

Far Eastern Entomologist

Дальневосточный энтомолог

Journal published by Far East Branch
of the Russian Entomological Society
and Laboratory of Entomology,
Institute of Biology and Soil Sciences,
Vladivostok

Number 63: 1-36

ISSN 1026-051X

September 1998

TO THE KNOWLEDGE OF MITES AND TICKS (ACARI) OF KURIL ISLANDS

P. B. Klimov

Institute of Biology and Pedology, Vladivostok, 690022 Russia

Fifty seven species of free-living, entomophilous and parasitic Acari (mites and ticks) from 2 orders and 27 families collected in Kuril Islands in 1995-1997 are listed. *Bembidioglyphus acinacisetosus* **gen. n. et sp. n.** (Acariformes, Acaridae), *Thinoseius occidentalipacificus* Klimov, **sp. n.** (Parasitiformes, Eviphidae) and hitherto unknown deutonymphs of *Gamasellus (Gamasellus) kurilensis* Bregetova et Troitskiy, 1981 and *Pachylaelaps buyakovae* Goncharova et Koroleva, 1974 are described from Kuril Islands. Two genera and 3 species are recorded for the first time from Russia; 26 genera and 31 species for Russian Far East and 12 genera and 17 species - from Kuril Islands.

KEY WORDS: Acari, Kuril Islands, Russia, new taxa, new records.

П. Б. Климов. К познанию клещей (Acari) Курильских островов // Дальневосточный энтомолог. 1998. N 63. С. 1-36.

Приводится список 57 видов свободноживущих, энтомофильных и паразитических клещей (Acari) из 2 отрядов и 27 семейств, собранных на Курильских островах в 1995–1997 гг. Описаны *Bembidioglyphus acinacisetosus* **gen. n. et sp. n.** (Acariformes, Acaridae) и *Thinoseius occidentalipacificus* Klimov, **sp. n.** (Parasitiformes, Eviphidae) и ранее неизвестные дейтонимфы *Gamasellus*

(*Gamasellus kurilensis* Bregetova et Troitskiy, 1981 и *Pachylaelaps buyakovae* Goncharova et Koroleva, 1974. Два рода и 3 вида впервые приводятся для России, 26 родов и 31 вид - для Дальнего Востока и 12 родов и 17 видов - для Курильских островов.

Биолого-почвенный институт, Дальневосточное отделение Российской Академии Наук, Владивосток-22, 690022 Россия.

INTRODUCTION

During International Kuril Islands Project in 1995–1997 (IKIP-95, IKIP-96, IKIP- 97) large acarological material had been collected. The study of materials collected by Drs A. Lelej, S. Storozhenko and S. Kholin (Institute of Biology and Pedology, Vladivostok) and collection which were kindly loaned by B. Urbain (University of Washington, Seattle) has yielded 57 species from 27 families and 2 orders. List of the species is given below. One genus and 2 species are described as a new ones. Thirty one species and 17 genera are found for the first time from Kuril Islands.

The higher classification of Acari follows Johnston (1982). The arrangement and nomenclature of mesostigmatic and astigmatic mites follow Evans & Till (1979) (beside genus *Melichares*) and OConnor (1982), respectively. Terms of body parts and abbreviations of idiosomal setae of Acaridae and Eviphidae follow Griffiths et al (1990) and Evans & Till (1979), respectively; abbreviations of leg elements in Acaridae are given after Griffiths (1970) (beside ω_3 in hypopi which is replaced by *ba*). All measurements are given in μ . The higher classification of Acari follows Johnston (1982). The arrangement and nomenclature of mesostigmatic and astigmatic mites follow Evans & Till (1979) (beside genus *Melichares*) and OConnor (1982), respectively. Terms of body parts and abbreviations of idiosomal setae of Acaridae and Eviphidae follow Griffiths et al (1990) and Evans & Till (1979), respectively; abbreviations of leg elements in Acaridae are given after Griffiths (1970) (beside ω_3 in hypopi which is replaced by *ba*). All measurements are given in μm .

New records are asterisked (*). Additional material is indicated by square brackets. The following abbreviations are used: DN – deutonymph(s), H(H) – hypopus(i), vs – visual search, AL – A. Lelej, BU - B. Urbain, SS - S. Storozhenko, TP - T. Pearce.

The material including types and insect hosts is deposited in Institute of Biology and Pedology, Vladivostok (= IBPV) and in University of Washington, Seattle (including paratypes of *Thinoseius occidentalisipacificus*, sp. n.).

ORDER PARASITIFORMES

Family Macrochelidae Vitzthum, 1930

Dissoloncha superbus (Hull, 1918)

Hyatt & Emberson, 1988: 78, fig. 6, Pl. 3D; Takaku, 1997: 19, fig. 1–3.

Macrocheles superbus: Bregetova & Koroleva, 1960: 89, fig. 45–46; Alexandrov et al., 1965: 608, fig. 1–3; Bregetova, 1977c: 366, fig. 247(8), 250(3, 4), 254(3–5).

MATERIAL. 2 ♂, Onekotan, Mussel' bay, along coastline, under rocks, 7.VIII 1996 (BU); 1 ♂, Chirinkotan, tall grasses, 10.VII 1996 (BU); 3 ♀, 1 ♂, 3 DN (2 slides) and 6 ♀ (in vial), Lovushki, grass litter, gull nests on rocks, 3.VII 1997 (D. Stevenson); 3 ♀, Simushir, Srednaya bay, sandy coast, under boards, 2.VIII 1995 (V. Roth); 1 ♀ (in vial), Broutona, coastal margin, 23.VIII 1995 (BU); 1 ♀ (in vial), Iturup, Konservnaya bay, coastal margin, 22.VIII 1997 (TP).

DISTRIBUTION. Russia: Primorskii krai, Kuril Islands – Urup (Bregetova & Koroleva, 1960; Alexandrov et al., 1965), *Broutona, *Chirinkotan, *Simushir, *Onekotan, *Lovushki; Japan: Hokkaido (Takaku, 1997); Great Britain; Northern Europe; Germany; North America (Hyatt & Emberson, 1988).

REMARK. This is a common species inhabited sea debris in the Kurils.

***Holostaspella subornata* Bregetova et Koroleva, 1960**

Bregetova & Koroleva, 1960: 60, fig. 16(2), 17(2), 18(2), 20; Bregetova, 1977c: 404, fig. 297(20), 298(20); Hyatt & Emberson, 1988: 122, fig. 22C,D.

Macrocheles (Holostaspella) subornatus: Karg, 1971: 131, fig. 147(i,e,h).

MATERIAL. 4 ♀, 4 ♀ (in vial), Iturup, Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa).

DISTRIBUTION. Russia: Leningradskaya oblast', Omskaya oblast' (Bregetova & Koroleva, 1960; Bregetova, 1977c), *Kuril Islands – Iturup; Europe (Karg, 1971); Great Britain (Hyatt & Emberson, 1988).

Family Parholaspidae Evans, 1956

***Gamasholaspis variabilis* Petrova, 1967**

Petrova, 1967: 49, fig. 5(3–5); Bregetova, 1977c: 343, fig. 242(1,2), 243.

MATERIAL. 1 ♂ with *Veigaia kochi*, Brat Chirpoev, meadow in small gully, 20.VIII 1997 (TP).

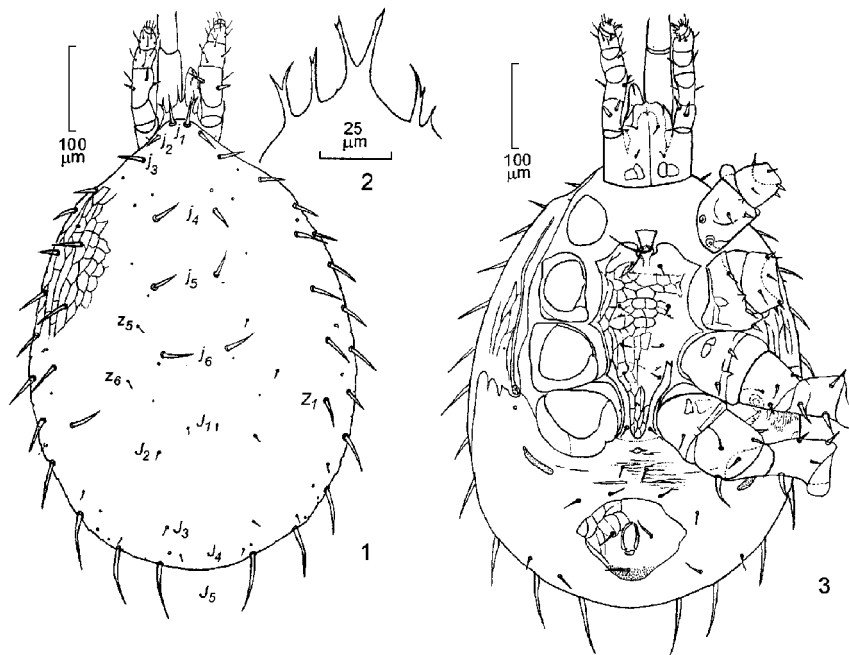
DISTRIBUTION. Russia: Sajany, Krasnoyarskii krai, Bargusinskiy reserve, Chitinskaya oblast', Yakutia, Amurskaya oblast', Primorskii krai, Sakhalin (Petrova, 1967; Bregetova, 1977c), *Kuril Islands – Brat Chirpoev.

Family Eviphidae Berlese, 1913

***Thinoseius spinosus* (Willmann, 1939)**

Karg, 1971: 116, fig. 129; Bregetova, 1977e: 566, fig. 452(1,2).

MATERIAL. 2 DN (2 slides), Paramushir, Vasil'eva bay, ex *Curtonotus torridus* (Panz.) (Carabidae), 15.VIII 1997 (AL, SS); 1 DN, Onekotan, Nemo bay ex unidentified Staphylinae, 4.VIII 1996 (AL); 50 ♀, 18 ♂, 7 DN, 1 protonymph with *Thinoseius occidentalipacificus* sp. n. and *Parasitus* sp. (6 slides) and 80 ♀



Figs 1-3. Male of *Thinoiseius occidentalipacificus* sp. n. (holotype): 1) body, dorsal view; 2) tectum; 3) body, ventral view.

(in vial), Lovushki, gull nests on rocks, from guano, 3.VIII 1997 (D. Stevenson); 1 DN, Raikoke, ex *Scatophaga exalata* Ozerov (Diptera, Scatophagidae), 13.VIII 1996 (K. Es'kov); 1 DN, Urup, Barkhatny bay, coastal meadow, 28.VIII 1995 (BU).

DISTRIBUTION. Russia: Murmanskaya oblast', (Bregetova, 1977d), *Kuril Islands – Paramushir, Onkotan, Lovushki, Raikoke, Urup; Great Britain; Germany; Iceland; Ukraine: Odessa.

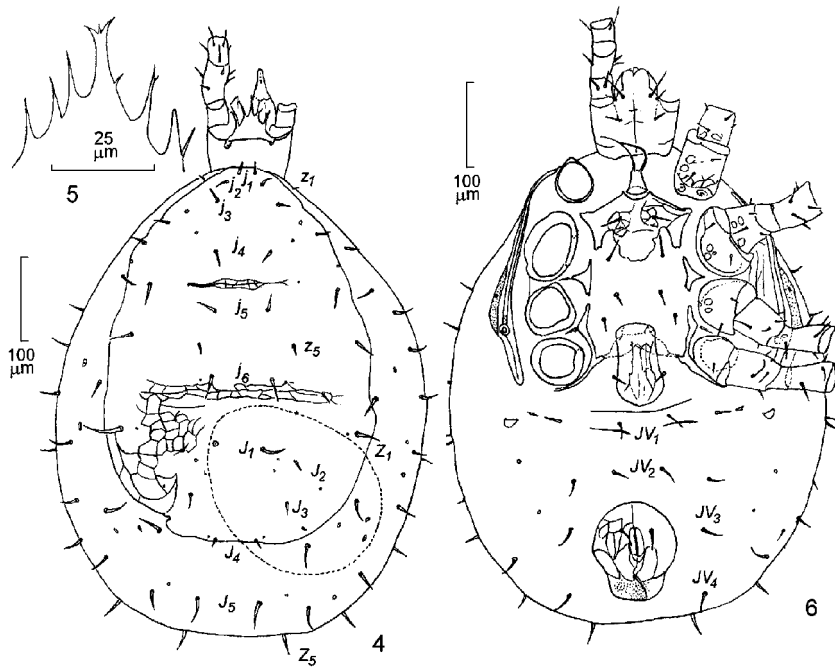
REMARKS. Posterior submarginal setae Z_4 and Z_3 (abbreviation after Karg, 1971) in males similar in length with J_2 , J_4 and J_5 . Deutonymphs are foretically associated with *Scatophaga exalata* (Diptera), *Curtonotus torridus* and unidentified Staphylinae (Coleoptera).

***Thinoiseius occidentalipacificus* Klimov, sp. n.**

Figs 1–16.

MATERIAL. Holotype: ♂, Lovushki, 48-33.26' N, 153-51.40' E, grass litter, gull nests on rocks, from guano encrusted grass litter, 3.VIII 1997 (D. Stevenson).

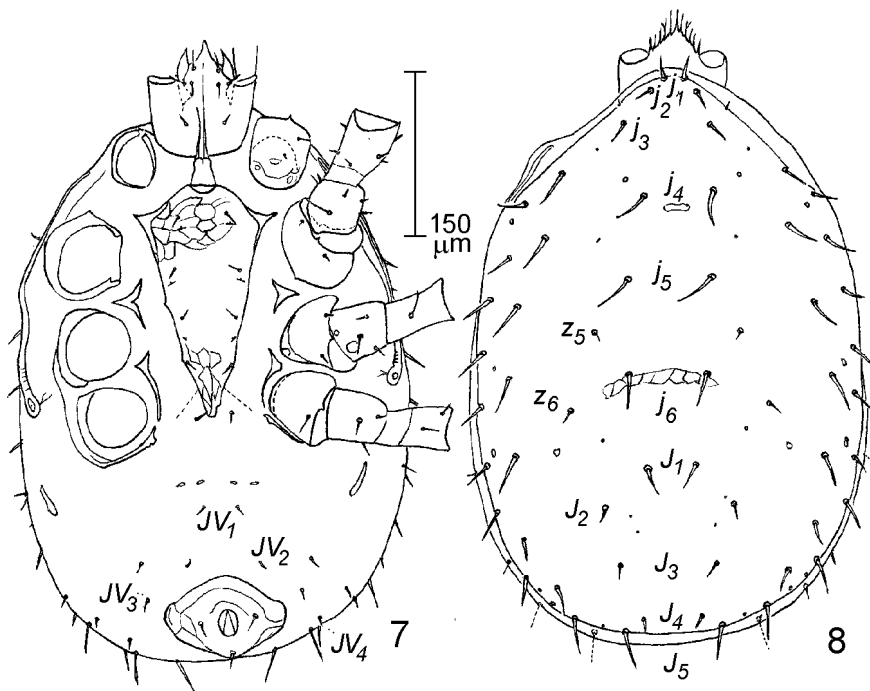
Paratypes: 25 ♀, 6 ♂, 8 DN (7 slides with *Th. spinosus*) with the same data. Addi-



Figs 4-6. Female of *Thinozeius occidentalipacificus* sp. n. (paratype): 4) body, dorsal view; 5) tectum; 6) body, ventral view.

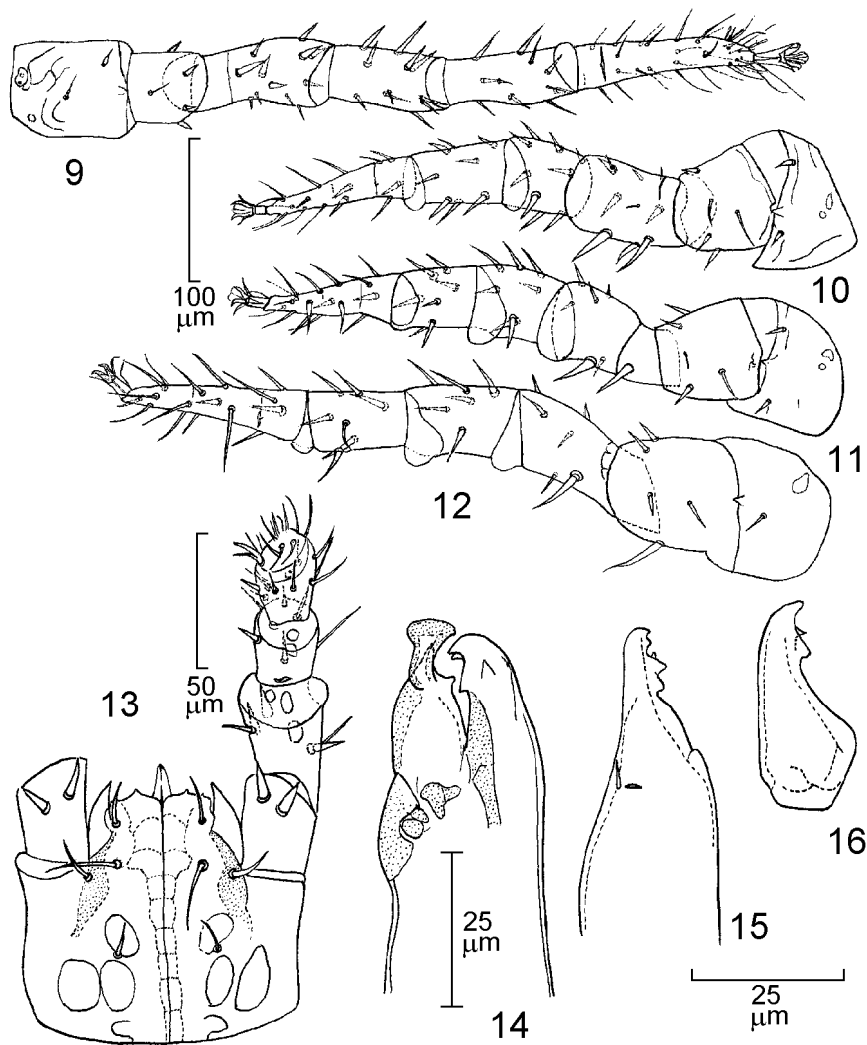
tional material: 1 ♂ (in vial), same data. Holotype and part of paratypes are deposited in IBPV, other paratypes (fieldnumber LV-97-DES-014) in the University of Washington, Seattle.

DESCRIPTION. Holotype (male). Gnathosoma as in Fig. 13. Hypognathal groove widened anteriorly; Widened part includes 2 hypognathal rows of denticles, while posterior narrowed part bearing with 6 rows. Trochanters of palps with 2 stout dark spine, femur with 4 spines and 1 seta, genu with 1 anterior spine (*al*) and 4 setae, apotele bifid. Fixed digit and movable digit of chelicera developed, bearing with 2 and 1 denticles (excluding tip teeth), respectively (Fig. 14). Spermatodactyl directed laterad, short, with widened tip. Tectum with unpaired and 2 paired branched pairs of prongs (Fig 2). Idiosoma 537.4 long, 392.6 wide; completely covered by holodorsal shield. The shield bearing with network-like pattern; peripheral combs is stretched longitudinally and central ones almost equilateral. There are 21 long, stout spines and 8 short setae in the shield. All spines and setae approximately uniform in length (e. g., *j6* 47.2 and *z5* 14.5). Arrangements of the setae shown in Figs 9-12. Tritosternum short, 19.4 long, 12.1 and 24.2 wide at tip and base, respectively, placed near genital opening. Sterno-



Figs 7-8. Deutonymph of *Thinoiseius occidentalis* sp. n. (paratype): 7) ventral view, 8) dorsal view.

metasternal shield 234.9 long, 140.5 wide at level between legs II and III; fused with presternal and endocoxal shields but long posterior parts of endopodal shields III-IV is separated from main shield and end freely; bearing with 4 pairs of setae (*st1-st4*). Setae *st5* lie on unsclerotized cuticle near hind end of sternometasternal shield. Peritrematic shields well-developed, fused internally with exopodal shields and externally with holodorsal shield; external part of the shield ending at level of hind level of leg III. There are 1 unpaired scutella (small, placed just posteriorly of sternometasternal shield) and 3 pairs of paired scutella (including metapodal shields) in opisthogastric region. Paired scutella represented by transverse short sclerites lying between anal shield and region of legs IV; central pair is whole sclerites, while peripheral sclerites are interrupted. Metapodal shield long (43.6), narrow (7.3) and curved. Anal shield bearing with pattern of irregularly combs, with 3 common setae. There are 5 pairs of *Jv* and *Zv* setae are on opisthogastric region. Length of legs I-IV 498.2, 392.6, 408.6, 490.8, respectively. Legs palpomeres bearing with spines or with spines and setae; on first 3 palpomeres (coxae, trochanters, femora) elements of chaetom distinctly divided on spines and setae; on other palpomeres these elements are uniform in length and stoutness.



Figs 9-16. *Thinoseius occidentalipacificus* sp. n.: 9-12) male, legs I-IV, respectively; 13) male, gnathosoma (chelicerae excluded), ventral view; 14) male, chelicera; 15) female, chelicera, 16) female, movable digit.

Numbers of spines on coxae-femora I-IV: 1-3-8; 2-2-5; 2-3-3; 0-2-3, respectively. Number of coxae-tarsus I-IV elements: 2-5-12-11-11(-); 2-5-10-9-8-17; 2-5-7-7-7-17; 1-5-6-7-7-17, respectively. Trochanters and coxae IV bearing with stout hind spines. Most spines placed ventrally on corresponding podomere. Idiosoma 537.4-576.6 long, 393.9-433.2 wide (n = 4).

Female. Idiosoma 579.1 (579.1–711.7, n = 16) long, 460.2 (460.7–552.2, n = 16) wide. Gnathosoma as in male but trochanter of palps with simple setae. Fixed digit of chelicera with 4 teeth, while movable one with 2 teeth (excluding tip tooth). Tectum with unpaired prong branched at tip and 2-3 pairs of paired branched or simple prongs. Idiosoma 579.1 long, 460.2 wide; partly covered by holodorsal shield. The shield ends at level of *J4*; 469.9 long, 331.3 wide at level *Z1*; bearing with comb-like sculpture. There is trace of suture on the place of fusion of podonotal and opisthonotal shields. 17 pairs of setae are on the shield; these setae forming 2 groups: short (*z5*, *z6*, *J2*, *J3* and *J4*) and comparatively long (other ones). For example, *z5* 14.5 and *j6* 32.0, *Z1* 46.0. *Z1* stouts and longest setae. 18 pairs of idiosomal setae placed outside the shield on unsclerotized cuticle. Setae *J5* 24.7 long. Presternal shields completely fused with sternal one, latter of irregular form, with posterior rounded extension, bearing with comb-like sculpture; 81.9 long, 136.8 wide. Only 1 pair of setae (*st1*) placed on the shield, others sternal setae (*st2-st5*) lie on unsclerotized cuticle. There are 2 pairs of free endopodal shields. Genital shield with stretched longitudinally combs; posterior edge rounded, anterior edge slightly rounded. Peritrematic shields free, with granular external parts; their posterior part reaching level of coxae IV; stigma placed at posterior level of coxae III; peritrema reaching level of coxae I. Metapodal shields triangular (17.0x17.0), their posterior edges better sclerotized; others scutella represented by narrow and long transverse sclerites (external ones interrupted). There are 6 pairs of setae (*Jv* and *Zv*) on opisthogastric region. Anal shield narrower than in male (113.8 long, 63.0 wide), with 3 euanal setae. Length of legs I-IV: 454.0, 368.1, 359.5, 441.2, respectively. Elements of leg chaetom represented by simple or slightly widened setae, spines absent.

Deutonymph. Idiosoma 511.7 (496.9–576.7, n = 5) long, 364.4 (355.8–425.8, n = 5) wide. Gnathosoma as in female. Tectum with 4-5 pair of branched or simple paired prongs. Holodorsal shield 500.6 long, bearing with reticulate pattern. Weak-sclerotized transverse pattern located on place of fusion between opisthonotal and podonotal shield (just behind *j6*). There are 30 pairs of setae on the shield, while 4 pairs lie on unsclerotized cuticle. Setae of shield form 2 groups; short (*z1*, *z5*, *Z6*, *J2*, *J3* and *J4*) and long (other ones); latter setae often stout, with widened bases. Tritosternum 26.6 long, 9.0 at base, 5.0 at apex. Sternal shield 123.5 long, 89.6 wide at level *st1*, looks-like as enlarged triangle, fused with first endopodal shield, while 2 posterior pairs of these shield lie freely. There are 4 pairs of setae on the shield (*st1-st4*), *st5* lie at posterior level of sternal shield. Peritrematic shields not developed. Median scutellae very small (2 pairs which positioned near each other). Metapodal shields long and thin (29.1 long, 4.8 wide). Anal shield as in female. 6 pairs of setae (*Jv* and *Jz*) lie on opisthogastric region. Length of legs I-IV: 398.8, 333.7, 328.8, 382.8, respectively. Spines on legs absent.

DIAGNOSIS. The new species is closely related to *Th. brevisternalis* (Canaris, 1962), but differ in follows (characters of the latter in parenthesis): *j1* are placed

on holodorsal shield (outside the shield) in female, tectum without denticles at tips of prongs in female (with such denticles); posterior lateral setae are longest setae of idiosoma and stout in male (short, considerable shorter than most podonotal setae), coxae I-III with spines and setae (with setae only).

Th. occidentalpacificus, sp. n. is similar with *Th. spinosus*, but differs in follows (characters of the latter in parenthesis): females – distance between teeth of movable digit of chelicera shorter than base of posterior tooth (longer than base of posterior tooth); anterior endopodal shields fused with sternal shield (endopodal shields free); *st1* lies on sternal shield (on unsclerotized cuticle); posterior edge of anal shield slightly enlarged (rounded); process of peritrematic shield behind the peritrema long, reaching the level of coxae IV (short, not reach this level); males – spermatodactyl shorter than half of movable digit (slightly shorter than movable digit of chelicera); femur of palps with 2 conspicuous widened and dark spines (without this spines, these elements represented by slightly widened setae); long dorsolateral setae of opisthogastric region placed in one row on each side of body (in two rows); posterior spur-like spines being present on trochanter and femur IV (absent); deutonymphs – setae of holodorsal shield longer, longest setae approximately 32 (setae short, length of longest setae approximately 15); distance between posterior setae shorter or equal than half of any such seta, length of setae *Z4* 32.2 and *J5* 31.5 and distance between these setae 48.4 (the distance longer than half of any posterior seta, length of setae *Z4* 15.2 and *J5* 14.5 and distance between these setae 41.2; length of setae *j4+j5* approximately equal with distance between these setae (considerably shorter than one).

ETYMOLOGY. The specific epithet is derived from Latin compound adjective *occidentali-pacificus* (western Pacific) with the reference of distribution of the new species.

DISTRIBUTION. Russia: Kuril Islands - Lovushki.

REMARKS. Probably *Th. brevisternalis* described from North America was wrongly recorded from Primorskii krai by Bregetova (1977e), because 5 females of this genus collected by me in Primorskii krai are similar, but not identical with *Th. brevisternalis*.

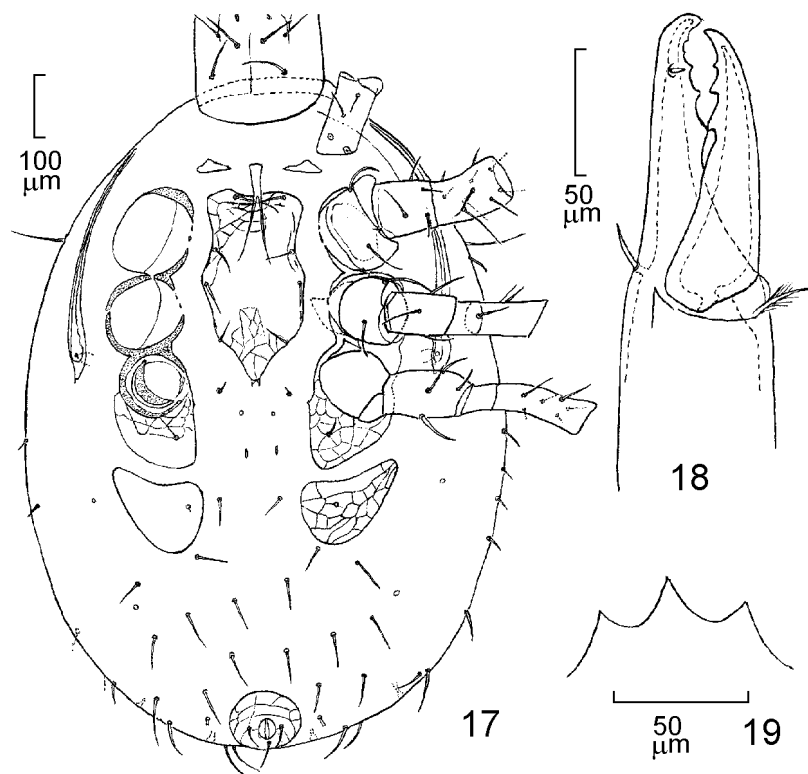
Family Pachylaelapidae Berlese, 1913

Pachylaelaps buyakovae Goncharova et Koroleva, 1974

Figs 17-22

Goncharova & Koroleva, 1974: 1257, fig. 1(1,2), 2(1-5); Koroleva, 1977: 425, fig. 329, 330.

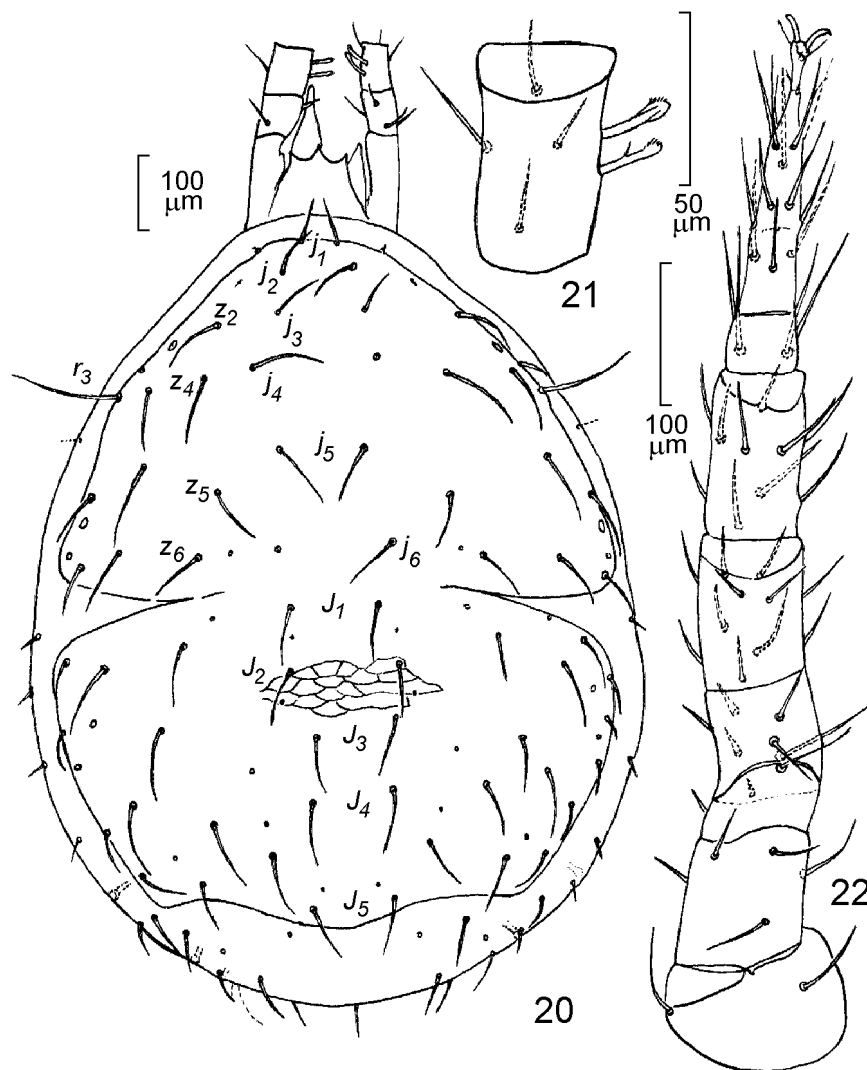
MATERIAL. 1 ♀ with *Veigaia kochi*, Shumshu, Pochtarev cape, 8-10.VIII 1997 (TP); 5 ♀ (in vial), Paramushir, Shelekhova bay, base of waterfall, vs, 13.VIII 1997 (TP); 3 ♀ (in vial), Makanrushi, 18.VIII 1997 (TP); 1 ♀ with *V. kochi*, Brat Chirpoev, gully, 20.VIII 1997 (TP); 4 ♀, 10 DN (2 slides); 1 ♀, 12 DN (in vial), Iturup, Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa).



Figs 17-19. Deutonymph of *Pachylaelaps buyakovae*: 17) ventral view; 18) chelicera; 19) tectum.

DESCRIPTION. Hitherto unknown deutonymph (Figs 17-22). Idiosoma 1003.7 long (957.1-1012.3, n=10), 723.9 wide (723.9-791.4, n=10). Movable digit of chelicerae with 3 approximately uniform teeth, fixed one with 3 large and 2 small teeth (excluding cheliceral tips). Dorsal seta of chelicera, flattened, sabre-like; arthropodial processes well-developed. Tritosternum tridentate (Fig. 19). Genu of palps bearing with 2 dilated apically setae (al_1 and al_2), their tips flattened, oviform, with marginal serration. al_2 supplied with additional setiform processes, which beginning from its base. Chaetotaxy of palps (trochanter-tibia) is as follows: 2-4-6-14.

Dorsum covered by schizodorsal shield, lateral incision between podonotal and opisthonotal shields approximately 1/3 of length schizodorsal shield. Podonotal shield 435.6 long, bearing with 19 pairs of setae: r_3 longest setae (153.4), z_1 and z_2 shortest setae, other 16 pairs of setae approximately uniform (length approximately 98.2); r_2 may be developed only on one side of shield. r_4 (if present)



Figs 20-22. Deutonymph of *Pachylaelaps buyakovae*: 20) dorsal view; 21) genu of pedipalp; 22) leg II.

placed on unsclerotized cuticle outside the shield. Opisthotal shield 441.7 long, characteristically outlined at posterior edge (Fig. 20), bearing with 18 (16) pairs of setae which similar in length with most podonotal setae; there are 4-6 lateral paired or unpaired setae on each side of shield. There are many setae (about 18 pair) placed on opisthogastric membrane; number of the setae on different sides of opisthosoma varied.

Tritosternum 48.4 long, 21.8 and 14.5 wide at base and tip, respectively. Presternal shield 21.8 long, 48.0 wide, separated from sternal one, triangle. Sternal shield 282.2 long, 159.5 wide, bearing with reticulate pattern, with 3 pairs of setae (st_1-st_3); posterior end with slightly bifurcate tip. Distance between st_1-st_1 73.6, st_2-st_2 135.0, st_3-st_3 147.2, st_4-st_4 110.4, st_5-st_5 101.2. Exo- and endopodal shields of legs III-IV fused, forming posteriorly well-developed shields on which pair of setae located; there are 2 pairs of small sclerites between these shields (Fig. 17). st_5 placed freely between coxae IV just posteriorly sternal shield. Metapodal shields large, with pair of setae, bearing with conspicuous reticulation. There are 12 pairs of opisthogastric setae. Anal shield small, 116.6 wide, supplied with 3 common euanal setae. Length of leg I-IV (without and with claw) is as follows: 1019.4, 1079.8; 681.0, 727.6; 677.3, 721.5; 944.8, 991.4, respectively. All elements of chaetom setiform, spines or spurs absent. Chaetotaxy of leg I-IV podomeres (coxa-tarsus) is as follows: 2-6-13-13-14-(-), 2-5-11-11-16, 2-5-6-9-8-16, 1-5-6-10-10-16, respectively.

DISTRIBUTION. Russia: Irkutskaya oblast', Khabarovskii krai, Kamchatka, Kuril Islands – Paramushir (Goncharova & Koroleva, 1974; Koroleva, 1977), *Shumshu, *Makanrushi, *Brat Chirpoev, *Iturup; Uzbekistan; Kirgizia: Tien-Shan.

Family Ascidae Voigts et Oudemans, 1905

***Melichares ornatus* (Postner, 1951)**

Melichares ornata: Bregetova, 1977b: 218, fig. 142(1, 3-6).

Garmaniella ornata: Karg, 1971: 244, fig. 258r, 264d.

MATERIAL. 1 ♀, Shumshu, ex *Bombus tichenkoi* Skor. (Apidae), 7.VIII 1997 (AL); Paramushir: 1 ♀, Shelekhova bay, ex *B. tichenkoi*, 19.VII 1997 (S. Kholin); 1 ♀ with *Melichares longisetosus*, Vasil'eva peninsula, ex *B. tichenkoi*, 3.VIII 1996 (AL); 1 ♀ with *M. longisetosus* and *M. bombophilus*, Severo-Kuril'sk, ex *B. albocinctus* Smith, 4.VIII 1997 (AL).

DISTRIBUTION. Russia: *Kuril Islands – Shumshu, Paramushir; Central Europe (Karg, 1971; Bregetova, 1977b).

***Melichares longisetosus* (Postner, 1951)**

Bregetova, 1977b: 221, fig. 140(3).

Garmaniella longisetosa: Karg, 1971: 224, fig. 258o, 264a.

MATERIAL. 1 ♀ with *Parasitellus fucorum*, Shumshu, ex *Bombus albocinctus*, 7.VIII 1997 (AL); Paramushir: 1 ♀ with *M. ornatus*, Vasil'eva peninsula, ex *B. tichenkoi*, 3.VIII 1996 (AL); 1 ♀ with *M. bombophilus* and *M. ornatus*, Severo-Kuril'sk, ex *B. albocinctus*, 4.VIII 1997 (AL).

DISTRIBUTION. Russia: Moscovskaya oblast', Karagandinskaya oblast', Udmurt Republic (Bregetova, 1977b), Western Siberia (Davydova & Bogatyrev,

1990), *Kuril Islands – Shumshu, Paramushir; Europe (Karg, 1971); Ukraine: Transcarpathian.

REMARK. In Kuril specimens the length of J_4 is 75-76; length of idiosoma is 464-473 (n=3); in European ones 93 and 485-530 respectively (Karg, 1971).

***Melichares bombophilus* (Postner, 1963)**

Melichares bombophila: Bregetova, 1977b: 221, fig. 142 (2, 7-10).

Garmaniella bombophila: Karg, 1971: 224, fig. 257i, 258p, 264b.

MATERIAL. 1 ♀ with *M. longisetosus* and *M. ornatus*, Paramushir, Severo-Kuril'sk, ex *Bombus albocinctus*, 4.VIII 1997 (AL).

DISTRIBUTION. Russia: Moscovskaya oblast' (Bregetova, 1977b), Western Siberia (Davydova & Bogatyrev, 1990), *Kuril Islands – Paramushir; Middle Europe (Karg, 1971); Western Europe; Ukraine: Transcarpathian;

REMARK. In Kuril specimen the length of J_4 is 40; length of idiosoma is 402; in European ones 40 and 380 respectively (Karg, 1971).

***Proctolaelaps pygmaeus* (Müller, 1860)**

Karg, 1971: 242, fig. 257b,h, 258l, 259b, 263b; Bregetova, 1977b: 213, fig. 135.

MATERIAL. 3 ♀ ex *Microtus oeconomus* Pall. (Rodentia, Cricetidae), Shumshu, 8.VIII 1997 (AL). [♀, ♂ with *Lasioseius youcefi* Athias-Henriot, 1959 (Acari, Ascidae), Irkutskaya oblast', Bratsk, walls of home aquarium, above water-level, 1.V 1991 (P. Klimov); 4 ♀, Vladivostok, compost, IX. 1996 (P. Klimov)].

DISTRIBUTION. Russia: *Irkutskaya oblast', *Primorskii krai, *Kuril Islands – Shumshu; Europe; South Africa (Karg, 1971); Indonesia; North America; Australia; New Zealand (Karg, 1971). Cosmopolitan (Bregetova, 1977b);

Family Laelaptidae Berlese, 1892

***Pneumolaelaps bombicolens* (Canestrini, 1884)**

Hypoaspis (Holostaspis) bombicolens: Karg, 1971: 177, fig. 195d.

Hypoaspis (Pneumolaelaps) bombicolens: Bregetova, 1977d: 522, fig. 412(5-10).

MATERIAL. 3 ♀, Paramushir, Shelekhova bay, ex *Bombus tichenkoi*, 19.VII 1997 (S. Kholin); 1 ♀ with *Parasitellus fucorum*, Makanrushi, vegetation near beach, 18.VIII 1997 (J. Schweikert),.

DISTRIBUTION. Russia: Leningradskaya oblast', Perm'skaya oblast', Western Siberia (Davydova & Bogatyrev, 1990), *Kuril Islands – Paramushir, Makanrushi; Western Europe (Karg, 1971).

***Eulaelaps stabularis* (C. L. Koch, 1836)**

Bregetova, 1953: 315; Bregetova & Lange, 1955: 319, fig. 382, 390, 654; Bregetova, 1977d: 489, fig. 386(1,2); Nikulina, 1987: 229.

MATERIAL. 1 ♀ ex *Microtus oeconomus*, Shumshu, 8.VIII 1997 (AL); 1 ♀ ex *M. oeconomus*, Simushir, 10.VIII 1995 (H. Hoekstra).

DISTRIBUTION. Holarctic, including Kuril Islands – Iturup, Kunashir, Juriy, Zelenyi (Bregetova & Lange, 1955; Violovich, 1960), *Shumshu, *Simushir.

***Haemogamasus ambulans* (Thorell, 1872)**

Bregetova, 1953: 316; 1955: 281, fig. 552-554; Nikulina, 1987: 223, fig. 116(3).

MATERIAL. 2 ♀ ex *Microtus oeconomus*, Shumshu, 8.VIII 1997 (AL); 1 ♂ ex *M. oeconomus*, Simushir, 10.VIII 1995 (H. Hoekstra).

DISTRIBUTION. Cosmopolitan, including Kuril Islands – Zelenyi, (Nikulina, 1987; Violovich, 1960), *Shumshu, *Simushir.

***Haemogamasus liponyssoides* Ewing, 1925**

Bregetova, 1953: 318; 1955: 266, fig. 498-502; 1956: 140, fig. 284-288; Asanuma & Uchikawa, 1980: 97, fig. 37A(1-4); Nikulina, 1987: 224.

MATERIAL. 4 ♀, 1 ♂ (2 slides) ex *Microtus oeconomus*, Shumshu, 8.VIII 1997 (AL).

DISTRIBUTION. Russia: Primorskii krai (Bregetova, 1955, 1956), *Kuril Islands – Shumshu; North Korea (Bregetova, 1955); China; Japan (Asanuma & Uchikawa, 1980). Holarctic (Nikulina, 1987).

***Haemogamasus nidi* Michael, 1892**

Bregetova, 1955: 263, fig. 489-490; Nikulina, 1987: 224, fig. 116(17).

MATERIAL. 2 ♀ ex *Microtus oeconomus*, Simushir, 10.VIII 1995 (H. Hoekstra).

DISTRIBUTION. Russia: Sakhalin (Violovich, 1960), Kuril Islands – without definite island (Bregetova, 1955), *Simushir. Holarctic.

Family Rhodacaridae Oudemans, 1902

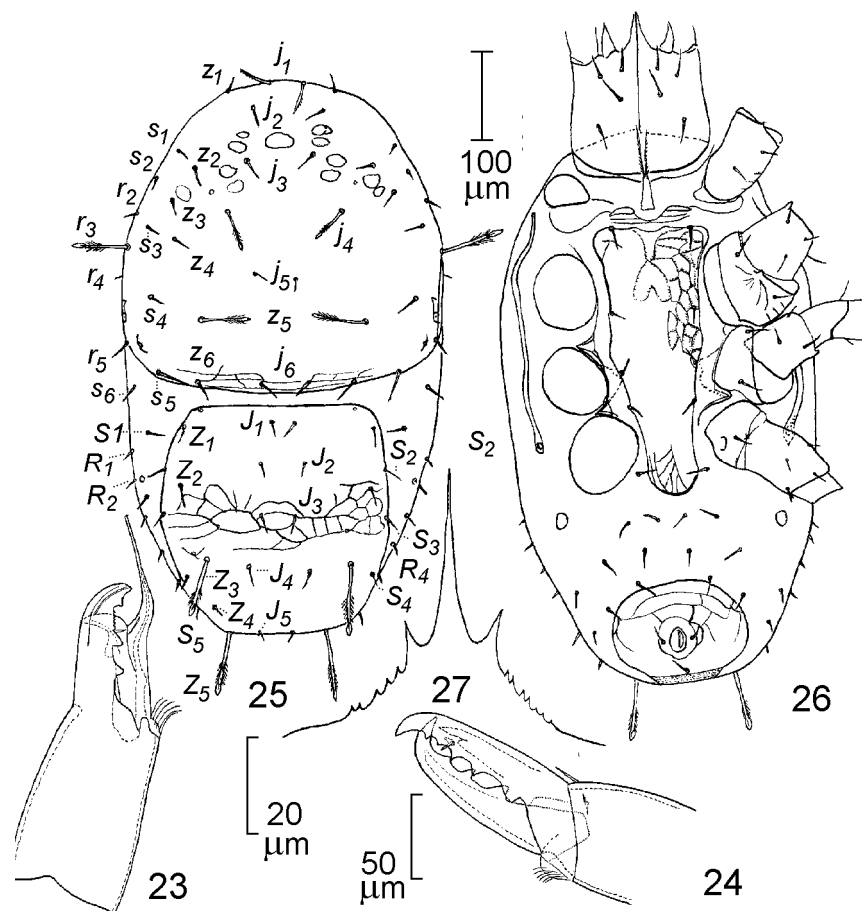
***Gamasellus (Gamasellus) kurilensis* Bregetova et Troitskiy, 1981**

Figs 23-27

Bregetova & Troitskiy, 1981: 78, fig. 7-13.

MATERIAL. 1 ♀ with *Veigaia ochracea*, Alaid, 12.VIII 1997 (TP); 6 ♂, 9 ♀, 1 DN (6 slides), Brat Chirpoev, small gully, 20.VIII 1997 (TP).

DESCRIPTION. Adults (additional characters). MALE (Fig. 23). Fixed digit with 3 large teeth (excluding tooth on cheliceral tip); between tip and first tooth placed 5 very small denticles. Movable digit with only one tooth (excluding tooth on tip, this tooth is directed almost perpendicularly to dorsal margin of chelicera). Free part of sclerotized spermatodactyl varied in length. FEMALE. Chelicera (Fig. 24). Fixed digit bearing with 6 teeth, movable one with 3 teeth. Pilus dentilus and dorsal seta of chelicera setiform, latter longer and more acute than former.



Figs 23-27. *Gamasellus (Gamasellus) kurilensis*: 23) male, chelicera; 24) female, chelicera; 25-27) deutonymph: 25) dorsal view; 26) ventral view; 27) tectum.

DEUTONYMPH. Hitherto unknown deutonymph (Figs 25-27). Idiosoma 539.9 long, 306.8 wide, idiosomal length/width 1.76 (n=1). Gnathosoma. Base of hypostom bearing with dorsolateral rows of denticles. Hypognathal groove with 6 rows of denticles. Seta *all* on genu of palps flattened and pilose (only four denticles present). Apotele of palpal tarsus trifide, median extension of the apotele with transparent emargination. Number of setae on palpal trochanter-tibia is as follows: 2-5-6-14, respectively. Dorsum (Fig. 25). Tectum (Fig. 27) as in adults, with large median prongs, 1 pair of lateral small prongs and 5-7 pairs of small denticles situated after them. Podonotal shield 300.6 long, bearing with irregularly reticulation and ovoid spots, posterior part with transverse reticulation. There are

20 pairs of setae on the shield, setae *s6* placed on membranous cuticle posteriorly from hind angles of the shield. *r4* as in adults placed outside the shield. In comparison with adults, setae *j1*, *r3*, *j4* and *z5* much longer than the rest ones. Morphology of these setae as in adults. Opisthonotal shield 229.4 long, 220.9 wide at level *S3*, bearing with transverse reticulation. The shield as in adults, with 14 pairs of setae but longest setae are *Z3* and *Z5* (these setae also supplied with pilosity and transparent widened tips and longer than the rest setae). There are 7 pairs of setae (*S1*, *R1–R4* and *UR1–UR2*) around the shield. Venter (Fig. 26). Tritosternum as in adults. There is 1 anterior pair of presternal shields (posterior ones reduced). Sternal shield 261.4 long, 171.8 wide at level of anterior side of leg III, rounded posteriorly, has pattern of punctate reticulation (especially anteriorly), with 5 pairs of sternal setae (*pst1–pst5*). Peritrematic and exopodal shields absent. Anal shield 99.4 long, 135.0 wide, with 3 euanal setae. Sculpture without punctuation. Setae *Jv1–Jv4* and *Zv1–Zv* situated on membranous cuticle outside the shield. There is 1 pair of small oval metapodal shields. Legs. Morphology and chaetotaxy as in female. Pilose setae on trochanters II–IV absent. There is 1 anteriolateral setae with slightly lanceolate tip on genu IV; tibia IV with 1 such anteriodistal seta. Number of setae on coxae–tarsi of legs I–IV is as follows: 2–6–13–13–14–(-); 2–5–10–11–11–18; 2–5–6–10–9–17; 1–5–6–10–10–19, respectively.

DISTRIBUTION. Russia: Kuril Islands – Paramushir (Bregetova & Troitskiy, 1981), *Alaid, *Brat Chirpoev.

Family Veigaiidae Oudemans, 1939

Veigaia kochi (Трдгердх, 1918)

Karg, 1971: 453, fig. 511a, 512a; Bregetova, 1961: 71, fig. 61-66; 1977a: 116, fig. 56(1,2).

MATERIAL. 6 ♀ (in vial), Antsiferova, grassy meadow, 15. VIII 1997 (TP); 24 ♀ (in vials), Alaid, litter, vs, 12.VIII 1997 (TP); 46 ♀, 2 DN (in vials), Shumshu, Pochtareva cape, litter, vs, 8–10.VIII 1997 (TP); 68 ♀, 7 DN (in vials), Paramushir, litter, 30.VII–5.VIII 1997 (TP); 2 ♀ (on slide), 13 ♀ and 1 DN (in vials), Makanrushi, litter, 18. VIII 1997 (TP); 1 ♀, Broutona, under rocks, vegetative layer along shoreline, 23.VIII 1995 (BU); 13 ♀, 2 DN (on slides with *Pachylaelaps buyakovae*) and 24 ♀, 1 DN (in vials), Brat Chirpoev, litter, 20.VIII 1997 (TP); Iturup: 20 ♀, 1 DN (in vial), Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa); 2 ♀ (in vial), the same place, 22. VIII 1997 (TP).

DISTRIBUTION. Russia: Kuril Islands – without definite island (Bregetova, 1977a), *Alaid, *Shumshu, *Paramushir, *Makanrushi, *Broutona, *Brat Chirpoev, *Iturup, *Antsiferova. Palaearctic.

REMARKS. This is a rather common in the Kurils species represented by parthenogenetic females only.

***Veigaia ochracea* Bregetova, 1961**

Bregetova, 1961: 86, fig. 76-77; 1977a: 122, fig. 48(7), 58(1,2).

MATERIAL. 1 ♀ with *Gamasellus kurilensis*, Alaid, 12.VIII 1997 (TP); 2 ♀, Shumshu, Pochtareva cape, 8.VIII 1997 (TP); 1 ♀, Paramushir, N end of island, meadow litter, vs, 31.VII 1997 (TP); 4 ♀, Makanrushi, vs, 18.VIII 1997 (TP).

DISTRIBUTION. Russia: Khabarovskii krai, Primorskii krai, Kuril Islands – Zelenyi (Bregetova, 1961), *Alaid, *Shumshu, *Paramushir, *Makanrushi.

***Veigaia mirabilis* Bregetova, 1961**

Bregetova, 1961: 84, fig. 74-75; 1977a: 119, fig. 57(1,2).

MATERIAL. 1 ♀ with *Veigaia* sp., Paramushir, E Tuxharka bay, sandy soil, vs, 17.VIII 1997 (TP); 2 ♀ with *Pergamasus* sp., Iturup, Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa).

DISTRIBUTION. Russia: Irkutskaya oblast', Primorskii krai, Kamchatka (Bregetova, 1977a), *Kuril Islands – Paramushir, Iturup.

***Veigaia slonovi* Bregetova, 1961**

Bregetova, 1961: 87, fig. 78; 1977a: 119, fig. 48(6), 57(3,4).

MATERIAL. 1 ♀, Iturup, Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa).

DISTRIBUTION. Russia: Primorskii krai (Bregetova, 1961), Kuril Islands – without definite island (Bregetova, 1977a), *Iturup.

Family Parasitidae Oudemans, 1901

***Pergamasus (Pergamasus) septentrionalis* (Oudemans, 1902)**

Karg, 1971: 366, fig. 391h, 396.

Amblygamasus septentrionalis: Bregetova, 1956: 60.

MATERIAL. 1 ♀, Paramushir, Utyosnaya river, floodplain, vs, 11.VIII 1997 (TP); 2 ♀, 1 ♂, Simushir, Srednaya bay, sandy coast, under boards, 22.VIII 1995 (V. Roth).

DISTRIBUTION. Russia: without definite locality (Bregetova, 1956), *Kuril Islands – Paramushir, Simushir. Holarctic (Karg, 1971).

***Pergamasus (Pergamasus) crassipes* (Linnaeus, 1758)**

Bregetova, 1956: 60; Karg, 1971: 366, fig. 39a, 391i, 421a,b, 426b; Davydova, 1976: 16, fig. 8, 9, 10.

MATERIAL. 15 ♀, 7 ♂, 3 DN (on slides) and 10 ♀, 11 ♂ (in vials), Paramushir, litter, vs, 30.VII–5.VIII 1997 (TP).

DISTRIBUTION. Russia: Sakhalin, Kamchatka (Violovich, 1960; 1963), *Kuril Islands – Paramushir. Holarctic (Karg, 1971).

Pergamasus (Paragamasus) runcatellus (Berlese, 1903)

Athias-Henriot, 1967: 112, fig. 517, 519, 539, 561, 546.

Pergamasus runcatellus: Karg, 1971: 411, fig. 415e, 418f, 444f, 436p.

Pergamasus (Paragamasus) lapponicus (non Troggerdh, 1910): Davydova, 1976: 25, fig. 17-19.

MATERIAL. 13 ♀, 6 ♂ with *Veigaia* sp. 1 and *Veigaia* sp. 2, Paramushir, 30.VII–5.VIII 1997 (TP); 1 ♀, 1 ♂, Rasshua, in cavity under rotting wood, 12.VIII 1995 (V. Roth); 1 ♀, 1 ♂, Iturup, Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa).

DISTRIBUTION. Russia: Western Siberia (Davydova, 1976), *Kuril Islands – Paramushir, Rasshua, Iturup; Italy; Eastern Alps; Sweden; Spain; Great Britain; North America (Athias-Henriot, 1967).

Parasitus consanguineus Oudemans et Voigts, 1904

Karg, 1971: 423, fig. 472a, 473c; Hyatt, 1980: 263, fig. 9.

Parasitus (Coleogamasus) consanguineus: Tichomirov, 1977: 88, fig. 36(13).

Parasitus (Coleogamasus) setosus: Davydova, 1976: 94, fig. 18b.

MATERIAL. 6 ♀, 3 ♂, 11 DN (3 slides), Makanrushi, side of pond, vs, 18.VIII 1997 (TP).

DISTRIBUTION. Russia: south of European part, Western Siberia (Tichomirov, 1977; Hyatt, 1980), *Kuril Islands – Makanrushi; Western Europe; Greece; Israel; Ukraine; “Caucasus”; Turkmenistan; Tadjikistan.

Parasitellus talparum (Oudemans, 1913)

Hyatt, 1980: 337, fig. 48.

Parasitus talparum: Karg, 1971: 445, fig. 504, fig. 504c.

Parasitus (Parasitus) numismaticus: Davydova 1976: 58, fig. 43.

MATERIAL. 8 DN with *Parasitellus fucorum* ex *Bombus tichenkoi*, Shumshu, 7.VIII 1997 (AL); Paramushir: 4 DN with *P. fucorum* ex *B. albocinctus*, Severo-Kuril'sk, 4.VIII 1997 (AL); 2 DN with *P. fucorum* among small Carabidae, 4 km NW Severo-Kuril'sk, 5.VIII 1997 (AL, SS); 2 DN with *P. fucorum* and *Hypoaspis bombicolens*, Makanrushi, vegetation near beach, 18.VIII 1997 (J. Schweikert); 1 DN ex *B. florilegus* Panfilov, Iturup, 5 km N Reydovo, 19.VIII 1996 (AL).

DISTRIBUTION. Russia: Western Siberia (Davydova, 1976), Eastern Siberia, Altai (Tichomirov, 1977), *Kuril Islands – Shumshu, Paramushir, Makanrushi, Iturup; Europe (Hyatt, 1980).

REMARKS. Opisthonotal shield with 20-22 pairs of setae, while in normal it bears from 23 to 24 (Davydova, 1976) or from 24 to 30 pairs (Hyatt, 1980). The

lacking setae are placed laterally near the shield on small sclerites. Several characters (pointed posterior apex of sternal shield, outline of anal shield and number of opisthonotal shield setae) are similar to *Parasitellus* (= *Parasitus*) *favus* (Richards, 1976) from Canada (Alberta) which also associated with bumble-bees (Richards, 1976). However, long podonotal setae and five different teeth on digitus fixtus resemble to those of *P. talparum*. In order to establish real relationships between this form with Palaearctic *P. talparum* and Nearctic *P. favus* it is necessary to study their mature stages.

***Parasitellus fucorum* (De Geer, 1778)**

Hyatt, 1980: 328, fig. 42.

Parasitus (Parasitus) fucorum: Davydova, 1976: 55, fig. 40.

Parasitus fucorum: Karg, 1971: 445, fig. 459a-c, 462a,d.

MATERIAL. 9 DN (in vial), Alaid, below vegetation, 12.VIII 1997 (BU); 4 DN with *M. longisetosus* (2 slides) ex *Bombus. albocinctus* and 3 DN with *P. talparum* ex *B. tichenkoi*, Shumshu, 7.VIII 1997 (AL); Paramushir: 1 DN among *Cercyon* sp., *Helophorus* sp. (Coleoptera, Hydrophilidae), *Hydroporus* sp. (Dytiscidae) and small Staphylinidae, Vasilyeva peninsula, 3.VIII 1996 (E. Saenko); 13 DN ex *B. tichenkoi*, Shelekhova bay, 19.VII 1997 (S. Kholin); 1 DN with *P. talparum* among small Carabidae, 4 km NW Severo-Kuril'sk, 5.VIII 1997 (AL, SS); 6 DN with *P. talparum* ex *B. albocinctus*, Severo-Kuril'sk, 4.VIII 1997 (AL); 19 DN ex *B. hypnorum* L., Makanrushi, 18.VIII 1997 (AL); 1 DN, Onekotan, E of Trudny river, herbaceous/grassy coastal slope meadow, 9.VIII 1996 (BU); 1 DN, Ekarma, herbaceous meadow, 10.VIII 1996 (BU); 1 DN ex *Strangalia arcuata* Panz. (Cerambycidae) and 1 DN, Matua, 15.VIII 1996 (AL, P. Oberg); Urup: 2 DN ex *B. oceanicus* Frieze, Ukromnaya bay, 20-21.VIII 1996 (AL); 1 DN, Barkhatny bay, coastal meadow dominated by low-lying grasses and flowering herbs, 28.VIII 1995 (BU); 2 DN among Diptera and 1 DN ex *Dolichovespula media* Retzius (Vespidae), Iturup: 5 km N Reydovo, 19.VIII 1996 (AL); 1 DN ex *B. florilegus*, the same place, 7.VII 1997 (AL).

DISTRIBUTION. Russia: Western Siberia (Davydova, 1976), Kuril Islands – without definite island (Tichomirov, 1969), *Alaid, *Shumshu, *Paramushir, *Makanrushi, *Onekotan, *Ekarma, *Matua, *Urup, *Iturup; Europe (Hyatt, 1980); "apparently all USSR" (Tichomirov, 1977).

REMARK. Probably the specimens from Paramushir and Iturup ("among Diptera") also associated with bumble-bees which killed together with flies.

***Poecilochirus carabi* G. et R. Canestrini, 1882**

Karg, 1971: 419; Tichomirov, 1977: 99, fig. 43(2,3,14); Hyatt, 1980: 350, fig. 55.

Poecilochirus necrophori: Bregetova, 1953: 303; Violovich, 1960: 252; Karg, 1971: 419, fig. 463c, 464c, 465-467; Davydova, 1976: 103, fig. 76; Tichomirov, 1977: 99, fig. 5, 10, 11, 16, 17.

MATERIAL. Paramushir: 5 DN and 1 DN (in vial), Utesnaya river mouth, herbaceous meadow 1.VIII 1996 (BU); 10 DN ex *Necrophorus pustulatus* Horn (Silphidae), Krascheninnikov bay, 4.VIII 1997 (AL, SS); 2 DN ex *N. vespilloides* (Silphidae), 5 km NW Severo-Kuril'sk, 11.VIII 1997 (AL, SS); 1 DN ex *Nebria (Catonebria) catenulata banksi* Crotch (Carabidae), Shumshu, Yuzhanka river, 10.VIII 1997 (AL); 19 DN ex *N. vespilloides* (Silphidae), Onekotan, Rezvyi Stream, 7.VIII 1996 (E. Saenko); 4 DN and 1 DN (in vial), Ekarma, herbaceous meadow, 10.VIII 1996 (BU); 1 DN ex *Carabus granulatus* L. (Carabidae), Kunashir, 17 km S Yuzhno-Kuril'sk, 25.VIII 1996 (AL).

DISTRIBUTION. Russia: Western Siberia (Davydova, 1976), Primorskii krai (Bregetova, 1953), Kamchatka, Sakhalin, Kuril Islands – Kunashir, Shikotan (Violovich, 1960, 1963), *Paramushir, *Onekotan, *Ekarma; Europe (Hyatt, 1980); China (Hyatt, 1980).

***Poecilochirus subterraneus* (Müller, 1860)**

Bregetova, 1956: 62, fig. 77; Karg, 1971: 416, fig. 463b, 464b; Tichomirov, 1977: 99, fig. 43b; Hyatt, 1980: 361, fig. 62.

MATERIAL. 5 DN (2 slides), Shumshu, Pochtareva cape, meadow, 8.VIII 1997 (T. Ritchie); 1 DN with *Pelzneria crenulata* ex *Necrophorus pustulatus* (Silphidae), Paramushir, Krascheninnikov bay, 4.VIII 1997 (AL, SS).

DISTRIBUTION. Russia: Leningradskaya oblast', Tatarstan, "Daurian steppe" (Bregetova, 1956), *Kuril Islands – Shumshu. Paramushir; Western Europe (Bregetova, 1956; Karg, 1971; Hyatt, 1980); "probably all USSR" (Tichomirov, 1977).

***Porrhostaspis lunulata* Müller, 1859**

Hyatt, 1980: 320, fig. 39, 40.

Parasitus lunulatus: Karg, 1971: 431, fig. 485a, 473x, 490b, 491, 492.

Eugamasus lunulatus: Bregetova, 1956: 60.

Parasitus (Eugamasus) lunulatus: Davydova, 1976: 44, fig. 32; Tichomirov, 1977: 62, fig. 25(12-14), 27(5-9).

MATERIAL. Paramushir: 3 ♀, 2 ♂, 30.VII-5.VIII 1997 (TP); 1 ♀, Utyosnaya river valley, vs, 11.VIII 1997 (TP); 12 ♀, 5 ♂, Shelekhova bay, vs, 13.VIII 1997 (TP).

DISTRIBUTION. Russia: European part, Caucasus (Tichomirov, 1977), *Kuril Islands – Paramushir; Western Europe; Afghanistan (Hyatt, 1980).

***Vulgarogamasus kraepelini* (Berlese, 1905)**

Hyatt, 1980: 297, fig. 27B-C.

Eugamasus kraepelini: Bregetova, 1956: 62.

Parasitus kraepelini: Karg, 1971: 431, 473f, 485b, c.

Parasitus (Eugamasus) kraepelini: Davydova, 1976: 44, fig. 32; Tichomirov, 1977: 63, fig. 24(21), 25(5).

MATERIAL. Paramushir: 1 ♀, N end of island, litter, 30.VII 1997 (TP); 1 ♀, 3 ♂, Shelekhova bay, base of waterfall, vs, 13.VIII 1997 (TP); 3 ♀, 3 DN, Severo-Kuril'sk, E slope of Ebeko volcano, vs, litter, 2.VIII 1997 (TP).

DISTRIBUTION. Russia: European part, Ural, Western Siberia (Tichomirov, 1977), *Kuril Islands – Paramushir; Western Europe.

***Vulgarogamasus remberti* (Oudemans, 1912)**

Hyatt, 1980: 304, fig. 30.

Eugamasus remberti: Bregetova, 1956: 61.

Parasitus remberti: Karg, 1971: 424.

Parasitus (Vulgarogamasus) remberti: Davydova, 1976: 67, fig. 51; Tichomirov, 1977: 81.

MATERIAL. 1 DN ex *Microtus oeconomus*, Shumshu, 8.VIII 1997 (AL).

DISTRIBUTION. Russia: Western Siberia, Yamal, Altay, (Davydova, 1971), *Kuril Islands – Shumshu; Western Europe (Karg, 1971; Hyatt, 1980); North Kazakhstan (Davydova, 1971); “apparently all USSR” (Tichomirov, 1977).

REMARK. In Kuril specimen *r3* is smooth as well as in Siberian ones.

***Vulgarogamasus oudemansi* (Berlese, 1904)**

Hyatt, 1980: 300, fig. 28 (A-F).

Eugamasus oudemansi: Bregetova, 1956: 61.

Parasitus oudemansi: Karg, 1971: 429.

Parasitus (Eugamasus) oudemansi: Davydova, 1976: 49, fig. 2; Tichomirov, 1977: 63.

MATERIAL. 1 DN ex *Microtus oeconomus*, Shumshu, 8.VIII 1997 (AL).

DISTRIBUTION. Russia: Western Siberia (Davydova, 1971), Altai, Sajany (Tichomirov, 1977), *Kuril Islands – Shumshu; Western Europe; North Kazakhstan.

Family Ixodidae Murray 1877

***Ixodes (Ixodes) persulcatus* Schultz, 1930**

Serdukova, 1955: 412, fig. 833; Babos, 1964: 193, fig. 74-83; Fillipova, 1977: fig. 147, 176-184; Kolonin, 1987: 203, fig. 103(3,4).

Ixodes persulcatus: Yamaguti & Kitaoka, 1980: 157, fig. 66B.

I. sachalinensis: Fillipova, 1977: fig. 185.

MATERIAL. 1 ♀, Rasshua, under stones and in dirt, 12.VIII 1995 (BU).

DISTRIBUTION. Palearctic, including Kuril Island – without definite island (Fillippova, 1977; Kolonin, 1981), *Rasshua.

***Ixodes (Ixodiopsis) angustus* Neumann, 1899**

Fillippova, 1977: 135, fig. 41, 42; Kolonin, 1987: 205, fig. 105(2).

Ixodes angustus: Yamaguti & Kitaoka, 1980: 159, fig. 67C.

MATERIAL. 4 ♀, 1 ♂ ex *Microtus oeconomus*, Shumshu, 8.VIII 1997 (AL); 8 larvae, 11 DN (3 slides) and 3 larvae (in vial) ex *M. oeconomus*, Simushir, 10.VIII 1995 (H. Hoekstra).

DISTRIBUTION. Holarctic, including Kuril Islands – Simushir, Kunashir, Shikotan (Fillipova, 1977), *Shumshu.

ORDER ACARIFORMES

Family Pterochthoniidae Grandjean, 1950

Pterochthonius angelus (Berlese, 1910)

Krivolutsky, 1975: 54, fig. 46; Aoki, 1980: 417, fig. 196A.

MATERIAL. 1 specimen, Makanrushi, 18.VIII 1997, vs, (TP).

DISTRIBUTION. Russia: Kamchatka, Kuril Islands – without definite island (Krivolutsky et al., 1995), Kunashir (Pan'kov, 1989; Pan'kov et al., 1997), *Makanrushi; Japan: Hokkaido, Honshu, Oki, Yaku (Aoki, 1980); Western Europe (Baker & Wharton, 1952); south of Eurasia (Krivolutsky, 1975); Mexica (Baker & Wharton, 1952).

Family Nothridae Berlese, 1896

Nothrus palustris C. L. Koch, 1839

Sitnikova, 1977a: 75, fig. 110-112; Aoki, 1980: 421, fig. 198A.

MATERIAL. 3 ♀, 1 tritonymph, Iturup, Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa).

DISTRIBUTION. Russia: European and Asian parts (Krivolutskiy et al., 1995), Kuril Islands – Shikotan, Iturup, Kunashir (Golosova & Pan'kov, 1978; Krivolutskiy et al., 1995; Pan'kov, 1989; Pan'kov et al., 1997); Japan: Honshu, Hokkaido, Shikoku; Nepal (Aoki, 1980). Holarctic (Krivolutskiy et al., 1995).

Platynothonrus peltifer (C. L. Koch, 1839)

Sitnikova, 1975: 84, fig. 137; Aoki, 1980: 423.

MATERIAL. 2 ♀, Brat Chirpoev, small gully, 20.VIII 1997 (TP).

DISTRIBUTION. Russia: Amurskaya oblast', Khekhtzir (Rjabinin, Golosova, 1993), Primorskii krai (Golosova, 1989), Sakhalin (Pan'kov et al., 1997), Kuril Islands – Shumshu, Paramushir, Kunashir (Golosova & Pan'kov, 1978; Pan'kov et al., 1997), *Brat Chirpoev; Japan: Hokkaido (for *P. p. japonensis* Fujikawa, 1972) (Fujikawa, 1972), Honshu (Aoki, 1980). Palaeartic (Krivolutsky et al., 1995).

Family Hermanniidae Sellnick, 1928

Hermannia clara Sitnikova, 1975

Sitnikova, 1975b: 104, fig. 183; 1977: 164, fig. 4-6.

MATERIAL. 1 specimen, Simushir, Srednaya bay, coastal margin, 22.VIII 1995 (V. Roth).

DISTRIBUTION. Russia: Primorskii krai – Vladivostok, Askold Is., Sakhalin, Kuril Islands – Shumshu (Golosoza & Pan'kov, 1978), Kunashir (Pan'kov et al., 1997), Shikotan, Juriy, Anuchina (Sitnikova, 1977), *Simushir.

Family Peloppiidae Balogh, 1943

Ceratoppia sexpilosa Willmann, 1938

Krivolutsky, 1975b: 171, fig. 332; Fujikawa, 1972: 150, fig. 36; Aoki, 1980: 447.

MATERIAL. 1 specimen, Iturup, Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa).

DISTRIBUTION. Russia: Khabarovskii krai, Primorskii krai, Sakhalin, Kuril Islands – without definite island (Krivolutsky, 1975b, 1995), Kunashir (Pan'kov et al., 1997), *Iturup; Japan: Hokkaido, Honshu (Fujikawa, 1972; Aoki, 1980). Western Europe.

Ceratoppia bipilis (Hermann, 1804)

Krivolutsky, 1975: 173, fig. 333; Fudjikawa, 1972: 150, fig. 35; Aoki, 1980: 447, fig. 211b.

MATERIAL. 5 specimens, Brat Chirpoev, small gully, 20.VIII 1997 (TP).

DISTRIBUTION. Russia: Novaya Zemlya (Fudjikawa, 1972), Primorskii krai, Amurskaya oblast' (Golosoza, 1989; Rjabinin & Golosoza, 1993), Kuril Islands – Kunashir (Pan'kov et al., 1997), *Brat Chirpoev; Japan: Hokkaido, Honshu, Kyushu, Shikoku, Oki, Tsushima (Aoki, 1969; 1980); Europe; Greenland; North Africa; USA; Canada (Fudjikawa, 1972).

Family Astegistidae Balogh, 1961

Furcoribula pacifica D. Krivolutsky, 1975

Krivolutsky, 1975b: 182, fig. 375.

MATERIAL. 4 specimens (2 slides) and 1 specimen (in vial), Makanrushi, vs, 18.VIII 1997 (TP); 1 specimen, Ushishir, Yankicha I., from moss, 20.VIII 1995 (V. Roth); 6 specimens, Brat Chirpoev, small gully, 20.VIII 1997 (TP); 15 specimens (2 slides) and 22 specimens (in vial), Iturup, Konservnaya bay, bank of creek, litter, 30.VII 1997 (N. Minakawa).

DISTRIBUTION. Russia: Sakhalin, Kamchatka (Pan'kov et al., 1997), Kuril Islands – without definite island (Krivolutsky, 1975b, Krivolutsky et al., 1995), Shumshu, Paramushir, Shikotan (Golosova, Pan'kov, 1978), Iturup (Pan'kov, 1989), Kunashir (Pan'kov et al., 1997), *Makanrushi, *Ushishir.

Family Ameronothridae Willmann, 1931

***Ameronothrus oblongus* Sitnikova, 1975**

Sitnikova, 1975: 234, fig. 549; 1977: 163, fig. 3.

MATERIAL. 1 ♀, Lovushki, grass litter, gull nests on rocks, 3.VII 1997 (D. Stevenson).

DISTRIBUTION. Russia: Kamchatka (Sitnikova, 1975; 1977), Kuril Islands – without definite island (Krivolutsky et al., 1995), Kunashir (Pan'kov et al., 1997), *Lovushki.

***Ameronothrus nidicola* Sitnikova, 1975**

Sitnikova, 1975: 234, fig. 550; 1977: 160, fig. 1.

MATERIAL. 1 ♀, Lovushki, grass litter, gull nests on rocks, 3.VII 1997 (D. Stevenson).

DISTRIBUTION. Russia: Karelia, Kolskii peninsula, Kamchatka, Kuril Islands – without definite island (Krivolutsky et al., 1995), Kunashir (Pan'kov et al., 1997), *Lovushki.

Family Ceratozetidae Jacot, 1925

***Diapterobates rostralis* Shaldybina, 1971**

Shaldybina, 1975: 288, fig. 693a-b.

MATERIAL. 5 specimens, Iturup, Podoshevka river, swept from *Sasa* sp., 29.VII 1997 (BU).

DISTRIBUTION. Russia: Krasnodarskii krai, Khabarovskii krai, Sakhalin, Kamchatka, Kuril Islands – without definite island (Krivolutsky et al., 1995), Shumshu, Kunashir (Pan'kov et al., 1997), *Iturup.

Family Oribotritiidae Grandjean, 1954

***Oribotritia fennica* Forsslund et Mårkel, 1963**

Forsslund & Mårkel, 1963: 284, fig. 1-2; Krivolutsky, 1975c: 378, fig. 954; Aoki, 1980: 403, fig. 189C.

MATERIAL. 2 specimens (2 slides) and 6 specimens (in vial), Iturup, Kitovyi village, under drift wood above tide zone on rocky beach, 3.VIII 1995 (V. Roth).

DISTRIBUTION. Russia: Leningradskaya oblast', Karelia (Krivolutsky et al., 1995), *Kuril Islands – Iturup; Japan: Hokkaido, Honshu (Aoki, 1980); Finland; Sweden (Forsslund & Mrkel, 1963).

REMARK. The species had been collected under rotten pieces of wood on (or near) seashore as in Europe as in Kurils. This mite feed on rotting timber throw out by waves (particles of wood are found in their guts).

Family Histiostomatidae Oudemans, 1904

***Scheucheria* sp.**

MATERIAL. 5 HH ex *Philontus cyanipennis* F. (Staphylinidae), Iturup, Dobroye Nachalo bay, 22.VIII 1996 (AL); [Primorskii krai: 78 HH ex *Ph. cyanipennis* F., Vladivostok, IX 1996 (P. Klimov); 3 HH ex *Ontholethes* sp. (Staphylinidae), Kedrovaya Pad' reserve, 1972 (G. Lafer); 2 HH ex *Ph. cyanipennis*, the same place, 23.VII 1976 (N. Kurzenko); 2 H ex *Ph. cyanipennis*, Anisimovka, 19.VIII 1974 (Berezantzev) and 11.VII 1977 (N. Azarova); 1 H with *Histiostoma* sp. ex *Ph. cyanipennis*, Ussuriyskii reserve, 9.VII 1976 (Mescheryakov)].

REMARK. The genus *Scheucheria* is recorded firstly for Russia.

***Pelzneria crenulata* (Oudemans, 1903)**

Sheucher, 1957: 347, fig. 54, 55; Sevastyanov, 1975c: 407.

MATERIAL. About 120 HH ex *Necrophorus pustulatus* (Silphidae) and 5 HH with *Poecilochirus subterraneus*, Paramushir, Krascheninnikov bay, 4.VIII 1997 (AL, SS).

DISTRIBUTION. *Russia: Kuril Islands – Paramushir; Germany (Sheucher, 1957); Ukraine: Crimea, Transcarpathian (Sevastianov, 1975).

REMARK. The genus *Pelzneria* **author, year?** is recorded for the first time for Russia.

Family Winterschmidtidae Oudemans, 1923

***Crabrovidia gussakovskii* Zachvatkin, 1941**

Vidia (*Crabrovidia*) *gussakovskii* Zachvatkin, 1941: 270, fig. 433, 449-451.

MATERIAL. 12 HH ex *Ectemnius continuus* (F.) (Hymenoptera, Sphecidae), Iturup, Dobroye Nachalo bay, 22.VIII 1996 (AL).

DISTRIBUTION. Russia: Moscovskaya oblast' (Zachvatkin, 1941); *Kuril Islands – Iturup. Ukraine: Crimea.

Family Acaridae Latreille, 1802

Genus *Bembidioglyphus* Klimov, gen. n.

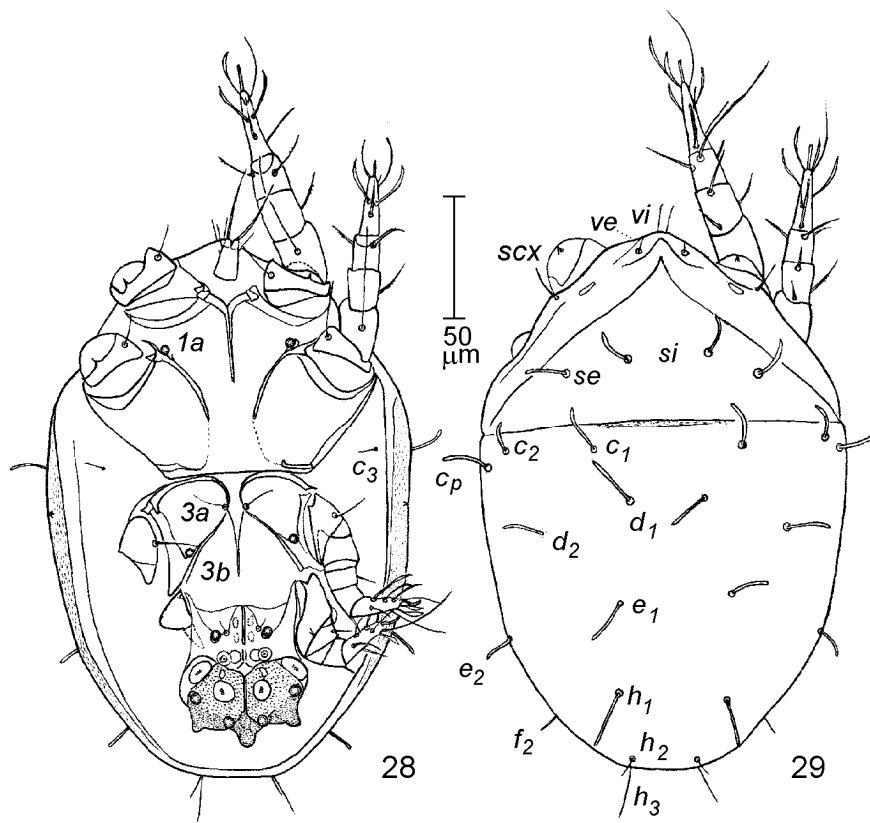
Type species - *Bembidioglyphus acinacisetosus* Klimov, sp. n.

DESCRIPTION. Porous pattern of hysterosoma absent. Setae *vi* smooth; *vi* and *ve* placed outside propodosomal shield. *scx* (supracoxal seta) filiform. There is one pair of small sclerites (probably remnants of eyes) which situated internally of *scx*. Setae *se*, *si*, *c₁*, *c₂*, *cp*, *d₁*, *d₂*, *e₁*, *e₂*, *h₁* long (14.5-20.1), flattened and curved on 3/4 of its length, with rounded tips. Setae *ve*, *vi*, *f₂*, *h₂*, *h₃* simple, not curved and flattened, shorter (6.1-12.1 beside *h₃*). Opening of opisthosomal glands situated at level of seta *d₁*, nearest to seta *c_p* than *e₂*. Coxal fields I-IV well-defined, ventrum developed, long. Posterior cuticular suckers of anal plate absent; under central suckers situated well-sclerotized hook-shaped sclerites.

Many setae of legs long, filiform, barbed; spines absent. Setae *vF* I-II very long, reaching anterior edge of tibia in both legs. Solenidion σ on genu I enlarged. Solenidion ω_2 reduced; *e* short, filiform. Setae *wa*, *la*, *ra*, *f* and *vsc* of tarsi I-II widened at tips, lanceolate. *d* on tarsus IV placed at 1/2 of tarsus, setiform, pilose and shifted anteriorly on tarsus III, very long (several times longer than tarsus); *e* on tarsus IV very long (approximately as leg length), it widened on tip and much shorter than same on tarsus III. Chaetotaxy and solenidiotaxy of legs I-IV (trochanters-tarsi): 1-1-2+(1)+2+(1)-9+(1); 1-1-2+(1)+2+(1)-9+(1); 1-0-1-1+(1)-8; 0-1-0-1+(1)-8.

DIAGNOSIS. *Bembidioglyphus* gen. n. belongs to the subfamily Acarinae (tribe Acarinini) and is closely related to genera *Acarus* Linnaeus, 1758, *Trichopsyllopus* Fain et Baker, 1983, *Psyllopus* Fain et Beaucourmu, 1993 and *Paraceroglyphus* Fain et Beaucourmu, 1973. It shared with these genera follows characters: loss of ω_2 ; filiform, barbed condition of many of the leg setae and elongation of solenidion σ on genu I. Owing to presence of short, filiform seta *e* on tarsi I-II the genus is most resembles to *Paraceroglyphus* (certain species) but differs in follows (character states of *Paraceroglyphus* are in parenthesis): setae *vi* are placed on cuticle outside propodosomal shield (on propodosomal shield); posterior edge of ventral shield is well-defined (not developed); there is one pair of small sclerites, probably remnants of eyes, situated internally of supracoxal seta (such sclerites absent); most dorsal setae are flattened, bearing with rounded tips, relatively long (not flattened simply, small); opening of opisthosomal glands situated at level of seta *d₁* nearest to seta *c_p* than *e₂* (situated at level *e₁* nearest to *e₂* than *c_p*); posterior pair of cuticular lateral suckers on anal plate being absent (developed).

ETYMOLOGY. The generic name is derived from host generic name *Bembidion* and *glyphus*, root originated from Greek verb $\gamma\lambda\upsilon\phi\omega$ (to hollow out, to cut out, to engrave) and currently used for forming names for Acaroidea.



Figs 28-29. Hypopus of *Bembidioglyphus acinacisetosus* gen. et sp. n. (holotype): 28) ventral view; 29) dorsal view.

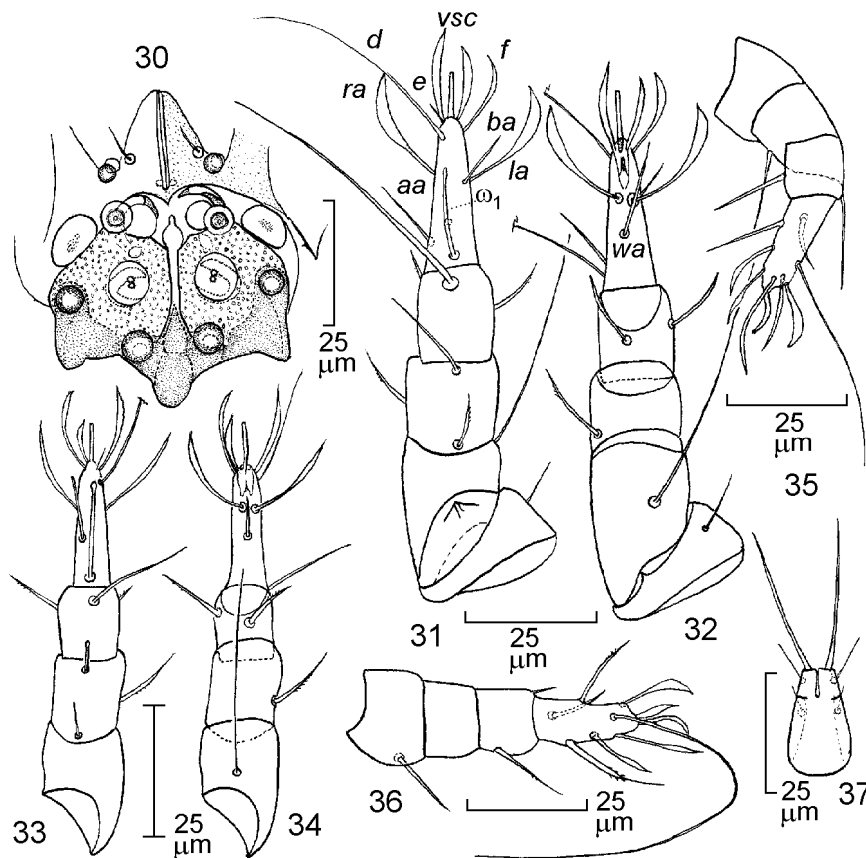
***Bembidioglyphus acinacisetosus* Klimov, sp. n.**

Figs 28-37

MATERIAL. Holotype - hypopus ex *Bembidion quadriimpressum* Motsch. (Carabidae), Kuril Islands, Paramushir, Schelekhovo, 13.VIII 1997 (AL, SS). Paratypes - 8 hypopi (mounted on the same slide), same data as holotype. Holotype and paratypes are deposited in IBPV.

DESCRIPTION. Hypopus (holotype). Idiosoma yellowish-brown, semitransparent; 220.9 length, 150.2 width. Cuticle smooth but hysterosoma with very fine lineal pattern.

Gnathosoma (Fig. 37). Remnant of subcapitulum not protruding the propodosomal level, 20.1 long, 10.1 (at base) and 8.6 (tip) wide. Basal palpomer 15.4 long, with 2 pair rather long setae (anterior setae 12.3 long). Distal ones free, bearing with long solenidia (31.3).



Figs 30-37. Hypopus of *Bembidioglyphus acinacisetosus* gen. et sp. n. (paratypes): 30) anal plate; 31, 32) leg I, dorsal and ventral view, respectively; 33, 34) leg II, dorsal and ventral view, respectively; 35) leg III; 36) leg IV; 37) gnathosoma.

Dorsum (Fig. 29). Rostrum not developed. Propodosoma 75.1 long. Propodosomal shield triangular, with acute tip, not covers anterior propodosomal surface. Supracoxal organ developed, setiform. Setae *vi* and *ve* both placed on cuticle outside the shield, *vi* are on the tip of propodosoma, *ve* posteriolaterally *vi*. Pair of small (7.3) sclerites (probably eyes) lies near supracoxal organ. Hysterosoma 60.2 long. Anterior edge of hysterosoma without visible transverse lining. Elements of hysterosoma sculpture orientated transversely on anteriomedian surface and longitudinally on lateral edges of shield. Setae *se*, *si*, *c*₁, *c*₂, *cp*, *d*₁, *d*₂, *e*₁, *e*₂, *h*₁ rather long (14.5-20.1), flattened and curved on 3/4 of its length, with rounded tips. Setae *ve*, *vi*, *f*₂, *h*₂, *h*₃ simple, not curved, shorter than

above mentioned setae [6.1-12.1 beside h_3 (30.3) which are longest setae of idiosoma]. vi unbarbed. Length of idiosomal setae is as follows: ve 6.1, vi 10.9, se 15.7, si 15.7, c_1 20.1, $c_2 > 12.1$, c_3 10.9, c_p 19.4, d_1 14.5, d_2 17.0, e_1 19.4, e_2 14.5, f_2 12.1, h_1 24.2, h_2 11.6, h_3 30.3. Distance between several setae: $si-si$ 32.2, $se-se$ 78.7, c_1-c_1 60.6, d_1-d_1 13.4, d_2-d_2 101.2, e_1-e_1 51.8, h_1-h_1 46.0, h_2-h_2 25.4, h_3-h_3 29.1. Bases of most setae rather large (approximately 3.9). d_1 placed medially. Opening of opisthosomal gland situated anteriorly d_2 . Cupules weak-developed.

Venter (Fig. 28). Sternal shield well defined, 77.0 long, 124.7 wide. Sternum (35.1) and epimeres II (38.8) not reaching posterior edge of the shield (distance between end of sternum and the edge approximately equal sternum length). Posterior edge of shield 60.6, lateral ones 48.4 long. Coxal fields II not enclosed. Anterior edge of ventrogenital shield touching sternal shield, well defined. Coxal field III enclosed, separated by rather large distance (4.8). Two apodemes becoming from posterior angles of the field fused each other to form ventrum (29.1). Ventrum not reach anterior bound of genital shield. Latter weakly separated from ventral shield and has more denser sculpture. Anal plate 34.7 long, 47.0 wide. $1a$, $3b$ and $4a$ placed in region of shield marginal thickness bend, represented by conoids; their diameters 2.2, 3.1, 4.5, respectively. g and $3a$ setiform. Main part of anal plate porous, while posteriolateral peripheral part punctate and has darker coloration. These part supplied with 1 central and 1 pair of lateral processes. Anterior suckers (diameter 7.3), central suckers (10.6), with 2 touching each other pores, under the suckers situated well-sclerotized hook-shaped sclerites; posterior suckers (7.2); lateral suckers (7.2) placed approximately level of central suckers; fore additional suckers (11.0x5.9) with central sclerotized spots; hind ones absent.

Legs. Legs supplied with long smooth or pilose setae, spines absent. Setation of legs I-IV shown in Figs 31-36. Lengths of leg I-II podomeres (femur-tarsus): 24.2, 20.3, 16.0, 29.1 (length of leg 89.6); 21.8, 16.5, 14.5, 26.6 (79.9). Tarsus I: ω_1 (16.8) longer than 1/2 of the tarsus; aa (18.5) placed pseudaxially near base of ω_1 ; ba (16.8) is solenidion, situated at level of 1/2 of tarsus; wa displaced posteriorly from la and ra ; wa , la , ra , f and vsc widened at tips, lanceolate; d long (longer than tarsus length); e short, needle-like. σ setiform on tarsus I and weak-clavate on tarsus II. d on tarsus IV placed at 1/2 of tarsus, setiform, pilose, while on tarsus III it shifted anteriorly, very long (several times longer than tarsus); e on tarsus IV very long (approximately as leg length), the same on tarsus III widened on tip and much shorter. Setae of trochanters I-II very long (longer than length of corresponding podomeres of femur-tibia).

MEASUREMENTS. Idiosoma 205.6-244.1 long, 146.3-176.3 wide; idiosomal length/width ratio 1.34-1.47 (n=9).

REMARK. In paratype specimens ba on tarsus I is shifted posteriorly (probably it is normal position of the solenidion for the species). Adults and other immature stages are unknown.

ETYMOLOGY. The specific name is derived from Latin noun *acinaces* (sabre) and adjective *setosus* (setaceous) with the reference to sabre-shape of most dorsal setae.

DISTRIBUTION. Russia: Kuril Islands – Paramushir.

***Kuzinia laevis* (Dujardin, 1849)**

Zachvatkin, 1941: 95, fig. 159-163; Volgin, 1975: 425; 1978: 50.

Tyrophagus laevis: Търк & Търк, 1957: 79, fig. 20-22.

MATERIAL. 1 H ex *Bombus hypnorum*, Makanrushi, 18.VIII 1997 (AL); 15 HH ex *B. florilegus*, Matua, 15.VIII 1996 (AL); 1 H ex *B. florilegus*, Iturup, 5 km N Reydovo, 18.VIII 1996 (AL).

DISTRIBUTION. Russia: European part (Zachvatkin, 1941); Primorskii krai (Tareev, 1970); *Kuril Islands – Makanrushi, Matua, Iturup. Holarctic.

***Schwiebea parallela* (J. Müller, 1860)**

Самљинџк, 1958: 294.

Schwiebea (*Schwiebea*) *tshernyshevi* Zachvatkin, 1941: 201, fig. 342-343; Tareev, 1970: 9; Fain, 1982: 360. Synonymized by Самљинџк (1958).

Schwiebea eurynymphae (non Oudemans, 1911): Търк & Търк, 1957: 129, fig. 80-82.

Schwiebea (*Schwiebea*) *tchernichevi* (sic!): Bugrov, 1995: 69; 1997: 152.

MATERIAL. 1 H ex *Nebria* (*Catonebria*) *catenulata banksi* Crotch (Carabidae) and 1 H ex *N. (Reductonebria) carbonaria* Eschscholtz., Paramushir, 4 km NW Severo-Kuril'sk, 5.VIII 1997 (AL, SS). [1 H ex Ichneumonidae (Hymenoptera), Kamchatskaya oblast', Petropavlovsk-Kamchatskii, mouth of Krutoberezovaya river, 4.VII 1996 (Yu. Tshistjakov)]

DISTRIBUTION. Russia: Moscovskaya oblast', Novosibirskaya oblast' (Bugrov, 1995; 1997), Primorskii krai (Tareev, 1970), *Kamchatka, Kuril Islands – Kunashir (Bugrov, 1995), *Paramushir; Western Europe (Самљинџк, 1958); Ukraine (Zachvatkin, 1941).

Family Scutacaridae Oudemans, 1916

***Scutacarus* (*Scutacarus*) *acarorum* (Goeze, 1870)**

Kurosa, 1980: 239, fig. 107A.

Scutacarus acarorum: Sevastyanov, 1975a: 65, fig. 196.

MATERIAL. 1 ♀ ex *Bombus tichenkoi*, Paramushir, Shelekhova bay, 19.VII 1997 (S. Kholin).

DISTRIBUTION. Russia: Western Siberia (Davydova & Bogatyrev, 1990); *Kuril Islands – Paramushir; Europe (Sevastyanov, 1975a).

Family Tarsonemidae Kramer, 1877

Phytonemus pallidus (Banks, 1898)

Ito, 1993: 30, fig. 15D.

Tarsonemus pallidus: Sevastyanov, 1975b: 86, fig. 280; Ito, 1980: 209, fig. 92B.

MATERIAL. 1 ♂ (?) ex *Bombus tichenko*, Paramushir, Severo-Kuril'sk, 4.VIII 1997 (AL).

DISTRIBUTION. Russia: *Kuril Islands – Paramushir; Japan: Hokkaido, Honshu, Kyushu (Ito, 1980); Europe (Evans et al., 1961); former USSR (Sevastyanov, 1975b); North America (Evans et al., 1961; Ito, 1980).

REMARKS. This species is known as serious pest of the strawberry and ornamental plants in Europe and North America (Evans et al., 1961). The studied specimen conserved in vial with *Bombus tichenkoi*, but probably the mite has been collected by sweeping on the flowers.

Family Cheyletidae Leach, 1815

Paracaropsis travisi (Baker, 1949)

Summers & Price, 1970: 39, fig. 31; Klimov, 1997: 9.

Acaropsis strofi Samъинѡк, 1956: 356, fig. 3. Synonymized by Summers & Price (1970).

Paracaropsis strofi: Volgin, 1969: 323, fig. 350.

Paracaropsis travisi: Volgin, 1969: 323, fig. 351–353.

MATERIAL. 1 ♀ ex *Laphria* sp. (Diptera, Asilidae), Kunashir, Goryachyi Plyazh, 25.VIII 1996 (AL); [4 ♀ ex *L. flava* L. (two last sterna), “Bohemia” (Czech Republic), 4.VII 1954 (Z. Hradsky); Russia, Amurskaya oblast': 7 ♀ with *Schwiebea laphriae* (Samъинѡк, 1956) (Acaridae) ex *L. gibbosa* L. (between II coxae), Malaya Pera river, Semenovka, 29.VII 1975 (P. Lehr); 14 ♀ ex *L. gibbosa* (between II coxae), Klimouzi, 29.VII 1975 (P. Lehr); Primorskii krai: 12 ♀ with *S. laphriae* and ?Tydeidae (Acari) ex *L. flava* L. (between II coxae), Pavlovka river, S. Schumny, 22.VII 1987 (P. Lehr); 4 ♀ ex *L. nigripes* Paramonov (down side of body), Ussuriyskii reserve, 25.VII 1954 (Dul'keyt); 4 ♀ ex *Pagidolaphria chrysotelus* Walker (between II coxae), with prey *Dolichomitus brevicornis* Tschek (Ichneumonidae), 40 km S. Mel'nichnoe, Ussurka river, 31.VII 1986 (AL)].

DISTRIBUTION. Russia: Amurskaya oblast'; Primorskii krai; Kuril Islands – Kunashir (Klimov, 1997); Czech Republic (Samъинѡк, 1956); USA (Summers & Price, 1970).

REMARKS. In Palaearctic specimens the fourth propodosomal setae are placed approximately on their length from fifth ones; in Nearctic specimens these

setae are near each other. The number of setae (one or two pairs) near posterior bound on left and right side of hysterosomal plate varies even in a single specimen from Bohemia, but usually there is only one such pair.

This species is foretically associated with asilid flies (*Laphria flava*, *L. gibbosa*, *L. nigripes* and *Pagidolaphria chrysotelus*) (Klimov, 1997). Mites locate mainly between II coxae (acarinarium) in most examined asilids. In the guts of several specimens the small particles of unknown origin were found, but it is impossible to define when they had be eaten and digested either before or during phoresy. Probably in natural habitats (rotten wood) *P. travisi* feed on acarid mite *Schwiebea laphriae* (Acaridae) and other small mites and insects.

Family Bdellidae Dugës, 1834

***Neomolgus littoralis* Linnaeus, 1758**

Shiba, 1980: 195, fig. 85C.

MATERIAL. 5 ♀ and 11 specimens (in vial), Makanrushi, rotten wood, 18.VIII 1997 (J. Schweikert); 2 specimens, Simushir, Kitoboynaya bay, along rocky/pebble beach, 10.VIII 1995 (Y. Marusik).

DISTRIBUTION. *Russia: Kuril Islands – Makanrushi, Simushir; Japan: Hokkaido, Honshu, Shikoku (Shiba, 1980); Great Britain (Evans et al., 1961).

Family Erythraeidae Oudemans, 1902

***Erythraeus aokii* Shiba, 1969**

Shiba, 1980: 303, fig. 139B.

MATERIAL. 1 specimen (in vial), Shumshu, Babuskina bay, beach, under stones, 10.VIII 1997 (J. Schweikert); Paramushir: 2 specimens and 3 specimen (in vial), cape Kapustnyi, 15.VIII 1997 (T. Pietsch); 1 specimen (in vial), 6 km N of Severo-Kuril'sk, under boards 4.VIII 1997 (J. Schweikert).

DISTRIBUTION. *Russia: Kuril Island – Paramushir, Shumshu; Japan (Shiba, 1980).

Family Trombididae Leach, 1815

Trombidium (Teresotrombium) sp.

MATERIAL. Onekotan, Rezvyi Stream, ex unidentified Diptera, 7.VIII 1996 (AL) 1 engorged larva; 1 engorged larva (same data); Iturup, 5 km N Reydovo, Malese trap, 19.VIII 1996 (AL), 4 unfed larvae.

REMARK. The genus and subgenus are identified according to Southcott (1986).

ACKNOWLEDGEMENTS

Author wishes to express his thanks to Dr. A. Lelej (IBPV) for editing of the manuscript and for identification of the Hymenoptera (except Sphecidae) and B. Urbain (University of Washington) for the loan of large material on free-living and parasitic Acari. I thank Dr. S. Storozhenko (IBPV) for critical reading and editing of manuscript, Prof. P. Lehr (IBPV) who gave me opportunity to study his collection on Asilidae, Dr. G. Lafer (IBPV) for identification the beetles, Dr. P. Nemkov (IBPV) for identification the digger wasps. I am indebted to many participants of IKIP who where successfully collected and preserved of the Acari or Acari-bearing insects: Drs R. Crawford, K. Es'kov, S. Kholin, A. Lelej, Y. Marusik, N. Minakawa, P. Oberg, T. Pietsch, T. Pearce, T. Ritchie, V. Roth, J. Schweikert, D. Stevenson, S. Storozhenko and B. Urbain. I also thank Dr. K. Okabe (Kyushu Research Center Forestry and Forest Products Research Institute, Japan) who sent me several references.

This work was supported partly by the International Programs Division and Biological Sciences Directorate (Biotic Survey and Inventories Program) of the U.S. National Science Foundation, grants No. DEB-9400821 and No. DEB-9505031, Theodore W. Pietsch, principal investigator and by the Japan Society for the Promotion of Sciences, grant No BSAR-401, Kunio Amaoka, principal investigator.

REFERENCES

- Alexandrov, Ju.V., Kolodochka, L.A. & Yagodinskij, V.N. 1965. [Description of male *Macrocheles superbus* Hull., 1918 (Gamasoidea, Macrochelidae)]. – Zoologicheskii Zhurnal 44(4): 608-610. (In Russian)
- Aoki, J. 1969. Taxonomic Investigation on Free-living Mites in the Subalpine Forest of Shiga Heights IBP Area III. Cryptostigmata. – Bull. Nat. Sci. Mus. Japan 12(1): 117-150.
- Asanuma, K. & Uchikawa, K. 1980. Genus *Haemogamasus*. In: Ehara, S. (Ed.). Illustrations of the mites and ticks of Japan. Zenkoku Nippon Kyufiku Kyufukai. Tokyo: 95-97.
- Athias-Henriot, C. 1967. Observations sur les Pergamasus. I. Sous-genre *Paragamasus* Hull, 1918 (Acariens Anactinotriches: Parasitidae). – Memoires du Museum National d'histoire naturelle. Ser. A, Zool. 49 (fasc. unique): 1-198.
- Babos, S. 1964. Die Zeckenfauna Mitteleuropas. Akademia Kiado, Budapest: 410 pp.
- Baker, E.W. & Wharton, G.W. 1955. Vvedenie v akarologiyu. Inostrannaya literatura Press, Moscow: 475 pp. [Russian translation of "An Introduction to Acarology", 1952].
- Bregetova, N.G. 1953. [To the fauna of gamasid mites of Far East]. – Parasitologicheskii Sbornik. Leningrad, 15: 302-338. (In Russian)
- Bregetova, N.G. 1961. [The veigaiaid mites (Gamasoidea, Veigaiiidae) in the USSR]. – Parasitologicheskii Sbornik. Leningrad, 20: 10-102. (In Russian)
- Bregetova, N.G. 1955. [Family Haemogamasidae]. In: Pavlovskiy, E.N. (ed.) Kleshchi gryzunov fauny SSSR. Nauka, Moscow-Leningrad: 258-287. (In Russian)
- Bregetova, N.G. 1956. Gamasoidnye kleschi (Gamasoidea). Kratkii opredelitel'. Nauka, Moscow-Leningrad: 247 pp. (In Russian)
- Bregetova, N.G. 1977a. [Fam. Veigaiiidae]. In: Gilyarov, M.S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Mesostigmata). Moscow, Nauka: 108-145. (In Russian)
- Bregetova, N.G. 1977b. [Fam. Aceosejidae]. In: Gilyarov, M.S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Mesostigmata). Nauka, Moscow: 169-226. (In Russian)

- Bregetova, N.G. 1977c. [Fam. Parholaspidae]. In: Gilyarov, M.S. (ed.). *Opredelitel' obitayushikh v pochve kleshchei (Mesostigmata)*. Nauka, Moscow: 315-346. (In Russian)
- Bregetova, N.G. 1977d. [Fam. Macrochelidae]. In: Gilyarov, M.S. (ed.). *Opredelitel' obitayushikh v pochve kleshchei (Mesostigmata)*. Nauka, Moscow: 346-411. (In Russian)
- Bregetova, N.G. 1977e. [Fam. Laelaptidae]. In: Gilyarov, M.S. (ed.). *Opredelitel' obitayushikh v pochve kleshchei (Mesostigmata)*. Nauka, Moscow: 483-554. (In Russian)
- Bregetova, N.G. 1977f. [Fam. Eviphidae]. In: Gilyarov, M.S. (ed.). *Opredelitel' obitayushikh v pochve kleshchei (Mesostigmata)*. Nauka, Moscow: 554-569. (In Russian)
- Bregetova, N.G., Koroleva, E. V. 1960. [The macrochelid mites (Gamasoidea, Macrochelidae) in the USSR]. – *Parasitologicheskii Sbornik*. Leningrad, 19: 32-154. (In Russian)
- Bregetova, N.G. & Lange, A.B. 1955. [Family Laelaptidae]. In: Pavlovskiy, E.N. (ed.). *Kleshchi gryzunov fauny SSSR*. Nauka, Moscow-Leningrad: 287-340. (In Russian)
- Bregetova, N.G. & Troitskiy, V. A. 1981. [New species of the genus *Gamasellus* Berl. (Acari, Gamasina, Rhodacaridae)]. – *Trudy Zoologicheskogo instituta. AN SSSR. Morfologicheskie osobennosti kleshchey i paukoobraznykh* 106: 76-83. (In Russian)
- Bugrov, S.A. 1995. [Free-living Astigmata (Acariformes) of the Moscow District fauna]. – *Zoologicheskii Zhurnal* 76(2): 147-156. (In Russian)
- Bugrov, S.A. 1995. [New species of the genus *Schwiebea* (Astigmata, Acaridae) from Russia and adjacent countries]. – *Zoologicheskii Zhurnal* 74 (6): 61-75.
- Davydova, M.S. 1976. *Gamasoidnye kleshchi semeistva Parasitidae Zapadnoi Sibiri*. Nauka, Novosibirsk: 200 pp. (In Russian)
- Davydova, M.S. & Bogatyrev, N.R. 1990. [The fauna and several peculiarities of ecology of gamasid mites associated with bumblebees]. In: Zolotarev, G S. (ed.). *Chlenistonogie i gelminty*. Nauka, Novosibirsk: 27-33. (In Russian)
- Evans, G.O., Scheals, J.S. & Macfarlane, D. 1961. *The Terrestrial Acari of the British Isles: An Introduction to their Morphology, Biology and Classification. Vol. 1. Introduction and Biology*. Alden Press, London: 219 pp.
- Evans, G.O. & Till, W.M. 1979. Mesostigmatic mites of Britain and Ireland (Chelicerata: Acari-Parasitiformes). An introduction to their external morphology and classification. – *Transaction of the Zoological society of London* 35(2): 139-270.
- Fain, A. 1982. Cinq especes du genre *Schwiebea* Oudemans, 1916 (Acari, Astigmata) dont trois nouvelles decouvertes dans des sources du sous-sol de la ville de Vienne (Autriche) au cours des travaux du metro. – *Acarologia* 23(4): 359-371.
- Fillipova, N.A., 1977. [Ixodid ticks of the subfamily Ixodinae]. *Fauna SSSR*. 4(4). Nauka, Leningrad: 396 pp. (In Russian)
- Forsslund, K.-H. & Mårkel, K. 1963. Drei neue Arten der Fam. Euphthiracaridae (Acari, Oribatei). – *Entomologisk Tidskrift*. Stockholm, 84 (3-4): 284-296.
- Fujikawa, T. 1972. A contribution to the knowledge of the oribatid fauna of Hokkaido (Acari: Oribatei). – *Insecta Matsumurana* 35: 127-183
- Golosova, L.D. 1989. [Oribatid mites in the forests of North Primorye]. In: *Pochvennye bespozvonochnye yuga Dal'nego Vostoka*. Nauka, Khabarovsk: 20-25. (In Russian)
- Golosova, L.D. & Pan'kov A. N. 1978. [Oribatid mites of Kuril Islands]. In: *Ekologiya zhivotnykh i faunistika. Tumen'*: 3-18. (In Russian)
- Hyatt, K.H. 1980. Mites of the subfamily Paraitinae (Mesostigmata: Parasitidae) in the British Isles. – *Bulletin of the British Museum (Natural History). Zoology series* 38(5): 237-378.
- Ito, Y. 1980. Family Tarsonemidae. In: Ehara, S. (ed.). *Illustrations of the mites and ticks of Japan. Zenkoku Nippon Kyufiku Kyufukai*. Tokyo: 206-215.
- Ito, Y. 1993. Family Tarsonemidae. In: Ehara, S. (ed.). *Plant mites in colors*: 30-35.
- Johnston, D.E. 1982. Acari. In: Parker, S.B. (ed.). *Synopsis and classification of living organisms*. McGraw-Hill, New York: 111-117.
- Karg, W. 1971. Acari (Acarina), Milben. Unterordnung Anactinochaeta (Parasitiformes). Die freilebenden Gamasina (Gamasides), Raubmilben. – *Die Tierwelt Deutschlands*, Veb Gustav Fisher Verlag Jena 59: 475 pp.

- Klimov, P. 1997. [Data on the biology and systematics of *Paracaropsis travisi* (Acari, Cheyletidae), new mite for Russia]. – Fundamental'nye problemy zashchity okruzhayushchei sredy. Tezisy konferentsii. Vladivostok, 1: 9-11. (In Russian)
- Kolonin, G.V. 1987. [Ixodid ticks (Fam. Ixodidae)]. In.: Soboleva, R.G. (ed.). Nasekomye i kleshchi Dal'nego Vostoka, imeyushchie mediko-veterinarnoe znachenie. Nauka, Leningrad: 195-216. (In Russian)
- Koroleva, E.V. 1977. [Family Pachylaelaptidae Vitzthum, 1931]. In: Gilyarov, M. S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Mesostigmata). Nauka, Moscow: 411-483. (In Russian)
- Krivolutsky, D.A., 1975a. [Superfamily Hypochthonoidea]. In: Gilyarov, M.S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Sarcoptiformes). Nauka, Moscow: 51-64. (In Russian)
- Krivolutsky, D.A., 1975b. [Superfamily Liacaroidea]. In: Gilyarov, M.S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Sarcoptiformes). Nauka, Moscow: 167-184. (In Russian)
- Krivolutsky, D.A. 1975c. [Superfamily Oribotritiidae]. In: Gilyarov, M.S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Sarcoptiformes). Nauka, Moscow: 377-381. (In Russian)
- Krivolutsky, D.A., Golosova, L.D., Netuzhilin, I.A. 1995. [Catalogus of oribatid mites of Russia]. In: Pantzurnye kleshchi. Nauka, Moscow: 174-206. (In Russian)
- Kurosa, K. 1980. Family Scutacaridae. In: Ehara, S. (ed.). Illustrations of the mites and ticks of Japan. Zenkoku Nihon Kyofiku Kyokai. Tokyo: 226-241.
- [Mezhdunarodnyi kodeks zoologicheskoi nomenklatury]. 1988. Nauka, Leningrad: 205 pp. (Russian translation of International Code of Zoological Nomenclature, 3th ed. 1985).
- Nikulina, N.A. 1987. [Gamasid mites (Kogors Gamasina)]. In: Soboleva, R.G. (ed.). Nasekomye i kleshchi Dal'nego Vostoka, imeyushchie mediko-veterinarnoe znachenie. Nauka, Leningrad: 216-234. (In Russian)
- OConnor, B.M. 1982. Astigmata. In: Parker, S.B. (ed.). Synopsis and classification of living organisms. McGraw-Hill, New York: 146-169.
- Pan'kov, A.N. 1989. [Oribatid mites in the soils of bread-leaved forests of Kuril Islands]. In: Pochvennye bespozvonochnye yuga Dal'nego Vostoka. Nauka, Khabarovsk: 25-30. (In Russian)
- Pan'kov, A.N., Rjabinin, N.A. & Golosova, L.D. 1997. Katalog pantsirnykh kleshchey Dal'nego Vostoka Rossii. Chast' I. Katalog pantsirnykh kleshchey Kamchatki, Sakhalina i Kuril'skikh ostrovov. Khabarovsk-Vladivostok: 87 pp. (In Russian)
- Petrova, A.D. 1967. [Mites of the family Parholaspidae Kranz, 1960 in the USSR]. – Byulleten' Moskovskogo obshchestva ispytatelei prirody. Ser. Biol. 67(2): 38-55. (In Russian)
- Richards, L.A. 1976. Parasitid Mites Associated with Bumble-bees in Alberta, Canada (Acarina: Parasitidae; Hymenoptera: Apidae). I. Taxonomy. – Science Bulletin University of Kansas, 50(13): 731-775.
- Rjabinin, N.A., Golosova, L.D. 1993. [Analysis of the fauna of oribatid mites in leaved forests of Primor'e and Priamur'e based on methods of variety theory]. – Chteniya pamyati Aleksandra Ivanovicha Kurentzova 3: 3-28. (In Russian)
- Samљinбk, K. 1956. Roztoци (Acari) na mouљe Laphria flava L. – Acta societatis zoologicae bohemoslovenicae 20(4): 353-357.
- Samљinбk, K. 1958. Einige neue Acariden-Deutonymphen als Commensalen der Insekten (Acari). – Acta societatis entomologicae cecoslovenicae 55 (3): 289-295.
- Serdukova, G.V. 1955. [Family Ixodidae Murrey – Ixodid ticks]. In: Pavlovskiy, E.N. (ed.). Kleshchi gryzunov fauny SSSR. Nauka, Moscow-Leningrad: 376-445. (In Russian)
- Sevastyanov, V.D. 1975a. [Family Scutacaridae Oudemans, 1916]. In: Gilyarov, M.S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Trombidiformes). Nauka, Moscow: 47-78. (In Russian)
- Sevastyanov, V.D. 1975b. [Family Tarsonemidae Kramer, 1877]. In: Gilyarov, M.S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Trombidiformes). Nauka, Moscow: 78-90. (In Russian)
- Sevastyanov, V.D. 1975c. [Family Anotidae Oudemans, 1904]. In: Gilyarov, M.S. (ed.). Opredelitel' obitayushikh v pochve kleshchei (Sarcoptiformes). Nauka, Moscow: 382-416. (In Russian)
- Sheucher, R. 1957. Systematik und Цkologie der deutschen Anotinen. In: Stammer, H. J. (ed.). Beitrage zur Systematik und Цkologie mitteleuropaischer Acarina. 1(1): 233-384.

- Shaldybina, E.S. 1975. [Superfamily Ceratozetoidea Balogh, 1961]. In: Gilyarov, M.S. (ed.). Opreldtel' obitayushikh v pochve kleshchei (Sarcoptiformes). Nauka, Moscow: 275-319. (In Russian)
- Shiba, M. 1980. Family Bdellidae. In: Ehara, S. (ed.). Illustrations of the mites and ticks of Japan. ZenkokuNp̄son Kyf̄iku Kyf̄kai. Tokyo: 188-197.
- Sitnikova, L.G. 1975a. [Superfamily Nothroidea Grandjean, 1954]. In: Gilyarov, M.S. (ed.). Opreldtel' obitayushikh v pochve kleshchei (Sarcoptiformes). Nauka, Moscow: 71-94. (In Russian)
- Sitnikova, L.G. 1975b. [Superfamily Hermannoidea Balogh, 1972]. In: Gilyarov, M.S. (ed.). Opreldtel' obitayushikh v pochve kleshchei (Sarcoptiformes). Nauka, Moscow: 101-104. (In Russian)
- Sitnikova, L.G. 1977. [New species of oribatid mites of the families Ameronothridae and Hermanniidae (Oribatei) of the fauna of Soviet Union]. – Parasitologicheskii Sbornik. Leningrad, 27: 161-168. (In Russian)
- Southcott, R.V. 1986. Studies on the taxonomy and biology of the subfamily Trombidinae (Acarina: Trombididae) with a critical revision of the genera. – Australian Journal of Zoology. Supplementary Series 123: 1-116.
- Summers, F.M. & Price, D.W. 1970. Review of the mite family Cheyletidae. – University of California Publications in Entomology 61: 1-153.
- Takaku, G. 1997. The first record of Dissoloncha superbus (Hull, 1918) (Acari: Macrochelidae) from Japan. – Acta arachnol. 30: 19-22.
- Tareev, V.N. 1970. Akaroidnye kleshchi Primorskogo kraja (Acaroidea). Avtoreferat dissertatsii kandidata biologicheskikh nauk. Vladivostok: 32 pp. (In Russian)
- Tichomirov, C.I. 1969. [Morphological and ecological structure of the genus Parasitus (Gamasoidea, Parasitidae). Communication I. Subgenera Eugamasus, Parasitus, Vulgarogamasus]. – Zoologicheskii Zhurnal 48(9): 1325-1336. (In Russian)
- Tichomirov, C.I. 1977. [Family Parasitidae]. In: Gilyarov, M.S. (ed.). Opreldtel' obitayushikh v pochve kleshchei (Mesostigmata). Nauka, Moscow: 55-107. (In Russian)
- Тырк, Е. & Тырк, F. 1957. Systematik und Ekologie der Tyroglyphiden Mitteleuropas. In: Stammer, H.J. (ed.). Beitrage zur Systematik und Ekologie mitteleuropaischer Acarina. Bd. 1. Teil 1: 2-231.
- Violovich, N.A. 1960. [Materials on the fauna of Gamasid mites of Sakhalin and Kuril Islands]. In: Biologicheskii Sbornik. Irkutsk: 251-265. (In Russian)
- Volgin, V.I. 1969. Kleshchi semeystva Cheyletidae mirovoi fauny. Oprelditeli po faune SSSR, 101. Nauka, Leningrad: 432 pp. (In Russian)
- Volgin, V.I. 1975. [Family Acaridae, Glycyphagidae and Saproglyphidae]. In: Gilyarov, M.S. (ed.). Opreldtel' obitayushikh v pochve kleshchei (Sarcoptiformes). Nauka, Moscow: 416-479. (In Russian)
- Volgin, V.I. 1978. [New genus and new species of acaroid mites (Acariformes, Acaroidea)]. – Parasitologicheskii Sbornik. Leningrad, 28: 47-52. (In Russian)
- Yamaguti, N. & Kitaoka, Sh. 1980. Metastigmata. In: Ehara, S. (ed.). Illustrations of the mites and ticks of Japan. ZenkokuNp̄son Kyf̄iku Kyf̄kai. Tokyo: 144-162.
- Zachvatkin, A.A. 1941. Tyroglyphoidnye kleshchi (Tyroglyphoidea). Fauna SSSR. 6(1). Nauka, Moscow-Leningrad: 474 pp. (In Russian)

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Address: Institute of Biology and Soil Sciences, Far East Branch of Russian Academy of Sciences, 690022, Vladivostok-22, Russia.

FAX: (4232) 310 193

E-mail: entomol@online.marine.su