SHILAP Revista de lepidopterología, 49 (196) diciembre 2021: 723-726 eISSN: 2340-4078 ISSN: 0300-5267
https://doi.org/10.57065/shilap.236

What is *Evergestis pazukii* Alipanah, 2018? (Lepidoptera: Crambidae, Glaphyriinae)

S. K. Korb

Abstract

Basing on morphology and mtDNA COI sequence data concluded: *Evergesris kopetdagensis* Kuznetzov, 1958 = *E. pazukii* Alipanah, 2018, syn. n. Distribution of *E. kopetdagensis* seemed to be quite wide and covers the area from Van Province in Turkey to Tajikistan and Kyrgyzstan; it is possible that this species occurs also in Turkey eastwards of Van Province, West Afghanistan and Uzbekistan.
KEY WORDS: Lepidoptera, Crambidae, Glapyriinae, *Evergestis pazukii*, new synonym.

¿Qué es *Evergestis pazukii* Alipanah, 2018?
(Lepidoptera: Crambidae, Glaphyriinae)

Resumen

Basándonos sobre morfología y secuencia del mtDNA COI cloncuimos: *Evergesris kopetdagensis* Kuznetzov, 1958 = *E. pazukii* Alipanah, 2018, syn. n. La distribución de *E. kopetdagensis* debe de ser más amplia y cubre un área desde la provincia de Van en Turquía hasta Tayikistán and Kirguistán; es posible que esta especie también se encuentre en el este de la provincia de Van en Turquía, oeste de Afganistán y Uzbekistán.
PALABRAS CLAVE: Lepidoptera, Crambidae, Glapyriinae, *Evergestis pazukii*, nueva sinonimia.

Introduction

In 2018 from "Iran, Mâzandarân Prov.: Baladeh, Yush, 2100 m" described *Evergestis pazukii* Alipanah, 2018 (ALIPANAH *et al*., 2018: 27-30, figs 16-17). When described, it was compared to *E. russulatalis* (Hampson, 1900) even if "the original description of *E. russulatalis*, and additional information and illustrations provided by AMSEL (1952) were not so informative to undoubtly identify this species" (loc. cit.). Types of *E. russulatalis* seemed to be lost, as ALIPANAH *et al*. (2018) stated. Under such conditions, the description of a new species looks rather dubious, because in fact it was compared with an unclear taxon (the type material of which has not been preserved). Luckily in 2020 *E. pazukii* was sequenced (KIZILDAĞ, 2020) what gives me ability to check its status and position both by morphology and by DNA barcode.

There is not only *E. russulatalis* can be considered as closely related species to *E. pazukii*. In 1958 *E. kopetdagensis* Kuznetzov, 1958 from "Ai-Dere" in Turkmenistan have been described (KUZNETZOV, 1958). Later it was recorded from Tajikistan and Kyrgyzstan (KORB, 2018); a subspecies *E. kopetdagensis sinevi* Korb, 2018 described from "Kyrgyzstan, Bishkek env., near Ala-Too, 42º47'33.00" N, 74º41'38.36" E, 982 m". The type material of both *E. kopetdagensis kopetdagensis* and *E. kopetdagensis sinevi* is preserved and available in the Zoological Institute of the Russian Academy of Sciences (St.-Petersburg, Russia) (KORB, 2018; MUNROE, 1970). When

described, *E. pazukii* was not compared to *E. kopetdagensis*. To clarify the status and position of *E. pazukii* I compare it herein to *E. kopetdagensis*.

Materials and methods

Traditional methods are used to compare morphological characters; studied specimens deposited in collections of the Zoological Institute of the Russian Academy of Sciences (St.-Petersburg, Russia) and author (Bishkek, Kyrgyzstan). The following sequences were used for DNA comparison: *E. pazukii* - MN259518 (KIZILDAĞ, 2020), *E. kopetdagensis* - MW748223 (paratype of *E. kopetdagensis sinevi*).

DNA sampling and sequencing made using processes and protocols described in HUEMER *et al*. (2014). The length of COI sequence obtained for this analysis is 658 sites.

Results

Morphology comparison

External morphology of *E. kopetdagensis kopetdagensis*, *E. kopetdagensis sinevi* and *E. pazukii* are similar (figs 1-4). *E. kopetdagensis sinevi* differs from both *E. pazukii* and *E. kopetdagensis kopetdagensis* by darker ground color (it is the main diagnostic feature of this subspecies). *E. kopetdagensis kopetdagensis* and *E. pazukii* in their wing pattern and coloration are very similar if not identical.

The male genitalia of *E. kopetdagensis kopetdagensis*, *E. kopetdagensis sinevi* and *E. pazukii* have no differences (figs 5-9).

mtDNA COI sequence comparison

There are only two differences (p-distance 0.003) between compared COI sequences in the following sites:

```
                ....|....| ....|....| ....|....| ....|....| ....|....|
                      410        420        430        440        450
MW748223        CTACATTTAG CAGGAATTTT ATCCATTTTA GGAGCTATTA ATTTTATTAC
MN259518        CTACATTTAG CAGGAATTTC ATCCATTTTA GGAGCTATTA ATTTTATTAC

                ....|....| ....|....| ....|....| ....|....| ....|....|
                      460        470        480        490        500
MW748223        TACCATTATT AAAATGCGAA TTAATGGATT ATCATTTGAT CAAATACCTT
MN259518        TACCATTATT AATATGCGAA TTAATGGATT ATCATTTGAT CAAATACCTT
```

Discussion and conclusion

Analysis of external features showed minimal differences between *E. kopetdagensis kopetdagensis* and *E. pazukii*. There are no differences in the structure of the male genitalia. The COI sequence of both species has differences of only 2 nucleotides (p-distance 0.003); this is less than the generally accepted species p-distance of 0.02 (HEBERT *et al*., 2003). Based on these facts, I conclude that *E. kopetdagensis* and *E. pazukii* are conspecific:

Evergesris kopetdagensis Kuznetzov, 1958 = *E. pazukii* Alipanah, 2018, **syn. n.**

Distribution of *E. kopetdagensis* seemed to be quite wide: from Van Province in Turkey (loc.: Baºkale) through North Iran and South Turkmenistan to Tajikistan and Kyrgyzstan. It is possible that this species occurs also in Turkey eastwards of Van Province, West Afghanistan and Uzbekistan.

Acknowledgments

I am very thankful to Dr S.Y. Sinev and Dr A. L. Lvovsky who granted me access to work with Lepidoptera collections of the Zoological Institute of the Russian Academy of Sciences (St.-Petersburg, Russia).

BIBLIOGRAPHY

ALIPANAH, H., KHODADAD, M., RAJAEI, H. & HASELI, M., 2018.– Taxonomic study of the genus *Evergestis* Hübner, 1825 (Lepidoptera: Crambidae: Glaphyriinae) in Iran with description of a new species.– *Zootaxa*, **4420**(1): 1-33.

HEBERT, P. D. N., CYWINSKA, A., BALL, S. L. & DE WAARD, J. R., 2003.– Biological identifications through DNA barcodes.– *Proceedings of the Royal Society of London B*, **270**: 313-321.

HUEMER, P., MUTANEN, M., SEFC, K. M. & HEBERT, P., 2014.– Testing DNA barcode performance in 1000 species of European Lepidoptera: large geographic distances have small genetic impacts.– *PLoS One*, **9**(12): e115775.

KIZILDAĞ, S., 2020.– The first DNA barcoding records of three *Evergestis* Hübner, [1825] species in Turkey with molecular evaluations (Lepidoptera: Crambidae, Glaphyriinae).– *SHILAP Revista de lepidopterología*, **48**(190): 289-297.

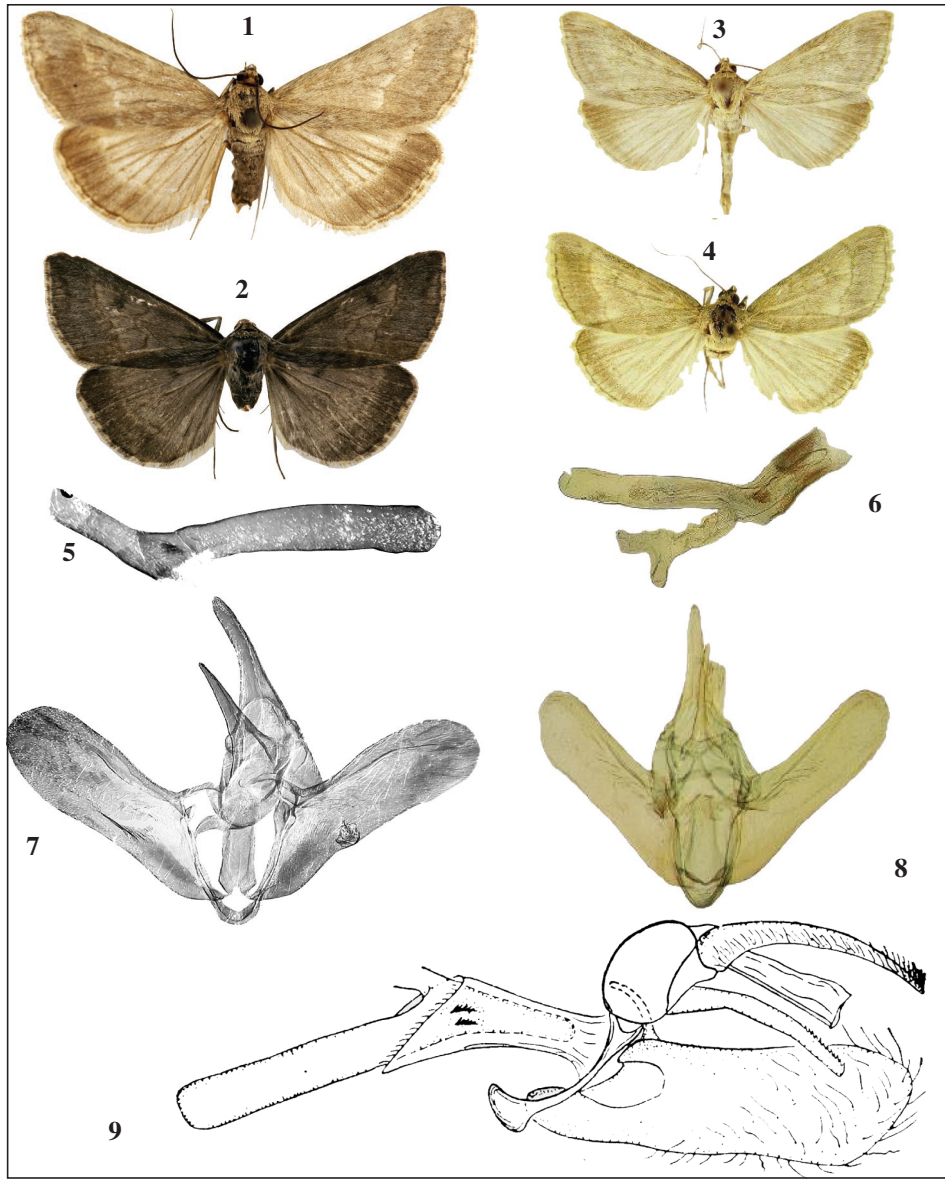
KORB, S. K., 2018.– A new subspecies of *Evergestis kopetdagensis* Kuznetzov, 1958 (Lepidoptera: Pyralidae) from Kyrgyzstan and Tajikistan.– *Caucasian Entomological Bulletin*, **14**(1): 87-89 [in Russian].

KUZNETZOV, V. I., 1958.– Zwei Arten Der Gattung *Evergestis* Hb. (Lepidoptera, Pyralidae) aus West Kopet-Dagh (Turkmenien)).– *Entomologitscheskoje Obozrenie*, **37**(4): 929-932 [in Russian].

MUNROE, E., 1970.– Types of Nymphulinae, Scopariinae, Cybalomiinae, Odontiinae, Evergestinae, and Pyraustinae (Lepidoptera: Pyralidae) in the Zoological Institute, Academy of Sciences of the USSR, Leningrad, with selections of lectotypes.– *Canadian Entomologist*, **102**(8): 1025-1035.

S. K.
Russian Entomological Society
P.O. Box 97
RU-603009 Nizhny Novgorod
RUSIA / *RUSSIA*
E-mail: stanislavkorb@list.ru
https://orcid.org/0000-0002-1120-424X

(Recibido para publicación / *Received for publication* 16-III-2021)
(Revisado y aceptado / *Revised and accepted* 18-IV-2021)
(Publicado / *Published* 30-XII-2021)



Figs 1-9.– *Evergestis kopetdagensis* Kuznetzov, 1958. **1.** *E. kopetdagensis kopetdagensis* Kuznetzov, 1958, lectotype, upperside. **2.** *E. kopetdagensis sinevi* Korb, 2018, holotype, upperside. **3.** *E. pazukii* Alipanah, 2018, holotype, upperside. **4.** *E. pazukii* Alipanah, 2018, paratype, upperside. **5.** *E. kopetdagensis sinevi* Korb, 2018, paratype, aedoeagus. **6.** *E. pazukii* Alipanah, 2018, aedeagus, paratype. **7.** *E. kopetdagensis sinevi* Korb, 2018, male genitalia, aedeagus removed, paratype. **8.** *E. pazukii* Alipanah, 2018, male genitalia, aedeagus removed, paratype. **9.** *E. kopetdagensis kopetdagensis* Kuznetzov, 1958, male genitalia, type specimen. (Figs 3, 4, 6, 8 by ALIPANAH *et al*., 2018; fig. 9 by KUZNETZOV, 1958.)