

Checklist of oribatid mites from “Cape Martyan” Nature Reserve (Ukraine), with redescription of *Paralopheremaeus hispanicus* (Ruiz, Kahwash and Subías, 1990) and description of *Ctenobelba martyanensis* sp. nov. (Acari: Oribatida)

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Abstract. An annotated checklist of oribatid mite taxa (85 species, 72 genera, 41 families) in “Cape Martyan” Nature Reserve (Ukraine) is provided. *Paralopheremaeus hispanicus* (Ruiz, Kahwash & Subías, 1990) is redescribed in details. *Ctenobelba martyanensis* sp. nov. is described and illustrated. The new species can be distinguished from all representatives of the genus by having very widely dilated notogastral setae.

Keywords. Fauna, checklist, redescription, new species, Cape Martyan Nature Reserve, Ukraine.

INTRODUCTION

The oribatid mite fauna (Acari: Oribatida) of “Cape Martyan” Nature Reserve (Ukraine, Crimea) is poorly known. Only one brief research of oribatids was published: Yaroshenko & Kuzmina (1983) registered 14 species, 13 genera and 12 families.

The present study is based on oribatid mite material collected from “Cape Martyan” Nature Reserve in 2010. The primary goal of this paper is to present an annotated checklist of the taxa identified.

In the course of taxonomic identification, we have found a species of the genus *Paralopheremaeus* Paschoal, 1987 (Plateremaeidae), namely *Paralopheremaeus hispanicus* (Ruiz, Kahwash & Subías, 1990) which was previously known only from southern Europe (Subías 2004, online version 2012). This species was described by Ruiz, Kahwash & Subías (1990), and later re-

described by Pérez-Íñigo (1997) from Spain. However, the original description and redescription are incomplete and brief (lacking information about the leg setation and solenidia, measures of morphological structures and morphology of gnathosoma). A secondary goal of our paper is to present herewith a detailed redescription of *Paralopheremaeus hispanicus*.

We have also found a new species belonging to the genus *Ctenobelba* Balogh, 1943 (Ctenobelbidae). A tertiary goal of our paper is to describe this species under the name *Ctenobelba martyanensis* sp. nov. At present, the genus *Ctenobelba* comprises 24 species, which are distributed in the Palearctic and Oriental regions (Subías 2004, online version 2012). The main generic characters of *Ctenobelba* have yet been summarized (see for example: Mahunka 1964, 1977, Woas 1986, Miko 1990, Balogh & Balogh 1992, Pérez-Íñigo 1997) and identification keys to some species have also been presented (see Mahunka 1964, 1977, Choi 2005) therefore, these are not dealt with here.

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MATERIAL AND METHODS

The studies were performed in "Cape Martyan" Nature Reserve located at Southern shore of Crimea (Ukraine) to the east from Yalta. Terrestrial part of Nature Reserve covers of some 120 hectares. The "Cape Martyan" Nature Reserve is bounded by the coordinates 44°30' to 44°31' N and 34°14' to 34°15' E. Elevations range up to 245 m a.s.l. This is the smallest Nature Reserve of Ukraine.

The dominating trees of the reserve are oaks (*Quercus pubescens* Willd.), junipers (*Juniperus excelsa* M. Bieb), strawberry trees (*Arbutus andrachne* L.), hornbeams (*Carpinus orientalis* Mill.) and pines (*Pinus pallasiana* D. Don.).

The oribatid mites (more than 2500 specimens) have been collected by A. A. Khaustov from soil and mosses between January–June 2010. The specimens of *Paralopheremaeus hispanicus* were obtained: 1) in soil and mosses, 24 April 2010 (one specimen); 2) in soil, 14 May 2010 (two specimens). The specimens of *Ctenobelba martyanensis* sp. nov. were collected: in soil, 24 March, 2010 (two paratypes); and 14 May, 2010 (holotype and paratype).

All specimens were studied in lactic acid, mounted on temporary cavity slides for the duration of the study then stored in vials in 70% alcohol. All body measurements are presented in micrometers (µm). Body length was measured in lateral view, from the tip of the rostrum to the posterior edge of the ventral plate to avoid discrepancies caused by different degrees of notogastral distension. Notogastral width refers to the maximum width in dorsal aspect. Formulae for leg setation are given in parentheses according to the sequence trochanter–femur–genu–tibia–tarsus (femulus included). Formulae for leg solenidia are given in square brackets according to the sequence genu–tibia–tarsus. General terminology used in this paper follows that of Norton & Behan-Pelletier (2009).

RESULTS

In the course of studies of oribatid mite fauna of "Cape Martyan" Nature Reserve we have registered 77 species (including one new species), 66 genera and 38 families. Taking into account the previous records of Yaroshenko & Kuzmina (1983) the present oribatid mite fauna of "Cape Martyan" Nature Reserve comprises 85 species, 72 genera and 41 families.

An annotated checklist of recorded oribatids is presented below. Oribatid taxa found in this Reserve for the first time are not marked; one asterisk (*) marks the taxa for which we provide the second record after Yaroshenko & Kuzmina (1983); the taxa which have been recorded before but did not occur in our collection are marked by two asterisks (**).

Checklist of oribatid mites of "Cape Martyan" Nature Reserve

BRACHYCHTHONIIDAE Thor, 1934

Eobrachychthonius oudemansi Hammen, 1952
Poecilochthonius italicus (Berlese, 1910)

SPHAEROCHTHONIIDAE Grandjean, 1957*

Sphaerochthonius splendidus (Berlese, 1910)*

EPILOHMANNIIDAE Oudemans, 1923

Epilohmannia cylindrica (Berlese, 1904)

LOHMANNIIDAE Berlese, 1916

Papillacarus aciculatus (Berlese, 1905)

EUPHTHIRACARIDAE Jacot, 1930*

Acrotritia ardua (Koch, 1841)
Acrotritia curticephala (Jacot, 1938)
Acrotritia duplicata (Grandjean, 1953)**
Euphthiracarus monodactylus (Willmann, 1919)
Mesotritia nuda (Berlese, 1887)

PHTHIRACARIDAE Perty, 1841

Atropacarus inconditus Mahunka, 1991

- Atropacarus platakisi* (Mahunka, 1979)
Hoplochthonius illinoisensis (Ewing, 1909)
Phthiracarus bryobius Jacot, 1930
Phthiracarus opacus Niedbała, 1986
Phthiracarus subdolus Niedbała, 1983
Steganacarus carinatus (Koch, 1941)
- TRHYPOCHTHONIIDAE Willmann, 1931
Trhypochthonius tectorum (Berlese, 1896)
- NOTHRIDAE Berlese, 1896
Nothrus anauniensis Canestrini and Fanzago, 1876
- CAMISIIDAE Oudemans, 1900
Camisia biurus (Koch, 1839)
- HERMANNIELLIDAE Grandjean, 1934
Hermanniella dolosa Grandjean, 1931
Hermanniella picea (Koch, 1839)
- NEOLIODIDAE Sellnick, 1928
Neoliodes ionicus Sellnick, 1931
- PLATEREMAEIDAE Trägårdh, 1926
Paralopheremaeus hispanicus (Ruiz, Kahwash and Subías, 1990)
- GYMNODAMAEIDAE Grandjean 1954*
Arthrodamaeus hispanicus (Grandjean, 1928)*
Arthrodamaeus cf. starki (Bulanova-Zachvatkina, 1967)*
Gymnodamaeus bicostatus (Koch, 1835)*
- ALEURODAMAEIDAE Paschoal & Johnston, 1985
Aleurodamaeus setosus (Berlese, 1883)
- DAMAEIDAE Berlese, 1896
Belba dubinini Bulanova-Zachvatkina, 1962
Damaeus gracilipes (Kulczynski, 1902)
Spatiodamaeus fagei (Bulanova-Zachvatkina, 1957)
Metabelbella tichonravovi Bulanova-Zachvatkina, 1967
- PELOPPIIDAE Balogh, 1943
Ceratoppia quadridentata (Haller, 1882)
Pyroppia lanceolata Hammer, 1955
- GUSTAVIIDAE Oudemans, 1900
Gustavia microcephala (Nicolet, 1855)
- LIACARIDAE Sellnick, 1928
Dorycranosus punctulatus (Michelčič, 1956)
Liacarus brevilamellatus Michelčič, 1955
Xenillus tegeocranus (Hermann, 1804)
- CTENOBELBIDAE Grandjean, 1965
Ctenobelba martyanensis sp. nov.
- AMEROBELBIDAE Grandjean, 1961
Amerobelba decedens Berlese, 1908
- DAMAEOLIDAE Grandjean, 1965
Damaeolus asperatus (Berlese, 1904)
Fosseremus laciniatus (Berlese, 1905)
- TECTOCEPHEIDAE Grandjean, 1954
Tectocepheus velatus (Michael, 1880)
- OPPIIDAE Grandjean, 1951
Hypogeoppia exempta (Mihelčič, 1958)
Microppia minus (Paoli, 1908)
Moritzoppia unicarinata (Paoli, 1908)
Oppiella nova (Oudemans, 1902)
Ramusella clavipectinata (Michael, 1885)
Rhinoppia obsoleta (Paoli, 1908)
- QUADROPPIIDAE Balogh, 1983
Quadroppia quadricarinata (Michael, 1885)
- SUCTOBELBIDAE Jacot, 1938
Suctobelbella forsslundi (Strenzke, 1950)
Suctobelbella latirostris (Strenzke, 1950)
- MICREREMIDAE Grandjean, 1954**
Micreremus brevipes (Michael, 1888)**
- LICNEREMAEIDAE Grandjean, 1931
Licneremaeus licnophorus (Michael, 1882)
- SCUTOVERTICIDAE Grandjean, 1954
Lamellovertex caelatus (Berlese, 1895)
Scutovertex sculptus Michael, 1879
- PHENOPELOPIDAE Petrunkevitch 1955
Eupelops torulosus (Koch, 1839)
Peloptulus phaeonotus (Koch, 1844)

ACHIPTERIIDAE Thor 1929*

Achipteria acuta Berlese, 1908
Parachipteria punctata (Nicolet, 1855)**

TEGORIBATIDAE Grandjean, 1954**

Lepidozetes singularis Berlese, 1910**

ORIBATELLIDAE Jacot, 1925*

Oribatella hungarica Balogh, 1943
Oribatella quadricornuta (Michael, 1880)
Oribatella superbula (Berlese, 1904)**

CERATOZETIDAE Jacot, 1925*

Ceratozetes mediocris Berlese, 1908
Ceratozetoides cisalpinus (Berlese, 1908)
Latilamellobates naltshicki Shaldybina, 1971
Trichoribates trimaculatus (Koch, 1835)**

ZETOMIMIDAE Shaldybina, 1966**

Zetomimus furcatus (Pearce & Warburton)**

CHAMOBATIDAE Grandjean 1954

Chamobates dentotutorii Shaldybina, 1969

MYCOBATIDAE Grandjean 1954

Punctoribates mundus Shaldybina, 1973
Minunthozetes pseudofusiger (Schweizer, 1922)
Minunthozetes semirufus (Koch, 1841)
Mycobates bicornis (Strenzke, 1954)

ORIBATULIDAE Thor, 1929*

Lucoppia burrowsi (Michael, 1890)
Oribatula tibialis (Nicolet, 1855)
Zygoribatula exarata Berlese, 1916
Zygoribatula frisiae (Oudemans, 1900)*

PSEUDOPPIIDAE Mahunka, 1975

Pseudoppia mediocris (Mihelčič, 1957)

SCHELORIBATIDAE Grandjean, 1933*

Scheloribates fimbriatus Thor, 1930
Scheloribates laevigatus (Koch, 1835)*

HAPLOZETIDAE Grandjean 1936

Peloribates europaeus Willmann, 1935

GALUMNIDAE Jacot 1925*

Galumna dorsalis (Koch, 1835)**
Pergalumna myrmophila (Berlese, 1914)
Pilogalumna crassiclava (Berlese, 1914)

TAXONOMY

Paralopheremaeus hispanicus (Ruiz, Kahwash & Subías, 1990)

(Figures 1–19)

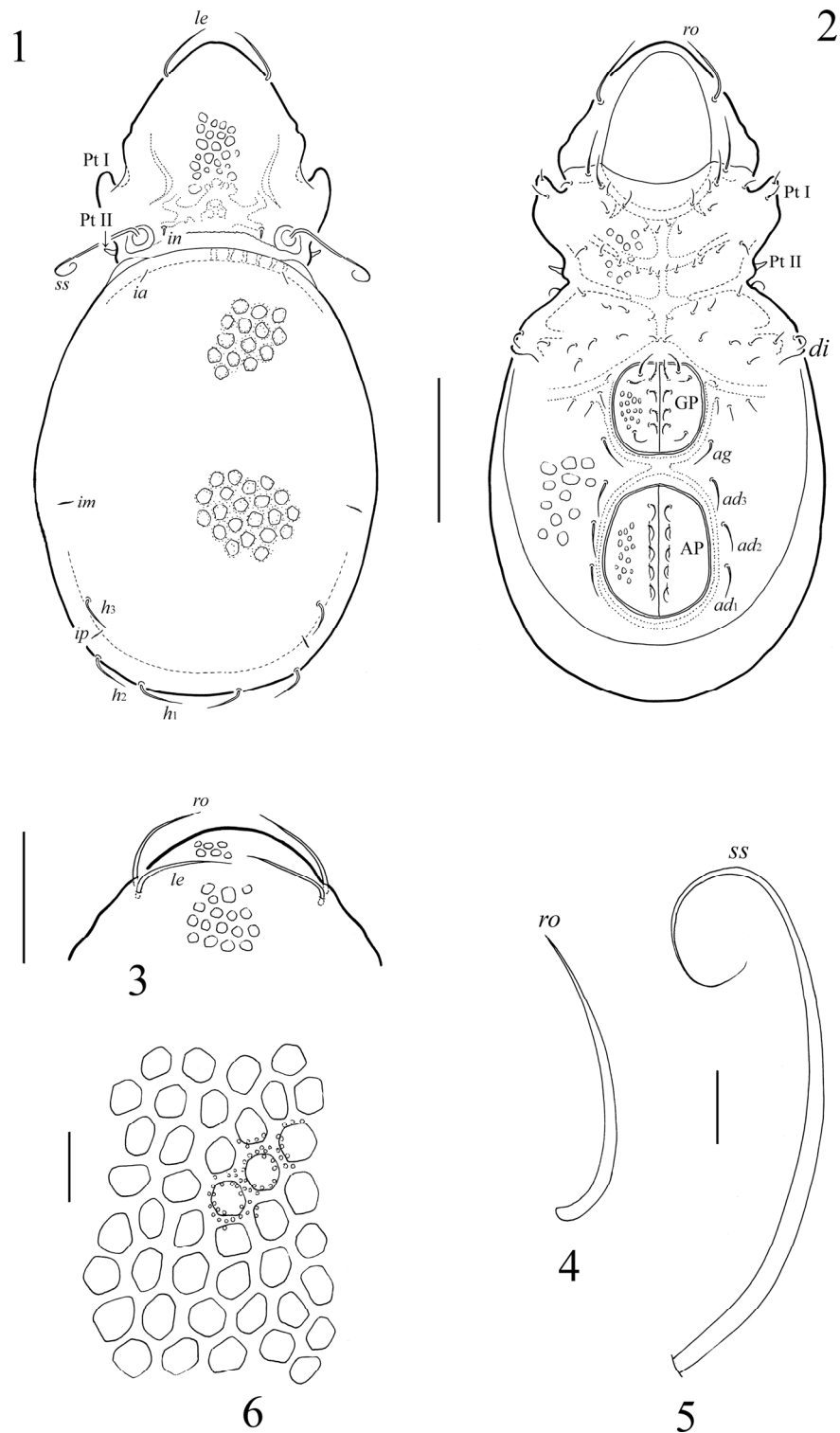
Diagnosis. Body length 415–448 × 215–232 (three specimens); body surface foveolate; rostral and lamellar setae similar in length, setiform, smooth; rostral setae inserted ventrally, sensilli setiform, smooth, weakly spiral-form distally; notogaster with six pairs of setae; pedotecta II developed, thorn-like; epimeral setal formula 10–6–5–11; anal plates with six or seven pairs of setae.

Measurements. Three specimens (male and two females): body length 415–448 (mean 437); body width 215–232 (mean 226).

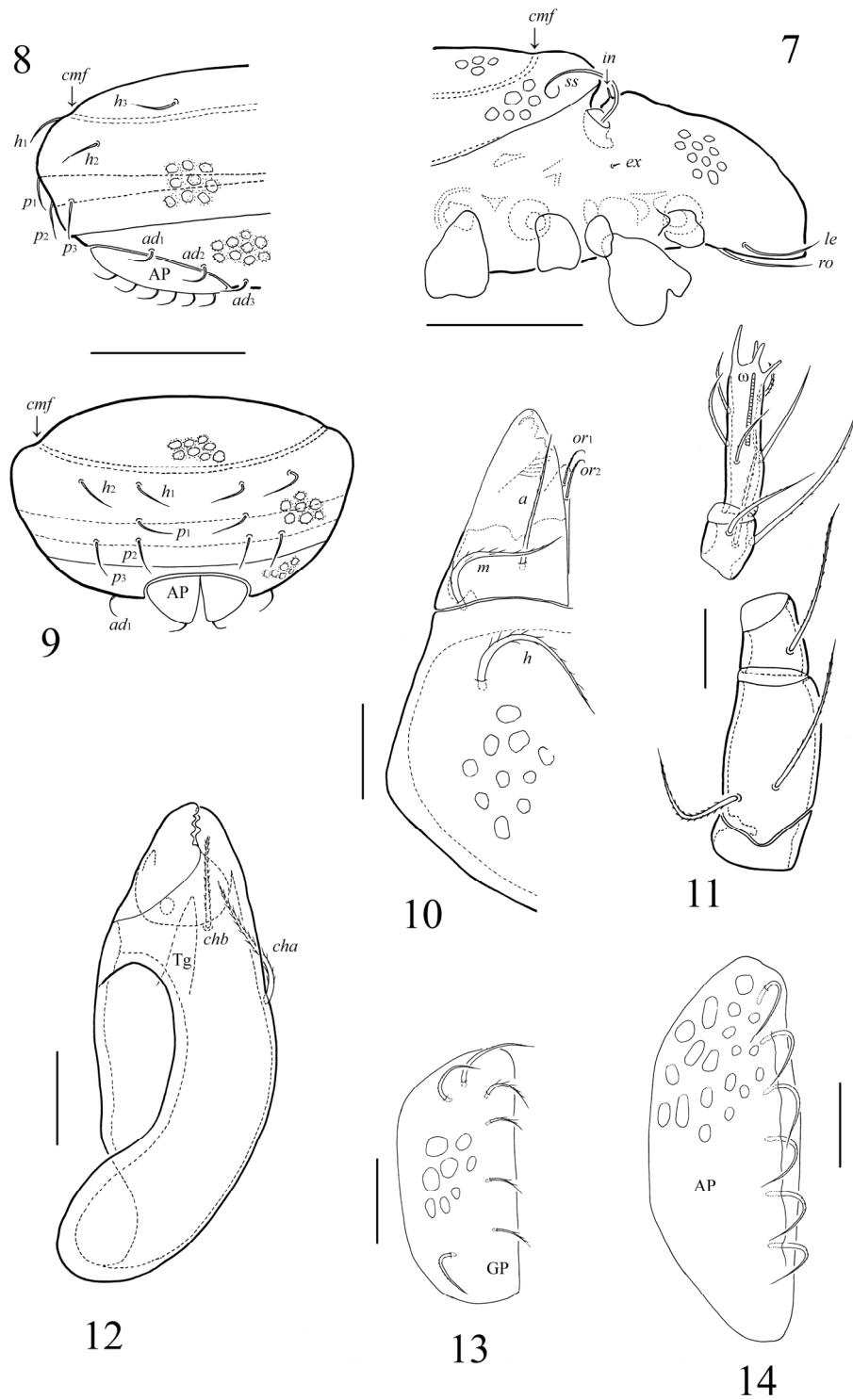
Integument (Figs. 1, 3, 6, 7–9, 10, 13, 14). Color: yellow-brownish. Dorsal and ventral surfaces with foveolae forming reticulate ornamentation (diameters up to 8 on prodorsum and epimeral region, 16 on notogaster and 12 on anogenital region). Body and legs covered with round or conical cerotegumental granules (diameter or length up to 1). Setae with or without cerotegument.

Prodorsum (Figs. 1, 3–5, 7). Rostrum rounded. Lateral parts with weakly visible lines in dorsal view. Medio-basal part with unclear lineate ornamentation (foveolae absent). Rostral (*ro*) and lamellar (*le*) setae similar in length (41–49) and shape, setiform, smooth. Interlamellar setae (*in*, 6) thorn-like. Sensilli (*ss*, 86–90) setiform, smooth, weakly spiral-form distally.

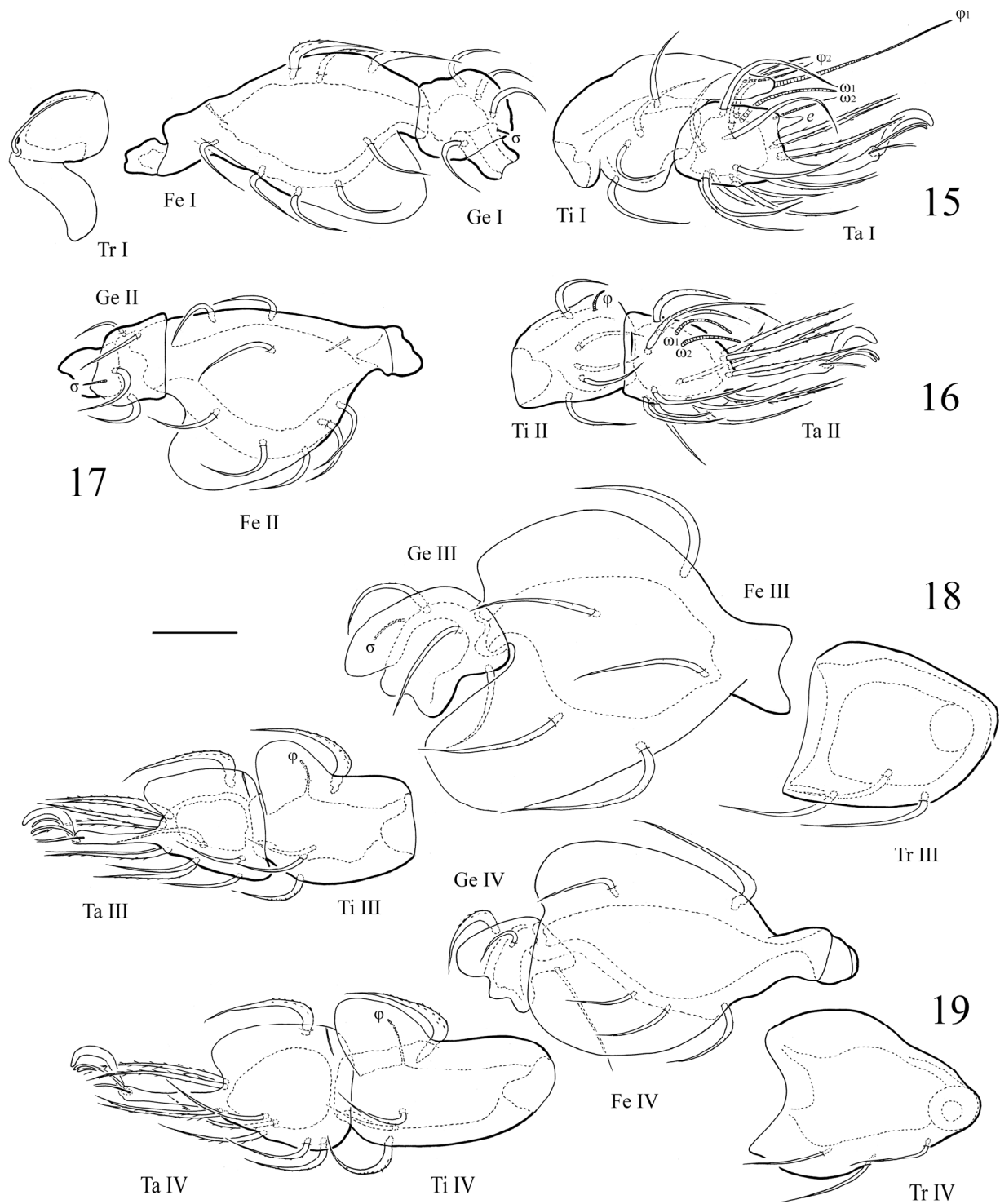
Notogaster (Figs. 1, 7–9). Oval in dorsal view and weakly flattened in lateral view. Anterior part of notogaster weakly extending over basal part of prodorsum. Posterior margin rounded. Circum-marginal furrow (*cmf*) poorly developed, visible in dorso-lateral, lateral and dorso-posterior views. Six pairs of setiform, smooth notogastral setae present. Setae h_1 – h_3 , p_1 (28–32) visible in dorsal or lateral views. Setae p_2 – p_3 (24–28) visible in lateral or posterior views. Lyrifissures *ia*, *im* and *ip* thin. Opisthonotal gland openings not evident.



Figures 1–6. *Paralopheremaeus hispanicus* (Ruiz, Kahwash & Subías, 1990). 1 = Dorsal view of body, 2 = ventral view of body, gnathosoma and legs not shown, 3 = rostrum, dorso-anterior view, 4 = rostral seta, 5 = sensillus, 6 = foveolae in central part of notogaster. Scale bars (1, 2) 100 μm , (3) 50 μm , (4, 5) 10 μm , (6) 20 μm .



Figures 7–14. *Parolophermaeus hispanicus* (Ruiz, Kahwash & Subias, 1990). 7 = Prodorsum and anterior part of notogaster, lateral view, epimeral setae, gnathosoma and legs (except basal parts) not shown, 8 = posterior part notogaster, lateral view, 9 = notogaster, posterior view, 10 = subcapitulum, ventral view of right half, 11 = palp, 12 = chelicera, 13 = genital plate, right, 14 = anal plate, right. Scale bars (7–9) 100 μ m, (10, 12–14) 20 μ m, (11) 10 μ m.



Figures 15–19. *Paralophermaeus hispanicus* (Ruiz, Kahwash & Subías, 1990). 15 = Leg I, right, antiaxial view, 16 = tarsus and tibia of leg II, left, paraxial view, 17 = genu and femur of leg II, left, antiaxial view, 18 = leg III, right, antiaxial view, 19 = Leg IV, right, antiaxial view. Scale bar 20 μ m.

Lateral part of body (Figs. 1, 2, 7, 8). Exobothridial setae (*ex*, 4) setiform, smooth. Pedotecta I (Pt I) normally developed, convex. Pedotecta II (Pt II) thorn-like. Discidia (*di*) triangular, blunt. Lyrifissures *ih* and *ips* not evident.

Gnathosoma (Figs. 10–12). Subcapitulum longer than wide (98 × 69). Subcapitular setae setiform, barbed; *h* and *m* longer (both 32–36) and thicker than *a* (28–32). Adoral setae (*or*₁, *or*₂ 10–12) setiform, barbed, hook-like distally. Palps (61) with setation 0–2–1–3–9(+1 ω). Solenidion (ω) long, thickened, not fused with *acm*, pressed to surface of palptarsus. Chelicerae (106) with two long, setiform, barbed setae; *cha* (32) longer than *chb* (20). Trägårdh's organ (Tg) well visible.

Epimeral region (Fig. 2). Epimeral setal formula 10–6–5–11 in all specimens. Setae setiform, smooth or with indistinct barbs. One pair of setae on epimeres I (anterior in ventral view) longest (32), other shorter (10–20).

Anogenital region (Figs. 2, 8, 9, 13, 14). Genital plates (GP) with seven pairs of genital setae. Four pairs of genital setae inserted in medial longitudinal row, short (12–16), setiform,

with long cilia; other longer (16–20), setiform, slightly barbed. One pair of aggenital (*ag*, 24) and three pairs of adanal (*ad*₁–*ad*₃, 24) setae setiform, smooth or with indistinct barbs. Adanal setae *ad*₁ and *ad*₂ in paraanal position, *ad*₃ in preanal position. Anal plates (AP) with six or seven pairs of setiform, smooth anal setae (20). Lyrifissures *iad* not evident.

Legs (Figs. 15–19). Tridactylous; median claw thicker than lateral claws. Articulations with sockets. Tarsi, tibiae and genua III, IV with wide dorsal ridge. Femora I, II with wide ventral ridge. Femora III, IV with wide dorsal and ventral ridges. Formulae of leg setation and solenidia: I (1–8–4–4–20) [1–2–2], II (1–8–4–5–18) [1–1–2], III (3–5–3–4–14) [1–1–0], IV (3–5–3–4–12) [0–1–0]; homology of setae and solenidia indicated in Table 1. Many setae setiform, smooth or slightly barbed. Setae *it*, *tc*, *u* setiform, thickened, ciliate. Famulus (*e*) very thick. Tibiae I with dorso-distal projection, having a long, setiform solenidion ϕ_1 . Other solenidia considerable shorter (very short on genua I–III and tibiae II–IV), rod-like, blunt

Table 1. Leg setation and solenidia of *Paralophoremaeus hispanicus* (Ruiz, Kahwash & Subías, 1990)

Leg	Trochanter	Femur	Genu	Tibia	Tarsus
I	<i>v'</i>	<i>d</i> , (<i>l</i> ₁), (<i>l</i> ₂), <i>bv''</i> , <i>v''</i> ₁ , <i>v''</i> ₂	<i>d</i> , (<i>l</i>), <i>v'</i> , σ	(<i>l</i>), (<i>v</i>), ϕ_1 , ϕ_2	(<i>ft</i>), (<i>tc</i>), (<i>it</i>), (<i>p</i>), (<i>u</i>), (<i>a</i>), <i>s</i> , (<i>pv</i>), (<i>v</i>), (<i>pl</i>), <i>e</i> , ω_1 , ω_2
II	<i>v'</i>	<i>d</i> , (<i>l</i> ₁), (<i>l</i> ₂), <i>bv''</i> , <i>v''</i> ₁ , <i>v''</i> ₂	<i>d</i> , (<i>l</i>), <i>v'</i> , σ	<i>d</i> , (<i>l</i>), (<i>v</i>), ϕ	(<i>ft</i>), (<i>tc</i>), (<i>it</i>), (<i>p</i>), (<i>u</i>), (<i>a</i>), <i>s</i> , (<i>pv</i>), (<i>v</i>), <i>l''</i> , ω_1 , ω_2
III	<i>l'</i> ₁ , <i>l'</i> ₂ , <i>v'</i>	<i>d</i> , (<i>l</i> ₁), <i>l'</i> ₂ , <i>ev'</i>	<i>d</i> , <i>l'</i> , <i>v'</i> , σ	<i>d</i> , <i>l'</i> , (<i>v</i>), ϕ	<i>ft''</i> , (<i>tc</i>), (<i>it</i>), (<i>p</i>), (<i>u</i>), (<i>a</i>), <i>s</i> , (<i>pv</i>)
IV	<i>l'</i> ₁ , <i>l'</i> ₂ , <i>v'</i>	<i>d</i> , (<i>l</i> ₁), <i>l'</i> ₂ , <i>ev'</i>	<i>d</i> , <i>l'</i> , <i>v'</i>	<i>d</i> , <i>l'</i> , (<i>v</i>), ϕ	<i>ft''</i> , (<i>tc</i>), (<i>p</i>), (<i>u</i>), (<i>a</i>), <i>s</i> , (<i>pv</i>)

Roman letters refer to normal setae (*e* – famulus), Greek letters refer to solenidia. One apostrophe (') marks setae on anterior and double apostrophe (") setae on posterior side of the given leg segment. Parentheses refer to a pair of setae.

Remarks. The present Ukrainian specimens of *Paralophoremaeus hispanicus* are morphologically and in general appearance similar to the Spanish specimens (see the original description of Ruiz, Kahwash & Subías 1990 and later redescription by Pérez-Íñigo 1997), but there are slight

differences as well; i.e. body size (415–448 × 215–232 in the Ukrainian specimens versus 562 × 275 in the Spanish specimens), epimeral formula (10 (I epimeres)–6 (II)–15 (III and IV) in the Ukrainian specimens versus 8 (I)–7 (II)–14 (III and IV) in the Spanish specimens). We believe

that these differences represent intraspecific (perhaps geographical) variability. Furthermore, the Ukrainian specimens possess six pairs of notogastral setae and thorn-like pedotecta II. Ruiz, Kahwash & Subías (1990) and Pérez-Íñigo (1997) specifies only four pairs of notogastral setae and absence of pedotecta II. We had no possibility to study the type material of *Paralopheremaeus hispanicus*, but assume that the Spanish specimens also have setae p_2 , p_3 and thorn-like pedotecta II as in the Ukrainian specimens.

***Ctenobelba martyanensis* sp. nov.**

(Figures 20–39)

Diagnosis. Body length 498–564 × 282–315 (four specimens); rostrum truncate, with two lateral tubercles; prodorsal setae setiform, barbed, similar in length; sensilli with four or five long branches; notogastral setae medium sized, widely dilated; three pairs of slightly phylliform, smooth aggenital setae present.

Measurements. Holotype (male): body length 514; body width 290. Paratypes (male and two females): body length 498–564 (mean 536); body width 282–315 (mean 298).

Integument (Figs. 20, 21). Color: brownish-grey to brown. Dorsal and ventral surfaces covered with round (in dorsal view; diameter up to 8) or conical (in lateral view; length up to 12) cerotegumental granules. Setae with or without cerotegument.

Prodorsum (Figs. 20, 22–26). Rostrum truncate, with two lateral tubercles. Costulae long, distinct, almost straight. Transcostular line absent. All prodorsal setae (rostral, lamellar, interlamellar) setiform, barbed, inserted on small tubercles, similar in length (41–49) but rostral setae thinner and with smaller barbs. Sensilli (86–90) with five (four in one specimen) long branches, which are inserted unilaterally.

Notogaster (Figs. 20, 27, 28). Anterior border straight, with triangular, blunt-ended medial (one pair) and humeral (one pair) condyles. One pair of humeral crista present. Ten pairs of notogastral setae medium sized, similar in length (24–32),

widely dilated distally or in medio-distal part, smooth or with indistinct internal longitudinal lines. Opisthonotal gland openings and lyrifissures ia , im , ip developed, but poorly visible under the cerotegumental layer.

Lateral part of body (Figs. 20, 26). Exobothridial setae (16) setiform, slightly barbed. Pedotecta I and II well developed. Discidia triangular, rounded distally. One triangular, blunt tubercle Sl present on each side of the body. Lyrifissures ih and ips developed, but poorly visible under the cerotegumental layer.

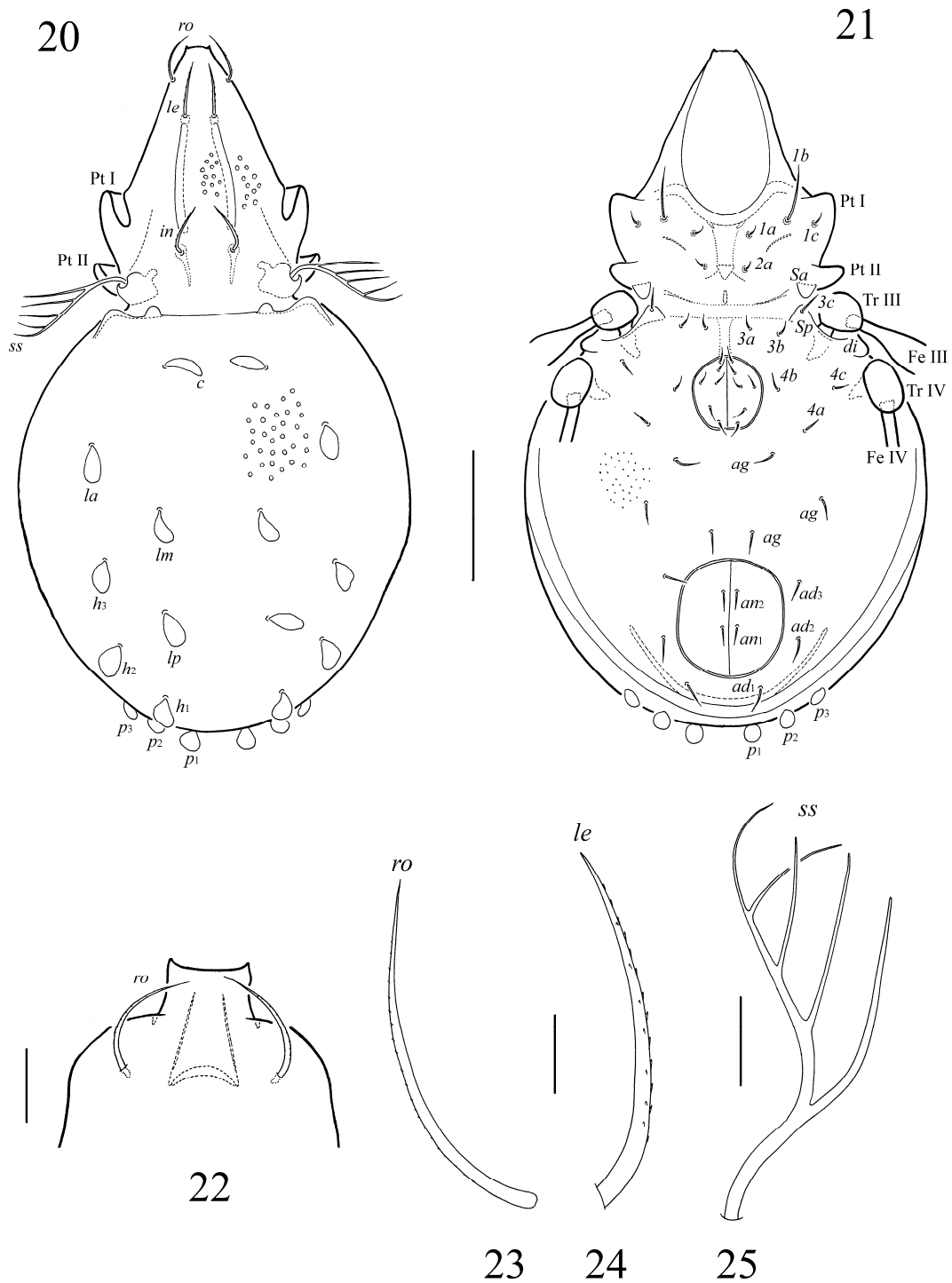
Gnathosoma (Figs. 29–31). Subcapitulum longer than wide (114 × 73–77). Subcapitular setae setiform, barbed; h (28) and a (24–28) shorter than m (32–36). Adoral setae (8) setiform, slightly barbed, hook-like distally. Palps (69) with setation 0–2–1–3–8(+1 ω). Solenidion long, thickened, not fused with acm , pressed to surface of palptarsus. Chelicerae (114) with two long, setiform, barbed setae; cha (28) longer, than chb (20). Trägårdh's organ well visible.

Epimeral region (Fig. 21). Epimeral setal formula 3–1–3–3. Setae $1b$ longest (45), setiform, smooth; all the others short (16–20), slightly widened, smooth. Two pairs of strongly developed, triangular, blunt-ended tubercles Sa and Sp present on epimeral region. Setae $3c$ inserted on tubercles Sp .

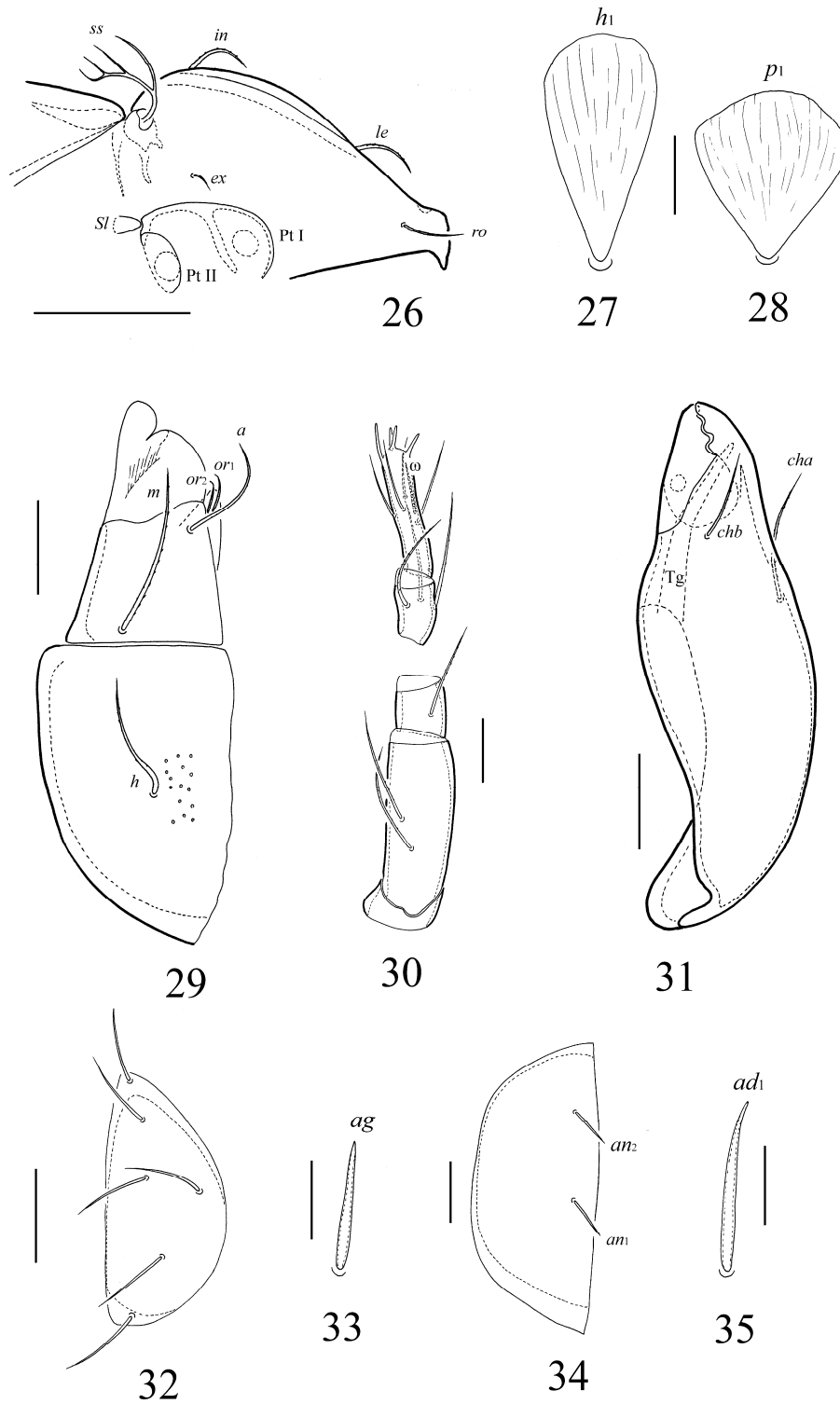
Anogenital region (Figs. 21, 32–35). Six pairs of genital setae (14–18) setiform, smooth. Three pairs of aggenital (16–20), three pairs of adanal (18–20) and two pairs of anal (16) setae slightly phylliform, smooth. Lyrifissures iad not evident.

Legs (Figs. 36–39). Monodactylous, claws smooth. Formulae of leg setation and solenidia: I (1–5–3–4–19) [1–2–2], II (1–5–3–4–16) [1–1–2], III (2–3–1–2–15) [1–1–0], IV (1–2–2–3–12) [0–1–0]; homology of setae and solenidia indicated in Table 2. Many setae setiform, slightly barbed, rarely smooth. Setae p on tarsi II–IV spiniform. Famulus setiform. All solenidia rod-like, blunt.

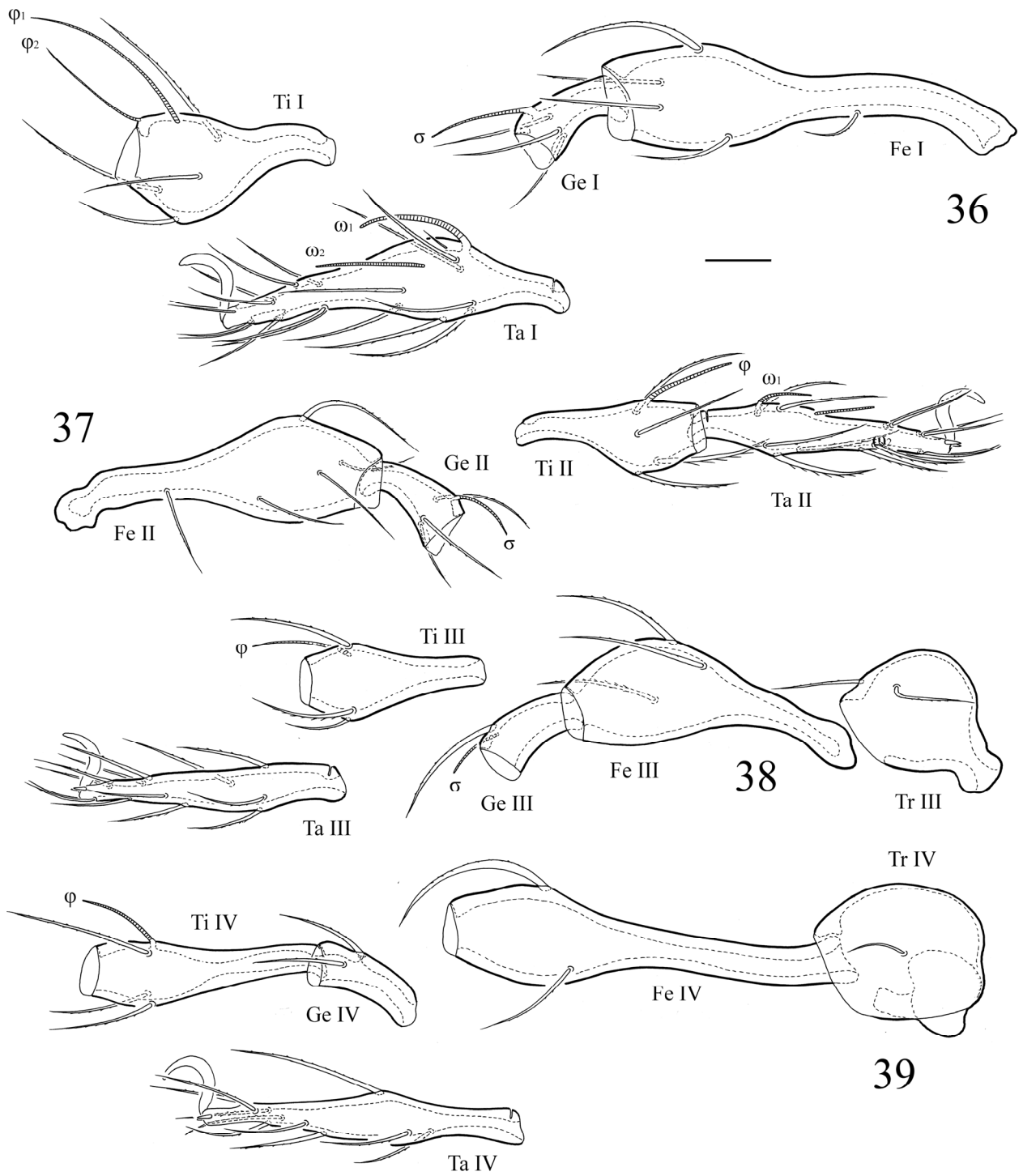
Remarks. *Ctenobelba martyanensis* sp. nov. is very similar to *Ctenobelba serrata* Mahunka, 1964 (see Mahunka 1964, 1977) from southern Europe in having sensilli with four to five long branches and dilated notogastral setae. However,



Figures 20–25. *Ctenobelba martyanensis* sp. nov. 20 = Dorsal view of body, 21 = ventral view of body, gnathosoma and legs (except basal parts of legs III, IV) not shown, 22 = rostrum, dorso-anterior view, 23 = rostral seta, 24 = lamellar seta, 25 = sensillus. Scale bars (20, 21) 100 μ m, (22, 25) 20 μ m, (23, 24) 10 μ m.



Figures 26–35. *Ctenobelba martyanensis* sp. nov. 26 = Prodorsum, lateral view, epimeral region, gnathosoma and legs not shown, 27 = notogastral seta h_1 , 28 = notogastral seta p_1 , 29 = subcapitulum, ventral view of right half, 30 = palp, 31 = chelicera, 32 = genital plate, left, 33 = aggenital seta, 34 = anal plate, right, 35 = adanal seta ad_1 . Scale bars (26) 100 μm , (27, 28, 30, 33, 35) 10 μm , (29, 31, 32, 34) 20 μm .



Figures 36–39. *Ctenobelba martyanensis* sp. nov. 36 = Leg I, without trochanter, left, antiaxial view, 37 = leg II, without trochanter, right, antiaxial view, 38 = Leg III, right, antiaxial view, 39 = leg IV, right, antiaxial view. Scale bar 20 μ m.

it can be clearly distinguished from the latter by the larger body size (498–564 × 282–315 in *C. martyanensis* sp. nov. versus 416–431 × 240–250 in *C. serrata*), morphology of rostrum (truncate, with two lateral tubercles in *C. martyanensis* sp. nov. versus rounded in *C. serrata*), similar setiform structure of all lamellar and interlamellar setae (versus interlamellar setae narrowly dilated, lamellar setae setiform in *C. serrata*) and widely dilated notogastral setae (versus narrowly dilated in *C. serrata*).

Ctenobelba martyanensis sp. nov. is also similar to *Ctenobelba heterosetososa* Murvanidze and Weigmann, 2007 described from the Caucasus region in having widely dilated notogastral setae and morphology of rostrum. However, it can clearly be distinguished from the latter by the larger body size (498–564 × 282–315 in *C. martyanensis* sp. nov. versus 375–410 × 200–205 in *C. heterosetososa*), the notogastral setae all dilated (versus some notogastral setae setiform in *C. heterosetososa*) and sensilli with four to five long

branches (versus sensilli with nine to 11 short cilia in *C. heterosetososa*).

Type deposition. The holotype is deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; one paratype is in the collection of Siberian Zoological Museum, Novosibirsk, Russia; two paratypes are in the collection of the first author.

Etymology. The new species is named after the "Cape Martyan" Nature Reserve (Ukraine).

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Table 2. Leg setation and solenidia of *Ctenobelba martyanensis* sp. nov.

Leg	Trochanter	Femur	Genu	Tibia	Tarsus
I	v'	d, (l), bv'', v''	(l), v', σ	(l), (v), φ ₁ , φ ₂	(ft), (tc), (it), (p), (u), (a), s, (pv), (v), pl'', e, ω ₁ , ω ₂
II	v'	d, (l), bv'', v''	(l), v', σ	(l), (v), φ	(ft), (tc), (it), (p), (u), (a), s, (pv), l'', ω ₁ , ω ₂
III	l', v'	d, l', ev'	l', σ	l', (v), φ	(ft), (tc), (it), (p), (u), (a), s, (pv)
IV	v'	d, ev'	d, l'	l', (v), φ	ft'', (tc), (p), (u), (a), s, (pv)

See Table 1 for explanations.

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