

TRICHOLEIOCHITON FAGESII (GUINARD, 1879) – A NEW CADDISFLY (TRICHOPTERA, HYDROPTILIDAE) SPECIES TO LITHUANIAN FAUNA*EGLĖ ŠIDAGYTĖ, GIEDRĖ VIŠINSKIENĖ, KĘSTUTIS ARBAČIAUSKAS*

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Introduction

We present the first record of caddisfly *Tricholeiochiton fagesii* (Guinard, 1879) from Lithuania. This species is known from most neighboring countries; therefore, its occurrence in the country was expected. Within the Hydroptilidae family, 19 species were previously known from Lithuania (Višinskienė, 2009). Information on the new caddisfly species and the peculiarities of its larvae distribution are provided in this paper.

Material and Methods

The investigations of benthic macroinvertebrates were carried out in Biržulis Lake, North-West Lithuania. It is a small boggy lake (surface area 1.15 km², mean depth 0.9 m) that has recently been facing substantial eutrophication. Using a standard dip net (25×25 cm opening net bag with a mesh size of 0.5 mm) a semi-quantitative three-minute sweep sample of macroinvertebrates was collected from submerged vegetation, i.e. the underside of floating reed thickets, submerged and floating plants, including *Potamogeton* sp. and *Stratiotes aloides* (O'Hare *et al.*, 2007; Arbačiauskas, 2009). The sampling encompassed approx. 15-m stretch along the edge of the floating reed thicket. The depth at the sampling site was approx. 1.5 m, thus sampling was carried out from a boat.

Locality

Telšiai district Varniai Regional Park, Biržulis Lake 55.770833, 22.439722

Results

One larva of *Tricholeiochiton fagesii* (Guinard, 1879) (synonyms: *Leiochiton fagesii* Guinard, 1879; *Oxyethira felina* Ris, 1897) was collected on 12 08 2015 in Biržulis Lake among aquatic vegetation (Eglė Šidagytė).

Discussion

The larvae of the Hydroptilidae family are the smallest caddisfly larvae (2.5–7.5 mm) (Wallace *et al.*, 2003). For this reason the larvae are usually identified only to genera level. For most family representatives, precise species identification is possible only in the adult stage. The hydroptilid larvae are free-living until the fifth instar, and later

produce portable cases made of sand, silk or algae, strongly laterally-flattened in most genera. The appearance of the larvae in the final instar is also very different. The larvae are found in different types of water bodies (lakes, ponds, rivers, and streams), feed on periphyton, fine organic particles, some filamentous algae and fluids of plant tissue.

According to the Fauna Europaea (Malicky, 2013) *T. fagesii* is a widespread species, referred from 18 European countries, including the neighboring countries, Poland and Latvia. In the database, no data on *T. fagesii* occurrence in Belarus or Estonia have been reported. However, this species is mentioned as a part of the caddisfly fauna of these countries in other publications (e.g. Czachorowski & Moroz, 2007; Timm *et al.*, 2011). Hence the species was expected to occur in Lithuania as well.

The limnophilous-tyrphophilous larvae of *T. fagesii* are rarely encountered in small still and weedy water bodies in Poland and the British Isles (Czachorowski, 2010; Wallace *et al.*, 2003; Wallace, 2016). However, in a Hungarian marsh Hagymás-lapos, larvae of *T. fagesii* were found to dominate the caddisfly assemblage (Móra *et al.*, 2005). The species is included in the red list of caddisflies in Pomerania (Czachorowski & Pietrzak, 2002) and considered vulnerable in the Czech Republic (Chvojka & Komzák, 2008).

The Lithuanian record was from a typical habitat. The larva of *T. fagesii* occurs exceptionally in phytal microhabitats (algae, mosses and macrophytes including living parts of terrestrial plants) of the littoral zone (ASTERICS, 2013). In Poland, the species was found in Lake Krypko, which was identified as a mesotrophic/eutrophic lake, in 0.4 m depth of submerged reed mesohabitat (Czachorowski, 2010). During Hungarian marsh investigations (Móra *et al.*, 2005) it was found out that this species is significantly more abundant in the *Carex disticha* dominated sedge stands than in *Carex riparia* dominated stands. The species was also found out to prefer shallow water and scarcer plant cover.

The laterally compressed case of *T. fagesii* larva is made of silk secretions, with its anterior and posterior openings of similar size and shape (Fig. 1a). The larvae can be easily identified by their extremely long legs: the 2nd and 3rd pairs of legs are 4–5 times longer than the 1st pair of legs (Wallace *et al.*, 2003) (Fig. 1b). The larvae can be found in weedy ponds, lakes and bog pools. Adults of *T. fagesii* have very characteristic genitalia and are usually found in July (Barnard & Ross, 2012).

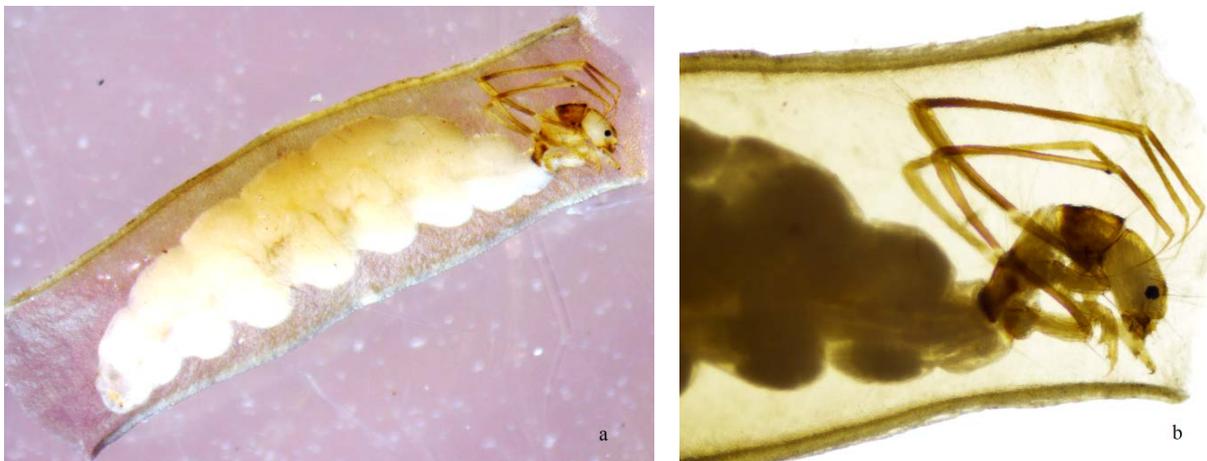


Figure 1. Larva of *T. fagesii* in its case (a, b). Note the characteristically long legs (b)

Since studies on Lithuanian caddisfly fauna were started in 1917, 7 genera (*Agraylea*, *Allotrichia*, *Hydroptila*, *Ithytrichia*, *Orthotrichia*, *Oxyethira*, *Stactobiella*) and 19 species

of the family Hydroptilidae were recorded (Višinskienė, 2009). Being the only species representing the small palearctic genus in Europe (Marshall, 1978), *T. fagesii* supplemented the list of Lithuanian Hydroptilidae caddisflies to 8 genera and 20 species. Adding the recent first records of sericostomatid *Sericostoma schneideri* (Osadčaja, 2011) and current record of hydroptilid *T. fagesii* to the last published checklist (Višinskienė, 2009), there are 175 species and 1 subspecies currently known from the Lithuanian caddisfly fauna.

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***Tricholeiochiton fagesii* (Guinard, 1879) – nauja Lietuvos faunos apsiuvų (Trichoptera, Hydroptilidae) rūšis**

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Santrauka

Biržulio ežere (Telšių r., Varnių regioninis parkas, 55°46'15"N, 22°26'23"E) buvo rasta *Tricholeiochiton fagesii* lerva. Tai nauja Lietuvos faunos apsiuvų rūšis, priklausanti Hydroptilidae šeimai. Lerva rasta plūduriuojančio nendryno pakraštyje, tarp skendinčių vandens augalų.

Paskutinį skelbtą sąrašą (Višinskienė, 2009) papildžius rūšių *Sericostoma schneideri* (Osadčaja, 2011) ir *T. fagesii* aprašymais, šiuo metu Lietuvoje žinomą apsiuvų fauną sudaro 175 apsiuvų rūšys ir 1 porūšis.

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