

## TAXONOMICAL AND CHOROLOGICAL NOTES 17 (178–183)

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**Abstract:** Floristical records of two lichen-forming fungi and four flowering plants are presented from Hungary. The rare lichen-species *Gyalecta fagicola* now is known from 7 localities in Hungary with 5 new records. *Polyblastia philaea* a terricolous lichen species is new to Hungary. The first confirmed record (Szentendre) of the annual weed *Adonis annua*, a new occurrence (Bodrog bank, Sárospatak) of *Cyperus michelianus* in the upper Tisza region, and a new locality of the alien weed *Rapistrum rugosum* from Szentendre (Bizottság-liget) are reported. The naturalised weed *Polycarpon tetraphyllum* has a stable, spreading population in Budapest with several thousands of individuals.

**Key words:** Brassicaceae, Caryophyllaceae, Cyperaceae, lichen-forming fungi, Hungary, Orchidaceae, Ranunculaceae, vascular plants

## INTRODUCTION

This paper is the 17th part of the series launched in *Studia botanica hungarica* focusing on the new chorological records, nomenclature, and taxonomy of plant species from algae to vascular plants and fungi. Almost 370 records of 164 taxa have been reported in this series from 10 countries (Albania, Hungary, Kosovo, Lithuania, Montenegro, North Macedonia, Romania, Serbia, Slovakia, Ukraine) (ASZALÓSNÉ BALOGH *et al.* 2021, BARINA *et al.* 2015, 2020, CSIKY *et al.* 2017, DEME *et al.* 2019, FARKAS *et al.* 2022, KIRÁLY *et al.* 2019a, b, MATUS *et al.* 2018, MESTERHÁZY *et al.* 2017, PAPP *et al.* 2016, 2020, SCHMIDT 2020, SCHMIDT *et al.* 2018, SÜVEGES *et al.* 2021, TAKÁCS *et al.* 2016).

The present part of the series provides new records of 6 taxa from Hungary, among them two lichen-forming fungi (*Gyalecta fagicola*, *Polyblastia philaea*) and four flowering plants (*Adonis annua*, *Cyperus michelianus*, *Polycarpon tetraphyllum*, *Rapistrum rugosum*).

## MATERIAL AND METHODS

Nomenclature and taxonomy of lichen-forming fungi follow Index Fungorum (IFP 2023) and MycoBank (ROBERT *et al.* 2018), while nomenclature of vascular plants follows KIRÁLY (2009) and The Plant List (2013). Codes of the Central European Flora Mapping grid are in square brackets. Abbreviations of herbaria follow the Index Herbariorum (THIERS 2017).

Distribution maps were prepared by QGIS 3.28 (QGIS Development Team 2023) based on the Central European grid system of 5 km × 6 km units (BORHIDI 1984, NIKLFELD 1971).

## NEW RECORDS WITH ANNOTATIONS

### Lichen-forming fungi

#### (178) *Gyalecta fagicola* (Arnold) Kremp. (Gyalectaceae)

Hungary, Veszprém County, Balaton-felvidék, Balatonakali, behind the camps along the path, on *Fraxinus ornus* bark together with *Physcia adscendens* parasitised by *Erythricium aurantiacum*. Lat.: 46.886932° N; Long.: 17.740257° E; Alt.: 126 m a.s.l. Leg.: Varga, N. (VN040), 05.09.2020 [BP 97098]. – Hungary, Pest County, Börzsöny Mts, Szokolya, Királyrét, Mt Magastax, at “Taxi nyiladék” (Grófi út), near “Cseresznyefa Parkoló” along the road “Magastaxi erdészeti út”, in oakwood, on bark (*Quercus*). Lat.: 47.911818° N; Long.: 18.946406° E; Alt.: 450 m a.s.l. Leg.: Lőkös, L., Farkas, E., 06.06.2020 [BP 97101]. – Hungaria, Montium Bükk: Ujhuta, in decl. m. Kerekhegy. Substr.: cort. *Ulmi*. Alt.: 550 m. s. m. Leg.: Fóris, F. (10117), 09.04.1933 [BP 65630 as *Pachyphiale fagicola*] (together with *Bacidia fraxinea*, *Bacidia rubella*, *Bacidia subincompta*). – Hungary, Borsod-Abaúj-Zemplén County, Aggtelek Karst, Aggtelek National Park, Szögliget, Mt Szádvar, ‘Vár-bükk’, on bark (*Fraxinus*). Lat.: 48.543075° N; Long.: 20.661857° E; Alt.: ca 390 m a.s.l. Leg.: Varga, N. (VN527), 14.06.2015 [BP 97104]. – Hungaria, Com. Zemplén, Sátoraljaújhely: in cac. m. Magashegy. Substr.: cort. *Acer camp.* Alt.: 510 m. s. m. Leg.: Fóris, F. (28690), 12.07.1956 [BP 65664 as *Pachyphiale fagicola*] (together with *Bacidia rubella*).

*Gyalecta fagicola* is a tiny crustose lichen species, growing on tree bark, rather inconspicuous in field. The small (0.15–0.3 mm) light brown apothecia are hardly visible even by hand lens (Fig. 1).

It is widely distributed in the northern hemisphere (especially in Europe and in the USA) in open montane deciduous forests.

It has been recognized from Hungary only recently from the Aggtelek Karst and from Mt Naszály (Lőkös 2009, 2010). Two old and two additional recent

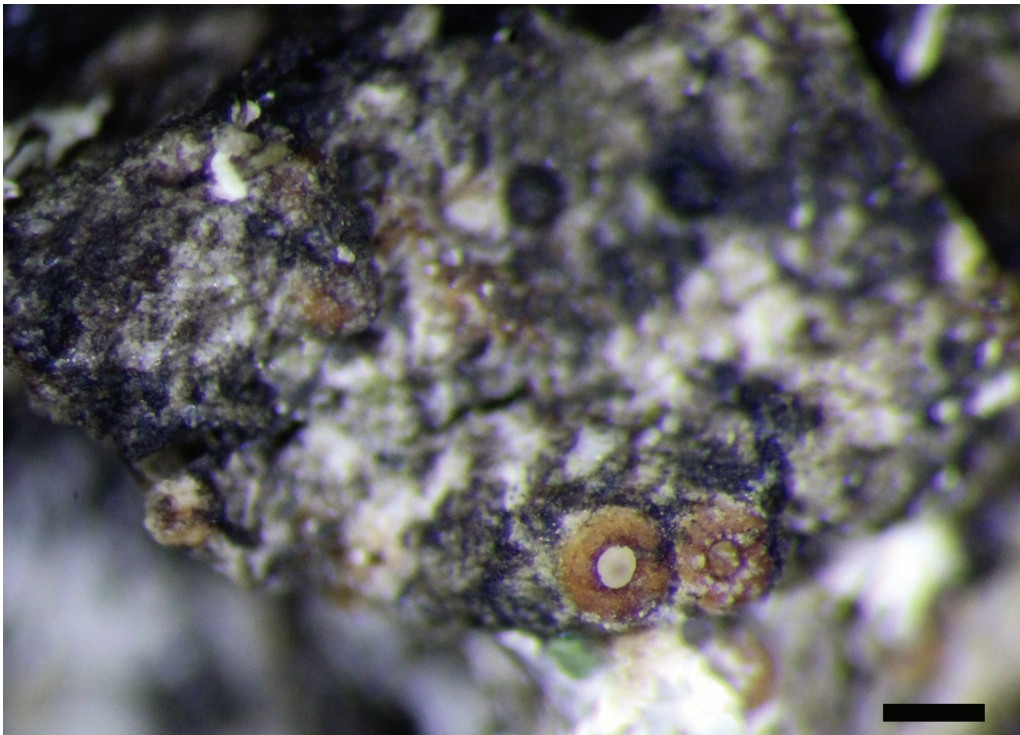


Fig. 1. Apothecia of *Gyalecta fagicola* on bark of *Fraxinus ornus* near Balatonakali, Balaton-felvidék, Hungary (Scale: 0,25 mm)

*Gyalecta fagicola*

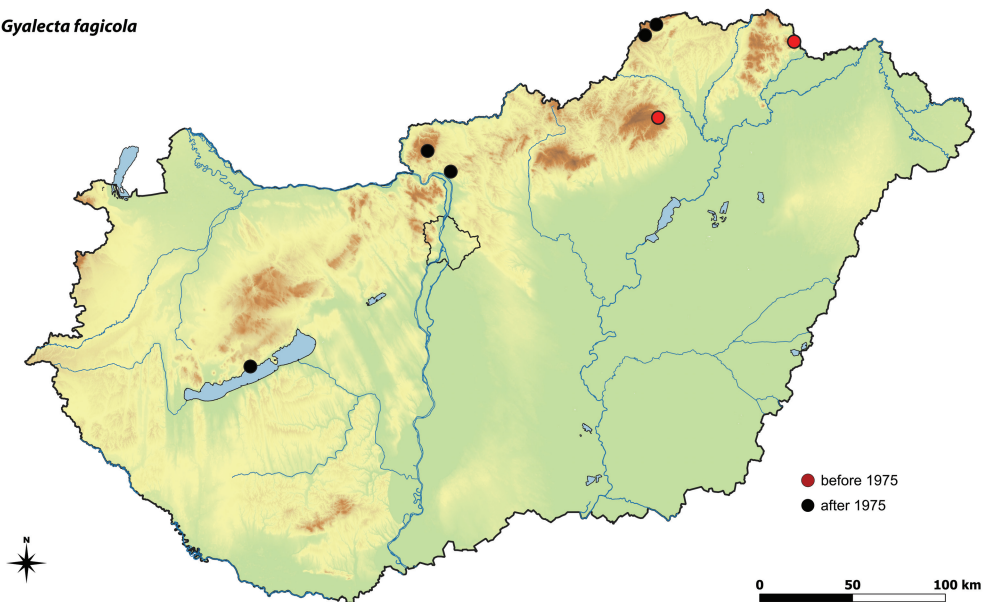


Fig. 2. Distribution of *Gyalecta fagicola* in Hungary.

records are reported here mainly from the northern mountain range (Western Carpathians), however, it is regarded as a rare species in Hungary (Fig. 2). The epiphytic *Gyalecta fagicola* was collected from the following (deciduous) phorophytes: *Acer campestre*, *Fraxinus ornus*, *Juglans regia*, *Quercus* sp., *Ulmus* sp. often accompanied by the lichens *Bacidia fraxinea*, *B. rubella*, *Candelariella reflexa*, *Physcia adscendens*, *Toniniopsis subincompta*.

E. Farkas, L. Lőkös and N. Varga

(179) *Polyblastia philaea* Zschacke (Verrucariaceae)

Hungary, Budapest, District XXII, Tétényi-fennsík, on bare, shaded calcareous soil. Lat.: 47.426296° N, Long.: 18.994636° E, Alt.: ca. 204 m a.s.l. Leg.: Varga, N., 31.10.2022 [BP 97100]; Leg.: Döme, B., Lőkös, L., Varga, N., 26.07.2023 [BP 97099].

*Polyblastia philaea* is a rather inconspicuous, crustose lichen species, growing on soil in calcareous places (Fig. 3). It has greenish-greyish thallus, dull black immersed perithecia and big, colourless, muriform spores.

Its distribution in Europe is poorly known. It is new to Hungary, collected in lowland-colline habitat on bare calcareous soil shaded by a small tree (*Fraxinus ornus*).

L. Lőkös and N. Varga

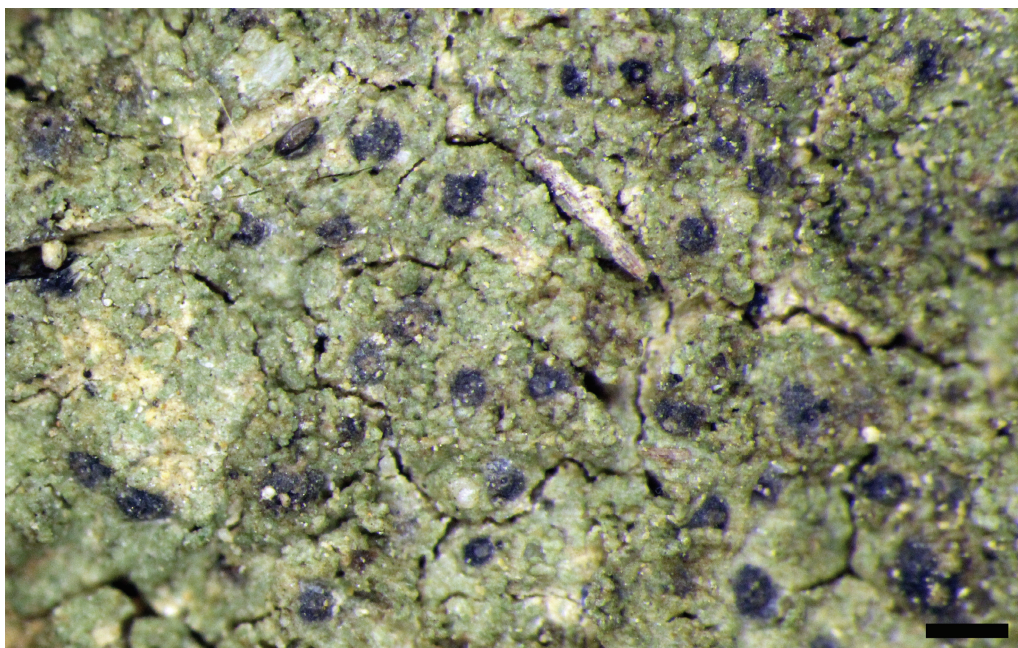


Fig. 3. *Polyblastia philaea* growing on calcareous soil in its original locality in the ‘Tétényi-fennsík’ (Budapest, Hungary) (Scale: 0,5 mm).

## Flowering plants

(180) *Adonis annua* L. (Ranunculaceae)

Hungary, Pest County, Szentendre: Dunakanyar boulevard, disturbed urban lawn on a safety island, 47.673284° N, 19.072806° E, alt. 105 m, [8380.1], leg. & det.: A. Rigó, 11.05.2023 (BP HN-HM-TRA 00702583).

*Adonis annua* L. (syn. *A. autumnalis* L.) is an annual weed of arable lands with medicinal properties occurring mainly in the Mediterranean region with scattered records from the Far East. Naturalised in most parts of North and Central Europe, but declining due to the changes in agricultural practices. Also used as an ornamental, usually sold in seed mixtures and escapes from cultivation (BUCH and JAGEL 2020, HEYN and PAZY 1989). The plant is even endangered or extinct in several European countries (e.g. FANFARILLO *et al.* 2020, RECASENS *et al.* 2020). Aside from arable fields, the plant was reported from roadsides and urban areas (e.g. MARTINI 1999, MOSYAKIN and OKSANA 2002). Different floras usually distinguish three subspecies of the species, subsp. *annua* with glabrous sepals, subsp. *cupaniana* (Guss.) C. Steinb. with hirsute sepals and subsp. *castellana* (Pau) C. Steinb., which is hirsute throughout (e.g. PIGNATTI 2017), but the majority of the floras treat the species without any subdivision (e.g. CASTROVIEJO 1986).

In Hungary Soó (1966) and Soó and JÁVORKA (1951) listed the species as a rare ephemeral alien, which occasionally escapes from cultivation and introduced as an ornamental without adding localities. BALOGH *et al.* (2004) listed the species as a casual neophyte in Hungary, but the species had no recent records in the country. In Szentendre, only one subsontaneously growing, fruit-bearing individual has been found in a small, disturbed lawn on a safety island. Wildflower beds can be seen in several parts of the town, but without *Adonis annua*. However, presumably the plant originates from the wildflower seed mixtures, perhaps as a rare element of them or as a contaminant.

A. Rigó

(181) *Cyperus michelianus* (L.) Delile (Cyperaceae) (syn. *Dichostylis micheliana* (L.) Nees)

Hungary, Great Hungarian Plain (Nagy Alföld): Sárospatak, sandy-clay mud beach on exposed bank of Bodrog river, south to Lábasház – Sunrive (Árpád út), 48.3156764° N, 21.5718936° E, 99 m, leg. M. Dudáš, 20.8.2022, KO 37006.

The species occurs in Hungary along large lowland rivers with the centre of distribution along the whole length of the Danube, and rare to scattered along the Drava, the central and lower parts of the Tisza and isolated in the southern

parts of the country. In the northeastern parts it was recorded only at the rivers Tisza near Tokaj and Milota, and single site at the Sajó southeast of Miskolc (BARTHA *et al.* 2015).

In Sárospatak the species grows on exposed flat bank of the Bodrog river in vegetation of the class Isoëto-Nanojuncetea in association *Cyperetum micheliani* Horvatić 1931. In this vegetation unit *C. michelianus* dominated, with presence of exposed bottom and marshy species such as *Amaranthus blitum*, *Bidens frondosus*, *Butomus umbellatus*, *Cyperus fuscus*, *Echinochloa crus-galli*, *Chenopodium polyspermum*, *C. rubrum*, *Portulaca oleracea* and *Sagittaria sagittifolia*. The species is likely more frequent on upper parts of Bodrog and Tisza rivers, which also confirms reported localities from the Slovakian side of the Bodrog river net (DÍTĚTOVÁ *et al.* 2016, DUDÁŠ *et al.* 2019).

M. Dudáš

(182) *Polycarpon tetraphyllum* (L.) L. (Caryophyllaceae)

Hungary, Budapest, District X, Népliget, along Hell Miksa sétány, in the park in front of the Planetarium. Lat.: 47.476990° N, Long.: 19.100524° E, Alt.: ca. 118 m a.s.l. Leg. Döme, B., Karikás, M., Lőkös, L., Pifkó, D., 30.06.2023 (BP HNHM-TRA 00702585).

*Polycarpon tetraphyllum* is an annual herb of Atlanto-Mediterranean distribution. It is regarded as an alien, naturalised neophyte in Hungary (CSIKY *et al.* 2023), appeared in Budapest in 1956 (KOVÁCS and PRISZTER 1957).

It seems to be spreading spontaneously in Budapest. A comprehensive survey revealed several thousand individuals in front of 100 houses in the ‘Tisztviselőtelep’ (District VIII) in 2020. *P. tetraphyllum* has also had a stable population in the street ‘Mária utca’ (District VIII) for many years. In 2023, it was also found even further, in the street ‘Csányi utca’ (District VII).

In the last decades, it was reported from several new urban localities in Hungary, mainly from the western part of the country (Transdanubia) (KULCSÁR 2023, SCHMIDT 2016, SOMLYAY and LŐKÖS 2000, SÜVEGES 2021, TAKÁCS *et al.* 2020, WIRTH *et al.* 2020) (Fig. 4). Now it is highly expected to appear in the eastern-southern parts of the Great Hungarian Plain.

Usually, it grows in built-up areas in bare, open, exposed places. It is commonly found in cracks or crevices of setts in paving roads, walkways or at base of walls.

A new locality was discovered in Budapest in the Népliget, where ca 100 individuals were found in some m<sup>2</sup> areas, in a shaded habitat beneath and around ornamental trees (*Acer ginnala* Maxim., *Celtis occidentalis* L., *Platanus ×acerifolia* (Aiton) Willd.) (Fig. 5).

B. Döme, M. Karikás, L. Lőkös and D. Pifkó

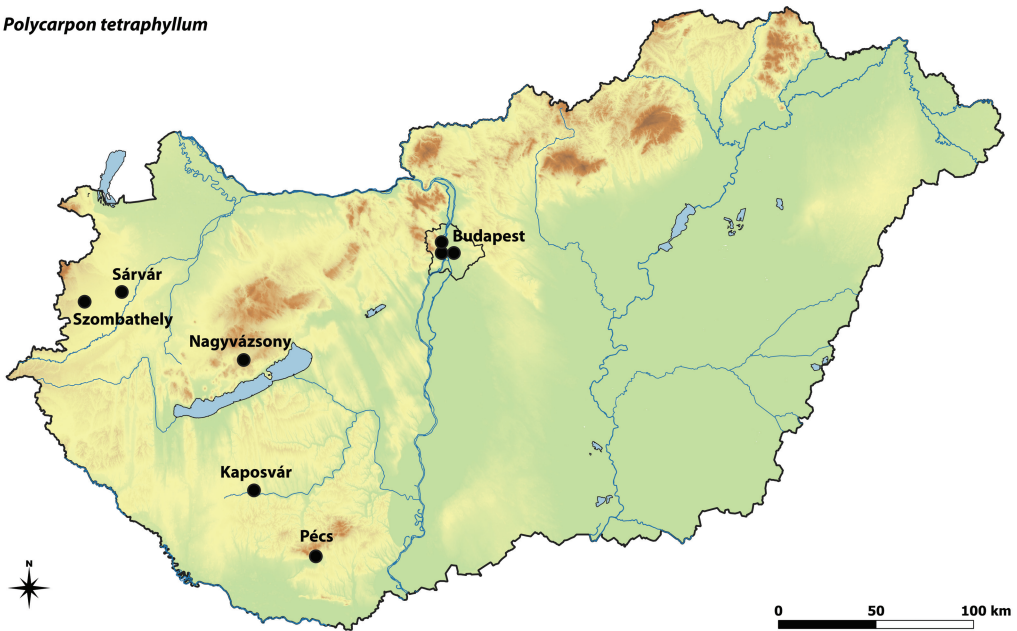
*Polycarpon tetraphyllum*

Fig. 4. Known occurrences of *Polycarpon tetraphyllum* in Hungary.



Fig. 5. The new locality of *Polycarpon tetraphyllum* in the 'Népliget' (Budapest, Hungary), where it is growing beneath and around ornamental trees.

(183) *Rapistrum rugosum* (L.) All. (Brassicaceae)

Hungary, Pest County, Szentendre: Bizottság-liget, disturbed patch in urban lawn, 47.662290° N, 19.076506° E, alt. 105 m, [8380.1], leg. & det.: A. Rigó, 22.10.2022 (BP HNHM-TRA 00702584).

Native weed in the Mediterranean region and occurs as a casual or naturalized alien in most parts of Central and North Europe (VASCONELLOS 1993). Its occurrences outside of its native range are often ephemeral (VERLOOVE 2023), but it is also significant as an agricultural weed (HATAMI *et al.* 2016, MANALIL and CHAUHAN 2019). The plant has an invasive behaviour in some parts of the temperate regions of Europe, Asia, America and Australia (COUSENS *et al.* 1994, MANALIL and CHAUHAN 2019, OSTEN *et al.* 2007, WARWICK 2010). Most often, it occurs in ruderals, canal banks, road verges, railway tracks, arable lands, old sandpits, dumps and waste lands, but it can also be found in chalk grasslands and open forest areas (PENFOLD 1993, MANALIL and CHAUHAN 2019, VERLOOVE 2023).

In Hungary the species had two records. POLGÁR (1918) reported the species as a rare ephemeral weed in the industrial areas of Győr (NW Hungary) probably introduced by grain. The plant has been recently found by Gergely Király at Mosonmagyaróvár (NW Hungary) in ruderal vegetation along a dirt road, probably introduced from the eastern part of Austria, where the plant is present (DUDÁŠ *et al.* 2023). The new locality in Szentendre is far from the known occurrences of *Rapistrum rugosum*. In Szentendre, only three individuals were discovered in a disturbed part of an urban lawn near a local railway station. The pathway of introduction of the plant material is unknown. Landscaping and mowing are often carried out in the area, so there is little chance of the persistent presence of the species. Further occurrences of the plant in Hungary are expected.

A. Rigó

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