A new species of the genus *Griposia* Tams, 1939 from the Ponto-Mediterranean area (Lepidoptera: Noctuidae, Hadeninae)

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Abstract: A new *Griposia* species is described. *Griposia **wegneri*** **sp. n.** and *Griposia aprilina* Linnaeus, 1758 are sibling species and occur together with *Griposia pinkeri* Kobes, 1973 in the Ponto-Mediterranean area. The new species is known hitherto from Kizilçahamam (Anatolia), Alexandropoli (Thracia, Greece), and Hungary (Ronkay et al. 2001). Regarding its external features, it has to be placed between *Griposia aprilina* and *Griposia pinkeri*. The generic name *Griposia* Tams, 1939 is upgraded to generic level again due to incongruencies in genitalia morphology, **stat. rev.**

Eine neue Art der Gattung *Griposia* Tams, 1939 aus dem pontomediterranen Raum (Lepidoptera: Noctuidae, Hadeninae)

Zusammenfassung: *Griposia **wegneri*** **sp. n.** wird beschrieben. Es handelt sich um die Schwesterart zu *Griposia aprilina* Linnaeus, 1758, mit der sie stellenweise gemeinsam in der Pontomediterraneis vorkommt. Verwandtschaft besteht auch zu *Griposia pinkeri* Kobes, 1973, und alle drei Arten sind in Anatolien (Kizilçahamam) sympatrisch. *Griposia aprilina* scheint aber nach unseren bisherigen Erkenntnissen in Nordostgriechenland zu fehlen, während die beiden anderen Arten dort synchron gefunden worden sind. Die neue Art ist bisher bekannt von Kizilçahamam (Anatolien), Alexandropoli (Thrakien, Griechenland) und Ungarn (Ronkay et al. 2001). Der Gattungsname *Griposia* Tams, 1939 wird wegen mangelnder Übereinstimmung in der Genitalmorphologie mit *Dichonia* Hübner, [1816], wo sie als Untergattung geführt wurde, wieder auf Gattungsebene angehoben, **stat. rev.**

Introduction

The description of *Griposia pinkeri* by Kobes (1973) was accompanied by a remark that *Griposia aprilina* Linnaeus, 1758 also coexists with *pinkeri* in the area of Kizilçahamam (Anatolia, Turkey) where Rudolf Pinker, Vienna, collected a series of them. During the description of *pinkeri* the senior author also dissected several ♂ specimens, which he was convinced to belong to *G. aprilina*. He was not aware that there were some minor but constant differences in the ♂ genitalia of these "*aprilina*" which came from the locus typicus of *pinkeri*. Afterwards, *G. pinkeri* was reported from several places in Turkey (Prov. Bitlis, Sarikonak, Prov. Siirt, Siirt) (Derra & Schreier 1990), Russia (Rostov/Don) (Poltavsky & Nekrasov 2002, previous personal communication from A. N. Poltavsky 1989), southern Bulgaria (Struma valley near Kresna) (Mészáros & Szabóky 1983), and northeastern Greece (Alexandropoli, Kirki, leg. Moberg & von Mentzer) (Hacker 1989). Besides *Griposia pinkeri,* H. Wegner also reported *Griposia aprilina* from the last-mentioned locality in 2002.

Re-checking the material on which the paper of the senior author (1973) was based, and comparing the genitalia slides with several specimens from Wegner's material with those from Kizilçahamam which up to now have been attributed to *aprilina,* it became obvious that there must be a third sibling species within the group. This new species has to be placed between *Griposia aprilina* and *Griposia pinkeri.*

*Griposia **wegneri*** **sp. n.**

Holotype: ♂, "Graecia, Thracia, Kirki/Alexandropoli, 300 m 25. x. 2002, H. Wegner leg.". – For the present, the holotype will be preserved in coll. Kobes, Göttingen, and it finally will be deposited in the Vienna Natural History Museum to meet the 3 paratypes from Pinker's collection there.

Paratypes (in total 10 ♂♂, 7 ♀♀): 2 ♂♂, Anatolia, Kizilçahamam, A x. 1969 and 15. ix. 1971, leg. R. Pinker (GU no. 05873 Kobes, illustrated in the original description of *Griposia pinkeri*, plate 2, fig. b; and GU no. 05773 Kobes of these two ♂♂), erroneously taken for *G. aprilina* (coll. Kobes). 2 ♂♂, Greece, Thraki, Kirki/Alexandropoli, 300 m, 25. x. 2002, H. Wegner leg. (GU no. 123002 Kobes hereof, coll. Kobes). 3 ♂♂, Greece, Thraki, Kirki/Alexandropoli, 300 m, 25. x. 2002, H. Wegner leg. (coll. Wegner, Adendorf). 2 ♀♀, Greece, Thraki, Alexandropoli/N (Kirki), 300 m, 25. x. 2002, H. Wegner leg. (coll. Wegner). 1 ♂, same locality, GU no 4450 & coll. M. Fibiger. 1 ♀, 23. x. 1984, leg. von Mentzer & Moberg, GU no. 4445 & coll. M. Fibiger. 3 ♀♀, same locality, 10.–11. x. 1991, leg. F. Schepler, coll. M. Fibiger. In Pinker's collection housed in NHM Vienna: 1 ♂, Kizilçahamam, x. 1968, Pinker leg., GU no. 865 Pinker. 1 ♂, 1 ♀, Kizilçahamam, ix. 1969, Pinker leg. – Paratypes in colls. H. Wegner, Adendorf, L. W. R. Kobes, Göttingen, M. Fibiger, Sorø, and NHM Vienna, as indicated.

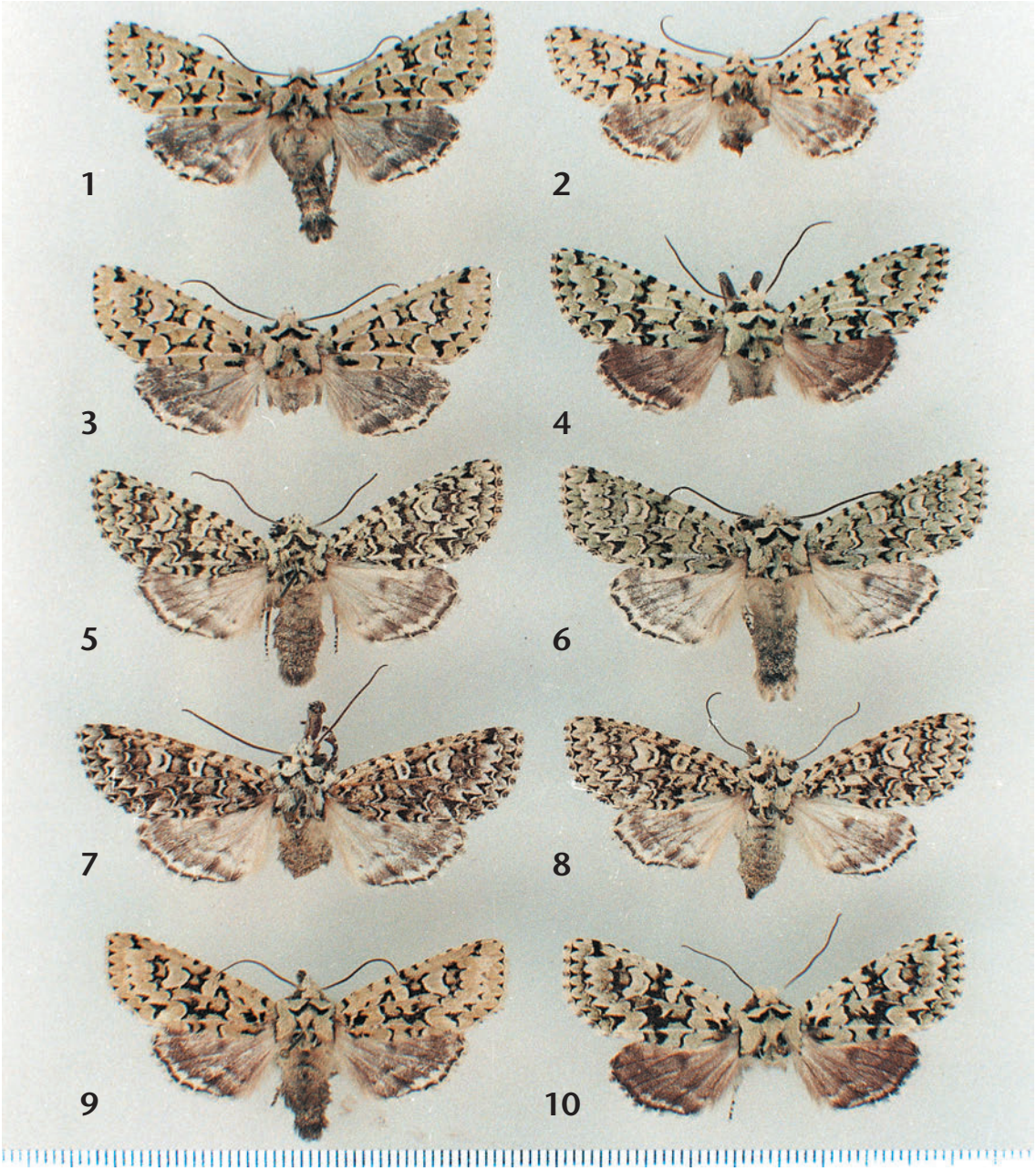
Etymology: The new species is dedicated to Mr. Hartmut Wegner, Adendorf, Germany.

Description and differential diagnosis

Forewing length of holotype (measured from base to apex of forewing): 19 mm; it is the smallest of the 3 *Griposia* species. The description is given here in comparison with *Griposia aprilina*. Forewings bright green, fasciae white and heavily striped blackish, joined by a black longitudinal stripe. Antemarginal line dentate with black wedges. A black quadrangle between the blackish bordered orbicular and the reniform mark, some black spots at base and inner margin. Hindwing blackish grey with a bright grey antemarginal line. Cilia mottled black and white.

Superficial diagnosis of *Griposia wegneri* sp. n.

Much resembling *Griposia aprilina;* head, thorax, legs and abdomen without differences. Median fascia reduced, reniform mark not filled in blackish or dark. In



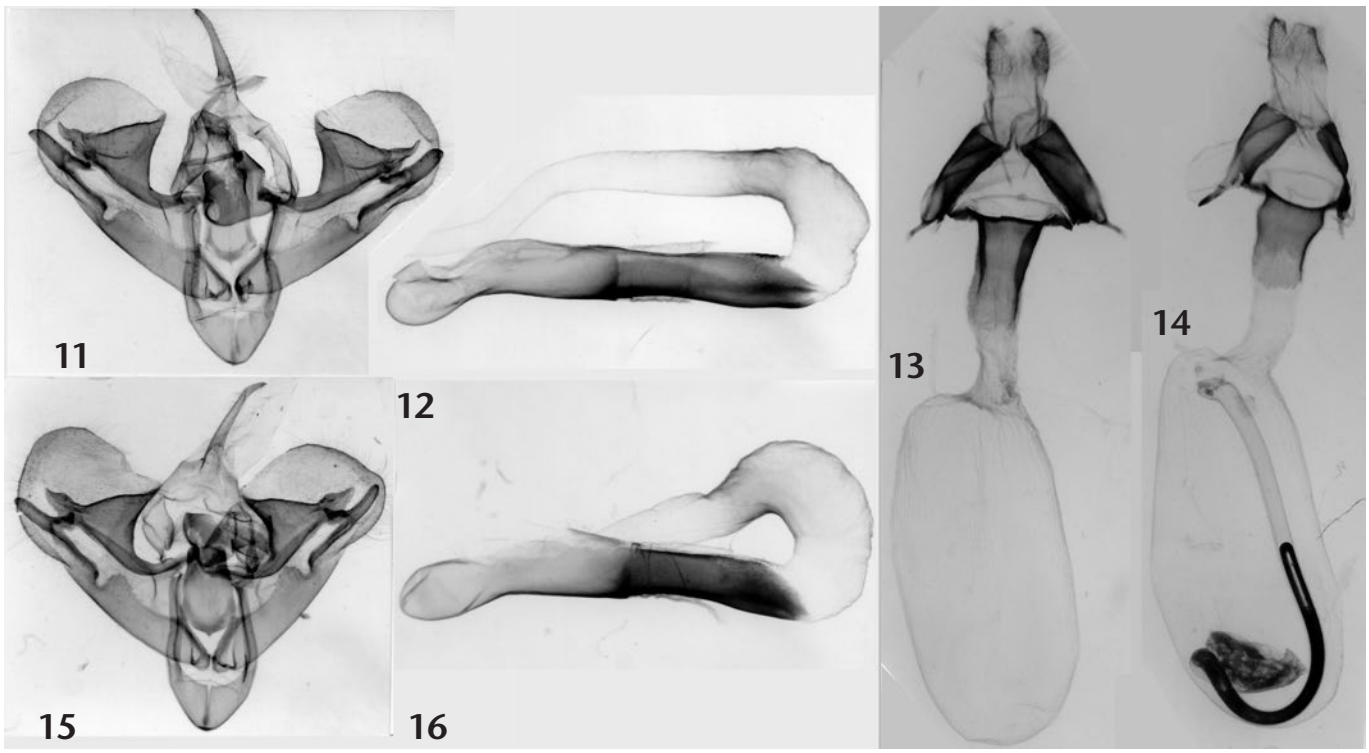
Colour plate: Imagines of *Griposia* species. **Figs. 1–4:** *Griposia wegneri* sp. n. **Fig. 1:** holotype ♂, Graecia, Thraki, Alexandropoli/Kirki, 25. x. 2002, H. Wegner leg. **Fig. 2:** paratye ♂, Anatolia, Kizilcahamam, A x. 1969, R. Pinker leg. , GU 05873 Kobes. **Fig. 3:** paratype ♂, Graecia, Thraki, Alexandropoli/Kirki, 25. x. 2002, H. Wegner leg., GU 123002 Kobes. **Fig. 4:** paratype ♂, Anatolia, Kizilcahamam, 15. ix. 1971, R. Pinker leg., GU 05773 Kobes. — **Figs. 5–8:** *Griposia pinkeri* Kobes, 1973. **Fig. 5:** paratype ♂, Kizilcahamam, 10. x. 1970, R. Pinker leg. **Fig. 6:** ♂, Graecia, Thraki, Alexandropoli/Kirki, 25. x. 2002, H. Wegner leg. **Fig. 7:** paratype ♂, Kizilcahamam, A x. 1969, R. Pinker leg.; GU no. 05973 Kobes. **Fig. 8:** ♀, Kizilcahamam x. 1969, R. Pinker leg. — **Figs. 9–10**: *Griposia aprilina* Linnaeus, 1758. **Fig. 9:** ♂, Bavaria, Erlangen, 25. ix. 1956, L. Kobes leg. **Fig. 10:** ♀, Anatolia, Kizilcahamam, ix. 1969, R. Pinker leg.; GU no. 4476 Fibiger.

G. aprilina between postmedian and median line there is a broad black junction formed by a black semilunule from postmedian and a wedge-shaped black macle from the median fascia near median vein. This junction is always pronounced in *G. aprilina*, reduced or dissolved in *G. wegneri*. In the specimens from Kirki this junction is more or less fading, in the Anatolian specimens from Kizilçahamam it is more clearly outlined and much resembles *G. aprilina*. Hindwing as in *G. aprilina* but of intense bright grey colour.

Although the differences between *Griposia aprilina* and *Griposia wegneri* sp. n. are not conspicuously great with regard to all characters, taken altogether they are very clear and constant. The most striking differences are found in the genital structures of both sexes and are especially pronounced in ♀♀. — For the genitalia differences, see Table 1.

Taxonomic note

In the latest revisional treatment of this species group (Ronkay et al. 2001) it is placed as subgenus *Griposia* Tams, 1939 in the genus *Dichonia* Hübner, [1816]. However, a review of both of the type species and the members of the two units reveals that support for a subgeneric status cannot be given, because of too incongruent structures in the ♂ and ♀ genitalia. This statement is also sup-



Black & white plate: Genitalia of *Griposia* species. **Figs. 11–13:** *Griposia aprilina.* **Fig. 11:** ♂, Goehrde, Germany, Nds. Genital slide 4451 Fibiger, CD no. 22. **Fig. 12:** ♂, Gedesby, Denmark. Genital slide 4457 Fibiger, CD no. 24. Aedeagus. **Fig. 13:** ♀ Dueodde, Denmark. Genital slide 4446 Fibiger, CD no. 25. — **Figs. 14–16:** *Griposia wegneri* n. sp. **Fig. 14:** paratype ♀, Graecia, Kirki. Genital slide 4445 Fibiger, CD no. 20. **Fig. 15:** paratype ♂, Graecia, Kirki. Genital slide 4450 Fibiger, CD no. 18. **Fig. 16:** paratype ♂, Graecia, Kirki. Genital slide 4450 Fibiger, CD no. 19. Aedeagus.

Table 1: External differences between imagines of *Griposia wegneri* n. sp. and *G. aprilina* Linnaeus, 1758.

♂♂ of *Griposia wegneri* sp. n.	♂♂ of *Griposia aprilina*
Juxta 2–2¼ times longer than high.	Juxta 2¼–2½ times longer than high.
Costa more upturned, 90° to ventral margin of valve.	Costa less upturned, less than 90° to ventral margin of valve.
The sclerotised "triangle" with equal sides (this "triangle" comprises the totally fused costa to transtilla base, and the base of digitus).	The sclerotised "triangle" with unequal sides.
Apical tip of digitus shaped like an arrowhead. — This is obviously the most useful characteristic for determining ♂♂.	Tip smoothly tapered from "triangle".
Ampulla slightly narrower and shorter.	Ampulla slightly wider and longer.
The dorsal, basal tip of clasper large.	The dorsal, basal tip of clasper small.
Scobinate lateral patch by apex of aedeagus longer than wide.	Scobinate lateral patch by apex of aedeagus shorter than wide.
Vesica broader, 1½ times wider than aedeagus.	Vesica narrower, only slightly wider than aedeagus.
♀♀ of *Griposia wegneri* sp. n.	♀♀ of *Griposia aprilina*
The tergit of the 7th abdominal segment is heavily sclerotised in both species, and is similar to a boat seen from behind.	
The sides of the "boat" are oblique to the straight (posterior) margin.	The sides of the "boat" are at 90° to the straight (posterior) margin.
Posterior apophyses more than 2 times longer than ovipositor valve.	Posterior apophyses less than 2 times longer than ovipositor valve.
Anterior apophyses stout and longer.	Anterior apophyses narrow and short.
Sclerotised part of ductus bursae short, 1½ times longer than wide. — This is obviously the most useful characteristic for determining ♀♀.	Sclerotised part of ductus bursae long, 2 times longer than wide.
Membranous part of ductus bursae equally long as the sclerotised part.	Membranous part of ductus bursae ⅓ of sclerotised part.

ported by Beck (1999: 471). *Griposia* is therefore, again, upgraded to genus level: *Griposia* Tams, 1939, **stat. rev.**

Special annotation concerning *G. aprilina* from western Greece and Turkey

The tip of the digitus (which is arrow-shaped in *G. wegneri* and smoothly tapering to the tip in *G. aprilina*) is shorter — but still smoothly tapering in these specimens from western Greece and Turkey; and the ♀♀ still have the long sclerotised part of the ductus bursae just as those from N Italy, SE France, Germany and Denmark. Thus we can conclude that the differences in the ♂ and ♀ genitalia (especially regarding the tip of the ♂ digitus and the length of the sclerotisation in the ♀ ductus bursae) do **not** represent a cline, with differences gradually changing from NW Europe to SE Europe and Turkey. Both species (*G. aprilina* and *G. wegneri* sp. n.) occur sympatrically at least in the same quite small region of mainland Greece, and in the area of Kizilçahamam in Turkey.

Distribution

With the discovery of *G. wegneri* sp. n. being at least partially sympatric with the very similar *G. aprilina*, the distribution areas of both species as described in literature have become uncertain. So far, *G. aprilina* seems to be the westernmost species in Europe, and *G. wegneri* has a more eastern distribution. Examining publications where the genitalia – especially that of the ♀ – are well illustrated, it is easy to state that, besides Greece and Turkey, *G. wegneri* also occurs in Hungary (see Ronkay et al. 2001: colour plate 11, fig. 30, ♂ genitalia fig. 107, and ♀ genitalia fig. 305). The illustrations in Nowacki (1998), which are duplicated from Kostrowicki (1956), are not sufficient to decide whether *G. wegneri* occurs in Poland or in the Czech Republic or Slovakia. The illustration in Rákosy (1996) points towards *G. wegneri* and that one in Calle (1982) from Spain towards *G. aprilina*, but they are not fully decisive. So far all specimens examined by us from France, Germany, Denmark, Sweden and Spain belong to *G. aprilina*. One special case was found in Greece: in an area between Epirus Joannina–Konitsa–Vasiliko (900 m), several specimens of true *G. aprilina* have been found by H. Wegner in 2002 (GU no. 123102 Kobes & GU nos. 4471 ♂, 4472 ♀, and 2 ♀♀ genitalia checked by Fibiger).

Among the 5 specimens M. Lödl sorted out of the Pinker collection housed in the NHM of Vienna there are 4 specimens from Kizilçahamam, Anatolia, 3 of them clearly assignable to *Griposia wegneri* sp. n., and astonishingly 1 ♀ which proved to belong to *Griposia aprilina* (GU no. 4476 Fibiger) (Fig. 10); the fifth is *G. aprilina* from Macedonia.

Due to the presently known distribution of the two taxa, we tentatively presume that *aprilina* and *wegneri* have probably been separated during the last ice age: the ancestor of *G. aprilina* withdraw into an Atlanto-Mediterranean refuge and that of *G. wegneri* into the Ponto-Mediterranean region. After the ice age the former species has successfully and probably furthest of all spread northwards and eastwards, so that all three *Griposia* species occur sympatrically near Kizilçahamam, north of Ankara in Turkey. *G. wegneri* and *G. pinkeri* have had a less successful dispersion towards the west, and have only reached furthest to Hungary and north-eastern Greece, respectively. Continued study might show whether *G. wegneri* is also resident in Bulgaria, Romania, Slovakia, and perhaps Ukraina.

G. pinkeri appears to originate from an isolation event during an earlier glaciation.

Acknowledgements

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References

Beck, H. (1999): Die Larven der Europäischen Noctuidae. Revision der Systematik der Noctuidae (Lepidoptera: Noctuidae), Vol. **1** (text). – Herbipoliana, Buchreihe zur Lepidopterologie, Marktleuthen, **5** (1): 859 pp.

Derra, G., & Schreier, H.-P. (1990): Beitrag zur Noctuidae-Fauna der Türkei (Lepidoptera). – Esperiana, Buchreihe zur Entomologie, Schwanfeld, **1:** 393–402.

Calle, J. A. (1982): Noctuidos Españoles. – Boletin del Servicio contra Plagas e Inspección Fitipatológica, Fuera de serie no. **1,** Madrid (Ministerio de Agricultura, Pesca y Alimentación), 430 pp.

Fibiger, M., & Svendsen, P. (1981): Danske natsommerfugle. – Dansk Faunistisk Bibliotek, Klampenborg, vol. **1:** 272 pp.

Hacker, H. H. (1989): Die Noctuidae Griechenlands. – Herbipoliana, Buchreihe zur Lepidopterologie, Marktleuthen, **2:** 589 + XII pp.

Kobes, L. (1973): Eine neue Species der Gattung *Griposia* Tams (Lepidoptera, Noctuidae, Cuculliinae). – Entomologische Zeitschrift, Stuttgart, **83:** 225–228.

Koch, M. (1991): Wir bestimmen Schmetterlinge. Ausgabe in einem Band, 3. Auflage, bearbeitet von W. Heinicke. – Radebeul (J. Neumann-Neudamm), 792 pp.

Lampert, K. (1923 [1936]): Die Großschmetterlinge und Raupen Mitteleuropas. 2. Auflage. – Esslingen & München (J. F. Schreiber), XX + 308 + XVIII pp., 87 pls.

Mészáros, Z., & Szaboky, C. (1983): Una nueva especie para la fauna de Europa, *Griposia pinkeri* Kobes, 1973, de Bulgaria. – Shilap Revista lepidopterologica, Madrid, **11** (43): 194.

Kostrowicki, A. S. (1956): Klucze do oznaczania owradów Polski. – Polski Zwiazek Entomologiczny, Warszawa, Czese **XXVII,** Zeszyt 53a, 145 pp.

Poltavsky, A. N., & Nekrasov, A. V. (2002): The noctuid moths of the South of Russia and the northern Caucasus (Lepidoptera). – Esperiana, Buchreihe zur Entomologie, Schwanfeld, **9:** 21–47, pls. 2–4.

Rákosy, L. (1997): Die Noctuiden Rumäniens (Lepidoptera Noctuidae). – Stapfia, Linz, **46:** 648 pp.

Ronkay, L., Yela, J. L., & Hreblay, M. (2001): Noctuidae Europaeae, Vol. **5,** Hadeninae II. – Sorø (Entomological Press), 452 pp.

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