

A faunistic study of Buprestidae and Chrysomelidae (Coleoptera) from Iran

Новые данные к фауне семейств Buprestidae и Chrysomelidae (Coleoptera) Ирана

N. Samin*, W.B. Jędrzykowski**, A. Warchalowski***,
T.J. Hawkeswood****, H.S. Chelav*****
Н. Самин*, В.Б. Ядричковский**, А. Варшаловский***,
Т.Дж. Хоксвуд****, Х.С. Челав*****

* Young Researchers and Elites Club, Science and Research Branch, Islamic Azad University, Tehran, Iran. E-mail: n_samin63@yahoo.com.

* Клуб молодых исследователей, Отделение науки и исследований, Исламский университет Азад, Тегеран, Иран.

** University of Ecology and Management, Faculty of Ecology, Wawelska Str. 14, Warszawa 06102 Poland. E-mail: wjedrycz@gmail.com.

** Университет экологии и менеджмента, факультет экологии, ул. Вавельска 14, Варшава 06102 Польша.

*** Zoological Institute, University of Wrocław, Sienkiewicza 21, Wrocław 50-335 Poland. E-mail: awar@biol.uni.wroc.pl.

*** Зоологический институт, Вроцлавский университет, Сиенкевича 21, Вроцлав 50-335 Польша.

**** PO Box 842, Richmond, New South Wales 2753 Australia. E-mail: drtjhawkeswood@gmail.com.

**** П/Я 842, Ричмонд, Новый Южный Уэльс 2753 Австралия.

***** Department of Plant Protection, Qaemshahr Branch, Islamic Azad University, Mazandaran, Iran. E-mail: hchelave@yahoo.com.

***** Отдел защиты растений, Каэмшехрское отделение Исламского университета Азад, Мазандаран, Иран.

Key words: Beetles, fauna, Coleoptera, Buprestidae, Chrysomelidae, Iran.

Ключевые слова: жесткокрылые, фауна, Coleoptera, Buprestidae, Chrysomelidae, Иран.

Abstract. A faunistic survey on the families of Buprestidae and Chrysomelidae (Coleoptera) included 34 species (Buprestidae: nine species within six genera; Chrysomelidae: 25 species within 11 genera), 12 of which (five Buprestidae and seven Chrysomelidae) are newly recorded from Iran.

Резюме. В работе приводятся новые данные по фауне Buprestidae и Chrysomelidae (Coleoptera) Ирана. Златок выявлено 9 видов из 6 родов и листоедов 25 видов из 11 родов. Двенадцать видов (5 из сем. Buprestidae и 7 из сем. Chrysomelidae) впервые отмечаются для фауны Ирана.

Introduction

The family Buprestidae is one of the eight largest families of Coleoptera. Buprestidae comprises approximately 15,000 species within about 450 genera [Bellamy, 2008]. Beetles of the family Buprestidae are commonly called jewel beetles or metallic woodboring beetles due to the metallic colors exhibited by the adults and the boring habits of their larvae in wood, roots or stems of woody plants, although some are leaf miners (Bellamy, 2003; Hespeneide, 1996). The fauna of Irani-

an Buprestidae is diverse and comprises 428 species and 52 subspecies of jewel beetles belonging to 6 subfamilies (Julodinae, Polycestinae, Galbellinae, Chrysochroinae, Buprestinae, and Agrilinae), 20 tribes, and 38 genera [Ghahari et al., 2015].

Chrysomelidae, known as leaf beetles, constitutes one of the most species-rich families of Coleoptera, thus a great proportion of insect diversity, including about 40,000 species described and possibly up to 50,000 species [Jolivet, Verma, 2002; Santiago-Blay, 2004]. Many species are economically important as pests of food crops, tree and shrub plantations, medical herbs and fodder crops, although several species are beneficial as biological control agents of weeds [Booth et al., 1990; Mirzoeva, 2001; Aslan et al., 2009]. Among the different taxa of Iranian Chrysomelidae, only Alticini (with 180 taxa within 18 genera) and Bruchinae (with 117 species from 14 genera) were catalogued by Aslan and Ghahari [2017] and Ghahari and Borowiec [2017], respectively. The total species number of Iranian Chrysomelidae excluded Alticini and Bruchinae is 184 species [Modarres Awal, 2012] which is far from the exact number because several contributions were not checked by the author.

The aim of this paper is representing of the results of faunistic surveys which were conducted in different regions of Iran; totally 38 species of Buprestidae and Chrysomelidae were collected which of them, five species of Buprestidae and seven species of Chrysomelidae were new country records.

Material and methods

The materials of this faunistic paper were collected using sweeping net, aspirator and Malaise trap. Collected beetles were killed by ethyl acetate and taken to the laboratory for study and determination. The sampled localities in this investigation are Ardebil, Chaharmahal and Bakhtiari, East Azarbaijan, Golestan, Guilan, Lorestan, Mazandaran and Northern Khorasan provinces. The classification and nomenclature used here mainly follow Löbl and Smetana [2010].

Results

In this study, nine species of Buprestidae and 26 species of Chrysomelidae were collected and identified. Detailed information on these species are given below.

Buprestidae Leach, 1815

Acmaeodera Eschscholtz, 1829

Acmaeodera (Acmaeotethya) octodecimguttata octodecimguttata Piller et Mitterpacher, 1783

Material. 1 ex., East Azarbaijan province, Kaleybar, VI.2010.

Acmaeoderella Cobos, 1955

Acmaeoderella (Acmaeoderella) circassica Reitter, 1890

Material. 2 ex., Guilan province, Siahkal, VI.2011.

Remarks. New record for the fauna of Iran.

Acmaeoderella (Acmaeoderella) plavilscikovi Obenberger, 1936

Material. 2 ex., Mazandaran province, Marzan-Abad, IV.2008.

Acmaeoderella (Carininota) flavofasciata albifrons Abeille de Perrin, 1891

Material. 1 ex., East Azarbaijan province, Kaleybar, VI.2010.

Acmaeoderella (Carininota) flavofasciata flavofasciata Piller et Mitterpacher, 1783

Material. 2 ex., Guilan province, Siahkal, VI.2011.

Anthaxia Eschscholtz, 1829

Anthaxia (Melanthaxia) quadripunctata quadripunctata Linnaeus, 1758

Material. 1 ex., Ardebil province, Germi, July 2009.

Remarks. New record for the fauna of Iran.

Cylindromorphus Kiesenwetter, 1857

Cylindromorphus filum Gyllenhal, 1817

Material. 2 ex., Lorestan province, Alashtar, VI.2010.

Remarks. New record for the fauna of Iran.

Lamprodila Motschulsky, 1860

Lamprodila (Chrysoblemma) orichalcea Pallas, 1781

Material. 1 ex., Guilan province, Talesh, VII.2011.

Remarks. New record for the fauna of Iran.

Phaenops Dejean, 1833

Phaenops cyanea Fabricius, 1775

Material. 2 ex., Mazandaran province, Jangale- 2000, IX.2007.

Remarks. New record for the fauna of Iran.

Chrysomelidae Latreille, 1802

Aetheomorpha Lacordaire, 1848

Aetheomorpha seminigra pumilio Lacordaire, 1848

Material. 1 ex., Lorestan province, Alashtar, IV.2012.

Bruchidius Schilsky, 1905

Bruchidius kineri Zampetti, 1992

Material. 2 ex., Lorestan province, Haft-Cheshmeh, IV.2012.

Remarks. New record for the fauna of Iran.

Bruchidius trifolii (Motschulsky, 1874)

Material. 2 ex., Guilan province, Astara, VII.2011.

Cassida Linnaeus, 1758

Cassida atrata Fabricius, 1787

Material. 3 ex., Northern Khorasan province, Lujely, V.2011.

Cassida viridis Linnaeus, 1758

Material. 3 ex., East Azarbaijan province, Jolfa, VI.2010.

Chrysolina Motschulsky, 1860

Chrysolina (Chalcoidea) tesari tesari Roubal, 1936

Material. 1 ex., Ardebil province, Germi, VI.2014.

Remarks. New record for the fauna of Iran.

Chrysolina (Erythrochrysa) polita polita Linnaeus, 1758

Material. 2 ex., East Azarbaijan province, Jolfa, VI.2010.

Chrysolina (Synerga) herbacea caucasica Motschulsky, 1860

Material. 2 ex., Northern Khorasan province, Lujely, V.2011.

Cryptocephalus Muller, 1764

Cryptocephalus (Asionus) apicalis Gebler, 1830

Material. 3 ex., Ardebil province, Bileh-Savar, VI.2014.

Remarks. New record for the fauna of Iran.

Cryptocephalus (Burlinius) populi Suffrian, 1848

Material. 2 ex., Guilan province, Asalem, VI.2011.

Remarks. New record for the fauna of Iran.

Cryptocephalus (Cryptocephalus) prusias Suffrian, 1853

Material. 2 ex., East Azarbaijan province, Jolfa, VI.2010.

Cryptocephalus (Burlinius) pygmaeus vittula Suffrian, 1848

Material. 1 ex., Chaharmahal and Bakhtiari province, Sarkhoon, IV.2012.

Cryptocephalus (Cryptocephalus) biguttatus
Scopoli, 1763

Material. 2 ex., Mazandaran province, Marzan-Abad, VI.2009.

Cryptocephalus (Cryptocephalus) praticola
Weise, 1889

Material. 2 ex., Mazandaran province, Savadkuh, IX.2013.

Remarks. New record for the fauna of Iran.

Cryptocephalus (Cryptocephalus) sericeus
Linnaeus, 1758

Material. 4 ex., Golestan province, Golestan National Park, VIII.2011; 2 ex., Mazandaran province, Jangale-2000, IX.2014.

Cryptocephalus (Cryptocephalus) coryli
Linnaeus, 1758

Material. 3 ex., Chaharmahal and Bakhtiari province, Sarkhoon, IV.2012.

Dicladispa Gestro, 1897

Dicladispa testacea Linnaeus, 1767

Material. 2 ex., Lorestan province, Haft-Cheshmeh, IV.2012.

Labidostomis Dejean, 1836

Labidostomis (Labidostomis) oertzeni Weise, 1889

Material. 1 ex., Ardebil province, Bileh-Savar, VI.2014.

Labidostomis (Labidostomis) sulcicollis
Lacordaire, 1848

Material. 2 ex., Ardebil province, Meshgin-Shahr, VI.2014.

Remarks. New record for the fauna of Iran.

Malegia Lefèvre, 1884

Malegia colchica Reitter, 1912

Material. 2 ex., Chaharmahal and Bakhtiari province, Farsan, IV.2012.

Oomorplus Curtis, 1831

Oomorplus (Oomorplus) concolor Sturm, 1807

Material. 1 ex., Chaharmahal and Bakhtiari province, Farsan, IV.2012.

Oulema tristis Herbst, 1786

Material. 2 ex., Golestan province, Minudasht, August 2010.

Pachybrachis Dejean, 1836

Pachybrachis (Pachybrachis) tessellatus tauricus
Suffrian, 1848

Material. 1 ex., Ardebil province, Meshgin-Shahr, VI.2014.

Smaragdina Chevrolat, 1836

Smaragdina biornata biornata Lefèvre, 1872

Material. 1 ex., Northern Khorasan province, Farooj, V.2011.

Smaragdina xanthaspis Germar, 1824

Material. 2 ex., Chaharmahal and Bakhtiari province, Farsan, IV.2012.

Remarks. New record for the fauna of Iran.

Discussion

Faunistic surveys on Iranian Coleoptera have been resulted to several new findings in recent years. Since Iran comprises various geographical areas and ecosystems, several species (new country records, new species, new distribution data) are remainder to be found. In this paper, among the 35 collected species, five species of Buprestidae, *Acmaeoderella (Acmaeoderella) circassica* Reitter, 1890, *Anthaxia (Melanthaxia) quadripunctata quadripunctata* Linnaeus, 1758, *Cylindromorphus filum* Gyllenhal, 1817, *Lamprodila (Chrysoblemma) orichalcea* Pallas, 1781, *Phaenops cyanea* Fabricius, 1775, and seven species of Chrysomelidae, *Bruchidius kineri* Zampetti, 1992, *Chrysolina (Chalcoidea) tesari tesari* Roubal, 1936, *Cryptocephalus (Asionus) apicalis* Gebler, 1830, *Cryptocephalus (Burlinius) populi* Suffrian, 1848, *Cryptocephalus (Cryptocephalus) praticola* Weise, 1889, *Labidostomis (Labidostomis) sulcicollis* Lacordaire, 1848, *Smaragdina xanthaspis* Germar, 1824 are new records for the fauna of Iran. Regarding to these five new records of Buprestidae and seven new records of Chrysomelidae, total species number of these families reaches to 485 and 488 species, respectively for Iran.

Acknowledgements

The research was supported by Islamic Azad University (Young Researchers and Elites Club, and Qaemshahr Branch). The authors are grateful to D. Makhan (Netherlands), N. Galini, H. Naderian, J. Rastegar, A. Hadian (Iran) for providing some specimens, the late C.L. Bellamy (USA) for identification of Buprestidae specimens, Dr. S. Tezcan (Turkey) for editing the manuscript and insightful comments.

References

- Aslan E.G., Göl A., Faruk Gurbuz M., Ayvaz Y. 2009. Species composition of Chrysomelidae (Coleoptera) in saklikent vicinity (Antalya, Turkey) with observations on potential host plants // Journal of the Entomological Research Society. Vol.11. No.3. P.7–18.
- Aslan E.G., Ghahari H. 2017. An annotated synopsis of the flea beetles of Iran with new records (Coleoptera: Chrysomelidae: Galerucinae: Alticini) // Transaction American Entomological Society. Vol.143. P.633–667.
- Bellamy C.L. 2003. The stunning world of jewel beetles // Wings, Essays on Invertebrate Conservation. Vol.26. P.13–17.
- Bellamy C.L. 2008. A world catalogue and bibliography of the jewel beetles (Coleoptera: Buprestoidea). Vol.1: Introduction; Fossil Taxa; Schizopodidae; Buprestidae; Julodinae — Chrysochroinae: Poecilonotini. Pensoft Series Faunistica, No.76. Sofia–Moscow: Pensoft Publishers. 625 p.
- Booth R.G., Cox M.L., Madge R.B. 1990. Guides to Insect of Importance to Man 3. Coleoptera. Cambridge: University Press. UK. 384 p.
- Ghahari H., Volkovitsh M., Bellamy C.L. 2015. An annotated catalogue of the Buprestidae of Iran (Coleoptera: Buprestoidea) // Zootaxa. Vol.3984. No.1. P.1–141.
- Ghahari H., Borowiec L., 2017. A checklist of seed-beetles (Coleoptera: Chrysomelidae: Bruchinae) from Iran // Zootaxa. Vol.4268. No.2. P.215–237.

- Hespenheide H.A. 1996. Buprestidae (Coleoptera) // Llorente-Bousquets J., Garcia-Aldrete A.N., Gonzalez-Soriano E. (Eds): Biodiversidad, taxonomia y biogeografía de artrópodos de México: Hacia una síntesis de su conocimiento. Instituto de Biología, Universidad Nacional Autónoma de México, Mexico City. P.411–421.
- Jolivet P., Verma, K.K. 2002. Biology of leaf beetles. Andover: Intercept Publisher. UK. 332 p.
- Löbl, I., Smetana A. 2010. Catalogue of Palaearctic Coleoptera. Vol.6. Chrysomeloidea. Stenstrup: Apollo Books. Denmark. 924 p.
- Mirzoeva N. 2001. A study of the ecofaunal complexes of the leaf-eating beetles (Coleoptera, Chrysomelidae) in Azerbaijan // Turkish Journal of Zoology. Vol.25. P.41–52.
- Modarres Awal M. 2012. Family Chrysomelidae // Modarres Awal M. (Ed.). List of agricultural pests and their natural enemies in Iran. Ferdowsi University Press. P.298–307.
- Santiago-Blay J.A. 2004. Leaf-mining chrysomelids // Jolivet P., Santiago-Blay J.A., Schmitt M. (eds.). New developments on the biology of Chrysomelidae. Hague: SPB Academic Publishing. Netherlands. 83 p.

Поступила в редакцию 22.8.2019