

A new species of robber flies of the genus *Eremisca* (Diptera: Asilidae) from the Lower Volga area

Новый вид ктырей рода *Eremisca* (Diptera: Asilidae) из нижнего Поволжья

D.M. ASTAKHOV

Д.М. АСТАХОВ

D.M. Astakhov, Zoological Institute, Russian Academy of Sciences, 1 Universitetskaya Emb., St Petersburg 199034, Russia. E-mail: dmitriy_astachov@mail.ru

An illustrated description of a new species of robber flies, *Eremisca dosangensis* **sp. nov.**, from Astrakhan Province of Russia is given.

Представлено иллюстрированное описание нового вида ктырей – *Eremisca dosangensis* **sp. nov.** – из Астраханской области России.

Key words: robber flies, taxonomy, barkhan sand dunes, Diptera, Asilidae, Asilinae, *Eremisca*, new species

Ключевые слова: ктыри, таксономия, барханные пески, Diptera, Asilidae, Asilinae, *Eremisca*, новый вид

INTRODUCTION

The genus *Eremisca* Hull, 1962 belongs to the subfamily Asilinae, tribe Philonini, for which the following characters of the male genitalia are typical: epandrium simple, without complicated structures on the apex; gonocoxite triangular, with one or two sclerotized edges ventrally; gonostylus strong, without complex structures; aedeagus massive, with short and wide, occasionally spiniform apical prongs (Lehr, 1996). The two main criteria by which species can be attributed to the genus *Eremisca* is the presence of coarse light hairs and their location on the mesonotum, an elongate arista and massive aedeagus (which also makes it easy to distinguish the members of this genus from the genus *Antiphrisson* Loew, 1849).

At present, 17 species of *Eremisca* are known. In the Palaearctic Catalogue, Lehr (1988) listed 13 species of *Eremisca*, but the papers published after 1982 were not considered in the catalogue. At about the same time, Lehr (1986) placed four species

of *Eremisca* in a distinct genus *Pseuderemisca* Lehr, 1986, including the type species *P. aestivalis* (Lehr, 1964), *P. chinensis* (Lehr, 1964), *P. dipogon* (Lehr, 1964), and *P. gorodkovi* (Lehr, 1964). He also described six new species, *E. interposita* Lehr, 1987, *E. laticerca* Lehr, 1987, *E. multis* Lehr, 1987, *E. obscura* Lehr, 1987, *E. subarenosa* Lehr, 1987, *E. trivialis* Lehr, 1987 and raised two subspecies, *E. autumnalis orientalis* Lehr, 1972 and *E. stackelbergi afganica* Lehr, 1975, to distinct species (Lehr, 1987). Later on, Lehr transferred three more species, *E. decipiens* (Wiedemann, 1820), *E. periscelis* (Macquart, 1849) and *E. poecilus* (Becker, 1923), to *Eremisca* from *Dysmachus* Loew, 1860 (Lehr, 1996). Subsequently, *E. decipiens* and *E. periscelis* were transferred to the genus *Machiremisca* Lehr, 1996 (Tomosovic, Dils & Maldes, 2003).

The species of *Eremisca* inhabit arid territories of the Palearctic, from Armenia and Iran to Mongolia and China. The Lower Volga area includes Saratov, Volgograd and Astrakhan provinces, as well as a small eastern area of the Republic of Kalmykia, near

the village of Tsagaan Aman. Two species of the genus were previously known from this area, *E. vernalis* Zinovyeva, 1956 recorded from the South East of European USSR (Richter, 1969) and *E. poecilus* known from Sarepta (now Krasnoarmeysk District of Volgograd) (Becker, 1923).

The author has collected a new species of *Eremisca*; its description is given below. The material is housed at the Zoological Institute, Russian Academy of Sciences, St Petersburg. The only male specimen was pinned, its terminalia were removed and macerated in warm potassium hydroxide. The genitalia are stored in a glass vial with glycerol. The photographs were taken using a Leica MZ9.5 stereomicroscope and a Leica DFC290 digital camera.

TAXONOMIC ACCOUNT

Order **DIPTERA**

Family **ASILIDAE**

Subfamily **ASILINAE**

Tribe **PHILONICINI**

Eremisca Hull, 1962

Eremisca dosangensis sp. nov.

(Figs 1–16)

Holotype. Male; **Russia**, *Astrakhan Prov.*, Dosang Vill., 46°54'53.2"N, 47°55'20.8"E, sandy desert with *Calligonum aphyllum*, 27 July 2012, coll. D.M. Astakhov.

Description. Face and frons silver-white pruinose; vertex brown pruinose; frons laterally with strong rather long yellow setae. Facial swelling small, not strongly produced, not reaching antennal bases but separated from them by a distance approximately equal to combined length of scape and pedicel (Figs 13, 14); mystax composed of white macrosetae. Antennae black; scape and pedicel with dense, especially ventrally, golden-yellow setae; antennal style thin, longer than postpedicel (Fig. 14). Palpi black, white setose. Postocular setae golden-yellow.

Mesonotum yellow setose; medial stripe brown. Acrostichal and dorsocentral macrosetae black; one or two dorsocentral macrosetae presutural (Fig. 14). Scutellum grey pruinose, with dense long yellow setae, and 10 yellow marginal macrosetae. Dorsal margin of anepisternum with strong white macrosetae, along hind margin with long white setae.

Legs with dense white setae. Macrosetae of legs white or yellowish white; black macrosetae only on tarsomeres, especially ventrally. Femora yellow, with black stripe anterodorsally on hind femur extending to its apex, and on anterior and mid femora anteriorly, not reaching their bases and apices. Tibiae and tarsomeres yellow with black apices. Claws black; claw of anterior leg slightly longer than fifth tarsomere. Length of pulvilli approximately half as long as claw.

Wing transparent; veins in anterior part of wing yellow, in posterior part brown. Crossvein *dm-cu* at middle of discoidal cell.

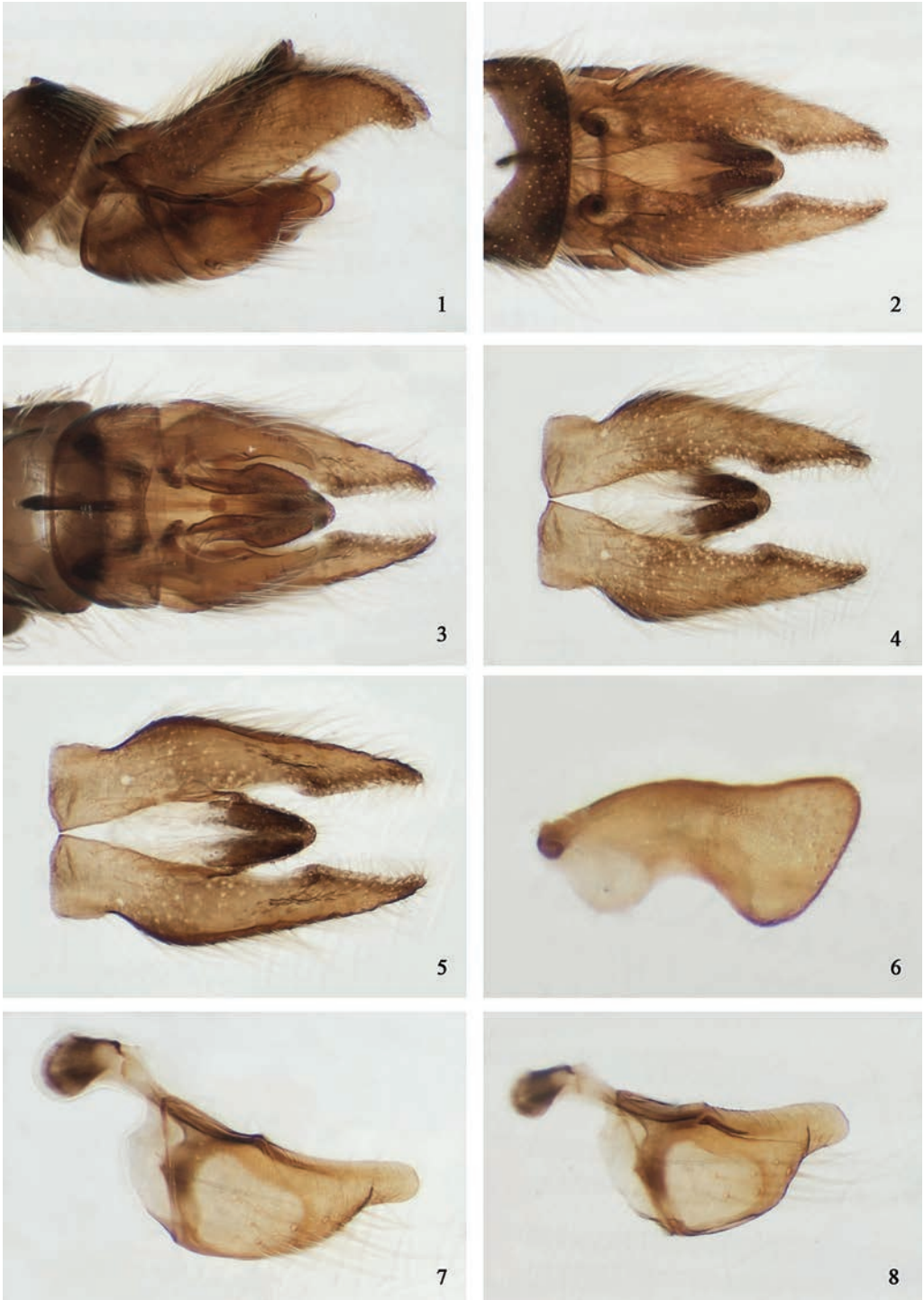
Abdomen grey pruinose. Setae on first two tergites and partly on third tergite strong, erect, on other tergites denser, shorter, recumbent; setae on first two sternites erect, on other sternites denser, shorter, recumbent. Marginal macrosetae on tergites and sternites well developed (Fig. 15).

Male genitalia reddish brown, shining, densely white setose (Fig. 16). Epandrium light grey pruinose, with medial margin slightly excavated before apex, and with apex truncate

(Figs 2–4). Gonocoxite apruinose, with short digitate apex and numerous white macrosetae preapically (Figs 1, 7, 8). Gonostylus with rounded apex and inconspicuous white setae (Fig. 6). Aedeagus massive, with three apical prongs; middle prong considerably longer than lateral ones (Figs 9, 10); apodeme of aedeagus well developed (Figs 9, 10). Hind margin of hypandrium slightly excavated (Fig. 11).

Length of body 12.5 mm. Wing by 1 mm not reaching tip of abdomen.

Comparison. The new species is similar to *E. trivialis* Lehr, 1987 and *E. autumnalis*



Figs 1–8. *Eremisca dosangensis* sp. nov., male: 1, genitalia, lateral view; 2, genitalia, dorsal view; 3, genitalia, ventral view; 4, epandrium, dorsal view; 5, epandrium, ventral view; 6, gonostylus, inside lateral view; 7, gonocoxite, outside lateral view; 8, gonocoxite, inside lateral view.



Figs 9–16. *Eremisca dosangensis* sp. nov., male: 9, aedeagus, lateral view; 10, aedeagus, dorsal view; 11, hypandrium, ventral view; 12, head, lateral view; 13, head, anterior view; 14, head and thorax, lateral view; 15, abdomen, lateral view; 16, genitalia, lateral view.



Fig. 17. The habitat of *Eremisca dosangensis* sp. nov., sandy desert with *Calligonum aphyllum*.

Zinovjeva, 1956. The differences are given in the key below. The poorly studied species *E. poecilus*, distributed in the same region as *E. dosangensis*, is also included in the key.

- 1(2). Fore and middle tibiae red, with black ring in the middle and at apex ***E. poecilus***
- 2(1). Fore and middle tibiae reddish yellow, without black rings.
- 3(4). Scutellar disc with short erect setae, which are at most half as long as marginal macrosetae. Middle apical prong of aedeagus slightly longer than lateral prongs. Mesonotum white setose ***E. trivialis***
- 4(3). Scutellar disc with long erect setae, which are approximately as long as marginal macrosetae.
- 5(6). Mesonotum with yellow recumbent setae. Middle apical prong of aedeagus considerably longer than lateral prongs ***E. dosangensis* sp. nov.**
- 6(5). Mesonotum with white recumbent setae. Middle apical prong of aedeagus slightly longer than lateral prongs ***E. autumnalis***

Bionomics. The new species was collected on sand dunes under brakes of *Cal-*

ligonum aphyllum (Fig. 17). It was flying at the same time as another robber fly species, *Antiphrisson mongolicus eriopyx* Lehr, 1972; both species belong to the ecological group of psammophilic epigeophiles. *Eremisca dosangensis* sp. nov. is the second species of the genus flying in summer, as well as *E. laticerca* Lehr, 1987. All other species of *Eremisca*, including *E. vernalis* from the same area, are flying in spring or autumn.

ACKNOWLEDGEMENTS

The work was supported by the Russian Foundation for Basic Research (project No. 11-04-00185) and Ministry of Education and Sciences of the Russian Federation.

REFERENCES

Becker T. 1923. *Revision der Löw'schen Diptera Asilica in Linnaea Entomologica 1848-49.* Wien: F. Wagner. 91 p.

Lehr P.A. 1986. New genera and species of Palearctic robber flies of the subfam. Asilinae

- (Diptera, Asilidae). *Entomologicheskoe Obozrenie*, **65**(1): 167–181. (In Russian; English translation in *Entomological Review*, 1987, **66**(2): 1–16).
- Lehr P.A.** 1987. Revision of the genus *Eremisca* (Diptera, Asilidae). *Entomologicheskoe Obozrenie*, **66**(3): 630–643. (In Russian).
- Lehr P.A.** 1988. Family Asilidae. In: **Soós Á. & Papp L.** (eds.). *Catalogue of Palaearctic Diptera*, **5**, Athericidae – Asilidae: 197–326. Budapest: Akadémiai Kiadó.
- Lehr P.A.** 1996. *Ktyri podsemeystva Asilinae (Diptera, Asilidae) Palearktiki. Ekologo-morfologicheskii analiz, sistematika i evolyutsiya [Robber flies of the subfamily Asilinae (Diptera, Asilidae) of the Palaearctic. Ecological and morphological analysis, taxonomy and evolution]*. Vladivostok: Dal'nauka. 184 p. + 10 pls. (In Russian).
- Richter V.A.** 1969. Fam. Asilidae, robber flies. In: **Stackelberg A.A. & Nartshuk E.P.** (eds.). *Opredelitel' nasekomykh evropeyskoy chasti SSSR [A key to insects of the European part of the USSR]*, **5**(1): 504–531. Leningrad: Nauka. (In Russian).
- Tomosovic G., Dils J. & Maldas J.M.** 2003. Notes sur les Asilidae paléarctiques (Diptera Brachycera) (20). Concordance entre systématique et répartition géographique dans un groupe d'Asilidae. Désignation du lectotype de *Machiremisca periscelis* (Macquart in Lucas, 1849) comb. n. *Bulletin de la Société royale Belge d'Entomologie*, **139**: 91–93.

Received March 17, 2013 / Accepted June 4, 2013