

SPECIES OF THE FAMILY ETHMIIDAE IN BULGARIA**(Lepidoptera, Gelechioidea)**

(Julius GANEV)

The Microlepidoptera fauna of Bulgaria, including the family Ethmiidae was studied by Bulgarian and foreign entomologists already in the sixties of the nineteenth century. Bulgarian entomologists who intensively worked on the Microlepidoptera fauna of Bulgaria were : BURESCH, DRENOWSKI, MARKOVITCH, TCHORBADJIEV and TULESCHKOV. Foreign entomologists who visited Bulgaria and reported data on the family Ethmiidae were : LEDERER, REISSER, ZULLICH and REBEL. REBEL (1903) gave the full list of Bulgarian Lepidoptera.

The present work is written on the basis of material which is kept in the National Natural History Museum, including the collections of old Bulgarian entomologists and the new one of dr. S. BOTCHAROV from Sofia, my own collection mainly from South-West Bulgaria and the Rhodopi mountains. As a result of this revision the number of species of the family Ethmiidae in Bulgaria is 13 now, which makes it the richest in Europe (SATTLER, 1967). Three of them : E. dodecea Haworth, E. candidella Alphéraki and E. iranella Zerny are reported for the first time for the Bulgarian fauna. The general distribution of this 13 species established in Bulgaria is as follows : 3 species are distributed in Central and South Europe, Central Asia and Asia Minor, 2 in Central and South Europe, North Africa and Asia Minor, 1 in Europe, 1 in Europe, Central Asia, Asia Minor, and 1 in the Balkan peninsula and Asia Minor. The vertical spreading of the species is given in the following table :

Species	1	2	3
<i>E. dodecea</i> Haworth	+		+
<i>E. funerella</i> Fabricius	+	+	+
<i>E. fumidella</i> Wocke	+		
<i>E. candidella</i> Alphéraki	+		
<i>E. pusiella</i> Linnaeus	+	+	+
<i>E. terminella</i> Fletcher	+		
<i>E. aurifluella</i> Hübner	+		
<i>E. lugubris</i> Staudinger		+	+
<i>E. bipunctella</i> Fabricius	+	+	+
<i>E. iranella</i> Zerny	+		
<i>E. chrysopyga</i> Zeller	+	+	+
<i>E. haemorrhoidella</i> Eversmann	+		
<i>E. tripunctella</i> Staudinger	+	+	

1. Oak zone, up to 800-900 m.
2. Beech zone, up to 1200-1400 m.
3. Between 1400-1800 m.

Most of these species are distributed in the lower parts, mainly in the oak zone. In this zone 12 species were found from which 6 only occur in this zone. 6 species were found in the beech zone, but they also occur in other zones. In the high mountain zone 6 species were found, although they are not typical for this zone. Only E. lugubris Stgr. is a typical mountain species found between 1200 and 1600 m. In old publications the species E. fumidella, E. candidella and E. pusiella were reported together under E. pusiella. In the distribution of these species I only give places from which I have seen material in the National Natural History Museum in Sofia.

Systematic Part

ETHMIA Hübner, 1819
(PSECADIA Hübner, 1825)

E. dodecea (Haworth, 1828)

Distribution : map 1. SW. Bulgaria, Kožuch near Petrić; S. Bulgaria, Rhodopi mn., passage Rožen, 1450 m.
Flight period : VII and VIII.

E. funerella funerella (Fabricius, 1787)

Distribution : map 1. SW. Bulgaria, Vitosha mn., Knjaževo, Rila mn., Panitchiste, 1450 m; Ossogovo mn., h. Ossogovo, 1640 m; Kressna gorge; N. Bulgaria, Silistra.
Flight period : form VI to VIII.

E. fumidella fumidella (Wocke, 1850)

(P. pusiella : TCHORBADJIEV (non Linnaeus), 1915; 1919)
Distribution : map 2. SW. Bulgaria, Kressna gorge, Kiustendil, Ograzden mn., village Sestrino, 650 m; S. Bulgaria, Stara Zagora, Burgas; Stara planina mn., Sliven; N. Bulgaria, Baltchik.
Flight period : 1. generation III-V; 2. generation X.

E. candidella candidella (Alphéraki, 1908)

(P. pusiella : TCHORBADJIEV (non Linnaeus), 1915; BURESCH, 1930)
Distribution : map 2. SW. Bulgaria, Liulin mn.; S. Bulgaria, Burgas; N. Bulgaria, Varna, Evksinograd.
Flight period : VIII-IX.

E. pusiella pusiella (Linnaeus, 1758)

Distribution : map 3. SW. Bulgaria, Vitosha mn., Knjaževo, Alibotush mn.; S. Bulgaria, Rhodopi mn., Belovo, mine Persenk, 900m, Trigrad, Pestera, Tchepinska reka; Stara planina mn., Sliven.
Flight period : from III to IX in two generations.

E. terminella terminella Fletcher, 1938

(E. sexpunctella Hübner, 1810)

Distribution : map 3. SW. Bulgaria, Vitosha mn., Bunkera, 730 m, village Lilianovo, Kožuch.

Flight period : in VI.

E. aurifluella (Hübner, 1810)

(P. lugubris : TCHORBADJIEV (non Staudinger), 1919)

Distribution : map 4. SW. Bulgaria, Zemen gorge, 520 m; Stara planina, Sliven.

E. lugubris (Staudinger, 1879)

Distribution : map 4. SW. Bulgaria, Rila mn., 1600 m, Kostenetz; S. Bulgaria, Rhodopi mn., Belovo; Stara planina mn., exact places not indicated.

Flight period : in VII.

E. bipunctella (Fabricius, 1775)

(P. echiella Denis & Schiffermüller, 1775)

Distribution : map 5. SW. Bulgaria, Sofia, Vitosha mn., Bunkera, Ali-
botush mn., 750-1500 m, village Katuntzi south of Melnik, Kressna
gorge, Kožuch, Ogražden mn., village Sestrimo, Zemen gorge, gara
Skakavitza, village Prekolnitsa west of Kiustendil, Ossogovo mn.,
h. Ossogovo, 1640m; S. Bulgaria, Burgas, Strandža mn., Rhodopi mn.,
Belovo, village Shiroka laka; Stara planina, Sliven, Kalofer; N.
Bulgaria, Tárnovo, Pleven, Varna, Evksinograd, Baltchik, Razgrad.

Flight period : from III to IX; probably two generations.

E. iranella Zerny, 1940

Distribution : map 6. SW. Bulgaria, Kressna gorge.

Flight period : V-VII.

E. chrysopyga chrysopyga (Zeller, 1844)

Distribution : map 6. SW. Bulgaria, Pirin mn., Spano pole; S. Bulgaria, Burgas; Stara planina, Sliven.

Flight period : VI-IX.

E. haemorrhoidella (Eversmann, 1844)

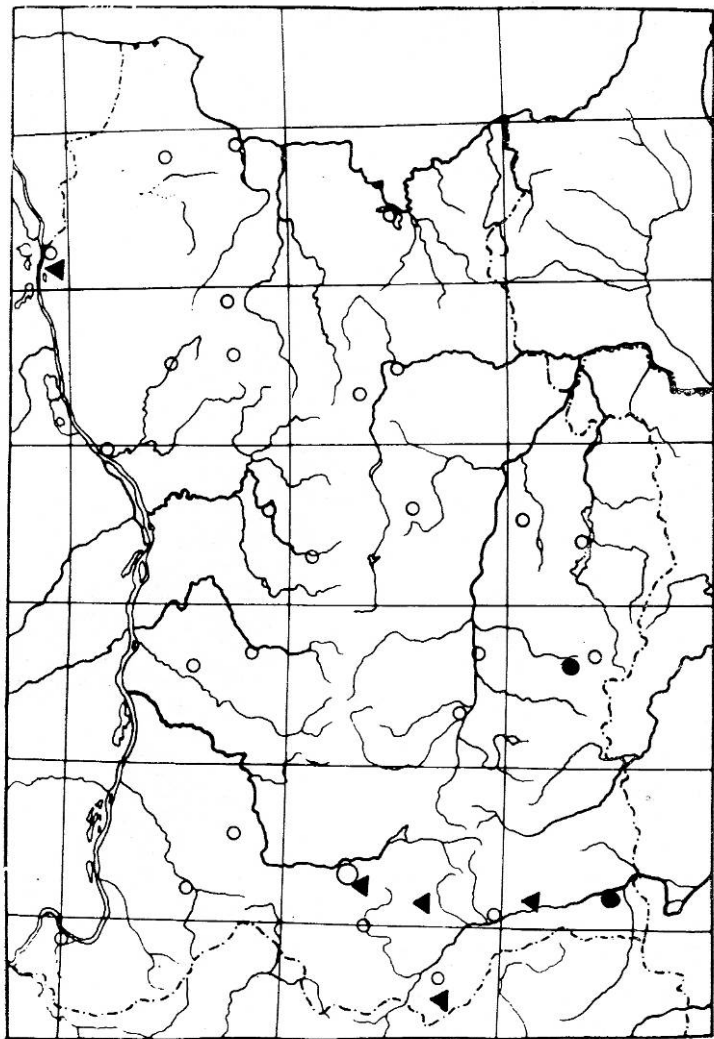
Distribution : map 7. S. Bulgaria, Burgas, Strandža mn., Malko Tárno-
vo; Stara planina, Sliven; N. Bulgaria, Varna, Baltchik.

Flight period : from V to VII.

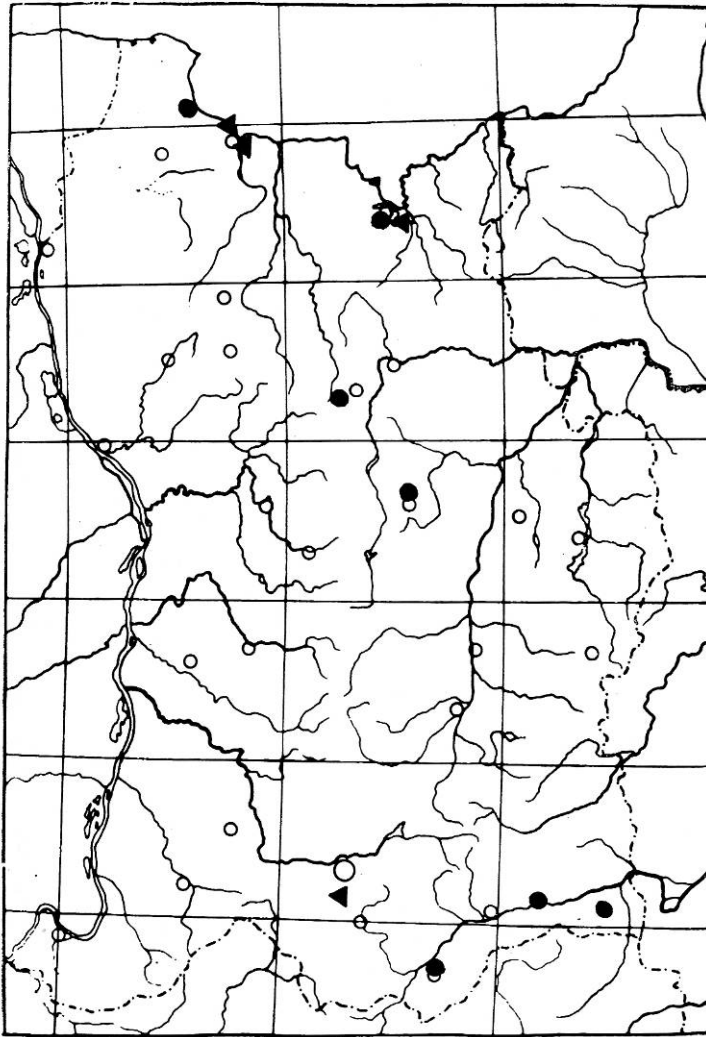
E. tripunctella tripunctella (Staudinger, 1879)

Distribution : map 7. SW. Bulgaria, Kressna gorge, Zemen gorge, gara
Skakavitza; Stara planina, Sliven; N. Bulgaria, Baltchik.

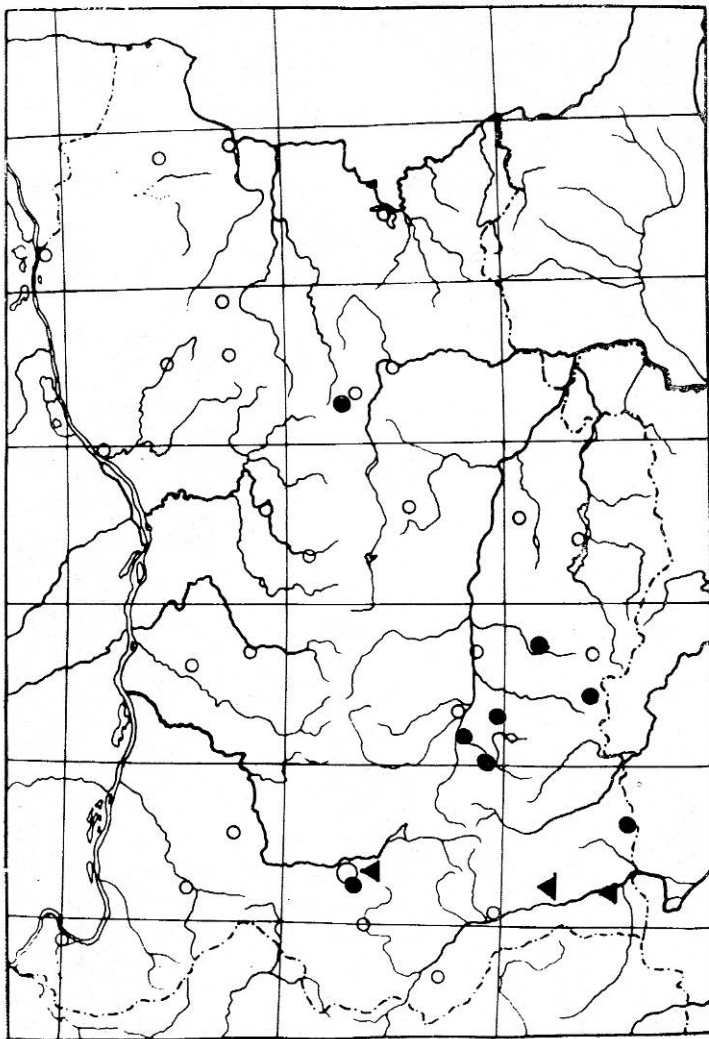
Flight period : V-IX.



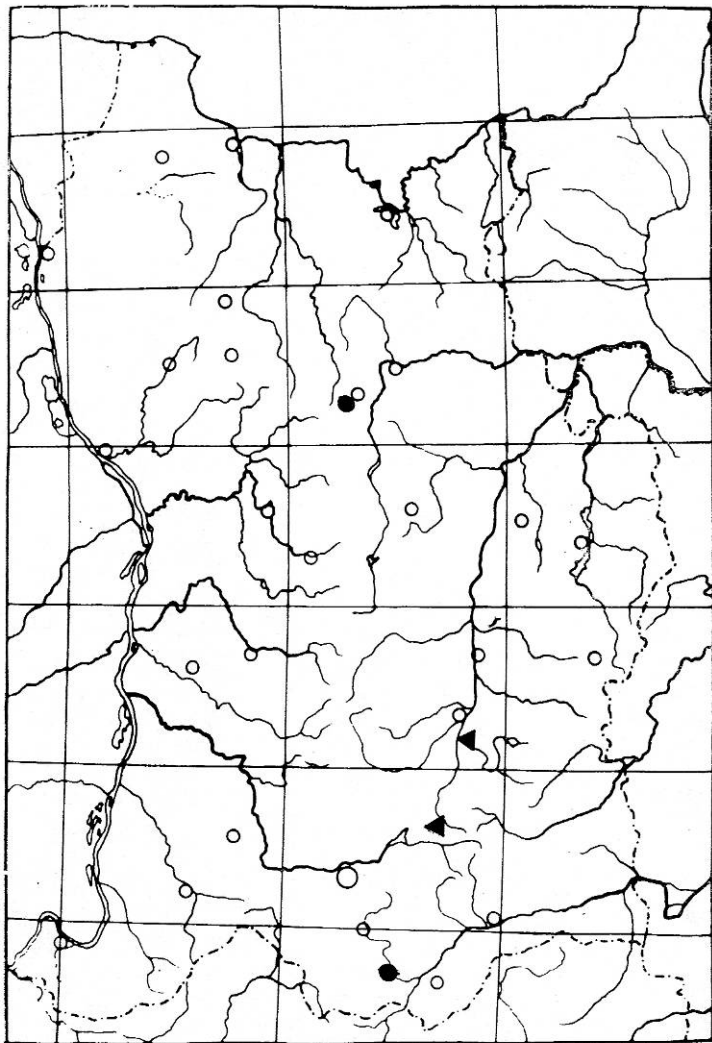
Map 1 : ● Ethmia dodecea Haworth
▲ Ethmia funereella Fabricius



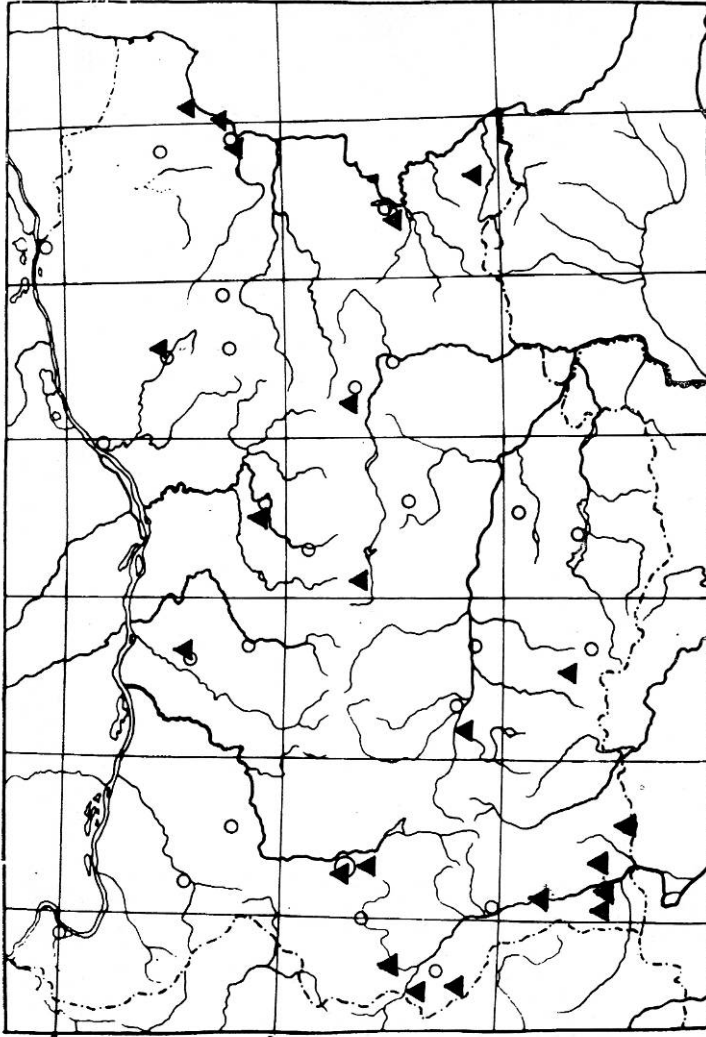
Map 2 : ● Ethmia fumidella Wocke
▲ Ethmia candidella Alphéraki



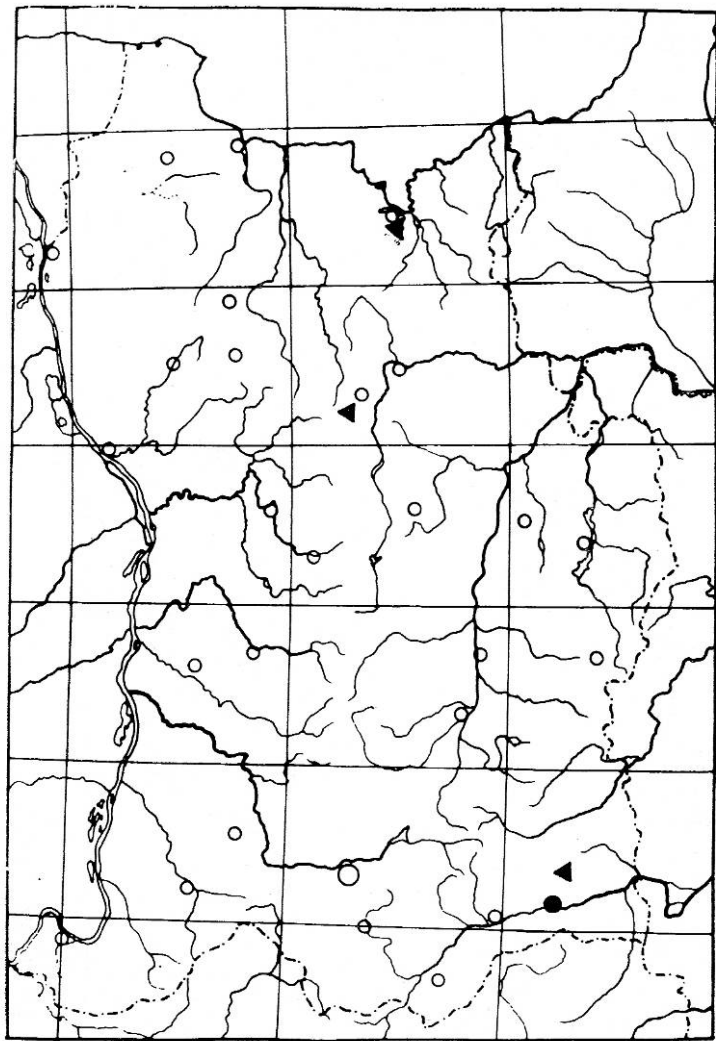
Map 3 : ● Ethmia pusiella Linnaeus
▲ Ethmia terminella Fletcher



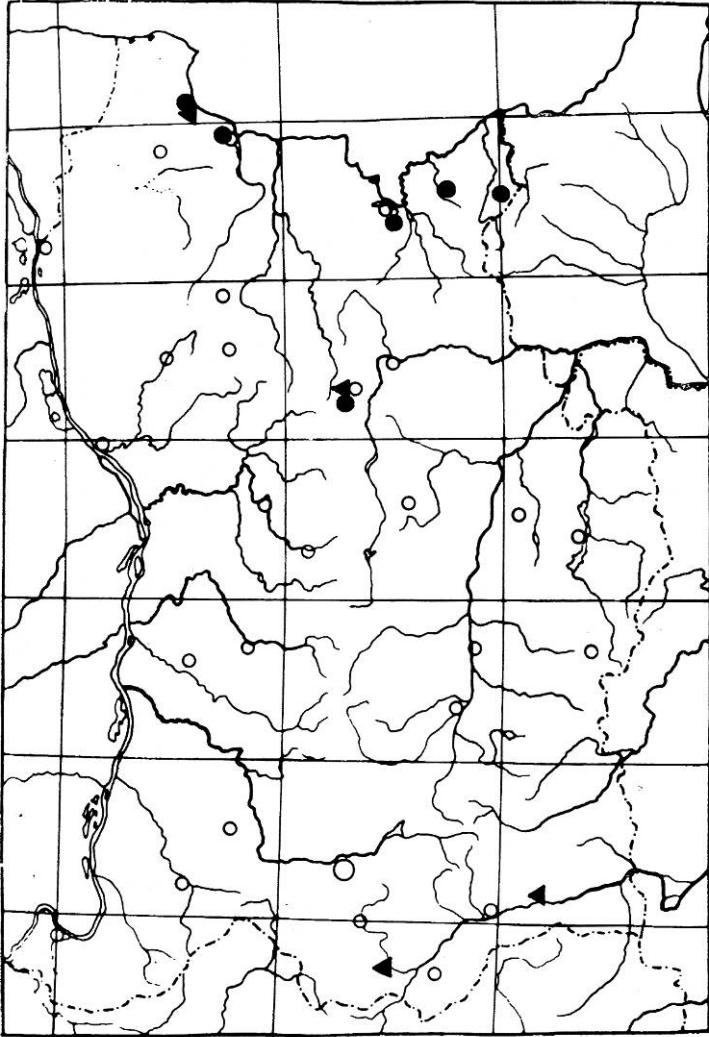
Map 4 : ● *Ethmia aurifluella* Hübner
▲ *Ethmia lugubris* Staudinger



Map 5 : ▲ *Etmia bipunctella* Fabricius



Map 6 : ● Ethmia iranella Zerny
▲ Ethmia chrysopyga Zeller



Map 7 : ● Ethmia haemorrhoidella Eversmann
▲ Ethmia tripunctella Staudinger

Literature :

- BURESCH, I., 1908. Beitrag zur Microlepidopteren-Fauna der Umgebung von Sofia.- Periodische Zetischrift, Sofia, 3-4 : 292-304.
- BURESCH, I., 1930. Zweiter Beitrag zur Schmetterlingsfauna vom Schlosspark Euxinograd bei der Stadt Varna am Schwarzen Meer.- Mitt. Bulg. Entomol. Ges. V : 207-252.
- DRENOWSKI, A., 1906. Das Witosha-Gebirge und seine Schmetterlingsfauna.- Arbeiten Bulg. Naturforsch. Ges. 3 : 91-118.
- DRENOWSKI, A., 1909. Neue und von wenigen Fundorten bekannte Arten aus der Lepidopterenfauna Bulgariens.- Periodische Zeitschrift LXX: 603-638.
- DRENOWSKI, A., 1909. Untersuchungen über die Schmetterlingsfauna des Rila-Gebirges.- Sammelwerk für Folklor, Wissensch. und Literatur, Sofia, XXV : 1-22.
- DRENOWSKI, A., 1921. Beitrag zur Lepidopteren-Fauna des Pirin-Malasschewska und Belassitza-Gebirges in West-Thracien.- Zeitschr. Bulg. Akademie Wissensch. Sofia, XXIII : 111-154.
- DRENOWSKI, A., 1928. Die Lepidopterenfauna auf den Hochgebirgen Bulgariens.- Sammelwerk Bulg. Akad. Wissensch. Sofia 13 : 1-120.
- DRENOWSKI, A., 1929. Die Lepidopterenfauna auf den Hochgebirgen Bulgariens, Dritter Teil. Ueber den Character der Bulgarischen Lepidopterenfauna.- Arbeiten Bulg. Naturforsch. Ges. XIV : 57-98.
- DRENOWSKI, A., 1930. Die Lepidopterenfauna auf dem Hochgebirgen Bulgariens, II. Teil.- Sammelwerk Bulg. Akad. Wissensch. Sofia XXV : 1-76.
- DRENOWSKI, A., 1931. Zweiter Verzeichnis der auf dem Alibotusch Gebirge gesammelten Lepidopteren.- Mitt. Bulg. Entomol. Ges., Sofia, VI : 49-67.
- DRENOWSKI, A., 1934. Ueber die vertikale Verbreitung der Lepidopteren auf dem Alibotusch-Gebirge in N.O.Mazedonien.- Mitt. Bulg. Entomol. Ges., Sofia, VIII : 71-84.
- ILTCHEW, D., 1924 Contribution à l'étude de la fauna des papillons de la montagne Strandja.- Travaux de la Soc. bulgare des Sciences naturelles, Sofia, XI : 167-183.
- KLIMESCH, J., 1968. Die Lepidopterenfauna Macedoniens, IV Microlepidoptera.- Prirodonaucen muzej Skopje, 201 p.
- LEDERER, J., 1863. Verzeichnis der von Herrn Johann und Frau Ludmila Haberhauer 1861 und 1862 bei Varna und Sliven in Rumelien gesammelten Lepidopteren.- Wien. Entomol. Monatschr. VII : 17-27.
- MARKOVITCH, A., 1909. Die Schmetterlingsfauna der Umgebung der Stadt Razgrad.- Sammelwerk für Folklor, Wissensch. und Literatur, Sofia, XXV : 1-38.

- POPESCU-GORJ, A., 1964. Catalogue de la collection de Lépidoptères "Prof. A. Ostrogovich" du muséum d'Histoire naturelle "Grigore Antipa" Bucarest.- Bucarest, 293 p.
- REBEL, H., 1903. Studien über die Lepidopterenfauna der Balkanländer I. Teil, Bulgarien und Ostrumelien.- Annalen des k.k. Naturhist. Hofmuseum, XVIII : 123-347.
- REISSER, H. & R. ZULLICH, 1934. Ueber die im Jahre 1933 unternommene Sammelreise nach Bulgarisch Mazedonien.- Verhand. Zool.-Bot. Ges. Wien LXXXIV (1-4) : 12-17.
- SATTLER, K., 1967. Microlepidoptera Palaearctica, Ethmiidae.- Verlag Georg Fromme & Co. Wien, 185 p., Tafeln.
- TOHORBADJIEV, P., 1915. Beitrag zur Macro- und Microlepidopterenfauna von Burgas.- Sammelwerk Bulg. Akad. Wissensch. V : 1-78.
- TOHORBADJIEV, P., 1919. Beitrag zur Schmetterlingsfauna der Stadt Sliven und ihrer Umgebung.- Zeitschr. Bulg. Akad. Wissensch. XVII: 175-214.
- TULESCHKOV, K. & A. SLIVOV, 1975. Schmetterlinge (Microlepidoptera) aus den Rhodopen, La Faune des Rhodopes, Matériaux, 161-182.

Samenvatting : De auteur geeft de volledige lijst van soorten uit de familie Ethmiidae die in Bulgarije werden gevonden. Drie soorten worden hier voor het eerst uit dat land vermeld : E. dodecea Haworth, E. candidella Alphéraki en E. iranella Zerny. In het totaal worden 13 soorten vermeld en van elke soort geeft de auteur de verspreiding in Bulgarije en de vliegtijd.

Résumé : L'auteur donne la liste complète des espèces de la famille Ethmiidae trouvées en Bulgarie. Trois espèces furent trouvées pour la première fois dans ce pays : E. dodecea Haworth, E. candidella Alphéraki et E. iranella Zerny. Au total 13 espèces sont mentionnées et pour chaque espèce l'auteur donne la répartition en Bulgarie et l'époque de vol.

Dr. J. GANEV : University of Sofia, Faculty of Biology
 Laboratory of Experimental Entomology
 Boul. Dr. Zankov, 8
 BG-1421 SOFIA, Bulgaria