

## First record of *Phaenopsectra flavipes* (Meigen, 1818) in Slovakia with notes on its ecology

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*Phaenopsectra flavipes* (Meigen, 1818) is a chironomid with a Holarctic distribution and is commonly found throughout Europe (Sæther and Spies 2013). Larvae are widespread in slowly flowing or stagnant waters but are never numerous (Moller Pillot 2009). They prefer to inhabit stems and leaves of aquatic plants; findings from sandy and stony bottoms are scarce (Moller Pillot 2009). The larvae are most likely primarily detritivores, however, they can feed as grazers and perhaps also as active filter feeders (Moog 2002). In Slovakia, only larvae of the *Phaenopsectra* genus have been reported to date, thus Bitušík and Brabec (2009) did not include *P. flavipes* in the check list of the Slovak Chironomidae and Sæther and Spies (2013) list the presence of the species as doubtful. During our large-scale survey of the Slovakian ponds (BIOPOND, for details see Novikmec et al. 2016), pupal exuvia of *P. flavipes* were found, resulting in the first official record of this species in Slovakia. In the present paper we bring details of the finding with information on the environmental conditions of the habitats of occurrence.

### Diptera: Chironomidae: Chironominae: Chironomini: *Phaenopsectra flavipes* (Meigen, 1818)

Material examined: a pond close to Moškovec village (Fig. 1a), C Slovakia, 48.9492222 N, 18.8475556 E, 440 m a. s. l., 1 pupal exuvia, 29. 8. 2013, leg. L. Hamerlík, det. et coll. V. Štillová. Larvae of *Phaenopsectra* most likely belonging to the same species were collected from two other sites: a pond near Holiša



Figure 1. Pictures of the sites of the first record of *Phaenopsectra flavipes*: a pond near Moškovec with the occurrence of the pupal exuvia (a) and the ponds near Holiša (b) and Strážany (c) where larvae of *Phaenopsectra* sp. were recorded. Photo M. Svitok.

(Fig. 1b), C Slovakia, 48.3068611 N, 19.7512222 E, 175 m a. s. l., 10. 7. 2013 (1 larva), and a pond next to Stráňany (Fig. 1c), E Slovakia, 48.3430667 N, 20.5265528 E, 824 m a. s. l., 16. 7. 2013 (2 larvae).

The material was collected using a combination of drift sampling (to obtain pupal exuviae) and the PLOCH method (Oertli et al. 2005) to collect larvae. Preimaginal stages were picked, mounted as permanent slides and identified using keys by Langton and Visser (2003) and Wiederholm (1983). The material is deposited at the Department of Biology and Ecology, Matej Bel University, Banská Bystrica, Slovakia.

In our study, all three sampling sites (ponds) with the occurrence of *Phaenopsectra* harboured fish and macrophytes with *Berula erecta*, *Equisetum fluviatile*, *Eriophorum angustifolium*, and *Potamogeton berchtoldii* being the most dominant (R. Hrivnák, pers. comm). Fine sediment constituted the bottom of ponds near Holiša and Stráňany, while the bottom of the Moškovec pond was more heterogeneous, consisting of coarse mineral substrate, gravel and fine sediment (50%, 30%, and 20%, respectively). The catchment area of the Moškovec pond was dominated primarily by grassland, while that of Stráňany and Holiša were dominated by forested and urbanized land, respectively. Other specific hydromorphological and physio-chemical data for each pond can be found in Table 1.

Table 1. Hydromorphological and physio-chemical characteristics of the studied ponds and land use in the catchment.

Variable/ site name	Unit	Moškovec	Holiša	Stráňany
Altitude	m a. s. l.	440	175	824
Area	m <sup>2</sup>	117	78	7,612
Depth	cm	143	78	178
<b>Substrate</b>				
Fine	%	20	100	100
Sand	%	0	0	0
Gravel	%	30	0	0
Coarse	%	50	0	0
<b>Water chemistry</b>				
pH		7.3	7.6	8.1
Conductivity	µS cm <sup>-1</sup>	668	596	239
Ca	mg L <sup>-1</sup>	31.88	18.85	14.36
Fe	µg L <sup>-1</sup>	0.5	17	32
Mg	µg L <sup>-1</sup>	26.42	12.92	7.12
Mn	µg L <sup>-1</sup>	1.25	219.74	11.97
P	µg L <sup>-1</sup>	15	172	0.5
NH <sub>4</sub>	mg L <sup>-1</sup>	0.16	0.84	0.63
NO <sub>3</sub>	mg L <sup>-1</sup>	1.09	0.35	0.9
NO <sub>2</sub>	mg L <sup>-1</sup>	0.03	0.06	0
PO <sub>4</sub>	mg L <sup>-1</sup>	0.3	0.39	0.05
<b>Land use</b>				
Arable land	%	0	0	0
Forests/shrubs	%	0	8	87
Grassland	%	67	22	12
Urbanized	%	33	70	0
Waterbodies	%	0	0	1

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