

## A new remarkable species of *Pnigalio* Schrank, 1802 (Hymenoptera: Chalcidoidea: Eulophidae) from the Altai Mountains, Russia

### Необычный новый вид рода *Pnigalio* Schrank, 1802 (Hymenoptera: Chalcidoidea: Eulophidae) из Горного Алтая (Россия)

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**Key words:** Eulophidae, *Pnigalio*, new species, Altai, Russia.

**Ключевые слова:** Eulophidae, *Pnigalio*, новый вид, Алтай, Россия.

**Abstract.** A new species of Eulophidae, *Pnigalio nadezhdae* Kosheleva, **sp.n.** is described from Altai Mountains of Russia. The new taxon has unique structure of the propodeum, its median part coarsely rugose without distinctly costula and its anterior part with short paramedial carinae.

**Резюме.** Описан новый вид эвлофид *Pnigalio nadezhdae*, **sp.n.** из Горного Алтая России. Новый таксон отличается уникальным строением промежуточного сегмента: его срединная часть с грубыми морщинами, без отчетливого поперечного киля и верхняя часть с короткими парамедиальными киями.

## Introduction

*Pnigalio* Schrank, 1802 is a small genus belongs to the subfamily Eulophinae, includes about 60 valid species [Noyes, 2019]. Genus is distributed throughout the Holarctic region, mostly in Palaearctic region, and only about a 10 species have been reported from the others zoogeographical regions. Currently 19 species are known from the fauna of European part of Russia, 13 species are known from the south of the Far East of Russia and only 3 species are known from Siberia [Trjapitzin, 1978; Storozheva et al., 1995; Yefremova, 2002; Kosheleva et al., 2019].

The members of this genus are known as a primary or secondary ectoparasites of leaf-mining insects from orders Lepidoptera, Diptera and Coleoptera; or gall-making larvae of hymenopterous, mainly Tenthredinidae [Yoshimoto, 1983].

## Material and methods

The holotype of the new species are deposited in the collection of the Zoological Institute, Russian Academy of Sciences, Saint Petersburg (ZISP).

Photographs of adult parasitoid were taken with a combination of stereo microscope (Olympus SZX10) and digital camera (Olympus OM-D).

Morphological terminology follows Graham [1959], Miller [1970] and Gibson [1997].

Following abbreviations are used in the text: POL — posterior ocellar line, the shortest distance between the posterior ocelli; OOL — ocello-ocular line, the minimum distance between a posterior ocellus and compound eye margin; F1-F4 — funicular segments.

Nomenclatural acts introduced in the present work are registered in ZooBank ([www.zoobank.org](http://www.zoobank.org)) under LSID urn:lsid:zoobank.org:pub:543E20F8-A7ED-48B8-AC2A-D50F0BE79601.

## Taxonomy part

Hymenoptera Linnaeus, 1758

Chalcidoidea Latreille, 1817

**Eulophidae** Westwood, 1829

Eulophinae Westwood, 1829

***Pnigalio*** Shrank, 1802

***Pnigalio nadezhdae* Kosheleva **sp.n.****

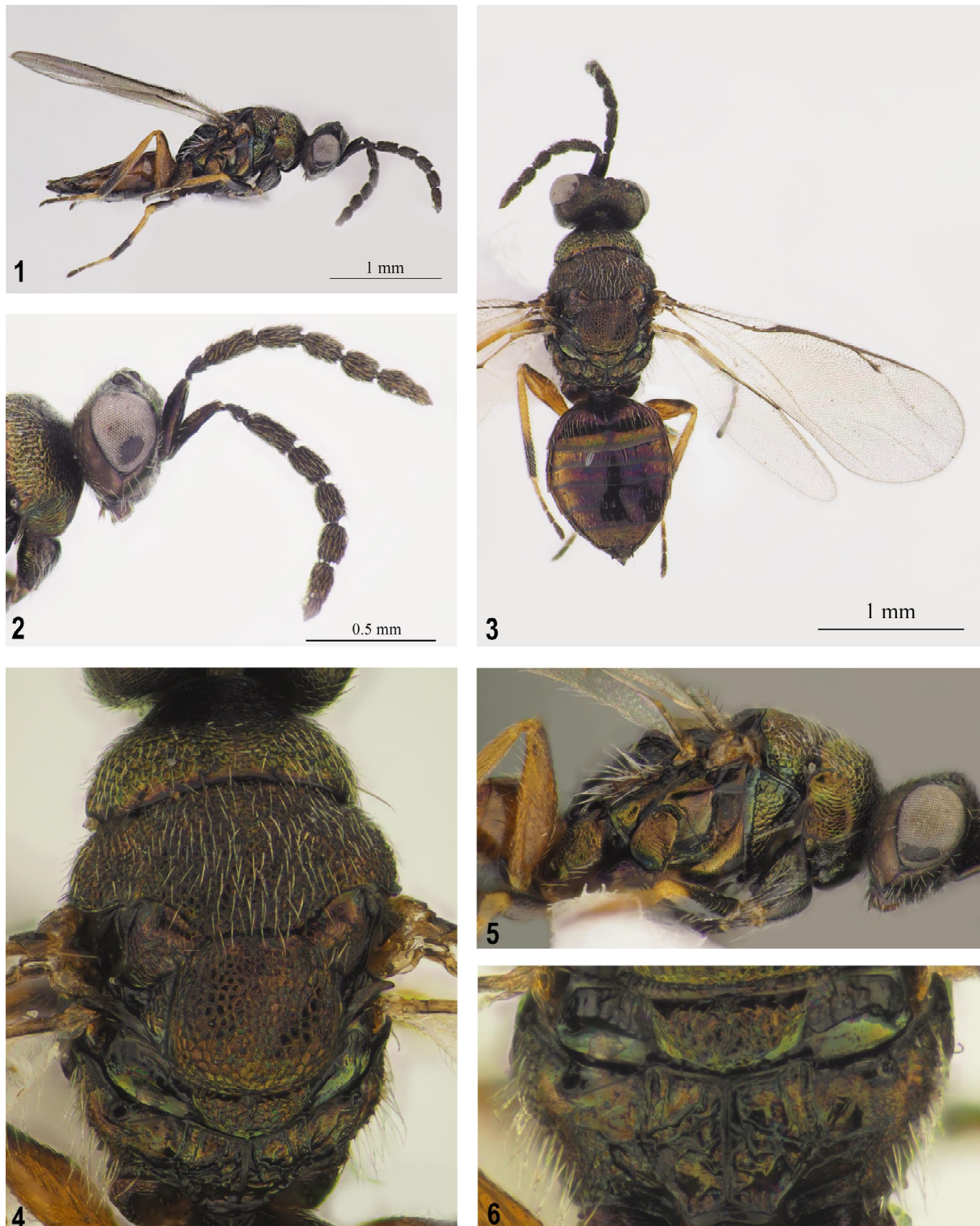
Figs 1–6.

Urn:lsid:zoobank.org:act:23626C8B-13AE-47F6-A5E7-C6E4E89D380A.

**Material.** Russia, *Altai Republic*: holotype, ♀, Kosh-Agachskii Raion, sweeping on meadow, about 2000 m a.s.l., 50°10'46.49", 87°30'11.2" E, 21.VII.2021, O. Kosheleva leg.

**Description.** *Female.* Length 2.67 mm; width of thorax in front of tegulae 1 mm.

**Colour.** Head primarily bronze green with coppery and purple lusters; mandibles testaceous; antenna blackish; scape and pedicel with violet metallic luster. Mesosoma dark green with extensive coppery lustres; tegulae dark brown. Legs generally blackish-brown; coxae concolorous with thorax; fore and mid femora blackish-brown, but towards the knees lighter-coloured, hind femora and fore tibia entirely yellowish-brown, mid and hind tibia yellowish-brown, towards the top half blackish-brown; tarsi brownish, mid and hind tarsi with basal two tarsomeres yellowish-brown. Gaster golden dorso-laterally with greenish to violaceous lusters medially, brownish-black ventrally. Wings hyaline; venation dark brown.



Figs 1–6. Morphological details of *Pnigalio nadezhdae* sp.n. holotype, female. 1 — habitus, lateral view; 2 — head with antenna, lateral view; 3 — habitus, dorsal view; 4 — mesosoma, dorsal view; 5 — mesosoma and head, lateral view; 6 — metanotum and propodeum, dorsal view.

Рис. 1–6. Детали строения голотипа самки *Pnigalio nadezhdae* sp.n. 1 — внешний вид латерально; 2 — голова с усиками латерально; 3 — внешний вид дорзально; 4 — мезосома дорзально; 5 — мезосома и голова латерально; 6 — метанотум и проподеум дорзально.

**Sculpture.** Head finely alutaceous. Axilla finely coriaceous, smooth and shiny anteriorly. Scutellum and dorsellum coarsely reticulate. Gaster smooth and shiny. Lateral panel of pronotum with coriaceous to alutaceous sculpture; prepectus coarsely reticulate; mesepisternum coriaceous; mesepimeron and upper of metapleuron smooth, remaining part of metapleuron with transverse alutaceous sculpture. Dorsal area of hind coxae reticulate with more or less isodiametric cells (Fig. 5).

Head in dorsal view 0.97 breadth of mesoscutum, 2.2 times as long as broad. Temples in dorsal view 0.36 length of eye; ocelli rather large, POL 2 times OOL, OOL 1.6 times OD. Eye 1.7 times as long as broad. Head in frontal view 1.56 times as broad as high; face with rather long white setae, eyes with short setae, their inner margin parallel; toruli with lower edges slightly above ventral eye margin; malar space 0.4 height of eye.

Antenna with funicle 4-segmented and clava 2-segmented (Fig. 2). Scape reaching median ocellus, 3.8 times as long as broad and 3.3 times as long as pedicel. Pedicel in lateral view 1.6 times as long as broad; anellus transverse. Funicle segments broader than pedicel about as twice, F<sub>2</sub> 2 times as long as pedicel, F<sub>2</sub> 0.85 length of F<sub>1</sub>, F<sub>3</sub> 0.9 length of F<sub>2</sub> and F<sub>4</sub> 0.9 length of F<sub>3</sub>. First claval segment 1.5 times longer and 1.5 times broader than second claval segment. Placoid sensilla on flagellum and clava rather thick and short, numerous, arranged in three or four irregular rows on funicle segment.

Mesosoma 1.6 times as long as broad (Fig. 4). Pronotum 0.74 length and 0.83 width of mesoscutum, twice as broad as long. Mesoscutum not convex, 2 times as broad as long, notaulices incomplete; scutellum more or less flattened, as broad as long and as long as mesoscutum. Posterior margin of pronotum and mesoscutum with dense whitish setae. Dorsellum 1.8 times as broad as long, median length 0.6 times as long as propodeum length (Fig. 4, 6). Propodeum medially 2.1 times as long as dorsellum, 1.25 times as broad as long, median part coarsely without distinctly costula; surface of propodeal area smooth, median area with paramedial carinae anteriorly (Fig. 4, 6). Propodeal spiracles rounded, not touching anterior margin of propodeum and separated by half their diameter from metanotum. Callus with numerous long white setae. Forewing 2.3 times as long as broad; ratio of veins submarginal: marginal : stigmal : postmarginal as 4 : 3.6 : 1 : 2.4; cubital and basal folds, costal cell and basal cell hairy; speculum absent (Fig. 3). Marginal fringe of forewing short.

**Metasoma.** Petiole short and smooth. Gaster short-ovate, 0.7 length of head plus thorax, 1.3 times as long as broad; with hairlike setae, more densely on basal tergite; ovipositor sheaths projecting very slightly (Fig. 3).

**Male unknown.**

**Comparative diagnosis.** *Pnigalio nadezhdae* sp.n. has unique structure of the propodeum, its median part coarsely rugose without distinctly costula and its anterior part with short paramedial carinae. Similar sculpture of the propodeum has North American species *P. pallipes* (Provancher, 1887) [Yoshimoto, 1983] but the morphological features of other structures, this species are different.

**Hosts.** Unknown.

**Distribution.** Western Siberia, Altai Republic.

**Etymology.** Named in honour of Nadezhda Storozheva, Russian chalcidologist.

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