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Chlamydopsis: an emendment of the genus and its type species

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Abstract — *Chlamydopsis proliferans*, the type of a monotypic genus, was isolated on decaying leaves of *Caesalpinia echinata* in the Reserva Biológica de Mogi-Guaçu, São Paulo State, Brazil. During our study, we observed differences between our new collection and the original description. We therefore emend the circumscriptions of the genus and the species, which is reported for the first time from South America.

Key words — litter fungi, hyphomycetes, brazil-wood

Introduction

During investigations of conidial fungi that occur on leaf litter of *Caesalpinia echinata*, brazil-wood (Silva & Grandi 2008), an interesting dematiaceous hyphomycete was isolated. The collection was identified as *Chlamydopsis proliferans* but showed distinct features different from the original description (Holubová-Jechová & Castañeda 1986).

Chlamydopsis is a monotypic genus, described from decaying leaves of *Lauraceae* in the Province of Camagüey, Cuba; since it was proposed there have been no other records nor have new species been added to the genus (Kirk et al. 2008, www.indexfungorum.org, consulted 14 June 2010). The conidia of our collection are typical and divided into two parts composed of one unicellular basal cell and an apical part with a central globose brown cell. Many delicate pale brown cells surround the central cell as illustrated by Holubová-Jechová & Castañeda Ruiz (1986), but in disagreement with their interpretation. Moreover the conidia are muriform since they possess septa in more than one plane (Kirk et al. 2008).

Therefore, emendments to the genus and species are proposed and the description and illustrations of the Brazilian material presented.

Materials and methods

The leaf litter of *Caesalpinia echinata* was collected from February 2005 to February 2006 in the "Reserva Biológica de Mogi-Guaçu", (22°15'02.4"S 47°09'28.9"W), São Paulo State, Brazil. After the dead leaves were successively washed, they were incubated in moist chambers at room temperature (Harley & Waid 1955, Grandi & Gusmão 1998). The fungal specimens were transferred to slide mounts prepared with lactophenol-cotton blue, polyvinyl alcohol, and glycerin (adapted from Morton et al. 1993, Mueller et al. 2004). Identification was made with microscope Axiostar plus and pictures with Axioskop 40, AxioCam MR and AxioVision, both Carl Zeiss. Permanent slides were deposited in the "Herbário Científico do Estado Maria Eneyda P. Kauffmann Fidalgo (SP)", Brazil. In addition, the type specimen PRM 842703 (isotype) was requested from the Herbarium PRM, at Czech Republic, and analyzed.

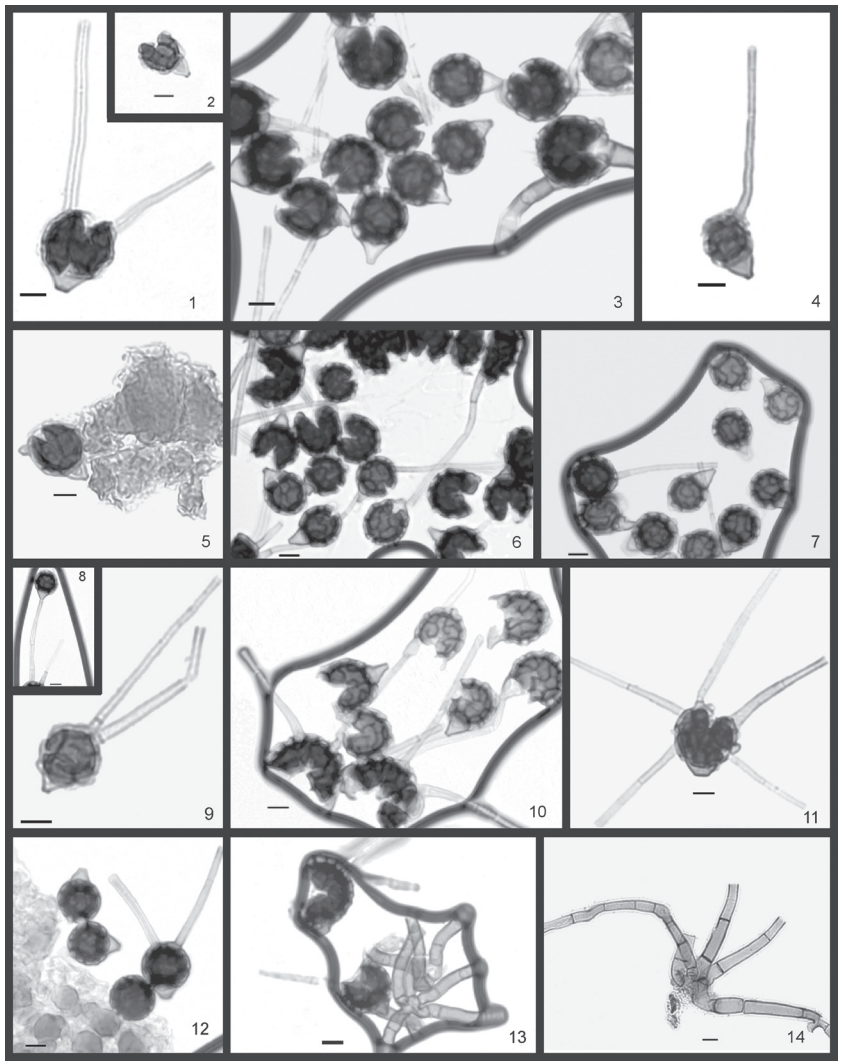
Taxonomy

Chlamydopsis Hol.-Jech. & R.F. Castañeda, Česká Mykologie 40: 74. 1986.

Emended description: Conidiophores smooth, single or in groups, arising from basal cell. Conidiogenous cell cylindric, smooth, pale brown. Conidium complex, muriform, dry; basal cell obpyriform to subconical, conical-truncate, thick-walled at the base, smooth, pale brown; apical cell globose, dark brown, surrounded by a layer of small, thin-walled, smooth, pale brown cells.

Chlamydopsis proliferans Hol.-Jech. & R.F. Castañeda, Česká Mykologie 40: 74. 1986. Figs 1–14

Emended description: Conidiophores arising from a less distinct basal cell and in groups of up to 5; distinct, simple, 2–7-septate, smooth, pale brown to brown 46–55(–122) µm long, 5–6(–7.5) µm wide, measurement including conidiogenous cells. Conidiogenous cells cylindrical, integrated, terminal, monoblastic, smooth, pale brown, bearing one conidium at the apex. Conidia complex, muriform, solitary, dry, obovoid or obpyriform, with a unicellular basal cell and another terminal portion larger, globose, smooth, brown. Basal cell obpyriform, conical-truncate, thick-walled at the base, smooth, pale brown, 6–8.5 µm long, 6–10 µm wide in the apex, 1–5(–6) µm wide in the base. Terminal portion globose, with a dark brown thick-walled central cell and with a layer of cells covered this portion, 12.5–21 µm diam. Layer of cells surrounding the central cell composing by thin-walled, smooth, pale brown cells, 2–3.5(–5) µm wide. A group of 3–5 conidiophores arising from this layer of cells, simple, 1–3-septate, thin-walled, smooth, pale brown, 37.5–47.5 µm long, 2.5–3.5 µm wide.



FIGS. 1–14. *Chlamydopsis proliferans*. 1–4. Conidia (note thick-walled basal cell). 5–7, 10. Conidia, each with a layer of outer thin cells surrounding the globose dark central cell. 8. Attached conidium. 9–12. Conidiophores arising from the thin outer layer of cells. 13–14. Conidiophores arising from somatic hyphae in groups up to five.

(Bars = 10 μm; FIGS. 1, 2, 4, 5, 9, 11: Brazilian material, SP 381595; FIGS. 3, 6, 7, 8, 10, 12, 13: Cuban isotype, PRM 842703)

Specimens examined: **BRAZIL. São Paulo**: Mogi-Guaçu, "Reserva Biológica de Mogi-Guaçu", on decaying leaf litter of *Caesalpinia echinata* Lam. (*Caesalpiniaceae*), 30.XII.2005, R.A.P. Grandi & P. Silva. (SP 381595). **CUBA. Província Camagüey**: Hoyo de Bonet, on rotten leaves of *Lauraceae*, 29.XI.1984, R.F. Castañeda. (**ISOTYPE:** PRM 842703).

Habitat and Distribution – on leaf litter from tropical rainforest in Brazil and Cuba.

Comments – The species was studied through permanent slides from both the Brazilian material and the isotype. In the generic diagnosis the conidia were originally described as uniseptate, with the two cells described as: "terminal cell globose, dark brown, thick-walled and distinctly warted, basal cell subconic, smaller, pale brown, smooth" (Holubová-Jechová & Castañeda Ruiz 1986). However, examination of both collections showed that the conidia are neither warted nor subdivided into two cells. The basal cell of the conidium is conico-truncate at the base as originally described and illustrated and it is thick-walled at the base (Figs. 1–4). After detailed observations we noted that the "warted" ornamentation of the wall mentioned for the "terminal cell" of the conidia in the original description is actually a lighter coloured layer of cells surrounding the globose dark brown central cell of the conidia (Figs. 5–7); this species does not have warts. It is well observed that when the conidia are broken, the wall cracks in many directions and the superficial delicate layer is perfectly visible (Fig 1, 2, 5, 6, 10, 11,13). At first the central brown part of the conidia seems to be divided into many cells, but this appearance results from the delicate layer over the globose central cell (Figs. 5–7, 10). Some cells of this external layer give rise to new conidiophores (Figs. 8–12); it appears that the conidia may or may not proliferate, depending on the stage of development of the material.

The illustrations in the original paper showed probably 5 conidiophores, which we also observed (Figs. 13–14), but the species description cites only "up to 4". In addition, there are no minutely roughened conidiophores observed in the Brazilian material. Unfortunately the illustrations of Holubová-Jechová & Castañeda Ruiz (1986) were at odds with the interpretation in the text.

Chlamydopsis proliferans is known only from permanent slides and at the moment its distribution appears to be essentially tropical. This is the second occurrence of the species and the first in South America.

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