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PLATYPHYLAX FRAUENFELDI BRAUER, 1857 (TRICHOPTERA, LIMNEPHILIDAE) IN HUNGARY

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Abstract. In the autumn of 1996 we collected for the first time by hand specimens of Platyphylax frauenfeldi. It is known from 14 sites in Hungary. Altogether 119 specimens were taken between 1975 and 1996. The last existing population of this species in the world breeds in the Dráva river along the border between Hungary and Croatia. This vulnerable and endangered species is on the verge of extinction.

In the autumn of 1996 we collected for the first time by hand specimens of Platyphylax frauenfeldi Brauer 1857 from a white sheet illuminated by MV-light. All the earlier Hungarian specimens had been captured only in automatic light traps.
The species was described and figured in the middle of the last century, as a new member of the genus Enoicyla by Brauer (1857). Very few specimens were collected until McLachlan's work (1884-90), where another species was described under the name Platyphylax pallescens which proved to be a synonym of P.frauenfeldi. This work gives Austria, Switzerland and France (Marseille) as known localities. Another specimen without data was deposited in a collection in Admont, Austria, but the voucher specimen does not exist (Malicky 1979). During recent decades hardly any data were published by European authors, so it could be supposed that the species is disappearing.

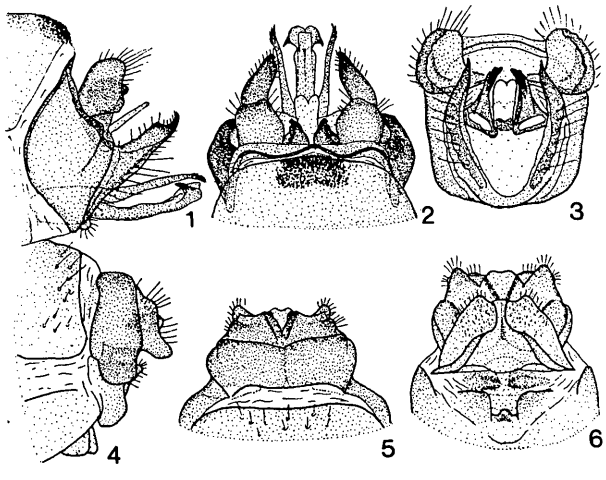

Fig. 1. The genitals of Platyphylax frauenfeldi Brauer. Male lateral (1), dorsal (2) and ventral (3); female lateral (4), dorsal (5) and ventral (6).

The first Hungarian specimen was caught in Magyarszombatfa in West Hungary (Ujhelyi 1981a) in 1975. The next capture was at Barcs-Középrigóc (Ujhelyi 1981b, Nógrádi 1985). In the eighties and nineties 100 further specimens were taken in six other sites in the area of Southwest Hungary. Most of these adults were caught in Szentborbás (40♂♂, 11♀♀), Őrtilos (31♂♂, 10♀♀) and Szentpéterfölde (5♂♂); from the other sites only single specimens were known (Nógrádi & Uherkovich 1995a, 1995b, Nógradi et al. 1985, Uherkovich & Nógrádi 1992).
The habitat in which the development of this species takes place was initially uncertain because the earlier known locality names covered a variety of different habitats. In 1989 a light trap operated close by the Dráva river, at Szentborbás, captured 51 adults between 25th October and 2nd November (Uherkovich & Nógrádi 1992). Later (in 1992 and 1993) another trap on the Dráva river captured a further 41 specimens (Nógrádi & Uherkovich 1995b). Thus we are of the opinion that the larvae develop in the river.
Since 1992 we tried repeatedly to find other localities along the river by personal collections at light. Although we visited several sites along the river during the period of the flying season (second half of October and beginning of November), we were unable to collect any adults. Therefore we supposed that this animal flies in the very late night or at dawn. During the first half of November 1996 the weather was rather mild, so we also visited different sites to sample autumn caddisflies. On 5th, 11th and 12th November we collected altogether eleven adults (5♂♂, 6♀♀) of P.frauenfeldi at three new sites, on illuminated sheets. The adults were active at twilight (around half past five) and their activity lasted for one and a half hours in Vízvár where we have taken nine adults. In the other two sites (Bélavár, Barcs-Szilonics) the single adults arrived about an hour after sunset. Later we got some material from Dr.L.Abrahám, who had small portable light traps at some sites along Dráva river. They contained also P.frauenfeldi from three other sites. At the moment the following specimens are known from Hungary:

Localities	Coordinates	Date	♂♂	♀♀	leg.
Barcs,Dráva-part	17°26',45°57'	17.10.1996	1		plt
Barcs,Szilonics-puszta	17°23',45°57'	12.11.1996	1		U
Barcs,Középrigóc	17°33',45°58'	5.10.1976	1		lt
Bélavár,Zsdála-mouth	17°11',46°07'	11.11.1996		1	U
Bőszénfa,Ropolypuszta	17°47',46°15'	18.10.1980	1		lt
Kaposfő	17°38°,46°21'	25.10.1986	1		lt
Magyarszombatfa	16°21',46°46'	6.11.1975	1		lt
Őrtilos,Dráva river	16°53',46°18'	18.-21.10.92	4		lt
		22.-24.10.92	3		lt
		25.-28.10.92	4	2	lt
		11.-12.10.93	1		lt
		13.10.1993	1		lt
		15.10.1993	2		lt
		18.10.1993	1		lt
		5.-6.11.93	4	4	lt
		7.11.1993	2	2	lt
		8.-9.11.93	9	2	lt
Őrtilos,inundation area	16°53',46°17'	29.10.1996	3	1	plt
Sumony	17°55',45°48'	1.-31.10.90	1		lt
Szentborbás,Dráva river	17°39',45°52'	25.-28.10.89	21	3	lt
		30.10.-2.11.89	19	8	lt
Szentpéterfölde	16°47',46°40'	1.-15.11.89	1		lt
		16.-31.10.90	1		lt
		16.-30.11.90	2		lt
		3.11.1991	1		lt
Vízvár,Dráva river	17°14',46°05'	5.11.1996	4	5	N+U
Zákány,Dráva backwater	16°56',46°15'	28.10.1996	1		plt

Abbreviations: lt = light trap (mercury vapour bulb), plt = portable light trap (with blacklight tube), N = Sára Nógrádi, U = Akos Uherkovich.

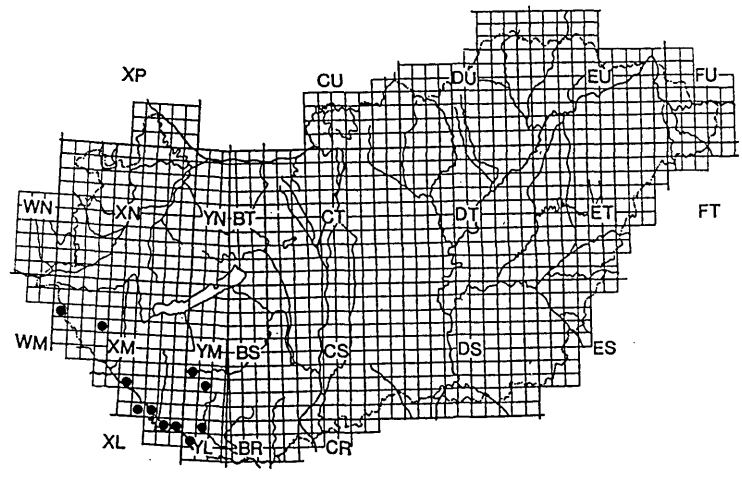

Fig. 2. Distribution of Platyphylax frauenfeldi Brau. in Hungary on UTM grid map.

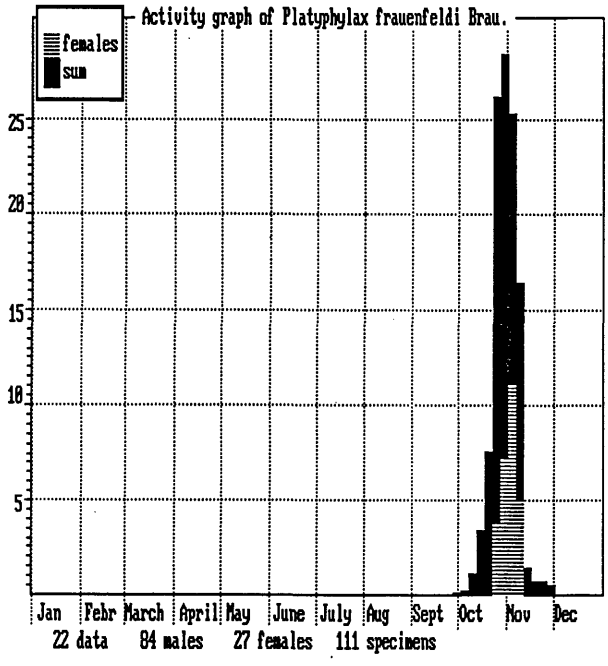

Fig. 3. Activity graph of Platyphylax frauenfeldi Brau. in Hungary.

The Hungarian distribution is given in Fig.2, and the activity in Fig.3.

The majority of specimens are deposited in the collection of the Natural History Department of Janus Pannonius Museum, Pécs; a male and a female are in the Forschungsinstitution Senckenberg, Frankfurt am Main, Germany; a few specimens in Hans Malicky's collection, Lunz am See, Austria; and a male and a female in the National Natural History Museum, Smithsonian Institution, Washington DC, USA.

Presumably, the larvae live and develop mostly in large rivers. The only stable population in the world breeds in the Dráva river (Localities: Barcs-Dráva-part, Barcs-Szilonics, Bélavár, Őrtilos - two sites, Szentborbás, Vízvár, Zákány, see table). Sometimes it can be swept away by wind to nearby areas (Barcs-Középrigóc, Sumony). Small, unstable populations may occur in minor, unpolluted brooks (Bőszénfa-Ropolypuszta, Kaposfő, Szentpéterfölde, Magyarszombatfa). These populations must be threatened since the habitats are subject to pollution and modification. It is quite probable that one or two of these populations have disappeared recently.

Since 1993 P.frauenfeldi is a protected species in Hungary (Nógrádi & Uherkovich 1994) it is included in the Hungarian Red Data Book (Rakonczay 1990).

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Species of 3 indusigenera, Terrindusia Vialov (9 spp.), Folindusia Berry (6 spp.), and Ostracindusia Vialov (1 sp.) are described from the Middle and Upper Jurassic localities Khoutiin-Khotgor and Bakhar. The larvae lived in shallow lakes rich in organic material produced by algae. This is the first record of the true Integripalpian cases from as old beds as Jurassic. The adults found with these cases in Khoutiin-Khotgor (Upper Jurassic) are classified as Multimodus sp. (Vitimotauliidae). No adults but Baga bakharica (tentatively Philopotamidae) were found in Bakhar (Middle Jurassic); the imaginal remnant is older than the larval ones. Terrindusia ochrotrichoides from Bakhar could be the Hydroptilidae. Large variations in the case construction could reflect the flexibility of early building behaviour since they do not correspond with the imaginal diversity.

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