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A SURVEY OF EREBIDAE, NOLIDAE AND EUTELIIDAE (LEPIDOPTERA)
IN SOUTHERN AND NORTHEASTERN OF IRAN

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Esfandiari M., Rabieh M.M., Matov A., Mossadegh M.S. – A survey of Erebidae, Nolidae and Euteliidae (Lepidoptera) in Southern and Northeastern of Iran. Noctuoidea are the largest superfamily of Lepidoptera which have not yet fully investigated in Iran. In order to inventories such important group, faunistic studies on the families Erebidae, Nolidae and Euteliidae were made by light traps mainly in the three Iranian provinces of Fars, Khuzestan and Khorasan-e-Razavi during 2009-2011. Totally, 42 taxa belonging to 26 genera and 7 subfamilies were collected. Among these, one species – Drasteria kusnezovi (John, 1910) – is newly reported for the Iranian fauna, together with 23 new provincial records. For all species, illustrations of adults and their genitalia are given with remarks.

KEY WORDS: fauna, Noctuoidea, new record, Drasteria, distribution.

INTRODUCTION

While specific geographical situation of Iran promises a rich entomofauna, inventoring the large insect order Lepidoptera has a great importance. In the present period of taxonomic and faunistic study on the superfamily Noctuoidea in Iran which began in late 1990s, the exploration of the Iranian Noctuoidea fauna has become remarkably more intensive due to several new projects conducted by local experts along with foreign researchers. These expeditions on the Iranian noctuoids have resulted in description of new taxa and report of new distributional records (e.g. EBERT & HACKER, 2002; ESFANDIARI et al., 2010; ESFANDIARI, 2014; FIBIGER et al., 2007; GYULAI et al., 2002; HACKER & MEINEKE, 2001; RABIEH et al., 2013a,b; RONKAY & GYULAI, 2006; VARGA & GYULAI, 2002). Here, we report the results of a study on the fauna of three noctuoid families Erebidae, Nolidae and Euteliidae from different geographical zones of Iran. The present study is in the framework of faunistic studies of noctuid fauna of Iran at Shahid Chamran University of Ahvaz, Iran (e.g. ESFANDIARI et al., 2011; RABIEH et al., 2013a,b,c; RABIEH et al., 2014). This report contains records of 42 species and subspecies of the three mentioned families. Illustrations of collected adults and their genitalia are presented for all species. We also report a new record for the fauna of Iran: Drasteria kusnezovi (John, 1910). For this species, remarks on the diagnosis, bionomy and distribution are also given.

MATERIAL AND METHODS

Collectings were carried out mainly during 2009-2011, in different altitudes and vegetation types of the sampling localities in Khorasan-e-Razavi, Khuzestan and Fars provinces of Iran (Fig. I). Sampling program was made by using light traps powered by 12 volt batteries and 8 watt Black light UVB tubes. Genitalia of the specimens were dissected, stained and mounted according to FIBIGER (1997) with some modifications. The specimens and slides of their genitalia are deposited in the Insect and Mite Collection of Ahvaz (IMCA), Plant Protection Department, Shahid Chamran University of Ahvaz, Ahvaz, Iran. The systematics and nomenclature are according to Lödl et al. (2012). Species denoted with an asterisk (*) are new provincial records. Results of collecting Catocala spp. was not listed here and will be presented later. Some specimens from other years and provinces (Golestan, Kerman & Khorasan-e-Jonubi, Fig. I) were added to the materials. Collectings in Khorasan and Golestan were carried out by M.M. Rabieh and other materials were collected by M. Esfandiari. Few specimens were found at IMCA and added to the materials.

RESULTS

Totally, 42 taxa belonging to 26 genera and 7 subfamilies were found from families Erebidae (36 species and two subspecies), Nolidae (three species) and Euteliidae (one species) in Iran. Among them, Drasteria kusnezovi is newly reported for the Iranian fauna. Twenty-three new provincial records were also registered in this study; 13 for Khuzestan, 6 for Khorasan-e-Razavi, 2 for Khorasan-e-Jonubi, 1 for Kerman and 1 for Golestan provinces.

LIST OF SPECIES

Family Erebidae

Apart from Lymantriinae and Arctiinae, other subfamilies of Erebidae can be distinguished as the clypeofrons is usually unscaled, which may be correlated with elongation and modification of the labial palps. The forewings are generally broader than in the other
noctuoid families, such that a perpendicular line from the costa to the tornus is generally more than half the length of the costa, rather than less than half. However, there are many exceptions. The hindwing venation is usually quadrifine, although Micronoctuini show vein reduction. Erebidinae are more likely to have patterned hindwings, and possibly all genera where the forewing pattern is continued onto the hindwing are erebids. A sharply angled forewing postmedial line, associated with a darker triangle or trapezium, with its base along the costa that is placed between it and the submarginal line or the apex, may serve to identify some erebids (Zahir et al., 2012).

Subfamily Rivulinae

*Rivula tanitalis* Rebel, 1912
Adult male, Fig. IV: 1; male genitalia, Fig. VI: 1.
Material examined: Iran, Khuzestan Prov., Ahvaz, 20m, 31°18'14" N 48°39'30" E, 1 male, 28.IX.2014.

Subfamily Hyponinae

*Hyrcanypena schwingenschussi* Wagner, 1937
Adult female, Fig. IV: 2; female genitalia, Fig. IX: 1.
Material examined: Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35'57" N 50°00'50" E, 1 female, 10.V.2011, 1 female, 7.VI.2011.
Remark: It has previously reported from north Iran as well as southern range of Zagros in provinces of Fars, Lorestan and Kohgiluyeh-va-Boyerahmad (Ebert & Hacker, 2002).

*Zekelita ravalis* (Herrich-Schäffer, 1851)
Adult male, Fig. IV: 3; male genitalia, Fig. VI: 2; female genitalia, Fig. IX: 2.
Material examined: Iran, Khorasan-e-Razavi Prov., Mashhad, Imam Reza Holy shrine, 974m, 36°17'21" N 59°36'48" E, 1 male, 29.V.2011; Kalat-e-Nader city, 1087m, 36°58'48" N 59°44'46" E, 3 males and 1 female, 10.VIII.2010; Binaloud mountains, 1558m, 36°25'56" N 59°09'41" E, 1 female, 30.IV.2011. Iran, Khuzestan Prov., Ahvaz-Baghmalek road, 630m, 31°30'57" N 49°52'24" E, 1 male, 28.IX.2011. Iran, Fars Prov., Kamfiruz, 1700m, 30°20'28" N 52°13'13" E, 1 male, 25.VIII.2011.

Subfamily Boletobiinae

*Colobochyla platizona* (Lederer, 1870)
Adult female, Fig. IV: 4; female genitalia, Fig. IX: 3.
Material examined: Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35'57" N 50°00'50" E, 1 male, 13.V.2011, 1 male, 18.V.2011, 1 female, 30.VII.2011, 1 female, 20.VIII.2011; Karun 3 dam, 900m, 31°23’03" N 50°06’13" E, 2 males, 1 female, 6.VI.2012; Imamzadeh Abdollah, 2030m, 31°25’03" N 50°09’13" E, 2 males, 2 females, 11.V.2012. Iran, Fars Prov., Kamfiruz, 1700m, 30°20’28" N 52°13’13" E, 1 male, 25.VIII.2011; Neyriz, 2050m, 29°13’22" N 54°26’17" E, 2 males, 1 female, 27.VII.2011.
Remark: It seems that this species is distributed across
the mountains of Alborz and Zagros in Iran (Hacker, 1990; Ebert & Hacker, 2002; Lehmann & Zahiri, 2011). Here, we report it for the first time from Khuzestan province.

**Calymma gracilis** Osthelder, 1933*

Adult female, Fig. IV: 5; male genitalia, Fig. VI: 3; female genitalia, Fig. IX: 4.

**Material Examined:** Iran, Khorasan-e-Razavi Prov., Mashhad, Toos area, 1030m, 36°29 58 N 59°31 11 E, 1 male, 27.VI.2011. Iran, Fars Prov., Neyriz, Layraz, 2005m, 29°13 22 N 54°26 17 E, 1 male, 1 female, 27.VIII.2011; Kamfiruz, 1700m, 30°20 28 N 52°13 13 E, 1 female, 25.VIII.2011.

**Remark:** The larvae of this species live in soft cases on coccid pests of fruit trees and are a predator in all stages (Hacker, 2001). This is the first record for Khorasan-e-Razavi.

**Eublemma ostrina** (Hübner, 1808)

Adult female, Figs. IV: 6, 7; male genitalia, Fig. VI: 4; female genitalia, Fig. IX: 5.

**Material Examined:** Iran, Khorasan-e-Razavi Prov., Sabzevar, Shirahmad, 985m, 36°07 09 N 57°51 08 E, 1 female, 02.V.2011; Binaloud mountains, 1558m, 36°25 56 N 59°09 41 E, 2 males and 1 female, 30.IV.2011.

**Remark:** The larvae are oligophagous on Asteraceae species (Hacker, 2001). This species is very variable; it can be from concolourous dark reddish brown to uniform yellow (P. Gyulai, personal communication). In this study we collected two completely different forms of this species; a common form (Fig. IV: 6) from Shirahmad Wildlife Refuge in NE Iran and a rare migrant form (Fig. IV: 7) from Binaloud mountains.

**Rhypagla lacernaria** (Hübner, 1813)*

Adult male, Fig. IV: 8; male genitalia, Fig. VI: 5.

**Material Examined:** Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35 57 N 50°00 50 E, 1 male, 27.IV.2011.

**Remark:** The larvae of this species feed on species of the genus Phlomis (Hacker, 2001) which occur in the collecting area.

**Subfamily Toxocampinae**

**Lygephila craccae** (Denis & Schiffermüller, 1775)*

Adult male, Fig. IV: 9; male genitalia, Fig. VI: 6; female genitalia, Fig. IX: 6.

**Material Examined:** Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35 57 N 50°00 50 E, 1 female, 20.VIII.2011. Iran, Fars Prov., Sepidan, 2303m, 30°21 22 N 52°03 36 E, 2 males, 21.VII.2011.

**Remark:** The commonest Lygephila species on the mainland of Western Europe. This Eurasian species is found in grassy places where the foodplants (various Fabaceae such as Vicia, Astragalus, Coronilla and Latibyssus) occur (Gooter et al., 2003; Hacker, 2001). This is first record for Khuzestan.

**Tathorhynchus exsiccate** (Lederer, 1855)

Adult male, Fig. IV: 10; male genitalia, Fig. VI: 7; female genitalia, Fig. IX: 7.

**Material Examined:** Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35 57 N 50°00 50 E, 4 males, 4 females, 5.VI.2010.

**Autophila luxuriosa clara** Wiltshire, 1952*

Adult male, Fig. IV: 11; male genitalia, Fig. VI: 8; female genitalia, Fig. IX: 8.

**Material Examined:** Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35 57 N 50°00 50 E, 1 male, 4.V.2010, 1 male, 10.V.2011, 1 male, 1 female, 18.V.2012; Karun 3 dam, 900m, 31°46 54 N 50°06 13 E, 1 male, 4.VI.2011; Imamzadeh Abdollah, 2030m, 31°23 03 N 50°09 13 E, 5 males, 2 females, 11.V.2012.

**Remark:** The subspecies clara is an Iranian taxon described from Fars province (Zagros range) (Wiltshire, 1992). The bionomy and food plants are unknown.

**A. asiatica** (Staudinger, 1888)*

Adult male, Fig. IV: 12; male genitalia, Fig. VI: 9; female genitalia, Fig. IX: 9.

**Material Examined:** Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35 57 N 50°00 50 E, 2 males, 18.V.2012, 1 female, 13.V.2011; Imamzadeh Abdollah, 2030m, 31°23 03 N 50°09 13 E, 1 male, 2 females, 11.V.2012; Karun 3 dam, 900m, 31°46 54 N 50°06 13 E, 1 male, 4.VI.2011, 1 female, 6.VI.2012.

**A. cerealis** (Staudinger, 1871)*

Adult female, Fig. IV: 13; male genitalia, Fig. VI: 10; female genitalia, Fig. IX: 10.

**Material Examined:** Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35 57 N 50°00 50 E, 1 female, 27.IV.2011; 1 female, 20.IV.2012; Imamzadeh Abdollah, 2030m, 31°23 03 N 50°09 13 E, 4 males & females, 11.V.2012; Behbahan, 226m, 30°35 40 N 50°17 23 E, 1 female, 22.V.2007; Ramhormoz, 300m, 31°18 49°39 , 1 female, 28.III.2013. Ilam Prov., Dehloran, 545m, 32°41 47°16 E, 1 male, 17.III.2014.

**Remark:** This is the most frequent of all Autophila species and its larvae feed on low herbs as Salvia. The species inhabits rocky semidesert and also mountainous areas (Hacker, 2001).

**Subfamily Erebininae**

**Pandesma robusta** (Walker, 1838)

Adult female, Fig. IV: 14; male genitalia, Fig. VII: 1; female genitalia, Fig. IX: 11.

**Material Examined:** Iran, Khorasan-e-Razavi Prov., Mashhad, Imam Reza Holy shrine, 974m, 36°17 21 N 59°36 48 E; 1 female, 26.V.2011; 3 females, 29.V.2011; 1 male and 10 females, 03.VI.2011; 5 females, 04.VI.2011; 2 females, 06.VI.2011; 2 males, 06.VI.2011; 8 females, 08.VI.2011; 1 male and 3 females, 11.VIII.2011; 5 females, 20.VIII.2011; 7 females, 15.VIII.2011; 3 females, 20.VIII.2011; Sabzevar, Shirahmad, 985m, 36°07 09 N 57°51 08 E, 1 male and 1 female, 02.V.2011; Khaf city, 1034m, 34°33 17 N 60°07 57 E, 1 female, 22.V.2010. Khuzestan Prov., Haftapheh, 44m, 32°03 43 N 48°31 54 E, 1 female, 4.V.2009; Mal Aqa, 1100m, 31°35 57 N 50°00 50 E, 1 male, 2.V.2011, 1 female, 20.IV.2012; Hamidieh, 2030m, 31°23 03 N 50°09 13 E, 1 male, 11.V.2012; Behbahan, 226m, 30°35 40 N 50°17 23 E, 1 female, 22.V.2007; Ramhormoz, 300m, 31°18 49°39 , 1 female, 28.III.2013. Ilam Prov., Dehloran, 545m, 32°41 47°16 E, 1 male, 17.III.2014.

**Remark:** This is the most frequent of all Autophila species and its larvae feed on low herbs as Salvia. The species inhabits rocky semidesert and also mountainous areas (Hacker, 2001).

**Zethes narghisa** Brandt, 1938

Adult female, Fig. IV: 15; male genitalia, Fig. VII: 2; female genitalia, Fig. IX: 12.
Heteropalpia vetusta (Walker, 1865)

MATERIAL EXAMINED: Iran, Fars Prov., Saadatshahr, 1750m, 29°58'14 N 53°14'34 E, 1 male, 4.VIII.2011; Sepidan, 2330m, 30°21'22 N 52°03'36 E, 1 male, 21.VII.2011; Sepidan, Kak village, 2500m, 30°32'22 N 51°49'56 E, 1 male, 11.VIII.2011, 1 female, 8.IX.2011; Kohmare Sorkhi, 1900m, 29°28'11 N 52°08'44 E, 1 females, 28.IV.2011; Neyriz, Layraz, 2050m, 29°13'22 N 54°26'17 E, 1 male, 27.VIII.2011.

REMARK: It has only reported from Fars and Sistan-baluchestan provinces of Iran (HACKER, 1990; EBERT & HACKER, 2002).

Z. nemea Brandt, 1938

Adult female, Fig. IV: 16; male genitalia, Fig. VII: 3; female genitalia, Fig. IX: 13.

MATERIAL EXAMINED: Iran, Fars Prov., Firuzabad, 16000m, 29°00'47 N 52°29'51 E, 1 female, 1.IX.2008.

Pericyma albidentaria (Freyer, 1842)*

Adult male, Fig. IV: 18; male genitalia, Fig. VII: 4; female genitalia, Fig. IX: 15.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Mashhad, Toos area, 1030m, 36°29'56 N 59°09'41 E, 1 male, 27.VII.2011; Mashhad, Imam Reza Holy shrine, 974m, 36°17'21 N 59°36'48 E; 1 female, 04.VI.2011; Chelmirt, 1024m, 37°23'34 N 58°55'21 E, 1 female, 10.V.2011. Khorasan-e-Jonubi Prov., Birjand, 1450m, 32°52'41 N 59°15'40 E, 1 female, found at insect collection of University of Birjand with no more data.

REMARK: Usually this species resembles Heteropalpia. This is the first record from Khorasan-e-Jonubi.

P. squalens Lederer, 1855*

Adult male, Fig. IV: 19; male genitalia, Fig. VII: 5; female genitalia, Fig. IX: 16.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Haftapeh, 44m, 32°03'43 N 48°31'54 E, 1 male, 4.V.2009, 1 male, 2 female, 24.IV.2009. Iran, Golestan Prov., Qoroq, 116m, 36°52'47 N 54°41'01 E, 2 female, 20.VII.2010.

REMARK: This is the first record for Golestan province.

Heteropalpia vetusta (Walker, 1865)

Adult male, Fig. IV: 20; male genitalia, Fig. VII: 6; female genitalia, Fig. IX: 17.

MATERIAL EXAMINED: Iran, Khorasan Prov., Haftapeh, 44m, 32°03'43 N 48°31'54 E, 2 female, 8.V.2009, 2 male, 2 female, 4.V.2009, 2 male, 24.IV.2009. Hamidieh, 11m, 31°22'43 N 48°32'11 E, 2 male, 24.V.2010; Gotvand, 120m, 32°18'25 N 48°47'00 E, 1 male, 24.VIII.2011; Masjed-Soleiman, 120m, 31°58'29 N 49°04'04 E, 2 male, 4.IX.2011.

Acantbopipes regularis (Hübner, 1813)

Adult male, Fig. IV: 21; male genitalia, Fig. VII: 7; female genitalia, Fig. IX: 18.

MATERIAL EXAMINED: Iran, Fars Prov., Kamfíruz, 1700m, 30°20'28 N 52°13'13 E, 1 female, 25.VIII.2011; Sepidan-Nurabad road, 1900m, 30°00'43 N 52°02'06 E, 1 male, 23.VI.2011.

A. regulatrix Wilshire, 1961*

Adult female, Fig. IV: 22; female genitalia, Fig. IX: 19.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Akhlamad mountains, 1550m, 36°35'52 N 58°55'07 E, 1 female, 05.VII.2011; Iran, Khorasan-e-Razavi Prov., Binaloud mountains, 1558m, 36°25'56 N 59°09'41 E, 1 female, 27.VI.2011.

REMARK: This species was described from Afghanistan. MHHABET et al. (2007) mentioned the species for Iran; however, we could not trace back this record. We collected this species from Binaloud and also from Kopet-Dagh mountains near the border between Iran and Turkmenistan.

I ranada turcorum (Zerny, 1915)*

Adult female, Fig. IV: 23; male genitalia, Fig. VII: 8; female genitalia, Fig. IX: 20.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Sabzevar, Shirahmad, 985m, 36°07'09 N 57°51'08 E, 3 males, 02.V.2011.

REMARK: It was not previously reported from NE Iran. We collected this species from a semi-desert area in the Khorasan-e-Razavi province.

Drasteria caillino (Lefèvre, 1827)*

Adult male, Fig. IV: 24; male genitalia, Fig. VII: 9; female genitalia, Fig. IX: 1.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Gonbad city, 1706 m, 34°07'49 N 58°37'57 E, 1 male, 05.V.2011. Iran, Khorasan Prov., Mal Aqa, 1100m, 31°55'57 N 50°00'50 E, 1 female, 20.VIII.2011.

REMARK: This Ponto-Mediterranean species occurs in Alborz and Zagros mountain areas (HACKER, 1990; EBERT & HACKER, 2002). In Northeastern Iran, it was collected in it in the dry mountains of Gonbad city. The larvae feed on shrubs as Salix viminalis and Rosa canina in European countries (GOATER et al., 2003). This is the first provincial record for both Khorasan-e-Razavi and Khuzestan.

D. kusnezovi (John, 1910)

Adult male, Fig. II: 1; adult female, Fig. II: 2; male genitalia, Figs. III: 1; female genitalia, Fig. III: 3.


MATERIAL EXAMINED: Iran, Kerman Prov., Sirjan, 1750m, 29°26'53 N 55°41'45 E, 1 male, 1.IV.2008.

REMARK: Checking the type series revealed that the old labels "specimen typicum" were put by somebody (may be, by John himself) only under one male (Fig. II: 3; Kazakhstan, Sir Darja, Dshulek) and one female (Fig. II: 4; Kazakhstan, Sir Darja, Baigakum), but in
fact the type series, according the original description, is very large.

**DESCRIPTION:** Wingspan 33-39 mm. Head, thorax and abdomen pale ochreous grey; thorax with 2 dark brown lateral stripes. Basal area of forewing to antemedial line brown grey with ochreous irroration; antemedial line double, brown basally and black apically, usually with short black longitudinal stroke in the middle; postmedial line double, black basally and brown apically, with toothed projections on veins 3-5, then curving strongly around cell and sinuous-oblique to anal margin; medial line double, brown, very close to postmedial line; medial area between crosslines broad, ochreous or ochreous grey, in some specimens light greyish brown; subterminal line double, dark brown basally, light brown apically, with short black longitudinal strokes on some veins; area between postmedial and subterminal lines dark greyish brown; terminal area grey, reniform stigma grey, with dark brown outline; fringe pale ochreous, with brown strokes near tips of veins. Hindwing white, suffused brown near anal margin, edged by a strongly curved dark brown band which form 2 arms, both extends termen and one of them widens to termen; usually this band is broader than a third of hindwing length, but in some specimens much narrower; discal spot long and narrow; dark brown, medially curved, its anal tip joined with dark brown band; fringe white with 2 light brown strokes. Underside of forewing white, with broad dark brown medial line, dark brown area between postmedial and subterminal lines and dark brown spot in terminal area. Underside of hindwing is similar to upperside but paler. One syntype is an aberrant with black medial area on forewing (Fig. II: 5, Kazakhstan, Sir Darja, Aj-Darle). The collected specimens in Iran are darker than type series but there are similar specimens from Kazakhstan (Semirechie, in Chulokaj). However, the medial field in any case is much lighter than the background of forewing. Male genitalia asymmetrical; uncus slightly broadened medially; scaphium line, well-defined, mandibulate with uncus; valva slightly broadened to apex, with rounded apical part; right ampulla broad-based, triangular, curved apically, left ampulla broader and not curved; costa well-developed, right costa curved apically, that on left some shorter and almost straight; short thin process situated near base of right costa; saccular extension long but falls well short of tip of valva and its tip bluntly falcate; juxta nearly divided into left and right halves, with two blunt, oblique posterior arms and much narrower, widely divergent anterior arms; aedeagus tubular, with V-shaped, oblique tip; vesica angled into two principal lobes of different size and shape, each with small accessory diverticula, dorsal side near base bear 2 fields covered with small spines. In female genitalia ovipositor telescopic, papillae anales pointed; apophyses slender, posterioris to one third longer than anterioris; antrum wide, with V-shaped sclerotised plate and narrow transverse plate; ductus bursae straight, with sclerotised plate on dorsal and ventral sides; corpus bursae ovoid, with short neck (genital figures from type series, Fig. III:4-6).

**DIAGNOSIS:** The species is very similar to *Drasteria herzi* (Alpheraky, 1895) but differ by more narrow forewings with paler and more greyish colouration and twice broader light medial area. On hindwing discal spot and dark brown edging band usually narrower than in *D. herzi*. In male genitalia valva of *D. kusnezovi* is narrower with much shorter ampulla than in *D. herzi*.

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**Fig. II – Wing patterns of Drasteria kusnezovi specimens.** 1: male specimen (Iran, Sirjan), 2: female specimen (Iran, Sirjan), 3: male specimen (Kazakhstan, Sir Darja, Dshulek), 4: female specimen (Kazakhstan, Sir Darja, Baigakum), 5: aberrant syntype (Kazakhstan, Sir Darja, Aj-Darle).
BIONOMICS: Moths fly from April to July, presumably in 2 generations. They inhabit sandy deserts, especially near river valleys and their foodplants are unknown. The collected locality (Sirjan) in Kerman province is a desert area with a cold semi-arid climate.

DISTRIBUTION: Irano-Turanian. Kazakhstan (western and southern parts), Uzbekistan (western part), Turkmenistan.

*D. saisani* (Staudinger, 1882)
Adult male, Fig. IV: 25; male genitalia, Fig. VII: 10.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Kalat-e-Nader city, 1087m, 36°58'48" N 59°44'46" E, 1 male and 1 female, 10.VIII.2010; Binaloud mountains, 1558m, 36°25'56" N 59°09'41" E, 1 male, 27.V.2011.

*D. picta* (Christoph, 1877)
Adult male, Fig. IV: 26; male genitalia, Fig. VII: 11; female genitalia, Fig. X: 2.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov.,
Sarakhs, 430m, 35°56 59 N 61°09 46 E, 10 females, 12 males, 27.III.2012.

REMARK: Many specimens of this species were found around the Doosti dam area and attracted to light during the night. During the day they were eaten by different birds, small mammals and predatory insects.

**D. flexuosa** (Méntrès, 1848)

Adult male, Fig. V: 1; male genitalia, Fig. VII: 12; female genitalia, Fig. X: 3.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Mashhad, Imam Reza Holy shrine, 974m, 36°17 21 N 59°36 48 E, 2 males, 20.VII.2011; Sabzevar, Shirahmad, 985m, 36°07 09 N 57°51 08 E, 3 males, 02.V.2011. Iran, Fars Prov., Saadatshahr, 1750m, 29°58 14 N 53°14 34 E, 1 female, 4.VIII.2011; Neyriz, Layraz, 2050m, 29°13 22 N 54°26 17 E, 1 male, 27.VIII.2011; Kamariz, 1700m, 30°20 28 N 52°13 13 E, 2 males, 2 females, 25.VIII.2011; Kohmare Sorkhi, 1900m, 29°28 11 N 52°08 44 E, 1 female, 28.IV.2011. Kerman Prov., Sirjan, 1750m, 29°26 53 N 55°41 45 E, 1 male, 28.III.2008. Khorasan-e-Jonubi Prov., Birjand, 1450m, 32°32 41 N 59°13 50 E, 2 male, 2 female, found at insect collection of University of Birjand with no further data.

REMARK: This is the first provincial record for Kerman.

**D. yerburii** (Butler, 1892)*

Adult male, Fig. V: 2; male genitalia, Fig. VIII: 1; female genitalia, Fig. X: 4.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Sabzevar, Shirahmad, 985m, 36°07 09 N 57°51 08 E, 2 males and 1 female, 02.V.2011; Khorasan-e-Jonubi Prov., Birjand, 1450m, 32°32 41 N 59°13 50 E, 2 male, 2 female, found at insect collection of University of Birjand with no further data.

REMARK: It has recorded from western and southern Iran (Hacker, 1990; Ebert & Hacker, 2002). This is the first record from northeastern Iran.

**Anumeta cestis** (Méntrès, 1848)

Adult male, Fig. V: 3; male genitalia, Fig. VIII: 2.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Sabzevar, Shirahmad, 985m, 36°07 09 N 57°51 08 E, 1 male, 02.V.2011.

**Opbisa tibaca** (Cramer, 1777)*

Adult male, Fig. V: 4; male genitalia, Fig. VIII: 3; female genitalia, Fig. X: 5.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Ahvaz, 20m, 31°18 14 N 48°39 30 E, 3 male, 2 female, 23.IV.2010. Iran, Kerman Prov., vicinity of Kerman, 1780m, 30°15 N 57°08 E, 3 female, 18.IX.2012; Sirjan, 1830m, 29°33 N 55°39 E, 1 male, 20.IX.2012. REMARK: This is the first provincial record for Kerman.

**Clytie gracilis** (Bang-Haas, 1907)*

Adult male, Fig. V: 5; male genitalia, Fig. VIII: 4; female genitalia, Fig. X: 6.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Hamidieh, 11m, 31°22 43 N 48°32 11 E, 1 male, 24.V.2010; Ahvaz-Baghmalek road 180 kms., 626m, 31°30 57 N 49°41 26 E, 1 male, 3 female, 25.V.2011. Iran, Fars Prov., Tongetizab, 2200m, 30°20 18 N 51°50 09 E, 1 male, 1 female, 25.VII.2011.

REMARK: Great variation in size and faces as well as sexual dimorphism in members of *Clytie* makes difficulties in their identification. However, revision of this genus by Hacker (2001) is a very good identification guide. *Clytie* spp. feed on *Tamarix* species which occur in Khuzestan plains. This is the first provincial record for Khuzestan.

**C. delunaris** (Staudinger, 1889)

Adult male, Fig. V: 6; male genitalia, Fig. VIII: 5; female genitalia, Fig. X: 7.

MATERIAL EXAMINED: Iran, Khorusan-e-Razavi Prov., Haftappeh, 44m, 32°03 43 N 48°31 54 E, 1 male, 3 female, 4.V.2009; Hamidieh, 11m, 31°22 43 N 48°32 11 E, 1 female, 24.V.2010.

**C. infrequens** (Swinhoe, 1884)*

Adult female, Fig. V: 8; adult male, Fig. V: 9; male genitalia, Fig. VIII: 7; female genitalia, Fig. X: 8.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Hamidieh, 11m, 31°22 43 N 48°32 11 E, 1 male, 2 female, 24.V.2010.

**D. torrida** (Guenée, 1852)

Adult male, Fig. V: 11; male genitalia, Fig. VIII: 9; female genitalia, Fig. X: 9.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Binaloud mountains, 1558m, 36°25 56 N 59°09 41 E, 1 male, 27.V.2011.

**Dysgonia algra** (Linnaeus, 1767)*

Adult male, Fig. V: 10; male genitalia, Fig. VIII: 8.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Mal Aqa, 1100m, 31°35 57 N 50°00 50 E, 1 male, 5.VI.2010.

**Grammodes bifasciata** (Petagna, 1778)

Adult male, Fig. V: 12; male genitalia, Fig. VIII: 10; female genitalia, Fig. X: 10.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Abavaz-Abadan road, 25Kms., 12m, 31°02 16 N 48°24 27 E, 1 female, 10.IX.2012.

**Trigonodes byppasia** (Stoll in Cramer, 1779)

Adult female, Fig. V: 13; female genitalia, Fig. X: 11.

MATERIAL EXAMINED: Iran, Khorasan-e-Razavi Prov., Bebbahan, 226m, 30°35 40 N 50°149 293 E, 1 female, 30.XII.1994.

Family Nolidae

The family Nolidae is diagnosed and morphologically characterized by construction of a ridged boat-shaped cocoon that bears a vertical exit slit at one end; elongation of the forewing retinaculum into a bar-like or digitate condition and possession of a postpiracular...
Fig. V – Wing patterns of collected species. 1. *Drasteria flexuosa*, male (Khorasan-e-Razavi); 2. *D. yerburii*, male (Khorasan-e-Razavi); 3. *Anumeta cestii*, male (Khorasan-e-Razavi); 4. *Ophiusa tirbaca*, male (Khuzestan); 5. *Clytie gracilis*, male (Khuzestan); 6. *C. delunaris*, male (Khuzestan); 7. *C. distincta riparia*, male (Khuzestan); 8. *C. infrequens*, female (Khuzestan); 9. *C. infrequens*, male (Khuzestan); 10. *Dysgonia algira*, male (Khorasan-e-Razavi); 11. *D. torrida*, male (Khuzestan); 12. *Grammodes bifasciata*, male (Khuzestan); 13. *Trigonodes hyppnai*, female (Khuzestan); 14. *Bena bicolorana*, female (Fars); 15. *Earias sp.*, male (Khorasan-e-Razavi); 16. *E. insulana*, female (Fars); 17. *Eutelia adulatrix*, male (Fars).
Fig. VI – Male genitalia of collected species. 1. *Rivula tanitalis* (Khuzestan); 2. *Zekelita ravalis* (Khorasan-e-Razavi); 3. *Calymma gracilis* (Fars); 4. *Eublemma ostrina* (rare form from Khorasan-e-Razavi: Binaloud mountains); 5. *Rhypagla lacernaria* (Khuzestan); 6. *Lygephila craccae* (Fars); 7. *Tatborhynchus exsiccata* (Khuzestan); 8. *Autophila luxuritiosa clara* (Fars); 9. *A. asiatica* (Fars); 10. *A. cerealis* (Fars).
Fig. VII – Male genitalia of collected species. 1. Pandesma robusta (Khorasan-e-Razavi); 2. Zethes narghisa (Fars); 3. Z. nemea (Fars); 4. Pericyma albidentaria (Khorasan-e-Razavi); 5. P. squalens (Khuzestan); 6. Heteropalpia vetusta (Khuzestan); 7. Acantholipes regularis (Khuzestan); 8. Iranada turcorum (Khorasan-e-Razavi); 9. Drasteria cailino (Khorasan-e-Razavi); 10. D. saisani (Khorasan-e-Razavi); 11. D. picta (Khorasan-e-Razavi); 12. D. flexuosa (Khorasan-e-Razavi).
Fig. VIII – Male genitalia of collected species. 1. Drasteria yerburii (Khorasan-e-Razavi); 2. Anumeta cestis (Khorasan-e-Razavi); 3. Opbiusa tirbaci (Khuzestan); 4. Clytie gracilis (Khuzestan); 5. C. delunarii (Khuzestan); 6. C. distincta iranica (Khuzestan); 7. C. infrequens (Khuzestan); 8. Dysgonia algira (Khorasan-e-Razavi); 9. D. torrida (Khuzestan); 10. Grammodes bifasciata (Khuzestan); 11. Bena bicolorana (Fars); 12. Earias sp. (Khorasan-e-Razavi); 13. E. insulana (Fars); 14. Eutelia adulatrix (Fars).
Fig. IX – Female genitalia of collected species. 1. Hycanypena schwingenschussi (Fars); 2. Zekelita ravalis (Khorasan-e-Razavi); 3. Colobochoya platisana (Khuzestan); 4. Calymma gypicilis (Fars); 5. Eublemma oxtina (Khorasan-e-Razavi); 6. Lygephila craccae (Fars); 7. Tatborhynchus exsectata (Khuzestan); 8. Autophila luxuriosa clara (Fars); 9. A. asiatica (Fars); 10. A. cerealis (Fars); 11. Pandesma robusta (Khorasan-e-Razavi); 12. Zethes narghisa (Fars); 13. Z. nemea (Fars); 14. Z. brandti (Fars); 15. Pericyma albidentaria (Khorasan-e-Razavi); 16. P. squalens (Khuzestan); 17. Heteropalpia vetusta (Khuzestan); 18. Acantholipes regularis (Khuzestan); 19. A. regulatrix (Khorasan-e-Razavi); 20. Iranada turcorum (Khorasan-e-Razavi).
counter-tympanal hood. The group occurs worldwide, but shows a primarily Palaeotropical distribution. Most are small moths of little economic importance, but several genera include agricultural pests (Zahiri et al., 2013).

Subfamily Chloephorinae
Bena bicolorana (Fuessly, 1775)*
Adult female, Fig. V: 14; male genitalia, Fig. VIII: 11; female genitalia, Fig. X: 12.

MATERIAL EXAMINED: Iran, Khuzestan Prov., Mal Aqa, 1100m, 31°35'57" N 50°00'50" E, 4 males, 1 female, 5.V.2010. Iran, Fars Prov., Sepidan, 2330m, 30°21'22" N 52°03'36" E, 2 males, 2 females, 21.VII.2011; Shiraz-Eqlid road, 2420m, 30°32'54" N 51°49'47" E, 1 male, 1 female, 8.X.2011; Shiraz-Kazerun road, 1670m, 29°29'24" N 51°58'23" E, 3 males, 27.X.2011; Shiraz-Kazerun road, 800m, 29°04'00" N 52°03'10" E, 3 males, 4 females, 20.X.2011;
Eutelia adulatrix
Subfamily Euteliinae

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embraces mostly lactiferous plants (KITCHING, 1987; HESMATI, 2007). A quarter of species such as Clytia spp., Pistacia spp., and Cotinus coggyria, and can be active throughout the year (HACKER, 2001). This is the first provincial record for Khuzestan.

Family Euteliidae

In the quadrifid Noctuoidea, the family Euteliidae form a monophyletic group, based on a large number of synapomorphies including: reduced female frenulum, modified basiconic sensilla on the proboscis, presence of a small oval plate in the ductus ejaculatorius, and a ductus which modifications so that their inner surfaces are directed posteriorly and the counter-tympanal hood has a unique double structure. The host plant range of this family posteriorly and the counter-tympanal hood has a unique

Eutelia adulatrix (Hübner, 1813)*

Adult male, Fig. V: 17; male genitalia, Fig. VIII: 14; female genitalia, Fig. X: 14.


Remark: Despite of records of this species from Zaghus and Alborz mountain areas, there is no record from NE Iran (HACKER, 1990; HACKER & MEINKE, 2001; EBERT & HACKER, 2002). The larvae of this multivoltine species feed on Pistacia lentiscus and Cotinus coggyria, and can be active throughout the year (HACKER, 2001). This is the first provincial record for Khuzestan.

DISCUSSION

According to HACKER (2001) zoogeographical categories, more than half of the collected species were Palaeartic arboreal elements. This group contains Iranian species such as H. schwingschussi, Z. nemea, Z. narghisa and A. luxuriosa clara. A quarter of species such as Clytia spp. had tropical chortotype. All tropical species were collected in western Khuzestan province, except P. robusta which was collected in both Khuzestan and Khorasan-e-Razavi. Few eremic species were mostly recorded from semi-desert or desert areas of western Khuzestan province as well as eastern Khorasan-e-Razavi (e.g. I. turcorum and R. tantalis). Khorasan-e-Razavi province is a part of Iran-o-Turanian ecozone with dry and mainly cold climate in winter. It contains plane and mountain areas. The plain sub-region is dominated by desert climate and hot summer (HESMATI, 2007). Mountain part includes Iranian part of the Kopet-Dagh and the Binaloud mountains. Also, in the central of province, it is influenced by the elements of the Central Asia region. Khuzestan province is a transition zone of Afrotropical to the Palaeartic fauna. Western Khuzestan province is a part of Khalidj-o-Ommanian ecological zones of Iran. This ecozone is dominated by sub-equatorial climate. The main plant species of this region belong to Acacia, Prosopis, Ziziphus, Avicenna, Rhizobora, Populus euphatica and Prosopis stipbaniensis (HESMATI, 2007). Eastern Khuzestan province as well as western Fars province are located in Zaghos ecological zone of Iran. Zaghos mountains are characterized as an area of endemism due to long-term isolation (NOROOZI et al., 2008; RAJAEI et al., 2013). Zaghos mountains have semi-arid temperate climate. The forest and steppe forest areas of the Zaghos mountains consists mainly of deciduous, broad-leaved trees or shrubs with a dense ground cover of steppe vegetation. The dominant species are oak (Quercus spp.), pistachio (Pistacia spp.) and a few others (HESMATI, 2007). The species B. bicolorana was collected in large series in this region as its larvae are monophagous on oak. Future intensive faunist studies in different regions of Iran are needed to provide information on unknown bionomics and distributions.

ACKNOWLEDGMENT

The authors would like to acknowledge the Deputy of Research, Shahid Chamran University of Ahvaz for supporting this study. We express our sincere thanks to Peter Gyulai (Miskolc, Hungary) for confirmation of most of species determination as well as Dr. László Ronkay for help in identification of some species. The authors also sincerely thank Mrs. Z. Bidar for collecting specimens of D. kusnezovi, also Mr. Alireza and Hossein
Rabieh for their kind help during sampling programs. This study was financially supported by the Iran National Science Foundation (INSF).

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