

A new species of the genus *Geranomyia* Haliday, 1833 (Diptera: Limoniidae) from Transcaucasia

Новый вид рода *Geranomyia* Haliday, 1833 (Diptera: Limoniidae) из Закавказья

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Abstract. The description of a new species, *Geranomyia eugeniana* Lantsov, **sp. n.** from Transcaucasia (Georgia; Russia: Khosta) is given. The new species is compared with the very similar Western Palaearctic species *Geranomyia caloptera* from which it differs in the longer proboscis and the localization of spots on wings. Distribution of the genus *Geranomyia* in the Caucasus is confirmed.

Резюме. Приводится описание нового для науки вида *Geranomyia eugeniana* Lantsov, **sp. n.** из Закавказья (Грузия; Россия: Хоста). Новый вид отличается от близкого к нему *Geranomyia caloptera* длиной хоботка и расположением пигментных пятен на крыльях. Подтверждено распространение на Кавказе рода *Geranomyia*.

The genus *Geranomyia* Haliday, 1833 is a typical representative of the tropical biota where most (309 or 91.5%) of currently known 341 species of the genus are found. One hundred sixty six species (49%) of *Geranomyia* occur in the Neotropical Region, 40 species (12%) occur in Australia and Oceania, 69 species (20%) occur in the Oriental Region and 34 species (10%) occur in the Afrotropical Region. The genus *Geranomyia* is presented in Palaearctic by 13 species, which are confined mainly to the western territories and 10 species to the eastern [Oosterbroek, 2015]. There are no widespread Palaearctic species extending from West to East. The faunas of the genus *Geranomyia* in Eastern and Western Palaearctic are disconnected and probably have different origins.

So far 2 species are known in Russia: *Geranomyia avocetta* Alexander, 1913 from Kuril Islands, South Sakhalin (the species is listed also for Central Japan) [Alexander, 1913; Savchenko, Krivolutsкая, 1976; Savchenko, 1989; Oosterbroek, 2015] and *Geranomyia gifuensis* Alexander, 1921 from the south of Khabarovsk Region, southern Primorye, southern Kuril Islands (Kunashir, Shikotan) (the species is known also from Central Japan and North Korea)

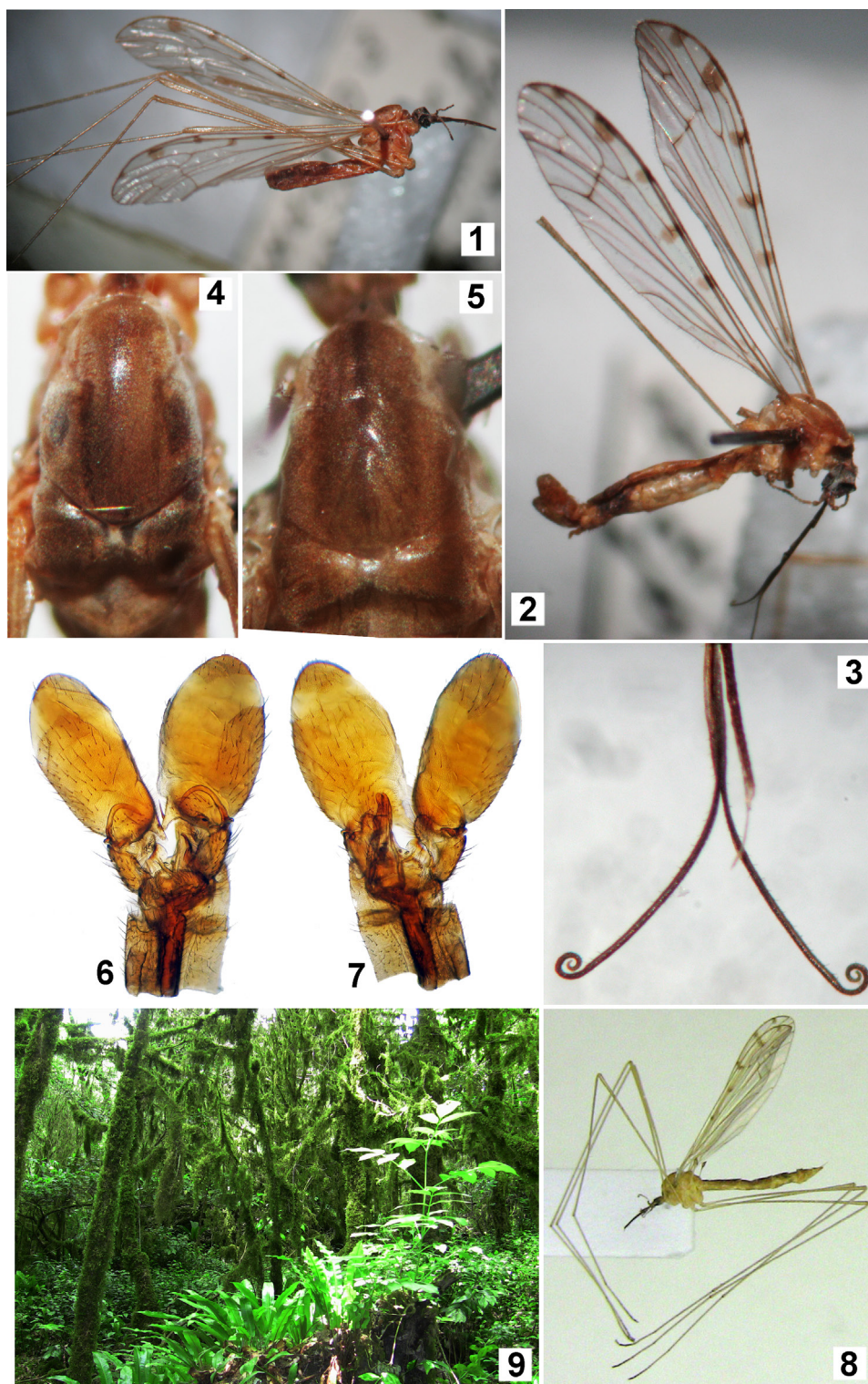
[Alexander, 1921, 1954; Savchenko, Krivolutsкая, 1976; Savchenko, 1989; Oosterbroek, 2015].

The collection of the Zoological Museum of National Museum of Natural History at the National Academy of Sciences of Ukraine (NMNH NASU, Kiev, Ukraine) contains 3 males of *Geranomyia* from Georgia collected by E.N. Savchenko and V.M. Ermolenko and labeled by E.N. Savchenko as a new to science [Savchenko, 1989: 323]. This material remained unexplored until now. Recently the author collected a female of this species in Russia on the Black Sea coast of the Caucasus. After studying the available material, it was concluded that the Caucasian population deserves the status of a new species of *Geranomyia*. Description of this new species is presented below.

Geranomyia eugeniana Lantsov, **sp. n.** (Figs 1–8)

Material. Holotype, ♂: "Груз. ССР, Арсиан.[ский] хр. В скл. пер. Годердзи (115 км от Батуми) хвойный лес 17. VIII. [19]70 В. Ермоленко" (Georgian SSR, Arsianskiy Ridge, W slopes of Goderdzi Pass (115 km from Batumi), pine forest, 17.08.1970 V. Ermolenko). Paratypes: 1♂, "Аджарская АССР Кобулетский р-н, окр. п. Хина, замш. камни у потока в лесу, 830 м, 1. VI. [19]66, Е. Савченко" (Adzhar ASSR Kobuleti district, Hina vill. environs, moss-covered stones from the stream in the forest, 830 m, 1. VI. [19]66 E. Savchenko), dry preparation of genitalia glued to the rectangular plate of celluloid located below; 1♂, «Груз. ССР, подъём от Адигени к пер. Годердзи (132 км от Батуми) смеш. лес у ручья, 15. VIII. [19]70 Е. Савченко» (Georgian SSR, ascent from Adigeni to Goderdzi pass (132 km from Batumi) mixed forest near stream, 15. VIII. [19]70 E. Savchenko), red-white label pinned below without text, "1) *Geranomyia* sp. n." (hand written by E. Savchenko); micro tube with genitalia in glycerin on a separate pin with the same geographical label; 1♀, "Россия, Краснодарский край, Хоста, Кавказский государственный биосферный заповедник – «Тисосамшитовая роща», N 43°32'127", E 39°52'549", 19.05.2013. leg В. Ланцов" (Russia, Krasnodar Region, Khosta, Caucasian State Biosphere Reserve, "Tiso-samshitovaya roshchya" N 43° 32'127" E 39° 52' 549", 19.05.2013. leg V. Lantsov), "Тисо-самшитовый лес, боковое влажное ущелье, примыкающее к туристической тропе «Большое кольцо», 81 м. над ур. м." (yew and boxwood grove, side wet canyon, adjacent to the tourist trail "Bolshoe kol'tso", 81 m above sea level). The holotype and paratypes are stored in (NMNH NASU) (box No. 132).

Remarks. The holotype is partly damaged, one halter and all legs are absent, except coxae, trochanters and one femur of hind left leg. The male from Adzharia is damaged,



Figs 1–9. *Geranomyia eugeniana* sp. n. and its habitat.

1 – male, paratype, lateral view (Georgia: Adzharia, Hina vill. env.); 2 – male, holotype, lateral view (Arsianskiy Ridge, western slopes of Goderdzi Pass); 3 – distal part of paraglossae, male, holotype, dorsal view (Georgia); 4–5 – scutum, dorsal view: 4 – male (Georgia), 5 – female (Russia: Khosta); 6–7 – male genitalia, paratype (Georgia): 6 – dorsal view, 7 – ventral view; 8 – female, paratype, lateral view (Russia: Hosta); 9 – subtropical yew-box forest, the habitat of *Geranomyia eugeniana* sp. n. (Russia: Khosta).

Рис. 1–9. *Geranomyia eugeniana* sp. n. и его местообитание.

1 – самец, паратип, вид сбоку (Грузия: Аджария, окр. пос. Хина); 2 – самец, голотип, вид сбоку (Арсиянский хр., западный склон перевала Годердзи); 3 – вершина нижнегубного щупика самца, голотип, вид сверху (Грузия); 4–5 – среднеспинка, вид сверху: 4 – самец (Грузия), 5 – самка (Россия: Хоста); 6–7 – половой аппарат самца, паратип (Грузия): 6 – вид сверху, 7 – вид снизу; 8 – самка, паратип, вид сбоку (Россия: Хоста); 9 – субтропический тисо-самшитовый лес, местообитание *Geranomyia eugeniana* sp. n. (Россия: Хоста).

one leg and labial palpi or paraglossae (terminology according to Alexander [1919: 846–847]) are absent. The second male is damaged, missing head and legs except for coxae and trochanters and femur, tibia and 1st tarsal segment of hind right leg.

Description. Male (Figs 1, 2). Head grey, pruinose. Antennae 14-segmented, length of scape 0.25 mm, pedicel globular 0.075 mm in diameter. Segments of flagellum grey, pruinose, with bristles not exceeding length of respective segments. 1st flagellomere slightly longer. Proboscis brown to black, normal for the genus, covered dorsally by microscopic spines. Base of proboscis with short bristle-like hairs. Tips of labial palps (paraglossae) twisted in a spiral (Fig. 3). Eyes without significant characters.

Thorax brownish yellow, mesothorax with 3 thin longitudinal brown stripes, one median and two lateral (Fig. 4), which, however, visible only from a certain angle. Pleura yellowish brown. Stem of halteres yellow-grey, knob brown.

Wings (Figs 1, 2) moderately wide with 6 good visible pigment spots near front edge. From base of wing, spots are as follows: first approximately in middle of vein Sc; second at base of vein Rs; third at branching of Sc; fourth at tip of R₁ (it covers divergence of vein R₁ and Rq); fifth at tip of R₂₊₃. Sometimes sixth spot may be at the branch of Rs as well as at the tip of vein R₄₊₅. Size and shape of spots vary. In addition, weak spots may be on the cord or on crossveins at the distal edge of the discal cell. Vein Sc long, tip of Sc₁ at 2/3 length of Rs, vein Sc₂ at tip of Sc₁, vein Rq under obtuse angle to R₁, vein M-Cu at forking of vein M or little bit proximal to it. Cell M₁ absent.

Coxae, trochanters, femora and tibiae grey-yellow with brown small bristles. Middle and hind coxae are close together. Tips of femora slightly thickened and flattened (Fig. 1). Tibiae without spurs. Tarsi dichromatic, 1st, 2nd and proximal part of 3rd segments grayish-yellow, tip of 3rd segment, 4th and 5th segments brown. Inner surface of paired claws on 5th tarsal segment smooth, without spines. Abdomen brownish yellow. Sternites yellow, tergites brownish.

Male genitalia (Figs 6, 7) typical for genus. Gonostylus large (0.6 mm), width : length ratio is 1 : 2. Rostral projection with 2 large spines, very close together, appearing as 1 spine (Fig. 6).

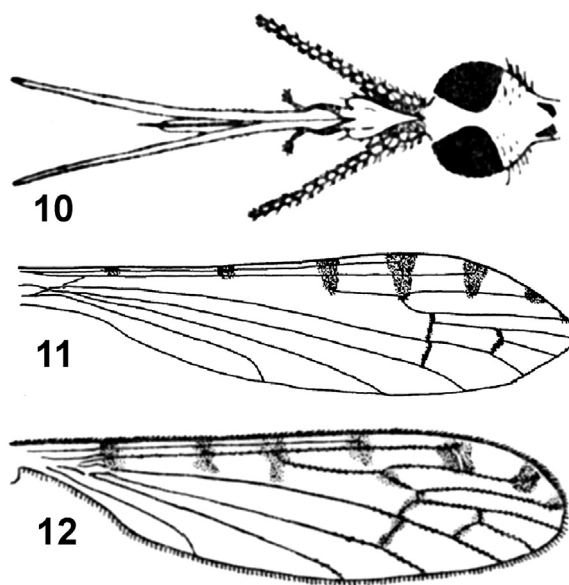
Body length of male 5.5 mm, head + thorax 1.9 mm, wing length 6.5–7.4 mm, proboscis length (including length of paraglossae) 2.6 mm.

Female (Figs 5, 8). Similar to male except for following: tips of paraglossae not in a spiral. Ovipositor with elongated and upcurved cerci, tips of hypovalves pointed. Since there was only 1 female specimen, it was decided not to do the preparation of ovipositor. The female is well defined by the location and form of pigment spots on the wing and the length of the proboscis.

Body length of female 6.6 mm, head + thorax 2 mm, wing length 7.6 mm, length of ovipositor 1.3 mm, length of proboscis 2.2 mm.

Diagnosis. The new species is close to *Geranomyia caloptera* Mik, 1867, a western European species found in Central and Southern Europe, Northern Africa (Morocco), in the Asian part of Turkey and in Israel [Lackschewitz, 1928; Podenas et al., 2006; Stary, Freidberg, 2007; Oosterbroek, 2015]. *Geranomyia eugeniana* sp. n. differs from *G. caloptera* by having a longer proboscis, and in the male, the paraglossal tips are spiraled but straight in *G. caloptera*. They differ as well in the location and form of pigment spots on the wings.

Length of the proboscis of *G. caloptera* (Fig. 10) is “subequal” to the total length of the head and the thorax [Stary, Freidberg, 2007]. Male and female proboscis length of *G. eugeniana* sp. n. exceeds the aggregate length of head and thorax and is 48% of the male body length (Fig. 2), and third of the female body length (Fig. 8). There is sexual



Figs. 10–12. *Geranomyia caloptera* Mik, 1867.
10 – proboscis, ventral view; 11–12 – wing. Figs 10, 12 after Vaillant [1952], Fig. 11 after Geiger [1986].
Рис. 10, 11, 12 *Geranomyia caloptera* Mik, 1867.
10 – хоботок, вид снизу; 11–12 – крыло. Рис. 10, 12 – по Vaillant [1952], рис. 11 – по Geiger [1986].

dimorphism in the paraglossae in *G. eugeniana* sp. n., males of this species have tips in spiral (Fig. 3). Paraglossae of females *G. eugeniana* sp. n. and both sexes of *G. caloptera* are straight (Fig. 10) [Vaillant, 1952].

On the wings of *G. caloptera* 7 good visible pigmentary spots are located, three of which are triangular, elongated towards the middle of the wing (Fig. 11) [Geiger, 1986; Podenas et al., 2006], or, if somewhat irregular in shape, sufficiently large (Fig. 12) [Vaillant, 1952]. Wings of *G. eugeniana* sp. n. are with 6 good visible spots (Figs 1, 2, 8), most of them are irregular in shape; the size of the spots is varies. The difference is in their arrangement. *Geranomyia eugeniana* sp. n. has the 1st proximal spot in the middle of the length of vein Sc whereas the most proximal spot in *G. caloptera* is located almost at the base of Sc.

The differences between 2 species are summarized in Table 1.

Bionomics. *Geranomyia eugeniana* sp. n. has been collected on the Black Sea coast of the Caucasus and in Georgia (at altitudes of up to 830 m above sea level). It is found in humid hydrophytic habitat. In Khosta it occurs in a wet canyon in the Tertiary relict Colchidian subtropical forest with *Taxus baccata* L. and *Buxus colchica* Pojark (Fig. 9). The habitat of the species in Georgia is near water communities. The species belongs to the group “faune hygropétrique” [Vaillant, 1952].

Etymology. The new species is named after the outstanding entomologist, researcher of Tipuloidea E.N. Savchenko.

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Table 1. The differences between *Geranomyia eugeniana* sp. n. and *Geranomyia caloptera*.
Таблица 1. Различия между *Geranomyia eugeniana* sp. n. и *Geranomyia caloptera*.

Character (male and female) Признак (самец и самка)	<i>Geranomyia eugeniana</i> sp. n.	<i>Geranomyia caloptera</i>
Length of proboscis Длина хоботка	Exceeds the aggregate length of head and thorax; 48% of the male body length, and one third of female body length / Превышает совокупную длину головы и груди и составляет 48% длины тела самца и треть длины тела самки	Subequal to total length of the head and the thorax / Меньше совокупной длины головы и брюшка
Length and form of paraglossae Длина и форма нижнегубных щупиков	Male: very long, spiraled distally*; female: long but straight / У самцов довольно длинные и дистально свернуты в спираль*; у самок длинные и прямые	Males and females: shorter and straight/ У самок и самцов сравнительно короткие, обычного строения
Pigmentation of wings Пигментация крыла	6 spots – 5 big and 1 small 6 пятен – 5 крупных и одно мелкое	7 spots – 6 big and 1 small 7 пятен – 6 крупных и одно мелкое
Proximal spot on wings / Расположение проксимального пятна на крыле	About midlength on the vein Sc Около середине длины жилки Sc	Near base of Sc У основания Sc
Coloration of tarsal segments Окраска члеников лапок	Bicolored – greyish yellow anteriorly and brown distally / Двухцветные – серо-желтые проксимальные и коричневые дистальные	Monochrome – all yellow Одноцветные – все желтые

Note. * – this character hardly can be considered as taxonomic one as it can be connected with physiological state of the specimen.

Примечание. * – природа этого признака требует проверки, т.к. если он связан с физиологическим состоянием особей, тогда вряд ли может рассматриваться как таксономически значимый.

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