A NEW TRIBE OF ACARID MITES OF THE SUBFAMILY RHIZOGLYPHINAЕ (ACARIFORMES, ACARIDAE)

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Thyreophagini trib. n. is proposed for the genera Thyreophagus Rondani, 1874, Michaelopus Fain et Johnston, 1974, Boletoglyphus Volgin, 1953 and Capillaroglyphus Klimov gen. n. Capillaroglyphus polypori, gen. et sp. n. is described (all stages) from the Far East of Russia and Japan. New synonymy and combination are established: Thyreophagus Rondani, 1874 - Fumouzea Zachvatkin, 1953, syn. n.; Michaelopus lignieri (Zachvatkin, 1953), comb. n. from Monieziella. Keys to tribes of the subfamily Rhizoglyphinae and genera of new tribe are given.

KEY WORDS: Acari, Acariformes, Acaridae, Rhizoglyphinae, new taxa, Russian Far East, Japan.


Обосновано выделение новой трибы Thyreophagini trib. n. для родов Thyreophagus Rondani, 1874, Michaelopus Fain et Johnston, 1974, Boletoglyphus Volgin, 1953 и Capillaroglyphus Klimov gen. n. Установлена новая синонимия: Thyreophagus Rondani, 1874 =Fumouzea Zachvatkin, 1953, syn. n.; предложена новая комбинация Michaelopus lignieri (Zachvatkin, 1953), comb. n. из Monieziella. Описан Capillaroglyphus polypori, gen. et sp. n. (все
INTRODUCTION

In 1937 Zachvatkin changed status of the family Caloglyphidae Oudemans, 1932 [=Rhizoglyphinae, Oudemans 1923 (part.)] to subfamily of the family Tyroglyphidae (=Acaridae); two tribes, Rhizoglyphini and Caloglyphini, had been separated in this subfamily (characters of adults were used only). Later, the name of the tribe Caloglyphini was unnecessary changed to Acotyledonini (Zachvatkin, 1941). Turk & Türk (1956) supported such subdivision. Samšiňák (1982) resurrected the name Caloglyphini and gave new diagnosis (both adults and hypopi) of the tribe. This author pointed out that tribes of the subfamily differ each other by seta aa on tarsus I which being present in Caloglyphini and absent in Rhizoglyphini.

Genera of the tribe Rhizoglyphini (adults) form two groups on a basis of development of ba on tarsi I-II: 1) Acarotalpa Volgin, 1966, Boletacarus Volgin et Mironov, 1980, Histioagaster Berlese, 1883, Mezorhizoglyphus Kadzhaya, 1966, Rhizoglyphus Claparede, 1869, Rhizoglyphoides Volgin, 1978, Schwiebea Oudemans 1916, Troglocoptes Fain, 1966 and some others (ba is stout, spini-form); 2) Thyreophagus Rondani, 1874, Michaelopus Fain et Johnston, 1974 and Boletoglyphus Volgin, 1953 (ba is weakly developed, short, stick-like). In this paper new genus which belongs to the second group is described and this group is treated as a new tribe, Thyreophagini Klimov, trib. n.

Material examined (material on new genus is given before corresponding description): Michaelopus sp. 1 [characters run to the couplet 6 of Fain's (1982) key], 1 protonymph - Russia, Primorskii krai; Michaelopus sp. 2 (the description is in press), 1 hypopus - South Korea, Kyongsangnam-Do; Boletoglyphus (Boletoglyphus) boletophagi (F. Turk et S. Tiirk, 1952), 6 ♂, 3 ♀♂, 86 hypopi - Russia, Irkutskaya oblast'; Boletoglyphus (B.) sp. (the description is in press), 8 ♂♀, 1 ♂, about 580 hypopi - Russia (Primorskii krai, Sakhalin), Japan (Hokkaido).

Terms of body parts and abbreviations of idiosomal setae are given after Griffiths et al. (1990); terms of parts of bursa copulatrix and abbreviations of leg elements follow Griffiths (1970) (beside ω3 in hypopi which is replaced by ba).

All measurements are given in micrometers. All material (including types and insect hosts) is deposited in Institute of Biology and Pedology, Vladivostok (IBPV). Mites were collected by author if otherwise indicated.

SUBFAMILY RHIZOGLYPHINAE OUDEMANS, 1923

Key to tribes (adults)

1 (2) Seta aa (tarsus I) developed ............... Caloglyphini Oudemans, 1932
2(1) Seta aa (tarsus I) not developed.

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SUBFAMILY RHIZOGLYPHINAE OUDEMANS, 1923

Key to tribes (adults)

1 (2) Seta aa (tarsus I) developed ............... Caloglyphini Oudemans, 1932
2(1) Seta aa (tarsus I) not developed.
3(4) ba on tarsi I-II stout massive spine, considerable longer than half of \( \omega_1 \) length and much longer than length of \( \xi \), placed anteriorly \( \omega_1 \) or in common field with the latter. wa on tarsi I-II present; setae \( ad \) and seta \( scx \) present or absent. Gnathosoma short and massive or elongated. Heteromorphic males present or absent . . . **Rhizoglyphini Oudemans, 1923**

4(3) ba on tarsi I-II short spine, considerable shorter than half of \( \omega_1 \) length and approximately equal with \( \xi \), placed in common field with \( \omega_1 \). wa on tarsi I-II present or absent; seta \( scx \) present; setae \( ad \) absent. Gnathosoma short and massive. Heteromorphic males absent . . . **Thyreophagini, trib. n.**

Tribe Thyreophagini Klimov, trib. n.


Type genus - *Thyreophagus* Rondani, 1874.

**DESCRIPTION.** Leg podomeres (especially tarsi) short. ba on tarsi I-II small spine (considerably shorter than \( \omega_1 \)). \( \xi \) and \( ba \) approximately similar in length, both placed in common with \( \omega_1 \) field. wa on tarsi I-II sometimes absent; aa absent. Anal suckers of male simple, disk-like, placed on tops of "V-shaped fold. Setae \( ad \) completely absent in adults and other Homeomorphic stages. Adults and other homeomorphic stages with stout, massive gnathosoma adopted to feeding of solid particles of food. Heteromorphic males absent. Another diagnostic characters are given in the key above.

**NOTES.** The tribe includes 4 genera and 29 species which are distributed in Holarctic, Afrotropic and Neotropic regions. Three genera are known from both adults and hypopi and one (*Thyreophagus*) from adults only.

**Key to genera of the tribe Thyreophagini**

**Adults**

1(4) Setae \( si \), \( c_{1-3} \), \( d_1 e_1 \) and \( ps_{1-3} \) absent; \( h_3 \) placed before \( f_2 \) in female; \( ps_2 \) placed behind \( ps_3 \) and anterior level of anal suckers in male.

2(3) Apical tarsal spines \( q \) and \( v \) III-IV absent, ventral seta \( wa \) I-II absent ........................................... **Thyreophagus** Rondani, 1874

3(2) Apical tarsal spines \( q \) and \( v \) III-IV present, \( wa \) I-II present or absent ........................................... **Michaelopus** Fain et Johnston, 1974

4(1) Setae \( si \) (short or long), \( d_1 e_1 \) and \( ps_{1-3} \) present; setae \( c_{1-3} \) present or absent, \( h_3 \) placed approximately at level \( f_2 \) in female; \( ps_2 \) placed approximately at half of length of anal slit, before \( ps_3 \) and anal suckers in male.

5(6) \( si \) short, considerably shorter than \( se \). \( c_{1-3} \) absent in female. Epiginium "Y"-like, well-developed, touching epimerites II. \( wa \) I-II present . . ........................................... **Boletoglyphus** Volgin, 1953

6(5) \( si \) long, similar in length with \( se \). \( c_{1-3} \) present. Epiginium straight, transverse, weakly developed, not touch epimerites II. \( wa \) I-II absent . . ........................................... **Capillaroglyphus**, gen. n.
Hypopi (unknown for *Thyreophagus*)

1(4) Eyes developed. Central suckers, occupies less than half of square of anal plate. *la* present. Dorsal cuticle smooth or fine porous.

2(3) $\xi$ spiniform, not clavate; *e* I-IV and *vsc* I-IV long, setiform (or dilated apically). Solenidia of gnathosoma longer than gnathosomal length, setae of gnathosoma setiform. Dorsal setae short. Tarsi long. *wa* I-II absent or present........................ **Michaelopus** Fain et Johnston, 1974

3(2) $\xi$ clavate; *e* I-IV and *vsc* I-IV short, spiniform, never dilated. Solenidia of gnathosoma shorter than gnathosomal length, setae of gnathosoma knife-like. Dorsal setae long, hair-like. Tarsi short. *wa* I-II absent ............ .............................. **Capillaroglyphus**, gen. n.

4(1) Eyes not developed. Central suckers large, occupy about 1/2 square of anal plate. *la* absent. Dorsal cuticle coarsely porous ......................

................................. **Boletoglyphus** Volgin, 1953

**Genus Thyreophagus** Rondani, 1874


_Fumouzea_ Zachvatkin, 1953: 57 [type species _Fumouzea entomophaga_ (Laboulbene, 1852) (=*Thyreophagus entomophagus* Laboulbene, 1852), by monotypy], syn. n.

Type species - _Acarus entomophaga_ Laboulbene, 1852, by monotypy.

SPECIES INCLUDED. _Th. entomophagus_ (Laboulbene, 1852) - Europe, Asia, North America (USA); _Th. odyneri_ Fain, 1982 - Belgium; _Th. cooremani_ Fain, 1982-Morocco.

BIOLOGY. Species of the genus are associated with insects (Hymenoptera, Homoptera, Coleoptera). *Thyreophagus entomophagus* is known to be minor pest of stored products and entomological collections (Fain, 1982; Hughes, 1976; Turk & Turk, 1957; Zachvatkin, 1941).

REMARKS. For the first time the name of genus had been mentioned (without any comments) in combination "*Thyreophagus entomophagus* Laboulb." by C. Rondani in 1874. As in this binomen had been used previously described taxon the generic name is valid. In 1953 Zachvatkin unwarrantedly replaced generic name *Thyreophagus* by _Fumouzea_ Zachvatkin, 1941 [type species _Fumouzea entomophaga_ (Laboulbene), by monotypy].

**Genus Michaelopus** Fain et Johnston, 1974

Monieziella (non Berlese, 1897); Zachvatkin, 1941: 206; Zachvatkin, 1953: 57; Chmielewski, 1977: 65 (part.); Bugrov, 1997: 151.


Type species - *Tyroglyphus corticalis* Michael, 1885, by original designation.

**SPECIES INCLUDED.** *M. africanus* (Mahunka, 1974) - Ghana; *M. angustus* (Banks, 1906) - USA; *M. annae* Sevastianov et Kivganov, 1992 - Ukraine (Odessa); *M. athiasae* Fain, 1982 - Algeria, Morocco; *M. berlesiana* (Zachvatkin, 1941) - Italy, Poland; *M. corticalis* (Michael, 1885) - Great Britain, Belgium, Germany, Italy, Russia; *M. evansi* Fain, 1982 - Great Britain (Ireland); *M. gallegoi gallegoi* (Portus et Gomez, 1980) - Spain; *M. gallegoi mauritianus* Fain, 1982 - Mauritius; *M. incanus* Fain et Rack, 1987 - Colombia; *M. johnstoni* Fain, 1982 - USA; *M. leclercqi* Fain, 1982 - Belgium; *M. macfarlanei* Fain, 1982 - Great Britain; *M. magnus* (Berlese, 1910) - Italy (Sicily); *M. passerinus* Cruz, 1990 - Cuba; *M. polezhaevi* (Zachvatkin, 1953) - former USSR (with indefinite locality); *M. rwandanus* Fain, 1982 - Rwanda; *M. sminthurus* Fain et Johnston, 1974 - Great Britain, USA; *M. spinitarsis* Fain, 1982 - Belgium; *M. tridens* Fain et Lukoschus, 1986 - USA; *M. vermicularis* (Fain et Lukoschus, 1982) - Great Britain; *Michaelopus lignieri* (Zachvatkin, 1953), comb. n. (=*Monieziella lignieri* Zachvatkin, 1953) - Western Europe; *M. sp. 2* - South Korea. Moreover *Michaelopus* (=*Monieziella*) *oryctis* (Kamenskiy, 1940), nomen nudum, from Kazakhstan probably belong to this genus.

**BIOLOGY.** Species of the genus are associated with arthropods (Colembola, Homoptera, Hymenoptera and Coleoptera), birds (Passeriformes, Charadriiformes, Columbiformes) and mammals (Insectivora, Rodentia), certain species had been found on stored products, decaying vegetation, under bark of trees, in forest litter, soil, and bracket-fungus (Aphyllophorales, Polyporaceae) (Bugrov, 1997; Chmielewski, 1977; Cruz, 1990; Fain & Lukoschus, 1986; Fain & Rack, 1987; Fain, 1982; Kamenskiy, 1940; Mahunka, 1974; Sevastianov & Kivganov, 1992, Türk & Türk, 1957; Zachvatkin, 1953).

**REMARKS.** In 1953 Zachvatkin proposed for "Histiogaster entomophagus Lab." sensu Reuter (1909) new name, *Monieziella lignieri*. As genus *Monieziella* is an junior synonym of *Michaelopus*, this species should be transferred to latter genus.

**Genus Boletoglyphus Volgin, 1953**


Type species - *Boletoglyphus cribrosus* Volgin, 1953 (=*Schwiebea boletophagi* F. Türk et S. Türk, 1952), by original designation.
SPECIES INCLUDED. See below for the subgenera.

BIOLOGY. Adults and other homeomorphic stages inhabit hymenium of decaying bracket-fungi (Aphyllophorales, Polyporaceae) and feed on their tissues. Hypopi are phoretically associated with fungivorous beetles (Coleoptera: Tenebrionidae, Ciidae, Anobidae).

Subgenus Boletoglyphus Volgin, 1953

*Boletoglyphus* Volgin, 1953: 262 (as genus); Černý & Samšiňák, 1971: 508 (as genus); Fain & Mahunka, 1990: 110 (as genus, part.); Bugrov, 1997: 151 (as genus).

*Fantovia* Samsinak, 1957: 112 (as genus).

SPECIES INCLUDED. *Boletoglyphus (Boletoglyphus) boletophagi* (F. Turk et S. Turk, 1952) - Great Britain (Scotland), Slovak Republic, Russia (Leningradskaya, Moskovskaya and Irkutskaya oblast'); *Boletoglyphus (Boletoglyphus) sp.* - Russia (Primorskii krai, Sakhalin), Japan (Hokkaido) [Volgin, 1953; Samšiňák, 1957; Bugrov, 1997; Klimov (in litt.)].

Subgenus Ellipsopus Fain et Ide, 1976


*Boletoglyphus*: Fain & Mahunka, 1990: 110 (as genus, part.).

Type species - *Ellipsopus ornatus* Fain et Ide, 1976, by original designation.

SPECIES INCLUDED. *Boletoglyphus (Ellipsopus) ornatus* Fain et Ide, 1976 - USA, Canada (Fain & Ide, 1976; Mahunka, 1977).

Genus Capillaroglyphus Klimov, gen. n.

Type species - *Capillaroglyphus polypori* Klimov, sp. n.

DESCRIPTION. *scx* long, setiform. *ve* reduced. Tibiae I-II with *gT* only (*hT* absent). Genua III without setae (Solenidion a developed only). Tarsi short. *wa* I-II absent. *ω1* ξ and *ba* placed in common field.

Adults. Subcapitulum massive, its length shorter than width. Chelicerae massive. All idiosomal setae beside *ve* and 3 pairs of *ad* developed, comparatively not long; *si* long, similar in length with *se*. Epiginium weakly developed, not reach epimerae II. *ps2* in male placed before *ps3* at level of half of anal slit length; anal suckers simple, disk-like, placed at tips of "V"-shaped fold beginning at posterior end of anal slit. *ba* represented by short spine (much shorter than *ω1*).

Hypopi. Solenidia of gnathosoma shorter than gnathosomal length, setae of gnathosoma knife-like. There is pair of lateral eyes. Coxisternal and -ventral skeleton well defined. Sternum and epimerae II not reaching hind edge of sternal shield. Ventrum not interrupted. Genital shield clearly separated from
Figs 1-2. *Capillaroglyphus polypori* Klimov, gen. et sp. n. Female (holotype): 1) ventral view; 2) dorsal view.

ventral one. *la, 3b, 4a* all suckers (*3b* nipple-like). Lateral suckers of anal plate placed behind level of central suckers. Dorsal setae very long. *ω₁* and *ba* setiform; *ξ* short, clavate; *e* I-IV and *vsc* I-IV spiniform.

The genus differs from other genera of tribe Thyreophagini mainly by presence of long *si* and by reduced epiginium in adults (others differential characters see in the key above).

**ETYMOLOGY.** The generic name is derived from Latin adjective *capillaris* (capillaceosus) and *glyphus* [root originated from Greek verb *γλύφω* (to hollow out, to cut out, to engrave) and currently used for forming names for Acaroidea] with the reference of habitat of mites in capillar-like tubes of bracket-fungi hymenium and hair-like dorsal setae in hypopi.

**SPECIES INCLUDED.** Type species only.
BIOLOGY. Adults feed on hymenium of decaying bracket-fungi (Aphyllophorales, Polyporaceae). Hypopi are phoretically associated with fungivorous beetles (families Tenebrionidae and Ciidae).

Capillaroglyphus polypori Klimov, sp. n.

Figs 1-32.

MATERIAL. Holotype - 9 (marked by arrow), Russia, Vladivostok, Botanical garden, mixed forest, in hymenium of decaying bracket-fungus grown on Betula, 27.VIII 1995. Paratypes - 5 5 f, 13 m, 13 hypopi with Schwiebea longibursata Fain et Wauthy, 1979 (Acaridae), mounted with holotype; 41 hypopi (2 slides), same locality, 12.V 1995; 1 4 f, 5 m, 12 hypopi with Mezorhizoglyphus colchicus Kadzhaja, 1966 (Acaridae), same locality, 23. VI 1995; 9 f, 10 m, 1 hypopus with M. colchicus, same locality, 30.VI 1995; 1 9 with Boletoglyphus sp., same locality, 20.VIII 1995; 9 f, 2 m with Boletoglyphus sp., Schwiebea parallela (J. Müller, 1860) (Acaridae), Gamasellus vibrissatus Emberson, 1967 and Rhodacarellus sp. (Parasitiformes, Rhodacaridae), Primorskii krai, Kedrovaya Pad' reserve, same habitat, 8.VI 1997; 1 ♀ same locality, 16.VI 1997; 2 hypopi with Boletoglyphus sp., same locality, ex Cisjacquemarti Mell. (Coleoptera, Ciidae), 9.VI 1997; 1 hypopus with Boletoglyphus sp., Japan, Nopporo Forest Park, 10 km SE Sapporo, ex Boletoxenus bellicum Loew. (Coleoptera, Tenebrionidae), 2.VII 1992 (G. Lafer).

Female (holotype). Idiosoma 420.2 (368.1-476.1, n=21) long, 221.6 wide (153.3-233.1, n=5) (ratio 1.9). Subcapitulum (Fig. 18) massive, 70.2 long, 89.6 wide (length shorter then width). Chelicerae stout, almost completely cover subcapitulum. Fixed digit with 3 stout and strongly sclerotized teeth (excluding slightly incised tip of digit) and 3 additional preaxial teeth (these teeth beginning with second main tooth). Movable digit with 4 strongly sclerotized teeth, 1 additional tooth placed behind third tooth. Collar reaches approximately half of subcapitulum length. Anterior cuticular cheliceral spine well-developed, sharpened; posterior one weakly sclerotized, bifid. Cheliceral seta setiform. Propodosoma 144.6 long, covered by short propodosomal shield (80.7 long, 109.0 wide). There is comparatively large (18.9) distance between vi (67.8 long). Setae ve reduced, represented by alveoli which placed at level of 1/2 of propodosomal shield. se (>48.4 long) placed before hind level of the shield at its posterior angles; si (60.6 long) situated just behind the shield. Distance between se-se 133.2 and si-si 41.2. Supracoxal setae 27.9 long, well-developed, setiform. Hysterosoma 275.6 long. All hysterosomal setae developed, hair-like or setiform. Length of setae is as follows (distance between several setae in parentheses): e1 9.7 (118.7), c2 12.1, c3 8.5, cpr 26.6, d, 13.3 (109.0), d2 13.3, e1 >42.4 (76.3), e2 >48.4, f2 35.1, h1 >38.8 (59.3), h2 >38.8, h3 >24.2. Cupules well-developed (diameter about 4.8); ia placed outely and slightly anteriorly from cpr; im between d2 and e2 (but slightly near to latter); ip outely f2; ih placed outerly of anal slit near its half. Coxisternal skeleton well defined. External
Figs 3-4. *Capillaroglyphus polypori* Klimov, gen. et sp. n. Male (paratype): 3) ventral view; 4) dorsal view.

edges of sternum and epimerae II and internal ones of epimerae IV with sclerotized platelets. Epimerites II considerably not reach epimerae HI. Legs I-II and III-IV far from each other. Genital orifice 80.9 long, atrium narrowed anteriorly. Epiginium weakly developed, represented by transverse sclerite (length 19.4) which considerably not reach epimerae II. Genital papillae 14.5 long, 8.5 wide; length of it basal "segment" 9.7. Anal slit moved to hind of hysterosoma, supplied with 3 pairs of setae (*ps*1-*ps*3), setae *h*3 placed near the slit at its posterior 1/3. Hind part of hysterosoma sclerotized (opisthosomal shield), boundaries of the shield not visible. Bursa copulatrix large, Chitinized openings of oviducts 7.8 long, 5.6 wide, dome-shaped; bell-shaped structure
Figs 5-13. *Capillaroglyphus polypori* Klimov, gen. et sp. n. 5-11, 14) female, 12-13) male. Legs: 5) leg I; 6, 12) tarsus I, lateral view; 7, 8) tarsus I, dorsal, ventral view, respectively; 9) leg II; 10) leg III; 11, 13) leg IV; 14) genital papillae.

developed; dilatable sac supplied with characteristic vesicle (Fig. 16). Legs short. Length of legs I-IV podomeres is as follows (length of corresponding leg without and with claw in parentheses): 36.3, 16.0, 20.3, 26.4 (99.1, 107.8); 38.3, 12.8, 18.2, 25.7 (94.9, 104.1); 25.4, 13.3, 14.5, 21.8 (75.1, 82.3); 26.6, 12.4, 15.3,
22.5 (76.8, 84.8). Genua I and especially II considerably shorter than corresponding tibiae. Tarsi short. Leg I: \(\omega_1, \omega_2, \xi\) (famulus) and \(ba\) on tarsus I placed near each other; \(\omega_1\) slightly curved, stick-like (not clavate); length of \(\omega_2\) approximately half of \(\omega_1\) length, \(\omega_2\) not reaching \(e\); \(ba\) and \(\xi\) short, spiniform, 2 times shorter than 002; 003 with blunt tip; \(e\) spiniform; \(d, f, la\) and \(ra\) setiform; \(wa\) absent; all 5 lateral ventroapical spines developed; \(gT\) long, narrow, flattened. \(d\) and \(f\) on tarsi III-IV several time longer than corresponding tarsus; \(\sigma^+\) with blunt tip, is approximately half of \(\sigma\). Chaetotaxy and solenidiotaxy of legs I-IV is as follows: 1-1-2+(2)-l+(1)-II+(3+1), 1-1-2+(1)-l+(1)-1 1+0), 1-0-(1)-1+(1)-10, 0-1-0-1+(1)-10.

Measurements. Leg I (tarsus 26.9): \(\omega_1 12.3, \omega_2 6.7, \omega_3 11.2, d 25.7, la 13.4, \omega_1 50.4, gT 13.4, \sigma^+ 7.8, a" 16.2, mG 6.7, vF 15.7. Leg II (tarsus 26.9) \(\omega_1 16.8, ba 5.6, e 14.9, \omega_1 61.5, a 12.3. d III 47.0, d IV 48.1, \phi III 39.2, \phi IV 10.6, a III 6.9.

Homeomorphic male. Idiosoma 314.9 long (294.5-327.6, \(n=7\)), 159.9 wide (147.2-159.9, \(n=2\)) (ratio 2.0). Gnathosoma as in female. Propodosoma 123.5, hysterosoma 191.3 long. Propodosomal shield 75.1 long, 89.6 wide. Arrangement of dorsal setae and cupules as in female, but distance between \(d_1\) longer than between \(c_1\). Length of setae is as follows (distance between several setae in parentheses): \(vi 50.9 (17.0), si 54.5 (58.1), se \sim 64.2 (106.6), scx 24.2, c_1 7.3 (75.8), c_2 7.3, c_3 6.1, c_p 31.5, d_1 7.3 (77.5), d_1 9.7, e_1 50.9 (50.9), e_2 32.7, f_2 40.0, h_1 43.6 (58.1), h_2 44.8, h_3 43.6, ps, 9.7 (24.2), ps_2 6.1 (44.1). Genital apparatus placed behind level of legs IV. Penis thick, 2 times curved, with perpendicularly "cut" tip (Fig. 15). Anal suckers with transparent margin, simple, placed at tips of "V"-shaped fold beginning at posterior end of anal slit. Diameter of the sucker 7.0x4.8 (with transparent marginal ring 9.9x12.1); distance between suckers 21.8. There is a pair of alveoli (\(ps_3\)) near fore edge of the suckers. \(ps_2\) placed at level of half of anal slit length (anteriorly from anal suckers and \(ps_3\)), \(ps_3\), behind the suckers, \(h_1\) situated just outerly from the suckers. Opisthosomal sclerotization better developed than in female (reaches posterior level of opistogastric gland). Chaetotaxy and solenidiotaxy of legs I-IV as in female (with common exception of \(e\) and \(d IV\) which turned into tarsal suckers). \(\omega_2\) slightly longer than in female (reaching \(e\)). \(\omega_1 12.9, \omega_2 9.4, \omega_3 11.7\) long (tarsus 27.5 long). Length of legs I-IV podomeres is as follows (length of corresponding leg without and with claw in parentethes): 31.7, 14.8, 18.2, 23.0 (87.7, 95.2); 33.9, 10.9, 15.7, 23.7 (34.8, 37.2); 25.4, 11.4, 14.5, 19.9 (29.4, 32.8); 25.4, 13.3, 14.5, 22.5 (75.8, 84.0).

Deutonymph. Idiosoma 333.7 (333.7-336.2, \(n=2\)), hysterosoma 196.3 long. External morphology (beside absence of genital apparatus) as in female. Length of several idiosomal setae is as follows: \(vi 50.9, se 48.4, si 43.6, c_1, 8.5, c_3 7.3, c_p 27.9, d 8.0, d_2 12.6, e_1, e_2, h_1\) and \(h_2 38.8, f_2 36.3, h_3\), \(17\) \(ps_1 9.7, ps_2 4.8, ps_3 2.4.\) Length of legs I-IV without and with claw (in parenthesis) is as follows: 73.9 (81.1), 72.1 (79.9), 55.7 (63.0), 58.0 (63.7), respectively. \(\sigma^+ 15.7, \omega^+ 4.8\) (with blunt end), \(cG 9.7\) long, a II (5.1) with blunt end. Placement of \(d IV\) as in female. Chaetotaxy and solenidiotaxy of legs as in female.

Hypopus (heteromorphic deutonymph). Idiosoma 226.0 long (202.5-238.0, n=26), 154.5 wide (142.3-171.8, n=26) (ratio 1.46). Cuticle dorsally bearing with fine pores. All idiosomal setae developed; dorsal ones long, hair-like. Gnathosoma (Fig. 27) 27.9 long, 16.2-7.3 wide at base and tip, respectively; basal palpomer 20.6 long, 12.1 wide (at tip); anterior setae flattened, knife-like, 7.3 long; distal solenidia 17.0 long, shorter than length of gnathosoma. Propodosoma 66.1 long. Rostrum 8.2 long, 27.9 wide, trapeziform, with *vi* on tip, placed on trapeziform base (18.4 long, 64.2 wide). There is pair of eyes near lateral edges of the trapeziform base. Eyes represented by semitransparent lens and weakly developed pigmented retinae; also, there is place of weak sclerotization at inner edges of eyes were setae *se* located. *si* placed posteriorly *se. scx* long, setiform, placed ventrally. Hysterosoma 159.9 long. Opening of opisthosomal glands placed at level *c3*. Sternal shield 74.8 long, 116.3 wide, almost touching ventral one; sternum 43.6, epimerae II 46.0 long, both not reach hind edge of sternal shield; latter straight (length 50.9). Ventral shield 42.9 long, 65.4 wide, fore edge straight (length 50.9), hind one 42.4; epimerae III 31.5 long, reaching *3a* but not touching Ventrum; Ventrum not interrupted, dividing the shield into 2 halves. Genital shield 21.8 (without posterior prongs).

and 40.0 long (with these prongs), 46.0 and 55.7 wide (at anterior and posterior edges, respectively), clearly separated from ventral one by undulate band of cuticle, comparatively better sclerotized than other shields. Diameter of *la, 3b, 4a* (all suckers, 3b nipple-like) is as follows: 9.2, 4.4, 6.8, respectively. Anal plate 37.3 long, 46.0 wide, with radial lines around central suckers. Diameter of fore suckers 7.3; central ones 10.9x9.7, with 2 touching each other pores which placed on pigmented spot on the suckers; hind suckers 7.3x5.3, placed on large, rounded sclerite (main body of this element 15.7 long, 18.2 wide, anterior processes 3.7 long); lateral suckers 5.1, they fore edges placed

between levels of central and hind suckers, each sucker supplied with dark sclerite of irregular form; fore cuticular suckers reduced, represented by stick-like sclerites (9.7) long which placed on anteriolateral edges of anal plate. Legs short, femora-tibiae with setiform setae or spines. Length of legs I-IV podomeres is as follows (length of corresponding leg without and with claw in parentethes): 23.7, 10.4, 12.6, 18.9 (65.6, 75.6); 22.0, 8.5, 10.9, 17.0 (58.4, 66.4); 16.2, 9.7, 10.4, 17.7 (54.0, 63.0); 17.0, 10.9, 9.7, 18.9 (56.4, 69.0). vF I-II placed at sclerotized edge of femur, cG I comparatively long, hT I-II absent, gT I-II represented by stout spine. Tarsus I: ι, ba elongate, setiform, οι longer than ba and length of tarsus, ɛ very small, with strongly dilated tip (strongly clavate); on, ba and ɛ placed in common field; οι stick-like, shorter than ba, placed just outerly this field; d, f, ra, la setiform; e and vsc spiniform; wa absent, d III-IV longer than length of corresponding tarsus; f III-IV shorter (approximately equal length of tarsus + tibia); e III-IV with widened bases, length of e IV equal with f IV, length of e III at half shorter then f III; vsc III-IV spiniform. Chaetotaxy and solenidiotaxy of legs I-IV is as follows: 1-1-2+(1)-1+(1)-7+(3+1), 1-1-2+(1)-1+(1)-8+(1), 1-0-(1)-1+(1)-8, 0-1-0-1+(1)-8.
Figs 31-32. *Capillaroglyphus polypori* Klimov, gen. et sp. n. Larva. 31) ventral view; 32) dorsal view.

Measurements. Length of several idiosomal setae is as follows (distance between several setae in parenthesis): vi 31.5 (8.0), se 43.6 (79.9), si 21.5 (36.3), c₁ 43.6 (53.2), c₂ 43.6 (110.2), cₚ 24.2, d₁ 50.9 (52.1), d₂ 63.0 (116.3), e₁ 67.8 (54.5), e₂ ~24.2, f₂ 36.3, h₁ ~60.6 (70.2), h₂ ~43.6 (44.8), h₃ 26.6 (27.9) (idiosoma 221.1 long, 152 wide). Leg I (length 70.2, 79.2): vF 17.7, cG 8.5, a 10.2, mG 9.7, φ 60.6, gT 9.0, w₁ 20.8, ω₂ 9.7, ξ 3.6, ba 13.3, d 60.6, f 24.2, vsc 9.7 (both), ra 26.6, la 24.2, e 8.7 long. Leg IV (length 55.7, 65.4): d 77.5; e, f 36.3; w 21.8, 4 7.3 long.

Protonymph. Idiosoma 228.4 (187.7-282.0, n=13) long, 118.7 (99.3-118.7, n=2) wide. Propodosoma 100.0, hysterosoma 128.4 long. Propodosomal shield 53.3 long, 63.0 wide. Setae 3a and 4a absent, arrangement of other idiosomal setae as in female. Length of several idiosomal setae is as follows (distance between several setae in parenthesis): vi 43.6 (10.4), se 41.2 (86.0), si ~36.3 (32.7), c₂ -24.2, cₚ 29.1, d₁ 9.2 (66.1), d₂ 12.1, e₁ 32.7 (49.7), e₂ 32.7, f₂ 29.1, h₁ 32.7 (37.1), h₂ 32.7 (37.1), h₃ 16.5 (20.8), ps₂ 7.5 (31.8). Genital slit 21.8, anal slit 53.3 long. Opisthosomal shield developed. Length of legs I-IV without and
with claw (in parenthesis) is as follows: 60.1 (67.8), 55.2 (60.6), 49.7 (55.5), 46.0 (52.8), respectively. \( w_2 \) present, \( w_3 \) absent; \( cGI \) 11.6, \( gTI \) 12.1 long, \( a'' \) shorter than half of \( \text{sig}' \), \( \text{sig}'' \) and \( \sigma \) II with blunt ends. \( e, f, s \) on tarsus IV absent; \( d \) placed near half of the tarsus. Chaetotaxy and solenidiotaxy of legs I-III is as follows: 0-1-2+(1)+(1)-11+(2+1), 0-1-2+(1)-1+(1)-11+(1), 0-0-(1)-1+(1)-10, 0-0-0-0-7.

Larva. Idiosoma 156.2 (156.2-220.4, n=6) long, 99.3 (99.3-116.3, n=2) wide. Propodosoma 71.4 long. Arrangement of propodosomal setae and cupules as in female. Propodosomal shield weakly developed, without visible boundaries. Hysterosoma 84.8 long. Length of several idiosomal setae is as follows (distance between several setae in parenthesis): \( vi \) 36.3 (6.1), \( se \) 31.5 (69.1), \( si \) 29.1 (25.4), \( c_1 \) microsetae (30.0), \( c_p \) 14.5, \( e \), 33.9, \( e_2 \) 21.8, \( h_1 \) 24.2 (25.4), \( h_3 \) 17.0 (18.2). All cupules well-developed (arrangement as in female). \( c_1 \), \( c_2 \) and \( d_1 \) microsetae. \( g \), \( 3a \), \( 4a \), \( f_2 \) and \( h_2 \) absent. Capareda's organ stick-like, 15.4 long, diameter 4.4. There is region of sclerotization between setae \( h_1 \) and \( h \), (opisthosomal shield). The shield undulate in vertical plane. Anal slit (44.0) moved to hind end of hysterosoma. Length of legs I-III without and with claw (in parenthesis) is as follows: 49.2 (53.9), 45.9 (50.4), 41.4 (47.6), respectively. \( w_2 \), 0)3 and setae on coxae I-III absent. Arrangement and proportions of other setae of legs I-III as in female, but \( ba \) and \( a'' \) relatively longer. \( s' \) 7.3, \( s'' \) 4.5 (with blunt end), \( a \) 3.5-4.5 (with blunt end), \( \phi \) I 33.6, \( \phi \) II 25.7 long. Chaetotaxy and solenidiotaxy of legs I-III is as follows: 0-1-2+(2)-(l)+(l)-11+(1+1), 0-1-2+(1)-1+(1)-11+(1),0-0-(1)-1+(1)-10.

ETYMOLOGY. The specific name is derived from Latin noun \textit{polyporus} (bracket-fungus, polyporus) with the reference of habit of new species.

DIAGNOSIS. See above for the genus.

BIOLOGY. Adults had been found in decaying hymenium of bracket-fungi with following mites: \textit{Schwiebea longibursata}, \textit{Mezorhizoglyphus colchicus}, \textit{Schwiebea parallela} (Acaridae), \textit{Gamasellus vibrissatus} and \textit{Rhodacarellus} sp. (Parasitiformes, Rhodacaridae). Hypopi are phoretically associated with: \textit{Cis Jacquemarli} Mell. (Coleoptera, Ciidae) and \textit{Boletoxenus bellicum} Loew. (Coleoptera, Tenebrionidae).

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