

## A new species of the genus *Cirrospilus* Westwood (Hymenoptera: Eulophidae) from Zabaikal'skii Krai, Russia

### Новый вид рода *Cirrospilus* Westwood (Hymenoptera: Eulophidae) из Забайкальского края, Россия

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**Key words:** parasitic wasps, eulophids, taxonomy, new taxa, Palearctic Region, Eastern Siberia.

**Ключевые слова:** паразитические осы, эвлофиды, таксономия, новый таксон, Палеарктика, Восточная Сибирь.

**Abstract.** *Cirrospilus leleji* sp.n. is described and illustrated from the south of Zabaikal'skii Krai. The new species is similar to *C. brevis* Zhu, LaSalle et Huang, 2002 by the mid lobe of the mesoscutum with one pair of strong setae placed near posterior edge and with not paired short light colored setae scattered over the entire surface of the mid lobe of the mesoscutum. The new species differs from the mentioned species by its darker body color, the mesosoma smooth with very fine engraved reticulation formed by delicate engraved lines and the propodeum without a median carina.

**Резюме.** С юга Забайкальского края описывается и иллюстрируется *Cirrospilus leleji* sp.n. Новый вид похож на *C. brevis* Zhu, LaSalle et Huang, 2002 наличием на щите среднеспинки одной пары длинных щетинок, расположенных у заднего края, и непарных коротких светлых щетинок, разбросанных по всей поверхности щита среднеспинки. Новый вид отличается от упомянутого вида более темной окраской тела, сильно блестящей мезосомой со скульптурой, образованной тонкими гравированными линиями, а также отсутствием срединного киля на проподоуме.

## Introduction

The genus *Cirrospilus* Westwood, 1832 is a large, worldwide genus of eulophid wasps (Chalcidoidea: Eulophidae) with about 153 described species [UCD Community, 2026]. Their larvae are primary or occasionally secondary ectoparasitoids, usually of the preimaginal stages of lepidopterous and coleopterous leaf-miners [Bouček, Askew, 1968]. The largest number of species are known for the fauna of Australia [Bouček, 1988], North America [Schauff et al., 1998; Evans, 1999; Gates, 2000; Gates, Schauff, 2003], Europe [Bouček, 1959; Bouček, Askew, 1968; Askew, 1965, 1982] and China [Sheng, 1994; Sheng, Wang, 1992; Yang, Ren, 1998; Zhu et al., 2002; Yang et al., 2015]. Several species have been described from Japan [Ii, 1936; Ishii, 1953;

Kamijo, 1987, 1992], India [Narendran, 2011]; Africa [Ferrière, 1936; Risbec, 1951; Bouček, 1976; Hansson, LaSalle, 1996], and Iran [Yefremova et al., 2007; Ebrahimi et al., 2008].

The Russian fauna of *Cirrospilus* includes 15 species, of these 10 species are recorded from the Russian Far East [Storozheva et al., 1995; Kosheleva et al., 2019, 2022; Kosheleva, 2024].

Recent study of the eulophid wasps fauna of Zabaikal'skii Krai has revealed 57 species, including *Cirrospilus diallus* Walker, 1838, *C. pictus* (Nees, 1834), and *C. variegatus* (Masi, 1907) [Kosheleva, 2026 in lit.].

This paper describes a new species of the genus *Cirrospilus* that was found in the extreme southern part of Zabaikal'skii Krai, Russia.

## Materials and methods

The material for this study was collected in Zabaikal'skii Krai, which is located in the southern part of Eastern Siberia and borders on Amur Region in the northeast, Irkutsk Region in the northwest, and the Republic of Buryatia in the west, the Republic of Sakha (Yakutia) in the north, Mongolia in the south, and China in the southeast. This is a territory with unique landscapes, occupying an intermediate position between the taiga mountains and dry Mongolian steppes.

Morphological description was done using Olympus SZ11 stereomicroscope, photographs were made using with a combination of a stereo microscope (Olympus SZX10) and a digital camera (Olympus OM-D), and image stacking was performed using Helicon Focus 5.0.

The types of new species are deposited at the Zoological Institute, Russian Academy of Sciences, Saint Petersburg (ZISP).

Terminology follows Gibson [1997]. The abbreviations are used: OOL for minimum distance between one

posterior ocellus and eye and POL for minimum distance between posterior ocelli.

The present work is registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:F232221D-6833-4F0F-9F0D-3ED4515AD3AA

## Results

Chalcidoidea

**Eulophidae**

Eulophinae

*Cirrospilus* Westwood, 1832

**Type species:** *Cirrospilus elegantissimus* Westwood, 1832, by monotypy.

**Notes.** For the synonymy and diagnosis of the genus, see Bouček [1988] and Zhu et al. [2002].

*Cirrospilus leleji* Kosheleva, **sp.n.**

Figs 1–5.

<https://zoobank.org/NomenclaturalActs/D58AAF6A-8374-4848-9F2C-10C8038F4E86>

**Material.** Russia, Zabaikal'skii Krai: Holotype, ♀, Ononsky district, 20 km SW Vill. New Durulgui, Byrka lowland, *Betula*, 2.VIII.2024, O. Kosheleva; Paratypes 2♀♀ with the same labels.

**Description.** *Female.* Size: body length 1.7–2.0 mm, forewing length 1.3–1.5 mm.

Head black with lower face and areas around orbits yellow as indicated on Fig. 3. Antennae dark brown. Mesosoma predominantly black, except posterior part of mid lobe mesoscutum, scapulae, partially axillae, anterior margin of scutellum, prepectus and mesopleuron yellow. Metasoma predominantly brown, with yellowish sides. Wings hyaline, venation pale brownish. Legs completely yellow, fore tarsi brownish and apical segments of all tarsi darkened. Mesoscutum and mesoscutellum smooth, with very fine engraved reticulation formed by delicate engraved lines; dorsellum smooth; propodeum smooth with very fine isodiametric reticulations.

Head in frontal view 1.4 times wider than high, with very fine reticulation, vertex, occiput, temples and genae with numerous fine setae. POL 1.2 times OOL. Malar space 0.7 times height of eye. Antenna with two anelli, two funicular segments and a 3-segmented clava; scape extending to vertex; flagellar segments equal in length, 1.4 times as long as broad; clava as long as whole funicle, 2.6 times as long as broad. Flagellar segments with multiporous plate sensillae disposed in two regular rows, second and third claval segments in one row.

Mesosoma. Pronotum  $\frac{1}{2}$  length of mesoscutum with even coverage of fine setae. Mid lobe mesoscutum with one pair of strong setae placed near posterior edge, and with short not paired light colored setae scattered over the entire surface. Notaulus extending to mesoscutellum. Mesoscutellum almost as long as mesoscutum, as long as wide, somewhat rounded, with superficial submedian grooves and with two pair of setae close to grooves. Dorsellum with rounded posterior margin. Propodeum medially nearly as long as dorsellum, without median carina; callus with numerous setae; propodeal plicae absent. Fore wing with postmarginal vein 0.8 times as long as stigmal vein; costal cell with complete line of setae on lower surface, with 6–10 setae on upper surface in apical part of cell; submarginal vein with 6–7 dorsal setae; speculum very narrow or absent.

Metasoma. Petiole short and transverse. Gaster 1.3 times as long as mesosoma and 0.9 as long as head plus mesosoma. Tergites smooth and shiny.

*Male.* Unknown.

**Comparison.** *Cirrospilus leleji* Kosheleva, sp.n. is similar to *C. brevis* Zhu, LaSalle et Huang, 2002 [Zhu et al., 2002] by the mid lobe of the mesoscutum with one pair of strong setae placed near posterior edge and with not paired short light colored setae scattered over the entire surface of the mid lobe of the mesoscutum. The new species differs from *C. brevis* by having a darker body color (*vs* mostly yellow); the mesoscutum and mesoscutellum smooth with very fine engraved reticulation (*vs* distinctly raised to engraved reticulation); the propodeum without a median carina (*vs* with distinct median carina); the gaster 1.3 times as long as the mesosoma (*vs* nearly equal) and POL 1.2 times OOL (*vs* 2.3).

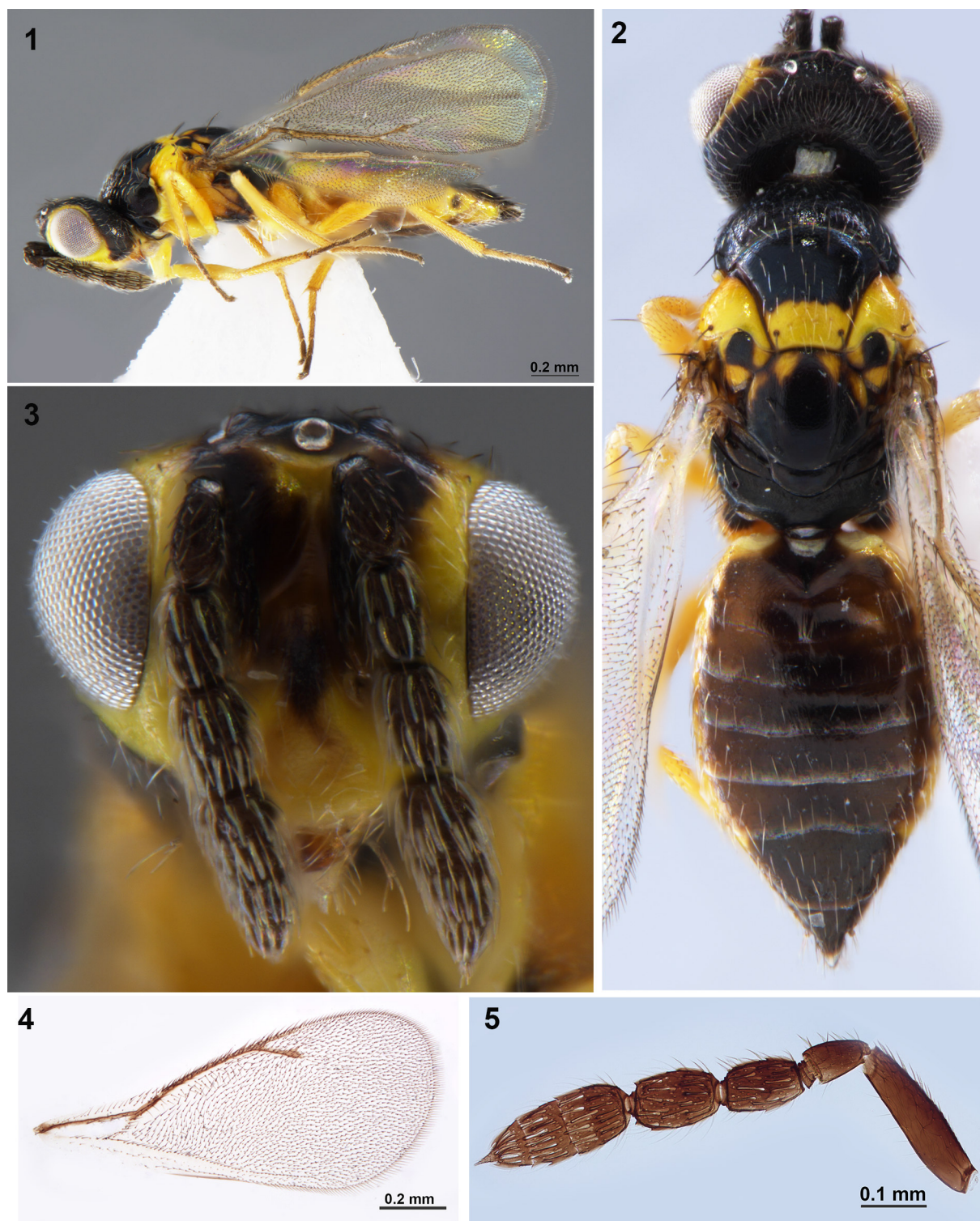
**Etymology.** The species is dedicated to Russian entomologist, Prof. Arkady S. Lelej (FSC Biodiversity FEB RAS, Vladivostok, Russia) on the occasion of his 80th birthday.

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## References

- Askew R.R. 1965. Additions to the British fauna of Eulophidae (Hymenoptera: Chalcidoidea), with descriptions of two new species // *Proceedings of the Royal Entomological Society of London (B)*. Vol.34. P.1–4. <https://doi.org/10.1111/j.1365-3113.1965.tb01637.x>
- Askew R.R. 1982. New species of Eulophidae (Hymenoptera, Chalcidoidea) from Madeira, with some observations on the fauna // *Bocagiana*. Vol.64. P.1–9.
- Bouček Z. 1959. A study of central European Eulophidae, II: *Diauliniopsis* and *Cirrospilus* (Hymenoptera) // *Acta Entomologica Musei Nationalis Pragae*. Vol.33. P.171–194.
- Bouček Z. 1969. Descriptive and taxonomic notes on ten, mainly new, species of West Palearctic Eulophidae (Hymenoptera) // *Acta Entomologica Musei Nationalis Pragae*. Vol.38. P.525–543.
- Bouček Z. 1976. Taxonomic studies on some Eulophidae (Hym.) of economic interest mainly from Africa // *Entomophaga*. Vol.21. No.4. P.401–414. <https://doi.org/10.1007/BF02371639>
- Bouček Z. 1988. Australasian Chalcidoidea (Hymenoptera). A biosystematic revision of genera of fourteen families, with a reclassification of species. Wallingford: CAB International. 832 p.
- Bouček Z., Askew R.R. 1968. Palearctic Eulophidae (excl. Tetrastichinae). Index of entomophagous insects. Paris: Le François. 260 p.
- Ebrahimi E., Malekzadeh M., Yefremova Z. 2008. Parasitoids of *Phyllocnistis citrella* (Lep., Gracillariidae) in Iran // *Applied Entomology and Phytopathology*. Vol.76. No.2. P.81–92.
- Evans G.A. 1999. A new species of *Cirrospilus* (Hymenoptera: Eulophidae) and two new synonyms of parasitoids reared from the citrus leafminer *Phyllocnistis citrella* (Lepidoptera: Gracillariidae) // *Florida Entomologist*. Vol.82. No.3. P.448–453. <https://doi.org/10.2307/3496870>
- Ferrière C. 1936. The parasites of the coffee leaf-miners (*Leucopetera* spp.) in Africa // *Bulletin of Entomological Research*. Vol.27. No.3. P.477–491. <https://doi.org/10.1017/S0007485300058338>
- Gates M.W. 2000. A new species of *Cirrospilus* Westwood (Hymenoptera: Eulophidae) from the southwestern United States and Mexico // *Proceedings of the Entomological Society of Washington*. Vol.102. No.1. P.58–61.
- Gates M.W., Schauff M.E. 2003. A new species of *Cirrospilus* Westwood (Hymenoptera: Eulophidae) from southeastern Arizona // *Proceedings of the Entomological Society of Washington*. Vol.105. No.2. P.300–303.



Figs 1–5. Details of morphology of *Cirrospilus leleji* sp.n., female: holotype (1–3) and paratype (4–5). 1 — habitus, lateral view; 2 — habitus, dorsal view; 3 — head with antenna, frontal view; 4 — fore wing; 5 — antenna.

Рис. 1–5. Детали строения *Cirrospilus leleji* sp.n., самка: голотип (1–3) и паратип (4–5). 1 — внешний вид, сбоку; 2 — внешний вид, сверху; 3 — голова с антеннами, вид спереди; 4 — переднее крыло; 5 — антенна.

- Gibson G.A.P. 1997. Morphology and Terminology // Gibson, G.A.P., Huber, J.T., Woolley, J.B. (Eds): Annotated Keys to the Genera of Nearctic Chalcidoidea (Hymenoptera). Ottawa: National Research Council Research Press. P.16–44.
- Hansson C., LaSalle J. 1996 Two new eulophid parasitoids (Hymenoptera: Chalcidoidea: Eulophidae) of *Liriomyza trifolii* (Burgess) (Diptera: Agromyzidae) // Oriental Insects. Vol.30. P.193–202. <https://doi.org/10.1080/00305316.1996.10433841>
- Kamijo K. 1987. Notes on Japanese species of *Cirrospilus* (Hymenoptera, Eulophidae) with descriptions of two new species // Kontyû. Vol. 55. P.43–50.
- Kamijo K. 1992. Two new species of *Cirrospilus* (Hymenoptera, Eulophidae) from Japan // Japanese Journal of Entomology. Vol.60. P.391–395.
- Kosheleva O.V. 2024. Eulophid wasps of the subfamily Eulophinae (Hymenoptera: Chalcidoidea) from the Khingan Reserve (Amur Province, Russia), with descriptions of new species // Far Eastern Entomologist. No.493. P.14–31. <https://doi.org/10.25221/fee.493.2>
- Kosheleva O.V., Belokobylskij, S.A., Kirichenko N.A. 2022. The Hymenopterous parasitoids of the Lime Leafminer *Phyllonorycter issikii* (Kumata) (Lepidoptera: Gracillariidae) from its native and invaded regions in Asian Russia // Diversity. Vol.14. No.9. P.707. <https://doi.org/10.3390/d14090707>
- Kosheleva O.V., Egorenkova E.N., Kostjukov V.V., Trjapitzin V.A. 2019. Family Eulophidae // Belokobylskij S.A., Samartsev K.G., Il'inskaya A.S. (Eds): Annotated catalogue of the Hymenoptera of Russia. Volume II. Apocrita: Parasitica. Proceedings of the Zoological Institute Russian Academy of Sciences. Suppl.8. St. Petersburg: Zoological Institute RAS. P.152–182. <https://doi.org/10.31610/trudyzin/2019.supl.8.5>
- Kosheleva O.V. 2026. [Eulophid wasps (Hymenoptera, Chalcidoidea) of the Dauriskii Nature Reserve, Zabaikal'skii Territory, Russia] // Proceedings of the Russian Entomological Society. In lit. [In Russian].
- Ii N. 1936. Notes on a new chalcidoid-fly infesting the egg of *Arge similis* Vollenhoven // Kontyû. Vol.10. No.5. P.221–225.
- Ishii T. 1953. A report on the studies of parasitic wasps of injurious insects // Bulletin of the Faculty of Agriculture, Tokyo University of Agriculture and Technology. Vol.1. No.2. P.1–10
- Narendran T.C. 2011. Fauna of India, Eulophinae (Hymenoptera: Eulophidae). Kolkata: Zoological survey of India. 442 p.
- Schauff M.E., J. La Salle, Wijesekara G.A. 1998. The genera of chalcid parasites (Hymenoptera: Chalcidoidea) of citrus leafminer (*Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) // Journal of Natural History. Vol. 32. P.1001–1056. <https://doi.org/10.1080/00222939800770521>
- Sheng J.K. 1994. Two new species of *Cirrospilus* (Hymenoptera: Eulophidae) // Entomological Journal of East China. Vol.3. No. 2. P.1–4
- Sheng J.K., Wang G.H. 1992. Two new species and two new records of *Cirrospilus* Westwood (Hym.: Eulophidae) from Jiangxi // Acta Agriculturae Universitatis Jiangxiensis. Vol.14. No.1. P.35–39.
- Storozheva N.A., Kostjukov V.V., Yefremova Z.A. 1995. [Fam. Eulophidae] // Lehr P.A. (Ed.): Opredelitel nasekomyih Dalnego Vostoka Rossii. Neuropteroidea, Mecoptera, Hymenoptera. Vol.4. Pt.2. Vladivostok: Dal'nauka. P.291–505. [In Russian].
- Risbec J. 1951. 1. Les Chalcidoïdes de l'Afrique occidentale française // Mémoires de l'Institut Français d'Afrique Noire, Ifan-Dakar. Vol.13. P.7–409.
- UCD Community. 2026. Universal Chalcidoidea Database (UCD) curated in TaxonWorks. Available from: <https://ucd.chalcid.org/♂/taxon?taxonID=455498> [accessed 28 April 2026]
- Yang Z.X., Ren Y.S. 1998. Identification of parasitic wasps of citrus leafminer in Zhejiang Province // South China Fruits. Vol.27. No.1 P.15–16.
- Yang Z.Q., Yao Y.X., Cao L.M. 2015. Chalcidoidea parasitizing forest defoliators (Hymenoptera). Beijing: Science Press. 296 p.
- Yefremova Z., Ebrahimi E., Yegorenkova E. 2007. The subfamilies Eulophinae, Entedontinae and Tetrastichinae in Iran, with description of new species (Hymenoptera: Eulophidae) // Entomofauna. Bd.8. H.30. S.405–440.
- Zhu C.D., LaSalle J., Huang, D.W. 2002. A study of Chinese *Cirrospilus* Westwood (Hymenoptera: Eulophidae) // Zoological Studies. Vol.41. No.1. P.23–46.

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