



Original Contribution

HORSE FLIES (DIPTERA, TABANIDAE) OF SURNENA SREDNA GORA MOUNTAIN, BULGARIA

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ABSTRACT

Generalized data on the diversity of tabanid species in Surnena Sredna Gora is presented for the first time. Published and original data confirms the existence of 48 species from 10 genera: *Silvius* (1 species), *Chrysops* (3 species), *Atylotus* (3 species), *Hybomitra* (5 species), *Tabanus* (21 species), *Theriopectes* (1 species), *Heptatoma* (1 species), *Haematopota* (10 species), *Dasyrhamphis* (2 species) and *Philipomyia* (1 species). Twenty-nine localities were registered, 13 of which were reported for the first time.

Information about the precise localities, number and sex of captured specimens, as well as the dates of their collection is presented for 24 species, collected in the period of year 2002 to 2005.

The identified diversity of species represents 62.34 % of the current Bulgarian tabanid fauna (77 species). From a zoogeographical point of view, the predominant species are the Mediterranean ones.

Key words: tabanids, species composition, Surnena Sredna Gora Mountain, Bulgaria

INTRODUCTION

Surnena Gora Mountain is the longest, yet, the lowest of the three morphological parts of Sredna Gora Mountain. The analysis of the published data on the composition of tabanid species in the mountain indicates that at the beginning of the previous century, (1) reported the existence of 3 species (*Silvius alpinus* Scop., *Tabanus bromius* L. and *T. glaucopis* Mg.) from Turia village, Kazanluk region (Surnena Sredna gora Mountain). The presence of these species in the fauna of Surnena Sredna Gora Mountain was confirmed by (2) in the course of a systematic research of the fauna and ecology of the tabanids in Stara Zagora region. She reported 47 species from 5 localities in the Eastern part of Surnena Sredna Gora Mountain (2). As per further studies on the Tabanidae family, conducted by (3-4), she added another species (*Dasyrhamphis umbrinus* Mg.) to the registered 47 species and 10 new localities from the region of Surnena Sredna Gora Mountain.

No other data on the distribution of blood sucking tabanids in Surnena Sredna Gora and the other two parts of the mountain has been published. This fact determines our objective to establish a purposeful research of the tabanid fauna in Sredna Gora Mountain.

The current article is a part of this research. It aims to analyze the collected up until now from different routes in Surnena Sredna Gora Mountain material and to conclude on the condition of the tabanid fauna in Surnena Sredna Gora Mountain on the basis of the available at this point information.

MATERIALS AND METHODS

The study of the tabanid fauna in Surnena Sredna Gora Mountain is a part of general research on the diversity of the tabanid species in Sredna Gora Mountain.

The material of bloodsucking flies from the Tabanidae family was collected from 16 localities during different route marches on the territory of Surnena Sredna Gora (2002-2005).

The tabanids were collected by means of an entomological net and were processed in laboratory conditions. The determination of species was completed according to (5-6). The sequence of species' arrangement in the list of

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identified species was done per the Catalogue of Palaearctic Diptera (7).

Lists of the localities and the identified species are presented. The localities are arranged according to the sequence of material collection during the course of the study.

List of the localities in Surnena Sredna Gora Mnt.

1. *Oriahovitza village*: 22.06.2003, 2♀; 2.07.2003, 4♀; 3.07.2003, 1♀; 29.06.2004, 40♀; 3.08.2005, 132♀.
2. "Zheleznik" district – *Stara Zagora*: 6.06.2002, 2♀.
3. *"*Mechi Kladenec*" area: 2.06.2002, 2♀; 9.06.2003, 4♀; 24.05.2005, 13♀; 25.05.2005, 4♀; 5.06.2005, 3♀.
4. **Trakia University*: 17.06.2003, 1♀; 8.08.2004, 1♀; 24.05.2005, 1♀; 28.07.2005, 6♀;
5. **Kirilovo village*: 18.06.2003, 3♀.
6. *Kunchevo village* : 17.07.2003, 1♀.
7. **Asenovetz*: 4.07.2004, 6♀.
8. **Borilovo village*: 21.08.2004, 19♀.
9. **Pavel Bania town*: 21.08.2004, 4♀;
10. **Bania village*: 20.07.2005, 4♀.
11. **Orizari village*: 20.07.2005, 2♀.
12. **Korten village*: 20.07.2005, 4♀.
13. **Stara Zagora mineral spa*: 8.07.2005, 75♀; 28.07.2005, 164♀.
14. **Tundja River*: 20.07.2005, 28♀.
15. **Gorno Novo Selo village*: 9.08.2005, 23♀.
16. **Dolno Novo Selo village* : 9.08.2005, 17♀.

*- new localities in Surnena Sredna Gora

RESULTS AND DISCUSSION

566 ♀ specimens were collected in the period of 2002-2005 as a result of route marches on the territory of Surnena Sredna Gora Mountain. Their determination led to identification of 24 species from 6 genera: *Chrysops* (3 species), *Atylotus* (1 species), *Hybomitra* (1 species), *Tabanus* (16 species), *Haematopota* (2 species) u *Philipomyia* (1 species) (Table 1).

Most diversified in terms of species is genera *Tabanus*, presented by 16 species. The reported for this genera species represent 59.26 % of all registered for the Bulgarian tabanid fauna *Tabanus* species. The species characterized by the highest number of specimens is *T. tergestinus* Egg. – 47.17% (267 ♀ specimens). This is one of the dominant for Stara Zagora region tabanid species, identified during the

regular, accomplished in a period of several years, studies in the region (2). The registered large number of specimens during the route collection of tabanids in Surnena Sredna Gora Mountain confirms these results. The highest number of *T. tergestinus* specimens was collected in the locality of Stara Zagora Mineral Spa - 170 ♀ during July 2005 (Table 1). The obtained results totally correspond to the phenological and ecological peculiarities of the species. *T. tergestinus* is a poliseasonal species, which reaches its maximum activity and number peak during the month of July. The peak period varies in accordance with the meteorological conditions and the microclimate peculiarities of the biotopes.

Besides *T. tergestinus*, with large numbers of specimens are characterized as well the species *T. glaucopsis* (17.84 %) and *Atylotus loewianus* (8.83%). The greatest number of specimens from the species *T. glaucopsis* were caught in Oriahovitza village, 3.08.05., 61♀ (1, Table 1) and Stara Zagora Mineral Spa, 28.07.05., 36♀ (13, Table 1), whereas from *A. loewianus* – in Gorno Novo Selo village, 9.08.05., 19♀ (15, Table 1), Stara Zagora Mineral Spa, 28.07.05., 11♀ (13, Table 1) and Oriahovitza village, 3.08.05., 10♀ (1, Table 1). The indicated data shows that *T. glaucopsis* and *A. loewianus* have the highest levels of the activity at the end of July and the beginning of August. These species are late summer species and the maximum activity registered during the terrain reports confirms the identified for them phenological patterns.

The analysis of the obtained results and the published data on the composition of the tabanid fauna in Surnena Sredna Gora Mnt. show that the determined 24 species are already known for the region of Surnena Sredna Gora. At this point no new species have been identified for the researched region, but yet 13 new tabanid localities have been registered.

The published data and collected material lead to the conclusion that the tabanid fauna of Surnena Sredna Gora Mnt. is represented by 48 species from 10 genera: *Silvius* (1 species), *Chrysops* (3 species), *Atylotus* (3 species), *Hybomitra* (5 species), *Tabanus* (21 species), *Theriopectes* (1 species), *Heptatoma* (1 species), *Haematopota* (10 species), *Dasyrhamphis* (2 species) and *Philipomyia* (1 species). The current study confirmed the

existence of 24 of the species, reported for Surnena Sredna Gora Mnt.

The identified diversity of species represents 62.34 % of the current Bulgarian tabanid fauna

(77 species). From a zoogeographical point view, the predominant species are the Mediterranean ones.

Table 1. Distribution of the established species on the localities

Species	Localities from Surnena Sredna Gora Mountain																Total specimens	% of total specimens
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
<i>Chrysops caecutiens</i> (L.)	2										1						3	0.53
<i>C. ludens</i> Lw.	1															1	2	0.35
<i>C. viduatus</i> (Fabr.)						1											1	0.18
<i>Atylotus loewianus</i> (Vill.)	10							1	4				11		19	5	50	8.83
<i>Hybomitra ciureai</i> (Ség.)	3						1										4	0.71
<i>Tabanus autumnalis</i> L.		1															1	0.18
<i>T. bifarius</i> Lw.	1																1	0.18
<i>T. bovinus</i> L.	1																1	0.18
<i>T. bromius</i> L.	22						1					1	5	1	1	2	33	5.83
<i>T. cordiger</i> Mg.																1	1	0.18
<i>T. exclusus</i> Pand.	24												1	1			26	4.59
<i>T. glaucopsis</i> Mg.	61							3		1			36				101	17.84
<i>T. maculicornis</i> Zett.	1													1			2	0.35
<i>T. miki</i> Br.& Berg.	1																1	0.18
<i>T. quatuornotatus</i> Mg.			1	1													19	3.36
<i>T. rupium</i> (Br.& Berg.)	1																1	0.18
<i>T. shannonellus</i> Kr.								1	5								15	2.65
<i>T. sp. ponticus</i> Ols., M.& Chv.	2									2		1		1			6	1.06
<i>T. tergestinus</i> Egg.	43	1	4	5	3		4			1	1	2	170	24	3	6	267	47.17
<i>T. tinctus</i> Walk.				1									7				8	1.41
<i>T. unifasciatus</i> Lw.	1			2									4				7	1.24
<i>Haematopota italica</i> g.													1			1	2	0.35
<i>H. pluvialis</i> (L.)	1															1	2	0.35
<i>Philipomyia graeca</i> (Fabr.)	4		4										4				12	2.12
Totally specimens	179	2	2	9	3	1	6	1	4	4	2	4	239	28	23	1	566♀	100
Totally species	17	2	3	4	1	1	3	3	1	3	2	3	9	5	3	7	24	

CONCLUSIONS

1. The tabanid fauna of Surnena Sredna Gora Mnt. is represented by 48 species from 10 genera: *Silvius* (1 species), *Chrysops* (3 species), *Atylotus* (3 species), *Hybomitra* (5 species), *Tabanus* (21 species), *Therioplectes* (1 species), *Heptatoma* (1 species),

Haematopota (10 species), *Dasyrhamphis* (2 species) and *Philipomyia* (1 species).
 2. The current study confirmed the existence of 24 species from 6 genera: *Chrysops* (3 species), *Atylotus* (1 species), *Hybomitra* (1 species), *Tabanus* (16 species), *Haematopota* (2 species) u *Philipomyia* (1 species).

3. Summarized data on the diversity of the tabanid fauna in Surnena Sredna Gora Mnt. is presented for the first time.
4. It is for the first time that 13 new localities were reported for Surnena Sredna Gora Mnt.

Checklist of Tabanidae (Diptera) from Surnena Sredna Gora Mnt.

Family Tabanidae

Subfamily Chrysopsinae

Genus *Silvius* Meigen, 1820

Silvius (Silvius) alpinus (Scopoli, 1763)

Genus *Chrysops* Meigen, 1803

Chrysops (Chrysops) caecutiens (Linnaeus, 1758)

Chrysops (Chrysops) ludens Loew, 1858

Chrysops (Chrysops) viduatus (Fabricius, 1794)

Subfamily Tabaninae

Genus *Atylotus* Osten-Sacken, 1876

Atylotus flavoguttatus (Szilady, 1915)

Atylotus loewianus (Villeneuve, 1920)

Atylotus rusticus (Linnaeus, 1767)

Genus *Therioplectes* Zeller, 1842

Therioplectes tricolor pallidicauda (Olsufjev, 1937)

Genus *Hybomitra* Enderlein, 1922

Hybomitra caucasi (Szilady, 1923)

Hybomitra ciureai (Séguy, 1937)

Hybomitra decora (Loew, 1858)

Hybomitra distinguenda (Verrall, 1909)

Hybomitra pilosa (Loew, 1858)

Genus *Tabanus* Linnaeus, 1758

Tabanus autumnalis Linnaeus, 1761

Tabanus bifarius Loew, 1858

Tabanus bovinus Linnaeus, 1758

Tabanus briani Leclercq, 1962

Tabanus bromius Linnaeus, 1758

Tabanus cordiger Meigen, 1820

Tabanus exclusus Pandellé, 1883

Tabanus glaucopis Meigen, 1820

Tabanus indrae Hauser, 1939

Tabanus maculicornis Zetterstedt, 1842

Tabanus miki Brauer in Br. & Bergenstamm, 1880

Tabanus prometheus Szilady, 1923

Tabanus quatuornotatus Meigen, 1820

Tabanus regularis Jaennicke, 1866

Tabanus rupium (Brauer in Br. & Bergenstamm, 1880)

Tabanus shannonellus Kröber, 1936

Tabanus spectabilis Loew, 1858

Tabanus spodopterus ponticus Olsufjev, Moucha & Chvála, 1967

Tabanus tergestinus Egger, 1859

Tabanus tinctus Walker, 1850

Tabanus unifasciatus Loew, 1858

Genus *Heptatoma* Meigen, 1803

Heptatoma pellucens (Fabricius, 1776)

Genus *Haematopota* Meigen, 1803

Haematopota bigoti Gobert, 1880

Haematopota csikii Szilady, 1922

Haematopota grandis Meigen, 1820

Haematopota italica Meigen, 1804

Haematopota longeantennata (Olsufjev, 1937)

Haematopota ocelligera (Kröber, 1922)

Haematopota pandazisi (Kröber, 1936)

Haematopota pluvialis (Linnaeus, 1758)

Haematopota scutellata (Olsufjev, Moucha & Chvála, 1964)

Haematopota subcylindrica Pandellé, 1883

Genus *Dasyrhamphis* Enderlein, 1922

Dasyrhamphis ater (Rossi, 1790)

Dasyrhamphis umbrinus (Meigen, 1820)

Genus *Philipomyia* Olsufjev, 1964

Philipomyia graeca (Fabricius, 1794)

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