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A new species and new record of *Chloridium* from the Qinghai-Tibet Plateau Area, China

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ABSTRACT — A new species, *Chloridium xigazense*, and a new record for China, *C. phaeosporum*, are described and illustrated. Specimens (dried cultures) and living cultures are deposited in the Herbarium of Shandong Agricultural University, Plant Pathology (HSAUP). Duplicates are kept in the Herbarium of Institute of Microbiology, Academia Sinica (HMAS).

KEY WORDS — dematiaceous hyphomycetes, soil fungi, taxonomy

Introduction

During the course of a survey of soil dematiaceous hyphomycetes in China, two *Chloridium* species were isolated. One represents a new species and the other is a new record for China. They are both described and illustrated from cultures grown on corn meal agar (CMA; Matsushima 1975).

The genus *Chloridium* was established by Link (1809) and is characterized by proliferating macronematous conidiophores. The conidiogenous cells are monophialidic, integrated, terminal, usually percurrent, and more or less cylindrical. Conidia, which are formed in slimy masses, are simple, ellipsoidal or subspherical, 0-septate, hyaline, and smooth. Index Fungorum (2012) lists 69 taxa; however, many of these are infraspecific, and Seifert et al. (2011) estimate that the genus may contain only 20 valid species.

***Chloridium xigazense* Y.M. Wu & T.Y. Zhang, sp. nov.**

FIG. 1

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Differs from *Chloridium smithiae* by its larger conidia and from *C. phaeosporum* by its frequently proliferating conidiogenous cells and hyaline conidia.

TYPE: China, Tibet, Xigaze, from a grassland soil, altitude 3600 m, 7 Sept. 2007, Y.M. Wu (Holotype HSAUP II₀₇0874; isotype HMAS 196268).

ETYMOLOGY: in reference to the type locality.

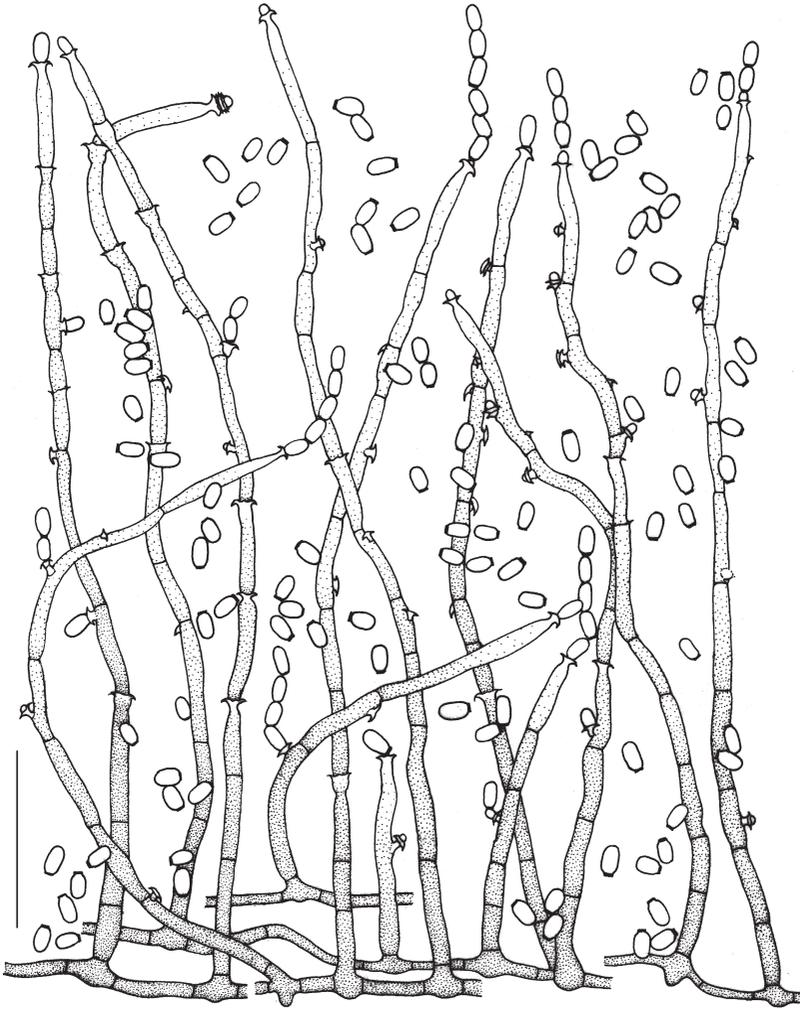


FIG. 1. *Chloridium xigazense* (ex holotype).
Conidia, conidiophores and conidiogenous cells. Scale bar = 25 μ m.

COLONIES on CMA broadly effuse, brown to dark brown. Mycelium mostly immersed, composed of branched, septate, smooth, subhyaline to light brown, 2–3 μ m wide hyphae. CONIDIOPHORES brown, paler towards the apex, macronematous, mononematous, solitary or in groups, erect, septate, smooth, 80–140 μ m long, 2–3 μ m wide. CONIDIOPENOUS CELLS monophialidic, terminal, constricting abruptly and expanding in a flaring collarette, thereafter frequently proliferating 1–4 times. CONIDIA produced singly but often adhering

in chains, 0-septate, smooth, hyaline, ellipsoidal to oblong, obtuse at the apex, with a dark hilum at the subtruncate base, $3-5 \times 2-2.5 \mu\text{m}$.

COMMENTS – Morphologically, *C. xigazense* resembles *C. smithiae* R.C. Sinclair & Eicker (Sinclair & Eicker 1985) and *C. phaeosporum* (Gams & Holubová-Jechová 1976), but *C. smithiae* has smaller conidia ($2-3 \times 1-1.7 \mu\text{m}$) while *C. phaeosporum* shows infrequent proliferation of the conidiogenous cells and its conidia are pigmented.

Chloridium phaeosporum W. Gams & Hol.-Jech., Stud. Mycol. 13: 27, 1976 FIG. 2

COLONIES on CMA effuse, olivaceous brown, velvety. Mycelium superficial or immersed; hyphae branched, septate, smooth, pale to mid brown, $1.5-2.5 \mu\text{m}$ wide. CONIDIOPHORES mid brown, paler towards the apex, macronematous,

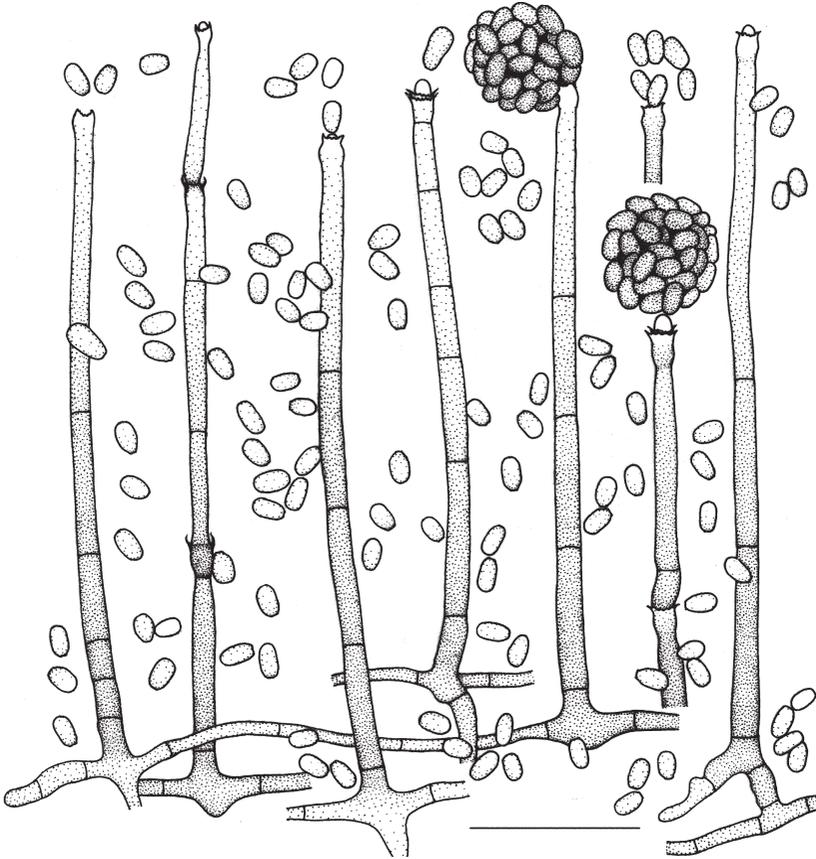


FIG. 2. *Chloridium phaeosporum* (HSAUP II₀₇1037).
Conidia, conidiophores and conidiogenous cells. Scale bar = $25 \mu\text{m}$.

mononematous, solitary or in groups, erect, septate, smooth, 70–120 µm long, 2.5–3.5 µm wide. CONIDIOGENOUS CELLS monophialidic, terminal, constricting abruptly and expanding in a flaring collarete, rarely proliferating. CONIDIA aggregated in heads, 0-septate, smooth, pale brown, ellipsoidal to oblong, obtuse at the apex, with a dark hilum at the subtruncate base, 3–6 × 1.5–2.5 µm.

SPECIMEN EXAMINED: CHINA, TIBET, Xigaze, altitude 3000 m, from a mountain soil, 10 Sept. 2007, Y.M. Wu (HSAUP II₀₇1037, HMAS 196269).

Chloridium phaeosporum is reported for the first time from China. Compared with the morphological characters of the species as described by Gams & Holubová-Jechová (1976), both collections have pale brown conidia that are ellipsoidal to oblong, 0-septate, obtuse at the apex, with a dark hilum at the subtruncate base, and measure 3–6 × 1.5–2.5 µm. We believe they are the same species. *Chloridium phaeosporum* is most similar to *C. virescens* (Pers.) W. Gams & Hol.-Jech. var. *virescens* (Gams & Holubová-Jechová 1976) in conidial shape, but the latter species has hyaline conidia without a dark basal hilum.

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Literature cited

- Gams, W, Holubová-Jechová V. 1976. *Chloridium* and some other dematiaceous hyphomycetes growing on decaying wood. Stud. Mycol. 13: 1–99.
- Index Fungorum. 2012. <http://www.indexfungorum.org/Names/Names.asp> – accessed 16 Oct 2012.
- Link HF. 1809. Observationes in ordines plantarum naturales. Mag. Ges. Natur. Freunde, Berlin 3: 3–42.
- Matsushima T. 1975. Icones microfungorum a Matsushima lectorum, Kobe. 209 p. + plates.
- Seifert K, Morgan-Jones G, Gams W, Kendrick B. 2011. The genera of hyphomycetes. CBS Biodiversity Series, vol. 9. 997 p.
- Sinclair RC, Eicker A. 1985. A new species of *Chloridium* from South Africa. Trans. Br. Mycol. Soc. 84: 566–568. [http://dx.doi.org/10.1016/S0007-1536\(85\)80029-2](http://dx.doi.org/10.1016/S0007-1536(85)80029-2)