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## REVISION OF THE PERMIAN GENUS *PARASYLVIODES* MARTYNOV, 1940 (GRYLLOBLATTIDA: LIOMOPTERIDAE)

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The revision of the genus *Parasylyviodes* Martynov, 1940 from Lower and Middle Permian of the European part of Russia is made based on reexamination of the holotype of type species and additional material from collection of Paleontological Institute RAS (Moscow). A new species *Parasylyviodes sojanensis* sp. n. is described from the Middle Permian locality Sojana. A key to species is given.

KEY WORDS: Grylloblattida, Liomopteridae, Permian, Russia, taxonomy, new species.

Д.С. Аристов. Ревизия пермского рода *Parasylyviodes* Martynov, 1940 (Grylloblattida: Liomopteridae) // Дальневосточный энтомолог. 2007. N 186. С. 1-5.

На основании изучения голотипа типового вида и дополнительного материала из коллекций Палеонтологического института РАН (Москва) проведена ревизия рода *Parasylyviodes* Martynov, 1940 из нижней и средней перми европейской части России. Описан новый вид *Parasylyviodes sojanensis* sp. n. из пермского местонахождения Сояна. Дана определительная таблица видов.

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## INTRODUCTION

The monotypical genus *Parasylyviodes* was described from Kungurian Tshékarda locality in Perm region (Russia) as representative of the family Sylviodidae (Martynov, 1940), but later it was transferred to family Liomopteridae (Aristov, 2004).

Present paper is based on the all available material found by me in the collection of the Paleontological Institute RAS. *P. sojanensis* sp. n. from the Sojana locality (Lower Kazanian of Arkhangelsk region, Russia) is described below. The holotype of a new species is deposited in the Paleontological Institute (Moscow).

### FAMILY LIOMOPTERIDAE SELLARDS, 1909

#### Genus *Parasylyviodes* Martynov, 1940

*Parasylyviodes* Martynov, 1940: 23; Sharov, 1962: 130; Carpenter, 1992: 117; Storozhenko, 1998: 123; Aristov, 2004: 127.

Type species – *Parasylyviodes tetracladus* Martynov, 1940 (Tshékarda locality; Lower Permian, Kungurian Stage), by original designation.

REDESCRIPTION. Medium-size insect. The head is large, oval, with large eyes. Pronotum relatively small, rounded rhomboidal; the paranotal ring round, broad, and widened posteriorly. Anterior margin of forewing convex, the apex acuminate; the costal field broad and crossed with numerous simple and dichotomizing anterior branches of *SC*, which is apparently reaching the distal third of the wing; *RS* origin from *R* in basal third of the wing, with 4-5 branches; *MA* with 5 branches or simple; *MP* simple or with 2 branches; *CuA<sub>1</sub>* with 2-3 branches.

DIAGNOSIS. New genus closely related to the genus *Uraloumbra* Aristov, 2004 (Kungurian of Perm Region) by the presence convex anterior margin of forewing, broad costal field crossing with numerous simple and dichotomizing anterior branches of *SC*, *SC* apparently reaching the distal third of the wing and broad interradiial field. *Parasylyviodes* gen. n. differs from *Uraloumbra* by *RS* with five branches (in *Uraloumbra* *RS* with two branches). In body structure new genus is similar to *Liomopterites* Sellards, 1909, but differs by subsquare pronotum and by short, one-segmented, narrowing apically, covered with hairs cerci (in *Liomopterites* pronotum is elongated, cerci are long, multisegmented).

SPECIES INCLUDED. Two species from the Lower and Middle Permian of Russia.

#### Key to species

- 1(2) *MA* and *MP* simple, *CuA<sub>1</sub>* with two branches . . . . . *P. tetracladus*  
2(1) *MA* five-branched, *MP* two-branched, *CuA<sub>1</sub>* with three branches . . . . .  
. . . . . *P. sojanensis* sp. n.

***Parasylyviodes tetracladus* Martynov, 1940**

Figs 1, 2

*Parasylyviodes tetracladus* Martynov, 1940: 23, fig. 23 (holotype: part and counterpart of well-preserved complete insect, PIN 118/55; Russia, Perm region, left bank of Sylva River near mouth of Tshekarda River, Tshekarda locality; Lower Permian, Kungurian Stage, Iren Horison, Koshelevka Formation; in collection of Paleontological Institute RAS, Moscow; studied); Sharov, 1962: 130, fig. 324; Carpenter, 1992: 117, fig. 68, 4; Storozhenko, 1998: 124, fig. 255; Aristov, 2004: 127, fig. 26a.

MATERIAL. Apart of holotype the follows specimens: PIN 168/34, 78; PIN 1700/555, 582, 710, 802, 821, 900, 1163, 3466, 3502. 3525, 3532, 3533, 3741, 3801, 3970, 3984, 4032; all from Russia, Perm region, left bank of Sylva River near mouth of Tshekarda River, Tshekarda locality; Lower Permian, Kungurian Stage, Iren Horison, Koshelevka Formation; deposited in the collection of Paleontological Institute RAS, Moscow are studied.

REDESCRIPTION. The mandibles stout, with one large and acute tooth and several small teeth. Maxillary palps long, with elongated segments. Antennae long and thin, the antennomeres elongated. Mesonotum as long as wide; scutum unclear and triangular, with a convex prescutum: the basalars large. Metanotum similar with mesonotum, but shorter. The forelegs are shortest. The hind legs elongate with tibiae longer than tarsi. *RS* in forewing forming regular posterior comb of five branches that run to the wing apex. *MA* simple and gently curved. *MP* and *CuA<sub>1</sub>* with two branches. *A<sub>1</sub>* simple, *A<sub>2</sub>* with two branches. Hindwing shorter than forewing, with narrow costal field, *RS* origin from *R* in basal quarter of the wing. Abdomen short, with narrow segments. Ovipositor rather long and slender.

MEASUREMENTS. Body length 16, forewing length 17, hindwing length 14 mm.

***Parasylyviodes sojanensis* Aristov, sp. n.**

Fig. 3

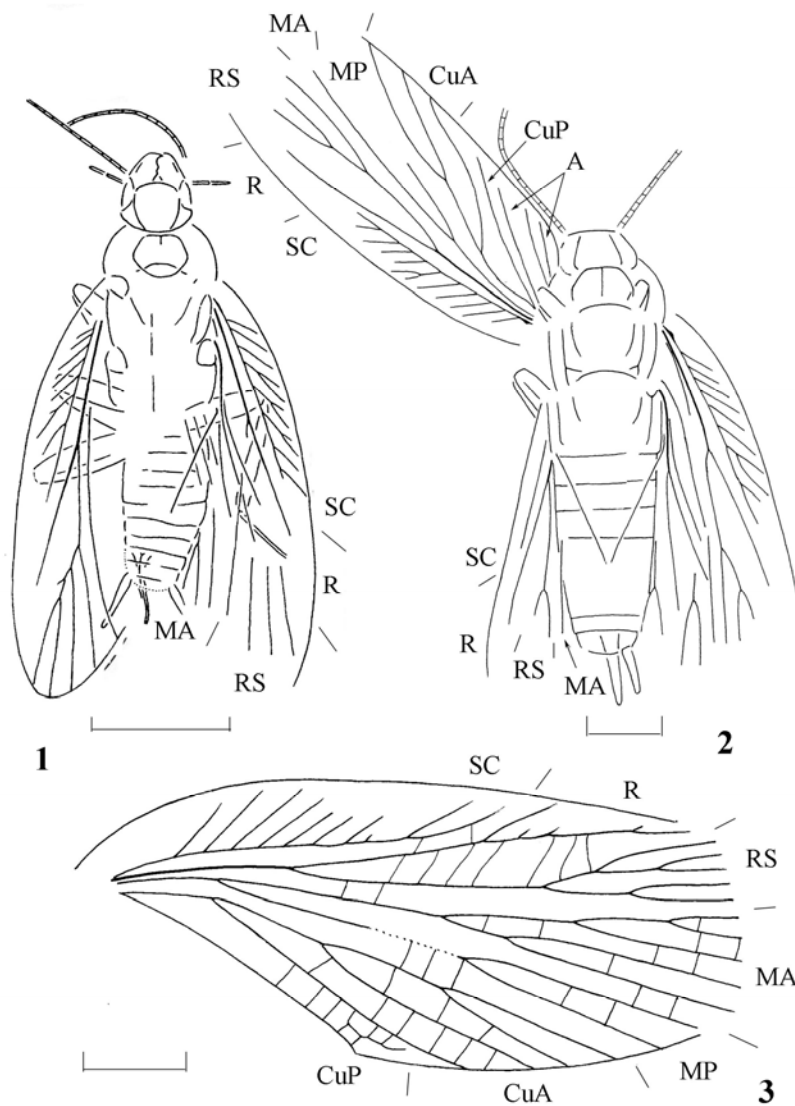
MATERIAL. Holotype: PIN 3353/372; well-preserved forewing; Russia, Arkhangelsk region, left bank of Sojana River about 57 km from its mouth, Sojana locality; Middle Permian, Kazanian Stage, Lower Kazanian Substage, Ivagora Layers; in collection of Paleontological Institute RAS, Moscow.

DESCRIPTION. Forewing. *RS* origin from *R* near the basal third of wing, with five branches, not forming regular posterior comb. *MA* with five branches. *MP* with two branches. *CuA<sub>1</sub>* with three branches. Crossveins usually simple, but forming double row of cells in apical part of intercubital field.

MEASUREMENTS. Forewing length about 24 mm.

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Figs 1-3. Grylloblattids of the genus *Parasylyviodes*. 1, 2) *P. tetracladus*, Tshékarda, Kungurian Stage of Perm Region: 1) holotype PIN N 117/55, general appearance, 2) specimen PIN N 4987/619, general appearance; 3) *P. sojanensis* sp. n., holotype PIN N 3353/372, fore wing, Sojana, Kazanian Stage of Arkhangelsk Region. Scale bar in Figs 1, 2 – 5mm, in Fig. 3 – 3 mm.

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