

# *Anagnorisma chamrani* sp. n. (Lepidoptera, Noctuidae) from Iran

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Academic editor: D. Lafontaine | Received 11 May 2013 | Accepted 3 July 2013 | Published 15 July 2013

[urn:lsid:zoobank.org/pub:5B7AE12F-F015-4FFD-A247-EDA2C109F425](https://doi.org/urn:lsid:zoobank.org/pub:5B7AE12F-F015-4FFD-A247-EDA2C109F425)

**Citation:** Gyulai P, Rabieh MM, Seraj AA, Ronkay L, Esfandiari M (2013) *Anagnorisma chamrani* sp. n. (Lepidoptera, Noctuidae) from Iran. ZooKeys 317: 17–25. doi: 10.3897/zookeys.317.5515

## Abstract

A new *Anagnorisma* species, *A. chamrani* sp. n., is described from Binaloud Mountains of Khorasan-e-Razavi province in north-eastern Iran, and compared with its sister species, *A. eucratides* (Boursin, 1960). The adults, and male and female genitalia of both species are illustrated in 11 figures. The genus *Anagnorisma* is recorded for the first time for the fauna of Iran.

## Keywords

*Anagnorisma*, Noctuidae, new species, Iran

## Introduction

The genus *Anagnorisma* was erected by Ronkay and Varga (1999), together with two further genera of the *Eugnorisma* Boursin, 1946 generic complex, *Protognorisma* Ronkay & Varga, 1999 and *Schizognorisma* Ronkay & Varga, 1999. These three genera

represent the more ancient lineages of this clade; their species are generally distributed in the wide sense Himalayan region. The detailed comparison of the three genera, and the main differential features between the sister genera *Anagnorisma* and *Schizognorisma*, are given in the original descriptions (Ronkay and Varga op. cit.).

The genus *Anagnorisma* was known to comprise four taxa, *A. eucratides* (Boursin, 1957), *A. goniophora* (Hacker, Ronkay & Varga, 1990), *A. glareomima* (Varga & Ronkay, 1991) and *A. zakaria* Ronkay & Varga, 1999. The fifth species, the most westerly distributed member of the genus, *A. chamrani* sp. n., is described below.

## Material and methods

The material examined was collected in late summer 2012 in Khorasan-e-Razavi province located in north-eastern Iran, using 8 watt black light UVB tubes. The genitalia of both sexes were dissected, stained, and mounted following the standardised way. The adults were photographed by Gábor Ronkay, the genitalia slides by Zoltán Soltész and Tibor Csövári; the digital images have been adjusted and edited by Gábor Ronkay.

## Systematic Account

### Subfamily Noctuidae Latreille, 1809

#### Tribe Noctuini Latreille, 1809

#### Subtribe Noctuina Latreille, 1809

#### *Anagnorisma chamrani* Gyulai, Rabieh & Ronkay, sp. n.

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[http://species-id.net/wiki/Anagnorisma\\_chamrani](http://species-id.net/wiki/Anagnorisma_chamrani)

Figs 3, 4, 8–10

**Type material. Holotype.** female, Iran, prov. Khorasan-e-Razavi, Binaloud, 2507 m, 36°28'56"N; 59°46'17"E, 10.IX.2012; slide No. 3145 PGY. The holotype is deposited in the collection of P. Gyulai, later to be deposited in the Hungarian Natural History Museum, Budapest, Hungary

**Paratype.** Male, with the same data as the holotype; slide No. 3144 PGY (coll. P. Gyulai, Miskolc).

**Diagnosis.** *Anagnorisma chamrani* is the sister species of *A. eucratides* (Boursin, 1957), which is only known from eastern Afghanistan at altitudes of 2050 to 2450 m of the Hindu Kush Mountains. The main external differential features, in comparison with *A. eucratides* (Figs 1, 2), are the following: thoracic pubescence, ground colour of forewing and filling of stigmata more unicolorous, not brownish red as in *A. eucratides*; antemedial line oblique, somewhat zigzagged; postmedial line more crenellate, both of them have a



Figure 1. *A. eucratides* female, HT.

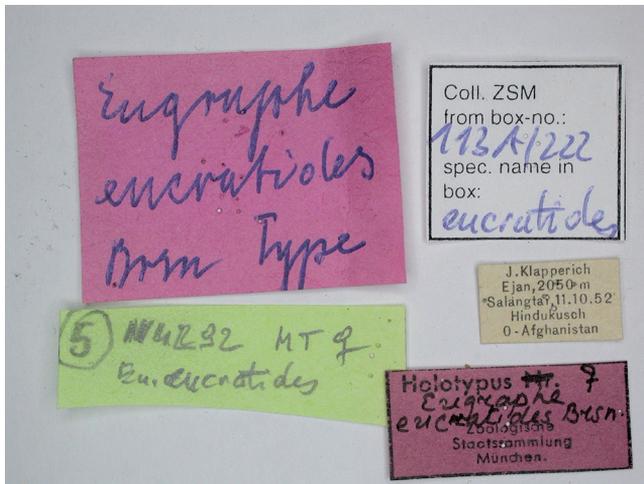
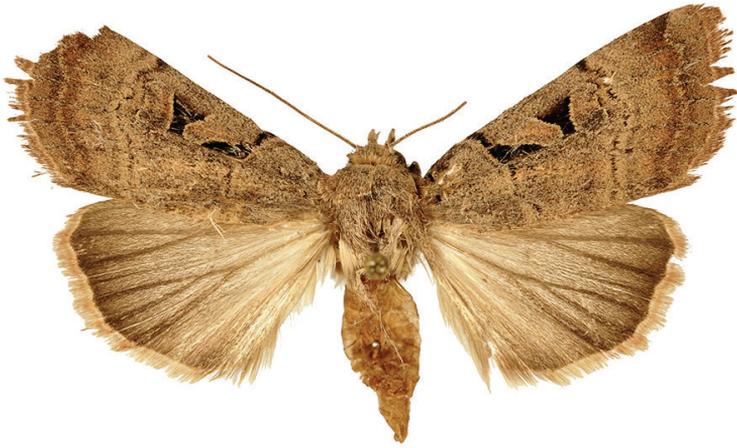


Figure 2. *A. eucratides* female, HT labels.

finer black-marked definition; subterminal line less wavy; hindwing darker greyish; cilia pale pinkish. The new species is also similar to the Pakistani *A. goniophora*, but the ante-medial line is more zigzagged, the postmedial line is less evenly arched, being terminally oblique and not perpendicular to the inner edge of the forewing, the subterminal line is more wavy in the upper half and more conspicuously ochreous. The two other members of *Anagnorisma* are less similar to the new species; *A. chamrani* differs from *A. glareomima* by its darker and more elongated wings, larger stigmata and the different configuration of the stigmata and the black intermaculation; finally, it cannot be confused with the conspicuously different, orange-brown coloured *A. zakaria*. Wingspan 34–35 mm. The configuration of the genitalia of both sexes indicates the close relationship between *A. eucratides* and *A. chamrani*. In the male genitalia (Figs 6, 7, 9, 10), the dorsal costa of the valva of *A. chamrani* is more extended medially, so the costal and dorsal margins are less



**Figure 3.** *A. chamrani* female, HT.



**Figure 4.** *A. chamrani* male, PT.

parallel than in *A. eucratides*; the valval apex is evenly rounded, more prominent dorsally than ventrally (it is the opposite in *A. eucratides*); the apical lobe and the ventral extension are smaller; the vinculum is somewhat longer; the aedeagus is slightly curved ventrad; the dorsal and ventral carinal plates are narrow, crest-like, long and strongly sclerotised, the ventral plate terminates in an obtuse, small peak (the ventro-lateral carinal plate of *A. eucratides* is markedly stronger, bearing a conspicuous, strong thorn).

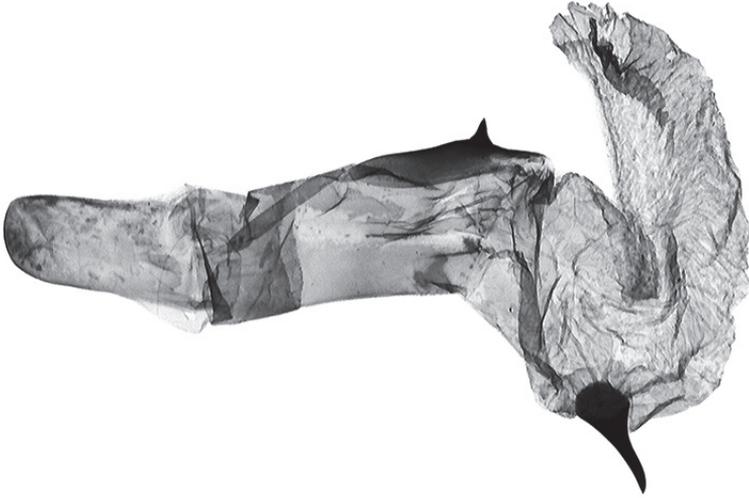
The male genitalia of *A. chamrani* are strikingly dissimilar from those of the externally similar *A. goniophora*, especially the broader valva of *A. chamrani*, particularly its distal



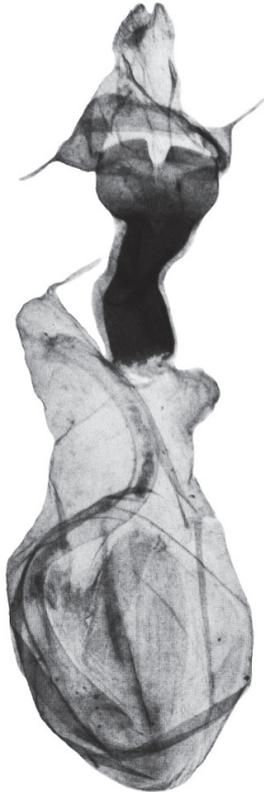
**Figure 5.** *A. eucratides* female genitalia ZSM N4212 HT.



**Figure 6.** *A. eucratides* male genitalia, clasper apparatus PT.



**Figure 7.** *A. eucratides* male genitalia, aedeagus PT.



**Figure 8.** *A. chamrani* female genitalia, HT.



**Figure 9.** *A. chamrani* male genitalia clasp apparatus PT.

part and the assemblage of the valval apex; the much longer, arched harpe and the longer, crest-like carinal plates. The diagnostic features, in comparison with *A. zakaria*, are the much longer, arched harpe, the considerably shorter (about half as long) ventral valval extension and the longer and not extended, crest-like ventral carinal plate in *A. chamrani*.

In the female genitalia, *A. chamrani* (Fig. 8) differs from *A. eucratides* by its narrower but higher, more sclerotised, asymmetrically subquadrangular antrum with U-shaped postero-medial incision; longer ductus bursae with less elbow-like lateral projection and the almost twice as long, more prominent, conical appendix bursae. Comparing with *A. glareomima* and *A. zakaria*, the most conspicuous difference is the shape of ductus bursae: *A. chamrani* has an almost evenly-broad ductus bursae with an asymmetrical medial constriction in one side and elbow-like lateral projection on the opposite side, whereas the two other species have a funnel-like ductus bursae.

**Distribution.** The new species is known only from the type locality, the higher Binaloud Mountains (Fig. 11). The dominant species in the vegetation of the habitat are Mountain Sainfoin, Wild almond (*Amygdalus scoparia*), Downy brome (*Bromus tectorum*); the other mentionable plants are *Bromus*, *Artemisia* and *Astragalus* spp. The adults were attracted to light early on a cold night in September. The early stages are unknown.

**Etymology.** The new species is named in honour of the martyr Dr. Mostafa Chamran (1932–1981). In 1982 the Jundi Shapur University was renamed to Shahid Chamran University after the martyrdom of Dr. Chamran, an outstanding Iranian warrior in the 8 years Iran–Iraq war. The university was closed in those days due to the war conditions in the area.



**Figure 10.** *A. chamrani* male genitalia aedeagus PT.



**Figure 11.** Habitat of the type locality of the new species.

## Acknowledgements

All support provided by Shahid Chamran University of Ahvaz are greatly acknowledged. We also express our best thanks to Gábor Ronkay (Budapest) for the fine colour images; to Zoltán Soltész and Tibor Csövári (Budapest) for most of the genitalia photos; to Gottfried Behounek (Grafing) and Wolfgang Speidel (ZSM, Munich) for providing the HT genitalia photo of *Anagnorisma eucratides*; to Sabine Gaal-Haszler and Martin Lödl (NHMW, Vienna) and Zoltán Varga (Debrecen) for providing the PT genitalia of *Anagnorisma eucratides*. This study was financially supported by the Iran National Science Foundation (INSF).

## References

- Boursin Ch (1957) Nouvelles «Trifinae» d'Afghanistan de l'Expedition Klapperich (Beitrag 94). Bulletin mensuel de la Société Linnéenne de Lyon 26(9): 242–250.
- Ronkay L, Varga Z (1999) Revision of the genus *Eugnorisma* Boursin, 1946, part V. New genera and species of the *Eugnorisma* genus group from Pakistan and China (Lepidoptera: Noctuidae). Acta Zoologica Academiae Scientiarum Hungaricae 45(4): 343–371.
- Varga Z, Ronkay L (1987) Revision of the genus *Eugnorisma* Boursin, 1946 (Lepidoptera: Noctuidae). Acta Zoologica Academiae Scientiarum Hungaricae 33(1-2): 187–262.
- Varga Z, Ronkay L (1994) Additional notes with the description of a new species and redescription of two misidentified species (Lep.: Noctuidae). Revision of the genus *Eugnorisma* Boursin, 1940, III. Acta Zoologica Academiae Scientiarum Hungaricae 40 (1): 87–97.
- Varga Z, Ronkay L (1991) Taxonomic studies on the Palaearctic Noctuidae I. New taxa from Asia. Acta Zoologica Academiae Scientiarum Hungaricae 37(3-4): 265–266.