

FOUR NEW SPECIES OF RHAGIDIID MITES FROM EGYPT (ACARI: EUPODOIDEA : RHAGIDIIDAE)

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SUMMARY: Four rhagidiid mites, *Neothoria zacharda* n.sp., *Robustocheles (R.) deltacus* n.sp., *Foveacheles (F.) lemoni* n.sp. and *Rhagidia (R.) qualiubeinsis* n.sp. are described and illustrated.

INTRODUCTION

Mites of the Superfamily Eupodoidea (Acari: Prostigmata) are fungivorous, phytophagous or predatory. They are distributed throughout the world and have colonized a wide variety of terrestrial habitats. Predatory mites of the family Rhagidiidae were discovered by biospeleologists by the second half of the 19th century, e.g. *Poecilophysis spelaea* (Wankei 1861) and *P. weyerensis* (Packard 1888). The majority of rhagidiids are soil forms, but at present about 30% of the species are cavernicolous forms seemingly concentrated in the Holarctic region (ZACHARDA & ELLIOTT 1981). A comprehensive study of the Rhagidiidae was undertaken to supplement the only previous work by ABOU-AWAD (1985) and ABOU-AWAD & EL-BAGOURY (1984). The present paper gives descriptions of four new species belonging to genera *Neothoria*, *Robustocheles*, *Foveacheles* and *Rhagidia*.

MATERIAL AND METHODS

Specimens were mounted using HOYER's media. Body length of specimens was measured from the

posterior margin of the idiosoma to the anterior margin of the naso. Body width was measured as the distance between setae *c2* and the lateral margins of the body. Setal lengths represent the distance from the setal base to the tip. All dimensions are given as micrometers. Terminology follows that proposed by LINDQUIST & ZACHARDA (1987) and BAKER (1990), who applied new descriptive formats and morphological terminologies to the Rhagidiidae, largely based on the works of GRANDJEAN (for example, 1934, 1939). Measurement criteria follow those of ZACHARDA (1980). Abbreviations are as follows:

- **Prodorsal setae:** internal vertical (*iv*), external vertical (*ev*), trichobothria (T), scapular (*sc*); opisthosomal setae: internal humeral (*c1*), external humeral (*c2*), first dorsal (*d1*), second dorsal (*e1*), internal lumbar (*f1*), external lumbar (*f2*), internal sacral (*h1*), external sacral (*h2*);
- **Gnathosomal setae:** basal subcapitular setae (*sbc1*), apical subcapitular setae (*sbc2*), cheliceral setae (*cha*);
- **Genital region:** aggenital setae (*ag*), genital setae (*g*);

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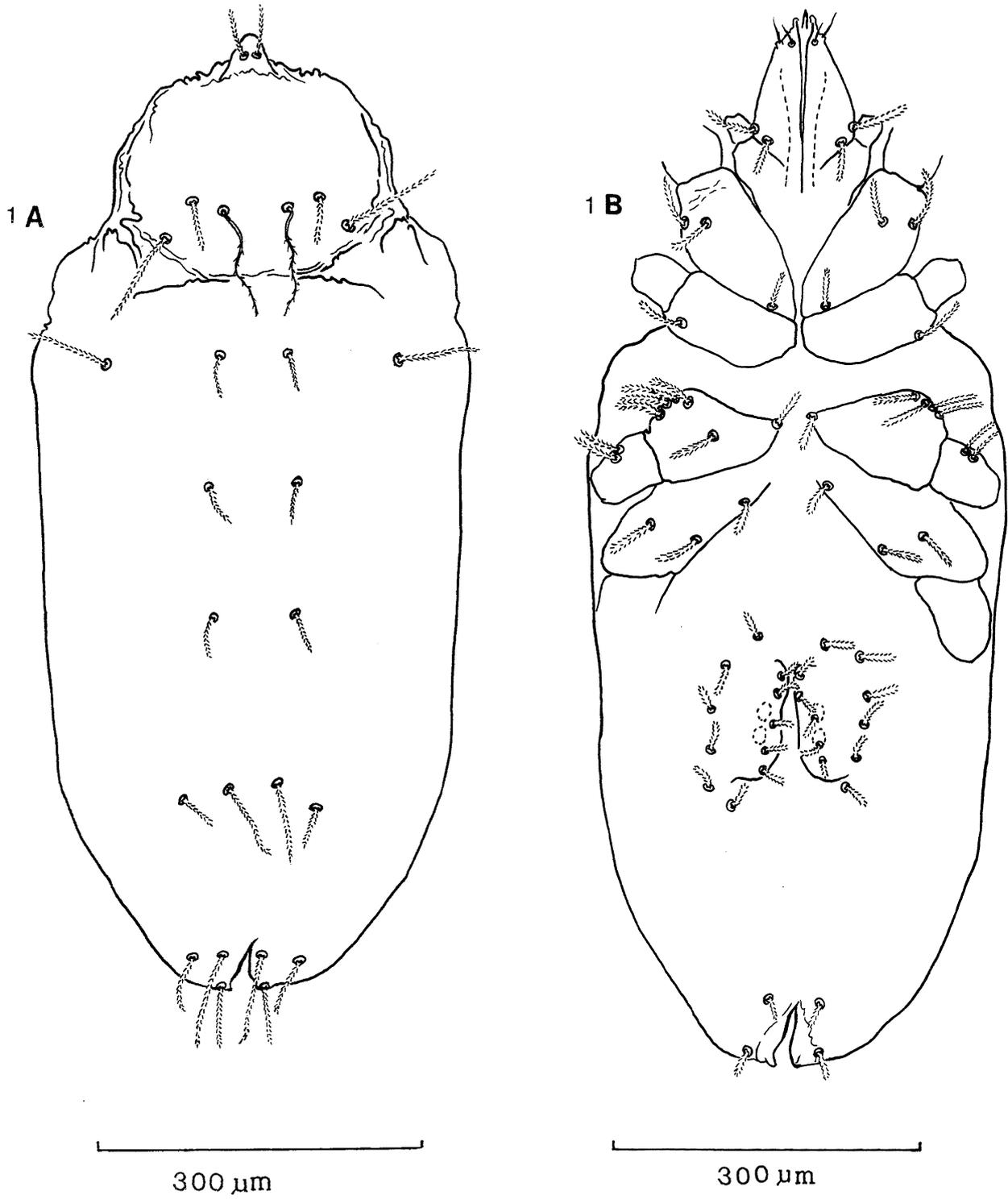


FIG. 1. — *Neothoria zacharda* n. sp. female: 1A. — Dorsal idiosoma. 1B. — Ventral idiosoma.

FAMILY RHAGIDIIDAE Oudemans, 1922

Genus *Neothoria* ABOU-AWAD

& EL-BAGOURY, 1984.

Neothoria zacharda n. sp.

(FIGS. 1-4)

Affinites: This species is related to *N. niloticus* Abou-Awad & El-Bagoury but it can be distinguished by leg I and IV shorter than body; sejugal furrow indistinct; famulus tarsus I located between 1st and 2nd rhagidial solenidia; tibia II with one dorsodistal lanceolate solenidion and spiniform seta; opithosomal setae *cl* equal to *dl*, *el* and *fl*; 6 pairs of aggenital setae; proportion of chelicerae and internal distances of idiosomal setae are relatively different.

FEMALE. — (FIGS. 1-4). Body length 900, body width 405. Idiosoma not clearly divided, prodorsum roundish, opisthosoma without clear shoulders and semi coneshaped posteriorly. Subcapitulum (FIG. 2A) conical shaped, with two pairs of smooth eupathidial adorsal setae occur apically, external pair *or1* about 2X as long as the internal pair *or2*. Subcapitulum with two subcapitular setae, *sbc2* $\frac{2}{3}$ as long as *sbc1*, both of setae tend toward ciliated clavate; length of subcapitulum 150, width 92, ratio length to width 1.63.

Palp (FIG. 2B) four-segmented, terminally slightly slender, tarsi with ten ciliated setae and spiniform solenidion; length of tarsus 68, width 29, ratio length to width 2.34; tibia $\frac{1}{3}$ as long as femorogenu; palpal setal formula: 0-2-3-10. Chelicera (FIG. 2C) long, digitus fixus with only one seta distally, smooth along masticatory surface, fixed digit terminates in 3 cusps; inner margin of digitus mobilis smooth; length of cheliceral seta 29, far from articulation of movable digit; length of chelicera 205, width 66, ratio length to width 3.11; length of movable digit 97, width 31, ratio length to width 3.13; ratio length of movable digit to length of chelicera 0.47; ratio length of movable digit to width of chelicera 1.47.

Dorsal idiosoma (FIG. 1A). — Sejugal furrow indistinct, although a faint broken line just below of the prodorsum posterior margin, naso, subtriangular lobe but delimited by faint sinuate line. Prodorsum

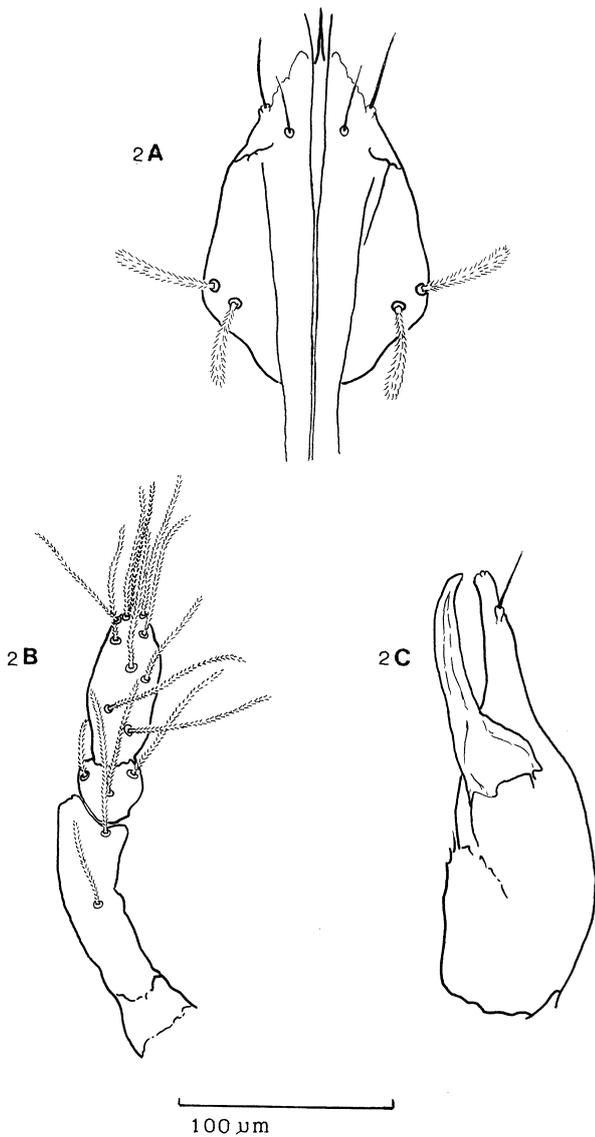


FIG. 2. — *Neothoria zacharda* n. sp. female: 2A. — Subcapitulum. 2B. — Palp. 2C. — Chelicera.

- **Anal region:** adanal setae (*a*); pseudanal setae (*ps*),
- **Lyrifissure** (*ih*);
- **Podosomal region:** coxal setae (*1a*, *1b-c*, *2a*, *3a*, *3b-d*, *4a*, *4b-c*);
- **Legs:** famulus tarsus I, famulus tarsus II, famulus tibia I. The holotype and paratypes of the new species are deposited in the Plant Protection Department, National Research Center.

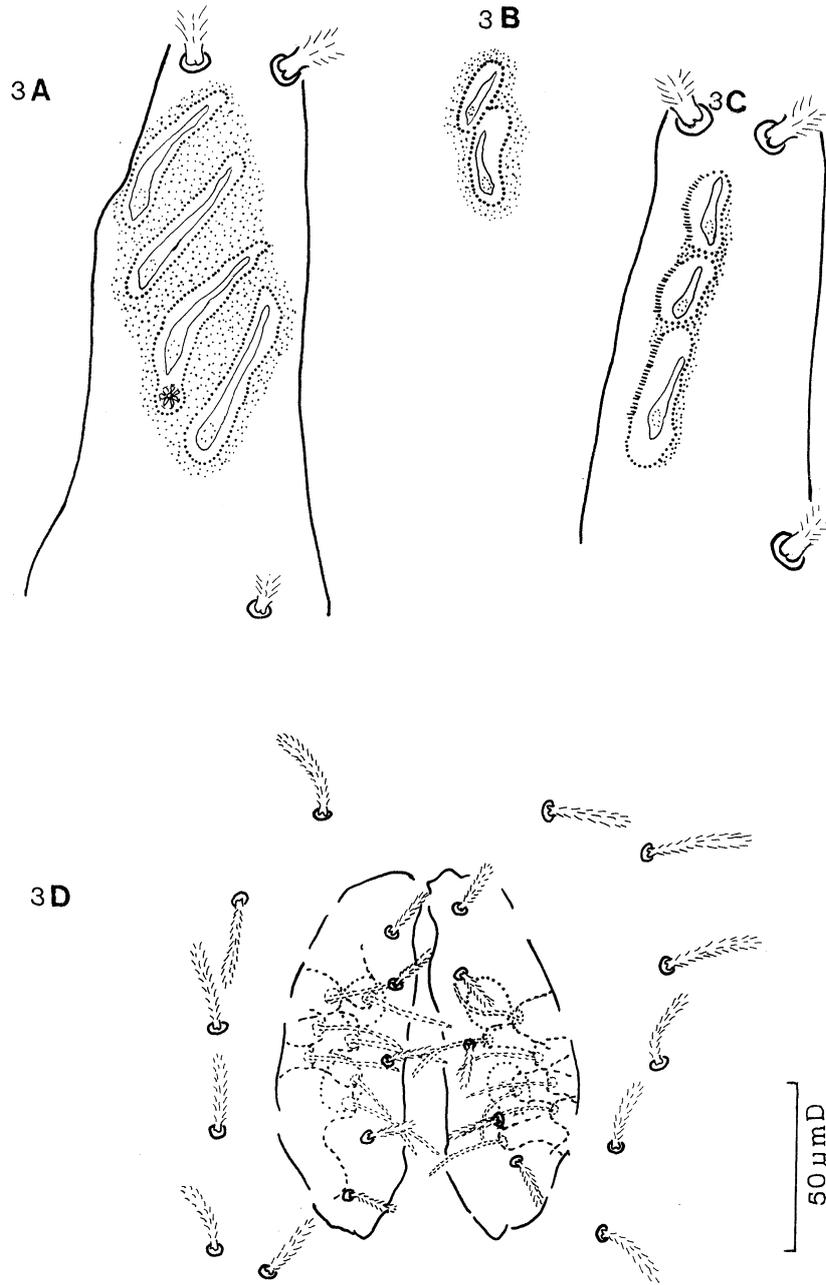


FIG. 3. — *Neothoria zacharda* n. sp. female: 3A. — Tarsus I. 3B. — Famulus tibia I. 3C. — Tarsus II. 3D. — Female genitalia

with four ciliated setae: *iv* 41, inserted at half of naso, *ev* equal to *iv*, *T* 95, *sc* 86. Internal distance of pro-dorsal setae: *iv-iv* 9, *ev-ev* 2X as long as *T-T*, *sc-sc* 158. Opisthosoma bears eight pairs of ciliated setae: *c1* 36 equal to *dl*, *e1* and *f2*; *f1* 63; *c2* 72 subequal to *h1*; *h2* 50. Internal distance: *c1-c1* 63; *c1-c2* 99; *c2-c2*

261; *c1-d1* equal to *dl-e1*; *dl-d1* equal to *e1-e1*; *e1-f1* 126; *f1-f1* equal to *h1-h1*; *f1-h1* 106. Lyrifissures indistinct.

Ventral idiosoma (FIG. 1B). — Coxae in two distinct groups. Trochanteral formula 1-1-2-2. Epimeral formula I-IV: 3-1-5-3. Inner seta of coxa I *1a*

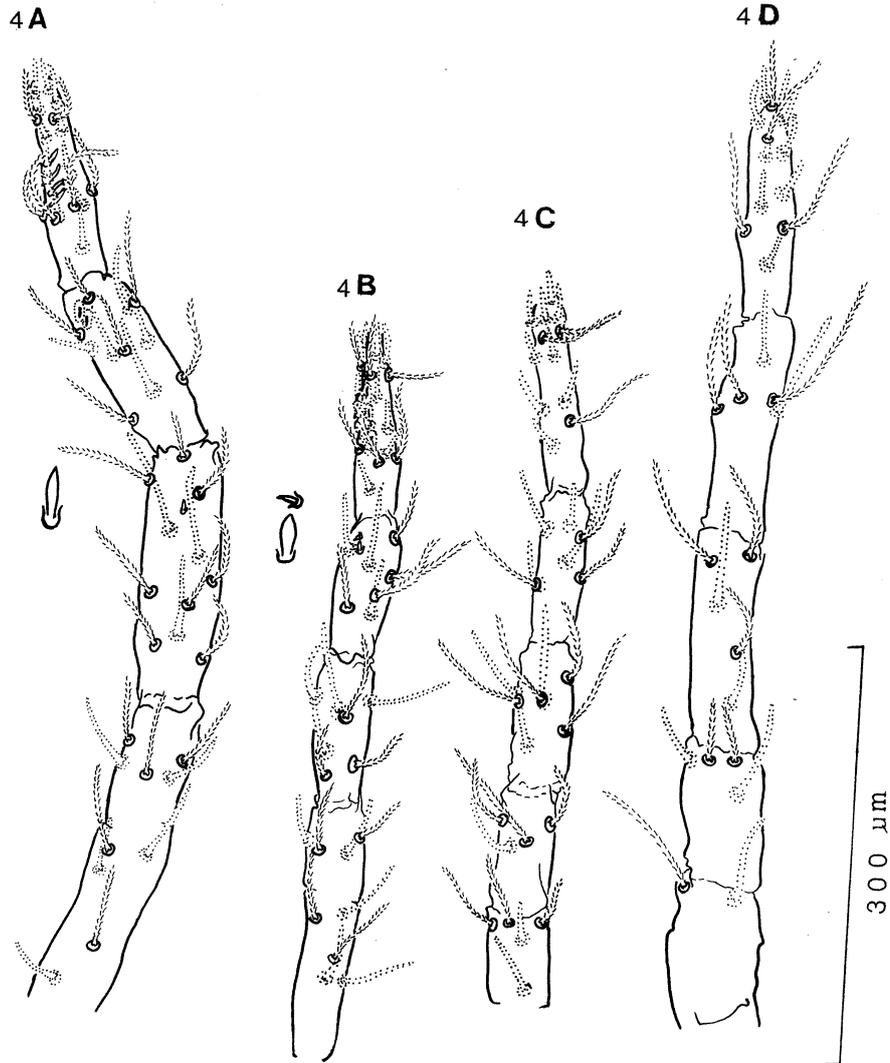


FIG. 4. — *Neothoria zacharda* n. sp.: Legs I, II, III & IV, femur to tarsus.

subequal to *1b* and about $\frac{2}{3}$ as long as outer seta *1c*. Genital region (FIG.3D) with six pairs of aggenital setae, each genital flap with 5 pairs of genital setae. Length of genital cover flaps or progenital lips 108. Aggenital setae longer than genital ones. Setae of genital region tend toward clavate. Anal pore terminal, with three pairs of pseudanal ciliated clavate setae; *ps3* 25 longer than *ps2*, *ps1* 44, the longest.

LEGS (FIG. 4). — With finely ciliated setae. Leg I and IV shorter than the body. Femora I and II partially divided, but III and IV divided.

Leg chaetotaxy (adult):

Tarsus	Tibia	Genu	Femur	
17	11	11	10	I
17	7	7	9	II
12	7	7	9	III
13	5	5	6	IV

Measurements of leg segments:

Total	Tarsus	Tibia	Genu	Femur	Troch	
713	149	113	185	221	45	I
541	131	90	108	167	45	II
532	122	108	99	149	54	III
703	144	140	144	212	63	IV

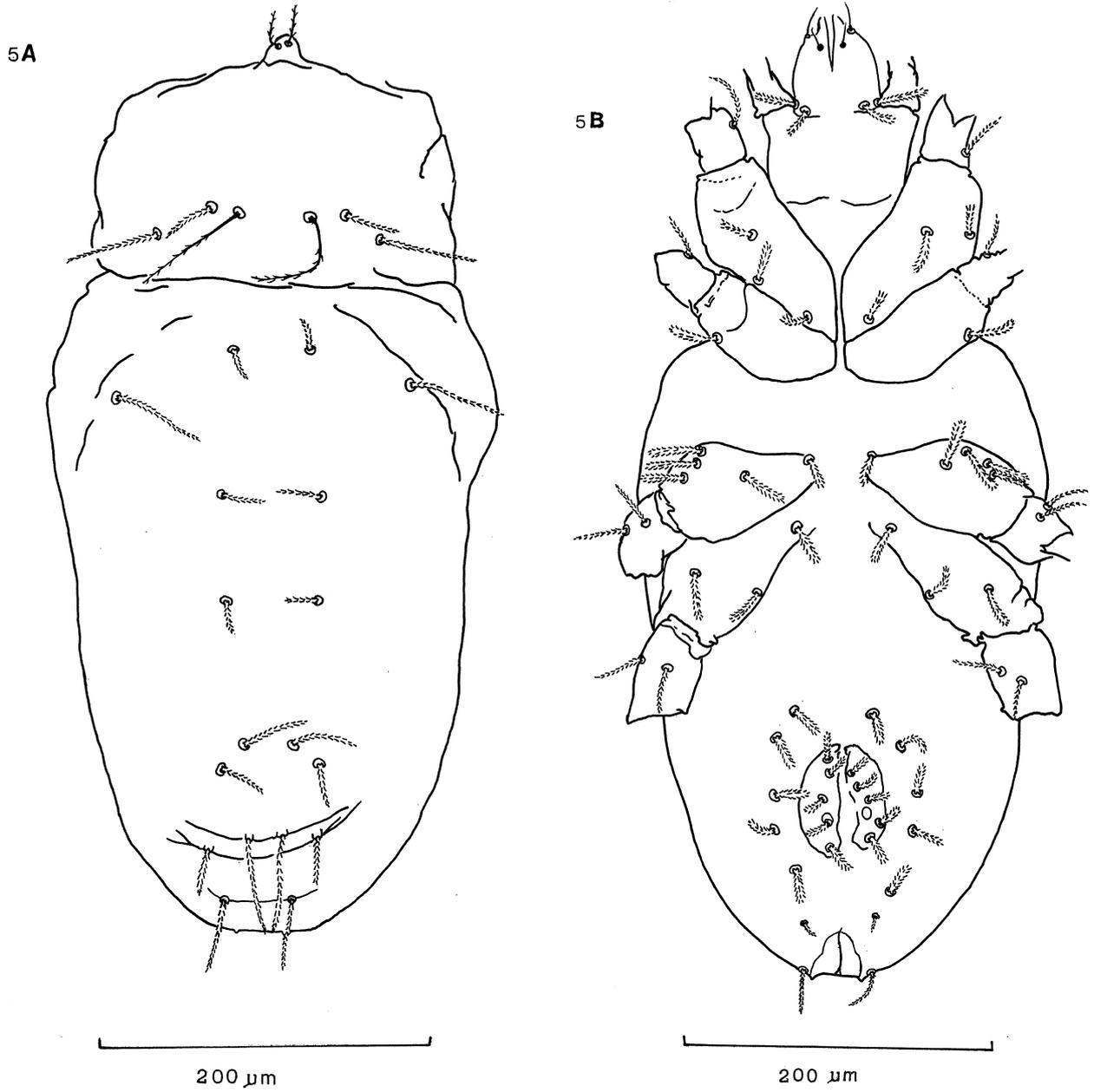


FIG. 5. — *Robustocheles (R) deltacus* n. sp. female: 5A. — Dorsal idiosoma, 5B. — Ventral idiosoma.

Length of tarsus I 149; width 36, ratio length to width 4.13.

Length of tarsus II 131; width 27, ratio length to width 4.85.

Tarsus I (FIG. 3A) with four separated oblique rhagidial solenidia, parallel to each other. Famulus of tarsus I present. Tarsus II (FIG. 3C) with three rhagidial solenidia, arranged serially.

Tibia I (FIG. 3B) with two dorsodistal solenidia. Genu I with one ventral lanceolate solenidion. Tibia II with one dorsodistal lanceolate solenidion and spiniform seta. Apotele. Claw longer than pad – like empodium

Material examined. — Holotype ♀, El-Bosely, El-Behera region, soil depth 0-5 cm, under guava trees, B. A. ABOU-AWAD, 11.XII.1999.

ETYMOLOGY. — The mite is named for Czechoslovakian acorologist MILOSLAV ZACHARDA who significantly contributed to our recent knowledge of the family Rhagidiidae.

Genus *Robustocheles* Zacharda, 1980

Robustocheles (Robustocheles) deltacus n. sp.
(FIGS. 5–8)

Affinites: *R. (R.) deltacus* is similar in appearance to *R. mucronata* (Willman) (comb. n. ZACHARDA, 1980), but differs consistently from the latter by leg I longer than body, whereas in *R. mucronata* it is always shorter. The distance between bases of proximal and distal cheliceral setae are shorter than those of *R. mucronata*; length and width of chelicerae and palpal tarsus as well as their ratios are different. Rhagidial solenidia only on tarsus and tibia of leg I and II.

FEMALE (FIGS. 5–8). Length of body 509–585. Width of body 225–306. The type specimen is 554 long, 270 wide. Idiosoma clearly divided, prodorsum subtriangular, opisthosoma with clear shoulders anteriorly and broadly rounded posteriorly.

Subcapitulum (FIG. 6A), slender, oval; distal hypostomal lips with spiniform internal and serrate external malar processes, with two pairs of smooth eupathidial adorsal setae nude occur apically, external pair *or1* slightly shorter than the internal pair *or2*; proximal subcapitular setae ciliate and tend toward clavate, *sbc2* slightly shorter than *sbc1*; length of

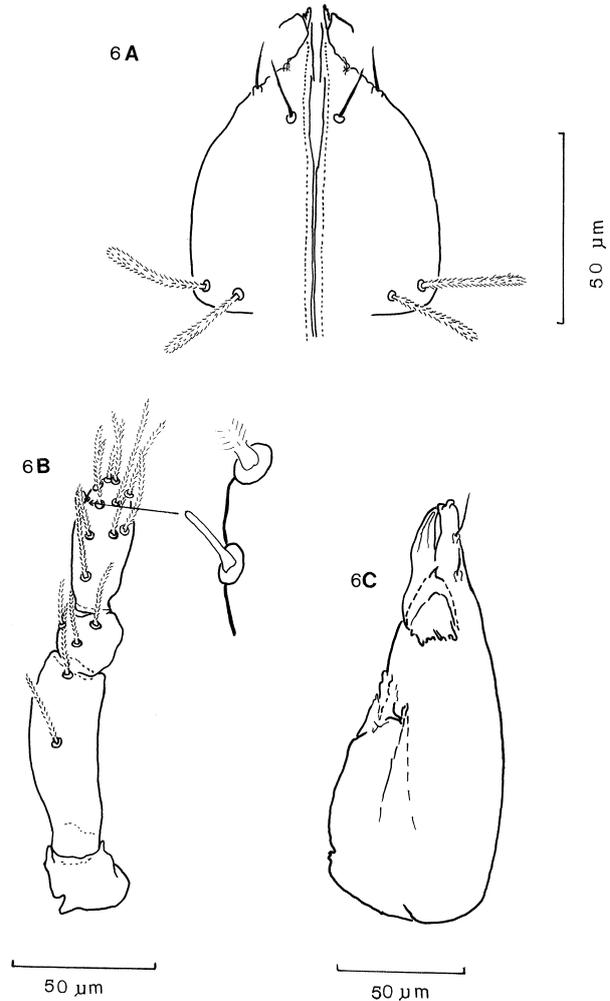


FIG. 6. — *Robustocheles (R.) deltacus* n. sp. female: 6A. — Subcapitulum, 6B. — Palp, 6C. — Chelicera.

subcapitulum 81 (55–81), width 63 (57–77), ratio length to width 1.29 (0.82–1.29).

Palp (FIG. 6B). Palpal setal formula and spiniform solenidion (in parentheses) 0–2–3–10 (1). Tarsus of palp robust and slender. Length of tarsus 46, width 20, ratio length to width 2.30. Chelicera (FIG. 6C). Fixed digit terminates in 3 cups; movable digit serrate, *cha* seta inserted distal of articulation of movable digit, tip of *cha* seta does not reach insertion of *chb* seta; distance between their insertions 15. Length of chelicera 171, width 63; ratio length to width 2.71. Length of movable digit 54, width 18, ratio length to width 3. Ratio length of movable digit to length of chelicera 0.32; ratio length of movable digit to width of chelicera = 0.86.

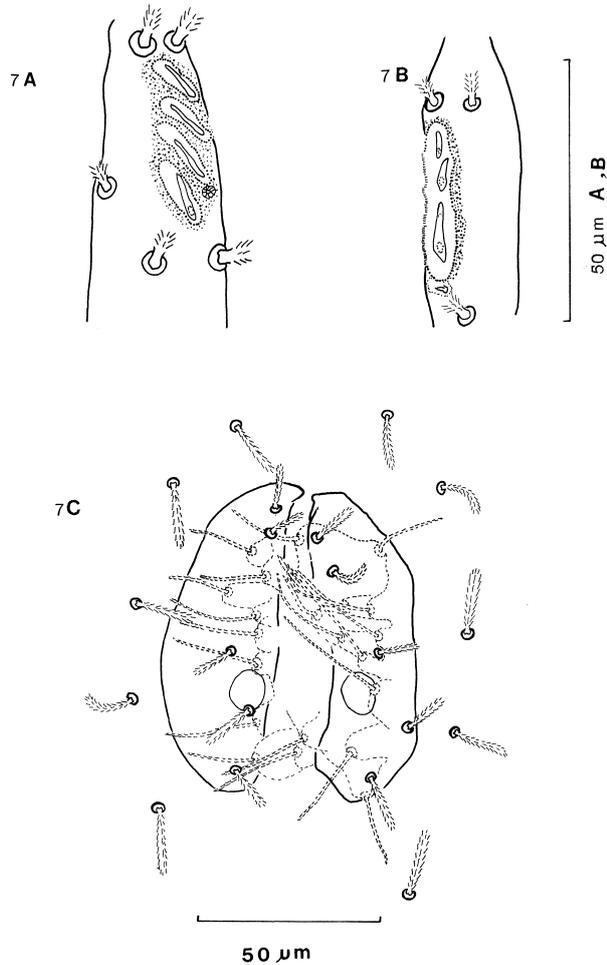


FIG. 7. — *Robustocheles (R) deltacus* n. sp. female: 7A. — Famulus tarsus I. 7B. — Famulus tarsus II. 7C. — female genitalia.

Dorsal idiosoma (FIG. 5A). — Sejugal furrow visible, represented by broken line. Naso, a clear subtriangular lobe. Prodorsum with four pairs of prodorsum setae: *iv* 23, *ev* 32, *sc* 59, about $\frac{3}{4}$ the length of *T*. Internal distance of prodorsum setae: *iv-iv* 4, *ev-ev* 79, *T-T* 43 and $\frac{1}{3}$ as long as *sc-sc*. Opisthosoma with eight pairs of ciliated setae: *c1* equal to *e1*, *dl* equal to *f2*, *h2* 27, *c2* subequal to *h1*, *f1* 41. Internal distance: *c1-c1* 44, *c2-c2* 176, *dl-dl* 59, *e1-e1* 53, *c1-c2* 70, *c1-d1* 90, *dl-e1* 66, *e-f1* 88, *f1-f1* 29, *f1-h1* 53, *h1-h1* 22.

Ventral idiosoma (FIG. 5B). — Coxae in two groups defined. Trochanteral setal formula: 1-1-2-2. Epimeral formula I-IV: 3-1-5-3. Inner seta of coxa I (*1a*) equal to outer seta (*1c*), medial seta (*1b*) the longest.

Genital region (FIG. 7C) with five pairs of aggenital setae, each genital flap with five finely pubescent setae of similar length. Length of genital cover flaps 86. Anal pore terminal, with three pairs of pseudanal ciliated setae, *ps3* $14\frac{1}{2}$ as long as *ps2*, *ps1* 45, the longest.

Legs (FIG. 8.). — With finely ciliated setae. Leg I 599, about 1.08 as long as idiosoma. Femora I and II partially divided, but III and IV divided.

Leg chaetotaxy (adult):

Tarsus	Tibia	Genu	Femur	
17	11	11	10	I
16	6	8	11	II
14	6	7	8	III
15	6	7	6	IV

Measurements of leg segments:

Total	Tarsus	Tibia	Genu	Femur	Troch.	
599	99	104	171	180	45	I
441	99	90	81	135	36	II
433	117	77	90	122	27	III
528	122	95	104	162	45	IV

Length of tarsus I 90, width 32, ratio length to width 3.09. Length of tarsus II 99, width 23, ratio length to width 4.30. Tarsus I (FIG. 7A) with four rhagidial solenidia lying obliquely in separate pits, famulus tarsus I inserted between first and second proximal rhagidial solenidia. Tarsus II (FIG. 7B), with three rhagidial solenidia lying in tandem in confluent depressions, famulus tarsus II just behind proximal rhagidial solenidion. Tibia I with one dorsodistal erect spiniform solenidion lying proximal of one dorsodistal rhagidial solenidion. Tibia II with one small lanceolate dorsodistal solenidion. Apotele. Empodia broadly oval in dorsoventral view, not overlapping tip of claws

Material examined. — Holotype ♀, Fac. of Agric., Ain-Shams Univ. El-Qalubiya, regularly occurring in winter, under casuarine trees, B. A. ABOU-AWAD, 3. XII. 1995. Paratypes: 2 ♀, Shiblenga, El-Qalubiya, 7. I. 1996; 1 ♀, Kafr El-Kadra, El-Menufiya, 23. VII. 1996; 3 ♀, Rashid, El-Behera, 3. II. 1999; 2 ♀ Zoo garden, Giza, 11. XI. 2000. Specimens collected from debris under hedges and guava trees.

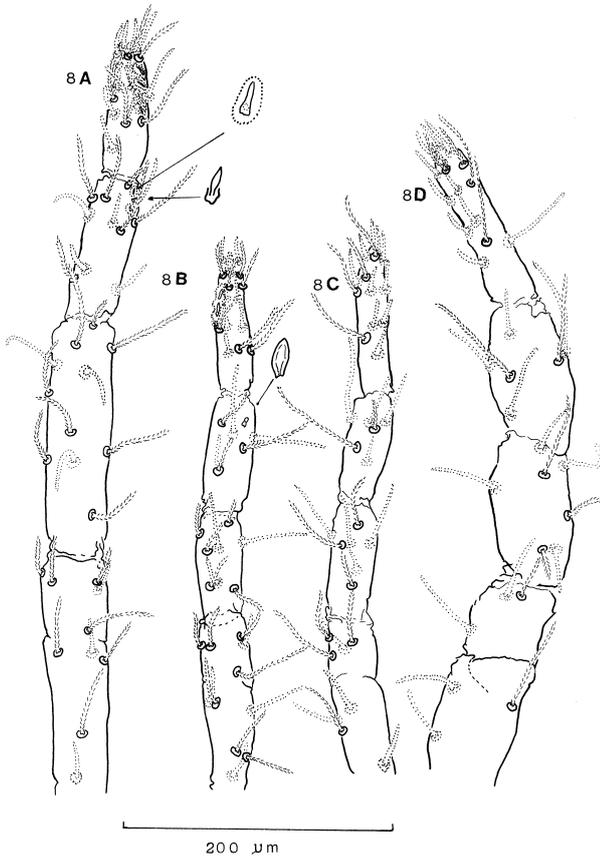


FIG. 8. — *Robustoscheles (R.) deltacus* n. sp.: Legs I, II, III & IV femur to tarsus.

ETYMOLOGY. — The mite is named for the name of the Nile Delta region including for most of aforementioned localities, where it had been observed.

Genus *Foveacheles* Zacharda, 1980
Foveacheles (Foveacheles) lemoni n. sp.
 (FIGS 9–12)

Affinites: This species is morphologically similar to *F. incognita* Zacharda, 1980, but differs in having tip of the proximal cheliceral seta not reaching the insertion of the distal seta; leg I shorter than body; rhagidial organ II consists of three rhagidial solenidia arranged in tandem in a common field and small famulus subtending rhagidial solenidium; epimeral formula, 3–1–6–4; ratio length to width, 1.9; 5+5 genital and aggenital setae; solenidia only on tarsus, tibia and genu of leg I and on tarsus and tibia of leg II.

FEMALE (FIGS 9–12). — Length of body 770. Width of body 333. Idiosoma clearly divided by broken line, without distinct shoulders anteriorly and broadly rounded posteriorly. Subcapitulum (FIG. 10 A). — Slender, subtriangular, distal hypostomal lips with spiniform internal malar and sinuate.

External malar processes with two pairs of smooth eupathidial adorsal setae nude, apically, external pair *or1* slightly shorter than the internal pair *or2*; proximal subcapitular setae ciliate and tend toward clavate, *sbc2* shorter than *sbc1*; length of subcapitulum 108, width 104, ratio length to width 1.04.

Palp (FIG. 10B) robust, with relatively slender tarsus; length of tarsus 67, width 27, ratio length to width 2.48; number of setae and solenidia (between round brackets) on palpal trochanter, femorogenu, tibia and tarsus 0–2–3–10(1), respectively; tarsal solenidium spiniform, erect.

Chelicera (FIG. 10C). — Dorsal surface of chelicera with distinct saddle-shaped depression at about bases level of digitus; cheliceral digits long and robust; dorsal surface of fixed digit with indistinct narrow rim, fixed digit, terminates in three cusps, smooth along masticatory surface; movable digit finely serrated, *cha* inserted distad of articulation of movable digit, tip of *cha* seta does not reach in section of *chb*, tip of *chb* seta overlapping apex of fixed digit. Length of proximal and distal cheliceral setae 42 and 13, respectively; distance between their insertions 18. Length of chelicerae 198, dorsoventral width 104; length of movable digit 95, wide of movable digit 27. Ratios. Cheliceral length to dorsoventral width 1.90, movable digit length to width 3.52, movable digit length to chelicera length 0.48, movable digit length to chelicerae width 0.91.

Dorsal idiosoma (FIG. 9A). — Sejugal furrow present. Naso, distinct and subtriangular lobe. Prodorsum, with four pairs of setae, *iv* inserted at the upper third of naso, *T* filiform and finely pubescent, length of setae: *iv* 35, *ev* 44, *T* 99, *sc* 41. Internal distance of prodorsum: *iv-iv* 7, *ev-ev* 110, *T-T* 62, *sc-sc* 162. Opisthosoma with eight pairs of ciliated setae, *c1* equal to *e1*, but *d1* subequal; *h1* 2X about as long as *f2*; *c2* 2x about as long as *h2*; *f1* 68. Internal distance: *c1-c1* 50 about $\frac{2}{3}$ as long as *d1-d1*, *c1-d1* equal to *e1-f1*, *e1-e1*, 63 as long as *d1-e1*, *c1-c2* 108, *F1-h1* 77, *c2-c2* 261.

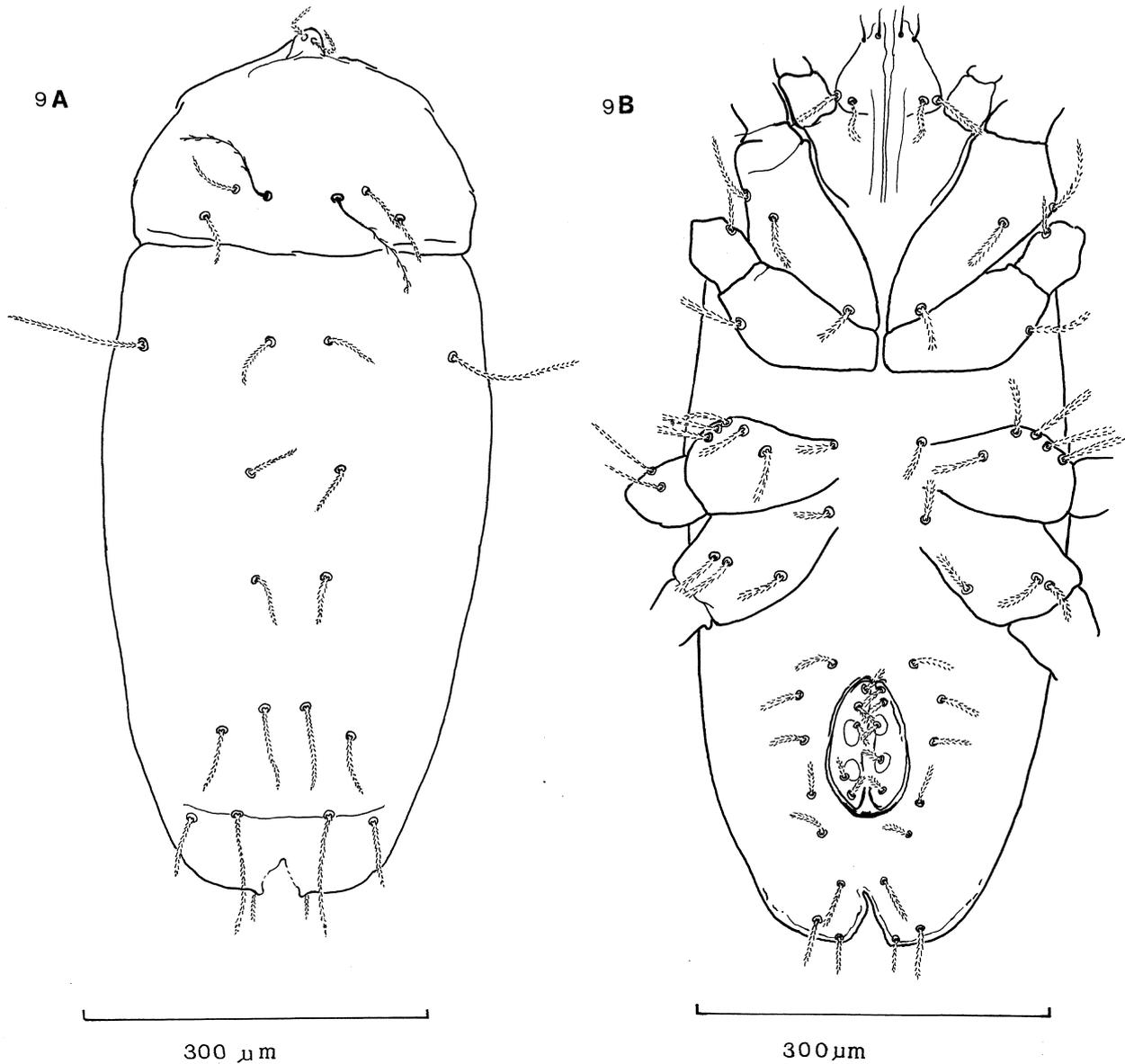


FIG. 9. — *Foveacheles (F.) lemoni* n. sp. female: 9A. — Dorsal idiosoma, 9B. — Ventral idiosoma.

Ventral idiosoma (FIG. 9B). — Coxae in two groups defined. Trochanteral setal formula: 1-1-2-2. Epimeral formula I-IV: 3-1-6-4, inner seta of coxa I (*1a*) 32, about $\frac{2}{3}$ as long as medial seta (*1b*), whilst the outer seta (*1c*) 59, about 2X as long as (*1a*).

Genital region (FIG. 11C) with five pairs of aggenital and genital setae. Length of cover flaps 117.

Anal pore terminal, with three pairs of pseudanel ciliated setae, *ps1* the shortest and $\frac{2}{3}$ as long as *ps2*, *ps3* 36.

Legs (FIG. 12). — With finely ciliated setae. Leg I 703 long, about x0.9 as long as idiosoma. Femora I and II partially divided, but III and IV distinct divided.

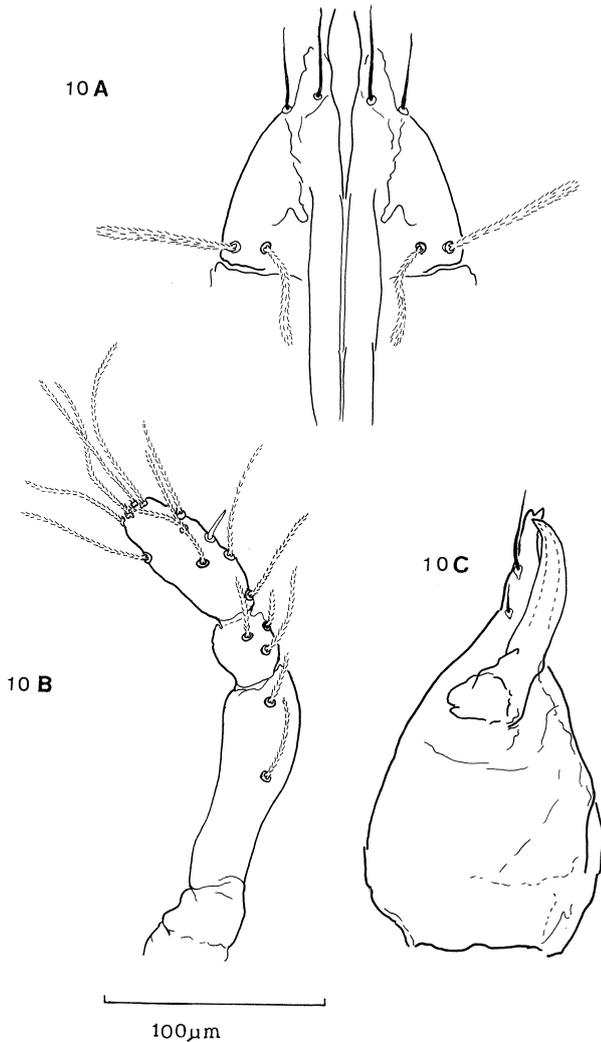


FIG. 10. — *Foveacheles (F.) lemoni* n. sp. female: 10A. — Subcapitulum, 10B. — Palp, 10C. — Chelicera.

Leg chaetotaxy (adult):

Tarsus	Tibia	Genu	Femur	
17	11	10	10	I
14	10	9	8	II
13	6	7	8	III
12	5	6	8	IV

Measurements of leg segments:

Total	Tarsus	Tibia	Genu	Femur	Troch.	
703	122	131	198	189	63	I
545	131	99	99	171	45	II
622	144	135	131	158	54	III
743	171	144	144	221	63	IV

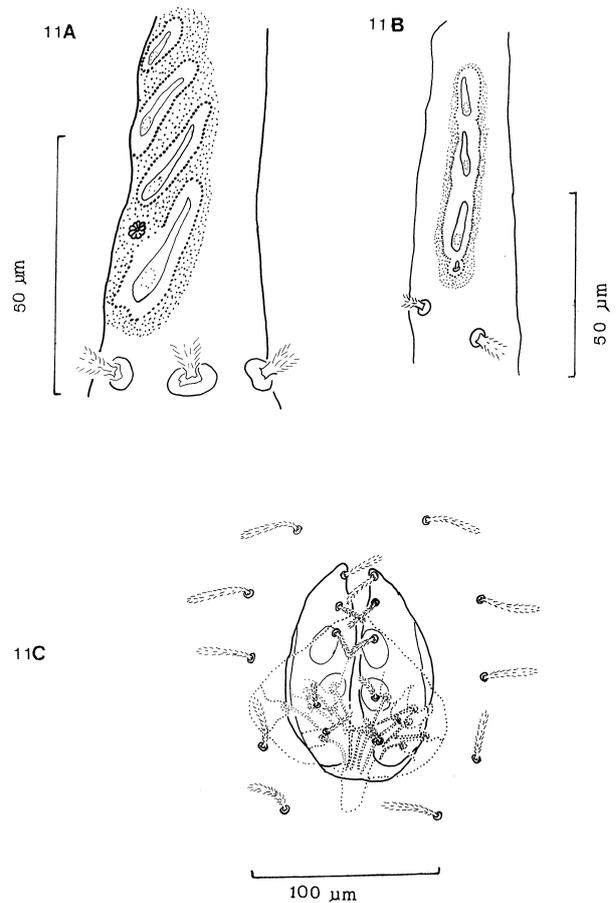


FIG. 11. — *Foveacheles (F.) lemoni* n. sp. female: 11A. — Famulus tarsus I, 11B. — Famulus tarsus II, 11C. — Female genitalia.

Tarsus I with tip slightly truncated in lateral view, twisted at half. Length of tarsus I 122, width 36, ratio length to width 3.39. Length of tarsus II 131, width 27, ratio length to width 4.85. Tarsus I and II (FIG. 11A&B), tarsus I with rhagidial organ with four rhagidial solenidia lying obliquely in separate pits, with a famulus inserted between first and second proximal rhagidial solenidia, solenidion recessed at near base ventrally; tarsus II with three rhagidial solenidia in tandem, with small famulus, subtending proximal rhagidial solenidion. Tibia I with one dorsoproximal erect spiniform solenidion at near base. One dorsolateral erect spiniform solenidion at about half of genu I. Tibia II with one dorsodistal erect spiniform solenidion. Apparently no other sensory setae on legs. Apotele. Empodia of all legs setulose, broadly oval in dorsoventral view, slightly longer than claws, claws each with small clawet ventrobasally.

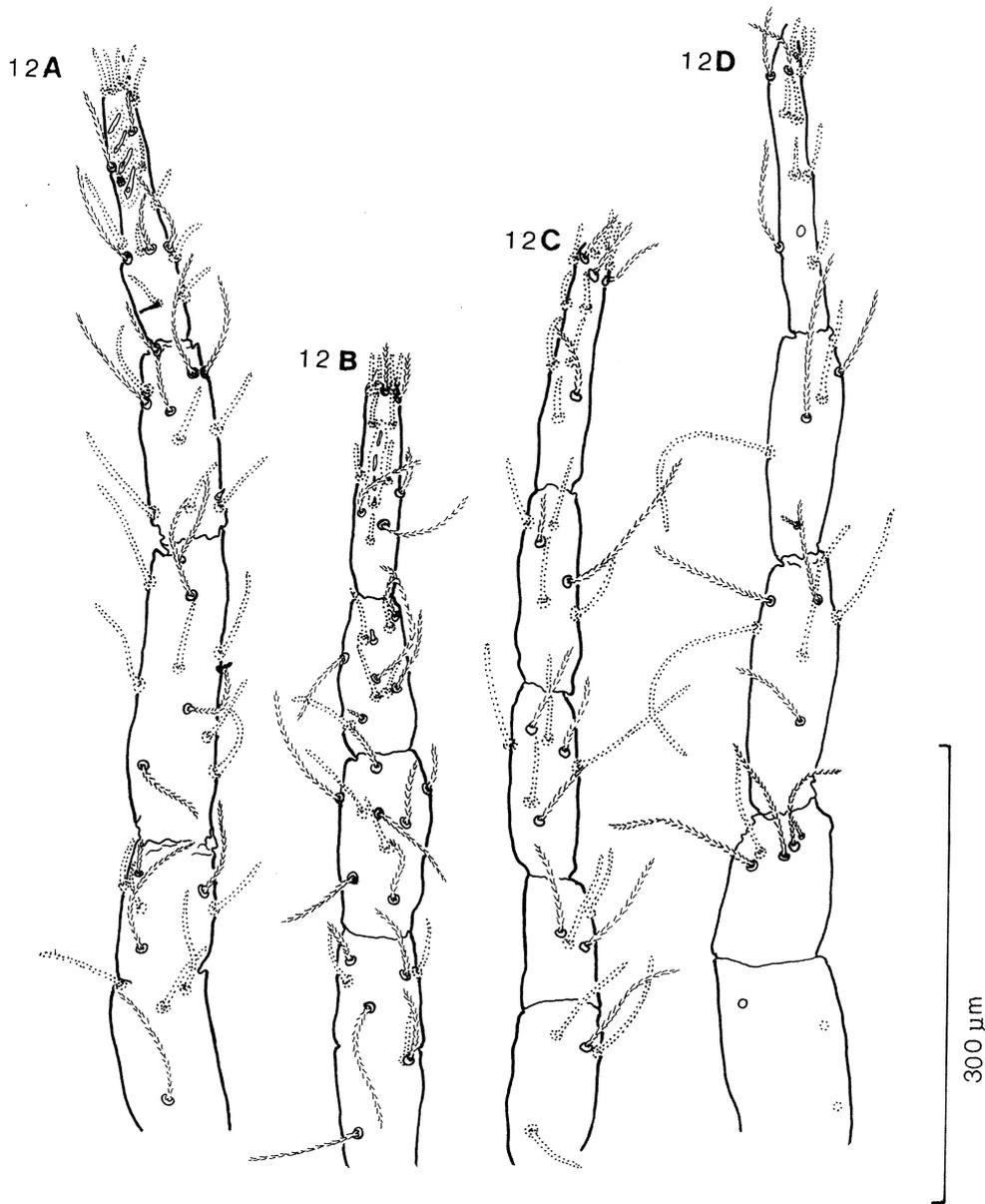


FIG. 12. — *Foveacheles (F.) lemoni* n. sp.: Legs I, II, III & IV femur to tarsus.

Material examined. — Holotype ♀, El-Kassasin, El-Shar-kiya, collected from letter and upper soil layer under lemon trees, B. A. ABOU-AWAD, 3. XII. 1997.

ETYMOLOGY. — The mite is named for the name of plant (lemon trees) is widely, spread in the region, where it had been found .

Genus *Rhagidia* Throell, 1872
Rhagidia (Rhagidia) qaliubiensis n. sp.
(FIGS. 13–16)

Affinites: This species is similar to *R. (R.) gelida* Thorell, 1872 (Redescribed by M. ZACHARDA, 1993) but can be distinguished by the legs I and IV as long as idiosoma and by tip of the proximal cheliceral seta

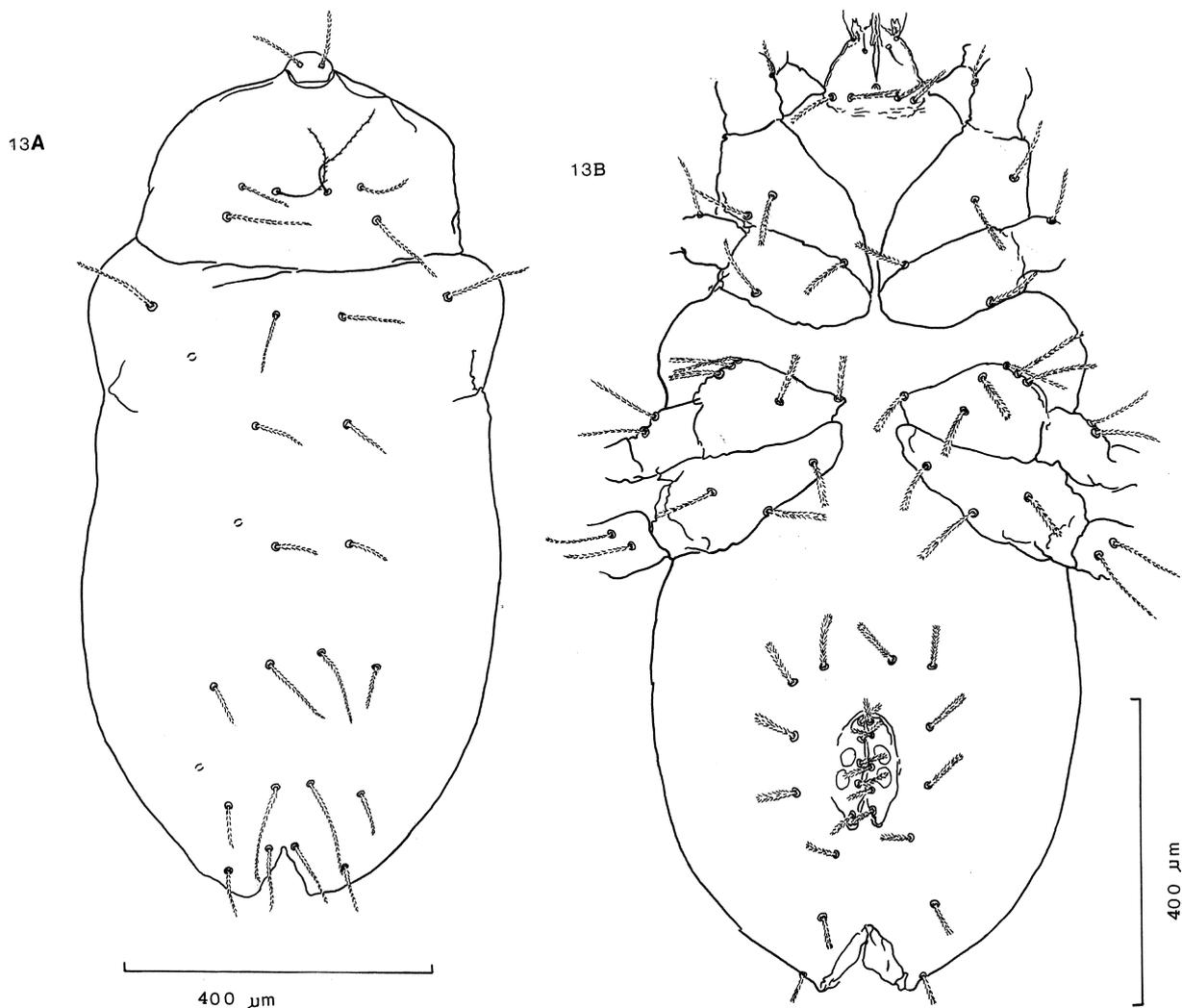


FIG. 13. — *Rhagidia (R.) qaliubiensis* n. sp. Female: 13A. — Dorsal idiosoma. 13B. — Ventral idiosoma.

not reaching the insertion of the distal seta. Epimeral formula I-IV is: 3-1-6-3. The number of setae and solenidia on legs, the morphology of chelicera and ratios are completely different.

FEMALE (FIGS. 13-16). — Body length 1116, 549 wide. Idiosoma divided by broken line, prodorsum subtriangular, opisthosoma with distinct shoulders anteriorly and broadly rounded posteriorly.

Subcapitulum (FIG. 14 A) moderately slender, oval; distal hypostomal lips with spiniform internal and serrate external malar processes, with two pairs of smooth eupathidial adorsal setae nude, apically, external pair *or1* equal to internal pair *or2*; proximal

subcapitular setae ciliate, external pair *sbc1* slightly longer than internal pair *sbc2*. Length subcapitular 104, width 110, ratio length to width 0.95.

Chelicera (FIG. 14B). — Slender, strong shears, dorsal surface with slight saddle-shaped depression level with bases of digits, fixed digit terminates in two cusps, movable digit serrated along “masticatory” surface. Chelicera with 2 setae, *cha* inserted above articulation of movable digit and does not reach insertion of *chb*; distal seta overlaps apex of fixed digit. Length of proximal and distal cheliceral setae 26 and 33 respectively, distance between their insertions: 42. Length of chelicerae 239, width 113; length

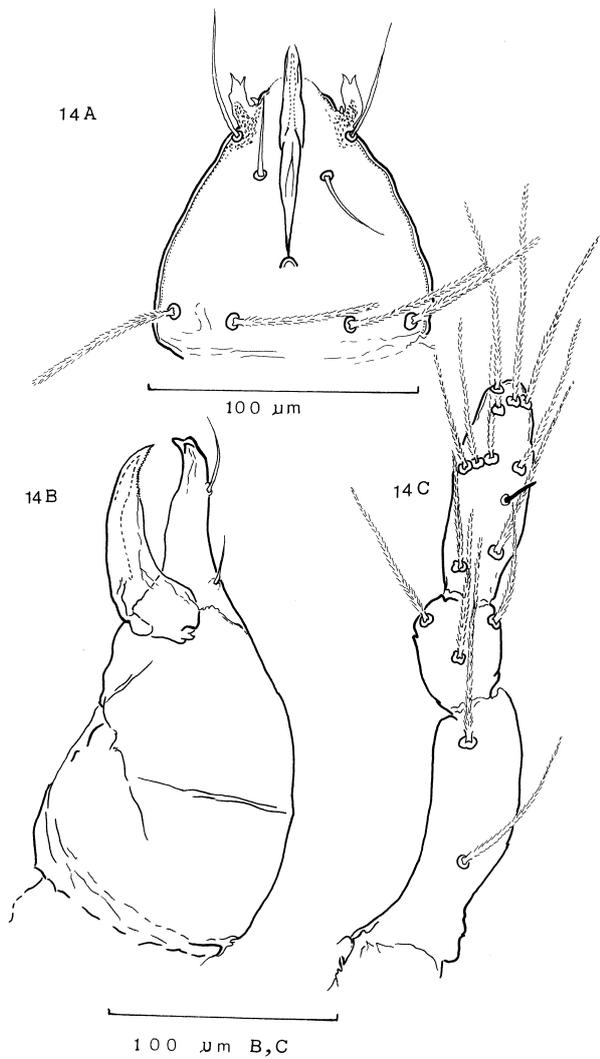


FIG. 14. — *Rhagidia (R.) qaliubiensis* n. sp. Female: 14A. — Subcapitulum, 14B. — Chelicera. 14C. — Palp.

of movable digit 90, width 36. Ratios. Cheliceral length to dorsoventral width 2.12, movable digit length to width 2.50, movable digit length to chelicera length 0.38, movable digit length to chelicerae width 0.80.

Palp (FIG. 14C) with relatively slender tarsus; length of tarsus 104, width 36, ratio length to width 2.89; length of palpal trochanter, femorogenu and tibia 45, 113 and 50 respectively; number of setae and solenidia (between parentheses) on palpal trochanter, femorogenu, tibia and tarsus 0-2-3-11(1) respectively; tarsal solenidion spiniform, erect.

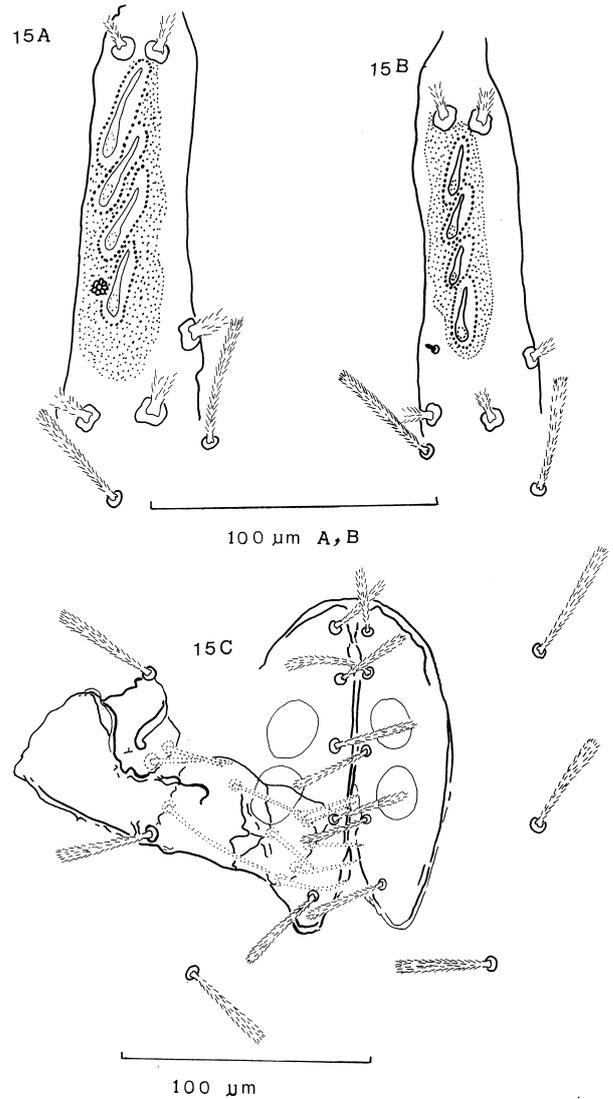


FIG. 15. — *Rhagidia (R.) qaliubiensis* n. sp. Female: 15A. — Famulus tarsus I. 15B. — Famulus tarsus II. 15C. — Genital region with ovipositor of adult female.

Dorsal idiosoma (FIG. 13A). — Sejugal furrow visible, represented by broken line. Naso, well developed, delimited by sinuate broken line. Prodorsum with pairs of setae: *iv* 68 inserted at half of naso, *ev* 63, *T* 131 finely pubescent filiform, *sc* 99. Internal distance of prodorsum setae: *iv-iv* 23, *ev-ev* 149, *T-T* 68, *sc-sc* 203. Opisthosoma with eight pairs of ciliate setae, *c1* 77, *c2* 108, *d1* 63, *e1* equal to *f1* and *h2*, *f1* 95, *h1* 122. Internal distance: *c1-c1* 86, *c2-c2* 283, *d1-d1* 117, *e1-e1* 104, *f1-f1* 68, *c1-c2* equal to *d1-e1*, *c1-d1* 149, *e1-f1* 162, *f1-h1* 158, *h1-h1* 42. Lyrifissures:

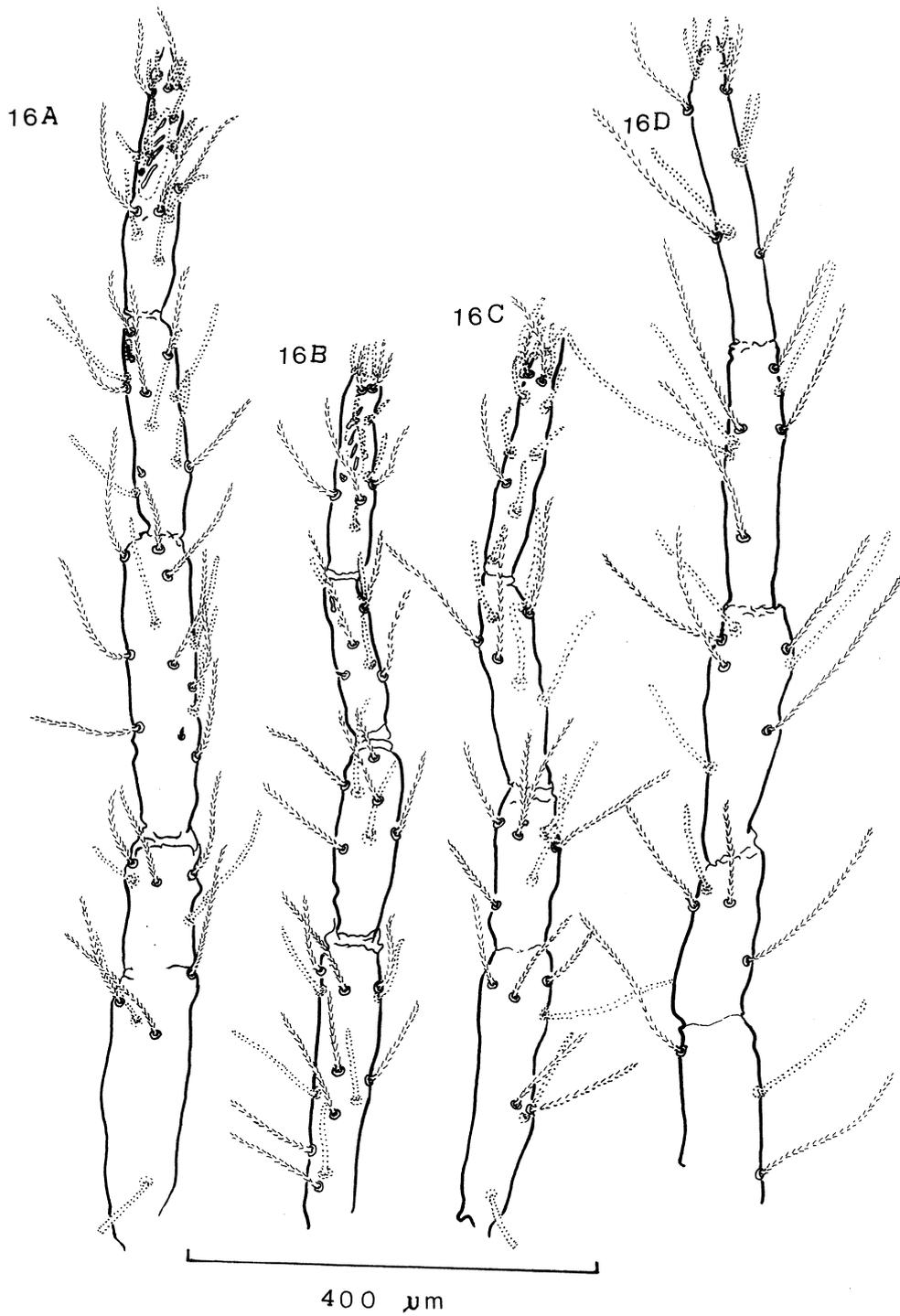


FIG. 16. — *Rhagidia* (*R.*) *qaliubunsis* n. sp. : Legs I, II, III, IV femur to tarsus.

Four pairs of cupules, *ia* positioned laterally between *c1* and *d1*, *im* lateral and just anterior to *e1*, *ip* between *f1* and *h2*. Cupules *ih* in ventrolateral position, almost laterad of the posterior pair of aggenital setae.

Ventral idiosoma (FIG. 13B). — Coxae in two groups defined. Trochanteral setal formula: 1–1–2–2. Epimeral formula I–IV: 3–1–6–3, inner seta of coxa I (*1a*) the shortest, outer seta (*1c*) the longest, medial seta (*1b*) 72. Ventral setae ciliated.

Genital region (FIG. 15 C) with five finely pubescent setae of similar length, arranged evenly along edge of valve, five pairs of aggenital setae. Length of genital cover flaps 135. Anal pore terminal, with three pairs of pseudanal setae and one pair of adanals (*ad1*); *ps1* equal to *ps3*, *ps2* 50, *ad1* 81, the longest.

Legs (FIG. 16). — With finely ciliated setae. Leg I 1193, leg IV 1149, about 1.07 and 1.03 as long as idiosoma, respectively. Femur I partially divided, femora II and III not divided, femur IV divided.

Leg chatotaxy (adult):

Tarsus	Tibia	Genu	Femur	
17	10	11	10	I
14	6	7	13	II
13	7	7	8	III
12	7	7	7	IV

Measurements of leg segments :

Total	Tarsus	Tibia	Genu	Femur	Troch.	
1193	225	216	270	392	90	I
885	182	158	180	293	72	II
946	216	203	171	261	95	III
1149	257	234	212	378	68	IV

Length of tarsus I 216, width 41, ratio length to width 5.3. Length of tarsus II 198, width 36, ratio length to width 5.5. Tarsus I and II (FIGS. 15 A–B) each with one rhagidial organ with four rhagidial solenidia lying in tandem in confluent depressions; famulus tarsus I inserted latered to the first proximal rhagidial solenidion; famulus tarsus II subtends proximal rhagidial solenidion. Tibia I with one small erect spiniform laterodorsoproximal solenidion and

one dorsodistal rhagidial lanceolate seta. Tibia II with one small erect spiniform dorsoproximal solenidion and one lanceolate dorsodistal solenidion recessed in deep pit with small surface pore. Genu I with one erect spiniform ventromedial solenidion. There are apparently no solenidia on genua II, III and IV. Apotele. Empodia all setulose, broadly oval in dorsoventral view, slightly shorter than claws, claws each with small clawlet ventrobasally.

Material examined. — Holotype ♀, Shiblenga, El-Qaliulbiya, collected from litter and upper soil layer under hedges, casuarine trees and grasses, A .A. ABDEL- KHALEK, 17.10.1999. Paratypes: six females captured at the same data as the holotype.

ETYMOLOGY. — The mite is named for the name of locality (El-Kaliubiya region), where it had been observed.

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