ISSN 1211-8788 *Acta Musei Moraviae, Scientiae biologicae*
103(2): 249–267, 2018

An update of distribution records of *Helina* R.-D. and other genera of the subfamily Phaoniinae (Diptera: Muscidae) from Bulgaria

EBERHARD ZIELKE

Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, 1 Tsar Osvoboditel Blvd., 1000 Sofia, Bulgaria; e-mail: eo.zielke@abv.bg

ZIELKE E. 2018: An update of distribution records of *Helina* R.-D. and other genera of the subfamily Phaoniinae (Diptera: Muscidae) from Bulgaria. *Acta Musei Moraviae, Scientiae biologicae* **103(2):** 249–267. – Records of distribution in Bulgaria are presented for the species of the genera *Atherigona* Rondani (1 species), *Eginia* Robineau-Desvoidy (1 species) and *Helina* Robineau-Desvoidy (38 species). A number of reports of *Phaonia* species are also listed, in addition to recently published records of the genus. The genus *Eginia* and its only species *Eginia ocypterata* (Meigen, 1826), six species of the genus *Helina* and one species of *Phaonia* are recorded for the first time for Bulgaria. The total number of species of the subfamily Phaoniinae reported from the country now reaches 88 species. The findings are collated and compared in tabular form with corresponding data from adjacent countries.

Key words. Bulgaria, Muscidae, Phaoniinae, new records, list of species

Introduction

Species of the subfamily Phaoniinae are worldwide in distribution, found in nearly every zoogeographical region. The numbers of species of the various genera listed by PAPE & THOMPSON in 2013 in *Systema Dipterorum* and large numbers of newly-described Phaoniinae-species added by other authors (e.g. COURI & PONT 2016, PONT 2012, SOROKINA 2015, XUE *ET AL.* 2014, XUE & SUN 2015, XUE & TIAN 2012, XUE & ZANG 2013, ZIELKE 2017a, 2017b) make a total of approximately 2,000 species, including synonyms. From the European part of the Palaearctic Region, 177 Phaoniinae species are listed as known from one or more countries (PONT, 2013). By far the most species-rich genera are *Phaonia* Robineau-Desvoidy, 1830 and *Helina* Robineau-Desvoidy, 1830, with 81 and 80 registered species respectively. Nine species constitute the genus *Atherigona* Rondani, 1856 and five make up *Lophosceles* Ringdahl, 1922. In Europe, the genera *Dichaetomyia* Malloch, 1921 and *Eginia* Robineau-Desvoidy, 1830 contain one species each. *Dichaetomyia* is well represented by numerous species in other parts of the world; *Eginia*, however, contains only the single species.

A considerable number of short reports and observations on the muscids from Bulgaria have been published since 1909, with the majority of papers appearing between 1950 and 1990. The first comprehensive overview of the Muscidae from Bulgaria was provided only in 2003 by LAVČIEV. This catalogue is based on earlier publications and on his own observations. It contains general information about the presence of Muscidae species in different areas of Bulgaria, their flight activities, e.g. seasons of the year, and height above sea level of collections. Unfortunately, more specific information, such as numbers, sex, localities and dates for the flies collected is sparse and, most regrettably,

no indication is provided as to where the specimens of the species named in the catalogue were deposited. Fortunately, the documentation does not merely list the species reported from Bulgaria, it also provides a comprehensive bibliography of earlier publications on the muscid fauna of the country. Hubenov (2016) recently published a comprehensive compilation of the Diptera recorded from the Rila Mountains in Bulgaria. As the publication concentrates on one area the country only, and as the information concerning Phaoniinae is based on the catalogue provided by Lavčiev (2003) or older publications, the catalogue has been chosen as the base with which the results of the current investigations of the Phaoniinae from Bulgaria are compared.

The Muscidae in the collection of the Institute of Biodiversity and Ecosystem Research of the Bulgarian Academy of Sciences in Sofia, Bulgaria originate from a range of biotopes, primarily from Bulgaria, collected in the course of the last 110 years. The specimens are mounted on pins and stored either in boxes marked individually with a locality label, or assembled in smaller or larger clusters with one locality label per cluster. Most of these labels are handwritten in Cyrillic script. The overwhelming majority of the muscid specimens are not identified. Some specimens, however, have been labelled with a small piece of paper featuring a handwritten scientific name, but usually without reference to the identifier and lacking a date of identification.

More than a thousand specimens of the material examined proved to be members of the subfamily Phaoniinae. An update of the distribution records of the genus *Phaonia* in Bulgaria has already been published (Zielke 2016a). The current paper now reports primarily on findings regarding other genera of the subfamily, such as *Atherigona*, *Eginia* and *Helina*. Some additional new information on *Phaonia* is also presented. The genus *Dichaetomyia*, which is only poorly represented in Europe, has yet to be detected in Bulgaria, and *Lophosceles* species have not been recorded from the country either. The update herein comprises a total of 48 species of the genera *Atherigona*, *Eginia* and *Helina* that have either been reported in the past or which are newly reported for Bulgaria. Forty species were identified from the material collected in the country between 1907 and 2017. Seven species and the genus *Eginia* Robineau-Desvoidy, 1830 are recorded for the first time for Bulgaria. In addition, two *Phaonia* species are included in the present compilation (Table 1) as they were not considered in an earlier, relatively recent, report on *Phaonia* (Zielke 2016a), and one of them is a new record for the country. The total number of species of the subfamily Phaoniinae reported from Bulgaria now rises from 80 to 88 species.

Material and methods

The investigations were conducted from April 2014 to October 2017 and were primarily based on the Muscidae collection held by the Institute of Biodiversity and Ecosystem Research, (IBER) of the Bulgarian Academy of Sciences, Sofia. The muscid specimens examined were captured between 1907 and 2017 by various collectors. Further, the Diptera collections of the National Museum of Natural History, Sofia (NMNHS) of the Bulgarian Academy of Sciences and of the Regional Natural History Museum of Plovdiv (RNHMP) were screened for specimens of Phaoniinae.

The majority of Phaoniinae-specimens were found among the large number of unidentified muscids in the three collections above. Identification of the flies relied largely on the key to the Muscidae of the Palaearctic Region by Hennig (1964) and the keys to the Muscidae of Central Europe published by Gregor *et al.* (2003, 2016). External morphological features of the specimens were examined using a Zeiss Stemi 2000-C stereomicroscope. All the specimens have been returned to the entomological collections from which they were loaned for investigation.

For the classification of the Muscidae and synonyms, this contribution follows Gregor *et al.* (2016). Genera and their species are listed alphabetically, and the sites of collection chronologically. The initials "V.L." stand for the late Valentin Lavčiev, who collected the large majority of the muscid specimens in the collection of IBER. If specimens have been determined by persons other than the current author they are named under "det.". The initials "A.I." stand for one or more of the anonymous identifier(s) who marked several of the specimens of the collection of IBER prior to this investigation. Their provisional species labels are handwritten, but unfortunately do not name the identifier or supply the date of identification. As the overwhelming majority of these marked specimens were collected by Lavčiev, it is assumed that either Lavčiev himself or members of his team were responsible at least for a large part of this provisional labelling.

Details provided by Lavčiev (2003) on the localities of the species collected are commented upon and compared with present findings where pertinent. In the following "Results" section, these are referred simply to as "Lavčiev" without citing "2003", the year of the publication of the Catalogue of the Bulgarian Muscidae.

Results

Genus *Atherigona* Rondani, 1856

Atherigona varia (Meigen, 1826)

Material examined. 1 ♀ Sofia, 2.6.1934, P. Drenski; 1 ♂ Trojanski Balkan, 1,000 m, 16.8.1940, P. Drenski; 1 ♂ 1 ♀ Ahtopol, 27.6.1963, V.L.; 5 ♀ Primorsko, 5.9.1963, V.L.; 1 ♀ Lovetsch, 29.7.1973, Beschovski; 1 ♀ Trojan District, Cherni Osam; 29.7.1973, Beschovski; 1 ♂ Burgas District, marsh, 1.8.1982, Beschovski; 1 ♂ Sofia District, Chepintsi, 28.5.1992, Beschovski; 1 ♂ Shabla, 13.8.1998, Beschovski.

Genus *Eginia* Robineau-Desvoidy, 1830

Eginia ocypterata (Meigen, 1826)

Material examined. 3 ♂ 1 ♀ Svilengrad, 8.5.1963, V.L. **First record for Bulgaria**.

Genus *Helina* Robineau-Desvoidy, 1830

Helina allotalla (Meigen, 1830)

Material examined. 1 ♂ 1 ♀ Blato, 11.8.1925, P. Drenski; 1 ♂ Rodopi Mts., Siutka, 14.6.1963, V. L., det. A.I.; 1 ♀ Vitosha Mts., 1,300 m, 26.8.1964, V.L..

Helina annosa (Zetterstedt, 1838)

Material examined. 1 ♀ Borovetz = Tcham Kuria, 5.9.1926, P. Drenski; 1 ♀ Rodopi Mts., Perelik, 9.8.1963, V.L.; 1 ♂ Petrochan, 4.7.1964, V.L.; 1 ♀ Rodopi Mts., Tchehlevo, 24.8.1965, V.L.; 1 ♀ Rodopi, Prezlatcha, 25.8.1965, V.L.; 1 ♀ Rila Monastery to Pastra, 28.10.1965, V.L.; 1 ♀ Rodopi Mts., hut Smolianski Ezera, 1,500 m, 24.7.1968, V.L.; 1 ♂ Rodopi Mts., Siutka, 25.7.1969, V.L., det. A.I.; 4 ♂ 1 ♀ Stara Planina, 3 km from Kalofer Town Panitsite, 18.8.1969, V.L.; 1 ♂ Stara Planina, near Kalofer Town south of Botev Peak, 1,400 m, 18.8.1969, V.L., det. A.I.; 1 ♂ Stara Planina, Panitsite near small river, 18.8.1969; V.L.; 4 ♂ 1 ♀ Stara Planina, under Botev Peak, 18.8.1969, V.L., det. A.I.; 1 ♂ Stara Planina, hut Buzludzha, 20.8.1969 V.L., det. A.I.; 1 ♀, Vitosha Mts., Bosnek, 3.3.2016, P. Mitov; 1 ♀ Rodopi Mts., Rakitovo, way to Siutka peak, 41°53′20″N24°03′52″E, 17.8.2016, E. Zielke. RNHMP: 1 ♀ hut Zdravets, 18.8.1963, Kalchev.

Helina arctata Collin, 1953

Material examined. 2 ♂ Rodopi Mts., N of Siutka peak, forest, 25.7.1964, V.L.; 1 ♂ Dolni Bogrov, 29.5.1965, D. Gogov; 2 ♂ Sofia District, Vrazhdebna, 9.6.1965, D. Gogov; 1 ♂ Dolni Bogrov, 29.6.1965, D. Gogov.

Helina atricolor (Fallén,1825)

= *Helina denudata*, Zetterstedt, 1845

Material examined. 2 ♀ Borovetz = Tcham Kuria, 27.7.1934, P. Drenski; 3 ♀ Rodopi Mts., N of Siutka peak, forest, 25.7.1964, V.L.; 1 ♀ Rodopi, Beglika, 30.8.1965, V.L. **First record for Bulgaria**.

Helina ciliatocosta (Zetterstedt, 1845)

Material examined. 3 ♂ Trigrad, 11.8.1963, V.L.; 2 ♀ Rodopi Mts., Siutka, 14.8.1963 V.L.; 1 ♀ Rodopi Mts., Satovcha, 28.7.1969, V.L.

Helina cinerella (van der Wulp, 1867)

= *Helina vanderwulpi* Schnabl, 1888; = *Helina tuleskovi* Lavčiev, 1968

Material examined. 1 ♂ Rila Mts., springs of Maritsa River, 3.8.1935, P. Drenski; 3 ♀ Rodopi Mts., Perelik 9.8.1963, V.L.; 1 ♂ Rodopi Mts., x. Perelik, 9.5.1963, V.L., (this specimen is marked with a provisional label with the species name "*Helina tuleskovi* Lavciev" in red handwriting); 2 ♀ Rodopi Mts., x. Perelik, 9.5.1963, V.L., (each female marked with a piece of paper, thinly framed with black ink and with the species name "*Helina tuleskovi*" in black handwriting only); 1 ♂ Rodopi Mts., x. Perelik, 9.5.1963, V.L., (marked with a provisional label which reads "*w.p. wulpi*" on the upper half and "*tuleskovi*?" in the lower half, both lines handwritten in pencil)

Remark. All specimens marked as *H. tuleskovi* proved to be *H. cinerella*.

Helina concolor (Czerny, 1900)

Material examined. 1 ♀ Montana, Burziya, 23.9.1964, V.L., det. A.I.; 1 ♂ Sliven District, mountain near Sliven, 2.6.1968, V.L., det. A.I.; 1 ♀ Rodopi Mts., Pamporovo, 24.6.1969, V.L.

Remarks. Lavčiev listed a male from Sliven with the data as recorded above and also reported 1 ♀ from "near the town Montana" collected at 23.6.1964. As the village of

Burziya is located near to Montana, it cannot be excluded that Lavčiev reported the same female mentioned above in the Catalogue, particularly since both specimens were provisionally labelled as *H. concolor*. The difference regarding the collecting-date of the female from Montana might be due to a transcription error.

Helina confinis (Fallén, 1825)

= *Helina anceps* Zetterstedt, 1838

Material examined. 1 ♀ Germanski monastery, 16.7.1911, A. Urunova; 1 ♂ Rodopi Mts., Dospat, 6.8.1925, P. Drenski; 1 ♂ Rodopi Mts., Yundola, 1,500 m,13.8.1939, P. Drenski; 1 ♂ Belogradchik District, Jzvos, 5.7.1963, V.L.; 2 ♀ Stara Planina, N of Kotek, Rasboyna Ridge, 24.8.1965, V.L.; 1 ♂ 6 ♀ Rodopi Mts., Selishte, 24.8.1965, V.L.; 3 ♂ 3 ♀ Rodopi Mts., Beglika, 30.8.1965, V.L.; 1 ♂ Stara Planina, Parshevitsa hut, 17.8.1966, V.L.; 1 ♀ Stara Planina, Parshevitsa, 18.8.1966, V.L.; 1 ♀ Rodopi Mts., Siutka, 25.7.1969, V.L.; 1 ♂ 5 ♀ Rodopi Mts., m. Selishte, 26.7.1969, V.L.; 4 ♂ 2 ♀ Rodopi Mts., Sarnitsa, 26.7.1969, V.L.; 1 ♂ 1 ♀ Rodopi Mts., Persenk, 1.8.1969, V.L.; 1 ♂ 1 ♀ Stara Planina, Zheravna, 23.8.1969, V.L.; 1 ♀ Varna, Priselci village, 3 m a. sl.; 7.8.1971, V.L.; 1 ♂ Pancharevo village, 13.7.1979, Karastojanov.

Remarks. One female from Selishte, 24.8.1965 and the female from Priselci, 7.8.1971 were provisionally labelled as *H. parcepilosa*. Obviously the few setulae on the ventral side of the radial node were not considered.

Helina dabovetsa Zielke, 2017

Material examined. 6 ♂ (among the material: ♂ holotype, 3 ♂ paratypes) Rodopi Mts., Dabovez, 18.6.1969, V.L.

Helina decipiens Mihályi, 1974

Material examined. 1 ♂ Sofia District, Kokalyane, 16.6.1963, V.L.; 2 ♀ Sofia District, Kniajevo, 11.4.1965, V.L.; 1 ♀ Vrazhdebna, 9.6.1965, D. Gogov; 1 ♀ Stara Planina, Rasboyna Ridge, 24.8.1965, V.L.; 1 ♀ Rodopi Mts., Selishte, 24.8.1965, V.L.; 1 ♀ Rodopi Mts., Smolian, 1,000 m, 24.6.1969, V.L., (this female was provisionally labelled, in error, as *H. parcepilosa*). **First record for Bulgaria.**

Helina deleta (Stein, 1914)

Material examined. 1 ♀ Elena Mts., 1,000, 6.6.1968, V.L.; 2 ♂ Rodopi Mts., Pamporovo, 24.6.1969, V.L.; 1 ♂ Rodopi Mts., m. Selishte, 26.7.1969, V.L.; 1 ♂ Rodopi Mts., Pamporovo, 23.6.1970, V.L. **First record for Bulgaria.**

Helina depuncta (Fallén, 1825)

Material examined. 6 ♀ Sofia District, Pancharevo, 1.8.1965, V.L.; 1 ♀ Sofia District, Dragalevtsi, 26.7.1970, V.L.; 1 ♀ Shumen District, hut Bukatsite, 30.9.1976, V.L.; 1 ♀ Rodopi Mts., mountain SE Krastava village, 41°56′24″N; 23°51′50″E, 1,192 m, 7.8.–25.9.2015, T. Ljubomirov.

Helina evecta (Harris, 1780)

= *Helina laetifica* Robineau-Desvoidy, 1830

Material examined. 1 ♀ Borovetz = Tcham Kuria, 4.9.1925, P. Drenski; 1 ♀ Sofia, January 1929, P. Drenski; 1 ♀ Rila Mts., x. Musula, 29.7.1936, P. Drenski; 1 ♂ Hija Kom, 11.7.1963, V.L.; 2 ♀ Smolian District, Stoykite, 8.8.1963, V.L.; 1 ♂ Lyulin, 25.6.1965, V.L.; 1 ♂ Smolian District, Teshel, 25.7.1965, V.L.; 1 ♀ Trigrad Tschairite, 25.7.1965, V.L.; 1 ♀ Smolian District, Stoykite, 26.7.1965, V.L.; 4 ♂ 1 ♀ Rodopi Mts., Pamporovo, 28.7.1965, V.L.; 1 ♀ Rodopi, x. Studenets, 28.7.1965, V.L.; 1 ♀ Rodopi Mts., Tchehlevo, 28.7.1965, V.L.; 1 ♂ Rodopi Mts., Beglika, 30.8.1965, V.L.; 1 ♂ Burziya near Montana, 20.10.1965, V.L.; 2 ♀ Stara Planina, Berkovitsa, 25.10.1965, V.L.; 1 ♀ Varna District, Nessebar (Centre), 7.11.1965, V.L.; 2 ♂ Stara Planina, Bialata Voda, 21.5.1966, V.L.; 1 ♂ Stara Planina, Bialata Voda, 22.5.1966, V.L.; 2 ♀ Stara Planina, Parchovitsa, 1,300 m, 13.7.1966, V.L.; 1 ♂ Pirin Mts., Begovitsa, 1,800 m, 13.7.1966, V.L.; 1 ♀ Stara Planina, Sveti Nicola, 4.8.1966, V.L.; 1 ♀ Belogradchik District, Bialata Voda, 13.8.1966, V.L.; 1 ♀ Belogradchik District, Bialata Voda, 15.8.1966, V.L.; 1 ♂ Scredna Mts., above hut Tuzha, 19.5.1968, V.L.; 1 ♀ Scredna Mts., below hut Tuzha, 19.5.1968, V.L.; 1 ♂ 2 ♀ Sliven District, near Sliven towards Byala village, 2.6.1968, V.L.; 1 ♂ 1 ♀ Rodopi Mts., Smolianski Ezera, 1,500 m, 24.7.1968, V.L.; 1 ♂ 3 ♀ Rodopi Mts., Selishte, 24.8.1968, V.L., det. A.I.; 1 ♀ Rodopi Mts., Lyubimets,18.6.1969, V.L., det. A.I.; 1 ♀ Rodopi Mts., Ivailovgrad, 20.6.1969, V.L.; 1 ♂ Rodopi Mts., Smolianski Ezera, 25.6.1969, V.L.; 1 ♀ Rodopi Mts., Satovcha, 28.7.1969, V.L.; 1 ♂ Stara Planina, 3 km from Kalofer Town Panisite, 18.8.1969, V.L.; 1 ♀ Stara Planina, Vasilovo, 13.5.1972, V.L.; 1 ♀ Shumen District, hut Bukatsite, 29.9.1976, V.L.; 1 ♀ Stara Planina, Chuprene, 14.6.–18.7.2014, P. Mitov; 3 ♀ Stara Planina, Petrochan, 13.8.2015, E. Zielke.

Helina fratercula (Zetterstedt, 1845)

Material examined. 1 ♀ Rodopi Mts., Yundola, 22.7.1965, V.L.; 1 ♂ Trigrad-Tschairite, 25.7.1965, V.L., det. A.I.; 1 ♂ Stara Planina, 3 km from Kalofer Town Panisite, 18.8.1969, V.L., det. A.I.

Helina impuncta (Fallén, 1825)

Material examined. 1 ♂ Varna District, Lukuschna, 29.5.1965, E. Nestorova; 6 ♀ Sofia District, Pancharevo, 1.8.1965, V.L.; 2 ♀ Sandanski, 3.11.1965, V.L.; 1 ♂ Rodopi Mts., Belite Brezi, 24.6.1969, V.L., det. A.I.; 1 ♂ Rodopi Mts., Momchilgrad, 22.6.1970, V.L., det. A.I.; 1 ♀ Troyanski Monastery, 15.5.1972, V.L., det. A.I.; 4 ♀ Shumen District, hut Bukatsite, 30.9.1976, V.L.

Remark. Lavčiev also listed, among others, a male collected near to the town of Momchilgrad, 27.6.1970 and further mentioned 2 ♀ from "Troyan Monastery", but again giving collecting dates (15.6.1972) slightly deviating from the date (15.5.1972) written on the locality label. Only one of the two females mentioned by Lavčiev was found in the collection.

Helina intermedia (Villeneuve, 1899)

Material examined. 1 ♀ Stara Planina, Parshevitsa, 1,300 m, 15.9.1964, V.L.; 1 ♀ Rodopi Mts., Smolianski Ezera, 25.6.1969, V.L. **First record for Bulgaria.**

Helina lasiophthalma (Macquart, 1835)

Material examined. 1 ♀ Vitosha Mts., Kniajevo, 16.6.1921, Dr. I. Buresch; 1 ♂ Ali Botush Planina, 1,347 m, 13.6.1938, P. Drenski; 1 ♀ Rodopi Mts., Ivailovgrad, 9.5.1963, V.L.; 1 ♂ Dolni Bogrov, 29.5.1965, D. Gogov; 1 ♀ Lyulin, 25.6.1965, V.L.; 2 ♂ Burgas District, Nova Panicharevo village, 31.5.1968, V.L.; 1 ♀ Tvardishka

Mts., Sheshkingrad, 3.6.1968 V.L.; 1 ♀ Rila Mts., Parangalitsa, 22.6.1972 V.L.. RNHMP: 1 ♀ Asenovgrad, 16.5.1963, Subeva; 2 ♀ Asenovgrad, 27.5.1963, Subeva.

Remark. Lavčiev also listed a female from Sheshkingrad with the collecting dates as cited above.

Helina latitarsis Ringdahl, 1924

Material examined. 1 ♂ Borovetz = Tcham Kuria 20.–30.7.1922, Dr. I. Buresch; 1 ♀ Sofia District, Gintsi, 29.6.1939, P. Drenski; 1 ♀ Rodopi Mts., Yundola, 11.8.1939, P. Drenski; 1 ♂ Oriacho village, 12.7.1960, leg. n.a.; 3 ♂ 1 ♀ Rodopi Mts., N of Siutka peak, forest, 25.7.1964, V.L.; 1 ♀ Stara Planina, Bialata Voda, 22.5.1965, V.L.; 1 ♂ Trigrad, 25.7.1965, V.L.; 2 ♂ Rodopi Mts., Beglika, 30.8.1965, V.L.; 1 ♂ Stara Planina, Bialata Voda, 21.5.1965, V.L.; 1 ♂ 1 ♀ Stara Planina, Bialata Voda, 22.5.1966, V.L.; 1 ♂ Stara Planina, Bialata Voda, 8.7.1966, V.L.; 2 ♀ Stara Planina, Sveti Nikola, 14.8.1966, V.L.; 1 ♀ Belogradchik District, Bialata Voda, 15.8.1966, V.L.; 2 ♀ Rodopi Mts., Rozhen, 6.6.1967, V.L.; 3 ♂ 1 ♀ Scredna Mts., hut Tuzha, near to river, 1,510 m, 17.5.1968, V.L.; 2 ♂ 1 ♀ Scredna Mts., hut Tuzha, meadow, 1,520 m, 18.5.1968, V.L.; 1 ♂ Scredna Mts., hut Tuzha, near to river, 1,510 m, 19.5.1968, V.L.; 2 ♂ 1 ♀ Scredna Mts., above hut Tuzha, 19.5.1968, V.L.; 1 ♀ Tvardishka Mts., Sheshkingrad, 3.6.1968, V.L.; 2 ♀ Rodopi Mts., Smolianski Ezera, 1,500 m, 24.7.1968, V.L.; 1 ♀ Rodopi Mts., Selishte, 24.8.1968, V.L., det. A.I.; 1 ♀ Rodopi Mts., Persenk, 1.8.1969, V.L.; 1 ♂ Stara Planina, 3 km from Kalofer Town Panisite, 18.8.1969, V.L.; 2 ♂ Stara Planina, under Botev Peak, 1,600 m, V.L.; 18.8.1969, 5 ♂ 2 ♀ Stara Planina, hut Buzludzha, 20.8.1969, V.L.; 2 ♂ Stara Planina, near hut Buzludzha, 20.8.1969, V.L.; 1 ♀ Stara Planina, Zheravna, 23.8.1969 V.L.

Helina laxifrons (Zetterstedt, 1860)

Material examined. 1 ♀ Stargach Mts., 15.6.1938, P. Drenski; 3 ♀ Vitosha Mts., 1,300 m, 26.8.1964 V.L.; 1 ♀ Stara Planina, Parchovitsa, 1,300 m, 13.7.1966, V.L.; 1 ♀ Pirin Mts., between Predel and Razlog, 12.6.1967, V.L.; 1 ♀ Sofia District, Loven Park, 10.6.1972, V.L.

Helina maculipennis (Zetterstedt, 1845)

Material examined. 1 ♀ Stara Planina, Zheravna, 23.8.1969, V.L., det. A.I. **First record for Bulgaria.**

Helina moedlingensis (Schnabl, 1911)

Material examined. 3 ♂ Borovetz = Tcham Kuria, 27.7.1934, P. Drenski; 1 ♀ Rila Mts., x. Musula, 29.7.1936, P. Drenski; 1 ♀ Rodopi Mts., Yundola, 1,500 m, 13.8.1939, P. Drenski; 1 ♀ Pirin Mts., 2.200 m, 15.8.1939, P. Drenski; 1 ♂ Kom hut, 1.7.1963, V.L.; 2 ♀ Rodopi Mts., Yundola, 22.7.1965, V.L.; 1 ♂ Smolian District, Stoykite, 26.7.1965, V.L.; 2 ♀ Rodopi Mts., Selishte, 24.8.1965, V.L.; 1 ♀ Rodopi Mts., Yundola, 26.7.1966, V.L.; 1 ♂ 3 ♀ Rodopi Mts. Smolianski Ezera, 1,500 m, 24.7.1968, V.L.; 1 ♂ 2 ♀ Rodopi Mts., Smolian, 1,000 m, 24.6.1969, V.L.; 1 ♀ Rodopi Mts., Smolianski Ezera, 25.6.1969, V.L., det. A.I.; 1 ♂ Rodopi Mts., Satovcha, 28.7.1969, V.L.; 1 ♀ Trigrad-Tschairite, 29.7.1969, V.L.; 1 ♀ Rodopi Mts., Smolyan District, 31.7.1969, V.L.; 2 ♀ Rodopi Mts., Persenk, 1.8.1969, V.L.

Remarks. Although the ventral side of the radial node was covered with sparse setae and the ventral side of the scutellum was finely haired, one female from Yundola, 22.7.1965, and the female from Smolyan District, 31.7.1969, were marked as *H. parcepilosa* by provisional labels. The male from Stoykite, 26.7.1965, was assigned by temporary label to *H. confinis* in spite of its ventrally-haired scutellum.

Helina momchili Zielke, 2016

Material examined. 1 ♂ (holotype) Rodopi Mts., Momchilgrad, 450m, 22.6.1970, V.L.

Helina montana (Rondani, 1866)

Material examined. 1 ♂ , Sofia, June 1907, N. Nedelkov; 1 ♀ Vitosha Mts., Dragalevtsi Monastery, 16.7.1917, I. Buresch; 2 ♀ Rodopi Mts., Yundola, 13.8.1939, P. Drenski; 1 ♀ Trigrad, 25.7.1965, V.L.

Helina obscurata (Meigen, 1826)

Material examined. 1 ♀ Rila Mts., Borovetz = Tcham Kuria, 27.7.1934, P. Drenski; 1 ♀ Rila Mts., Borovetz = Tcham Kuria, 30.8.1936, P. Drenski; 3 ♂ 2 ♀ Rodopi Mts., Yundola, 1,500 m, 13.8.1939, P. Drenski, det. A.I.; 1 ♀ Rodopi Mts., x. Perelik, 9.6.1963, V.L.; 1 ♀ Rodopi Mts., x. Perelik, 9.8.1963, V.L.; 1 ♂ 1 ♀ Rodopi Mts., Siutka, 14.8.1963, V.L.; 1 ♂ Petrochan, 24.9.1963, V.L.; 2 ♂ 3 ♀ Rodopi Mts., Yundola, 22.7.1965, V.L.; 2 ♂ Smolian District, Stoykite, 26.7.1965, V.L.; 3 ♂ Rodopi Mts., Er Kiupria, 28.7.1965, V.L.; 1 ♀ Rodopi Mts., Pamporovo, 28.7.1965, V.L.; 2 ♀ Rodopi Mts., Persenk, 30.7.1965, V.L.; 1 ♂ Rodopi Mts., Yundola, 23.8.1965, V.L.; 1 ♀ Rodopi Mts., Selishte, 24.8.1965, V.L.; 5 ♂ 2 ♀ Rodopi Mts., Yundola, 22.–27.7.1966, V.L.; 1 ♂ 1 ♀ W. Stara Planina, hut Kom, 16.8.1966, V.L.; 2 ♂ 2 ♀ Rodopi Mts., Smolianski Ezera, 1,500 m, 24.7.1968, V.L.; 1 ♂ 1 ♀ Rodopi Mts., Selishte, 26.7.1968, V.L.; 2 ♂ Rodopi Mts., Smolianski Ezera, 24.6.1969, V.L.; 2 ♂ Rodopi Mts., Studenets, 24.6.1969, V.L., det. A.I.; 2 ♂ Rodopi Mts., Smolianski Ezera, 25.6.1969, V.L, det. A.I.; 2 ♂ 2 ♀ Rodopi Mts., Selishte, 25.–26.7.1969, V.L.; 7 ♂ 3 ♀ Rodopi Mts., Siutka, 25.7.1969, V.L.; 4 ♂ Rodopi Mts., Sarnitsa, 26.7.1969, V.L.; 2 ♀ Rodopi Mts. Pamporovo, 28.7.1969, V.L.; 1 ♀ Rodopi Mts., Trigrad-Tschairite, 29.7.1969, V.L.; 2 ♂ 2 ♀ Rodopi Mts., Perelik, 2.000 m, 30.7.1969, V.L.; 1 ♂ Rodopi Mts., Smolianski Ezera, 31.7.1969, V.L., det. A.I.; 3 ♂ 5 ♀ Rodopi Mts., Persenk, 1.8.1969, V.L.; 1 ♂ 3 ♀ Stara Planina, Botev Peak Kalofer Town, 17.8.1969, V.L.; 8 ♂ Stara Planina, near to Vezhen hut, 22.6.1972, V.L.; 4 ♂ Teteven, Ribaritsa, 22.6.1972, V.L.; 1 ♀ Teteven, Vasilovo, 22.7.1972, V.L.

Remarks. One of the males collected near to Vezhen hut, 22.6.1972, was provisionally labelled as *Helina latitarsis*. The scar of the anterodorsal seta on the only mid-tibia was probably not recognized.

Helina parcepilosa (Stein, 1907)

= *Helina calceataeformis* Schnabl, 1911

Material examined. 1 ♀ Sofia, 20.5.1934, P. Drenski; 1 ♀ Rodopi Mts., Krumovgrad, 21.6.1970, V.L.

Helina protuberans (Zetterstedt, 1845)

Material examined. 1 ♀ Rodopi Mts., Yundola, 23.8.1965, V.L. **First record from Bulgaria.**

Helina pubescens (Stein, 1893)

Material examined. 1 ♀ Vitosha Mts., 23.10.1965, V.L.; 2 ♀ Sandanski, 3.11.1965, V.L.; 1 ♀ Petrich to Ograzden Mts., 4.11.1965, V.L. RNHMP: 1 ♂ Koprivshtitsa, 10.6.1964, Bassamokov.

Helina pubiseta (Zetterstedt, 1845)

Material examined. 2 ♀ Rodopi Mts., Rakitovo, way up to Siutka peak, 41°53′20″N24°03′52″E, 17.08.2016, E. Zielke.

Helina quadrinotata (Meigen, 1826)

Material examined. 2 ♀ Smolyan District, Stoykite, 26.7.1965, V.L., det. A.I.; 1 ♀ Sandanski, 12.7.1966, V.L.; 1 ♂ Rodopi Mts., Siutka, 25.7.1969, V.L.

Remarks. Lavčiev reported 1 ♀ from Rhodopi Mts., near Stoykite village, collected at 25.6.1965. It cannot be excluded that this is identical with one of the two females mentioned above from Stoykite. Each specimen was already marked as *H. quadrinotata* with an individual, provisional label. However, only one female was mentioned by Lavčiev in the catalogue.

Helina quadrum (Fabricius, 1805)

Material examined. 1 ♀ Rodopi Mts., Mandritsa, 19.6.1969, V.L.

Helina reversio (Harris, 1780)

= *Helina duplicata* Meigen, 1826

Material examined. 1 ♂ Kritschim near Plovdiv, 25.06.1913, I. Buresch; 1 ♀ Sofia (Seminar), May 1922, W. Grigoriew; 1 ♀ Sofia, 20.5.1934, P. Drenski; 2 ♂ 1 ♀ Borovetz = Tcham Kuria, 27.07.1934, P. Drenski; 1 ♂ Ali Botush Planina, 1,347 m, 13.6.1938, P. Drenski; 1 ♀ Ali Botush Planina, 1,350 m, 13.6.1938, P. Drenski; 1 ♂ Stargach Mts., Nevrokop, 15.6.1938, P. Drenski; 1 ♂ Sofia District, Gintsi, 29.6.1939, P. Drenski; 1 ♀ Troyan District, Vencite, 20.6.1940, P. Drenski; 1 ♂ Trojanski Balkan, Selishte, 1,000 m, 20.8.1941, P. Drenski, det A.I.; 1 ♀ Rodopi Mts., Perelik, 9.6.1963, V.L.; 2 ♀ Ropotamo, 26.6.1963, V.L.; 2 ♂ 1 ♀ Belogradchik, 4.7.1963, V.L.; 1 ♂ 1 ♀ Belogradchik District, Jzvos, 5.7.1963, V.L.; 1 ♀ Belogradchik District, Jzvos, 6.7.1963, V.L.; 1 ♂ 1 ♀ Ivailovgrad, 3.8.1963, V.L.; 1 ♂ Rodopi Mts., Siutka, 14.8.1963, V.L.; 1 ♀ Parshevitsa, 15.9.1964, V.L.; 1 ♂ Berkovitsa, m. Chereshovitsa, 9.5.1965, V.L., det. A.I.; 1 ♂ 2 ♀ W. Stara Planina, Bialata Voda, 22.5.1965, V.L.; 1 ♀ Rodopi Mts., Yundola, 22.7.1965, V.L.; 2 ♂ 2 ♀ Smolyan District, Stoykite, 26.7.1965, V.L.; 1 ♀ Rodopi Mts., Studenets, 28.7.1965, V.L.; 1 ♀ Rodopi Mts., Er Kiupria, 29.7.1965, V.L.; 2 ♂ 1 ♀ Rodopi Mts., Yundola, 23.8.1965, V.L.; 1 ♀ Stara Planina, Rasboyna Ridge, 24.8.1965, V.L.; 2 ♂ 2 ♀ Rodopi Mts., Selishte, 24.8.1964, V.L., det. A.I.; 4 ♂ 4 ♀ W. Stara Planina, Bialata Voda, 21.5.1966, V.L.; 1 ♀ W. Stara Planina, Bialata Voda, 22.5.1966, V.L.; 2 ♂ 3 ♀ W. Stara Planina, Bialata Voda, 8.7.1966, V.L.; 1 ♂ Ropotamo, 9.7.1966, V.L.; 1 ♀ Pirin Mts., Popina Laka, 1,300 m, 13.7.1966, V.L.; 1 ♂ Rodopi Mts., Yundola, 22.7.1966, V.L.; 1 ♀ Rodopi Mts., Selishte, 28.7.1966, Witinova; 1 ♀ W. Stara Planina, Bialata Voda, 13.8.1966; 1 ♂ Rodopi Mts., Momchilgrad, 3.6.1967, V.L.; 1 ♀ Rodopi Mts., Rozhen, 6.6.1967, V.L.; 2 ♀ Pirin Mts., Predel Pass, 12.6.1967, V.L.; 1 ♂ Ropotamo, 27.6.1967, V.L.; 1 ♂ 1 ♀ Pirin Mts., Lilyano fish farm, 1,100, 11.8.1967, V.L.; 2 ♀ Primorsko, 3.5.1968, V.L.; 1 ♀ Svoye Town, 10.5.1968, V.L.; 1 ♀ near Kalofer Town, 17.5.1968, V.L.; 3 ♂ 13 ♀ Scredna Mts., hut Tuzha, near river, 1,510 m, 17.5.1968, V.L.; 5 ♂ 5 ♀ Scredna Mts., hut Tuzha, meadow, 1,520 m, 18.5.1968, V.L.; 6 ♂ 2 ♀ Scredna Mts., hut Tuzha, near river, 1,510 m, 19.5.1968, V.L.; 4 ♂ 1 ♀ Scredna Mts., above hut Tuzha, 19.5.1968, V.L.; 2 ♂ 3 ♀ Zheravna, 21.5.1968, V.L.; 1 ♀ Sofia District, Kokalyane, 16.6.1968; V.L.; 1 ♂ 2 ♀. Rodopi Mts., Smolianski Ezera, 1,500 m, 24.7.1968, V.L.; 1 ♀ Trigrad, 25.7.1968, V.L.; 2 ♂ Rodopi Mts., Lyubimets, 18.6.1969, V.L., det. A.I.; 1 ♀

Rodopi Mts., Pamporovo, 24.6.1969, V.L.; 1 ♀ Rodopi Mts., Smolyan, 600–700 m, 24.6.1969, V.L.; 3 ♀ Smolyan District, Smolianski Ezera, 1,000 m, 24.6.1969, V.L., det. A.I.; 3 ♀ Rodopi Mts., Studenets, 24.6.1969, V.L., det. A.I.; 1 ♀ Smolyan District, Smolianski Ezera, 25.6.1969, V.L.; 1 ♀ Smolyan District, x. Smolianski Ezera, 1,500 m, 24.7.1969, V.L; 1 ♀ Rodopi Mts., Sarnitsa, 25.7.1969, V.L.; 1 ♀ Rodopi Mts., dam near Sarnitsa, 24.7.1969, V.L.; 6 ♂ 7 ♀ Rodopi Mts., Selishte, 25.7.1969, V.L.; 3 ♂ 2 ♀ Rodopi Mts., Siutka, 25.7.1969, V.L.; 1 ♀ Rodopi Mts., Persenk, 26.7.1969, V.L.; 2 ♀ Rodopi Mts., Sarnitsa, 26.7.1969, V.L.; 2 ♂ 3 ♀ Rodopi Mts., Satovcha, 28.7.1969, V.L.; 3 ♂ Rodopi Mts., Trigrad Tschairite, 29.7.1969, V.L.; 1 ♂ Rodopi Mts., Perelik, 2,000 m; 30.7.1969, V.L.; 1 ♂ 1 ♀ Rodopi Mts., Persenk, 1.8.1969, V.L.; 1 ♂ , Rodopi Mts., Yundola, 18.8.1969, V.L.; 1 ♂ 1 ♀ Stara Planina, 3 km from Kalof Town Panisite, 18.8.1969, V.L.; 1 ♂ 1 ♀ Stara Planina, near Kalof Town south Botev Peak; 1,400 m, 18.8.1969, V.L.; 2 ♂ Stara Planina, under Botev Peak, 1,600 m, 18.8.1969, V.L.; 1 ♀ Stara Planina, hut Buzludzha, 20.8.1969, V.L.; 1 ♀ Stara Planina, near hut Buzludzha, 20.8.1969, V.L.; 2 ♂ Sliven District, near Sliven under Bulgarka Peak, 22.8.1969, V.L.; 1 ♂ 3 ♀ Stara Planina, Zheravna, 23.8.1969, V.L.; 1 ♀ Rodopi Mts., Ivailovgrad, 20.6.1970, V.L.; 1 ♀ Rodopi Mts., Smolyan, 600–700 m, 23.6.1970, V.L.; 1 ♀ Banya village, (Panagyurishte), 8.8.1971, V.L.; 1 ♂ Stara Planina, Glozhene, 13.5.1972, V.L.; 5 ♂ Beklemeto Pass, 1,000 m, 16.5.1972, V.L.; 4 ♀ Kazanlak Krunska Korya, 17.5.1972, V.L.; 1 ♂ Stara Planina, Zheravna, 18.5.1972, V.L.; 1 ♂ Stara Planina, near to Vezhen hut, 22.6.1972,V.L.; 2 ♂ 1 ♀ Teteven, Ribaritsa, 22.6.1972, V.L.; 2 ♀ Teteven, Vasilovo, 22.6.1972, V.L.; 1 ♂ near to Petrich, 900 m, 16.5.1973, V.L.; 1 ♀ Rila Mts., fish lakes 13.7.1991, E. Kozuharova; 1 ♀ Rodopi Mts., Matan dere, W. Medeni Polyani, 41°51′08″N23°46′14″E, 16.8.2016, E. Zielke. NMNHS: 1 ♀ Germanski Monastery, 25.6.1913, D. Iltchev. 1 ♀ Sofia, May 1922, W. Grigoriew. RNHMP: 1 ♂ Hissar, 9.7.1963, Kalchev; 1 ♂ 2 ♀ Asenovgrad, 28.4.1964, Subeva; 2 ♂ Plovdiv District, Zlatovrah, 10.6.1964, Subeva; 2 ♂ Asenovgrad, 10.7.1964, Subeva; 1 ♀ Elchowo, 22.6.1967, Subeva; 1 ♂ Elchowo, 23.6.1967, Subeva.

Remarks. The females recorded from Bialata Voda, 22.5.1966, and from Smolyan, 23.6.1970, were both provisionally labelled *Helina parcepilosa*. However, the two specimens have short but distinct prealar setae, and the longest arista-hairs are barely as long as the width of postpedicel.

Helina richardi Pont, 2012

Material examined. 1 ♀ Stargach, Tower no. 4, 1,250 m, 15.6.1938, P. Drenski. **First record for Bulgaria.**

Remarks. This female was collected in 1938 in the Stargach Mountains in Bulgaria, close to the border with Greece. Although the locality and adjacent areas were investigated several times before and after 1938, no other similar specimens were found. Probably due to the fact that the fly was not examined after collecting, it was not noticed that the radial node of this *Helina* species is haired not only ventrally but also dorsally, and that therefore the specimen constituted a new species. Only in 2012 was the species described by Pont as *Helina richardi*, based on type material of approx. 60 specimens from Morocco collected between 1952 and 1963, 20 males and females from Spain collected between 1963 and 2001 and one female from Greece collected in 1982. *H. richardi* appears to be quite common in certain biotopes in Morocco and Spain but is obviously rare in Bulgaria.

Helina rilae Zielke, 2017

Material examined. 1 ♂ (holotype) Cemkovo, 1,800 m, 16.6.1968, V.L.

Helina sexmaculata (Preyssler, 1791)

= *Helina punctata* Robineau-Desvoidy, 1830

Material examined. 1 ♀ Sofia, 20.5.1934, P. Drenski, det. A.I.; 1 ♂ W. Stara Planina, Bialata Voda, 22.5.1966, V.L., det. A.I.

***Helina siutkae* Zielke, 2017**

Material examined. 1 ♂ (holotype) Rodopi, x. Siutka, 14.8.1963, V.L.

***Helina subvittata* (Séguy, 1923)**

= *Helina rothi* Ringdahl, 1939

Material examined. 1 ♀ Rila Mts., Borovetz = Tcham Kuria, 1.8.1923, I. Buresch; 1 ♀ Rodopi Mts., Studenets, 28.7.1965, V.L., det. A.I.; 1 ♀ Rodopi Mts., Tchehlevo, 24.8.1965, V.L., det. A.I.

Remarks. The female from Tchehlevo mentioned above is also listed by Lavčiev from "Chehliovo" with identical collecting dates.

***Helina syracusana* Hennig, 1957**

Material examined. 1 ♀ Er. Kiupria, 11.5.1963, V.L.; 1 ♂ 2 ♀ Rodopi Mts., Perelik, 9.8.1963, V.L., det. A.I.; 1 ♀ Petrochan, 4.8.1964, V.L. The species is not listed in *Fauna Europaea* (Pont 2013), however, it is considered as a valid species by *Systema Dipterorum* (Pape & Thompson 2013) and the current version of Catalogue of Life (Roskov *et al.* 2018). Therefore the species is also here considered as good. **First record for Bulgaria.**

***Helina tetrastigma* (Meigen, 1826)**

= *Helina flagripes* Rondani, 1866

Material examined. 1 ♂ Burgas District, Rezovo, 27.6.1963, V.L.; 2 ♀ Sandanski, 3.11.1965, V.L.; 1 ♂ Ropotamo, 9.7.1966, V.L., det. A.I; 1 ♀ above Bansko, 900 m, 15.6.1967, V.L.

Species of *Helina* previously reported from Bulgaria

The following species were recorded by Lavčiev (2003) in Catalogus Faunae Bulgaricae (= CFB) and the majority of the species is also assigned to Bulgaria in Faunae Europaea (Pont 2013) (= FE), but no specimens were found in any of the three collections screened for Phaoniinae.

***Helina cilipes* (Schnabl, 1902)**

Remarks. Lavčiev listed a total of 10 specimens, with the following collecting data: Stara planina Mts., village Zheravna, 23.7.1963, 1 ♂ and 3 ♀; Rhodopes Mts., village

Stoykite (Smolyan), 26.7.1965, 1 ♀ and village Selishte (Smolyan) at 27.5.1969 4 ♂ and 26.7.1969 1 ♂.

Among the material examined, five specimens originating from Zheravna and Selishte were detected, each one marked with a provisional label as *H. cilipes*. However, all five specimens proved to be *Helina confinis*; none of them belonged to *H. cilipes*. The species is also recorded from Bulgaria in FE.

***Helina interfusa* (Pandellé, 1899)**

Remarks. 1 ♂ is listed in the CFB from western Stara Planina, near the town of Vidin, collected 20.9.1964. However Zielke & Baňař (2018) report that the specimen was discovered at the Natural History Museum in London and proved to be a female of *Helina pubescens*. The species is also recorded for Bulgaria in FE.

***Helina obscuratoides* (Schnabl, 1887)**

Remarks. 2 ♀ from western Stara Planina, Sv. Nikola pass, 5.8.1963, were recorded in CFB. The species is not listed for Bulgaria in FE.

***Helina obtusipennis* (Fallén, 1823)**

Remarks. Four localities for this species were specified in CFB: "Stara planina Mts. – near village Zheravna (Sliven), 23.8.1969, 1 ♀; Rhodopes Mts. – on the foot of Peak Siutkia, 14.07.1963, 2 ♀, 1 ♂; near Smolyan, 25.06.1965, 1 ♀; near hut Studenets (Smolyan), 27.07.1969, 3 ♂". The species is also mentioned from Bulgaria in FE.

***Helina pandellei* (Villeneuve, 1922)**

Remarks. 2 ♂ and 1 ♀ of the species were reported in CFB from the western Rhodopes Mts., near the village of Zaburdo (Smolyan), 25.5.1973. The species is also listed for Bulgaria in FE.

***Helina setiventris* Ringdahl, 1924**

Remarks. The species is recorded in CFB from the western Rhodopes Mts., at the foot of peak Siutkia, 14.7.1963, 1 ♂ and 1 ♀; from Stara Planina Mts., near Vidin 1 ♂ , without specification of time of collection, and from Kokaliane (Sofia) from 3.8.1963. The species is also noted for Bulgaria in FE.

***Helina spinicosta* (Zetterstedt, 1845)**

Remarks. Without collection details, the species is mentioned in CFB from Stara Planina Mts., Shastingrad (Sliven) and from western Rhodopes near Smolyan.

One female, provisionally labelled as "*Hel. spinicosta*" and collected on 24.8.1965 in Selishte, which is close to Smolyan, was found in the collection and could be one of the specimens mentioned by Lavčiev. However, this female, with some weak setae on the ventral side of the radial node of the wing and sparse setulae on the ventral surface of the scutellum, proved to be *Helina moedlingensis*. *H. spinicosta* is not listed for Bulgaria in FE.

Helina trivittata (Zetterstedt, 1860)

= *Helina atripes* Meade, 1889

Remarks. According to CFB, three specimens were collected in Bulgaria, 1 ♂ in Western Stara Planina Mts., near Belogradchik, 4.7.63; 1 ♂ and 1 ♀ in the western Rhodopes Mts. on 24.7.1965 and 26.7.1965 respectively. The species is also mentioned for Bulgaria in FE.

Helina tuleskovi Lavčiev, 1968

= synonym of *Helina cinerella* (van der Wulp, 1867)

Remarks. Although Pont (1986) reported that this species was synonymized with *H. cinerella* (van der Wulp, 1867), Lavčiev listed *H. tuleskovi* as still valid in CFB, from the locality: "Northern slope of Mt. Golyam Perelik, Rhodopes planina Mts., 9.08.1963, 3 ♂ and 2 ♀." Four specimens (2 ♂ 2 ♀) provisionally labelled as *H. tuleskovi* were found in the IBER collection. Although the flies were collected on the same day at the type locality they were not marked as type-material. According to the description of the species (Lavčiev 1968), *H. tuleskovi* is primarily distinguished from *H. cinerella* by the latter's postpedicel, which is only twice as long as wide, and by short ventral arista-hairs, which appear in the figure with the description (Lavčiev 1968) as not much longer than the basal diameter of the arista. None of the specimens labelled as *H. tuleskovi* matched these specific indications and they were accordingly assigned to the earlier synonymization to *H. cinerella*.

Genus *Phaonia* Robineau-Desvoidy, 1830

The following findings of *Phaonia*-species are listed as an addition to the recently-published distribution records of *Phaonia* from Bulgaria (Zielke 2016a). With the exception of *P. profugax* and *P. sandanskii*, all other *Phaonia*-species mentioned below have already been considered in the earlier update, and therefore are not included in Table 1 below. The additional data presented here amend existing knowledge of the distribution of the species in Bulgaria.

Phaonia angelicae (Scopoli, 1763)

Material examined. 1 ♀ Rodopi Mts., N of Siutka peak, forest, 25.7.1964, V.L.; 1 ♀ Rila Mts., Borovetz, 22.8.1975, V.L.

Phaonia errans (Meigen, 1826)

Material examined. 1 ♀ Shumen District, near to hut Bukasite, 16.6.1976, V.L.

Phaonia mediterranea Hennig, 1963

Material examined. 1 ♀ Stara Planina, Chuprene, 18.7.2014, P. Mitov.

Phaonia meigeni Pont, 1986

(= *Phaonia lugubris* auct. *nec* Meigen, 1826)

Material examined. 1 ♀ Vitosha Mts., 1,300–1,400 m, 4.6.1950, P. Drenski.

Phaonia pallida (Fabricius, 1787)

Material examined. 1 ♂ Burgas District, Arkutino, 30.8.1963, V.L.; 1 ♂ Ropotamo, 29.8.1965, V.L.; 2 ♂ 2 ♀ Rodopi Mts., Ivailovgrad, 20.6.1969, V.L.

Phaonia palpata (Stein, 1897)

Material examined. 1 ♀ Teteven District, Ribaritsa, 15.5.1968, V.L.; 1 ♂ Sofia, ul. Elin Pelin, 25.7.2017, E. Zielke.

Phaonia perdita (Meigen,1830)

Material examined. 1 ♂ Smolyan District, Stoykite, 26.7.1965, V.L.; 1 ♀ Pirin Mts., Predel Pass, 12.6.1967, V.L.

Phaonia pratensis (Robineau-Desvoidy, 1830)

Material examined. 1 ♂ Zlatograd, 6.8.1963, V.L.

Phaonia profugax (Pandellé, 1899)

Material examined. 1 ♀ Rodopi Mts., Selishte, 24.8.1965, V.L. **First record from Bulgaria**.

Remarks. The specimen had been provisionally labelled by an anonymous identifier as *Helina depuncta*. The presence of the main character for the differentiation between the two genera *Phaonia* and *Helina*, the long postero-dorsal seta on the distal third of the hind-tibia, was not considered in the identification and without this character the other characteristics of the specimen may lead to *Helina depuncta*.

Phaonia regalis (Stein, 1900)

Material examined. 2 ♀ Rodopi Mts., Ivailovgrad, 20.6.1969, V.L.

Phaonia sandanskii Zielke, 2017

Material examined. 1 ♀ (holotype) Sandanski, 3.11.1965, V.L.

Phaonia scutellata (Zetterstedt, 1845)

Material examined. 1 ♀ Stara Planina, Chuprene, 13.6.–18.7.2014, P. Mitov.

Phaonia serva (Meigen, 1826)

Material examined. 1 ♀ W. Stara Planina, Bialata Voda, 21.5.1966, V.L.; 1 ♀ N Gostun village, 28.6.2016, E. Chelarov.

Phaonia subventa (Harris, 1780)

Material examined. 1 ♂ Pirin Mts., above Belitsa town, 900 m, 13.6.1963, V.L.; 1 ♀ Vitosha Mts., 23.10.1965, V.L.; 1 ♀ Pirin Mts., below Predel and Razlog, 12.6.1967, V.L.; 1 ♂ near Kalofer Town, 17.5.1968, V.L.; 1 ♀ Stara Planina, Chuprene, 13.6.–18.7.2014, P. Mitov; 1 ♂ Rodopi Mts., Rakitovo foothill Siutka peak, 41°53′07″N24°04′13″E, 17.8.2016, E. Zielke.

Phaonia tiefii (Schnabl, 1888)

Material examined. 1 ♀ Rila Mts., x. Musula, 29.7.1936, P. Drenski.

Phaonia trimaculata (Bouché, 1834)

Material examined. 1 ♀ Teteven District, Ribaritsa, 15.5.1968, V.L.; 1 ♀ Rodopi Mts., x. Studenets, 28.7.1965, V.L.; 1 ♀ Sofia, ul Elin Pelin, 8.6.2016, E. Zielke.

Phaonia tuguriorum (Scopoli, 1763)

Material examined. 1 ♀ Lyulin, 25.6.1965, V.L.; 1 ♂ Rodopi Mts., Momchilgrad, Vurbitsa river bed, 239 m, 41°32′34″N25°23′23″E, 15.8.2016, E. Zielke.

Phaonia valida (Harris, 1780)

Material examined. 1 ♀ Pirin Mts., near river, Belitsa town, 900 m, 13.6.1963, V.L.; 1 ♂ Smolyan District, Stoykite, 26.7.1965, V.L.; 1 ♂ Sofia District, Pancharevo, 1.8.1965, V.L.; 2 ♀ Shumen District, hut Bukatsite, 29.9.1976, V.L.; 1 ♀ Shumen District, hut Bukatsite, 30.9.1976, V.L.; NMNH: 1 ♀ Sofia, July 1934, P. Drenski.

Phaonia zugmayeriae (Schnabl, 188)

Material examined. 1 ♀ Rila Mts., Maljovitsa hut, 17.8.1962, V.L.

Discussion

The chapter "Muscidae" (Pont 1986) in the "*Catalogue of Palaearctic Diptera*" indicates that 55 species of the subfamily Phaoniinae were known from Bulgaria at the time of publication. The number of Phaoniinae-species has been supplemented by two further species in "*Fauna Europaea*" (Pont 2013). Lavčiev (2003) summarized the findings of Muscidae in Bulgaria and reported a total of 66 species of the subfamily Phaoniinae. The current investigation on the distribution of Phaoniinae species in Bulgaria revealed a total of 88 species, of which 71 were found among the material collected in the last 110 years in the country, while 17 species have been included in the compilation as they have been reported in literature as known from Bulgaria. Eight of the species identified are new records for the country. Six *Helina* species recorded by Pont (2013) and by Lavčiev (2003) and two other *Helina* species listed for Bulgaria only by Lavčiev were not found among the material studied. Regarding the genus *Phaonia* (Zielke 2016a), three species listed by Pont and by Lavčiev, five species listed only by Lavčiev and one species mentioned only by Pont respectively were not identified in the collections when they were screened for Phaoniinae. From the total of 88 Phaoniinae-species reported from Bulgaria by Lavčiev (2003), Pont (2013), Zielke (2016a, 2016b, 2017b) and by the current update, 46 species belong to the genus *Helina*, 40 to *Phaonia* and one each to *Atherigona* and *Eginia*.

Records of species of the genus *Phaonia* from the countries neighbouring Bulgaria have recently been addressed (Zielke 2016a). The distribution of the species of the remaining genera, such as *Atherigona*, *Eginia*, *Helina* and *Lophosceles*, in the adjacent countries of Greece, Romania, and Serbia is presented for comparison in Table 1, based on the data provided by the latest version of Fauna Europaea (Pont 2013). The knowledge of Phaoniinae species from Macedonia and the European part of Turkey – both countries also sharing a border with Bulgaria – is very poor. Only *Atherigona varia* and *Helina reversio* have been recorded from Macedonia and no reports were found for the European part of Turkey (Pont 2013). Of the eight species newly recorded for Bulgaria, seven were already known from at least one of the neighbouring countries. Only *Helina syracusana* has not yet been reported from the adjacent countries. This is also true of *H. obscuratoides* and *H. spinicosta*, which were reported from Bulgaria only by Lavčiev (2003) but not by Pont (2013). While the IBER collection contains male and females of *H. syracusana*, to date no specimens of *H. obscuratoides* have been disclosed among the material investigated and the only female specimen marked with a provisional label as "*Hel. spinicosta"* proved to be a wrongly identified *H. moedlingensis*.

Among the material studied, *Helina reversio* was the most common species, with 206 specimens, collected on 98 different days and in 67 different localities, followed by *Helina obscurata* , with 104 flies captured on 33 different dates and in 20 different

Table 1. Species of the genera *Atherigona*, *Eginia*, *Helina* and *Lophosceles* reported from Bulgaria (BG), Greece (GR), Romania (RO) and Serbia (S) in comparison with the current findings. (LAV = Lavčiev 2003; PONT = Pont 2013; BG 2017 = current update). With the exception of *P. profugax* and *P. sandanskii,*the findings of *Phaonia*-species reported from Bulgaria have already been discussed in an earlier contribution (Zielke 2016a). (Continued.) →

No	Genera and species	BG 2017	BG LAV	BG PONT	GR PONT	R PONT	S PONT
	Atherigona Rondani, 1856						
1	*A. soccata* Rondani, 1871				+		
2	*A. varia* (Meigen, 1826)	+	+	+	+	+	+
	Eginia Robineau-Desvoidy, 1830						
3	*E. ocypterata* (Meigen, 1826)	+				+	+
	Helina Robineau-Desvoidy, 1830						
4	*H. abdominalis* (Zetterstedt, 1846)				+	+	+
5	*H. allotalla* (Meigen, 1830)	+	+	+			
6	*H. annosa* (Zetterstedt, 1838)	+	+	+			
7	*H. arctata* Collin, 1953	+		+		+	
8	*H. atricolor* (Fallén, 1825)	+				+	
9	*H. beloloba* Lyneborg, 1965				+		
10	*H. dabovetsa* Zielke, 2017	+					
11	*H. calceata* (Rondani, 1866)					+	
12	*H. celsa* (Harris, 1780)					+	
13	*H. chaetopyga* (Malloch, 1921)				+		
14	*H. ciliatocosta* (Zetterstedt, 1845)	+	+	+			
15	*H. cilipes* (Schnabl, 1902)		+	+			
16	*H. cinerella* (Van der Wulp, 1867)	+	+	+			
17	*H. clara* (Meigen, 1826)				+		
18	*H. concolor* (Czerny, 1900)	+	+	+		+	
19	*H. confinis* (Fallén, 1825)	+	+	+		+	
20	*H. czernyi* Lyneborg, 1970				+		
21	*H. decipiens* Mihályi, 1974	+			+		
22	*H. deleta* (Stein, 1914)	+				+	
23	*H. depuncta* (Fallén, 1825)	+	+	+		+	
24	*H. evecta* (Harris, 1780)	+	+	+	+	+	+
25	*H. fratercula* (Zetterstedt, 1849)	+	+	+			
26	*H. impuncta* (Fallén, 1825)	+	+	+		+	
27	*H. interfusa* (Pandellé, 1899)		+	+			
28	*H. intermedia* (Villeneuve, 1899)	+				+	
29	*H. lasiophthalma* (Macquart, 1835)	+	+	+	+	+	+
30	*H. latitarsis* Ringdahl, 1924	+	+	+		+	
31	*H. laxifrons* (Zetterstedt, 1860)	+	+	+			
32	*H. maculipennis* (Zetterstedt, 1845)	+				+	+
33	*H. moedlingensis* (Schnabl, 1911)	+	+	+	+		+
34	*H. momchila* Zielke, 2016	+					
35	*H. montana* (Rondani, 1866)	+	+	+			
36	*H. nevadannosa* Lyneborg, 1970				+		
37	*H. obscurata* (Meigen, 1826)	+	+	+		+	
38	*H. obscuratoides* (Schnabl, 1887)		+				
39	*H. obtusipennis* (Fallén, 1823)		+	+			
40	*H. pandellei* (Villeneuve, 1922)		+	+			
41	*H. parcepilosa* (Stein, 1907)	+	+	+	+	+	
42	*H. pertusa* (Meigen, 1826)				+	+	
43	*H. pollinosa* (Stein, 1900)					+	
44	*H. protuberans* (Zetterstedt, 1845)	+			+	+	
45	*H. pubescens* (Stein, 1893)	+	+	+	+	+	
46	*H. pubiseta* (Zetterstedt, 1845)	+	+	+			
47	*H. quadrinotata* (Meigen, 1826)	+	+				

No	Genera and species	BG 2017	BG LAV	BG PONT	GR PONT	R PONT	S PONT
48	*H. quadrum* (Fabricius, 1805)	+	+	+	+		
49	*H. reversio* (Harris, 1780)	+	+	+	+	+	+
50	*H. richardi* Pont, 2012	+			+		
51	*H. rilae* Zielke, 2017	+					
52	*H. setiventris* Ringdahl, 1924		+	+		+	
53	*H. sexmaculata* (Preyssler, 1791)	+	+	+	+	+	
54	*H. siutkae* Zielke, 2017	+					
55	*H. spinicosta* (Zetterstedt, 1845)		+				
56	*H. straminea* Hennig, 1963				+		
57	*H. subvittata* (Séguy, 1923)	+	+	+			
58	*H. syracusana* Hennig, 1957	+					
59	*H. tetrastigma* (Meigen, 1826)	+	+	+		+	
60	*H. trivittata* (Zetterstedt, 1860)		+	+			
61	*H. vicina* (Czerny, 1900)				+	+	
	Lophosceles Ringdahl,1922						
62	*L. cinereiventris* (Zetterstedt,1845)						+
	Phaonia Robineau-Desvoidy, 1830						
63	*P. profugax* (Pandellé, 1899)	+				+	
64	*P. sandanskii* Zielke, 2017	+					
	Number of species	**42**	**34**	**32**	**22**	**29**	**9**

localities. More than 20 specimens of *Helina evecta* (53 specimens/ 36 different days/ 33 different localities), *Helina latitarsis* (40/27/21), *Helina confinis* (40/17/15), *Helina moedlingensis* (29/16/15), and *Helina annosa* (24/16/16) were also found. Of all the other listed species, considerably fewer specimens were identified. Six species were only represented by one specimen, although many collecting efforts have been conducted in Bulgaria over a period of more than a century in a variety of biotopes.

Acknowledgements

I am very grateful to Dr. Toshko Ljubomirov, Associate Professor and Curator of the scientific zoological collection of the Institute of Biodiversity and Ecosystem Research, Sofia for supporting my research on Muscidae by giving me generous access to the Diptera collection, and for providing all the facilities needed for the examination of the material. Particular thanks are due to him for his substantial contribution to the translation and transcription of the many locality labels that were handwritten in Cyrillic script. I also would like thank Dr. Mario Longourov from the National Museum of Natural History, Sofia and Dr. Ognyan Todoro, Head of the Regional Natural History Museum of Plovdiv, for access to the Diptera collections of these museums. I am also very grateful to Prof. Plamen Mitov (Faculty of Biology, Sofia University "St. Kliment Ohridski") for providing me with muscid specimens. I also thank Tony Long (Svinošice) for working up the English.

References

Couri M. & Pont A. 2016: New African species of *Helina* Robineau-Desvoidy (Diptera, Muscidae). *Zootaxa* **4103(4):** 373–382.

Gregor F., Rozkošný R., Barták M. & Vaňhara J. 2002: The Muscidae (Diptera) of Central Europe. *Folia Facultatis Scientiarum Naturalium Universitatis Masarykianae Brunensis, Biologia* **107:** 1–280 pp.

Gregor F., Rozkošný R., Barták M. & Vaňhara J. 2016: Manual of Central European Muscidae (Diptera). *Zoologica* **162:** 1–220.

Hennig W. 1964: Muscidae. In: Lindner, E. (ed.).: Die Fliegen der palaearktischen Region. E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart **63b:** 1–1110 pp.

Hubenov Z. 2016: The Dipterans (Insecta: Diptera) of the Rila Mountains. *Historia naturalis bulgarica* **23:** 37–99.

Lavčiev V. 1968: Eine neue Art der Gattung *Helina* R.-D. aus Bulgarien (Diptera, Muscidae). *Reichenbachia* **10:** 63–64.

Lavčiev V. 2003: Diptera: Fanniidae, Muscidae, Stomoxydidae. *Catalogus Faunae Bulgaricae* **5,** Pensoft, Sofia,77 pp.

Pape T. & Thompson F. C. 2013: *Systema Dipterorum*. Version 1.5; http://www.diptera.org/ (accessed 2017/05/17).

Pont A. C. 1986: Family Muscidae. In: Soós A. & Papp L. (eds.): *Catalogue of Palaearctic Diptera*. Akadémiai Kiadó, Budapest, **11:** 57–215.

Pont A. C. 2012: Distribution records of *Helina* Robineau-Desvoidy, 1830 (Diptera: Muscidae) from the Caucasus Mountains, with the descriptions of three new species. *Zootaxa* **3409:** 30–46.

Pont A. C. 2012: *Helina richardi* (Diptera: Muscidae), a remarkable new species from the Mediterranean subregion. *The Canadian Entomologist* **144:** 348–352.

Pont A. C. 2013: *Fauna Europaea: Muscidae*. In: Pape T. & Beuk P.: *Fauna Europaea: Diptera Brachycera.* Fauna Europaea, version 2017.06; http//www.fauna-eu.org/ (accessed: 31.08.2017).

Rozkošný R., Chvála M. & Pont A. C. (1982): Diptera described by Johann Daniel Preyssler, 1790–1793. *Scripta Facultatis Scientiarum Naturalium Universitatis Masarykianae Brunensis* **12:** 349–356.

Roskov Y., Abucay L., Orrell T. *et al.* (eds.) 2018: Species 2000 & ITIS Catalogue of Life, 30th June 2018. www.catalogueoflife.org/col. [accessed 2018/07/23]. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405–8858.

Sorokina V. S. 2015: New species of the genus *Phaonia* R.-D., 1830 (Diptera, Muscidae) from Central Asia. *Zootaxa* **4013:** 571–587.

Xue W. Q., Rong H. & Du J. 2014: Descriptions of six new species of *Phaonia* Robineau-Desvoidy (Diptera: Muscidae) from China. *Journal of Insect Science* **14(132):** 1–23.

Xue W. & Sun H. 2015: Diagnosis and key for the *Helina annosa*-group (Diptera: Muscidae) from China, with descriptions of eight new species. *Journal of Natural History* **49(25–26):** 1549–1583.

Xue W. & Sun H. 2015: Diagnosis and key for the *Helina subpubiseta*-group (Diptera: Muscidae) from China, with the descriptions of nine new species. *Journal of the Entomological Research Society* **17(2):** 17–37.

Xue W. Q. & Tian X. 2012: Thirteen new species of the genus Helina R.-D. (Diptera: Muscidae) from China. *Journal of Natural History* **46(9–10):** 565–598.

Xue W. Q. & Zang X. 2013: A study of the *Phaonia angelicae* group (Diptera: Muscidae), with descriptions of six new species from China. *Journal of Insect Science* **13(129):** 1–16.

Yu T. & Xue W. 2015: Three new species of the *Phaonia acerba* group (Diptera: Muscidae) from Palaearctic and Oriental Regions. *Entomologica Fennica* **26:** 1–7.

Zielke E. 2016a: Update of distribution records of *Phaonia* Robineau-Desvoidy (Diptera: Muscidae) from Bulgaria with the description of a new species. *Journal of Entomology and Zoology Studies* **4(4):** 626–632.

Zielke E. 2016b: Description of a new species of *Helina* Robineau-Desvoidy (Diptera, Muscidae) from the Rhodope Mountains of Bulgaria. *Contributions to Entomology* **66(2):** 321–324.

Zielke E. 2017a: Description of two new species of the genus *Helina* Robineau-Desvoidy (Diptera: Muscidae) from Iran. *Acta Musei Moraviae, Scientiae biologicae* **102(1):** 35–42.

Zielke E. 2017b: Four new species of the subfamily Phaoniinae (Diptera: Muscidae) from Bulgaria. *Journal of Entomology and Zoology Studies* **5(6):** 901–908.

Zielke E. & Bañař P. 2018: More records of Muscidae (Diptera) from Croatia with a short comment on the hitherto reported findings of *Helina interfusa* (Pandellé) in Europe. *Acta Musei Moraviae, Scientiae biologicae* **103(2):** 281–285.