Acta entomologica serbica, 2014, 19(1/2): 25-32 UDC 595.772(55)

NEW RECORDS OF LONG-LEGGED FLIES (DIPTERA: DOLICHOPODIDAE) FROM IRAN

FARZANEH KAZERANI[1], SAMAD KHAGHANINIA[1]*, ALI ASGHAR TALEBI[2]
YASER GHARAJEDAGHI[1] and IGOR GRICHANOV[3]

1 University of Tabriz, Department of Plant Protection, Faculty of Agriculture, 51664, Tabriz, I.R. Iran
* E-mail: skhaghaninia@gmail.com
2 Tarbiat Modares University, Faculty of Agriculture, Department of Entomoogy, P.P Box 14115-336, Tehran, I.R. Iran
3 All-Russian Institute of Plant Protection, Podbelskogo 3, 196608 St. Petersburg, Pushkin, Russia

Abstract

In this study, the following six long-legged fly species (Diptera, Dolichopodidae) collected in the East Azerbaijan province during 2010-2013 are new records for the Iranian fauna: *Chrysotimus molliculus* (Fallén, 1823); *Hercostomus apollo* (Loew, 1869); *Hydrophorus balticus* (Meigen, 1824); *Medetera meridionalis* Negrobov, 1967; *Orthoceratium lacustre* (Scopoli, 1763) and *Poecilobothrus principalis* (Loew, 1861). General geographic distribution of the species and supplementary figures are provided.

KEY WORDS: Diptera, Dolichopodidae, Iran, East Azerbaijan province, new records.

Introduction

The Dolichopodidae, or long-legged flies, are a large family of the suborder Brachycera (Orthorrhapha), with more than 7500 described species in about 245 genera distributed worldwide (YANG *et al*., 2006). The Iranian fauna of Dolichopodidae includes 104 species within 24 genera (KAZERANI *et al*., 2014). Larvae and adults of most Dolichopodidae are polyphagous predators of the soft bodied invertebrates (GRICHANOV, 2007).

Most species of Dolichopodidae have mosquito-like habitus and range in size from about 1-9 mm in length. Adults are distinguished by reduced wing venation, aristate antennae, and relatively slender body from the closest Empidoidea and other flies. Most species are metallic greenish-blue to greenish-bronze, while some others are non-metallic yellowish, brown or blackish. The male genitalia are the important character in identification of species. The male genitalia capsule or hypopygium is in some species small and partially

concealed by preceding abdominal segments and in some other species is large, free and supported by a pedunculate abdominal segment 7 (GRICHANOV, 2007).

Material and Methods

Specimens were collected by S. Khaghaninia, using sweeping net in four localities (Fig. 1) within grasslands and semi-aquatic and forest habitats, the main natural ecosystems of the East Azerbaijan Province, Iran, from 2010-2013. Materials were preserved in 75% ethanol in glass vials. Collected specimens were deposited in the collections of the Insect Museum of Tabriz University (IMTU). The geographical distribution is presented in general after YANG *et al*. (2006) and GRICHANOV (2007).

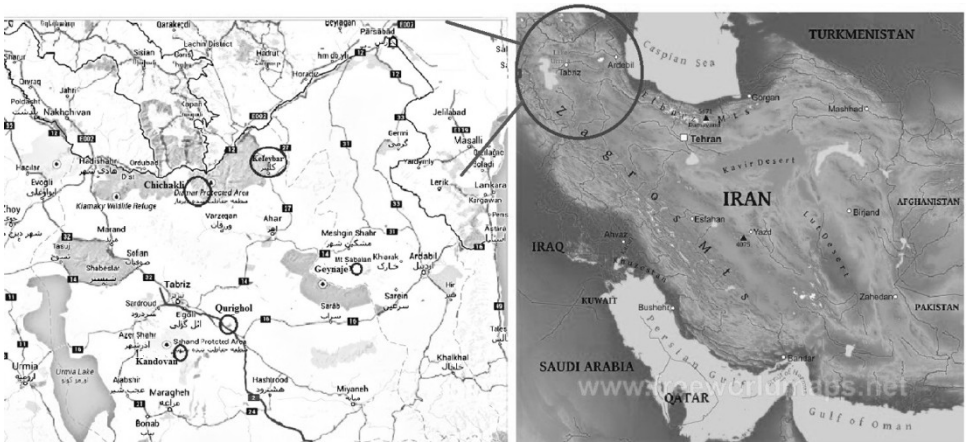

Figure 1. Locations of sampling areas on satellite image (SPOT).

Results

In sorting new material collected, we have found six species: *Chrysotimus molliculus* (Fallén, 1823); *Medetera meridionalis* Negrobov, 1967; *Orthoceratium lacustre* (Scopoli, 1763); *Hercostomus apollo* (Loew, 1869); *Poecilobothrus principalis* (Loew, 1861); *Hydrophorus balticus* (Meigen, 1824); recorded for the first time from Iran, representing two genera (*Orthoceratium* Schrank, 1803 and *Chrysotimus* Loew, 1857) new to the country. In addition, photographs showing details of the species morphology are provided for the first time.

Subfamily Dolichopodinae

Hercostomus apollo (Loew, 1869) (Fig. 2a-d)

Material examined: 1♂, Keleyber (Forestry area), 38°51.548' N, 46°59.007' E, 1783 m a.s.l, 10.07.2013.

Distribution: Mediterranean Region from Tunisia to Armenia.

Poecilobothrus principalis (Loew, 1861) (Fig. 2e-g)

Material examined: 1♂, Kandovan (grassland), 37°44.231' N, 46°19.123' E, 3005 m a.s.l, 25.06.2013.

Distribution: Europe and the Middle East from United Kingdom and Spain to Turkey and Israel.

Subfamily Hydrophorinae

Hydrophorus balticus (Meigen, 1824) (Fig. 3a-d)

Material examined: 8♂♂, Qurigol (wetland area), 37°54.025' N, 46°42.364' E, 1921 m a.s.l, 06.06.2013; 7♂♂, Kandovan, 37°44.231' N, 46°19.123' E, 3005 m a.s.l, 25.06.2013.

Distribution: Widely distributed from Europe to Siberia, in North and South Africa.

Orthoceratium lacustre (Scopoli, 1763) (Fig. 3e-g)

Material examined: 2♂♂, Chichakli (Forestry area), 38° 34.167' N, 46°30.091' E, 1907m a.s.l, 15.06.2013; 2♂♂, Keleyber (Forestry area), 38°51.548' N, 46°59.007' E, 1783 m a.s.l, 10.07.2013.

Distribution: West Europe, Mediterranean Region, Azerbaijan and Tanzania.

Subfamily Medeterinae

Medetera meridionalis Negrobov, 1967 (Fig. 4d-g)

Material examined: 5♂♂, Kandovan (grassland area), 37°44.254' N, 46°19.368' E, 3005 m a.s.l, 25.06.2013.

Distribution: Southern Palaearctics from Ukraine across the Caucasus to Kazakhstan.

Subfamily Peloropeodinae

Chrysotimus molliculus (Fallén, 1823) (Fig 4a-c)

Material examined: 1♂, Geyneje (Meshkin Shahr) (Forestry and grassland area), 38°19.256' N, 47°37.035' E, 1646 m a.s.l., 23.07.2013.

Distribution: Europe and Turkey.

Discussion

Imagoes of the genus *Hydrophorus* are usually found beside and on water (GRICHANOV, 2007). In this research, *H. balticus* has been collected from around a spring in the Chichakli region and from the Qurigol region, regions that have many wetland and everglade areas.

NEGROBOV (2010) re-instated *Medetera meridionalis* as a valid species and removed it from synonymy with *M. jacula* (Fallén, 1823) (NEGROBOV, 2010) because these species have some slight differences in morphological characters. In this study, *M. meridionalis* has been collected from Kandovan regions involving grasslands. We think the distinction of these species (or phenotypes of the same species) must be confirmed by molecular data.

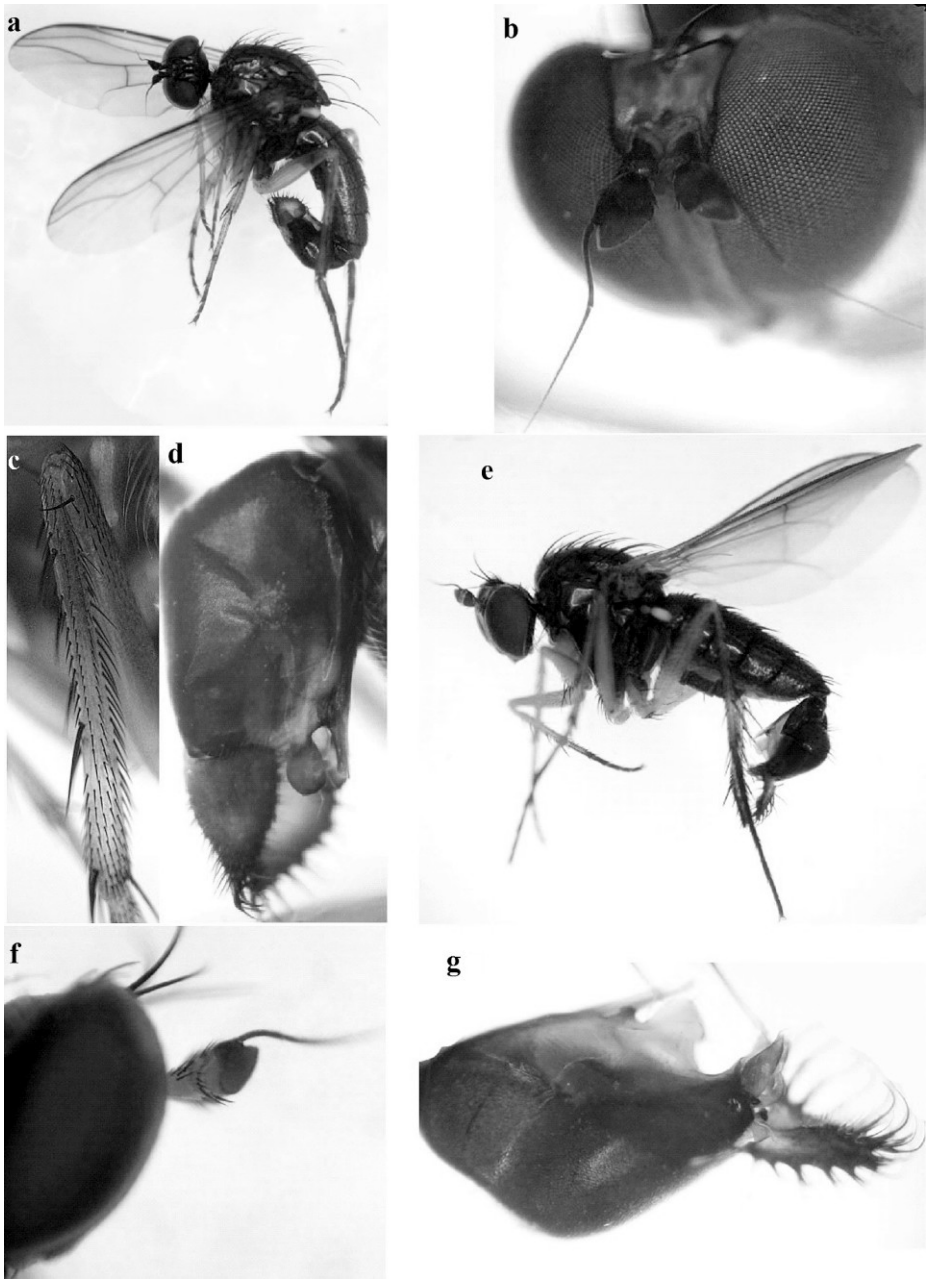

Figure 2. *Hercostomus apollo* (Loew, 1869) (male): a) habitus, lateral view; b) head, laterodrsalview; c) hypopygium of male, lateral view; d) mid tibia. *Poecilobothrus principalis* (Loew, 1861) (male): e) habitus, lateral view; f) head, lateral view; g) hypopygium of male, lateral view.

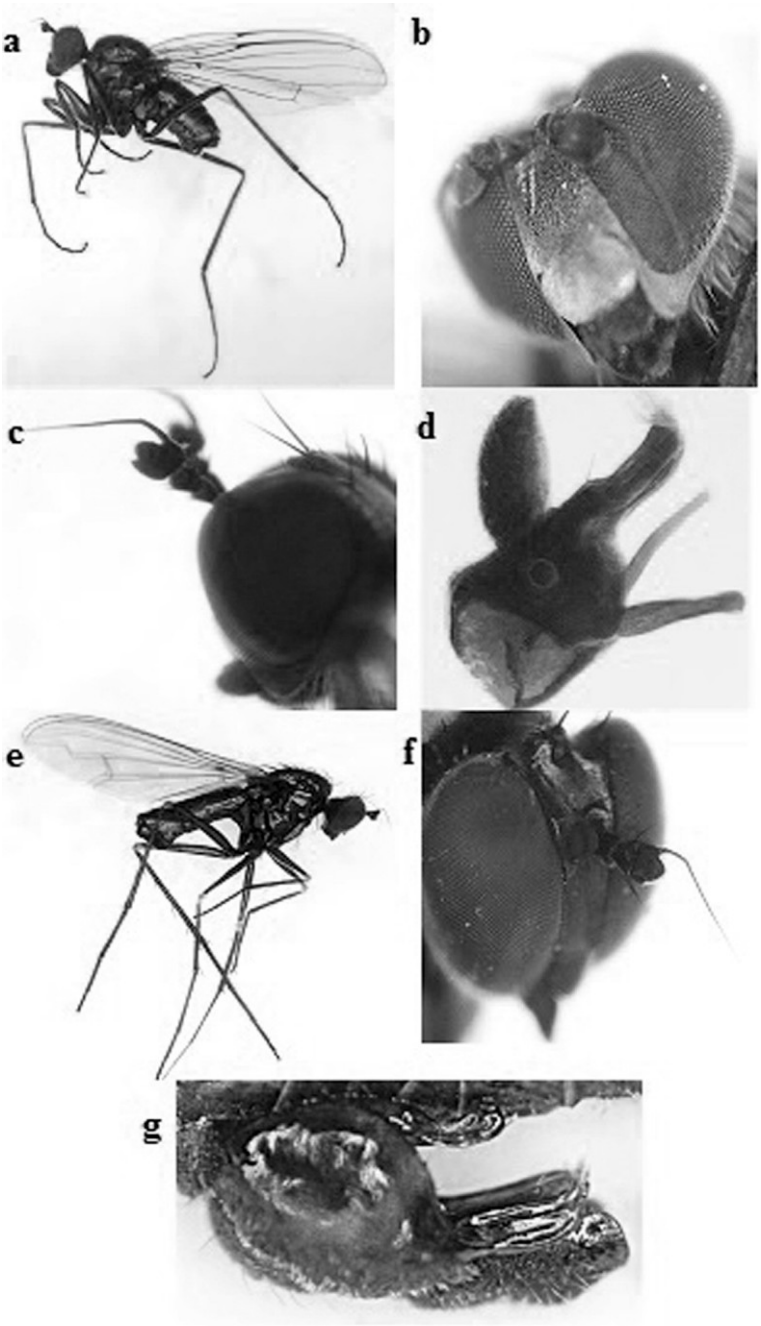

Figure 3. *Hydrophorus balticus* (Meigen, 1824) (male): a) habitus, lateral view; b) head, frontal view; c) head, lateral view; d) hypopygium of male, lateral view. *Orthoceratium lacustre* (Scopoli, 1763) (male): e) habitus, lateral view; f) head, frontolateralview; g) hypopygium of male, lateral view.

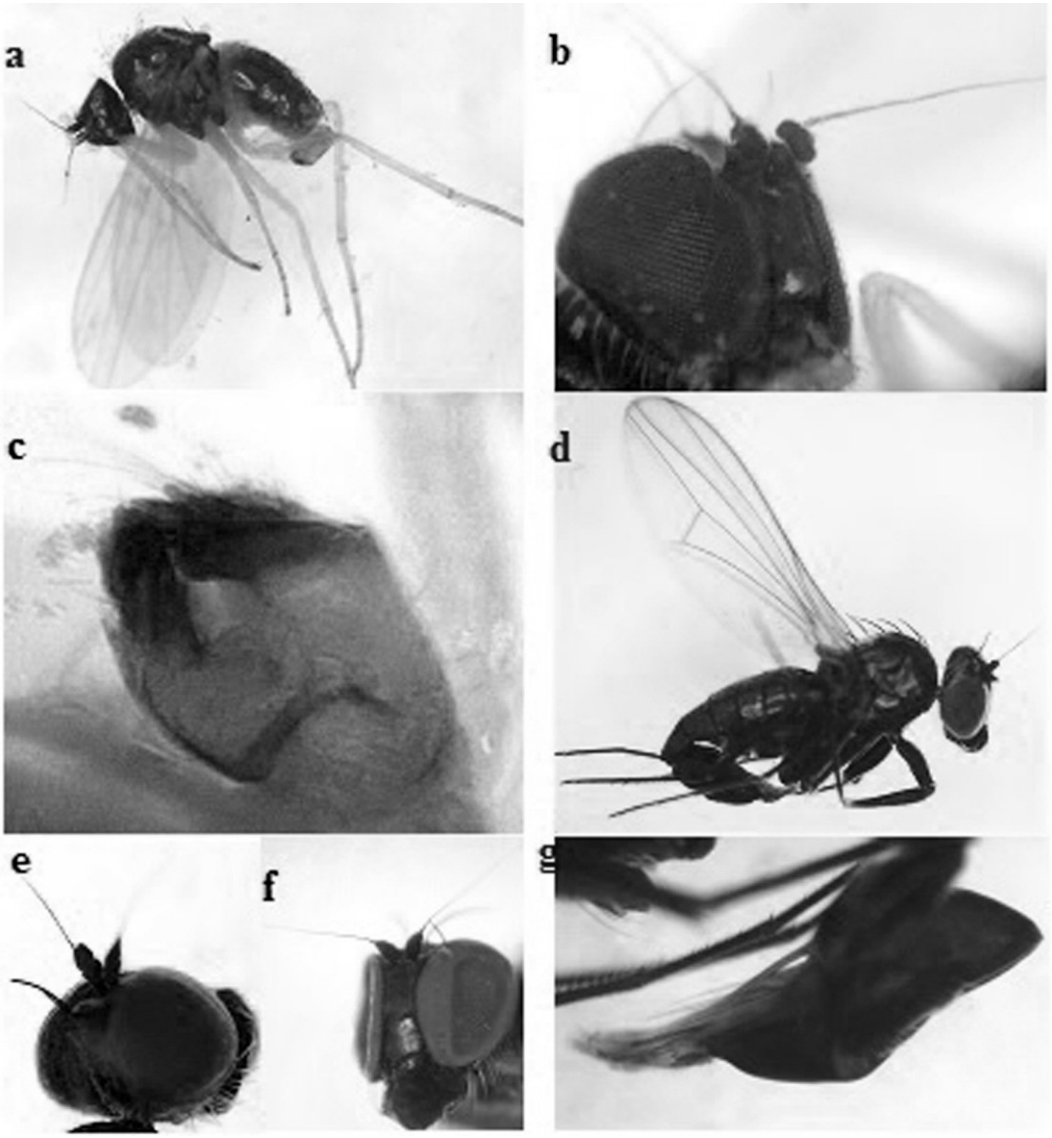

Figure 4. Chrysotimus molliculus (Fallén, 1823) (male): a) habitus, lateral view; b) head, frontolateralview; c) hypopygium of male, lateral view. Medetera meridionalis Negrobov, 1967 (male): d) habitus, lateral view; e) head, dorsal view; f) head, facial view; g) hypopygium of male, lateral view.

It is also worth noting that all species mentioned above are known from the neighboring countries of the Caucasus and Middle East.

As compared with the 220 known dolichopodid species in the better studied Caucasian region (GRICHANOV, 2007), it can be concluded that more species can be found in Iran and a lot of further research is necessary. Therefore, the study on the zoogeography of Iranian dolichopodid fauna is premature.

Acknowledgements

The work of IYG was partly supported by the grant of the Russian Foundation for Basic Research N 14-04-00264-a.

References

GRICHANOV, I.Ya., 2007. A checklist and keys to Dolichopodidae (Diptera) of the Caucasus and East Mediterranean. St. Petersburg: VIZR RAAS (Plant Protection News Suppl.), 160 pp. ISSN 1815-3682.

KAZERANI, F., KHAGHANINIA, S., TALEBI, A.A. & GRICHANOV, I.Ya., 2014. Annotated catalogue of Iranian long-legged flies (Diptera: Dolichopodidae). In: Kazerani, F., Khaghaninia, S., Talebi, A.A. & Grichanov, I.Ya., (eds.): 8th International Congress of Dipterology, Potsdam 2014, Abstracts Volume, p. 163.

NEGROBOV, O.P., 2010. Notes on the status of some species of the Medetera jacula group (Diptera: Dolichopodidae). Zootaxa, 2417: 66-68.

YANG, D., ZHU, Y.J., WANG, M.Q. & ZHANG, L.L., 2006. World catalogue of Dolichopodidae (Insecta: Diptera). China Agricultural University Press, Beijing, 704 pp.

НОВИ НАЛАЗИ ДУГОНОГИХ МУВА (DIPTERA: DOLICHOPODIDAE) У ИРАНУ

ФАРЗАНЕХ КАЗЕРАНИ, САМАД КАГАНИНИА, АЛИ АСГАР ТАЛЕБИ,
ЈАСЕР ГАРАЈЕДАГИ и ИГОР ГРИЧАНОВ

Извод

Налази следећих шест врста дугоногих мува, сакупљених и провинцији Источни Азербејџан (Иран) у периоду 2010-2013: *Chrysotimus molliculus* (Fallén, 1823); *Hercostomus apollo* (Loew, 1869); *Hydrophorus balticus* (Meigen, 1824); *Medetera meridionalis* Negrobov, 1967; *Orthoceratium lacustre* (Scopoli, 1763) и *Poecilobothrus principalis* (Loew, 1861); представљају прве податке о њиховом пристуству у Ирану.

Received January 6th, 2014
Accepted September 17th, 2014