

**A NEW SPECIES OF THE GENUS *PARACHIRONOMUS* LENZ, 1921
(CHIRONOMIDAE, CHIRONOMINAE) FROM BURYATIA (RUSSIA)**

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Summary. A new species *Parachironomus leleji* **sp. n.** is described from Republic of Buryatia. A detailed morphological description, illustrations, and a comparative diagnosis of this species are given.

Key words: Diptera, Chironomidae, taxonomy, new species, Palaearctic region.

О. В. Орел. Новый вид рода *Parachironomus* Lenz, 1921 (Chironomidae, Chironominae) из Бурятии (Россия) // Дальневосточный энтомолог. 2026. N 555. С. 21-25.

Резюме. Из Бурятии описан новый вид *Parachironomus leleji* **sp. n.** Приведены детальное морфологическое описание, иллюстрации и сравнительный диагноз этого вида.

INTRODUCTION

The non-biting midge family Chironomidae (Diptera) represents one of the most diverse and ecologically significant groups of amphibiotic insects in Palaearctic freshwater ecosystems. Within the subfamily Chironominae, the genus *Parachironomus* Lenz, 1921 occupies a specific position. Larvae of this genus exhibit high ecological plasticity; they inhabit the littoral zones of rivers and lakes, are frequently associated with macrophyte vegetation, and some species exhibit facultative predatory or semi-parasitic lifestyles within freshwater mollusks and sponges.

Orel & Bazova (2022) in their study on the fauna of the midge subfamily Chironominae of the Republic of Buryatia and adjacent territories, which significantly updated the regional checklist. However, despite such faunistic contributions, systematic studies of specific, taxonomically difficult groups in this region remain incomplete. During the processing of material collected from Buryatia, unique adult male specimen belonging to the genus *Parachironomus* was discovered. This new species is described below.

MATERIAL AND METHODS

The adult material was collected by N.V. Bazova in 2011 from the Uda River (Selenga River basin), Republic of Buryatia (Transbaikalia). Material was fixed with 80% ethanol for morphological studies. The descriptions of the species use terminology and abbreviations according to Sæther (1980). Types of distribution are given by Gorodkov (1984).

The photographs were taken using an Olympus DP74 digital camera, and then stacked and post-processed for contrast and brightness using Adobe® Photoshop® software.

The holotype is deposited in the Laboratory of Freshwater Hydrobiology Federal Scientific Center of East Asia Territorial Biodiversity (Vladivostok).

TAXONOMY

Family Chironomidae

Subfamily Chironominae

Tribe Chironomini

Genus *Parachironomus* Lenz, 1921

Parachironomus leleji Orel, sp. n.

<https://zoobank.org/NomenclaturalActs/120DBAD1-0F36-42A9-AC94-B61C86544702>

Figs 1–5

Parachironomus sp.: Albu, 1960: 136; Orel & Bazova, 2022: 160.

TYPE MATERIAL. Holotype: male, **Russia**: Republic of Buryatia, Selenga River basin, Uda River, Ulan-Ude near the Institute of General and Experimental Biology of the Russian Academy of Sciences, 06.XI 2011, coll. N.V. Bazova.

DESCRIPTION. MALE (n=1). Length 3.0 mm.

Coloration. Scape yellowish brown; ground color of thorax pale yellow, mesonotal stripes yellowish and postnotum brown in proximal 2/3; abdomen yellowish; legs brown except for lighter proximal parts of f and ta₁.

Head. Frontal tubercles finger-shaped, 16 µm long and 8 µm wide. Temporal setae 10–12. Clypeus with 11 setae. Antenna 936 µm long. AR 1.67. Maxillary palpomeres 2–4 combined 500 µm long, their individual lengths (in µm): 45; 115; 140; 200. Antenna length/palp length 1.87.

Thorax. Anteprenotal 1, acrostichals 7, dorsocentrals 10, prealars 3, supraalar 1. Scutellum with 6 setae.

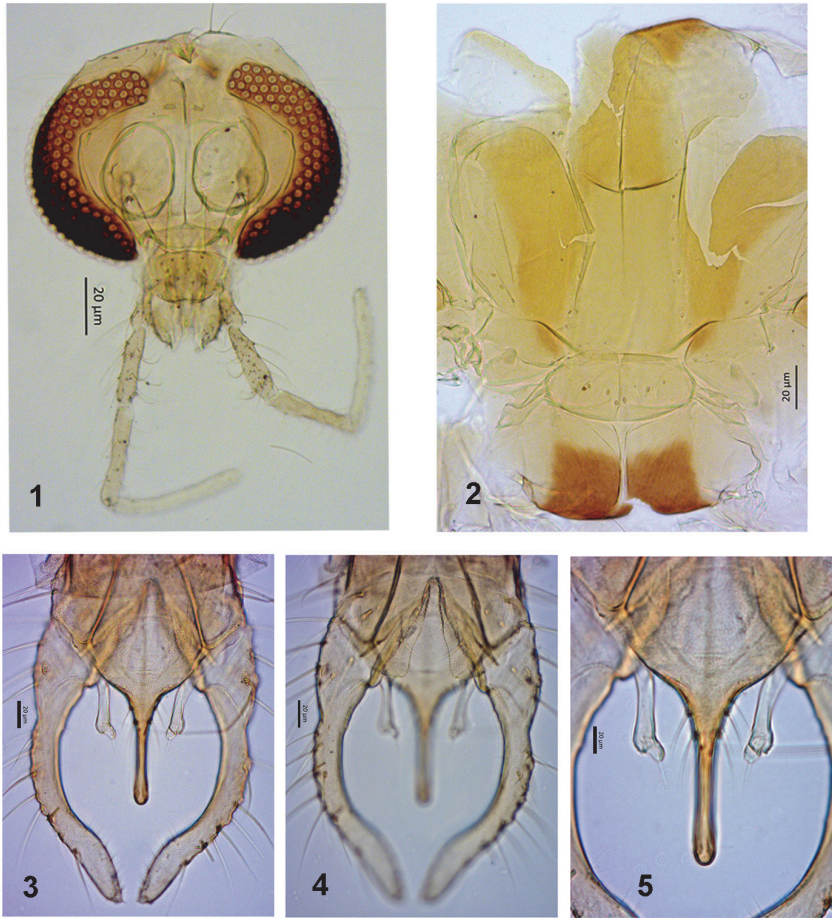
Wing (dented). Length 1.61 mm. R with 9–11, R₁ without setae, R₄₊₅ with 4 setae in distal 2/3, M₁₊₂ without setae. Squama with 4 setae; brachiolum with 2 setae.

Legs (see Table 2). Each mid and hind tibia with 2 fused combs and 2 spurs (length 52–91 µm). BRP₁ 2.5, BRP₂ 3.75, BRP₃ 6.25. Sensilla chaetica ta₁P₂ – 4, ta₁P₃ – 1.

Hypopygium (Figs 3–5). Laterosternite IX with 3 setae. Anal tergite bands separate, median longitudinal part present. Medial setae at base of anal point absent. Anal point length 84 µm, at about apex width 14 µm, with wider, tapering basal half (length 30 µm) that carries microtrichia and 7–8 lateral setae. Portal setae (see Spies 2000) 2 on each side. Transverse sternapodeme 56 µm long. Phallapodeme 86 µm long. Gonocoxite (length 120 µm long) with 3 setae. Superior volsella (56 µm long) in dorsal view slightly curved and expanded in the apical part, apically with lamellar lobe (14 µm), with 1 terminal (20 µm long) and 1 medial (16 µm) seta (Fig. 5). Inferior volsella with shallow prominence, its microtrichia not elongate (Fig. 4). Gonostylus 156 µm long, in dorsal views slightly curved, in the proximal part expanded (24 µm) and bears 6–7 distal-median setae. HR 0.77.

FEMALE, PUPA and LARVA unknown.

REMARKS. The adult male of *Parachironomus leleji* **sp. n.** is most similar in hypopygium structure to the Romanian species *Parachironomus* sp. (Albu, 1980). However, it differs from the latter by having longer wings, yellow mesonotal stripes, and a lower LR_{P1} (see Table 1). There are also slight differences in the shapes of the anal point and the inner apical part of the gonostylus. In the Romanian specimen, the anal point is drop-shaped and the inner apical part of the gonostylus forms a well-defined obtuse angle. In contrast, the male of the new species features a parallel-sided anal point that is slightly widened subapically, and the inner apical part of its gonostylus is flattened (Figs 3–4). Additionally, the adult male of *P. leleji* **sp. n.** resembles *P. monochromus* (van der Wulp, 1874) and *P. potamogeti* (Townes, 1945) in the shape of the gonostylus, but differs from both in the configuration of other hypopygial structures and several morphometric parameters (see Table 1).



Figs 1–5. *Parachironomus leleji* **sp. n.**, holotype, male: 1 – head, dorsal view; 2 – thorax, dorsal view; 3 – hypopygium, dorsal view; 4 – hypopygium, ventral view; 5 – superior volsellae, dorsal view. Scale bar 20 µm.

Table 1. Comparative morphological characteristics of males of *Parachironomus monochromus* (v.d. Wulp, 1859), *P. potamogeti* (Townes, 1945), *Parachironomus* sp., and *P. leleji* **sp. n.**

Characters	Species			
	<i>Parachironomus monochromus</i> (from Spies, 2000)	<i>Parachironomus potamogeti</i> (from Townes, 1945)	<i>Parachironomus</i> sp. (from Albu, 1980)	<i>Parachironomus leleji</i> sp. n.
Wing length, mm	1.84–2.44	2.7	1.29–1.37	1.61
Color of thorax	green without distinct thoracic markings	ground color of thorax green, mesonotal stripes pale ochraceous or sometimes fuscous	ground color of thorax yellow, mesonotal stripes and 2/3 postnotum brown	ground color of thorax pale yellow, mesonotal stripes yellowish, 2/3 postnotum brown
Color of fore legs	green to yellowish except for brown distal part of ti and ta ₁ , ta ₂₋₅ brown	tarsi brown toward the apex	green to yellowish except for brown distal part of f, ti, and ta ₁ , ta ₂₋₅ brown	brown except for lighter proximal parts of f and ta ₁ .
AR	2.05–2.55	2.7	1.60–1.68	1.67
Frontal tubercles	usually absent	–	–	finger-shaped, 16 µm long, 8 µm wide
Aps	5–8	–	–	1
Ac	14–20	–	–	7
Dc	9–18	–	6–7	10
Pa	4–7	–	2–3	3
Scts	14–18	–	6	6
Squamal setae	6–18	–	–	4
LR _{p1}	1.40–1.64	1.6	1.60	1.45
LR _{p2}	0.50–0.58	–	0.37–0.42	0.39
LR _{p3}	0.63–0.70	–	0.62–0.64	0.63
Mid ta ₁ sensilla chaetica	1–13	–	–	4

DIAGNOSTIC CHARACTERS. The adult male of *P. leleji* **sp. n.** is distinguished by the following combination of features: frontal tubercles finger-shaped, 16 µm long; wing length 1.61 mm; AR 1.67; LR_{p1} 1.45; tergite IX with median longitudinal band, medial setae at base of anal point absent, Superior volsella in dorsal view slightly curved and expanded in the apical part, apically with lamellar lobe, with 1 terminal and 1 medial seta, gonostylus curved, in the proximal part expanded.

Table 2. Lengths (in μm) and proportion of leg segments of *Parachironomus leleji* sp. n.

P	f	ti	ta₁	ta₂	ta₃	ta₄	ta₅
P₁	702	520	754	364	286	195	117
P₂	585	598	324	143	104	58.5	71.5
P₃	689	728	455	234	113	104	91

P	LR	SV	BV
P₁	1.45	1.62	2.05
P₂	0.39	5.05	3.76
P₃	0.63	3.11	3.35

DISTRIBUTION. Russia, Republic of Buryatia.

ETYMOLOGY. The new species is named in honor of Professor Arkady Stepanovich Leley, Doctor of Biological Sciences, head of the Laboratory of Entomology at the Federal Scientific Center of Biodiversity, Far Eastern Branch of the Russian Academy of Sciences.

ACKNOWLEDGEMENTS

The author is deeply grateful to N.V. Bazova (Institute of General and Experimental Biology, Siberian Branch of the Russian Academy of Sciences) for the opportunity to study the material she collected. The research was carried out within the state assignment of Ministry of Science and Higher Education of the Russian Federation (theme No. 124012400285-7).

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