

A list of *Drasteriodes* Hampson, 1926 species in Iran with a new record of *Drasteriodes kisilkumensis* (Ershov, 1874) (Lepidoptera: Noctuidae)

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Abstract

The genus *Drasteriodes* Hampson, 1926, includes eight species and seven subspecies, of which, three species and one subspecies were previously reported from Iran. In this study, we report *Drasteriodes kisilkumensis* Ershov, 1874, as a new record for the fauna of Iran with illustrations of the collected males and its genitalia as well as notes on the distribution and bionomics of the recorded species from Iran.

KEY WORDS: Lepidoptera, Noctuidae, *Drasteriodes*, fauna, new record, Iran.

Una lista de especies de *Drasteriodes* Hampson, 1926 en Irán con un nuevo registro de *Drasteriodes kisilkumensis* (Ershov, 1874) (Lepidoptera: Noctuidae)

Resumen

El género *Drasteriodes* Hampson, 1926, incluye once especies y siete subespecies, de las cuales tres especies y una subespecie estaban registradas previamente de Irán. En este estudio, citamos *Drasteriodes kisilkumensis* Ershov, 1874, como nuevo registro para la fauna de Irán con ilustraciones de los machos colectados y de sus genitalias, así como notas sobre la distribución y bionómica de las especies registradas de Irán.

PALABRAS CLAVE: Lepidoptera, Noctuidae, *Drasteriodes*, fauna, nueva cita, Irán.

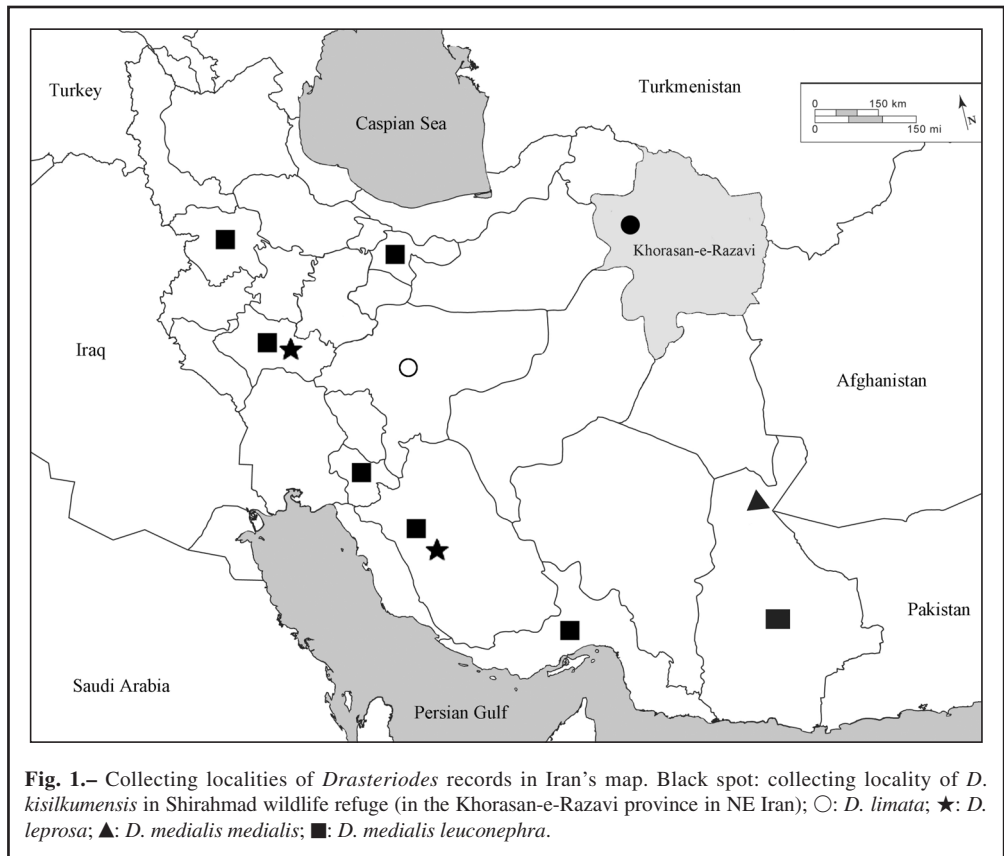
Introduction

The genus *Drasteriodes* Hampson, 1926, was originally described according to the type species *Photedes limata* Christoph, 1884, and was treated in the Noctuidae, Ophiderinae by NYE (1975). WILTSHIRE (1979) revised *Drasteriodes* and relative genera in the tribe Armadini in Ophiderinae. Subsequently this genus was transferred to the Tytinae (Noctuidae) by SPEIDEL *et al.* (1996). POOLE (1989) included *Drasteriodes* in the subfamily Ophiderine, but this genus was transferred to Calpinae by KITCHING & RAWLINS (1999). GOATER *et al.* (2003) listed the genus *Drasteriodes* Hampson, 1926 in the tribe Armadini of the subfamily Catocalinae, but later the tribe was listed in the subfamily Acontiinae by FIBIGER & LAFONTAINE (2005) and this systematic position is approved by noctuidologists now. This tribe comprises 39 species, in 9 genera. They are all found in the arid or semiarid desert zones of North Africa, the Middle East and the dry steppe zone of North Africa, the Middle East and dry steppe areas and deserts of Central Asia (GOATER *et al.*, 2003).

Species of the genus *Drasteriodes* are characterized by fully developed proboscis; palpi obliquely upturned, the 2nd joint reaching to about middle of frons and moderately scaled, the 3rd short and thickly scaled; frons with pointed corneous process with flattened corneous plate below it; eyes large, round; antennae of male ciliated; thorax covered almost entirely with scales, the metathorax with depressed crest; fore tibiae smoothly scaled, the mid and hind tibiae slightly fringed with hair above; abdomen smoothly scaled and without crests. Forewing rather narrow, the apex rounded, the termen evenly

curved and not crenulate. Hindwing with the cell half the length of wing (HAMPSON, 1926). The genus *Drasteriodes* includes eight species and seven subspecies, of which, three species and one subspecies were previously reported from Iran (HACKER, 1990; HACKER & KAUTT, 1999; EBERT & HACKER, 2002; MUHABBET *et al.*, 2007).

We found *Drasteriodes kisilkumensis* Ershov, 1874 in Khorasan-e-Razavi for the first time. The geographical position of the Great Khorasan province (including Khorasan-e-Razavi, Shomali and Jonoubi) shows that the fauna of Northeastern Iran was influenced by elements of the Central Asia region (FET, 1994). The Shirahmad wildlife refuge near Sabzevar city of Khorasan-e-Razavi province, placed in the margin area of the Dasht-e-Kavir, is a vast saline desert of the central Iranian plateau. In this region, while the mean annual temperature ranges from 15 to 18° C, the extreme maximum temperature can reach 42° C and the extreme minimum temperature can fall to -20° C. In most of the region, annual rainfall does not exceed 200 mm and in most parts rainfall is less than 100 mm (FET, 1994). According to ZOHARY (1973), the central Iranian sector hosts the most typical vegetation of Iran's steppe and desert regions. Dwarf scrub vegetation is common in large areas of the interior of Iran and is very diverse and rich in species; in non-saline areas, a variant with many thorn-cushions is formed. Under extremely arid conditions, a very open variant of the dwarf shrub lands appears, also characteristic of large areas of the Iranian interior. This study presents a list of *Drasteriodes* species in Iran with a new record of *D. kisilkumensis*. Notes on the distribution and bionomics for all of the recorded species as well as illustrations of adults and their genitalia are presented.



Material and Methods

Collecting was carried out in 2011 from the Shirahmad wildlife refuge near Sabzevar city of Khorasan-e-Razavi province in North-East Iran (Figs. 1, 3), by using a generator driven mercury-vapour (MV) lamp (150 W) which was placed inside a white tent about 1.8 m high with a 8 W UVB tube light.

The specimens and slides of their genitalia were deposited in the Insect and Mite Collection of Ahvaz (IMCA), Plant Protection Department, Shahid Chamran University of Ahvaz, Ahvaz, Iran, except one which is deposited now in P. Gyulai's private collection (Hungary). Systematics and nomenclature are according to LÖDL *et al.* (2012).

Results and Discussion

Drasteriodes kisilkumensis (Ershov, 1874)

Type-locality: [Turkmenistan], in desertis Kisil-kum.

Type material: 2 syntypes, male and female, Russian Turkestan, no lectotype designated [Zoologicheskij Institut (ZIN), Russia, Saint-Petersburg].

Material examined: Iran, Khorasan-e-Razavi Prov., Sabzevar, Shirahmad, 985 m, 2 ♂♂, 2-V-2011, 36° 07' 09" N 57° 51' 08" E, (M. M. Rabieh).

Diagnosis: Antennae ciliate; head and thorax light brown; wingspan 21 mm. Ground colour of forewing light grayish brown; median area darker than basal and terminal area; this is the best distinguishing characteristic of this species as in *D. leprosa* and *D. leuconephra* the median area is approximately the same colour of the background; orbicular and reniform stigmata distinct, lighter than background; both surrounded by dark, thin lines; in *D. leprosa* reniform is approximately indistinct and in *D. leuconephra* reniform missed the dark line in edge; ante- and postmedian lines black, sinusoidal. Hindwings light brown, slightly darker toward margins (Fig. 2-1).

Male genitalia: Valve elongate and more or less rounded at the tip, without cucullus and corona, left clasper strongly developed and tapered, right one weak and rounded; clavus absent, juxta elongate (Fig. 2-2). Aedeagus curved; vesica long, distally narrowed with two elongate areas of minute spines in basal and median area (Fig. 2-3).

Female genitalia: Papillae anales short, broad; apophyses anteriores and posteriores short, thin; antrum broad, conical; bursa copulatrix large, globular, with extensive parallel longitudinal ribbing and a large sleeve-shaped appendix (WILTSHIRE, 1979).

Distribution: Turkmenistan: Kizil-Kum desert (ERSHOV, 1874), Krasnovodsk, Merw, Repetek (WILTSHIRE, 1979), Karakalpakia (Tahta Kumyr) (ZIN collection); Uzbekistan: Dengiz Kul lake, Ajakguzhumdy, 60 km E of Uchkuduk (ZIN collection); Iran (this study).

Bionomics: Adults of this species are on the wing in April-May. Larval food plants are unknown. *Peganum harmala* L. and *Haloxylon* sp. are dominant species in the collecting area and considered as possible foodplants.

Remarks: Our specimens are somewhat larger than normal.

Drasteriodes limata (Christoph, 1884)

Distribution: Iran (EBERT & HACKER, 2002: Esfahan province), Turkmenistan, Afghanistan, Iraq (WILTSHIRE, 1979), Kazakhstan, Uzbekistan (ZIN collection).

Bionomics: Adults of this species are on the wing in April-May. Larval food plants are unknown.

Drasteriodes leprosa (Brandt, 1938)

Distribution: Iran (WILTSHIRE, 1979: Fars province; EBERT & HACKER, 2002: Lorestan & Fars provinces), Iraq (HACKER, 1990).

Bionomics: Adults of this species are on the wing in September-October. Larval food plants are unknown.

Drasteriodes medialis medialis (Hampson, 1908)

Distribution: Iran (MUHABBET *et al.* 2007), Pakistan (WILTSHIRE, 1979).

Bionomics: Adults of this species are on the wing in April-July. Larval food plants are unknown.

Drasteriodes medialis leuconephra (Brandt, 1938)

Distribution: Iran (provinces of: WILTSHIRE, 1979: Fars, Hormozgan, Tehran; EBERT & HACKER, 2002: Kordestan, Lorestan, Kohgiluyeh-va-Boyer Ahmad, Fars, Sistan-va-Baluchestan; HACKER & KAUTT, 1999: Fars); Afghanistan (WILTSHIRE, 1979).

Bionomics: Adults are on the wing in April-July. Larval food plants are unknown.

Discussion

Three species and one subspecies of the genus *Drasteriodes* were previously reported from Iran. We added *D. kisilkumensis*, as a new record, to this list. There is little information on the bionomics and distribution of species of genus *Drasteriodes* in Iran. As GOATER *et al.* (2003) mentioned all species of the genus *Drasteriodes* in the Middle East are found in the arid or semiarid desert zones and the dry steppe zone of this area. In Iran, all the reported species are found in the dry steppes and semiarid regions in marginal area of the central deserts. We found the specimens of *D. kisilkumensis* in a semiarid desert zone in the marginal area of the Dasht-e-Kavir, where there is vegetation of *Haloxylon*, *Sophora*, *Astragalus*, *Zygophyllum*, *Tamarix* and *Amygdalus* species. In this area, the dominant species are sagebrush (*Artemisia siberi*, *Astragalus gossypinus*) and others. In areas receiving over 100 mm of rain, other genera of plants such as *Pteropyrum*, *Zygophyllum* and *Amygdalus* can also be found (HESHMATI, 2007). However, the larval food plants of the *Drasteriodes* species are still unknown in Iran and elsewhere.

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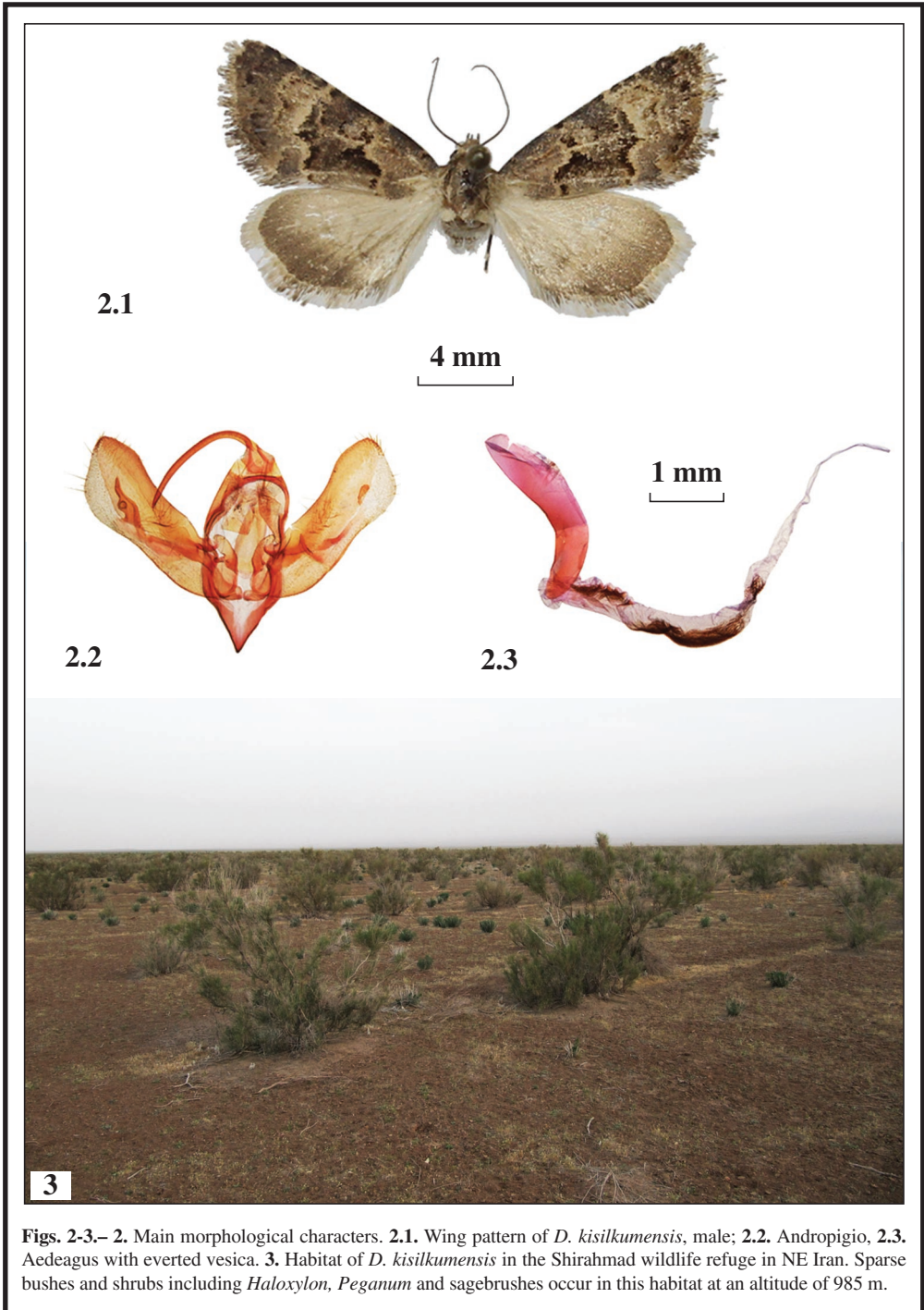
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Figs. 2-3.– 2. Main morphological characters. **2.1.** Wing pattern of *D. kisilkumensis*, male; **2.2.** Andropigio, **2.3.** Aedeagus with everted vesica. **3.** Habitat of *D. kisilkumensis* in the Shirahmad wildlife refuge in NE Iran. Sparse bushes and shrubs including *Haloxylon*, *Peganum* and sagebrushes occur in this habitat at an altitude of 985 m.