DISCOSIELLA SYDOW AND DISCOSIELLLINA
GEN. NOV. *

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ABSTRACT

Discosiella cylindrospora H. and P. Sydow, the type species of the genus Discosiella H. and P. Sydow, is redescribed from a study of type material. It is concluded that the conidial appendages of this fungus are mucoid in nature, a fact not mentioned by the Sydows in their diagnosis and description. The diagnosis of Discosiella is suitably emended. From the original description of D. longiciliata Agnihothrudu, supplemented by a study of the type material of this species, it is concluded that it cannot be retained in the genus Discosiella as emended in this paper and is now accommodated in a new genus Discosielina as D. longiciliata (Agnihothrudu) comb. nov.

The genus Discosiella was described by Sydow, H. and P. in 1912 with D. cylindrospora as the type species (Sydow, H. and P., 1912). Their diagnoses of the genus and the type species were as follows:


D. cylindrospora sp. nov. "Mycelio apiphylo, raro hypophyllo, plagulas tenuissimas irregulares, indeterminatus, effusas, atras, 3–10 mm latas efformante, ex hyphis tenuibus 2·5–4 μ crassis, subhyalinis usque dilute fuscidulis, varie ramosis anastomos-antibusque, septatis, composito; pycnidii in mycelio

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sparsis, dimidiatis, leniter convexis, nitidulis, atris, 175–250 μ diam., irregu-
lariter dehiscentibus, ambitu saepeparum fimbriatis, contextu opaco irregulari-
ter radiatim, composito, sporulis numerosissimis, cylindraceis, utrinque obtusi-
seris, medio l-septatis, non constrictis, hyalinis, 12–15 × 2–2·5, utrinque
setula hyalina flexuosa usque falcata 8–18 μ longa, 1–1·5 μ crassa praeditis;
sporophoris brevissimis, hyalinis. _Hab._ in foliis vetustis _Gelonii subglomerati_,
Puerto Princesa, Palawan, ins. Philipp.” (Saccardo, 1931).

In the course of studies on Coelomycetes with appended conidia, we
examined the type specimen of _D. cylindrospora_ and a description of the
fungus based on our study is given below (Fig. 1).

![Fig. 1. Discosiella cylindrospora, from type material. A, Conidiogenous cells with developing conidia. B, Conidia.](image)

_Fructifications_ mostly on the upper side of the leaf, the fungus forming
black, concentric, irregular, indeterminate patches, consisting of subhyaline to
light brown, variously branched and anastomosing, septate hyphae. _Pycnidia_
on a slender subiculum, epiphyllous, gregarious, separate or coalescent, sub-
circular in outline, dimidiate, shield-shaped, slightly convex above, black,
shiny, opaque, astomous, irregularly dehiscing, 182 (110–205) μ in diam.
_Conidiophores_ arising from the upper cells of a basal stroma, hyaline, short,
erect, aseptate, lageniform with a short base and a slender neck (Fig. 1, A),
3·5–4·2 × 2·0–2·8 μ. _Conidia_ formed singly as blown out ends of each
conidiophore, hyaline, subcylindrical, rounded at both ends, thin-walled,
l-septate in the middle, occasionally slightly constricted at the septum; each
bearing a single terminal appendage at either end (Fig. 1, B), 11·4 (10·5–12·6)
× 2·3 (2·0–2·5) μ; appendages hyaline, mucoid in nature, flexuous, broader
Discosiella *Sydow* and Discosiellina *Gen. Nov.*, at the base, attenuated towards extremity, 14·0 (11·0–21·0) μ long, 1·0–1·5 μ wide at the base.

The conidiophores resemble phialides in shape, but secondary conidia have not been seen in the meagre material available.

On leaves of *Gelonium subglomeratum*, Puerto Princesa, Island of Palawan, March 1911 (TYPE) ex Herb. BPI (Herb. MUBL No. 2237-slide).

Since the mucoid nature of the conidial appendages was not mentioned in the original diagnosis of the Sydows, the following emended description of the genus is given below.

**Discosiella** H. and P. Sydow, char. emend.

Pycnidia on a slender subiculum gregarious, dimidiate, shield-shaped, black, opaque, astomous. Conidiophores hyaline, short, erect, lageniform, aseptate. Conidia formed singly as blown out ends of each conidiophore, hyaline, subcylindrical, rounded at both ends, thin-walled, 1-septate in the middle; each bearing a single, terminal appendage, at either end; appendages hyaline, mucoid in nature, flexuous, broader at the base, attenuated towards extremity.

Among the other species of this genus so far described, we have examined type material of *D. longiciliata* Agnihotrudu (Agnihotrudu, 1958), but we could not obtain the type specimens of *D. acrocoma-maculiformis* Batista (Batista, 1954), and of *D. vochysiae* Batista and Lima (Batista and Lima, 1955) described from Brazil, in order to check their taxonomic position.

Agnihotrudu (1958) described the conidia of *D. longiciliata* as follows: "Conidia borne singly, apically on the conidiophores produced abundantly, subcylindrical with obtuse ends, slightly narrower at the base, often allantoid or botuliform, rarely straight, hyaline, smooth-walled, two-celled with the septum placed subequatorially, dividing the spore into two somewhat unequal halves, non-constricted at the septum, measuring on average 19·2 by 5·2 μ (range: 16 to 21 μ by 3 to 6·4 μ) and mostly 19·8 by 5·5 μ, guttulate, one-ciliate at either end; cilia hyaline, flexuous, subterminal, measuring on average 18·8 μ (range: 16 to 28 μ) and mostly 22 μ”.

A fragment of the type material of *D. longiciliata* with a few pycnidia was examined by us and the following description is based on a study of this material (Fig. 2).
Pyenidia in ill-defined spots on dead stems, subcuticular, scattered, dimidiate, scutate to slightly hemispherical, orbicular, dark brown or black, 200–450 μ in diam, scutellum membranous to carbonous, composed of opaque, polygonal cells in the centre and elongate, rectangular translucent cells towards periphery, astomous, irregularly dehiscing, rather fimbriate at the margin (Fig. 2, A redrawn from Agnihotrudu, 1958). Conidiophores arising from a basal stroma, short, erect, simple, aseptate or one-septate at the base, 2·0–4·0 × 1·5–2·0 μ (Fig. 2, B, redrawn from Agnihotrudu, 1958). Conidia formed singly from the apex of each conidiophore, oblong, curved or somewhat straight, slightly narrowing towards the indistinctly mamillate and truncate base, obtuse or rounded at the apex, thin-walled, hyaline, with a subequatorial septum, slightly constricted at the septum, with an appendage at either end (Fig. 2, C), 19·0 (16·8–21·0) × 5·6 (3·5–6·3) μ; appendages subterminal on the curved side, thread-like, long-flexuous, hyaline, 16·8–28·0 μ long.

Fig. 2. Discosellina longiciliata. A. Vertical section of a pycnidium. B. Conidigenous cells with young conidia. C. Conidia (A, B, redrawn from Agnihotrudu, 1958; C, from type material).

The conidia of D. longiciliata differ from those of D. cylindrospora in that (i) the conidal appendages in the former are not mucoid as in the latter;
and (ii) the conidial appendages in the former are not terminal as in the latter, but subterminal. These differences in the nature and position of the conidial appendages indicate that *D. longiciliata* is not congeneric with *D. cylindrospora*.

From a study of literature, reference to and comparison with two genera of the Leptostromataceae appears to be relevant in settling the taxonomic position of *D. longiciliata*. They are: (i) *Tarsodisporus* Batista and Silva, type species *T. paraensis* Batista and Silva (Batista and Silva, 1964), and (ii) *Kilikiostroma* Batista and Bezerra, type species *K. peresii* Batista and Bezerra (Batista and Bezerra, 1961).

In *Tarsodisporus paraensis* the fructification is a superficial pycnostroma with a plate-like covering composed of radiating cells. The conidia are hyaline, oblong, 1-septate in the middle, with a single appendage at each end. The appendages are nearly terminal in position and appear to be non-mucoid as seen from the illustration (Fig. 1 in *Atas. Inst. Micologia* 2: 250, 1964) and description. In conidial morphology and in having apparently similar fructifications, *Discosiella longiciliata* resembles this genus. However, *D. longiciliata* does not appear to be congeneric with *Tarsodisporus paraensis* since the conidia in the latter are produced from the inner surface of the scutellum and not from the pycnidial base.

In *Kilikiostroma peresii*, the conidia are oblong and 2-celled with a single terminal appendage at each end and so resemble the conidia of *Discosiella longiciliata*. In *Kilikiostroma peresii* the conidia are brown, not hyaline as in *Discosiella longiciliata*: this difference is of little value for generic delimitation. However, the top of the pycnidium is not shield-like and composed of radially arranged plates of cells as in *Discosiella longiciliata* (see Fig. 3 in *Publ. Inst. Mic. Univ. Recife* 321: 17, 1961). Therefore, *D. longiciliata* cannot be accommodated in *Kilikiostroma*. A new genus is proposed here to take in *Discosiella longiciliata* and it is made the type of this new genus.

*Discosiellina* gen. nov.

Pycnidia dimidiata, scutata, atro-brunnea vel nigra, fimbriata ad margines, irregulariter dehiscentia. Conidiophora orientia ex stromate basali, brevia, simplicia, hyalina. Conidia hyalina, oblongata, curvata vel recta, truncata in basi, obtusa vel rotunda ad apicem, 1-septata in medio, cum appendice hyalina, subterminali, filiformi ad utrumque terminum.

Pycnidia dimidiate, scutate, dark brown or black, fimbriate at margins’ dehiscing irregularly. Conidiophores arising from a basal stroma, short,
simple, hyaline. Conidia hyaline, oblong, curved or straight, truncate at the base, obtuse or rounded at the apex, l-septate in the middle, with a hyaline, single, subterminal, thread-like appendage at each end.

*Type Species:*

*Discosielina longiciliata* (Agnihothrudu) comb. nov.


*Type:* On dead twigs of *Camellia sinensis* (L.) O. Kuntze, Experimental plots, Tocklai Experimental Station, Cinnamara, Assam State, Coll. Agnihothrudu, 1–11–1956 (Herb. MUBL No. 2238 slide).

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REFERENCES


