

Aspergillus viridinutans and *Stilbella aciculosa* – new records from Czech Republic

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Bečvář K. (1996): *Aspergillus viridinutans* and *Stilbella aciculosa* – new records from Czech Republic. – *Czech Mycol.* 49: 49–52

Two species of micromycetes were isolated from coal-mine dumps near Kladno. The species were found in the Czech Republic for the first time. This paper describes their appearance and distribution.

Key words: Micromycetes, *Aspergillus viridinutans*, *Stilbella aciculosa*, Czech Republic.

Bečvář K. (1996): *Aspergillus viridinutans* a *Stilbella aciculosa* – nové nálezy z České republiky. – *Czech Mycol.* 49: 49–52

Z půdy odvalů kladenských černouhelných dolů byly izolovány dvě mikroskopické houby, jejichž nálezy v České republice nebyly dosud publikovány. Článek přináší jejich popis, vyobrazení a rozšíření.

Both strains were obtained within the frame of my diploma work and they are maintained in the Culture Collection of Fungi, CCF, Department of Botany, Charles University, Prague.

Aspergillus viridinutans Ducker et Throver 1954

This strain was isolated from the soil of the coal-mine dump "Vítek" near Kladno – Vrapice, Central Bohemia, altitude c. 340 m, in April 1993 as No. V2E and is maintained under No. CCF 2937.

Description

Colonies on CYA reach 54 mm in diameter after 7 days of cultivation at 25 °C and min. 90 mm (full Petri dish) at 37 °C, at first the colonies are white, later they form dark green conidia, revers colorless, no exudate, no soluble pigment. Colonies on MEA 68 mm in diam. after 7 days at 25 °C and min. 90 mm (full Petri dish) at 37 °C. Appearance is the same as on CYA. Hyphae hyaline, 1.9–3.6 µm in diam., conidiophores on MEA 19–84 (-112) µm in length, with smooth walls, conidial heads columnar, uniseriate, vesicles subglobose, 8–15 µm, they usually grow on the conidiophore at an angle (occasionally straight up), often with a nodding

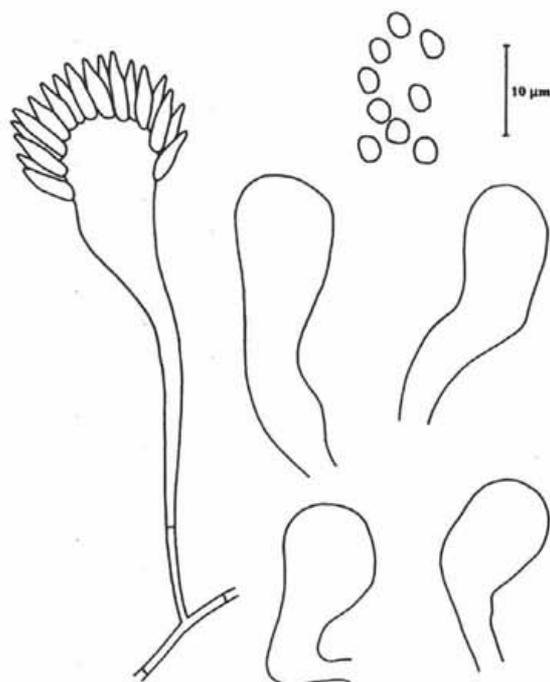


Fig. 1. *Aspergillus viridinutans* – conidiophore, shapes of conidial heads, conidia
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appearance. Phialides $4.9-6.0 \times 1.4-2.1 \mu\text{m}$, conidia subglobose, globose, smooth-walled, $1.9-2.5 \mu\text{m}$.

Habitat and distribution

Kozakiewicz (1989) remarks, that *A. viridinutans* has been isolated mainly from soil, but also from rabbit dung and from *Pinus caribaea*. This species has been found in Australia, Sri Lanka, U.S.S.R. and Zambia.

Notes

This fungus was identified after Raper and Fennell (1965) and Kozakiewicz (1989). *A. viridinutans* is distinguished from most other species of the *Aspergillus fumigatus* group by the vesicles, which are borne at an angle with the conidiophores. It differs from *A. brevipes* G. Smith by the vegetative hyphae, which are not reacting in lactophenol (hyphae of *A. brevipes* acquire a rose-pink shade) and

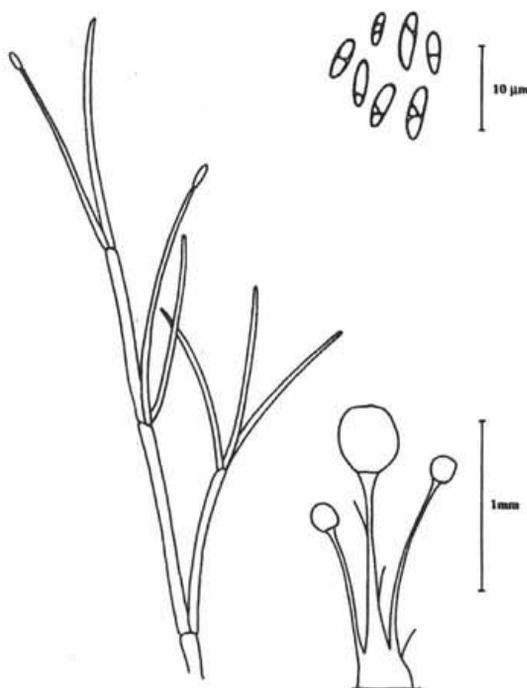


Fig. 2. *Stilbella aciculosa* - conidiophore, conidia, synnemata
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from *A. unilateralis* shape of the conidial heads (the phialides of *A. unilateralis* are borne on the vesicles in lateral clusters).

***Stilbella aciculosa* (Ellis et Everhart) Seifert 1985**

- Syn.: *Stilbum aciculosum* Ellis et Everhart 1885 =
= *Botryonipha aciculosa* (Ellis et Everhart) O. Kuntze 1891
Stilbum citrinellum Cooke et Masee 1887
Stilbum pallidulum Penz. et Sacc. 1901
Stilbella bulbicola Henn. 1905 =
= *Stilbum bulbicola* (Henn.) Litvinov 1967
Stilbella flavescens Estey 1977

This strain was isolated from the soil of the coal-mine dump "Wanieck" ("Nejedlý II"), near Kamenné Žehrovice close to Kladno, Central Bohemia, altitude c. 380 m in October 1994 as No. W2A. At present this strain is maintained under No. CCF 2940.

Description

Colonies on MEA after 7 days at 25 °C reached 19 mm in diam. and 35 mm after 14 days, mycelium white, revers light purple with concentric rings. Synnemata formed after 4–5 weeks, caespitose, up to 2 mm tall, stipes white, in aerial mycelium mononematous conidiphores are *Acremonium*-like, phialides cylindrical to subulate, smooth-walled, 15–31 × 0.8–1.2 μm, conidial mass orange, up to 720 mm in diam. Conidia ellipsoidal, 4.2–7.9 × 1.8–2.2 μm, often guttulate.

Habitat and distribution

Seifert (1985) reports, that *S. aciculosa* was found in soil, roots, dung of a rabbit and a dog, wood, bark and fruits. This fungus is known from the U.S.A., Canada, Costa Rica, Panama, England, France, the Netherlands, Germany, the former Yugoslavia, Turkey, Nepal, Indonesia and Japan.

Notes

Seifert (1985) observed, that *S. aciculosa* is characterised by its slender white synnemata, yellow conidial mass, ellipsoidal conidia, purple reverse, verrucose subapical marginal hyphae of the synnemata (nevertheless the now described strain has smooth ones). This species is relatively well-determined, although partial resemblance exist to other species, for instance to *S. albocitrina* (Ellis et Everhart) Seifert, which differs in the lobed marginal hyphae and the growth on the woody substrates.

ACKNOWLEDGEMENTS

I thank Dr. A. Kubátová for revising the identification of both strains.

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