moraceae, 73 species of them was recorded on plants of genus *Ficus* (Amrine and de Lillo personal communication). Only eight eriophyoid species has been recorded from Moraceae in Egypt and described from females only (Soliman and Abou–Awad,

1977; Abou–Awad, 1984; Zaher, 1984 and Ueckermann, 1991). The knowledge on the host plant identification, mite habit and host plant relationships. Specific attention should be taken in finding and collecting males. Their morphology often helps to understand the female status as protogyne/deutogyne mites (Amrine and Manson, 1996).

More than 1,017 named species have been assigned to the genus *Aceria* Keifer, 1944. About 38 of them have been found in Egypt up to now (Elhalawany and Ueckermann 2015; 2018 and Amrine and de Lillo personal communication). With this study the total number of eriophyoid mites of Egypt increased to 103 species belonging to 34 genera (Elhlawany 2012, 2015, 2018 and Elhalawany *et al*. 2018).

The aim of this study is to redescribe and illustrate this eight eriophyoid mite species based on different stages.

Materials and methods

Mite specimens were collected from leaves and buds of plants of family Moraceae, at three different Governorates, Qualyubia, Gharbia and Giza of Egypt from 2016 to 2019. Eriophyoidea specimens were collected from plants by direct examination under stereo–microscope and mounted on microscope slides in Keifer's F–medium (Amrine and Manson 1996). The specimens were examined under a phase contrast microscope (Carl Zeiss, Germany). Illustrations were made with the use of a drawing tube attached to the phase contrast microscope and using Adobe Illustrator® CS6 (Adobe Systems Inc.). Identification to genus level was conducted using the key to world genera of the Eriophyoidea (Amrine *et al.*, 2003). Morphological terminology is based on Lindquist (1996) and data measurements follow (Amrine and Manson, 1996) and (de Lillo *et al.*, 2010). All measurements were made using (Compound Eye) (Baker, 2005) and are given in micrometres (μm); the number of measured specimens (n) is given within parentheses in the description. For males and immature stages, only the ranges are given. Measurements are given in μm and are for lengths unless stated otherwise. Mite specimens are deposited in the mite reference collection of Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Egypt. Two paratypes of each species are deposited at the Plant Protection Research Institute collection, Egypt. Two paratypes of each species are deposited at the Collection of the Department of Zoology and Nematology, Faculty of Agriculture, Cairo University, Egypt.

Results and discussion

A key to the eriophyoid mite species associated with plants of the family Moraceae in Egypt

1- Gnathosoma usually small in comparison to the body; when large, with chelicerae triaght or slightly curved …… Eriophyidae 3

– Gnathosoma large in comparison to the body; chelicerae abruptly curved and bent down near base ……. Diptilomiopidae 2

2- Empodium divided, usually deeply; scapular setae absent; genu absent from both legs; coxal setae *1b* absent ……..…… *Diptilomiopus ficus* Attiah, 1967

– Empodium entire; scapular setae set just ahead of rear margin and projecting anteriorly. Legs with usual segments and setae ……..…..….. *Rhyncaphytoptus ficifoliae* Keifer, 1939

3- Body vermiform, annuli subequal dorsoventrally; prodorsal shield lack a frontal lobe, or with a slight projection over base, prodorsal shield tubercles on, rear shield margin, with transverse basal axes, scapular setae directed to rear ……..……...… *Aceria* 5

– Body usually more fusiform;annuli differed dorsoventrally, prodorsal shield normally with a broad–based frontal lobe over gnathosoma ……4

4 Dorsal opisthosoma having a middorsal ridge, first annuli large, projecting higher than other annuli; a deep cleft between prodorsal shield and opisthosoma; with prominent frontal lobe,

ridges on female coverflap in two uneven ranks…… *Neotegonotus sycamori* Abou–Awad, 1984

– Opisthosoma with three ridges; middorsal ridge stronger than lateral ridges but fades caudally, not ending a furrow; with strong frontal lobe; ridges on female coverflap in one rank …… *Tegolophus niloticus* Abou–Awad, 1984..

5- Tarsal empodium 5–rayed ……..…..6

– Tarsal empodium 6–rayed ……7

6 Prodorsal shield design with median line complete, female genital coverflap with 8–9 longitudinal ridges, dorsal annuli with oval microtubercles, on *Ficus carica* ….…… *Aceria fica* (Cotté, 1920)

– Prodorsal shield design with median line incomplete at 2/3, female genital coverflap with 12–13 longitudinal ridges, dorsal annuli with elongate microtubercles, on *F. benghalensis* and *F. sycomorus* ……..… *Aceria benghalensis* (Soliman and Abou–Awad, 1977)

7 Prodorsal shield design with median line complete broken, with 1st submedian line, dorsal annuli with elongate microtubercles, female genital coverflap with 10–12 longitudinal ridges on buds of M. alba ……..…….. *Aceria mori* (Keifer, 1939)

– Prodorsal shield design with median line complete, with two submedian lines, dorsal annuli with oval microtubercles, female genital coverflap with 12 longitudinal ridges, causing blister on *F. sycomorus* …… *Aceria sycamori* (Soliman and Abou–Awad, 1977)

1.Family Diptilomiopidae Keifer 1944

1.1. Subfamily Diptilomiopinae Keifer 1944

Genus *Diptilomiopus* Nalepa, 1916

Diagnosis: Body fusiform; gnathosoma large, abruptly curved and bent down near base; scapular setae sc absent; genu absent from both legs, paraxial tibial seta l' absent, empodium divided; setae 1b absent. This genus consists of 103 species (Amrine personal communication). Only one species has been recorded from Egypt.

***Diptilomiopus ficus* Attiah, 1967 (Figure, 1)**

Synonyms: *Diptilomiopus ficus* Attiah, 1967: 1-2; *Diptilomiopus ficus* Attiah, 1967: in Zaher, 1984:134.

Redescription: Female: (n=5). Body fusiform, 155 (150–175), 72 (70–75) width, 64 (63–70) thick; dark yellowish in life. **Gnathosoma** 52 (50–55), projecting downwards, pedipalp coxal setae ep 2 (2–3), dorsal pedipalp genual setae d 3 (3–4), subapical pedipalp tarsal setae v 3(2–3), cheliceral stylets 55 (53–56). **Prodorsal shield** broadly oval and short, convex shape and posterior slope; 30 (28–35) long, 60 (57–62) wide. Ornamentation on prodorsal shield consisting of network cells–like. Median line broken at centre; median, admedian and submedian lines connected by a transverse line at anterior 1/3 of prodorsal shield; the cells classes in four rows, the first 12 cells in anterior, five cells in second raw from anterior, and two cell in third and fourth row from anterior; lateral shield with granules; frontal lobe absent. Tubercles of scapular setae sc present 22(20–23) apart, small, rounded, ahead of rear shield margin; setae sc absent. **Coxal plates** with granules; anterolateral setae on coxisternum I 1b absent; proximal setae on coxisternum I 1a 31 (30–33), 7 (7–8) apart; proximal setae on coxisternum II 2a 50 (48–52), 25 (24–26) apart. Prosternal apodeme 5 (5–6); coxigenital area with 4 annuli, microtuberclated. Legs with genu absent from both legs, femur setae absent from both legs, tibia seta on leg I absent. **Leg I** 33 (30–35); femur 16 (15–17), basiventral femoral setae bv absent; genu absent; tibia 7 (6–7), paraxial tibial setae l' absent, tarsus 7 (7–8), paraxial, fastigial tarsal setae ft' 30 (30–32), antaxial, fastigial tarsal setae ft'' 35 (32–40), setae u' 6 (4–6); tarsal empodium 9 (8–9), divided, each branch 7–8–rayed, tarsal solenidion ω 6(5–6) knobbed. **Leg II** 27 (26–29); femur 12 (12–1), setae bv absent; genu absent; tibia 6 (6–7), setae l' absent, tarsus 6 (5–6), tarsal setae ft' 11 (10–11), setae ft'' 30 (30–35), setae u' 5 (5–6); empodium 9 (7–9), divided, each branch 7–8–rayed, ω 6 (5–6) knobbed. **Opisthosoma** with 55 (54–58) dorsal semiannuli; with pointed microtubercles on rear annular margins,

evenly rounded; with middorsal longitudinal ridge on either side flanked by shallow furrow and subdorsal ridge. With 68 (66–70) narrow ventral semiannuli (counted from the first semiannulus after the coxae II), with pointed microtubercles set on ventral semiannuli, last 12–14 ventral semiannuli with elongated, linear microtubercles. Setae c2 absent; setae d 44 (40–45), 45 (45–46) apart, on ventral semiannulus 25 (24–25); setae e 24 (24–26), 26 (26–27) apart, on ventral semiannulus 39 (39–40); setae f 27 (27–30), 29 (28–29) apart, on 9th ventral semiannulus from rear; setae h1 minute, setae h2 55 (55–60). External genital coverflap 28 (28–30) wide, 18 (17–18), smooth, with granules at base, proximal seta on coxisternum III 3a 8 (8–9), 19(19–20) apart. **Male:** (n=3). Similar to female, Body fusiform, 140–162, 68–72 width, 63–70 thick; dark yellowish in life. **Gnathosoma** 50–52, projecting downwards, setae ep 2–3, setae d 3–5, setae v 2–3, cheliceral stylets 53–54. **Prodorsal shield** shape and patterns similar to that of the female; 28–33 long, 57–60 wide. Tubercles of scapular setae sc present 20–21 apart, small, rounded, ahead of rear shield margin; setae sc absent. Coxal plates with granules; setae 1b absent; setae 1a 28–32, 7–8 apart; setae 2a 45–49, 24–25 apart. Prosternal apodeme 5–6; coxigenital area with 5 annuli, microtuberclated. Legs with genu absent from both legs, femur setae absent from both legs, tibia seta on leg I absent. **Leg I** 29–31; femur 15–17, basiventral femoral setae bv absent; genu absent; tibia 6–7, paraxial tibial setae l' absent, tarsus 6–7, paraxial, fastigial tarsal setae ft' 30–32, antaxial, fastigial tarsal setae ft" 32–37, setae u' 4–5; tarsal empodium 8–9, divided, each branch 7–8–rayed, tarsal solenidion ω 5–6 knobbed. **Leg II** 25–28; femur 11–13, setae bv absent; genu absent; tibia 6–7, setae l' absent, tarsus 5–6, tarsal setae ft' 9–10, setae ft" 30–33, setae u' 5–6; empodium 7–9, divided, each branch 7–8–rayed, ω 5–6 knobbed. **Opisthosoma** with 50–55 dorsal semiannuli; with pointed microtubercles on rear annular margins, evenly rounded; with middorsal longitudinal ridge on either side flanked by shallow furrow and subdorsal ridge. With 61–66 narrow ventral semiannuli, with pointed microtubercles set on ventral semiannuli, last 12–14 ventral semiannuli with elongated, linear microtubercles. Setae c2 absent; setae d 35–40, 41–43 apart, on ventral semiannulus 21–22; setae e 21–23, 22–24 apart, on ventral semiannulus 34–35; setae f 25–29, 27–29 apart, on 9th ventral semiannulus from rear; setae h1 minute, setae h2 50–57. Male genitalia 24–26 wide, 17–18 long, setae 3a 13–14, 20–21 apart. **Nymph:** (n=3). Similar to female, Body fusiform, 140–153, 65–70 width, 63–73 thick; yellowish in life. **Gnathosoma** 46–51, projecting downwards, setae ep 2–3, setae d 3–5, setae v 2–3, cheliceral stylets 53–57. **Prodorsal shield** shape and patterns similar to that of the female; 28–30 long, 55–60 wide. Tubercles of scapular setae sc present 20–21 apart, setae sc absent. Coxal plates with granules; setae I 1b absent; setae 1a 14–18, 7–9 apart; setae 2a 21–25, 14–15 apart, 3a 6–7, 15–16 apart. **Leg I** 29–30; femur 12–13, basiventral femoral setae bv absent; genu absent; tibia 5–6, paraxial tibial setae l' absent, tarsus 6–7, paraxial, fastigial tarsal setae ft' 28–30, antaxial, fastigial tarsal setae ft" 30–32, setae u' 3–4; tarsal empodium 6–7, divided, each branch 7–8–rayed, tarsal solenidion ω 4–5 knobbed. **Leg II** 25–28; femur 10–11, setae bv absent; genu absent; tibia 4–5, setae l' absent, tarsus 5–7, tarsal setae ft' 9–10, setae ft" 24–27, setae u' 3–5; tarsal empodium 6–7, divided, each branch 7–8–rayed, tarsal solenidion ω 4–5 knobbed. **Opisthosoma** with 47–50 dorsal semiannuli; with pointed microtubercles on rear annular margins, evenly rounded; dorsal annuli just behind posterior margin of prodorsal shield regular, with 43–46 narrow ventral semiannuli, with pointed microtubercles set on ventral semiannuli, last 15 ventral semiannuli with elongated, linear microtubercles. Setae c2 absent; setae d 22–25, 35 apart, on ventral semiannulus 20–21; setae e 20–22, 24–26 apart, on ventral semiannulus 25–26; setae f

22–24, 24 apart, on 8th ventral semiannulus from rear; setae h1 minute, setae h2 40–45.

Host plants: *Ficus carica* L. (Moraceae).**Other host plants:** *Ficus sycomorus* L. (Moraceae) during this study recorded as a new host plant. **Relation to the host plants:** Vagrant on lower surface of leaves, without visible damage.

Geographical distribution: Egypt.

Material examined: 5 females, two males and two nymphs on 2 slides from *Ficus sycomorus* (Moraceae), deposited at Plant Protection Research Institute collection, 5 April 2017, Qualyubia Governorate. 2 females and two males 2 slides from Kaha, Qalyubia Governorate, Egypt, 30°17'21.42" N, 31°12'45.82"E, 15 October 2016 coll. Ashraf Elhalawany deposited in Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt..

Remarks: The holotype of female was described by Attiah, 1967 on *Ficus carica* at Sabahia region near Alexandria, from Egypt; and short description of the male. Comparing the morphological characters of *D. ficus*, as well as the original description given by Attiah (1967), we did not find any regular differences between them.

1.2. Subfamily Rhyncaphytoptinae Roivainen 1953

Genus *Rhyncaphytoptus* Keifer, 1939

Diagnosis: Body fusiform; gnathosoma large, abruptly curved and bent down near base; scapular setae sc present; empodium entire; opisthosoma evenly rounded. This genus consists of 103 species (Amrine personal communication). Only one of these has been recorded from Egypt.

***Rhyncaphytoptus ficifoliae* Keifer, 1939a (Figure, 2)**

Synonyms: *Rhyncaphytoptus ficifoliae* Keifer, 1939a: 105; *R. ficifoliae* Keifer: in Zaher, 1984:133; *R. ficifoliae* Keifer: in Amrine *et al.* (2003): 164.

Redescription: Female:(n=10). Body fusiform, 200 (194–215), 68 (65–75) width, 72 (67–75) thick; amber in color. **Gnathosoma** 59 (56–60), projecting downwards, pedipalp coxal setae ep 4 (4–5), dorsal pedipalp genual setae d 7 (6–8), subapical pedipalp tarsal setae v 4(4–5), cheliceral stylets 58 (55–61). **Prodorsal shield** broadly subtriangular, with rounded frontal lobe over gnathosoma base; 40 (38–43) long, 60 (57–62) wide; prodorsal shield design with median and submedian lines absent, incomplete admedian lines forming a "U" shape between scapular tubercles, and short line lateral on each side. Scapular tubercles ahead of rear shield margin, 32 (30–33) apart, scapular setae sc 22 (20–23) projecting forward. **Coxal plates** smooth; anterolateral setae on coxisternum I 1b 10 (10–12), 11 (10–12) apart; proximal setae on coxisternum I 1a 38 (35–44), 11 (11–12) apart; proximal setae on coxisternum II 2a 55 (40–60), 28 (28–30) apart. Prosternal apodeme 8 (8–9); coxigenital area with 14–15 annuli between coxae and genitalia, microtuberclated. Legs with usual setae. **Leg I** 45 (43–46); femur 16 (15–17), basiventral femoral setae bv 11 (10–13); genu 7 (6–8), antaxial genual setae l″ 33 (29–34); tibia 10 (9–10), paraxial tibial setae l' 7 (6–8), tarsus 10 (10–11), paraxial, fastigial tarsal setae ft' 30 (30–33), antaxial, fastigial tarsal setae ft" 38 (37–41), setae u' 4 (3–4); tarsal empodium 8 (8–9), simple, 5–6–rayed, tarsal solenidion ω 10 (10–11) knobbed. **Leg II** 43 (43–44); femur 15 (14–15), setae bv 10 (9–12); genu 7 (6–8), genual setae l″ 33 (29–34); tibia 10 (9–10), paraxial tibial setae l' 7 (6–8), tarsus 10 (9–10), tarsal setae ft' 15 (15–17), setae ft" 38 (37–41), setae u' 4 (3–4); tarsal empodium 8 (8–9), simple, 5–rayed, tarsal solenidion ω 10 (10–11) knobbed. **Opisthosoma** with 20 (19–20) dorsal semiannuli; with linear microtubercles, evenly rounded, with 82 (80–85) narrow ventral semiannuli (counted from the first semiannulus after the coxae II), with pointed microtubercles set on ventral semiannuli, last 12–14 ventral semiannuli with elongated, linear microtubercles. Setae c2 22 (20–25), 59 (57–63) apart, on ventral semiannulus 12 (11–12); setae d 58 (55–60), 50 (48–51) apart, on ventral semiannulus 32 (31–33); setae e 22 (21–24), 36 (36–37)

apart, on ventral semiannulus 50 (50–51); setae f 33 (33–35), 30 (28–30) apart, on 6th ventral semiannulus from rear; setae h1 5 (4–5), setae h2 60 (55–60). External genital coverflap 28 (28–30) wide, 20 (18–21), smooth, proximal seta on coxisternum III 3a 22 (20–25), 19(19–20) apart. **Male:** (n=5). Similar to female, Body fusiform, 170–194, 65–67 width, 63–67 thick; amber in color. **Gnathosoma** 52–55, projecting downwards, setae ep 3–4, setae d 4–6, setae v 3–4, cheliceral stylets 52–54. **Prodorsal shield** shape and patterns similar to that of the female; 35–40 long, 57–60 wide. Tubercles of scapular setae sc 30–31 apart, on rear shield margin; setae sc 20–21, projecting forward. **Coxal plates** smooth; setae 1b 9–12, 10–12 apart; setae 1a 35–40, 10–12 apart; setae 2a 45–50, 24–27 apart. Prosternal apodeme 5–6; coxigenital area with 16–17 annuli, microtuberclated. **Leg I** 43–45; femur 15–16, setae bv 10–12; genu 6–7, antaxial genual setae l″ 28–30; tibia 9–10, paraxial tibial setae l' 6–7, tarsus 10–11, setae ft' 28–30, setae ft" 35–40, setae u' 3–4; tarsal empodium 8–9, simple, 5–6–rayed, tarsal solenidion ω 10–11, knobbed. **Leg II** 42–43; femur 14–15, setae bv 10–12; genu 6–7, antaxial genual setae l″ 8–10; tibia 9–10, tarsus 9–10, setae ft' 15–17, setae ft" 30–37, setae u' 3–4; tarsal empodium 8–9, simple, 5–rayed, tarsal solenidion ω 10–11, knobbed. **Opisthosoma** with 20 dorsal semiannuli; with linear microtubercles, evenly rounded; with 65–68 narrow ventral semiannuli, with pointed microtubercles set on ventral semiannuli, last 8–10 ventral semiannuli with elongated, linear microtubercles. Setae c2 20–22, 57–59 apart, on ventral semiannulus 12; setae d 55–57, 46–48 apart, on ventral semiannulus 29–30; setae e 13–15, 32–3 apart, on ventral semiannulus 45–47; setae f 27–30, 21–24 apart, on 6th ventral semiannulus from rear; setae h1 4–5, setae h2 55–60. Male genitalia 28–30 wide, 17–18 long, setae 3a 19–20, 20–22 apart. **Nymph:** (n=4). Body fusiform, 137–150, 58–60 width, 53–62 thick; yellowish in color. **Gnathosoma** 40–46, projecting downwards, setae ep 2–3, setae d 3–5, setae v 2–3, cheliceral stylets 40–45. Prodorsal shield broadly subtriangular, with rounded frontal lobe over gnathosoma base; 28–32 long, 48–51 wide. **Prodorsal shield** pattern with incomplete median line at 2/3, incomplete admedian lines forming a "U" shape between scapular tubercles, and two incomplete submedian lines forming V shape ahead of scapular tubercles, connected with two transverse line; Scapular tubercles ahead of rear shield margin, 24–25 apart, scapular setae sc 10–12 projecting forward. **Coxal plates** smooth; setae I 1b 6–7, 6–7 apart; setae 1a 25–28, 6–7 apart; setae 2a 32–35, 22–24 apart, 3a 6–7, 11–12 apart. **Leg I** 29–30; femur 8–9, setae bv 10–11; genu 4–5, antaxial genual setae l″ 16–18; tibia 4–5, paraxial tibial setae l' 3–4, tarsus 5–6, setae ft' 19–21, setae ft" 20–22, setae u' 2–3; tarsal empodium 3–4, simple, 4–rayed, tarsal solenidion ω 5–6, knobbed. **Leg II** 26–27; femur 7–8, setae bv 10–11; genu 4–5, antaxial genual setae l″ 6–8; tibia 4–5; tarsus 5–6, setae ft' 7–8, setae ft" 20–22, setae u' 2–3; empodium 3–4, simple, 4–rayed, tarsal solenidion ω 5–6, knobbed. **Opisthosoma** with 40–43 dorsal semiannuli; with pointed microtubercles on rear annular margins, with 57–60 narrow ventral semiannuli, with pointed microtubercles set on ventral semiannuli, last 10 ventral semiannuli with elongated, linear microtubercles. Setae c2 15–17, 47–48 apart, on ventral semiannulus 11–12; setae d 32–35, 34–35 apart, on ventral semiannulus 25–26; setae e 9–12, 22–23 apart, on ventral semiannulus 35–37; setae f 18–22, 21–22 apart, on 6th ventral semiannulus from rear; setae h1 2–3, setae h2 30–35.

Host plants: *Ficus carica* L. (Moraceae).

Relation to the host plants: Vagrant on lower surface of leaves, without visible damage.

Geographical distribution: Armenia; Chile; Egypt; Great Britain; Greece; India; Iran; Italy; Portugal; USA; Yugoslavia (Amrine and Stasny, 1994).

Material examined: 10 females, 5 males and two nymphs on 2 slides from *Ficus carica* (Moraceae), deposited at Plant Protection Research Institute collection, 5 April 2017, Qualyubia Governorate. Four females and two males 2 slides from Kaha, Qalyubia Governorate, Egypt, 30°17'21.42" N, 31°12'45.82"E, 15 October 2016 coll. Ashraf Elhalawany deposited in Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt.

Remarks: The holotype female was described by Keifer, 1939a on *Ficus* sp. from USA. The morphometry of the female appears to match the original description by Keifer, 1939. The principal differences between this species and the descriptions given by Keifer are the size of the specimens now examined is shorter 45 long; scapular seta c2 short 13 long; seta d short 40 long; seta e short 16 long seta f short 27long and seta 3a short 14 long; the Egyptian specimens are slightly longer than those in Keifer's description. This is the first description of male and immature stages of *R. ficifoliae*.

2.Family Eriophyidae Nalepa, 1898

2.1. Subfamily Phyllocoptinae Nalepa, 1892

Genus *Neotegonotus* Newkirk and Keifer, 1971

Diagnosis: Body fusiform; scapular setae sc and tubercles ahead of rear shield margin, directed posteriorly; deep cleft between prodorsal shield and opitshosma; first annuli large, projecting higher than other annuli; empodium entire; legs with usual segmentation and setae; opisthosoma with middorsal ridge, dorsal annuli broader and narrower ventral annuli. The genus consists of 6 species (Amarine *et al*., 2003 and Wei *et al.*, 2003).

***Neotegonotus sycamori* Abou–Awad, 1984 (Figure, 3)**

Synonyms: *Neotegonotus sycamori* Abou–Awad, 1984: 21-13.; *N. sycamori* Abou–Awad, 1984: in Meyer, 1981:373-375; *N. sycamori* Abou–Awad, 1984: in Amrine and Stasny, 1994: 233.

This species was collected at the first time by Abou-Awad on sycamore associated with *Tegolophus niloticus* in Aswan, with short description of male.

Redescription: Female: (n = 6) body fusiform, 162 (151–177) long without gnathosoma, 56 (53–58) wide, 60 (51–65) thick; dark yellow. **Gnathosoma 30** (25–31) long, projecting obliquely downwards, basal setae ep 3 (2–3), antapical setae d 6 (5–6), chelicerae 17 (16–19) long. **Prodorsal shield** 45 (43–46) long including broad prominent frontal lobe 7 (6–8), 52 (50–55) wide; sub semicircular; prodorsal shield ornamentation with median and submedian lines absent; admedian lines in complete forming U shape between scapular tubercles, reached at 1/2; surface of prodorsal shield punctuated. Scapular tubercles on ahead of rear shield margin, 25 (25–27) apart, setae sc 17 (14–18), projecting posteriorly. **Coxigenital area** coxae I with faint granules, with 5-6 annuli between coxae and genitalia, prosternal apodeme present 8 (7–8); anterolateral setae on coxisternum I 1b 7 (6–7), 13 (13–14) apart; proximal setae on coxisternum I 1a 20 (19–22), 8 (7–8) apart; proximal setae on coxisternum II 2a 40 (38–42), 22 (20–22) apart. **Leg I** 32 (30–33), femur 10 (9–10), setae bv 10 (8–10); genua 5 (4–5), setae l" 25 (24–27); tibiae 9 (8–9), setae l' 3 (3–4), setae located 1/4 from dorsal base; tarsi 6 (6–7); empodium em simple 5 (5–6), 4–rayed, tarsi solenidia ω knobbed, 8 (8–9), setae ft' 18 (17–19), setae ft" 23 (22–24), setae u' 2–3. **Leg II** 28 (27–30), femur 9 (8–9), setae bv 11 (9–11); genua 5 (4–5), setae l" 9 (9–10); tibiae 7 (7–8); tarsi 5 (5–6); em simple 5 (5–6), 4–rayed, ω knobbed, 9 (8–9), setae ft' 8 (7–10), setae ft" 20 (18–22), setae u' 2–3. **Opisthosoma** 23 dorsal annuli broad, with middorsal longitudinal ridges, fading caudally; a deep cleft between prodorsal shield and opitshosma; first annuli large, projecting higher than other annuli; with linear elongate microtubercles. Ventral annuli with 54 (53–55) annuli (counted from first annulus after coxae II), microtubercles elliptical, placed on posterior ventral annuli,

the last 20-27th ventral microtubercles linear. Lateral setae c2 10 (7–11), 44 (43–45) apart, on annulus 7 from coxae II; setae d 50 (46–52), 25 (24–25) apart, on annulus 17 (17–18); setae e 9 (8–9), 11 (10–11) apart, on annulus 30 (29–30); setae f 25 (24–25), 11 (11–12) apart, on annulus 6th annulus from rear. Setae h2 47 (44–57); setae h1 minte. **External genitalia** 12 (12–13), 20 (19–20) wide, coverflap with scoring in two series, an anterior with about 14-16 longitudinal ridges and a posterior with about 11 ones, proximal setae 3a 16 (15–17), 15 (15–16) apart. **Male:** (n=1). Similar to female. Body fusiform, 160 excluding gnathosoma, 50 wide. **Gnathosoma** 29, chelicerae 17, setae ep 3, setae d 6. **Prodorsal shield** 43 long including prominent frontal lobe frontal lobe 7, 50 wide; shape and patterns similar to those of the female. Scapular tubercles on ahead of rear shield margin, 25 apart, setae sc 16, projecting posteriorly. **Coxigenital area** with coxae I with granules, with 6 annuli between coxae and genitalia, prosternal apodeme present 6; setae 1b 7, 12 apart; setae 1a 20, 8 apart; 2a 36, 20 apart. **Leg I** 29, femur 8, setae bv 10; genua 5, setae l'' 24; tibiae 8, setae l' 3; tarsi 6; em simple 5, 4–rayed, ω knobbed, 8, setae ft' 18, setae ft'' 23, setae u' 3. **Leg II** 27, femur 8, setae bv 10; genua 4, setae l'' 8; tibiae 7; tarsi 5; em simple 5, 4–rayed, ω knobbed, 8, setae ft' 7, setae ft'' 21, setae u' 2. Opisthosoma 21 dorsal annuli and 45 ventral annuli, microtubercles similar that of female. Lateral setae c2 8, 42 apart, on annulus 7 from coxae II; setae d 48, 24 apart, on annulus 15; setae e 8, 11 apart, on annulus 24; setae f 25, 11 apart, on annulus 6th annulus from rear. Setae h2 48; setae h1 minte. **External genitalia** 11 long, 16 wide, with granules, setae 3a 20, 13 apart.

Host plants: *Ficus sycomorus* L., (Moraceae). **Relation to the host plants:** this mite found was found on lower leaves of sycamore; associated with *Diptilomiopus ficus* without no observed damage.

Geographical distribution: Aswan and Qualyubia Governorates in Egypt.

Material examined: Ten females and male on 5 slides, are , deposited in the mite reference collection of Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt, 23 Feb. 2019, Qualyubia Governorate 30°17'21.42" N, 31°12'45.82"E; coll. Ashraf Elhalawany.

Remarks: The holotype female was described by Abou-Awad, 1984 on *F. sycomorus* in Aswan from Egypt. The morphometry of the female appears to match the original description by Abou-Awad. In this study described the female and male collected from the same host in Qualyubia Governorate.

2.2. Subfamily Phyllocoptinae Nalepa, 1892

Genus *Tegolophus* Keifer, 1961

Diagnosis: Body fusiform; scapular setae sc and tubercles near rear shield margin, directed posteriorly; empodium entire; legs with usual segmentation and setae; opisthosoma with 3 ridges. This genus consists of 96 species (Amrine personal communication). Only three of these have been recorded from Egypt.

Tegolophus niloticus Abou–Awad, 1984 (Figure, 4)

Synonyms: *Tegolophus niloticus* Abou–Awad, 1984: 23-25; *T. niloticus* Abou–Awad, 1984: in Meyer, 1981:385; *T. niloticus* Abou–Awad, 1984: in Amrine and Stasny, 1994: 292.

Redescription: Female: (n=10) body fusiform, 180 (154–185) long without gnathosoma, 56 (51–58) wide, 50 (47–52) thick; light yellow. **Gnathosoma 25** (25–27) long, projecting obliquely downwards, basal setae ep 3 (3–4), antapical setae d 4 (4–5), chelicerae 18 (17–19) long. **Prodorsal shield** 41 (40–43) long including broad rounded frontal lobe 6(6–7), 43 (40–45) wide; subtriangular; prodorsal shield ornamentation with median and submedian lines absent; admedian lines complete forming jug shape; surface of prodorsal shield punctuated; lateral area with granules. Scapular tubercles on rear shield margin, 24 (21–24) apart, setae sc 21 (20–21), projecting

posteriorly. **Coxigenital area** with short dashes, with 5 annuli between coxae and genitalia, prosternal apodeme present 6 (5–7); anterolateral setae on coxisternum I 1b 7 (6–7), 11 (11–12) apart; proximal setae on coxisternum I 1a 22 (21–23), 8 (8–9) apart; proximal setae on coxisternum II 2a 37 (35–40), 22 (20–22) apart. **Leg I** 25 (23–25), femur 8 (7–8), setae bv 7 (7–8); genua 4 (4–5), setae l" 20 (19–21); tibiae 4 (4–5), setae l' 4 (4–5), setae located 1/4 from dorsal base; tarsi 5(4–5); empodium em simple 5 (5–6), 5–rayed, tarsi solenidia ω slightly knobbed, 7 (6–7), setae ft' 18 (18–20), setae ft" 23 (22–24), setae u' 2–3. **Leg II** 23 (20–23), femur 7 (7–8), setae bv 5 (5–6); genua 3 (3–4), setae l" 6 (6–8); tibiae 4 (4–5); tarsi 5(4–5); em simple 5 (5–6), 5–rayed, ω slightly knobbed, 8 (7–8), setae ft' 8 (7–10), setae ft" 20 (18–22), setae u' 2–3. **Opisthosoma** 29 (28–29) dorsal annuli broad, with three longitudinal ridges, middorsal ridge stronger than lateral ridges, fading caudally. Ventral annuli with 54 (53–55) annuli (counted from first annulus after coxae II), microtubercles oval, placed on posterior ventral annuli, the last 10th ventral microtubercles linear. Lateral setae c2 17 (15–18), 53 (52–53) apart, on annulus 7 from coxae II; setae d 40 (36–45), 35 (33–35) apart, on annulus 17 (17–18); setae e 10(10–11), 18 (17–18) apart, on annulus 30 (30–32); setae f 15 (14–15), 19 (19–20) apart, on annulus 6th annulus from rear. Setae h2 47 (42–47), 7 (7–8) apart; setae h1 minte. **External genitalia** 15 (14–15), 23 (22–24) wide, coverflap with 12 longitudinal ridges in two rows, proximal setae 3a 23 (20–25), 14 (14–15) apart. **Male:** (n=5). Similar to female. Body fusiform, 140–165 including gnathosoma, 47–50 wide, 44–48 thick; light yellow. **Gnathosoma** 22–24, chelicerae 17–18, setae ep 3–4, setae d 3–5. **Prodorsal shield** 36–38 long including broad rounded frontal lobe 5–6, 40–43 wide; shape and patterns similar to those of the female. Scapular tubercles on rear shield margin, 18–20 apart, setae sc 18–19, are projecting posteriorly. **Coxigenital area** with short dashes, with 6-7 annuli between coxae and genitalia, prosternal apodeme present 5–7; setae 1b 7–8, 9–10 apart; setae 1a 22–25, 8–9 apart; 2a 30–36, 20–21 apart. **Leg I** 23–25, femur 6–7, setae bv 7–8; genua 4–5, setae l" 19–21; tibiae 4–5, setae l' 4–5; tarsi 4–5; em simple 5–6, 5–rayed, ω slightly knobbed, 6–7, setae ft' 18–20, setae ft" 21–23, setae u' 2–3. **Leg II** 20–23, femur 6–7, setae bv 5–6; genua 3–4, setae l" 6–8; tibiae 4–5; tarsi 4–5; em simple 5–6, 5–rayed, ω slightly knobbed, 7–8, setae ft' 7–9, setae ft" 18–21, setae u' 2–3. **Opisthosoma** 28–29 dorsal annuli broad, with three longitudinal ridges, middorsal ridge stronger than lateral ridges, fading caudally. Ventral annuli with 50–53 annuli, microtubercles oval, placed on posterior ventral annuli, the last 10th ventral microtubercles linear. Lateral setae c2 15–17, 47–50 apart, on annulus 7 from coxae II; setae d 36–42, 27–29 apart, on annulus 17; setae e 8–9, 16–17 apart, on annulus 30; setae f 18–22, 19–20 apart, on annulus 6th annulus from rear. Setae h2 35–42; setae h1 minte. **External genitalia** 10–11 long, 17–18 wide, with granules, setae 3a 16–19, 14–15 apart. **Nymph:** (n= 4). Similar to female. Body fusiform, 140–150 excluding gnathosoma, 47–50 wide, 44–48 thick; light yellow. **Gnathosoma** 20–22, chelicerae 17–19, setae ep 2–3, setae d 4–5. **Prodorsal shield** 37–38 long including broad rounded frontal lobe, 43–45 wide; shape and patterns similar to those of the female; admedian line forming U shape. Scapular tubercles on rear shield margin, 19–21 apart, setae sc 16–17, are projecting posteriorly. **Coxigenital area** with short dashes and few granules, prosternal apodeme present 5–6; setae 1b 7–8, 8–9 apart; setae 1a 22–25, 7–8 apart; 2a 30–32, 20–21 apart; setae 3a 8-9, 8-9 apart. **Leg I** 22–23, femur 6–7, setae bv 5–6; genua 3–4, setae l" 15–17; tibiae 4–5, setae l' 3–4; tarsi 4–5; em simple 3–4, 4–rayed, ω slightly knobbed, 5–6, setae ft' 10–12, setae ft" 16–17, setae u' 1–2. **Leg II** 20–22, femur 6–7, setae bv 5–6; genua 3–4, setae l" 6–8; tibiae 3–4; tarsi 3–4; em simple 3–4, 4–rayed, ω slightly knobbed, 6–7, setae ft' 6–8, setae ft" 16–17, setae u' 1–2. **Opisthosoma** 36–38

dorsal annuli, with elongate linear microtubercles. Ventral annuli with 45–47 annuli, microtubercles oval, placed on posterior ventral annuli, the last 10th ventral microtubercles linear. Lateral setae c2 15–16, 43–44 apart, on annulus 7 from coxae II; setae d 23–25, 27–29 apart, on annulus 17; setae e 8–9, 16–17 apart, on annulus 25-26; setae f 17–18, 14–15 apart, on annulus 6th annulus from rear. Setae h2 35–40; setae h1 minte.

Host plants: *Ficus sycomorus* L., (Moraceae). **Relation to the host plants:** This mite found was found buds of sycamore; associated with *Aceria benghalensis* Soliman and Abou-Awad, without no observed damage.

Geographical distribution: Egypt.

Material examined: Six females, three males and two nymphs on 2 slides on *F. sycomorus* (Moraceae) are deposited at the Plant Protection Research Institute collection, Giza, Egypt, 8 October 2018, Qualyubia Governorate 30°15'25.17" N, 31°15'20.33"E; coll. Ashraf Elhalawany. Four females and four males on 2 slides, deposited in the mite reference collection of Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt. Five females on two slides, deposited at the collection of the Department of Zoology and Nematology, Faculty of Agricultural, Cairo University, Egypt.

Remarks: The holotype female was described by Abou-Awad, 1984 on *F. sycomorus* in Aswan from Egypt. The morphometry of the female appears to match the original description by Abou-Awad. In this study described the female, male and nymph collected from the same host in Qualyubia Governorate.

2.3.Subfamily Eriophyinae Nalepa, 1898

Genus *Aceria* Keifer, 1944

Diagnosis: Body vermiform; scapular tubercles and setae on rear shield margin, scapular setae scdirected posteriorly; legs with usual segmentation and setae, empodium entire; opisthosoma with dorso–ventral annuli subequal, with granules. This genus consists of 1017 species (Amrine personal communication). This genus consists of 38 species have been recorded from Egypt.

***Aceria fica* (Cotté, 1920) (Figure, 5)**

Synonyms: *Eriophyes ficus* Cotté, 1920: 28–30; *Eriophyes fici* Ewing, 1922 in Essig, 1922: 466; *Eriophyes fici* Essig and Smith, 1922: 47; *Eriophyes ficus* Baker, 1939: 266–275; *Eriophyes ficus* Nemoto *et al.* 1980: 49–53; *Aceria ficus* Meyer, 1981: 117–126; *Aceria ficus* Mohanasundaram, 1990: 82; *Aceria ficus* Amrine and Stasny, 1994: 47; *Aceria ficus* Abou–Awad *et al*.,1998: 367–371; *Aceria ficus* de Lillo and Monfreda, 2004: 295; *Aceria fica* Xue *et al.*, 2009: 461–484; *Aceria ficus* Elhalawany, 2012; *Aceria fica* Wang *et al.*, 2014.

Redescription: Female: (n=15) Body vermiform, 185 (170–220) long without gnathosoma, 50 (48–52) wide, 53(50–54) thick; yellow in color. **Gnathosoma** 28 (27–30) long, projecting obliquely downwards, basal setae ep 3 (3–4), antapical setae d 6 (5–7), chelicerae 23 (22–25) long. **Prodorsal shield** 34 (31–35) long including short frontal lobe tapering, 40 (38–45) wide; subtriangular; median line complete with dart shape marks at base, admedian lines complete, submedian lines complete forked at end, ahead of scapular tubercles; two cells lateral of prodorsal shield with heavy granules. Scapular tubercles on rear shield margin, 26 (25–28) apart, setae sc 28 (24–29), projecting posteriorly. **Coxigenital area** with granules, with 6 annuli between coxae and genitalia; setae 1b 8 (7–9), 12 (12–13) apart; setae 1a 25 (25–27), 7 (7–8) apart; setae 2a 35 (29–38), 21 (20–22) apart. **Leg I** 34 (32–35), femur 11 (11–12), setae bv 7 (7–8); genua 5 (5–6), setae l" 24 (22–25); tibiae 6 (6–7), setae l' 5 (4–6), setae located 1/4 from dorsal base; tarsi 7(7–8); empodium em simple 5 (5–6), 5–rayed, tarsi solenidia ω slightly tapered, 7 (7–8), setae ft' 22 (20–22), setae ft" 25 (25–27), setae u' 2–3. **Leg II** 32 (30–32), femur 8 (8–10), setae bv 7 (7–8); genua 5 (4–5), setae l" 10 (9–12); tibiae 6 (5–

6); tarsi 6 (5–6); em simple 5 (5–6), 5–rayed, ω slightly tapered, 7 (7–8), setae ft' 9 (7–10), setae ft" 25 (25–27), setae u' 2–3. **Opisthosoma** with 73 (66–75) dorso–ventrally semiannuli; dorsally with elongate oval microtubercles on posterior annular margins, ventrally with oval microtubercles on rear annular margins, the last 10th ventral microtubercles linear. Lateral setae c2 22 (21–25), 44 (43–45) apart, on annulus 11 (10–11) from coxae II; setae d 40 (35–41), 29 (27–29) apart, on annulus 24 (24–25); setae e 15 (13–16), 16 (15–17) apart, on annulus 43 (43–44); setae f 24 (23–25), 22 (22–23) apart, on 6th annulus from rear. Setae h2 65 (60–70); setae h1 3 (3–4). **External genitalia** 14 (13–14), 20 (20–21) wide, coverflap with 8–9 longitudinal ridges, setae 3a 20 (20–22), 15 (14–15) apart. **Male:** (n=6). Similar to female. Body vermiform m, 154–167 excluding gnathosoma, 35–38 wide, 38–48 thick; yellow in color. **Gnathosoma** 23–25, chelicerae 22–23, setae ep 3–4, setae d 5–6. **Prodorsal shield** shape and patterns similar to those of the female, 32–34 long, 30–33 wide; Scapular tubercles near the rear shield margin, 23–25 apart, setae sc 19–23, projecting diagonal posteriorly. **Coxigenital area** with granules; setae 1b 6–8, 11–12 apart; setae 1a 18–20, 7–8 apart; setae 2a 23–25, 19–20 apart. **Leg I** 30–31, femur 9–11, setae bv 7–8; genua 4–5, setae l" 22–24; tibiae 6–7, setae l' 4–5, setae located 1/4 from dorsal base; tarsi 7–8; empodium em simple 5–6, 5–rayed, tarsi solenidia ω slightly tapered, 7–8, setae ft' 18–20, setae ft" 23–25, setae u' 2–3. **Leg II** 28 –29, femur 8–9, setae bv 7–8; genua 4–5, setae l" 9–11; tibiae 5–6, setae l' 4–5; tarsi 5–6; em simple 5–6, 5–rayed, ω slightly tapered, 7–8, setae ft' 8–9, setae ft" 22–25, setae u' 2–3. **Opisthosoma** with 64–67 dorso–ventrally semiannuli; microtubercles shape same that of the female. Lateral setae c2 16–20, 33–34 apart, on annulus 9–10 from coxae II; setae d 34–38, 27–28 apart, on annulus 19–20; setae e 10–13, 17–18 apart, on annulus 36–37; setae f 20–23, 19–20 apart, on 7th annulus from rear. Setae h2 55–60; setae h1 2–3. **External genitalia** 11–12 long, 18–20 wide, with granules, setae 3a 10–12, 14–15 apart. **Nymph:** (n=4). Body vermiform, 140–157; width 37–40. **Gnathosoma** 23–25, curved downward, setae ep 2–3, setae d 4–5, chelicerae 19–20. **Prodorsal shield** shape and patterns similar to those of the female, 29–30 long, 26–28 wide. Tubercles sc on rear shield margin, 23–25 apart, setae sc 19–23, directed backward. **Coxisternal plates** with faint granules, setae 1b 4–5, 8–9 apart; setae 1a 16–18, 8–9 apart; setae 2a 22–25, 19–21 apart; setae 3a 5–6, 7–8 apart. **Leg I** 24–28, femur 7–8, setae bv 6–7; genua 3–4, setae l" 14–15; tibiae 5–6, setae l' 2–3, setae located 1/3 from dorsal base; tarsi 4–5; empodium em simple 4–5, 4–rayed, ω slightly tapered, 5–6, setae ft' 14–16, setae ft" 18–20, setae u' 1–2. **Leg II** 25–27, femur 6–7, setae bv 5–6; genua 3, setae l" 6–8; tibiae 5–6; tarsi 5–6; em 4–5 simple, 4–rayed, ω slightly tapered 6–8, setae ft' 7–8, setae ft" 16–18, setae u' 1–2. **Opisthosoma** with 60–65 dorso–ventrally semiannuli, microtubercles shape similar to that of the female. Setae c2 15–17, 34–36 apart, on 10 ventral semiannulus; setae d 37–41, 30–32 apart, on 20–21 ventral semiannulus; setae e 13–15, 25–27 apart, on 34 ventral semiannulus; setae f 20–22, 19–21 apart, on 6th semiannulus from rear. Setae h1 1–3; h2 35–45. **Larva:** (n=4). Body vermiform, 124–133; width 35–37. **Gnathosoma 18**–20 curved downward, setae ep 1–2, setae d 3–4, chelicerae 16–17. **Prodorsal shield** subtriangular, 27–28 long, 31–32 wide; median and admedian lines complete; submedian lines present on anterior 2/3, subparallel; lateral area with granules. Tubercles sc on rear shield margin, 20–21 apart; setae sc 14–15 directed forward. **Coxisternal plates** with granules setae 1b 3–4, 11–12 apart; 1a 13–14, 7–8 apart; 2a 22–24, 21–22 apart. Setae 3a 4–5, 6–7 apart. **Leg I** 20–21; femur 6–7, bv 5–6; genu 3–4, l" 13–15; tibia 3–4, seta l' 3–4; tarsus 4–5, ft' 13–15, ft" 14–17; ω 5–6; em 3–4, simple, 4–rayed. **Leg II** 18–19; femur 5–6, bv 5–6; genu 3, l" 5–7; tibia 3–4; tarsus 5–6, ft' 6–7, ft" 15–18; ω 5–6; em 3–4, 4–rayed.

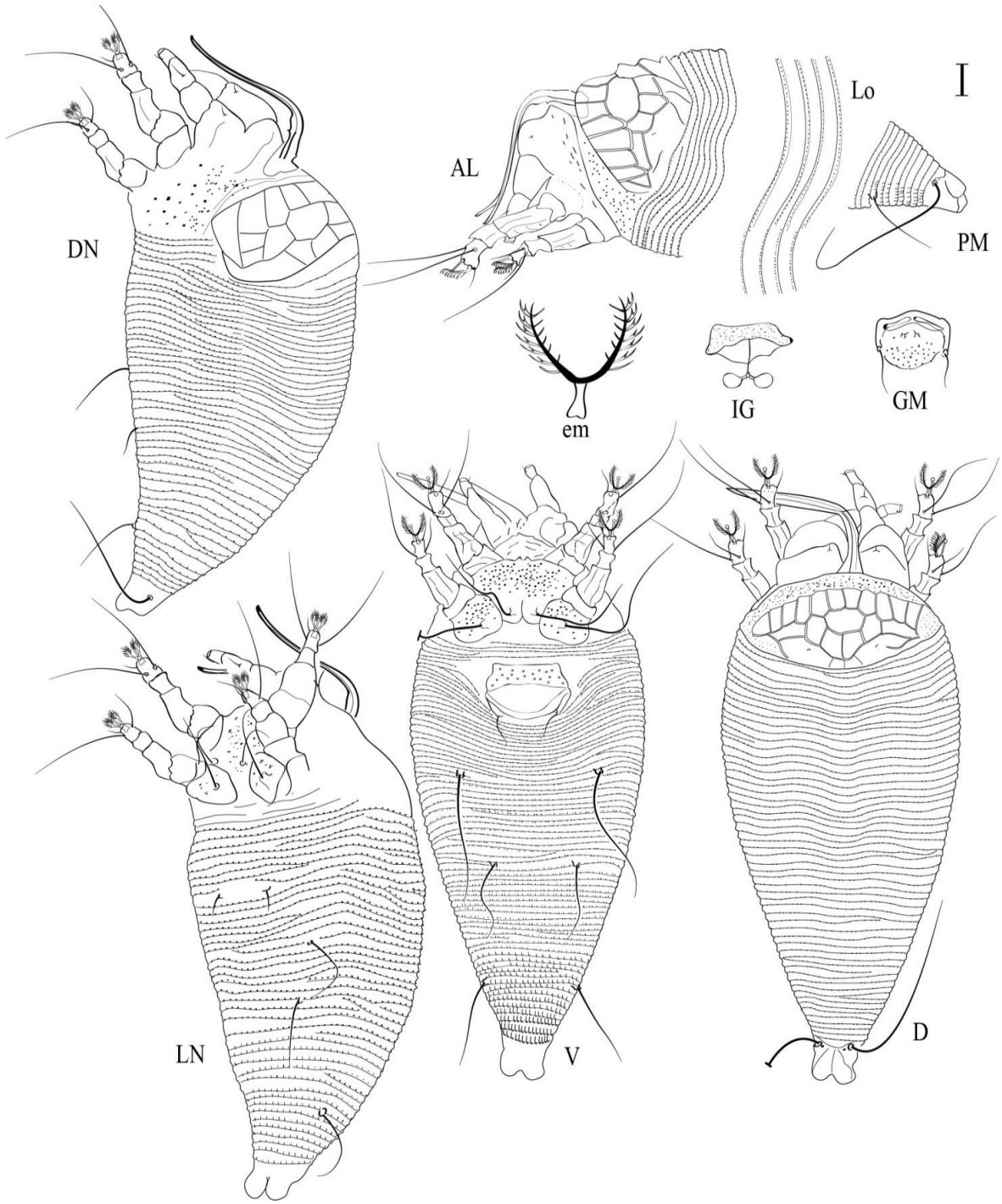

Figure (1): Line drawings of *Diptilomiopus ficus* Attiah: AL, anterio–lateral mite; PM, postero–lateral mite; D, dorsal mite; em, empodium; GM, male genitalia; IG, internal female genitalia; DN, dorsal nymph; LN, lateral nymph. Scale bars: 10µm for AL, PM, D, V, GM, IG, DN, LN; 2.5µm for em.

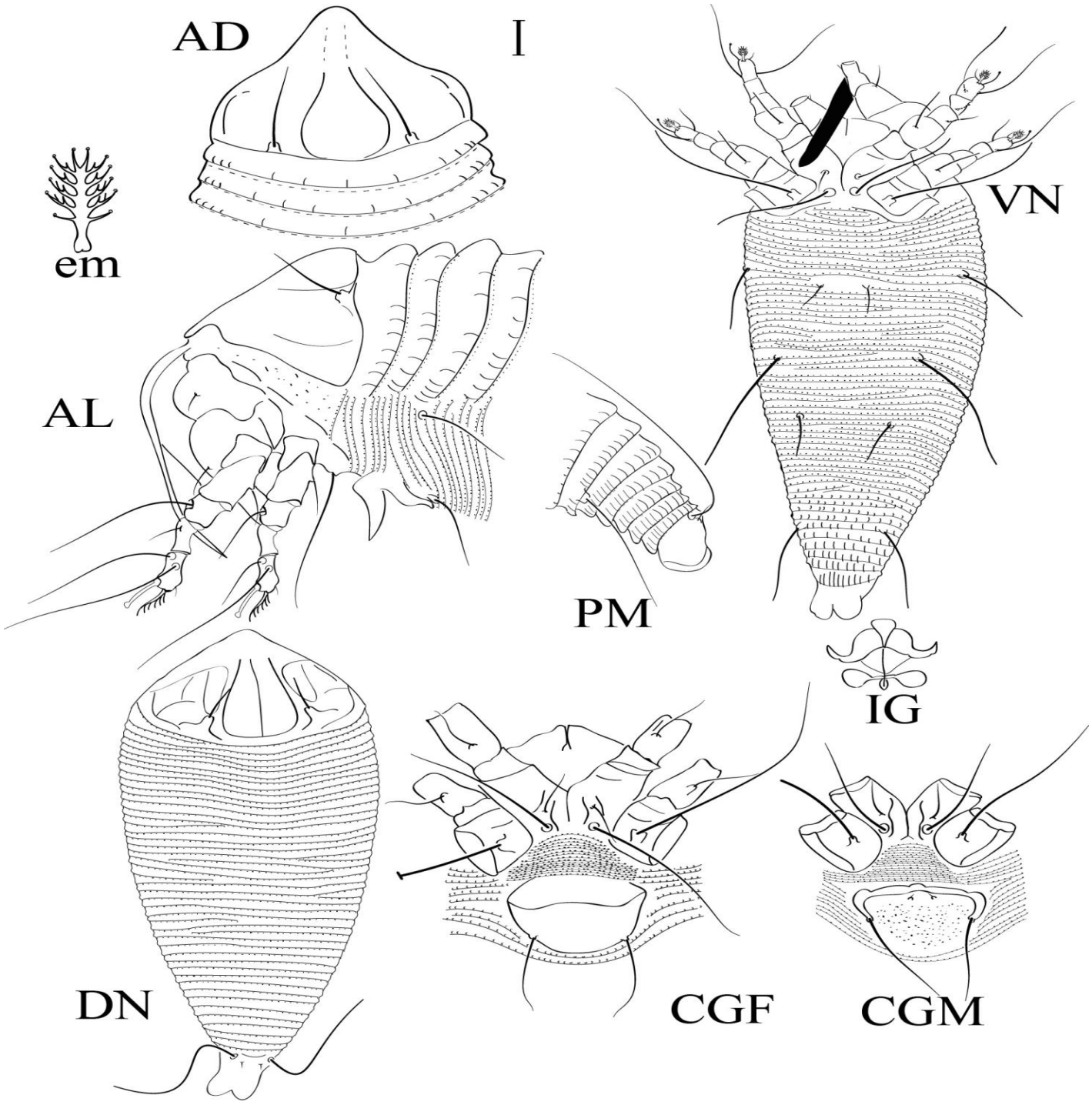

Figure (2): Line drawings of *Rhyncaphytoptus ficifoliae* Keifer: AD, anterio–dorsal mite; AL, anterio–lateral mite; PM, postero–lateral mite; CGF, coxi–genital region of female; CGM, coxi–genital region of male; em, empodium; IG, internal female genitalia; DN, dorsal nymph; VN, ventral nymph. Scale bars: 10µm for AD, AL, PM, CGF, CGM, IG; DN, VN; 2.5µm for em.

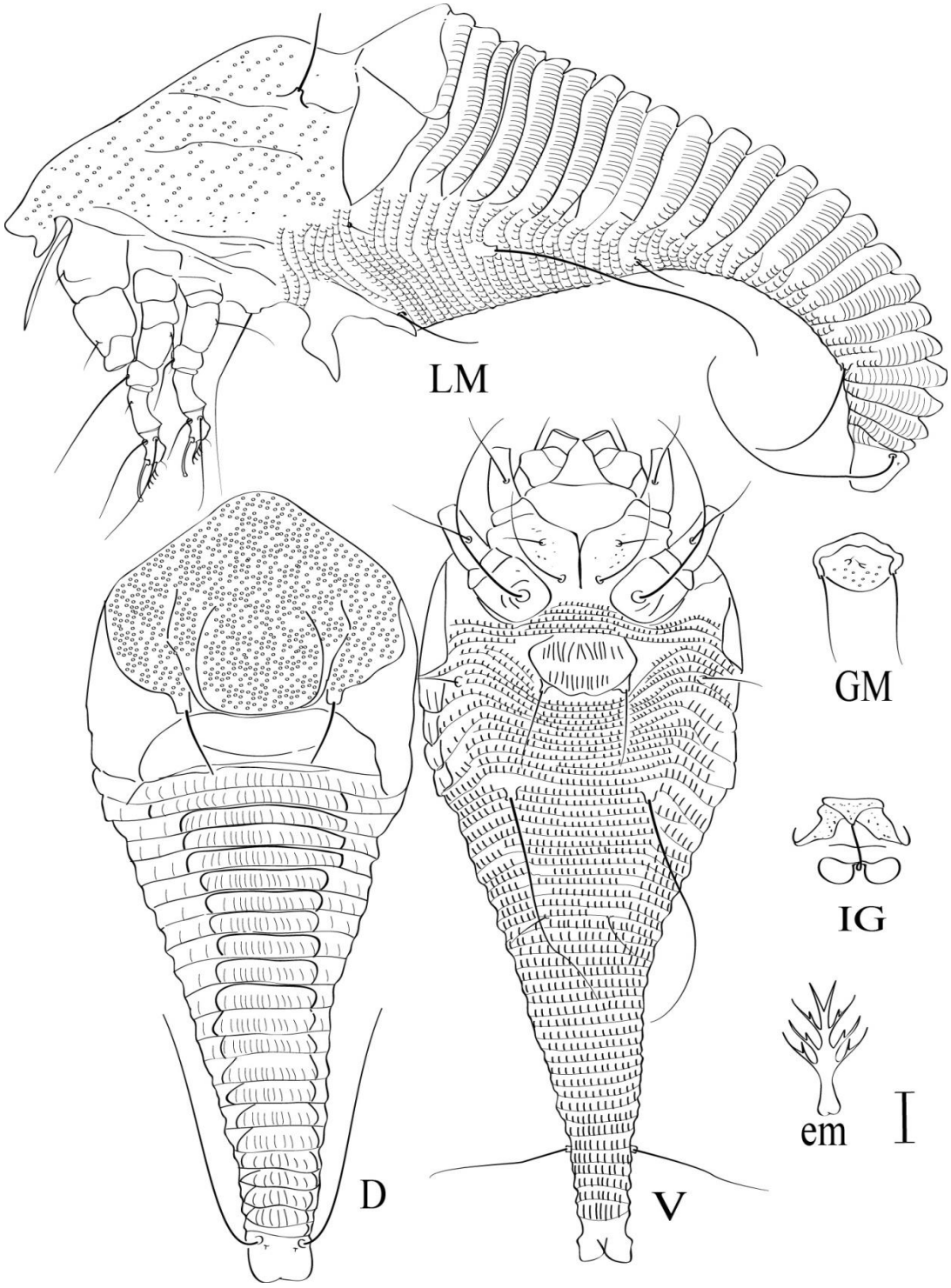

Figure (3): Line drawings of *Neotegonotus sycamori* Abou–Awad, 1984: : LM, lateral view of mite; D, dorsal mite; V, ventral view of female; GM, male genitalia; IG, internal female genitalia em, empodium. Scale bars: 10µm for LM, D, V, GM, IG; 2.5µm for em.

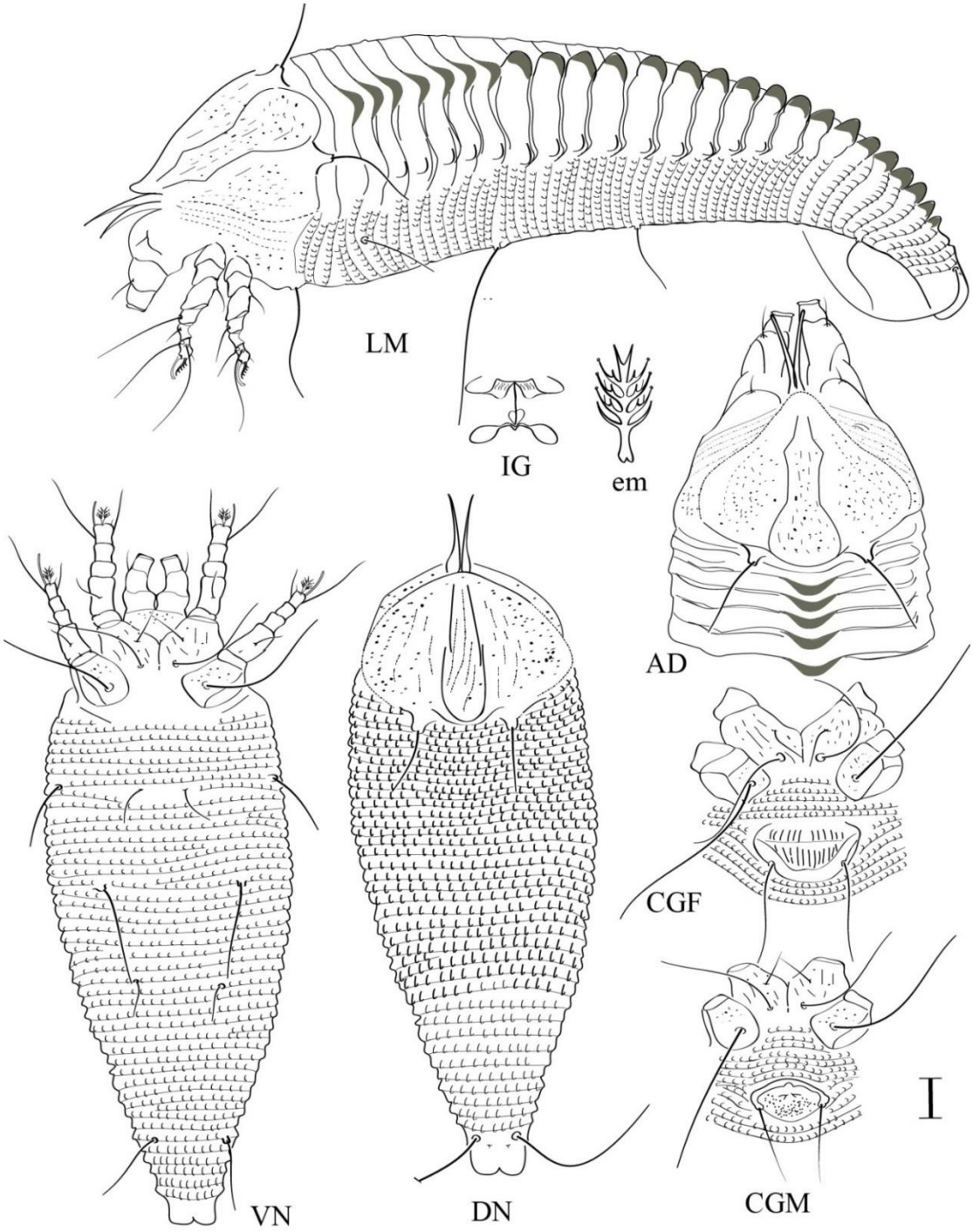

Figure (4): Line drawings of *Tegolophus niloticus* Abou–Awad: LM, lateral view of mite; AD, anterio–dorsal mite; CGF, coxi–genital region of female; CGM, coxi–genital region of male; em, mpodium; IG, internal female genitalia; DN, dorsal nymph; VN, ventral nymph. Scale bars: 10µm for LM, AD, CGF, CGM, IG, DN, VN; 2.5µm for em.

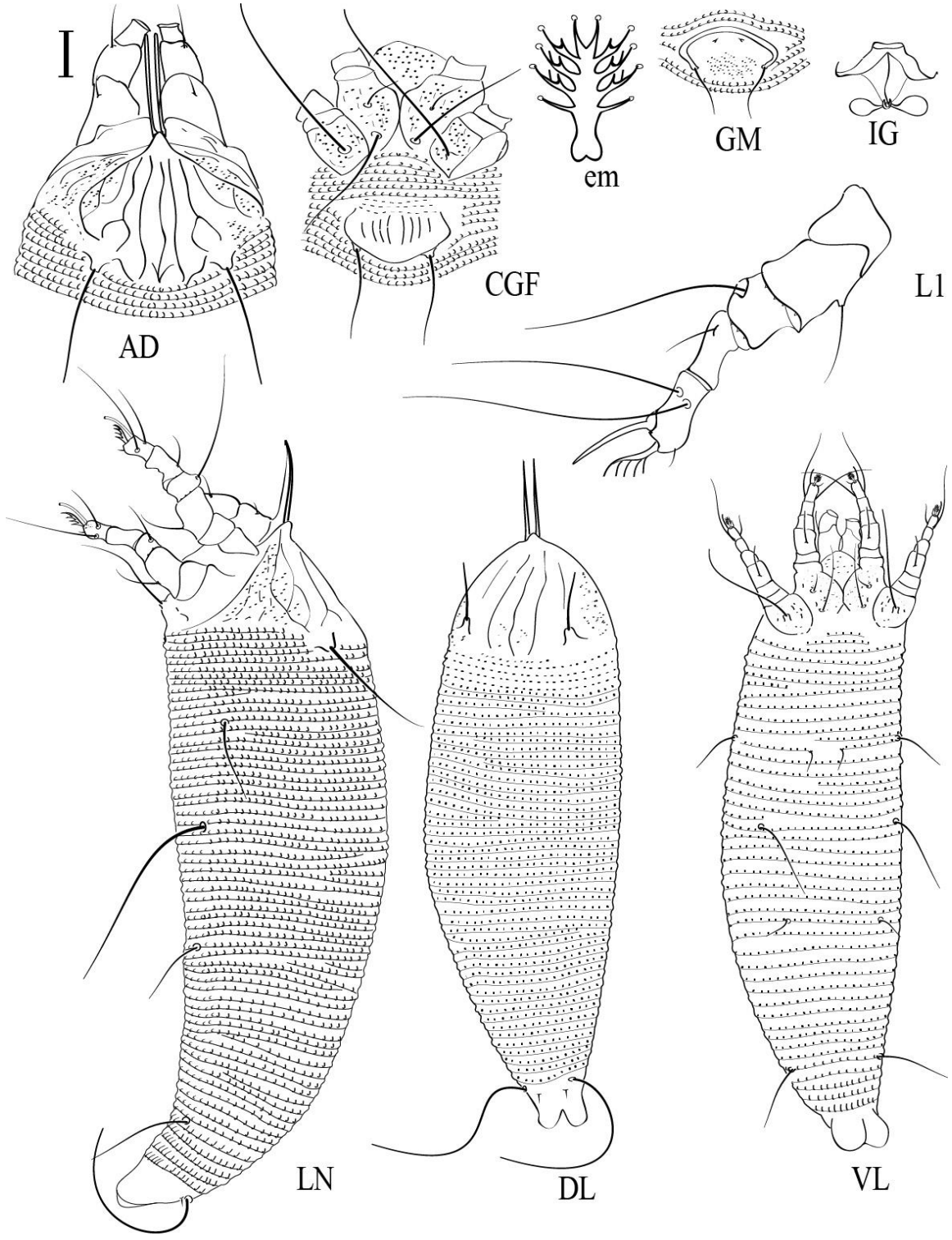

Figure (5): Line drawings of *Aceria fica* (Cotté): AD, anterio–dorsal mite; CGF, coxi–genital region of female; em, empodium; GM, male genitalia; IG, internal female genitalia; L1, Leg I; LN, lateral nymph; DL, dorsal larva; VL, ventral larva. Scale bars: 10µm for AD, CGF, GM, IG, LN, DL, VL; 5 µm for L1; 2.5µm for em.

Opisthosoma with 50–52 dorsal semiannulus, and 41–43 ventral semiannulus, with minute round microtubercles situated on rear margin of each semiannulus. Seta c2 10–12, 33–34 apart, on 9 ventral semiannulus; setae d 18–20, 26–27 apart, on 16–17 ventral semiannulus; setae e 6–7, 17–18 apart, on 25 ventral semiannulus; setae f 14–15, 18 apart, on 5th semiannulus from rear; h1 1–2; h2 35–38.

Host plants: *Ficus carica* L. (Moraceae).

Relation to the host plants: Injuring fig buds, found on both the surface of leaf and within the figs; causing rusting of the leaves, injury to the buds, leaf bronzing and distortion, leaf chlorosis and leaf drop also transmitting virus.

Geographical distribution: Australia; Brazil; Egypt; France; Great Britain; Greece; India; Iran; Italy; Japan; Mexico; Portugal; South Africa; Saudi Arabia; USA.

Material examined: 10 females, 5 males and two nymphs on 2 slides from *F. carica* (Moraceae), deposited at the Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt, 5 April 2017, Qualyubia Governorate, 30°15'56.24"E, 31°13'49.85"N coll. Ashraf Elhalawany. Four females, two males and three nymphs on 2 slides from Kafr Ibri, Gharbia Governorate, 30°41'56.00"E, 31°10'49.07"N, 10 September 2018 coll. Ahmad Amer deposited Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt. Five females and three males and five larvae on 2 slides from deposited at the Collection of the Department of Zoology and Nematology, Faculty of Agricultural, Cairo University, Egypt.

Remarks: The holotype female was described by Cotté, 1920 on *F. carica* in France. The morphometry of the female appears to match the original description by Cotté. In this study described the female, male, nymph and larva collected from the same host in Giza and Gharbia Governorates.

***Aceria benghalensis* (Soliman & Abou–Awad, 1977) (Figure, 6)**

Synonyms: *Eriophyes benghalensis* Soliman & Abou–Awad, 1977: 670-672*; Aceria benghalensis* (Soliman & Abou–Awad, 1977) in Ueckermann, 1991: 5. *A. benghalensis* in Amrine and Stasny, 1994: 26& 246; *A. benghalensis* in Zaher, 1984: 91.

Redescription: Female: (n=7) Body vermiform, 190 (170–205) long without gnathosoma, 38 (37–40) wide, 39 (37–40) thick; whitish in color. **Gnathosoma** 18 (17–19) long, projecting obliquely downwards, basal setae ep 3 (2–4), antapical setae d 6 (5–7), chelicerae 16 (15–17) long. **Prodorsal shield** 28 (28–29) long including short frontal lobe tapering, 38 (37–42) wide; semicircular; median line incomplete with dart shape marks at base, admedian lines complete, submedian lines in complete forked at 1/2, curved inwards laterally ahead of scapular tubercles, with granules between submedian lines; lateral of prodorsal shield with heavy granules. Scapular tubercles on rear shield margin, 15 (15–16) apart, setae sc 16 (15–18), projecting posteriorly. **Coxigenital are**a with granules and short dashes, with 8 annuli between coxae and genitalia, prosternal apodeme present; setae 1b 7 (7–8), 8 (8–9) apart; setae 1a 21 (20–22), 7 (7–8) apart; setae 2a 30 (29–32), 17 (16–17) apart. **Leg I** 25 (22–25), femur 8 (7–8), setae bv 7 (7–8); genua 3 (3–4), setae l" 16 (16–17); tibiae 4 (4–5), setae l' 5 (4–5), setae located 1/3 from dorsal base; tarsi 5(4–5); empodia em simple 5 (4–5), 5–rayed, tarsi solenidia ω slightly tapered, 7 (6–8), setae ft' 15 (14–16), setae ft" 20 (19–22), setae u' 2–3. **Leg II** 22 (20–23), femur 7 (7–8), setae bv 7 (7–8); genua 3 (3–4), setae l" 7 (6–7); tibiae 3 (3–4); tarsi 5(4–5); empodia em simple 5 (4–5), 5–rayed, tarsi solenidia ω slightly tapered, 7 (6–8), setae ft' 7 (7–9), setae ft" 20 (19–22), setae u' 2–3. **Opisthosoma** with 66 (65–68) dorso–ventrally semiannuli; dorsally with elongate oval microtubercles on posterior

annular margins, ventrally with oval microtubercles on rear annular margins, the last 6th ventral microtubercles linear. Lateral setae c2 19 (18–20), 34 (33–35) apart, on annulus 9 (8–9) from coxae II; setae d 45 (45–51), 27 (27–29) apart, on annulus 20 (19–20); setae e 8 (7–9), 16 (15–17) apart, on annulus 36 (35–37); setae f 21 (20–22), 19 (19–20) apart, on 6th annulus from rear. Setae h2 45 (40–47); setae h1 3 (3–4). **External genitalia** 14 (13–14), 18 (18–19) wide, coverflap with 12–13 longitudinal ridges, setae 3a, 15 (12–17), 12 (12–14) apart. **Male:** (n=5). Similar to female. Body vermiform, 150–160 excluding gnathosoma, 35–38 wide, 35–38 thick; whitish in color. **Gnathosoma** 16–17, chelicerae 16–18, setae ep 3–4, setae d 5–6. **Prodorsal shield** shape and patterns similar to those of the female, 26–27 long, 29–30 wide; Scapular tubercles near the rear shield margin, 16–17 apart, setae sc 13–17, projecting diagonal posteriorly. **Coxigenital area** with granules and short lines, prosternal apodeme present; setae 1b 8–9, 8–9 apart; setae 1a 19–20, 9–10 apart; setae 2a 25–27, 17–18 apart. **Leg I** 21–24, femur 7–8, setae bv 7–8; genua 3–4, setae l" 14–16; tibiae 4–5, setae l' 4–5, setae located 1/3 from dorsal base; tarsi 4–5; empodium em simple 4–5, 5–rayed, ω slightly tapered, 6–8, setae ft' 14–16, setae ft" 19–21, setae u' 2–3. **Leg II** 19–21, femur 6–7, setae bv 6–7; genua 3–4, setae l" 6–7; tibiae 3–4; tarsi 4–5; em simple 4–5, 5–rayed, ω slightly tapered 6–8, setae ft' 6–8, setae ft" 17–20, setae u' 2–3. **Opisthosoma** with 60–64 dorso–ventrally semiannuli; microtubercles shape same that of the female. Lateral setae c2 14–16, 33–34 apart, on annulus 8–9 from coxae II; setae d 34–38, 24–25 apart, on annulus 18–19; setae e 5–8, 15–16 apart, on annulus 31–32; setae f 18–20, 18–20 apart, on 6th annulus from rear. Setae h2 35–42; setae h1 2–3. **External genitalia** 11–12 long, 17–18 wide, with granules, setae 3a 11–13, 13–14 apart.

Nymph: (n=2). Body vermiform, 135–147; width 27–29. **Gnathosoma** 15–18, curved downward, setae ep 2–3, setae d 4–5, chelicerae 14–16. **Prodorsal shield** shape and patterns similar to those of the female, 24–26 long, 29–30 wide. Tubercles sc on rear shield margin, 14–16 apart; sc 13–15 directed forward. **Coxisternal plates** with faint granules, setae 1b 5–7, 7–8 apart; setae 1a 14–16, 8–9 apart; setae 2a 17–20, 15–16 apart. Leg I 18–20, femur 6–7, setae bv 6–7; genua 3, setae l" 14–15; tibiae 3–4, setae l' 3–4, setae located 1/3 from dorsal base; tarsi 3–4; empodium em simple 4–5, 5–rayed, ω slightly tapered, 5–6, setae ft' 10–11, setae ft" 16–17, setae u' 1–2. Leg II 16–17, femur 5–6, setae bv 6–7; genua 3, setae l" 6–7; tibiae 3–4; tarsi 4–5; em 4–5 simple, 5–rayed, ω slightly tapered 6–8, setae ft' 5–6, setae ft" 14–16, setae u' 1–2. **Opisthosoma** with 57–62 dorso–ventrally semiannuli, dorsally with elongate oval microtubercles situated on rear margin of each semiannulus, ventrally annuli with oval microtubercles, situated on rear margin of each semiannulus; elongated on the posterior annuli. Setae c2 13–14, 26–28 apart, on 8 ventral semiannulus; setae d 29–31, 25–26 apart, on 19–20 ventral semiannulus; setae e 6–7, 18–20 apart, on 35 ventral semiannulus; setae f 19–20, 18–20 apart, on 6th semiannulus from rear. Setae h1 1–3; h2 25–35.

Host plants: *Ficus benghalensis* L. and new host *Ficus sycomorus* L., (Moraceae).

Relation to the host plants: Found under scale of open buds, causing discoloration and blasting of buds of F. benghalensis. In this study the first author recorded this mite on buds of *F. sycomorus* causing rusting and blasting of buds.

Geographical distribution: Aswan and Qualyubia Governorates in Egypt.

Material examined: 5 females, 2 males and two nymphs on 2 slides on *F. sycomorus* (Moraceae), are deposited at Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt, 8 October 2018, Qualyubia Governorate 30°15'25.17" N, 31°15'20.33"E; coll. Ashraf Elhalawany. Four females and two males 2 slides, deposited in the mite reference

collection of Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt. Four females and two males 2 slides, deposited at the Collection of the Department of Zoology and Nematology, Faculty of Agricultural, Cairo University, Egypt.

Remarks: The holotype of female was described by Soliman and Abou–Awad, 1977 on *F. sycomorus*. The morphometry of the female appears to match the original description by Soliman and Abou–Awad, 1977. The first record of male and immature stages during this study; also, a new host plant.

***Aceria mori* (Keifer, 1939) (Figure, 7)**

Synonyms: *Eriophyes mori* Keifer, 1939 in Keifer, 1939b: 485. *A. mori* (Keifer) in Keifer 1952:31; *A. mori* (Keifer) in Amrine and Stasny 1994: 66; *A. mori* (Keifer) in Zaher *et al.* , 1984: 92-93.

Redescription: Female: (n=10) Body vermiform, 184 (165–193) long without gnathosoma, 45 (41–52) wide, 47(45–50) thick; whitish in color. **Gnathosoma** 23 (23–25) long, projecting obliquely downwards, basal setae ep 3 (3–4), antapical setae d 6 (5–7), chelicerae 22 (20–22) long**. Prodorsal shield** 31 (31–33) long including short frontal lobe tapering, 38 (38–41) wide; subtriangular; median line incomplete broken at 1/3 and 2/3, admedian and submedian lines complete; lateral of prodorsal shield with granules. Scapular tubercles on rear shield margin, 23 (22–24) apart, setae sc 11 (10–13), projecting posteriorly. Coxigenital area with granules, with 7–8 annuli between coxae and genitalia; setae 1b 8 (7–9), 12 (12–13) apart; setae 1a 20 (18–21), 7 (7–8) apart; setae 2a 32 (29–32), 21 (20–22) apart. **Leg I** 25 (23–26), femur 8 (7–8), setae bv 6 (5–6); genua 5 (4–5), setae l" 21 (20–23); tibiae 5 (4–5), setae l' 4 (4–5), setae located 1/4 from dorsal base; tarsi 6(6–7); empodium em simple 6 (6–7), 5–rayed, tarsi solenidia ω slightly knobbed, 8 (8–9), setae ft' 19 (18–20), setae ft" 25 (25–27), setae u' 2–3. **Leg II** 23 (21–23), femur 7 (7–8), setae bv 6 (5–6); genua 4 (4–5), setae l" 21 (20–23); tibiae 4 (4–5); tarsi 6(6–7); empodium em simple 6 (6–7), 5–rayed, tarsi solenidia ω slightly knobbed, 8 (8–9), setae ft' 11 (8–12), setae ft" 25 (25–27), setae u' 2–3. **Opisthosoma** with 62 (60–65) dorso–ventrally semiannuli; dorsally with elongate oval microtubercles on posterior annular margins, ventrally with oval microtubercles on rear annular margins, the last 6–8th ventral microtubercles linear. Lateral setae c2 22 (20–22), 45 (40–45) apart, on annulus 8 (8–9) from coxae II; setae d 34 (30–36), 31 (30–31) apart, on annulus 16 (16–17); setae e 11 (8–12), 19 (18–20) apart, on annulus 31 (30–32); setae f 18 (17–20), 18 (17–18) apart, on 6th annulus from rear. Setae h2 38 (33–40); setae h1 3 (3–4). **External genitalia** 12 (12–13), 23 (20–24) wide, coverflap with 12 longitudinal ridges, setae 3a 9 (8–9), 14 (14–15) apart. **Male:**(n=6). Similar to female. Body vermiform, 165–198 excluding gnathosoma, 44–50 wide, 40–48 thick; whitish in color. **Gnathosoma** 22–2, chelicerae 20–21, setae ep 3–4, setae d 5–6. **Prodorsal shield** shape and patterns similar to those of the female, 31–33 long, 38–41 wide; Scapular tubercles near the rear shield margin, 23–24 apart, setae sc 10–12, projecting backward. **Coxigenital area** with granules; setae 1b 6–8, 11–12 apart; setae 1a 18–20, 7–8 apart; setae 2a 30–32, 19–21 apart. **Leg I** 24 (23–24), femur 7–8, setae bv 5–6; genua 4–5, setae l" 20–22; tibiae 4–5, setae l' 4–5; tarsi 6–7; em simple 6–7, 5–rayed, tarsi solenidia ω slightly knobbed 8–9, setae ft' 18–20, setae ft" 24–26, setae u' 2–3. **Leg II** 21–23, femur 7–8, setae bv 5–6; genua 4–5, setae l" 20–23; tibiae 4–5; tarsi 6–7; empodium em simple 6–7, 5–rayed, tarsi solenidia ω slightly knobbed, 8–9, setae ft' 8–11, setae ft" 23–25, setae u' 2–3. **Opisthosoma** with 60–63 dorso–ventrally semiannuli; microtubercles shape same that of the female. Lateral setae c2 19–20, 45–48 apart, on annulus 8 from coxae II; setae d 30–32, 31–33 apart, on annulus 16–17; setae e 11–13, 20–21 apart, on annulus 31–32; setae f 21–22, 19–20 apart, on 6th annulus from rear. Setae h2 35–

40; setae h1 2–3. **External genitalia** 13–14 long, 21–22 wide, with granules, setae 3a 8–9, 15–16 apart. **Nymph:** (n=4). Body vermiform, 143–157; width 40–43. **Gnathosoma** 22–23, curved downward, setae ep 2–3, setae d 4–5, chelicerae 19–21. **Prodorsal shield** shape and patterns similar to those of the female, 29–30 long, 36–38 wide. Tubercles sc on rear shield margin, 21–22 apart, setae sc 7–8, directed backward. **Coxisternal plates** with faint granules, setae 1b 7–8, 11–12 apart; setae 1a 16–17, 7–8 apart; setae 2a 22–25, 19–21 apart; setae 3a 3–4, 5–6 apart. **Leg I** 17–18, femur 6–7, setae bv 3–4; genua 3–4, setae l" 14–15; tibiae 3–4, setae l' 3–4; tarsi 3–4; empodium em simple 3–4, 4–rayed, ω slightly knobbed, 5–6, setae ft' 11–12, setae ft" 14–15, setae u' 1–2. **Leg II** 15–17, femur 5–6, setae bv 3–4; genua 3, setae l" 5–6; tibiae 3–4; tarsi 3–4; em 3–4 simple, 4–rayed, ω slightly knobbed 5–6, setae ft' 7–8, setae ft" 16–18, setae u' 1–2. **Opisthosoma** with 44–49 dorso–ventrally semiannuli, microtubercles shape similar to that of the female. Setae c2 10–11, 33–34 apart, on 8 ventral semiannulus; setae d 24–26, 30–31 apart, on 15–16 ventral semiannulus; setae e 10–12, 25–27 apart, on 28 ventral semiannulus; setae f 10–12, 19–21 apart, on 6th semiannulus from rear. Setae h1 1–3; h2 30–35.

Host plants: *Morus alba* L. (Moraceae).

Relation to the host plants: Injuring mulberry buds and causing rusting of the buds.

Geographical distribution: Armenia; Egypt; India; Italy; South Africa; USA.

Material examined: 10 females, 3 males and two nymphs on 5 slides from *M. alba* (Moraceae), deposited at Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt,, 5 May 2017, Sharkia Governorate, 30°23'51.96"N, 31°32'57.06"E, 25 April 2016, coll. Amira Mesbah. Four females and four males on 2 slides from Tanan, Qalyubia Governorate, 30°14'48.37"N, 31°12'59.72"E, 25 May 2018, coll. Ashraf Elhalawany, deposited in Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt. Five females and three males on 2 slides from deposited at the Collection of the Department of Zoology and Nematology, Faculty of Agricultural, Cairo University, Egypt.

Remarks: The holotype of female was described by Keifer, 1939 on *M. alba* in USA. The morphometry of the female appears to match the original description by Keifer, 1939 and 1952. The first record of male and immature stages during this study.

***Aceria sycamori* (Soliman and Abou–Awad, 1977) (Figure, 8)**

Synonyms: *Eriophyes sycamori* Soliman & Abou–Awad, 1977:672-673; *Aceria sycamori* (Soliman & Abou–Awad, 1977) in Ueckermann, 1991:5; *A. sycamori* (Soliman and Abou–Awad, 1977) in Amrine and Stasny, 1994: 90; *A.* sycamori (Soliman and Abou–Awad, 1977) in Zaher, 1984: 91-92.

Redescription: Female: (n=9) Body vermiform, 185 (178–190) long without gnathosoma, 40 (38–42) wide, 37(36–38) thick; whitish in color. **Gnathosoma** 20 (17–22) long, projecting obliquely downwards, basal setae ep 3 (3–4), antapical setae d 5 (5–6), chelicerae 16 (15–16) long. **Prodorsal shield** 31 (29–32) long including short frontal lobe tapering, 36 (32–38) wide; subtriangular; median line complete with dart shape marks at base, broken at 1/2 in two parts; admedian and submedian lines in complete, parallel; area between submedian lines with heavy granules and short lines. Scapular tubercles on rear shield margin, 16 (16–17) apart, setae sc 16 (15–17), projecting posteriorly. **Coxigenital area** with granules, with 8 annuli between coxae and genitalia; setae 1b 8 (8–9), 10 (9–10) apart; setae 1a 21 (21–23), 8 (8–9) apart; setae 2a 25 (25–32), 20 (18–20) apart. **Leg I** 27 (27–29), femur 9 (8–9), setae bv 7 (7–8); genua 4 (4–5), setae l" 23 (22–25); tibiae 4 (4–5), setae l' 4 (4–5), setae located 1/4 from dorsal base; tarsi 6(6–7); empodium em simple 5 (5–6), 6–rayed, tarsi solenidia ω slightly knobbed, 7 (6–7),

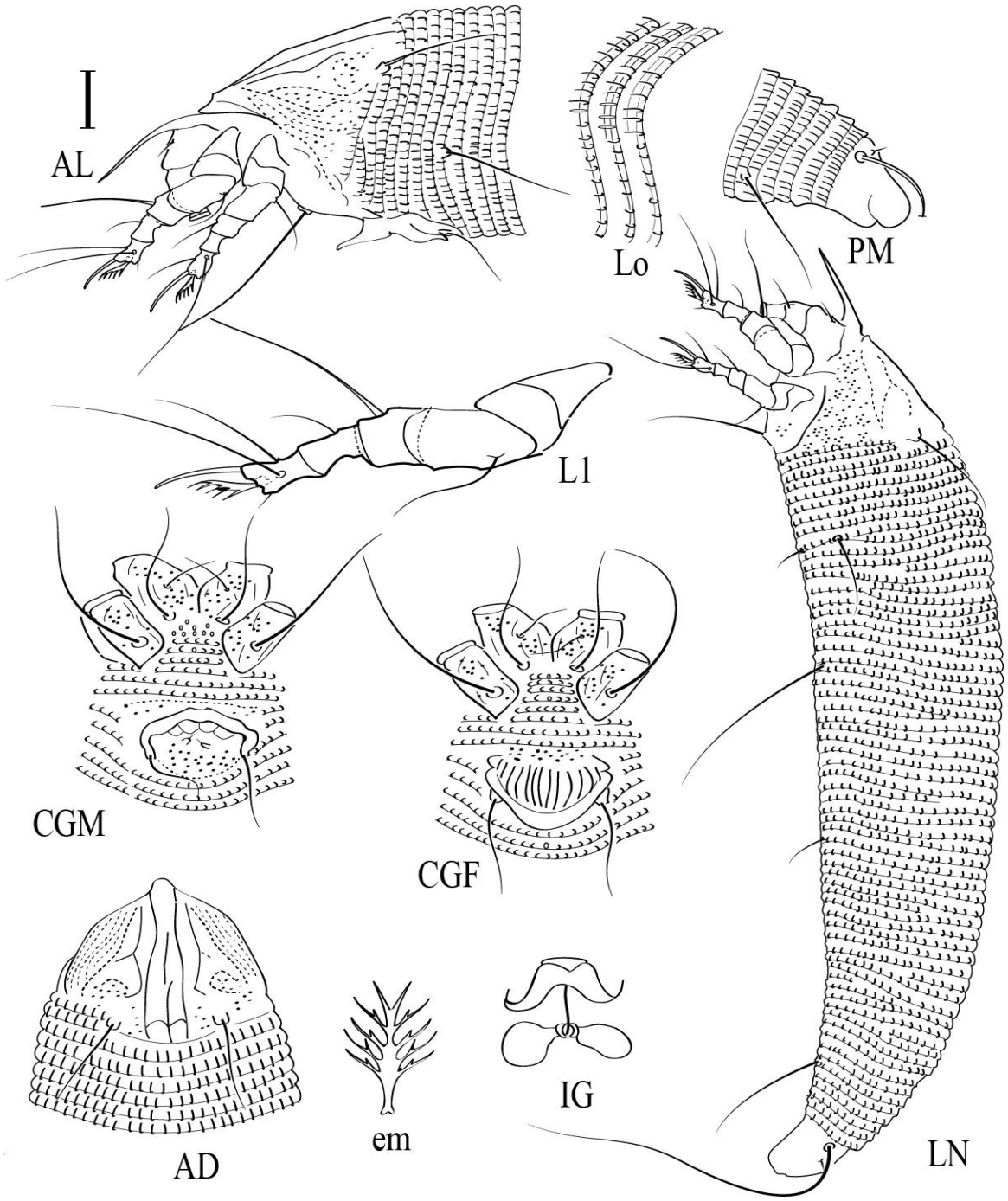

Figure (6): Line drawings of *Aceria benghalensis* (Soliman and Abou–Awad): AD, anterio–dorsal mite; AL, anterio–lateral mite; PM, postero–lateral mite; CGF, coxi–genital region of female; CGM, coxi–genital region of male; em, empodium; IG, internal female genitalia; LN, lateral nymph. Scale bars: 10µm for AD, AL, PM, CGF, CGM, IG, LN; 2.5µm for em.

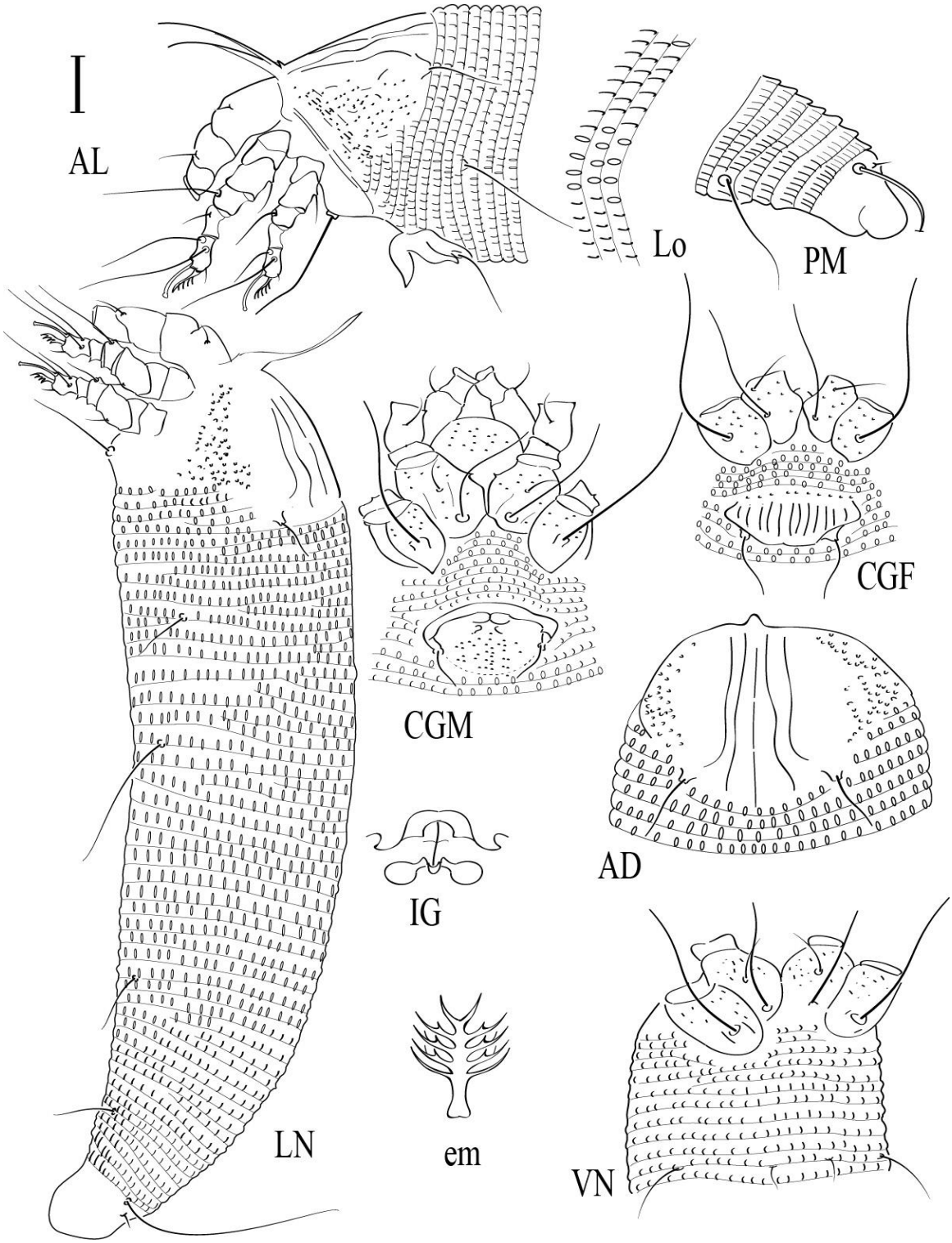

Figure (7): Line drawings of *Aceria mori* (Keifer): AL, anterio–lateral mite; PM, postero–lateral mite; AD, anterio–dorsal mite; CGF, coxi–genital region of female; CGM, coxi–genital region of male; em, empodium; IG, internal female genitalia; LN, lateral nymph; VN, ventral nymph. Scale bars: 10µm for AL, PM, AD, CGF, CGM, IG, LN, VN; 2.5µm for em.

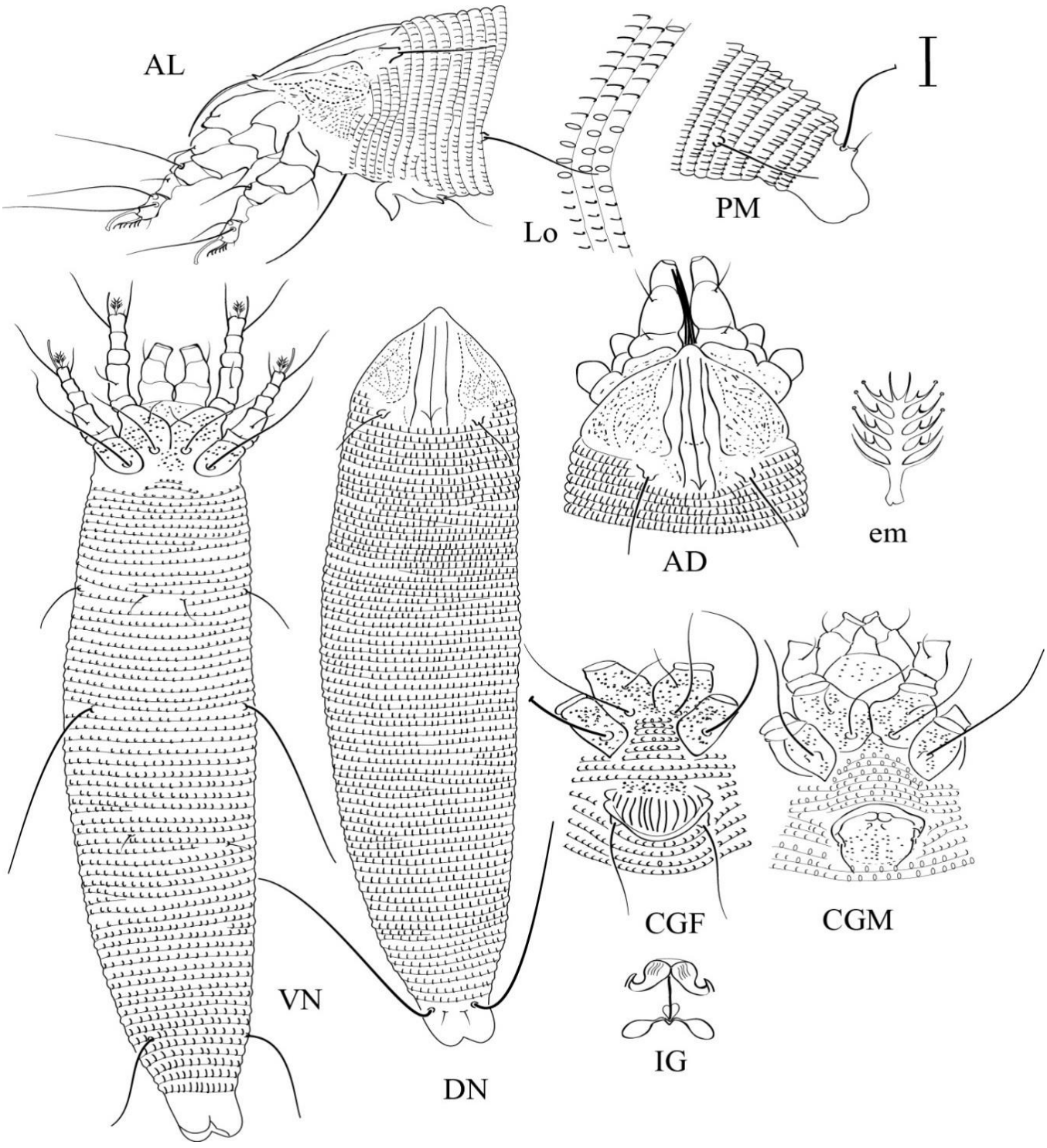

Figure (8): Line drawings of *Aceria sycamori* (Soliman and Abou–Awad): AL, anterio–lateral mite; PM, postero–lateral mite; AD, anterio–dorsal mite; CGF, coxi–genital region of female; CGM, coxi–genital region of male; em, empodium; IG, internal female genitalia; DN, dorsal nymph; VN, dorsal nymph. Scale bars: 10µm for AL, PM, AD, CGF, CGM, IG, DN, VN; 2.5µm for em.

setae ft' 21 (20–22), setae ft" 26 (25–27), setae u' 2–3. **Leg II** 23 (22–26), femur 7 (7–8), setae bv 5 (5–6); genua 4 (4–5), setae l" 9 (9–11); tibiae 4 (4–5); tarsi 5(5–6); em simple 5 (5–6), 6–rayed, ω slightly knobbed, 8 (7–8), setae ft' 8 (7–10), setae ft" 18 (18–20), setae u' 2–3. **Opisthosoma** with 75(75–77) dorsal semiannuli; with elongate oval microtubercles on posterior annular margins, with 71(71–73) narrow ventral semiannuli, with oval microtubercles on rear annular margins, the last 8th ventral microtubercles linear. Lateral setae c2 21 (18–21), 31 (30–32) apart, on annulus 11 (10–11) from coxae II; setae d 40 (35–41), 28 (27–29) apart, on annulus 24 (24–25); setae e 18 (18–19), 16 (16–18) apart, on annulus 42 (42–44); setae f 19 (19–20), 22 (22–23) apart, on 6th annulus from rear. Setae h2 47 (45–50); setae h1 3 (3–4). **External genitalia** 13 (13–15), 19 (19–21) wide, coverflap with 11–13 longitudinal ridges, with granules at base; setae 3a 20 (17–20), 16 (16–17) apart. **Male:** (n=7). Similar to female. Body vermiform, 144–150 excluding gnathosoma, 31–33 wide, 32–34 thick; whitish in color. **Gnathosoma** 17–18, chelicerae 15–16, setae ep 3–4, setae d 5–6. **Prodorsal shield** shape and patterns similar to those of the female, 25–27 long, 25–28 wide; Scapular tubercles near the rear shield margin, 16–17 apart, setae sc 13–14, projecting diagonal posteriorly. **Coxigenital area** with granules, with 7 annulus between coxae and genitalia; setae 1b 5–6, 13–14 apart; setae 1a 21–22, 7–8 apart; setae 2a 25–30, 20–21 apart. **Leg I** 20–22, femur 6–7, setae bv 5–6; genua 4–5, setae l" 22–24; tibiae 4–5, setae l' 4–5, setae located 1/4 from dorsal base; tarsi 4–5; empodium em simple 5–6, 6–rayed, tarsi solenidia ω slightly knobbed, 6–7, setae ft' 18–20, setae ft" 22–24, setae u' 2–3. **Leg II** 18 –19, femur 5–6, setae bv 5–6; genua 3–4, setae l" 8–10; tibiae 4–5; tarsi 4–5; em simple 5–6, 6–rayed, ω slightly knobbed, 7–8, setae ft' 8–9, setae ft" 19–23, setae u' 2–3. **Opisthosoma** with 64–66 dorsal semiannuli, and 60–61 ventral semiannuli, microtubercles shape same that of the female. Lateral setae c2 16–18, 30–32 apart, on annulus 10–11 from coxae II; setae d 34–38, 27–28 apart, on annulus 19–20; setae e 5–6, 14–15 apart, on annulus 31–32; setae f 18–20, 18–20 apart, on 6th annulus from rear. Setae h2 25–38; setae h1 2–3. **External genitalia** 11–12 long, 14–17 wide, with granules, setae 3a 6–9, 11–12 apart. **Nymph:** (n=4). Body vermiform, 158–164; width 30–31. **Gnathosoma** 17–18, curved downward, setae ep 2–3, setae d 4–5, chelicerae 15–16. Prodorsal shield shape and patterns similar to those of the female, 25–26 long, 25–27 wide. Tubercles sc on rear shield margin, 16–17 apart, setae sc 11–12, directed backward. **Coxisternal plates** with faint granules setae 1b 5–6, 12–13 apart; setae 1a 21–22, 7–8 apart; setae 2a 22–28, 20–21 apart; setae 3a 4–5. **Leg I** 20–21, femur 7–8, setae bv 4–5; genua 3–4, setae l" 10–12; tibiae 4, setae l' 2–3, setae located 1/3 from dorsal base; tarsi 4–5; empodium em simple 4–5, 4–rayed, ω slightly tapered, 5–6, setae ft' 10–12, setae ft" 13–15, setae u' 1–2. **Leg II** 17–18, femur 6–7, setae bv 4–5; genua 3, setae l" 6–8; tibiae 3; tarsi 3–4; em 4–5 simple, 4–rayed, ω slightly tapered 6–8, setae ft' 5–6, setae ft" 12–14, setae u' 1–2. **Opisthosoma** with 65–70 dorsal semiannuli, and 58–60 ventral semiannuli, microtubercles shape same that of the female. Setae c2 10–11, 29–30 apart, on 12 ventral semiannulus; setae d 35–37, 25–26 apart, on 21–22 ventral semiannulus; setae e 4–5, 17–18 apart, on 34 ventral semiannulus; setae f 20–21, 16–17 apart, on 6th semiannulus from rear. Setae h1 2–3; h2 41–45.

Host plants: *Ficus sycomorus* L. (Moraceae). **Relation to the host plants:** This mite found was found in blister on the lower leaf surface of sycamore

Geographical distribution: Egypt.

Material examined: Ten females, 5 males and 2 nymphs on 2 slides from *F. sycomorus* (Moraceae), deposited at the Plant Protection Research Institute collection, Giza, Egypt, 10 June 2018, Qualyubia governorate, 31°15'19.73"N, 30°15'25.21"E coll. Ashraf

Elhalawany, deposited in Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt, 30° 2'42.51"N, 31°12'30.77"E, 5 August 2018 coll. Ashraf Elhalawany, deposited in Fruit Trees Acarology Research Department, Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt. Four females on 2 slides from deposited at the collection of the Department of Zoology and Nematology, Faculty of Agricultural, Cairo University, Egypt.

Remarks: The holotype of female was described by Soliman and Abou–Awad, 1977 on *F. sycomorus*. The morphometry of the female appears to match the original description by Soliman and Abou–Awad, 1977. The first record of male and immature stages during this study.

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