

MICHAELOPUS LONGIRETINALIS SP. NOV. (ACARI, ACARIDAE), A NEW SPECIES OF ACAROID MITE ASSOCIATED WITH BEETLE ONTHOPHAGUS LENZI (COLEOPTERA, SCARABAEIDAE) FROM SOUTH KOREA

MICHAELOPUS LONGIRETINALIS SP. NOV. (ACARI, ACARIDAE) — НОВЫЙ ВИД АКАРОИДНОГО КЛЕЩА, СВЯЗАННЫЙ С ЖУКОМ ONTHOPHAGUS LENZI (COLEOPTERA, SCARABAEIDAE) ИЗ ЮЖНОЙ КОРЕИ

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ABSTRACT

A new species, *Michaelopus longiretinalis* sp. n. (Acari, Acaridae), phoretic on the beetle *Onthophagus lenzi* from South Korea is described. The species *Michaelopus polezhaevi* (Zakhvatkin, 1953) **comb. n.** is transferred from the genus *Moniesiella* Berlese, 1897.

РЕЗЮМЕ

Описан новый вид *Michaelopus longiretinalis* sp. n. (Acari, Acaridae), форезирующий на жуке *Onthophagus lenzi* из Южной Кореи. *Michaelopus polezhaevi* (Zakhvatkin, 1953) **comb. n.** перемещен из рода *Moniesiella* Berlese, 1897.

Heretofore, the genus *Michaelopus* comprised twenty named species distributed in Holarctic, Afrotropic (Rwanda, Ghana, Mauritius) and Neotropical (Cuba, Colombia) regions. Two species, *M. annae* Sevastyanov et Kivganov, 1992 and (?) *M. polezhaevi* (Zakhvatkin, 1953) **comb. n.**, were recorded from the former USSR. The species *M. corticalis* (Michael, 1885) and *M. berlesiana* (Zakhvatkin, 1941) are known by adults and hypopi; thirteen species of the genus are known only by adults, and five species only by hypopi. Adult mites of the genus can be found in the decaying plant material; flowers *Espeletia* spp. (Asteraceae); caps fungus [*Coriolus hirsutus* (Fr.) Quel. (Aphyllphorales, Poriaceae)]; soil; house dust; flour; litter of the *Fagus*, nests of birds *Passer domesticus* (L.) (Passeriformes, Passeridae), *Sterna hirundo* L. (Charadriiformes, Laridae), *Columba palumbus* L. (Columbiformes, Columbidae). Several species are associated with homopterans (Coccinea, Diaspididae): the genera *Aulacaspis* Cockerell, *Lepidosaphes* Shimer, *Aspidiotus* Bouche; Hymenoptera: *Formica* L. (Formicidae); and Coleoptera: *Helops* Fabricius (Tenebrionidae). Two species were reported from rodents *Myoxus* (= *Glis*) *glis* L. (Rodentia, Myoxidae) and *Reithrodontomys megalotis* (Baird) (Cricetidae). Hypopi of the genus had been collected from Collembola: *Sminthurus fuscus* L.; insects: *Temelucha*

interruptor (Gravenhorst) (Hymenoptera, Ichneumonidae), *Formica* (Hymenoptera, Formicidae); birds: *Apus apus* (L.) (Apodiformes, Apodidae); mammals: *Peromyscus maniculatus* (Wagner) (Cricetidae), *Oenomys hypoxanthus* Pucheran (Rodentia, Muridae), *Crocidura suaveolens* Pallas (Insectivora, Soricidae) and caps fungus of *Coriolus hirsutus* [after Cruz, 1990; Fain, 1982; Fain & Lukoschus, 1986; Fain & Rack, 1987; Sevastyanov & Kivganov, 1992; Zakhvatkin, 1953].

The study of insect specimens collected by Dr. A.B. Egorov in South Korea has yielded a new species of the genus *Michaelopus* associated with the coprophagous beetle *Onthophagus* (*Phanaeomorphus*) *lenzi* Harold (Coleoptera, Scarabaeidae). The new species is described below.

Holotype is deposited in the entomological collection of Institute of Biology and Pedology (IBP), Vladivostok.

The designations of body parts follow Griffiths [1970], setal nomenclature and abbreviations follow that of Fain [1982]. All measurements are given in micrometers (μm).

Michaelopus longiretinalis Klimov, sp. n.

Fig. 1.

Hypopus (holotype). Gnathosoma: length 9.5; width at tip and base 3.0 and 5.2, respectively; oblong-trapeziform; based ventrally, slightly posteriorly to rostral margin.

Dorsum. Idiosoma: length 166.4, width 96.6, with small net-like arranged pores. Idiosomal length/width 1.7. Histerosomal length/propodosomal length 2.6. Propodosoma: length 46.0, with round anterior edge and small (1.9) transparent rostrum. Two tubercle-like eyes are situated on lateral edges of propodosoma. The eyes with two long, pigmented stick-like spots (retinae). These spots (14.5—16.5) longer than the bases of eyes (8.5). Anterior/posterior distance between eyes 37.5, 48.4, respectively, *vi* placed dorsally on the tip of propodosoma, touching each other by bases, *ve* (7.1) near the level of anterior edge of eyes, *sc*

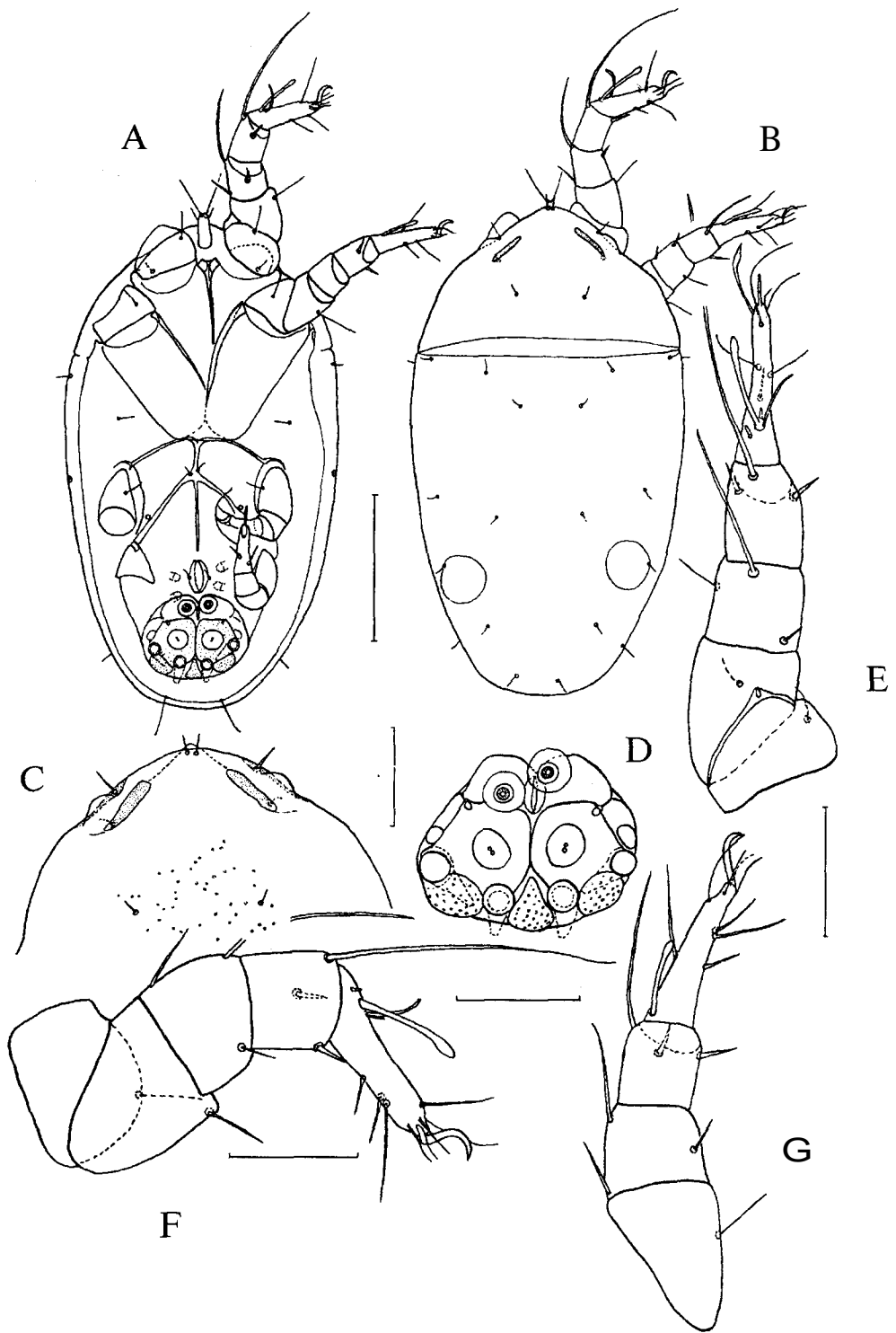


Fig. 1. *Michaelopus longiretinalis* Klimov, **sp. nov.**, holotype (hypopus): A — ventral view, B — dorsal view, C — propodosoma (dorsal view), D — sucker plate, E—F — leg 1 (dorsal & lateral view, respectively), G — leg II (dorsal view).

Owing to disposition the legs I—II, especially tarsi, in several planes in the slide, their proportions are misrepresented.

Scale bars: A-B — 50 μm , C-G — 10 μm .

Рис. 1. *Michaelopus longiretinalis* Klimov, **sp. nov.**, голотип (гипопус): А — вентрально, В — дорсально, С — проподосома (дорсально), D — присасывательный диск, E—F — нога I (дорсально и латерально, соответственно), G — нога II (дорсально). Пропорции ног I—II (особенно лапок) искажены по причине их расположения на препарате в разных плоскостях. Масштаб: А—В — 50 μm , С—G — 10 μm .

absent. Probably, *scx* of Fain [1982] correspond true *sc*. *sci* short, similar in length with the other idiosomal setae. Hysterosoma has the complete set of setae. All setae except I_5 (19.0) short (microsetae).

Venter. *scx* hidden dorsally by propodosomal edges, situated at the level of posterior end of

pigmented spots (Fig. 1c). Openings of latero-opisthosomal glands situated near the level of anterior edge of ventral plate. Coxal skeleton defined. Sternal plate: length 63.0, width 76.3. Sternum (35.1) not reaching the posterior edge of sternal plate. Coxal fields II open. Coxal seta II

absent. Ventral plate: length 56.9, width 48.4. Coxal fields III closed. Ventrum 23.0, almost reaching the eugenital opening. Coxal suckers III small (2.6), weakly developed. Genital plate not separated from ventral one. Sucker plate: length 29.8, 38.1 in width. Idiosomal width/sucker plate width — 2.53. Suckers — 8.3; central suckers — 6.5—7.1x7.7-8.1, with two pairs of pores touching each other; hind suckers — 4.8; anterior peripheral suckers (3.0x4.2) reduced, transparent; posterior ones — 4.8. Hind suckers with sclerotized internal wedge-like sclerites (Fig. 1d).

Legs (Fig. 1e-g). Lengths of leg I 177.0, leg II 64.9. Tibiae I—II with two spine-like setae. Genua I—II shorter than tibiae I-II. Genu I 16.4, tibia I 19.0. Solenidion ω_1 clavate. Chaetotaxy and solenidiotaxy of legs I—II (trochanter—tarsus) are as follows: 1—1—2+(1)-2+(1)-8+(3+1); 1-1-2+(1)-2+(1)-9+(1).

DIFFERENTIAL DIAGNOSIS

The new species differs from the other species of *Michaelopus* (hypopi) by the following features (the alternative characters are in parentheses): pigmented eye spots are stick-like, not surrounding the eyes (surrounding eyes); coxal fields III closed (open); tibiae I with two spine-like setae (with hair-like setae or with spine-like and hair-like setae). The new species differs from *M. corticalis*, the type species of the genus, by the presence of two spine-like setae both on tarsi I and II (*M. corticalis* has a needle-like setae and a hair-like seta on tarsi I—II).

Type material. Holotype: 1 hypopus ex *Onthophagus (Phanaemorphus) lenzi* Harold (Coleoptera, Scarabaeidae) N°4.3. South Korea, Kyongsangnam-Do, Sanch'ong-Gun, Sichon-myon, Jongsan-ri, Mt. Tiri, 5. 06 1997, A.B.Egorov.

REMARK

Following species of mites were collected ex *Onthophagus lenzi* series (see label below): *Parasitus* sp. cf. *fimetorum* Berlese, 1904 [*sensu* Hyatt, 1980], *Parasitus* sp. cf. *consanguineus* Oudemans et Voigts, 1904 [*sensu* Hyatt, 1980]; *Macrocheles merdarius* (Berlese, 1889), *M. insignitus* Berlese, 1918 (Macro-

chelidae); *Eviphis* sp. (Eviphidae); *Pediculaster* sp. (Pygmephoridae).

ETYMOLOGY

The specific name is derived from Latin adjective *longus* (long) and Latin noun *retina* (retina) with the reference to the main character differentiating the new species from all the other *Michaelopus* species.

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