

Oncopodium lidiae sp. nov. (Hyphomycetes) on *Fumana procumbens* from Hungary

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Abstract. *Oncopodium lidiae* sp. nov. is described and illustrated from the cortex of *Fumana procumbens* (Cistaceae) collected in Hungary. This species has been collected several times and from different localities in Hungary exclusively from dry twigs of *Fumana procumbens*. A key of *Oncopodium* species is presented.

Key words: *Fumana procumbens*, hyphomycetes, new species, *Oncopodium lidiae*

Introduction

During many years of investigations of the fungal species of *Fumana procumbens* (Dunal) Gren. & Godr. (Cistaceae), several new and interesting species have been found in Hungary. Altogether nine new species have been described so far from this host by the senior author: *Calosphaeria fumanae* Tóth, *Gnomonia fumanae* Tóth, *Neobarclaya batistae* Tóth, *Cryptostictis hollosii* Tóth (= *Seimatosporium hollosii* (Tóth) Shoemaker) (Tóth 1960), *Diplodia fumanae* Tóth, *Massarina moeszii* Tóth, *Trematosphaeria radicalis* Tóth (Tóth 1961), *Letendraea danubialis* Tóth (1962), and *Pleosphaerellula fumanae* Tóth (1975). *Oncopodiella trigonella* (Sacc.) Rifai, which was reported by Kirk (1983) to be a rare species, was found on 17 samples of twigs of *Fumana procumbens* in Hungary (Révay 1995). It is astonishing that sustained investigation of a single host plant species can reveal so many new or rare microfungi in a restricted geographical area in Europe.

Besides the species mentioned above, an apparently undescribed species of *Oncopodium* was collected several times. The conidia of this species with horn-like cells superficially resembled those of *Oncopodiella* species, but the two genera differ in a number of features.

The genus *Oncopodium* was erected by Saccardo (1904), with *O. antoniae* Sacc. & D. Sacc. as type species. Ten further species have been described later: *O. panici* H.J. Huds. (Hudson 1961), *O. pruni* M.B. Ellis (Ellis 1976), *O. simmonsii* B. Sutton (Sutton 1978), *O. munjalii* N.D. Sharma (Sharma 1980), *O. aceris* Mel'nik, *O. suttonii* Mel'nik (Mel'nik 1988), *O. indicum* Venkateshw., S.M. Reddy & S.R. Reddy (Venkateshwarlu *et al.* 1996), *O. paspali* R.F. Castañeda, Guarro & Cano (Castañeda Ruíz *et al.* 1997), *O. erectum* G.Z. Zhao & T.Y. Zhang (Zhao & Zhang 2003) and *O. elaeagni* Magyar (Magyar & Révay 2009).

Material and method

Twig pieces of living *Fumana procumbens* were collected in different locations in Hungary. The collected samples were examined immediately after transportation to the laboratory and were observed again after several days of incubation in moist chamber condition.

The material listed below was collected by the first author. All material is deposited in the Mycological Herbarium of the Hungarian Natural History Museum (BP).

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Results and discussion

Oncopodium lidiae Tóth, sp. nov.

Figs 1–3

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Conidiomata sporodochialia, superficialia, nigra, ex conidiophoris et conidiis constructa (Hyphomycetes). Stromata brunnea. Conidiophora filamentosa, remote septata, hyalina vel pallide brunneola, recta vel plus-minus curvata, levia, ad 20–50 μm longa, subtus 2–3 μm crassa, plerumque irregulariter sparse et ascenderiter ramosa et ramulis conidiophorarum vicinarum comprehensive crustam parvulam rotundam producentes. *Conidia* solitaria, elongata, biapiculata, levia, saepe parum inaequilateralia, brunnea, muriformiter septata, septis (6–) 7 (–9) transversalibus et 2–3 septis longitudinalibus (plerumque 7-sept. transv.), semper in medio longitudinalis in apice conidiophorum et ramulorum eorum solitarie evoluta. Cellulae apicales conidiorum 1–1 trianguliformes, hyalinae, conspicue non appendices. Conidia 24–32 \times 14–16 μm , forma satis identica.

Conidiomata sporodochial, superficial, black, formed of conidiophores and conidia (hyphomycetes). Stromata brown. Conidiophores filiform, remotely septate, hyaline or pale brown, erect or more or less curved, smooth, up to 20–50 μm long, below 2–3 μm wide, mostly irregularly, sparsely, ascendantly branching, and the branches of neighbouring conidiophores produce small, rounded comprehensive crust. *Conidia* solitary, elongate, biapiculate, smooth, brown, muriform septate, with (6–) 7 (–9) transversal, and 2–3 longitudinal septa, produced always towards the middle of longitudinal side on the top of the branches of conidiophores, always solitary. Apical cells of the conidia trianguliform (non appendiculiform), hyaline. Conidia 24–32 \times 14–16 μm .

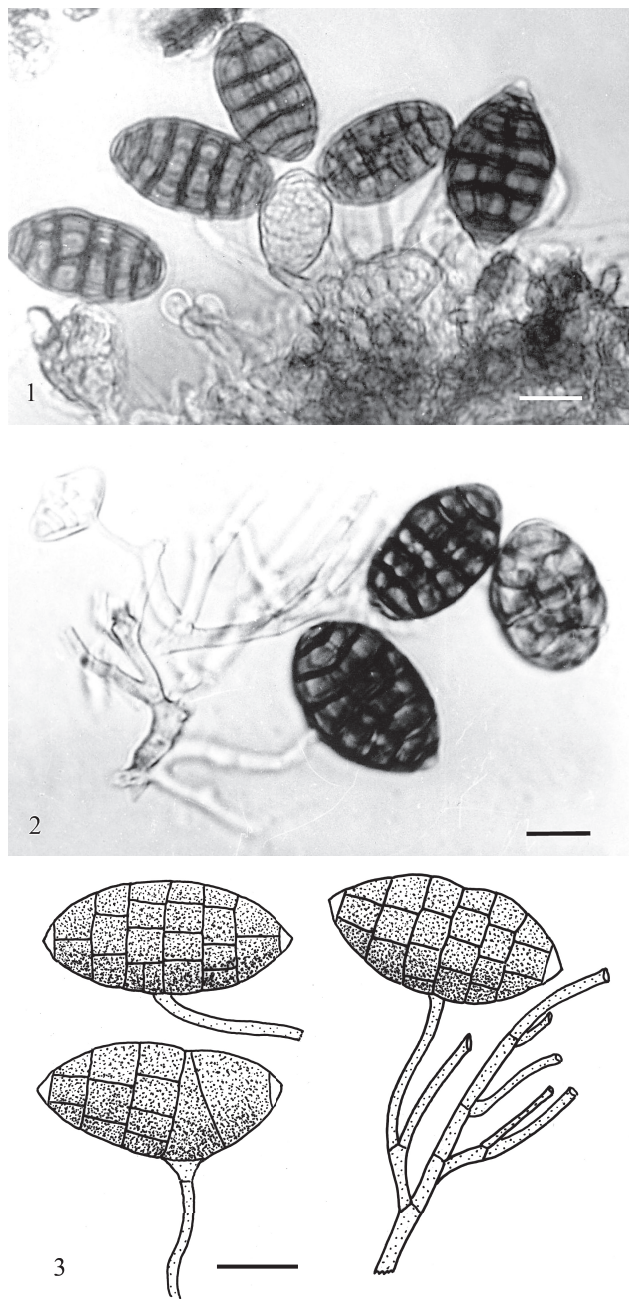
Etymology. In memory of Lidia Zeller, outstanding assistant, Inst. Microbiol. Eötvös Roland University, Budapest, Hungary.

Holotype: on dry twigs of *Fumana procumbens*, Hungary, Pest County, Szentendre-sziget, near Szentendre, 25 Aug 1960, S. Tóth, 10544 (BP 102721).

Specimens examined: on *Fumana procumbens*, Hungary, Pest County, on the island Csepel sziget near Budapest, 18 Sep 1959, BP 102722; *ibid.*, 9 Jun 1959, BP 102723; Pest County, on the island Szentendre sziget near Szentendre, 6 Jan 1961, BP 102724; Komárom County, near Süttő, 16 Sep 1977, BP 102725; Veszprém County, in Mt Tamáshegy near Balatonarács, 27 Sep 1968, BP 102726; Komárom County, near Pilismarót, 21 May 1969, BP 102727; Pest County, in mte Csővári-hegy, near Csővár, 14 Aug 1973, BP 102728.

The genus *Oncopodium* is characterised by hyaline conidiophores, which are wholly or terminally inflated or cylindrical, without vesicle at the apex. Conidiophores form punctiform sporodochia. The conidia are usually dorsiventrally flattened, muriform, versicoloured, horizontally orientated, generally with a central point of attachment.

Oncopodium lidiae is close to *O. aceris*, *O. suttonii* and *O. elaeagni* in having nonvesicular conidiophores and hyaline, horn-like cells on their conidia. However, the conidia of *O. aceris* and *O. suttonii* are longer and wider (40–50 \times 25–28 μm



Figs 1–3. *Oncopodium lidiae*. **Fig. 1.** Stromata, sporodochia, conidiophores and conidia. **Fig. 2.** Developing and matured conidia. Bar = 10 μm . **Fig. 3.** Conidia of *Oncopodium lidiae*. Bar = 10 μm

and 35–50 \times 18–25 μm , respectively) than those of *O. lidiae*. The conidial measurements of *O. elaeagni* (24–30 \times 9–16) and *O. lidiae* are similar to each other, but the two species differ in the number of the horn-like cells. The conidia of *O. elaeagni* have 3–4 horn-like cells, but in the case of *O. lidiae* their number is always two. In the shape of the conidia *O. antoniae* is also somewhat similar to the new species, but the apex of its conidiophores has a vesicular swelling, which is absent in *O. lidiae*. The remaining *Oncopodium* species, where horn-like hyaline cells are not present on the conidia could be excluded.

Key to the species of *Oncopodium*

1	Conidiophores clavate or with a terminal vesicle	2
1*	Conidiophores cylindrical, filamentous, not vesiculose at the apex	7
2	Conidia subglobose, with horn-like cells, $19\text{--}27 \times 16\text{--}21 \mu\text{m}$	<i>O. antoniae</i>
2*	Conidia without horn-like cells	3
3	Conidia broadly clavate, ellipsoidal or pyriform, $20\text{--}25 \times 14\text{--}18 \mu\text{m}$	<i>O. erectum</i>
3*	Conidia hemispherical to subglobose, dorsiventrally flattened	4
4	Conidia concolourous, $27\text{--}42 \times 15\text{--}34 \mu\text{m}$	<i>O. munjalii</i>
4*	Conidia versicoloured	5
5	Conidiophores clavate, up to $57 \mu\text{m}$, conidia $12.5\text{--}17 \times 12.5\text{--}21 \mu\text{m}$	<i>O. indicum</i>
5*	Conidiophores clavate, less than $50 \mu\text{m}$ long	6
6	Conidiophores $21\text{--}33 \times 7.5\text{--}12 \mu\text{m}$, $3\text{--}4.5 \mu\text{m}$ at the base, conidia $21\text{--}32 \times 10\text{--}13 \mu\text{m}$	<i>O. panici</i>
6*	Conidiophores $25\text{--}32 \times 7\text{--}10 \mu\text{m}$, $3\text{--}4 \mu\text{m}$ at the base, conidia $10\text{--}16 \times 9\text{--}12 \mu\text{m}$	<i>O. paspali</i>
7	Conidia without horn-like cells, dorsiventrally flattened, two cells thick, with a pigmented conical end and a truncate hyaline end, $23\text{--}27.5 \times 14.5\text{--}17 \mu\text{m}$	<i>O. simmonsii</i>
7*	Conidia with horn-like cells	8
8	Conidia with 2 or more horn-like cells on either side	9
8*	Conidia never with more than 1 horn-like cell on either side	10
9	Conidia hemispherical or oblong, with 2–3 horn-like cells on each apical side, $28\text{--}35 \times 18\text{--}21 \mu\text{m}$	<i>O. pruni</i>
9*	Conidia ellipsoidal, with 1–2 horn-like cells on each apical side, $40\text{--}50 \times 25\text{--}28 \mu\text{m}$	<i>O. aceris</i>
10	Conidia hemispherical or limoniform, with 1–2 apical and 0–2 central horn-like cells, $24\text{--}30 \times 9\text{--}18 \mu\text{m}$	<i>O. elaeagni</i>
10*	The two horn-like cells are always on the apical sides of the conidia	11
11	Conidia ellipsoidal, $30\text{--}50 \times 18\text{--}25 \mu\text{m}$	<i>O. suttonii</i>
11*	Conidia ellipsoidal, $23\text{--}32 \times 14\text{--}16 \mu\text{m}$	<i>O. lidiae</i>

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