Linzer biol. Beitr.	47/2	1397-1401	30.12.2015

Study of the family Conopidae (Diptera) in Hatam Mesesi forest, with a new record for Iran

Samad KHAGHANINIA & Farzaneh KAZERANI

A b s t r a c t : Family Conopidae was investigated in Hatam Mesesi forest located in the northwest of Iran, Ardabil province. Totally 7 species were collected and identified that all of them are recorded for the first time for Ardabil province and *Dalmannia punctata* (FABRICIUS, 1794) is recorded for the first time from Iran. This is the first record of this genus after BEI-BIENKO (1988) from Iran. Materials for this study were collected by entomologically net during 2014. The Diagnostic characters and geographical distribution along with the figures of new record is provided.

K e y w o r d s : Conopidae, *Dalmannia*, Hatam Mesesi forest, Iran, new record.

Introduction

Family Conopidae is distributed worldwide and include more than 800 valid species in five subfamilies (Conopinae, Dalmanniinae, Myopinae, Stylogastrinae and Zodioninae) and about 56 genera (GIBSON et al. 2012). Dalmanniinae is a small subfamily of the family Conopidae. GIBSON et al. (2012, 2013) confirmed Dalmanniinae as a monophyletic group and also removed the genera, *Pseudomyopa* and *Parazodion*, from Dalmanniinae (and placed them in Myopinae and Zodioninae, respectively), and stated that this subfamily including one holarctic genus *Dalmannia*. CHVÁLA & SMITH (1988) reported eight valid species of the genus *Dalmannia* from the Palaearctic region.

Some studies had been done about this genus in the world, the most important of them are: KROBER (1936) revised the *Dalmannia* species in the Palearctic region. BOHART (1938) provided a synopsis of the genus *Dalmannia* in North America. STUCK (2007) revised the genus *Dalmannia* in the Palaearctic region and provided an identification key to the species. STUCK et al. (2008) studied the fauna of the family conopidae in Turkey and reported 2 species of the genus *Dalmannia* (*Dalmannia marginata* (MEIGEN 1824) and *Dalmannia punctata* (FABRICIUS 1794)).

In the recent years, some taxonomic studies in order to investigation of fauna of the family conopidae had been done in Iran (KHAGHANINIA & KAZERANI 2014a,b). As the fauna of the family Conopidae had been investigated poorly in Iran, this paper is providing a first step to faunistic survey of this subfamily in Hatam Mesesi forest.

Material and Methods

Studied specimens were collected using an entomologically net from Meshghin Shahr region during 2014. Meshghin Shahr region is located in the northern west of Iran, at the center of Ardabil province. The Hatam Mesesi (Fig. 1-2) forest situated in the west of Meshghin shahr city having various species of Asteraceae, Rununculacae, Apiacae, Fabaceae as well as Oak trees with UTM (Universal Transfer Mercator) coordinate system, X from 723139.74 to 751770.38 E; Y from 4242680.79 to 4253475.95 N and varying latitude from 2465 m to 1420 m a.s.l. The collected specimens were placed in ordinary paper envelopes after killing them in a cyanide bottle in order to bring them to the laboratory. They were pinned and their wings and legs set on appropriate setting boards to facilitate their morphological studies. On drying, they were properly labeled and preserved in collection boxes. The studied materials were deposited at the Insect collection of Prof. Hassan Maleki Milani (ICHMM), Tabriz University. The terminology followed from STUCK (2007).

Results

Totally 7 species of the family Conopidae were determined of them *Dalmannia punctata* (FABRICIUS 1794) is new for Iran and all species are new for Aradabil province. This is first record of this genus after BEI-BIENKO (1988).

Subfamily C o n o p i n a e

Physocephala chrysorrhoea (MEIGEN, 1824)

M a t e r i a l e x a m i n e d : (2♀♀): 38° 15' 45.38" E, 53° 39' 21.39" N, 1645m, 15.Jun.2014. leg. Khaghaninia.

Physocephala vittata (FABRICIUS, 1794)

M a t e r i a l e x a m i n e d : (2♂♂, 1♀): 38° 07' 56.64" E, 53° 39' 03.95" N, 1620m, 15.Jun.2014. leg. Khaghaninia.

Subfamily D a l m a n n i i n a e

Genus: *Dalmannia* ROBINEAU- DESVOIDY, 1830

R e m a r k : The species of the genus *Dalmannia* are shining black, abdomen with yellow patterns; arista short, dorsally; anal cell short, rarely longer than the second basal cell; female with a long, pointed ovipositor, male with a threadlike appendix to the genitalia.

Dalmannia aculeata (LINNAEUS, 1761) (Figure 3-8)

M a t e r i a l e x a m i n e d : (2♂♂, 1♀): 38° 15' 45.38" E, 53° 39' 21.39" N, 1645m, 15.Jun.2014; (2♂♂): 38° 07' 56.64" E, 53° 39' 03.95" N, 1620m, 15.Jun.2014. leg. Khaghaninia.

R e m a r k : European male specimens of this species has a larger black spot on

abdominal tergites 3-4, this variation could be occurred because the ecological and topography diffrences. Abdominal patterns in male and female as in (Figs 3 & 6). BEIBIENKO (1988) reported this species from Iran and this is its' first record after this study from Iran.

Dalmannia punctata (FABRICIUS, 1794) (Figure 9-11)

M a t e r i a l e x a m i n e d : (4♂♂): 38° 16' 08.34" E, 53° 32' 36.75" N, 1672m, 15.Jun.2014; leg. Khaghaninia.

D i a g n o s t i c c h a r a c t e r s : Frons with short black hairs; pedicel approximately as long as postpedicel, and entirely black (Fig. 11); genae with at most some longer white hair at the mouth-edge; mesoscutum with a mixture of shorter, light yellow hairs and longer black hairs (Fig. 10); hair of the abdomen in males mainly white (in females mainly black), abdominal male pattern as (Fig. 9); anatergite and katatergite black, at most only inconspicuously dark yellow.

D i s t r i b u t i o n : widespread in the western Palaearctic and Caucasus, **New record for Iran.**

R e m a r k : This species has widespread in Asia and reported from Turkey also, so it can be found in Iran adjacent countries also.

Subfamily M y o p i n a e

Myopa dorsalis FABRICIUS, 1794

M a t e r i a l e x a m i n e d : (2♂♂ & 1♀): 38° 15' 45.38" E, 53° 39' 21.39" N, 1645m, 14.Jun.2014; leg. Khaghaninia.

Myopa picta PANZER, 1798

M a t e r i a l e x a m i n e d : (2♀♀): 38° 07' 56.64" E, 53° 39' 03.95" N, 1620m, 15.Jun.2014. leg. Khaghaninia**.**

Subfamily Z o d i o n i n a e

Zodion cinereum (FABRICIUS, 1794)

M a t e r i a l e x a m i n e d : (3♂♂): 38° 16' 08.34" E, 53° 32' 36.75" N, 1672m, 14.Jun.2014, (1♂ & 2♀♀): 38° 15' 45.38" E, 53° 39' 21.39" N, 1645m, 14.Jun.2014; leg. Khaghaninia.

Acknowledgements

The authors show their sincere thanks to Dr. David Clements (Cardiff, U.K.) & Dr. Jens-Hermann Stuke (Leer, Germany) who kindly gave assistance with identifications.

Zusammenfassung

Vorliegende Arbeit widmet sich der Conopidenfauna (Diptera, Conopidae) des Hatam Mesesi

Waldgebietes im Nordwesten des Irans (Provinz Ardabil), basierend auf Aufsammlungen im Jahre 2014. Alle 7 nachgewiesenen Arten sind Erstnachweise für die Provinz Ardabil, *Dalmannia punctata* (FABRICIUS, 1794) ist neu für den Iran. Ergänzt wird die Arbeit durch Angaben zur Verbreitung und zu diagnostischen Merkmalen.

References

BEI-BIENKO G. (1988): Keys to the insects of the European part of the USSR. Volume V. Diptera and Siphonaptera. Part II. — Smithonian Institution Libraries and the National Science Foundation, Washington D.C: 10-148.

BOHART G.E. (1938): Synopsis of the genus *Dalmannia* in North America (Diptera, Conopidae). — The Pan- Pacific Entomologist, San Francisco **14**: 132-136.

CHVÁLA M. & K.G.V. SMITH (1988): Conopidae. — In: SOOS A. & L. PAPP (eds), Catalogue of Palearctic Diptera. Volume 8. Elsevier Sci. Publ., Amsterdam: 363-458.

KHAGHANINIA S. & KAZERANI F. (2014a): New records of the subfamily Conopinae (Dipt.: Conopidae) from Iran. — Journal of Crop Protection. **3** (4):459-465.

KHAGHANINIA S. & F. KAZERANI (2014b): Contribution to the knowledge of thickheaded flies (Dip.; Conopidae) of Iran. II. Myopinae, Sicinae & Zodioninae. — Biharean biologist **8** (2): 75-82.

KRÖBER O. (1936): Katalog und Bestimmungstabellen palaearktischer Conopiden. — Acta Instituti et Musei Zoologici Universitatis Atheniensis **1**: 121-159.

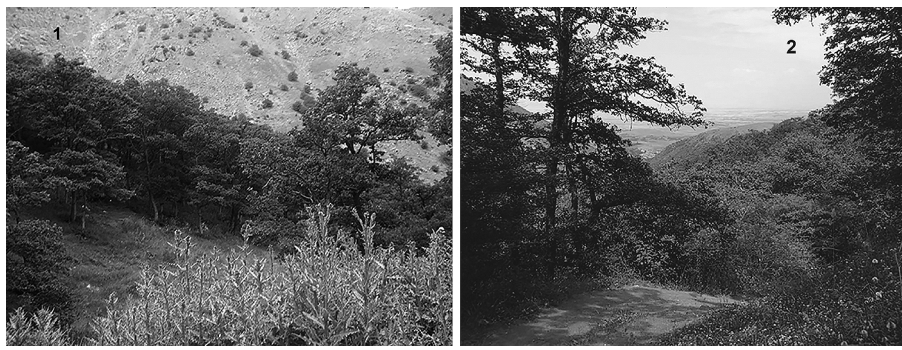
STUKE J-H. (2007): Bestimmung und Taxonomie der paläarktischen Conopiden (Diptera); Teil: Die Gattung *Dalmannia* ROBINEAU-DESVOIDY, 1830. — Beiträge zur Entomologie, Berlin **57** (1): 1-8.

STUKE J-H., HAYAT R. & H. ÖZBEK (2008): Records of notable Conopidae (Diptera) from Turkey. — Faunistische Abhandlungen (Dresden) **26**: 109-117.

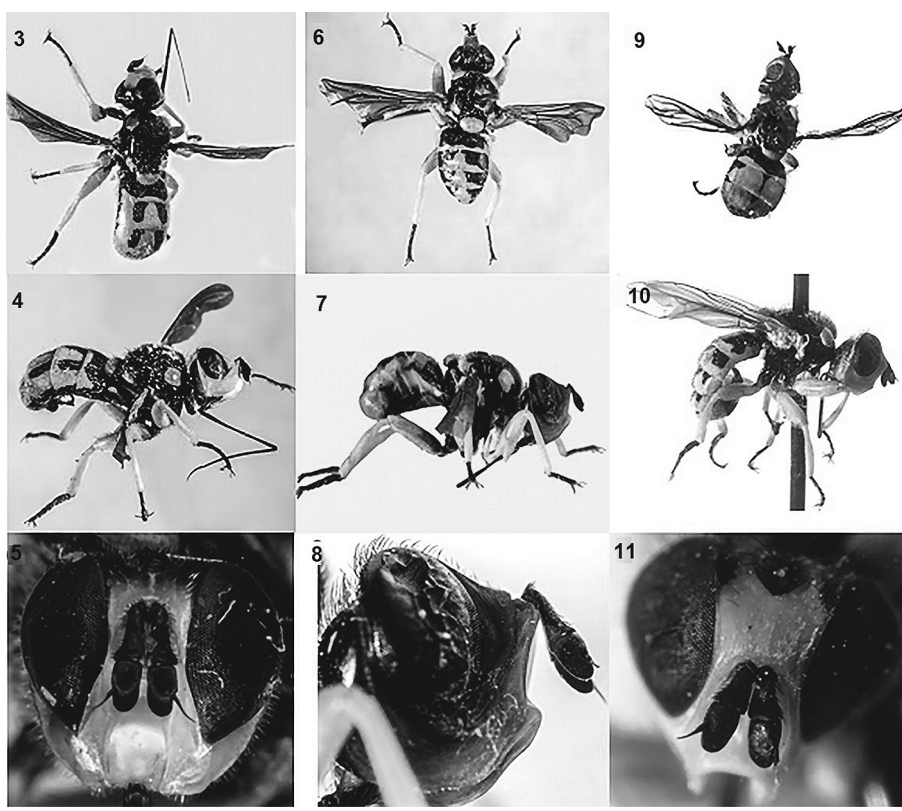
Authors' addresses:

Samad KHAGHANINIA
Faculty of Agriculture, Department of Plant Protection,
Tabriz University, Tabriz 51664, Iran
E-mail: skhaghaninia@gmail.com

Farzaneh KAZERANI
Young reasearcher and elite club, Tabriz branch,
Islamic Azad University, Tabriz, Iran
E-mail: farzane.kazerani@gmail.com



Figs 1-2: Typical aspect of Hatam-meshesi forest, where the conopid species have been collected.



Figs 3-11: **3-8**: *Dalmannia aculeata* (LINNAEUS 1761): (**3**) male habitus, (**4**) male lateral view, (**5**) male head. frontal view; (**6**) female habitus, (**7**) female lateral view. (**8**) female head. lateral view: **9-11**: *Dalmannia punctata* (FABRICIUS, 1794): (**9**) female habitus, (**10**) female lateral view, (**11**) female head, frontal view.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: Linzer biologische Beiträge

Jahr/Year: 2015

Band/Volume: 0047_2

Autor(en)/Author(s): Khaghaninia Samad, Kazerani Farzaneh

Artikel/Article: Study of the family Conopidae (Diptera) in Hatam Mesesi forest, with a new record for Iran 1397-1401