

Two *Speiropsis* species (Anamorphic Fungi - Hyphomycetes) from Bahia State, Brazil

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RESUMO – (Duas espécies de *Speiropsis* (Fungo Anamórfico - Hyphomycetes) do Estado da Bahia, Brasil). Durante o levantamento de microfungos associados a folhas em decomposição de plantas nativas do Estado da Bahia, duas espécies de *Speiropsis* foram encontradas: *S. pedatospora* Tubaki e *S. scopiformis* Kuthub. & Nawawi. São apresentadas descrições, ilustrações, comentários, distribuição geográfica e uma tabela comparativa das características taxonômicas das espécies de *Speiropsis*. *S. pedatospora* constitui primeira referência para o Brasil.

Palavras-chave: biodiversidade, microfungos, taxonomia

ABSTRACT – (Two *Speiropsis* species (Anamorphic Fungi - Hyphomycetes) from Bahia State, Brazil). During a survey of the microfungi associated with dead leaves of native plants in the State of Bahia, two species of *Speiropsis* were found: *S. pedatospora* Tubaki and *S. scopiformis* Kuthub. & Nawawi. Descriptions, illustrations, comments, geographical distribution and a compared table with taxonomic characteristics of the *Speiropsis* species are present. *S. pedatospora* is the first record for Brazil.

Key words: biodiversity, microfungi, taxonomy

Introduction

The genus *Speiropsis* was erected by Tubaki (1958) from a single species *S. pedatospora* Tubaki, found on dead leaves of *Eriobotrya japonica* (Thunb.) Lindl. (Rosaceae) in Japan. *Speiropsis* contains species that produce erect, simple, straight, septate, mononematous or, in a few species, aggregated in fascicles or synnematus to sporodochial conidiophores with discrete, denticulate, polyblastic conidiogenous cells and catenate conidia in branched or unbranched chains connected by narrow isthmi.

According to Keshava Prasad & Bhat (2002), this genus have nine species, *S. aquatica* Aramb., Cabello & Megascini (Arambarri *et al.* 1987), *S. belauensis* Matsush. (Matsushima 1985), *S. hyalospora* Subram. & Lodha (Subramarian & Lodha 1964), *S. irregularis* R.H. Petersen (Petersen 1963), *S. ixorae* Subram. & Sudha (Subramarian & Sudha 1986), *S. pedatospora* Tubaki (Tubaki 1958), *S. scopiformis* Kuthub. &

Nawawi (Kuthubutheen & Nawawi 1987), *S. simplex* Matsush. (Matsushima 1971) and *S. rogergoosensis* Kesh. Prasad & Bhat (Keshava Prasad & Bhat 2002). However, *S. irregularis* was transferring to *Arbusculina irregularis* (R.H. Petersen) Marvanová & Descals (Marvanová & Descals 1987). The genus *Speiropsis* is considered an aquatic Hyphomycetes by some authors (Tubaki *et al.* 1983; Marvanová & Descals 1987) and it has a tropical and subtropical distribution. A synopsis with morphological features and geographical distribution of the described *Speiropsis* species are given in Tab. 1.

In Brazil, *S. scopiformis* was collected by first time associated with leaf litter of *Miconia cabussu* Hoehne (Melastomataceae) in the Atlantic Rain Forest, State of São Paulo (Gusmão *et al.* 2001).

This contribution comprises the occurrence of *S. pedatospora* and *S. scopiformis* found in a Mangrove and “Campo Rupestre” area, respectively, in the State of Bahia.

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Table 1. Comparison of the taxonomic characteristics and geographical distribution of the described *Speiropsis* species.

Species	Morphological features	Geographical distribution
<i>S. aquatica</i>	Conidia unbranched; conidial chains 6-7 cells, 40-50 × 2.6-3 µm	Argentina
<i>S. belauensis</i>	Conidia unbranched; conidial chains 5-7 cells, 40-60 × 4-5 µm	Palau
<i>S. hyalospora</i>	Conidia branched, developing in 3 divergent chains, 8-10 × 3.5-5 µm	Sri Lanka
<i>S. ixorae</i>	Conidia unbranched; conidial chains 5-6 cells, 33.5-46.5 × 2.8-3.3 µm	India
<i>S. pedatospora</i>	Conidia branched, developed in 3-4 divergent chains, 10-14 × 4-7 µm	USA (Hawaii), Japan, Solomon Islands, Sri Lanka, Taiwan, Brazil
<i>S. scopiformis</i>	Conidia unbranched; conidial chains 5-7 cells, 40-65 × 2-3 µm	Brazil, Malaysia, Cuba, New Caledonia
<i>S. simplex</i>	Conidia unbranched; conidial chains 7-9 cells, 80-110 × 4-5 µm	Papua New-Guinea, México
<i>S. rogergoosensis</i>	Conidia branched; developed in many divergent chains, 4-6 × 1-2 µm	India

Material and methods

Dead leaves were collected and used as substrate for the isolation of the anamorphic fungi. The washing technique with twenty serial changes of sterile distilled water was applied to the leaves (Harley & Waid 1955). Leaf fragments were transferred to moist chambers at room temperature for development of reproductive structures, conidiophores and conidia. Identification was made based on slide mountings prepared with PVL resin (alcohol polyvinyllic and lactophenol) and cotton-blue (Trappe & Schenck 1982). Details of fungal characteristics were studied, measured, described and illustrated. Permanent slides were deposited in the "Herbário da Universidade Estadual de Feira de Santana" (HUEFS).

Results and discussion

1. *Speiropsis pedatospora* Tubaki, J. Hattori Bot. Lab. 20: 171. 1958.

Fig. 1-2.

Conidiophores macronematous, mononematous, simple, straight or flexuous, 4-7 septate, solitary, smooth, brown, 104-147 × 3.5-5 µm. Conidiogenous cells polyblastic, determinate, discrete, cylindrical, denticles not evident, smooth, light brown, 8-12 × 4-6 µm. Conidia catenate connected by narrow isthmi with 4-8 cells, forming branched chains, 65-80 µm, cylindrical to cuneiform, smooth, pale to mid-brown, 10-11.5 × 3.5-5 µm.

Brazilian material has smaller conidia than those described in the literature (Tubaki 1958). However, this variation is probably influenced by the substrate and habitat. The conidia of *Digitodochium rhodoleucum* Tubaki & Kubono and *Cladoconidium articulatum* Bandoni & Tubaki resemble that of *S. pedatospora* in gross morphology (Tubaki & Kubono 1989). The conidial chains of *S. pedatospora* are similar to *S. hyalospora* and *S. rogergoosensis*, but the morphology and dimensions of the conidiophores and the disposition of conidial branched chains distinguish these species. *S. pedatospora* is recorded in Brazil for the first time.

Material examined: **BRAZIL. Bahia:** Conde, 22/IX/2001, on dead leaves of *Laguncularia racemosa* (L.) C.F. Gaertn. (Combretaceae), Barbosa (HUEFS 56702).

2. *Speiropsis scopiformis* Kuthubutheen & Nawawi, Trans. Br. mycol. Soc. 89: 584. 1987.

Fig. 3-4.

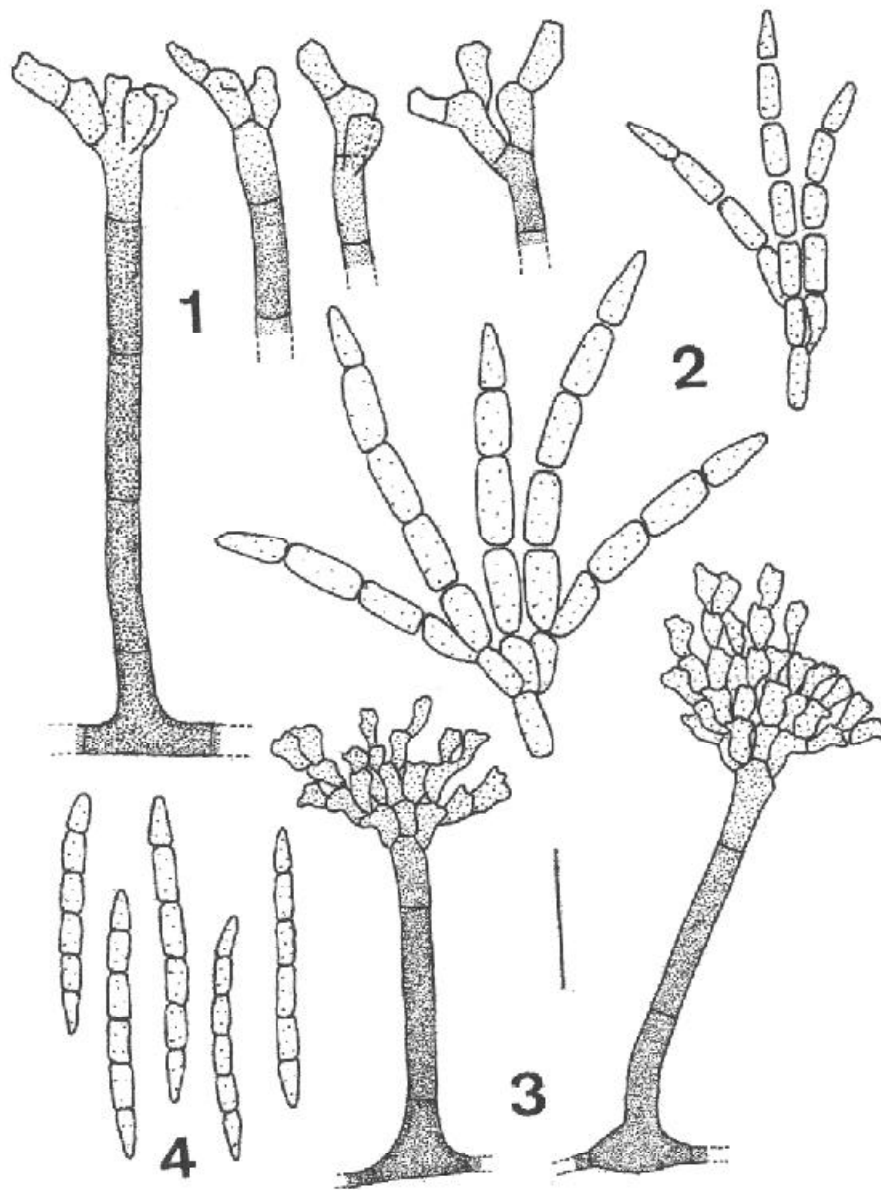
Conidiophores macronematous, mononematous, simple, straight or flexuous, 1-3-septate, solitary, smooth, brown, 28-90 × 4-5.5 µm. Conidiogenous cells polyblastic, integrated, discrete, clavate to lageniforme, usually with 2-3 denticulate projections in the apical region, smooth, light brown, 6.5-8.5 × 3-6 µm. Conidia catenate connected by narrow isthmi with 5-7 cells forming unbranched chains 37-51 µm, smooth, hyaline to light brown; intermediary conidia cylindrical, 6-8.5 × 2-2.5 µm; terminal conidia cuneiform, 6-7.5 × 1.5-2.5 µm.

The description provided by Mouchacca (1990) and Gusmão *et al.* (2001) corresponds to our species, however, conidiophores are smaller when compared with description provided by Kuthubutheen & Nawawi (1987) and Keshava Prasad & Bhat (2002). *S. scopiformis* resemble *S. aquatica* and *S. ixorae*, but the number of cells in the conidial chain and the dimensions of the conidiophores distinguish these species.

Material examined: **BRAZIL. Bahia:** Palmeiras, 24/VI/2000, on dead leaves of *Cupania*

paniculata Cambess. (Sapindaceae), Gusmão (HUEFS 56671); Seabra, 23/VI/2000, on dead leaves of *Senna rizinii* H.S. Irwin & R.C. Barneby (Caesalpinaceae), Gusmão (HUEFS 56689); Rio de Contas, 20/IV/2001, on dead leaves of *Miconia pepericarpa* DC (Melastomataceae), Gusmão (HUEFS 56573).

The differences among collecting areas reveal the plasticity of this genus in colonizing different hosts and it is probable that this genus is more representative in other Brazilian ecosystems.



Figures 1-2. *Speiropsis pedatospora* Tubaki. 1. Conidiophore with conidiogenous cells. 2. Branched conidia. Figures 3-4. *Speiropsis scopiformis* Kuthub. & Nawawi. 3. Conidiophores with conidiogenous cells. 4. Unbranched conidia. Bar: 25 μ m.

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