



New Data about Xylomya Species from Turkey (Diptera: Xylomyidae)

Authors: Üstüner, Turgay, and Hasbenli, Abdullah

Source: Florida Entomologist, 94(4) : 859-862

Published By: Florida Entomological Society

URL: <https://doi.org/10.1653/024.094.0420>

The BioOne Digital Library (<https://bioone.org/>) provides worldwide distribution for more than 580 journals and eBooks from BioOne's community of over 150 nonprofit societies, research institutions, and university presses in the biological, ecological, and environmental sciences. The BioOne Digital Library encompasses the flagship aggregation BioOne Complete (<https://bioone.org/subscribe>), the BioOne Complete Archive (<https://bioone.org/archive>), and the BioOne eBooks program offerings ESA eBook Collection (<https://bioone.org/esa-ebooks>) and CSIRO Publishing BioSelect Collection (<https://bioone.org/csiro-ebooks>).

Your use of this PDF, the BioOne Digital Library, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Digital Library content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne is an innovative nonprofit that sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

NEW DATA ABOUT *XYLOMYA* SPECIES FROM TURKEY (DIPTERA: XYLOMYIDAE)

TURGAY ÜSTÜNER¹ AND ABDULLAH HASBENLİ²

¹Selçuk University, Faculty of Science, Department of Biology, 42100, Selçuklu, Konya, Turkey

²Gazi University, Faculty of Arts and Science, Department of Biology, 06500, Teknikokullar, Ankara, Turkey

ABSTRACT

The *Xylomya* species found in Turkey are summarized and illustrated in this work. *Xylomya ciscaucasica* (Pleske 1928) and *Xylomya mlokosiewiczzi* (Pleske 1925), previously only known from the Caucasus, are recorded from Turkey for the first time in this study. The male genitalia of *X. ciscaucasica* and the female genitalia of *X. mlokosiewiczzi* and *X. maculata* (Meigen 1804) are illustrated for first time. The distribution of these species is briefly discussed and a key to Turkish species is given. Also a key to Turkish genera of Xylomyidae is given.

Key Words: Xylomyidae, *Xylomya*, new records, distribution, Turkey

RESUMEN

Se informa y se ilustran las especies de *Xylomya* en Turquía en este trabajo. Anteriormente, sólo se conocían *Xylomya ciscaucasica* (Pleske 1928) y *Xylomya mlokosiewiczzi* (Pleske 1925) en la región del Cáucaso, pero se registran las dos especies en Turquía por primera vez en este estudio. Se ilustran por primera vez los genitales del macho de *X. ciscaucasica* y los genitales las hembras de *X. mlokosiewiczzi* y de *X. maculata* (Meigen 1804). Se discute la distribución de estas especies brevemente y se provee una clave de las especies de *Xylomya* en Turquía. También, se provee una clave de los géneros de Xylomyidae en Turquía.

The family of Xylomyidae has 4 genera in the world: *Arthropeina* Lindner 1949, *Coenomyiodes* Brunetti 1920, *Solva* Walker 1859 and *Xylomya* Rondani 1861 (Woodley 2011). Adult xylomyids are generally found in wooded areas and tropical forest (Krivosheina 1976; Woodley 2011). This small family includes 33 species in *Solva* and 23 species in *Xylomya* in the Palaearctic Region (Kri-

voshenia 1988, 1999a, 1999b; Woodley 2011). Only 2 species, *Solva marginata* (Meigen 1820) and *Xylomya maculata* (Meigen 1804), are known from Turkey (Üstüner & Kalyoncu 2005; Üstüner and Öztürk 2002).

The specimens examined in the present work are deposited in the Zoological Museum of Gazi University (ZMGU).

KEY TO GENERA OF XYLOMYIDAE FROM TURKEY

1. Hind femora distinctly thickened with tubercles or spinules on ventral surface; m-cu very short. *Solva* Walker 1859
- Hind femora not noticeably thicker than two anterior pairs, without ventral tubercles or spinules; m-cu is well developed *Xylomya* Rondani 1861

Xylomya Rondani 1861

Xylomya includes large species (11-15 mm). The ground-color of Turkish species is black with yellow spots and stripes on the mesonotum and abdomen. The flagellum consists of 8 flagellom-

eres and is sharply pointed at the apex. The scutellum is unarmed. The middle and hind tibiae bear a pair of spurs. Wings with brown and reddish brown veins, cell M_3 closed.

KEY TO SPECIES OF *XYLOMYA* KNOWN FROM TURKEY

1. Mesopleuron and pteropleuron with yellow spots along pleural suture. Mesonotum with distinct yellow spots on transverse suture. Hind tibia blackish on more than apical 1/3 2
- Mesopleuron and pteropleuron without yellow spots along pleural suture. Mesonotum with indistinct yellow spots on transverse suture. Hind tibia lighter, black only at extreme apex. Abdomen black, with small rect-

- angular yellow spots on tergite 2. Tergites 3 - 6 with pale posterior margins *Xylomya ciscaucasica* (Pleske 1928)
2. Mesonotum with longitudinal yellow stripes interrupted at middle and connected to humeral spots. Abdomen with narrow yellow stripes along posterior margins of tergites 3-7. . . . *Xylomya maculata* (Meigen 1804)
- Mesonotum with narrow longitudinal yellow stripes interrupted at middle and not connected to humeral spots. Abdomen with yellow lateral spots. *Xylomya mlokosiewiczzi* (Pleske 1925)

Xylomya ciscaucasica (Pleske 1928) (Figs. 1, 2, 7, 8, 9, 10, 11 and 19)

Material Examined: Turkey: Ankara, Çubuk, Kuruçay Village, elev.1100 m, 25 May 1996, 2 male, A. Hasbenli leg (Figs. 1- 2 and 19).

Mesonotum with indistinct yellow spots on transverse suture, scutellum yellow laterally and apically but black dorsally in basal half. Tibia lighter, black only at extreme apex. Abdomen black, with small rectangular yellow spots on tergite 2. Tergites 3-6 with pale posterior margins. This species has been previously recorded only from Vladikavkaz and Alagir in North Ossetia. It is recorded here for the first time from Turkey.

Male Genitalia: Epandrium almost oval. Surstyli of epandrium rather slender and about 2/3 as long as epandrium as well as paraproct. Synsternite large and oval. Dististyles about 1/3 as long as height of synsternite and about as large as parameres. Aedeagus smooth, parameres large, sharp at apex and relatively longer than dististyles (Figs.7-11).

Xylomya maculata (Meigen 1804) (Figs. 5, 6, 12, 13, 14, 15 and 19)

Material Examined: Turkey: Antalya, Alanya, Gevne Village, elev. 1500 m, 17 VII 1999, 1 female, T. Üstüner leg (Figs. 5-6 and 19).

Mesonotum with longitudinal yellow stripes interrupted at middle and connected to yellow humeral spots. Yellow pleural spot extending over upper mesopleura and on the part of pteropleura. Legs predominantly yellow, but all coxae black and apical third of hind femora and tibia and also last 3-4 tarsal segments black. Abdomen with narrow yellow stripes along posterior margins of tergites 3-7. Female terminalia: Cercus elongate, 2-segmented, segment 1 larger than segment 2. Tergum 9 roughly rectangular. Genital furca strongly sclerotized, Y-shaped, bilobed at proximal apex and median aperture a transparent membrane in distal part. The female genitalia are illustrated for the first time (Figs. 12, 13, 14 and 15).

Distribution. *Xylomya maculata* is known to occur in the following European countries: Denmark, England, France, Poland, Romania, Sweden (southern part), Switzerland, Russia (Moscow Province) (Dusek & Rozkosny 1963; Haenni 1993; Rozkosny 1998; Krivosheina 1999; Hauser

& Niehuis 2001). It is known from the Carpathians (Ukraine and Moldavia) and from Asia (Siberia and Anatolia) (Krivosheina 1999; Lindner 1938; Üstüner & Öztürk 2002).

Xylomya mlokosiewiczzi (Pleske 1925) (Fig. 3, 4, 16, 17, 18 and 19)

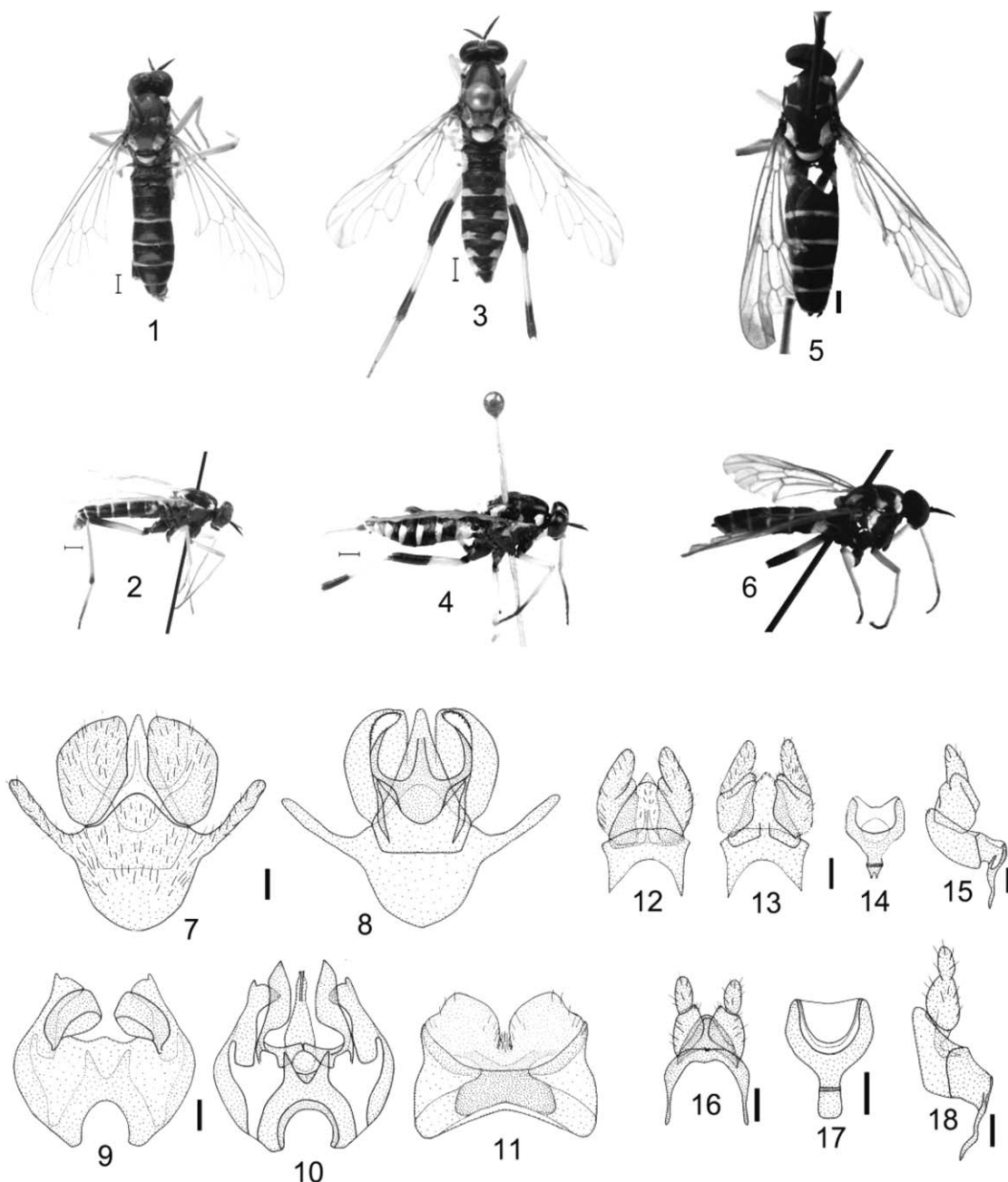
Material Examined: Turkey: Isparta, Aksu, beside Aksu River, elev. 1250 m, 14 VII 2000, 1 female, T. Üstüner leg (Figs. 3-4 and 19).

Distribution. The species had been previously recorded only from Lagodekhi (Lagodechi) in Georgia. It is recorded for the first time from Turkey.

Mesonotum with distinct yellow spots on transverse suture, scutellum yellow laterally and apically but black dorsally on basal third of scutellum. Legs predominantly yellow, but all coxae black and apical third of hind femora and tibia and also fore tarsal segments black. Abdomen with yellow spots on posterior corners of tergites 3-7. Female terminalia: Cercus with elongate-ovale shape, two - segmented, segment 1 much larger than segment 2. Tergum 9 N-shaped. Genital furca strongly sclerotized, Y-shaped, rounded at proximal apex and median aperture a transparent membrane in distal part. The female genitalia are illustrated here for the first time (Figs. 16, 17 and 18).

DISCUSSION

Three species of *Xylomya* are known from Turkey: *X. ciscaucasica* (Pleske 1928), *X. maculata* (Meigen 1804) and *X. mlokosiewiczzi* (Pleske 1925). *X. ciscaucasica* (Pleske, 1928) and *X. mlokosiewiczzi* (Pleske 1925) are recorded for the first time as fauna of Turkey. The former is known from Vladikavkaz and Alagir in North Ossetia. The latter is known from Lagodekhi in Georgia. Also *X. mlokosiewiczzi*, described by Pleske in 1925, had not been recorded for 86 years. It was redescribed by N. P. Krivosheina in 1999 on the basis of the female type specimen (Krivosheina 1999). The type specimen had been collected by M. Mlokosiewicz in Lagodekhi (Lagodechi), a small town and district in the Kakheti region of the eastern Georgia. Most species of this family are rarely collected, and therefore it is surprising that these species are newly discovered for the fauna of Turkey.



Figs. 1-18. 1-2 *Xylomya ciscaucasica*: 1 - Male, dorsal view, 2—Male, lateral view; 3-4 *Xylomya mlokosiewiczii*: 3—Female, dorsal view, 4—Female, lateral view (scale bar: 1 mm); 5-6 *Xylomya maculata*: 5—Female, dorsal view, 6—Female, lateral view (scale bar: 1 mm); 7-11 Male Genitalia of *Xylomya ciscaucasica*: 7—Dorsal part in dorsal view, 8—Dorsal part in ventral view, 9—Ventral part in dorsal view, 10—Ventral part in ventral view, 11—Sternite 8; 12-15 Female Genitalia of *Xylomya maculata*: 12—Female terminalia in dorsal view, 13—Female terminalia in ventral view, 14—Genital furca, 15—Female terminalia complex in lateral view; 16-18 Female Genitalia of *Xylomya mlokosiewiczii*: 16—Female terminalia in dorsal view, 17—Genital furca, 18—Female terminalia complex in lateral view.



Fig. 19. Palearctic distributions of (+)—*Xylomya ciscaucasica*, (●)—*Xylomya mlokosiewiczii*, and (▲) area designated with dark color)—*Xylomya maculata*.

The Xylomyidae are considered to be endangered because of the loss of old growth forests in Turkey.

The finding in the East Mediterranean Region of *X. ciscaucasica* and *X. mlokosiewiczii* is rather remarkable, because this species had never before been found outside of the old growth forest of the Caucasus.

REFERENCES CITED

- DUSEK, J., AND ROZKOSNY, R. 1963. Revision Mitteleuräischer Arten der Familie Stratiomyidae (Diptera) mit besonderer Berücksichtigung der Fauna der CSSR I.- Casopis České Společnosti Entomologické 60(3): 202-221, Prague.
- HAENNI, J. P. 1993. Note sur la présence de *Xylomya maculata* (Meig., 1804) et de *Clitellaria ephippium* (Fabr., 1775) dans la région neuchateloise (Diptera: Xylomyidae, Stratiomyidae). Bulletin Romand D'entomologie 11: 109-111, Lausanne-Genève.
- HAUSER, M., AND NIEHUIS, M. 2001. Waffenfiegen (Diptera: Stratiomyidae) und Xylomyiden (Xylomyidae) eines xerothermen Standortes im Mittelrheintal (Rheinland-Pfalz). Fauna Flora Rheinland-Pfalz 9(3): 963-970, Landau.
- KRIVOSHEINA, N. P. 1976. Dipteran Insects of the Family Xylomyidae (= Solvidae) of the Russian Far East. Trudy Biol. Pochvenn. Inst. 43(146): 121-134, Vladivostok.
- KRIVOSHENIA, N. P. 1988. Family Xylomyidae (Solvidae) In A. Soós and L. Papp [eds.], Catalogue of Palearctic Diptera, vol. 5.38-42, Amsterdam & Akademiae.
- KRIVOSHENIA, N. P. 1999a. Xylophilous flies of the Genus *Solva* Walker (Diptera, Xylomyidae) from Russia and Adjacent Countries. Entomol. Rev. 79(1): 58-66, Moscow.
- KRIVOSHENIA, N. P. 1999b. Xylophilous flies of the Genus *Macroceromyia* and *Xylomyia* (Diptera, Xylomyidae) from the Fauna of Russia and Adjacent Countries. Entomol. Rev. 79(8): 962-976, Moscow.
- LINDNER, E. 1936. 18. Stratiomyidae [part]. Lieferung 114, pp. 1-48 In E. Lindner [ed.], Die Fliegen der palaearktischen Region. E. Schweizer'sche Verlagsbuchhandlung, Stuttgart, 218 pp., Stuttgart.
- PLESKE, T. 1925. Révision Des Espèces Paléarctiques Des Familles Erinidae? et Cœnomyidae?, pp. 161-184 In P. Lechevalier [ed.], Encyclopédie Entomologique, Diptera, tome II, fascicule 4, Paris.
- ROZKOSNY, R. 1998. Xylomyidae, Stratiomyidae In R. Rozkosny and J. Vanhara [eds.], Diptera of the Pálava Biosphere Reserve of UNESCO I. Folia Facultatis Scientiarum Naturalium Universitatis Masarykianae Brunensis (Biologia) 99: 139-144, Brno.
- ÜSTÜNER, T., AND ÖZTÜRK, S. 2002. First record of a member of the Xylomyidae (Diptera) from Turkey. Studia Dipterologica 9(1): 248, Haale.
- ÜSTÜNER, T., AND KALYONCU, L. 2005. A new faunistic record for Turkey: *Solva marginata* (Meigen, 1820) (Diptera, Xylomyidae). Selçuk University Science and Art Faculty J. Science. No. 26 (December): 9-10, Konya.
- WOODLEY, N. 2011. A Catalog of the World Xylomyidae (Insecta: Diptera) In F. C. Thompson, I. Brake, and O. Lonsdale [eds.], Contributions to the Biosystematic Database of World Diptera. MYIA 12: 485-521, Sofia-Moscow.