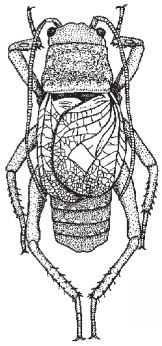


Far Eastern Entomologist

Дальневосточный энтомолог

Journal published by Far East Branch of the Russian Entomological Society and Laboratory of Entomology, Federal Scientific Center of the East Asia Terrestrial Biodiversity, Vladivostok

Number 552: 1-7 | ISSN 1026-051X (print edition) ISSN 2713-2196 (online edition) | July 2026

https://doi.org/10.25221/fee.552.1
https://elibrary.ru/qdmjia
https://zoobank.org/References/2CB1D6F6-C0D5-4EF3-857F-29DDB7D4BAD9

A NEW SPECIES OF THE GENUS РОДА *EUMERUS* MEIGEN, 1822 (DIPTERA: SYRPHIDAE) FROM THE TRICOLOR SPECIES GROUP

A. V. Barkalov[1,2*)], M. R. Rakhimov[2,3)]

1) *Institute of Systematics and Ecology of Animals, Russian Academy of Sciences, Siberian Branch, Frunze str. 11, Novosibirsk, 630091, Russia. *Corresponding author, E-mail: bark@eco.nsc.ru*

2) *Samarkand State University named after Sharaf Rashidov, University blv.15, Samarkand, 140104, Uzbekistan. E-mail: muhammadtuychi@gmail.com*

3) *Samarkand Pedagogical Institute. Spitamen Avenue St. 166, Samarkand 140102, Uzbekistan.*

Summary. A new hoverflies species *Eumerus longipilosus* **sp. n.** is described from Kyrgyzstan. Due to the presence of longitudinal and transverse grooves on the postpedicel, a broad body, and the absence of anterior lobe on the epandrium, the new species should be classified as a member of the *Eumerus tricolor* group. It differs from all other species in this group by the presence of long black pilis on face and on mesofemur, the characteristic structure of the epandrium, and several other minor differences.

Key words: hoverflies, taxonomy, new species, Central Asia.

А. В. Баркалов, М. Рахимов. Новый вид из рода *Eumerus* Meigen, 1822 (Diptera: Syrphidae) из группы видов *tricolor* // Дальневосточный энтомолог. 2026. N 552. С. 1-7.

Резюме. Описан новый вид мух-журчалок *Eumerus longipilosus* **sp. n.** из Киргизстана Из-за наличия продольных и поперечных бороздок на постпедицилюме, широкого тела и отсутствия на эпандрии переднего выроста, новый вид следует относить к группе видов, близких к *E. tricolor*. От всех видов этой группы новый вид отличается наличием длинных черных волосков на лице и на средних бёдрах, характерным строением эпандрия и рядом других более мелких отличий.

INTRODUCTION

The genus *Eumera* Meigen, 1822 is currently one of the most species-rich in the family of hoverflies within the Palaearctic region. According to preliminary estimates, there are more than 120 species in the Asian part of this region alone. The taxonomy of the genus especially has been studied intensively in the last 5 years. During this time, about 40 new species have been described in Asia (Smit *et al*., 2020; Mutin, 2019, 2025, 2026; Song *et al*., 2020; Gilasian *et al*., 2022a,b; Zlatanov, 2023; Barkalov *et al*., 2020; Barkalov & Mutin, 2022, 2024a, 2024b; Barkalov, 2025a, b).

In the process of preparing the key to the genus *Eumerus*, two specimens were found that, according to the division into species groups proposed by A. Chroni *et al*. in 2017 and later confirmed by Ana Grković *et al*., 2017 and Ebrahim Gilasian *et al*., 2020, belong to the *Eumerus tricolor* species group. This species group is characterized by its relatively large size, broad body, the presence of a transverse sulcus and several longitudinal sacculi on the postpedicel, and the absence of a front lobe on the surstylus (Fig. 7). When comparing the new specimens with the descriptions of all members of this group, it was found that they do not resemble any of the known members. This led us to suggest that they belong to a new species, which is described below.

MATERIAL AND METHODS

The work is based on specimens from the collection of the Siberian Zoological Museum at the Institute of Systematics and Ecology of Animals of the Siberian Branch of the Russian Academy of Sciences (SZMN). The determination was carried out according to the key published in 1961 by Stackelberg, as well as according to the keys given in the works of Gilasian *et al*. (2020, 2022) and according to the descriptions of new species in the works of Peck (1966, 1969).

Male genitalia were dissected and prepared for study following Hippa (1968) and stored in microvials containing glycerol, attached to appropriate specimens. All drawings were prepared with the aid of an ocular grid and graph paper. The final illustrations were postprocessed for contrast and brightness using Adobe® Photoshop® software. Photograph were taken with an Olympus SZX16 stereomicroscope and an Olympus DP74 digital camera, and then stacked using Helicon Focus software.

The holotype and paratype of the new species are kept in the SZMN (Novosibirsk).

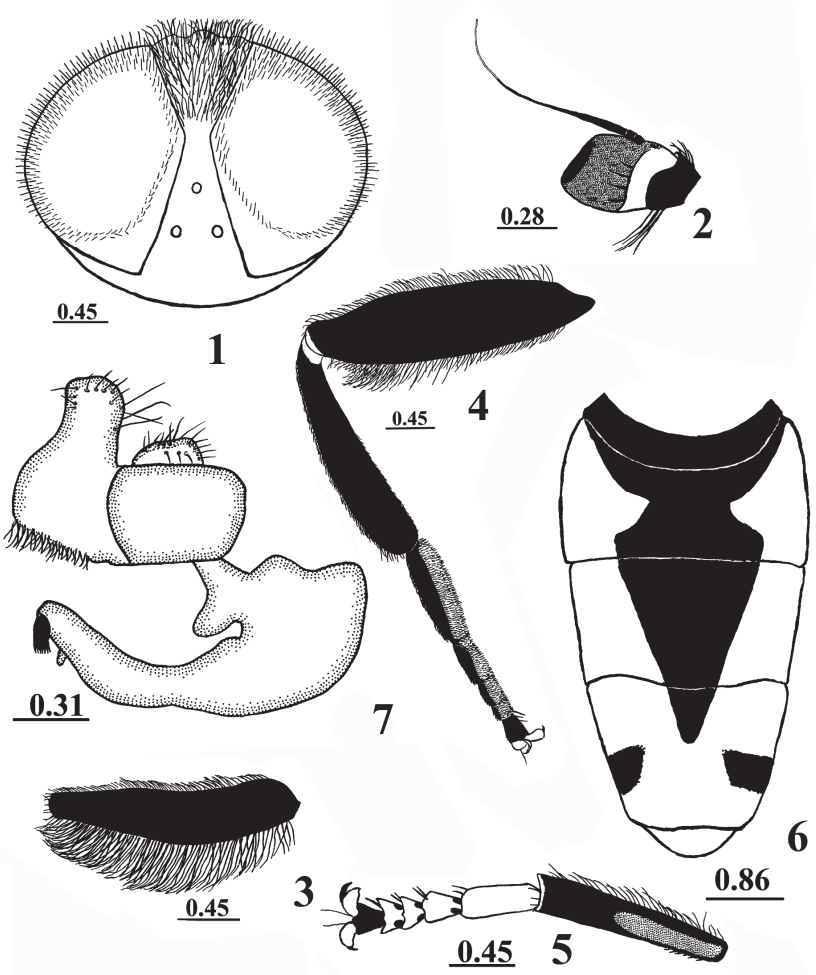
DESCRIPTION OF NEW SPECIES

Eumerus longipilosus **Barkalov et Rakhimov, sp. n.**

https://zoobank.org/NomenclaturalActs/4CD6F67C-F0DB-4ABA-B327-320AACD39952

Figs 1–6

TYPE MATERIAL. Holotype – ♂, **Kyrgyzstan:** valley of Kekemeren Rriver, 7 km N Kyzyl-Oj, 2 km higher Kovyok-Su, h=1700–1900 m, 10.VII 2021, leg. V.V. Dubatolov [SZMN]. [Original label: "Кыргызстан, долина р. Кекемерен, от 7 км

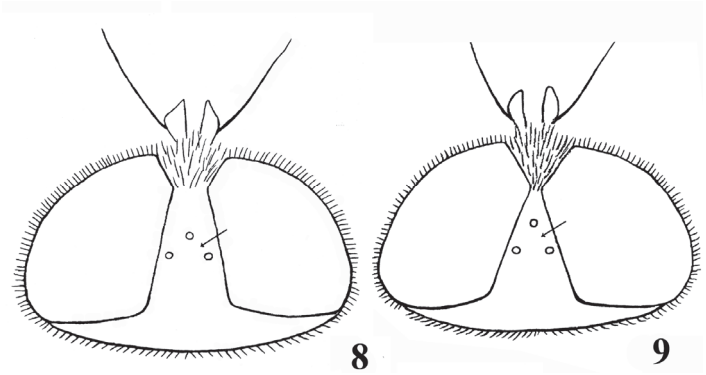


Figs 1–7. *Eumerus longipilosus* sp. n. 1 – head, dorsal view; 2 – pedicel and postpedicel, lateral view; 3 – mesofemur, dorsal view; 4 – metaleg, lateral view; 5 – protibia and protarsus, ventral view; 6 – abdomen, dorsal view; 7 – male genitalia, lateral view. Scale bars in mm.

выше р. Ковюк-Су, 1700–1900 м, 10.VII.2001 В.В. Дубатолов"]. Paratype: ♂, Kyrgizstan: W Tien-Shan, Ugamsky Mt. R., Kajnar-SajRavine, 41°43' N, 70°02' E, 23.VII 1996, leg. D. Milko [SZMN].

DESCRIPTION. Male. Body length 13.7–14.6 mm, wing length 9.5–9.8 mm.

Head. Face narrow, slightly broadened ventrally, shiny black, covered with long, erect black pilis. Frons narrow black with black pilis. Antenna mostly black, postpedicel small, with distinct antero-ventral angle, with transverse sulcus divided postpedicel on two parts – posterior yellow-brown and anterior black with grey tomentum and with several longitudinal sacculi (Fig. 2). Eyes distinctly dichoptic (the shortest distance between eyes is related to the width of postpedicel as 1:1.7); covered with long, dense yellow pilis; ocellar triangle almost isosceles (Fig. 1).



Figs 8–9. Head of *Eumerus* spp., dorsal view. 8 – *E. arkitensis* Peck; 9– *E. nigrifacies* Beck. (After Peck, 1971).

Thorax. Mesonotum black, shiny, covered with long, erect black pilis, scutum without longitudinal stripes of grey tomentum. Pleura shiny-black, with long black pilis. Legs simple, without any growths or cuts; femora black, mesofemur with very long and dense black pilis posteriorly (Fig. 3); metafemur moderately swollen, with comparatively short black pilis (Fig. 4); tibia black, with narrowly yellow tips, covered with short black pilis; protarsus and mesotarsus with segments 1-4 yellow and with black segment 5, three segments of these tarsi ventrally with two small black spots near base and with 2 black setulae on tip (Fig. 5); metatarsus black dorsally with brownish segments 3-4, ventrally with dense short yellow depressed pilis, except black segment 5 (Fig. 4). Wings translucent with brown veins, vein R_{4+5} relatively deeply curved into the cell r_{4+5}. Halter yellow, calypter white.

Abdomen mostly yellow-orange, with black tergum I and with triangular black medial spot on terga II-IV (Figs 6, 10), covered with mostly yellow pilis and with black pilis on black part of abdomen. Epandrium of genitalia without anterior lobe with dense, strong pilis ventrally (Fig. 7).

Female unknown.

Fig. 10. *Eumerus longipilosus* sp. n., dorsal view. Scale bar in mm.

DIAGNOSIS. The new species close to species with dense black pilis on face, mostly yellow abdomen and dichoptic eyes – *E. nigrifacies* Becker, 1921; *E. alajensis* Peck, 1966 and *E. arkitensis* Peck, 1969. All these species possibly to distinguish by follow:

1. Abdomen covered with long, erect black pilis, only sides of tergum II with golden-yellow pilis. Kyrgyzstan ..... *E. alajensis* Peck
– Abdomen covered with whitish pilis or abdomen with dense, long reddish pilis and with black pilis in black-colored areas 2
2. Anterior ocellus on frons closer to the posterior ocelli than posterior ocelli are to each other, frons very wide (Fig. 8) ..... *E. arkitensis* Peck
– Anterior ocellus on frons is farther away from posterior ocelli than posterior ocelli are to each other, frons narrower (Figs 1, 9) 3
3. Frons narrower (Fig. 9), tarsi black dorsally. Turkmenistan, Uzbekistan .... *E. nigrifacies* Becker, 1921
– Frons broader (Fig. 1), segments 1-4 of pro- and mesotarsus yellow dorsally. Kyrgyzstan .... *E. longipilosus* **sp. n.**

DISTRIBUTION. The species is known from Kyrgyzstan (valley of Kekemeren River and Western Tien-Shan, Ugamsky Mountain Ravine).

ETHYMOLOGY. The species name reflects presence on mesofemur long pilis.

ACKNOWLEDGEMENTS

We thank Vladimir Dubatolov and Dmitij Milko for collected material. The study of A.V. Barkalov was partly supported by Federal Fundamental Scientific Research Program for 2026–2030 – grant No. FWGS-2026-0007.

REFERENCES

Barkalov, A.V. 2025a. A new species of the hoverfly genus *Eumerus* Meigen, 1822 (Diptera, Syrphidae) from the territory of Turkmenistan. *Zoologicheskij Zhurnal,* 104(1): 135–139. [In Russian]. DOI: 10.31857/S0044513425010086

Barkalov, A.V. 2025b. Two new hoverfly species of the genus *Eumerus* Meigen, 1822 (Diptera, Syrphidae) from Russia and Tajikistan. *Euroasian Entomological Journal*, 24(5): 258–262. DOI 10.15298/euroasentj.24.05.06

Barkalov, A.V. & Mutin, V.A. 2022. Two new species of the genus *Eumerus* Meigen, 1822 (Diptera, Syrphidae) from Central Asia. *Far Eastern Entomologist*, 461: 24–40. DOI: 10.25221/fee.461.2

Barkalov, A.V. & Mutin, V.A. 2024a. Review of the *Eumerus strigatus* (Fallén, 1817) species group (Diptera, Syrphidae) in the central and eastern parts of the Palaearctic. Part I. Checklist with description of new species. *Euroasian Entomological Journal,* 23(4): 189–205, Suppl. 1–6. DOI: 10.15298/euroasentj.23.04.02

Barkalov, A.V. & Mutin, V.A. 2024b. Two new hoverfly species of the genus *Eumerus* Meigen, 1822 (Diptera: Syrphidae) from Russia. *Far Eastern Entomologist*, 510: 1–6. DOI: 10.25221/fee.510.1

Barkalov, A.V., Mutin, V.A., Daminova, D.B. & Rakhimov, M.R. 2020. New species of the genus *Eumerus* Meigen, 1822 (Diptera, Syrphidae) from Central Asia. *Far Eastern Entomologist*, 417: 1–7. DOI: 10.25221/fee.417.1

Choi, D.S., Park, D.K., Lee, Y.B. & Hong, K.H. 2021. A new species of the genus *Eumerus* (Diptera: Syrphidae) infesting roots of Campanulaceae crops in South Korea. *Journal of Asia-Pacific Entomology*, 24: 402–408.

Chroni, A., Djan, M., Vidaković, O., Petanidou, T. & Vujić, A. 2017. Molecular species delimitation in the genus *Eumerus* (Diptera: Syrphidae). *Bulletin of Entomological Research,* 107: 126–138. DOI: 10.1017/S0007485316000729

Gilasian, E., van Steenis, J. & Parchami-Araghi, M. 2022a. Review of the *Eumerus tricolor* species group (Diptera: Syrphidae) in Iran, with description of six new species. *European Journal of Taxonomy*, 722: 106–152. DOI: 10.5852/ejt.2020.722.1139

Gilasian, E., van Steenis, J. & Parchami-Araghi, M. 2022b. Six new species of the genus *Eumerus* Meigen, 1822 from Iran (Diptera: Syrphidae). *Journal of Insect Biodiversity and Systematics*, 8(3): 483–512. DOI: 10.52547/jibs.8.3.483

Grković, A., Vujić, A., Chroni, A., van Steenis, J., Đan, M. & Radenković, S. 2017. Taxonomy and systematics of three species of the genus *Eumerus* Meigen, 1822 (Diptera: Syrphidae) new to southeastern Europe. *Zoologischer Anzeiger*, 270: 176–192. DOI: 10.1016/j.jcz.2017.10.007

Hippa, H. 1968. A generic revision of the genus *Syrphus* and allied genera (Diptera, Syrphidae) in the Palearctic region with descriptions of male genitalia. *Acta entomologica Fennica*, 25: 1–94.

Mutin V.A. 2019. A new species of the genus *Eumerus* Meigen, 1822 (Diptera: Syrphidae) from Turkmenistan. *Far Eastern Entomologist*, 397: 9–12. DOI: 10.25221/fee.397.2

Mutin, V.A. 2025. A new hoverfly species of the genus *Eumerus* Meigen, 1822 (Diptera: Syrphidae) from the Russian Far East. *Far Eastern Entomologist*, 516: 21–24. DOI: 10.25221/fee.516.4

Mutin, V.A. 2026. A new species of the genus *Eumerus* Meigen, 1822 (Diptera, Syrphidae) from Dauria. *Far Eastern Entomologist*, 542: 28–32. DOI: 10.25221/fee/542.3

Mutin, V.A. & Barkalov, A.V. 2018. New data on the hover-flies of the genus *Eumerus* (Diptera: Syrphidae) from Russia. *Far Eastern Entomologist,* 363: 11–20. DOI: 10.25221/fee.363.3

Peck, L.V. 1966. New and little-known hover-flies (Diptera, Syrphidae) from Kirghizia. *Entomologicheskoe Obozrenie*, 45(1): 188–196. [In Russian].

Peck, L.V. 1969. Some new species of hover-flies (Diptera, Syrphidae) from Tian-Shan. *Entomologicheskoe Obozrenie*, 48(1): 201–210. [In Russian]

Peck, L.V. 1971. A description of new and little-known flies of the genera *Cheilosia*, *Eristalis* and *Eumerus* (Diptera, Syrphidae) from Kirghizia. *Entomologicheskoe Obozrenie*, 50(3): 695–705. [In Russian]

Smit, J., Zeegers, T. & Dorji, P. 2020. A new species of *Eumerus* (Diptera, Syrphidae) from the Kingdom of Bhutan, the easternmost representative of the *bactrianus* subgroup. *ZooKeys,* 906: 141–151. DOI: 10.3897/zookeys.906.48501

Song. M., Liu, A., Huo, K., Shi, L. & Gan, L.2020. Two species in the genus *Eumerus* Meigen (Diptera, Syrphidae) from Inner Mongolia, China. *Entomotaxonomia*, 42(4): 275–281. DOI 10.11680/entomotax 2020032

Stackelberg, A.A. 1961. Brief review of the Palaearctic species of the genus *Eumerus* Mg. (Diptera, Syrphidae). *Trudy Vsesoyuznogo Entomologicheskogo Obzhestva*, 48: 181–229. [In Russian]

Zlatanov, B.V., 2023. New species of genus *Eumerus* Mg. (Diptera, Syrphidae) from South-Eastern Kazakhstan. *Vestnik Karagandinskogo Universiteta*: 54–58. [In Russian]