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New data on the millipede fauna of the basin of Amur River (Diplopoda)

Новые сведения по фауне двупарноногих многоножек (Diplopoda) бассейна реки Амур

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КЛЮЧЕВЫЕ СЛОВА: Diplopoda, Россия, бассейн реки Амур, новый вид, фаунистика.

ABSTRACT. *Uniramidesmus bastakensis* sp.n. is described from Jewish Autonomous Region, Russian Far East. In addition, new faunistic records are given for a further four spesies.

РЕЗЮМЕ. Из Еврейской Автономной области (Дальний Восток России) описан вид *Uniramidesmus bastakensis* sp.n. Кроме того, приведены новые фаунистические находки еще для четырех видов.

Introduction

Knowledge of the millipede fauna of the Amur River basin is still patchy and incomplete. On the other hand, the records from the mouths of Shilka and Sungari rivers, as well as from between the mouths of Ussuri and Goryn rivers, are the very first concerning the millipedes of Siberia and the Russian Far East [Gerstfeldt, 1859]. The species described or mentioned by Gerstfeldt have been revised and adequately redescribed only recently [Shelley, 1998; Mikhaljova, 1998; Mikhaljova & Golovatch, 2001; Mikhaljova & Marusik, 2004].

Some faunistic and ecological information concerning the millipedes from several localities in Low and Middle Amurland is contained in a review covering all soil invertebrate groups occurring in the southern Far East of Russia [Ganin, 1997], as well as in the latest survey of the diplopod fauna of Russia's Asian part [Mikhaljova, 2004]. The Amur River basin still remains a region with numerous lacunae nearly or fully untouched by a collecting effort.

The present paper puts on record a small material from the unexplored places of Middle Amurland taken and kindly entrusted for study by Dr. M. G. Ponomarenko, of the Institute of Biology and Soil Science, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok (IBSS). This material has been deposited in the collections of the Zoological Museum of the Moscow State University (ZMUM) and of IBSS, Russia.

Taxonomic and faunistic pats

JULIDA

Nemasomatidae

Orinisobates microthylax Enghoff, 1985

MATERIAL EXAMINED. 2 ♀♀, 3 juveniles , Russia, Amurskaya Area, Selemdzha River basin, swamp with *Larix*, slope of hill, moss near base of *Betula* trunk, 20.VI.2004 (IBSS); 2 ♀♀, 2 juveniles, Russia, Amurskaya Area, 20 km W of Ekimchan, leaf fall of *Betula, Populus tremula, Larix,* 22–23.VI.2004 (IBSS); 1 ♀, Russia, Jewish Autonomous Region, 19 km N of Birobidzhan, "Bastak" Nature Reserve, "Dubovaya Sopka" Cordon, under moss on trunk of *Quercus mongolica*, 5.VII.2004 (IBSS). All leg. M.G. Ponomarenko.

REMARKS. This parthenogenetic species has hitherto been known from Siberia (Buryatia), Kamchatka Peninsula, Sakhalin Island, Kurile Islands, Primorsky and Khabarovsky provinces, but not in the Jewish Autonomous Region [Mikhaljova, 2004]. So the above are the first records of this species both in the Amurskaya Area and the Jewish Autonomous Region.

Mongoliulidae

Skleroprotopus coreanus (Pocock, 1895)

MATERIAL EXAMINED. 1 ♂, 5 ♀♀, Russia, Jewish Autonomous Region, 25 km N of Birobidzhan, "Bastak" Nature Reserve, environs of "Ryabinovy" Cordon, valley of Ikura River, *Betula, Populus tremula, Larix,* litter, 2-3.VII.2004 (IBSS); 4 ♂♂, 5 ♀♀, Russia, Jewish Autonomous Region, 19 km N of Birobidzhan, "Bastak" Nature Reserve, "Dubovaya Sopka" Cordon, *Quercus-Tilia* forest, litter, 4.VII.2004 (IBSS); 5 ♂♂, same locality and habitat, 5.VII.2004; 5 ♂♂, 6 ♀♀, same locality, and

habitat, 6.VII.2004 (IBSS); 2 ♂♂, same locality, dry swamp, *Larix, Betula, Ledum, Vaccinium uliginosum*, 5.VII.2004 (IBSS). All leg. M.G. Ponomarenko.

REMARKS. This species is the quite common in the Primorsky Province, Russia and all over the Korean Peninsula. It has also been recorded in the Malyi Khingan Mt. Range (border between the Amurskaya Area and the Jewish Autonomous Region) and at several localities in the Khabarovsky Province (Epovsky Mt. Range, near Gion Mt. Range, Bolshoy Khekhtsyr Mt. Range) [Ganin, 1997].

Julidae

Pacifiiulus amurensis (Gerstfeldt, 1859)

MATERIAL EXAMINED. 2 ♀♀, Russia, Jewish Autonomous Region, 25 km N of Birobidzhan, "Bastak" Nature Reserve, environs of "Ryabinovyi" Cordon, valley of Ikura River, *Betula, Populus tremula, Larix,* litter, 2–3.VII.2004 (IBSS); 3 ♀♀, Russia, Jewish Autonomous Region, 19 km N of Birobidzhan, "Bastak" Nature Reserve, "Dubovaya Sopka" Cordon, *Quercus-Tilia* forest, litter, 4.VII.2004 (IBSS); 1 ♀, same locality and habitat, 6.VII.2004 (IBSS); 3 ♀♀, same locality, dry swamp, *Larix, Betula, Ledum, Vaccinium uliginosum*, 5.VII.2004 (IBSS). All leg. M.G. Ponomarenko.

REMARKS. This species shows a disjunct distribution, living both in Southwest Siberia and the southern Far East of Russia [Mikhaljova, 2004]. In addition, it has been recorded in northeastern China [Mikhaljova & Marusik, 2004]. The species is characterized by only bisexual populations occurring in the Siberian part of the range, whereas only spanandric populations are known from the Far East.

CHORDEUMATIDA

Diplomaragnidae gen. sp.

MATERIAL EXAMINED. 7 juv., Russia, Amurskaya Area, 20 km W of Ekimchan, *Betula, Populus tremula, Larix,* litter, 22-23.VI.2004 (IBSS); 1 juv., Russia, Jewish Autonomous Region, 25 km N of Birobidzhan, "Bastak" Nature Reserve, environs of "Ryabinovyi" Cordon, valley of Ikura River, *Betula, Populus tremula, Larix,* litter, 2–3.VII.2004 (IBSS); 2 juv., Russia, Jewish Autonomous Region, 19 km N of Birobidzhan, "Bastak" Nature Reserve, "Dubovaya Sopka" Cordon, *Quercus-Tilia* forest, litter, 4.VII.2004 (IBSS); 3 juv., same locality and habitat, 6.VII.2004 (IBSS); 1 ♀, 2 juv., same locality, dry swamp, *Larix, Betula, Ledum, Vaccinium uliginosum*, 5.VII.2004 (IBSS). All leg. M.G. Ponomarenko.

REMARKS. In the absence of adult males, both generic- and specific-level identification appears impossible. This family contains several habitually very similar genera, some of which show overlapping distributions [Mikhaljova, 2000].

Caseyidae

Underwoodia kurtschevae Golovatch, 1980

MATERIAL EXAMINED. 6 ♀♀, Russia, Amurskaya Area, basin of Selemdzha River, swamp, *Larix* litter, 21.VI.2004 (IBSS); 9 ♀♀, Russia, Amurskaya Area, 20 km W of Ekimchan, *Betula, Populus tremula, Larix* litter, 22–23.VI.2004; 1 ♀, Russia, Amurskaya area, near Byssa River, 25.VI.2004 (IBSS); 1 ♀, Russia, Jewish Autonomous Region, 25 km N of Birobidzhan, "Bastak" Nature Reserve, environs of "Ryabinovyi" Cordon, valley of Ikura River, *Betula, Populus tremula, Larix,* litter, 2–3.VII.2004 (IBSS); 3 ♀♀, 2 juv., Russia, Jewish Autonomous Region, 19 km N of Birobidzhan, "Bastak" Nature Reserve, "Dubovaya Sopka" Cordon, *Quercus-Tilia* forest, litter, 4.VII.2004 (IBSS); 1 ♀, same locality and habitat, 5.VII.2004 (IBSS). All leg. M.G. Ponomarenko.

REMARKS. This parthenogenetic species is widespread in the southern and southeastern parts of the Russian Far East, including Sakhalin and Kurile islands. It has also been reported from North Korea [Mikhaljova, 2004]. As regards Amurland, this species has hitherto been registered only from the border between the Amurskaya Area and the Jewish Autonomous Region.

POLYDESMIDA

Polydesmidae

Uniramidesmus bastakensis Mikhaljova **sp.n.** Figs 1–5.

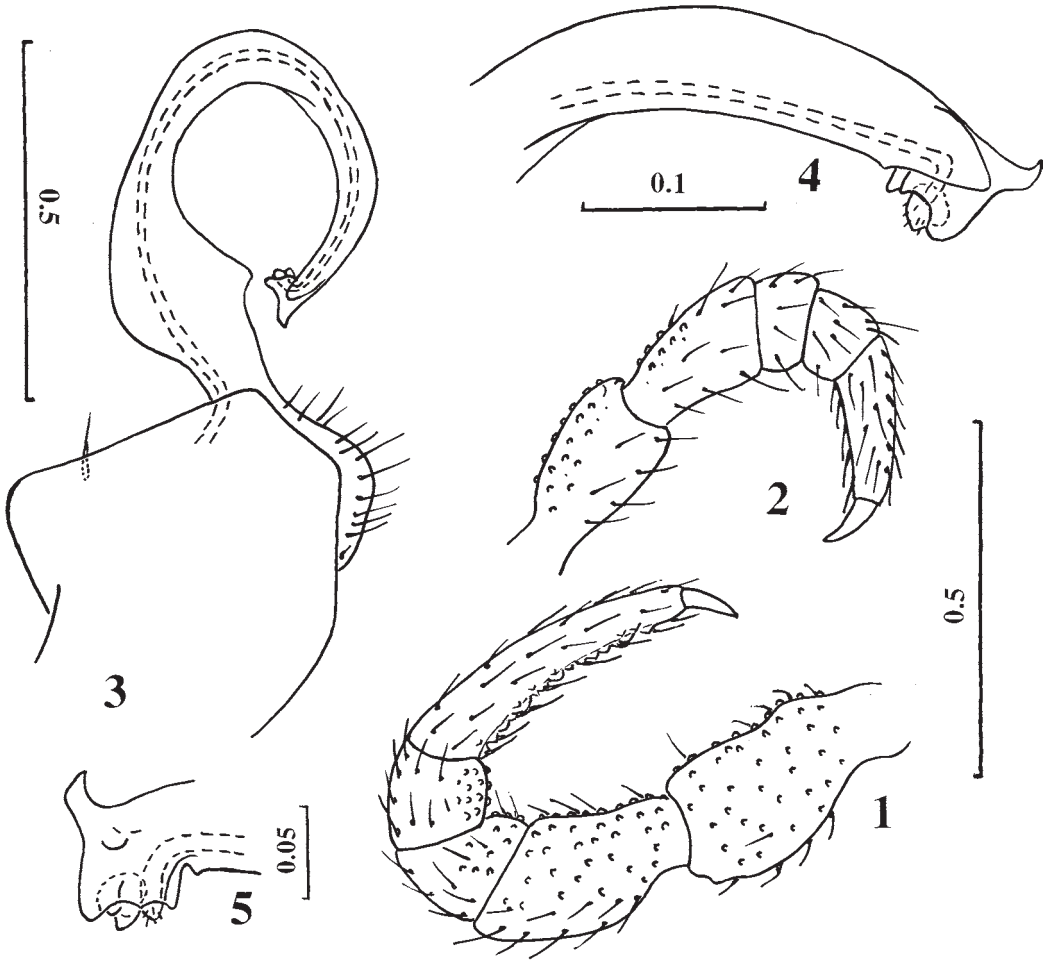
MATERIAL EXAMINED. Holotype ♂, Russia: Jewish Autonomous Region, 19 km N of Birobidzhan, "Bastak" Nature Reserve, "Dubovaya sopka" Cordon, *Quercus-Tilia* forest, litter, 4.VII. 2004, leg. M.G. Ponomarenko (ZMUM). Paratypes: 1 ♂, 1 ♀, 1 fragm., same data, together with holotype (IBSS); 1 ♀, same locality, 5.VII. 2004 (ZMUM). All leg. M.G. Ponomarenko.

DIAGNOSIS. This species differs from congeners by the apically curved gonopod telopodite bearing a short dentiform process near the tip dorsally and bosses terminally, as well as by a knob-spaped femoral projection.

DESCRIPTION. Male. Length 8.0–9.0 mm, width with paraterga 0.6–0.7 mm. Holotype ca. 8.5 mm long, 0.6–0.7 mm wide. Coloration, apparently, dark pink as usually for *Uniramidesmus*; however, type material brown stained due to pigment of Julidae when joint fixing. Head covered with dense minute pubescence. Antennae relatively short, clavate. Distodorsal parts of antennomeres 5–7 each with a group of short baton-shaped sensilla. Sensilla of antennomere 7 somewhat pointed. Length ratios of antennomeres 2–7 as 1.5:2.4:1.7:1.7:2.7:1, width ratios as 1.0:1.1:1.1:1.2:1.7:1. Collum oval, somewhat narrower than head with genae. Metazonites 3 and 4 somewhat shorter than other. Metatergal polygonal sculpture distinct, as three transverse rows of setigerous bosses as usual. Lateral boss of 3rd row inconspicuous. Metatergal setae pointed. Paraterga narrow rounded laterally, caudolateral corners blunt. Somital microsculpture microreticulate throughout except in metatergites.

Legs somewhat incrassate compared to female ones as usual. Leg pairs 1–2 without sphaerotrichs; microsculpture covered prefemur, femur and partly postfemur only; claw 1–2 with additional claw ventrally. Leg pairs 3–7 somewhat increased, bearing sphaerotrichs on each tarsus ventrally, claws normal, prefemur, femur, partly postfemur and tibia covered with tiny tubercles of microsculpture (Fig. 1); sphaerotrichs of leg pair 3 poorly developed. Postgonopodal legs without sphaerotrichs; claws normal; prefemur and partly femur covered with tiny tubercles of microsculpture (Fig. 2).

Gonopods (Figs 3–5) falcate, in situ crossing each other. Coxae large, nearly completely retractile inside somite 7, each with one seta ventrally. Gonopod opening subcordate. Prefemur setose as usually, femorite with a posterior projection bearing low knob in the middle. Entire telopodite = solenomere curved apically with a short dorsal dentiformed process subterminally and the bosses terminally. Seminal groove opening on micropilose pulvillus terminally.



Figs 1–5. *Uniramidesmus bastakus* sp.n., paratype ♂: 1 — pregonopodal leg; 2 — midbody leg, 3 — gonopod (lateral view), 4 — distal part of gonopod telopodite (dorso-lateral view), 5 — apex of gonopod telopodite (ventro-mesal view). Scales in mm.

Рис. 1–5. *Uniramidesmus bastakus* sp.n., паратип ♂: 1 — нога прегоноподиальной пары; 2 — нога середины тела; 3 — гоноподий (вид сбоку); 4 — дистальная часть телоподита гоноподий (вид сбоку и, одновременно, немного со спины), 5 — вершина телоподита гоноподий (вид изнутри и, одновременно, немного с брюшной стороны). Масштаб в мм.

Female. Length 8.5–9.0 mm, width with paraterga 0.6–0.7 mm. Epigynal ridge behind coxae 2 scarcely traceable as two tiny prominences.

ETYMOLOGY. The specific epithet refers to the locus typicus.

REMARKS. The genus *Uniramidesmus* is currently represented by nine species (including the new one) in the southern Far East of Russia and one species in East Siberia (Cisbaikalia). The eastern part of the Palaearctic seems to have served as the origin centre of this genus, whence its members could have reached East Siberia in the West. This suggestion is the more so likely as *Uniramidesmus* seems to be particularly close to the North American *Bidentogon* Buckett & Gardner, 1968 and *Speodesmus* Loomis, 1939 [Golovatch & Mikhaljova, 1979], the trio possibly demonstrating trans-Beringian faunal connections.

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