Genus Parapermula Sharov, 1961

Parapermula tatarica Aristov, sp. nov.

Plate 8, fig. 3

Etymology. From the Tatarian Stage.

H o l o t y p e. PIN, no. 3286/10, forewing fragment; Udmurtiya, Sarapul district, Bakhilka River valley, left tributary of the Nechkhinka River, 1.2 km north of the village of Chepanikha, locality of Chepanikha; Upper Permian, Lower Tatarian.

Description (Fig. 3b). The anterior margin of the wing is convex, the costal field is broad. SC terminates at the level of the MA fork, the branches of SC are simple and connected by crossveins, the anterior branches of R dichotomize. The radial field has simple crossveins, RS ramifies well beyond the SC tip, MA bifurcates slightly earlier than MP. CuA has at least five terminations, its anterior branch is close to the posterior branch; CuP, A_1 , and A_2 are straight. The crossveins are simple and form a double row of cells in the MA and CuA fields. The color pattern is developed in the form of large spots and small pale spots against a dark background.

M e a s u r e m e n t s, mm: forewing length, about 24.

C o m p a r i s o n. The new species is most similar to *P. sojanensis* Storozhenko, 1992 in the presence of a short SC and in the dichotomizing anterior branches of R but differs in the absence of a double row of cells in the radial field, RS bifurcating well beyond the SC tip, and the field between the CuA branches being narrow along its entire length.

Material. Holotype.

Genus Liomopterites Sharov, 1961

Liomopterites novissimus Aristov, sp. nov.

Plate 8, fig. 1

Et y molog y. From Latin *novissimus* (last).

Holotype. PIN, no. 3286/8, forewing impression; Udmurtiya, Sarapul district, Bakhilka River valley, left tributary of the Nechkhinka River, 1.2 km north

of the village of Chepanikha, locality of Chepanikha; Upper Permian, Lower Tatarian.

Description (Fig. 3f). The anterior margin of the wing is convex, the costal field is 1.5 times as broad as the subcostal field. SC terminates at the border of the distal third of the wing, SC branches are simple, dichotomizing branches of R are connected by crossveins. The radial field is broad, RS starts in the basal quarter of the wing, MA and MP ramify in the distal half of the wing. CuA_1 ramifies late, the field between CuA and CuP is narrow. The crossveins are simple and form double rows of cells in the radial field and between CuA and CuP.

M e a s u r e m e n t s, mm: forewing length, about 19.

C o m p a r i s o n. *L. novissimus* sp. nov. is closest to *L. accolis* Sharov, 1961 but differs from the latter in the more convex anterior margin of its wing, the shorter SC, and the branching CuA_1 .

Material. Holotype.

ACKNOWLEDGMENTS

I am grateful to A.P. Rasnitsyn and D.E. Shcherbakov (both Paleontological Institute, Russian Academy of Sciences) for helpful remarks. This work was supported by the Russian Foundation for Basic Research, project no. 01-04-48925.

REFERENCES

- 1. D. S. Aristov, "Revision of the Family Tomiidae (Insecta: Grylloblattida)," Paleontol. Zh., No. 1, 32–39 (2003).
- A. G. Sharov, "Paleozoic Insects of the Kuznetsk Basin: Orders Protoblattodea, Paraplecoptera," Tr. Paleontol. Inst. Akad. Nauk SSSR 85, 157–234 (1961).
- 3. S. Yu. Storozhenko, Systematics, Phylogeny, and Evolution of Grylloblattid Insects (Insecta: Grylloblattida) (Dal'nauka, Vladivostok, 1998) [in Russian].
- S. Yu. Storozhenko and D.S. Aristov, "A New Genus of the Family Liomopteridae (Insecta: Grylloblattida) from the Lower Permian of Russia," Far Eastern Entomologist, No. 76, 6–8 (1999).