

**ADDITIONS TO THE MYCOBIOTA (AGARICALES, BASIDIOMYCETES)
OF RIO GRANDE DO SUL, BRAZIL. II: THE BIRD'S NEST FUNGUS
Nidularia pulvinata (SCHWEIN.) FR.**

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ABSTRACT

The rare gasteromycete *Nidularia pulvinata* (Nidulariaceae) is reported for the first time from the state of Rio Grande do Sul, in south Brazil. The remarkable character of the species is the pulverulent peridium composed by spiny hyphae. Morphological descriptions, line drawings and photos of the basidiomata and hyphae (under scanning electron microscopy) are presented.

Key words: Basidiomycota, gasteroid fungi, Nidulariaceae, CPCN Pró-Mata.

RESUMO

Adições à micobiota (Agaricales, Basidiomycetes) do Rio Grande do Sul, Brasil. II: o fungo gasteróide *Nidularia pulvinata* (Schwein.) Fr.

Nidularia pulvinata, uma rara espécie de fungo gasteróide pertencente à família Nidulariaceae, tem sua ocorrência registrada pela primeira vez no Rio Grande do Sul. Esta espécie caracteriza-se principalmente pela presença de um perídio pulverulento, composto por hifas espinhosas. São apresentadas descrições e ilustrações morfológicas, bem como fotos dos basidiomas e hifas sob microscópio eletrônico de varredura.

Palavras-chave: Basidiomycota, fungo gasteróide, Nidulariaceae, CPCN Pró-Mata.

INTRODUCTION

The Nidulariaceae Fr. is a family of little gasteroid Basidiomycetes, known as “bird’s nest fungi” (BRODIE, 1975), formerly included in the artificial group of the “Gasteromycetes”. They are characterized by the small basidiomata (4-8 mm high) with an urn or vase shape, containing one or even numerous discoid peridioles in which the basidiospores are produced and are frequently found on wood or other plant debris (MILLER Jr.; MILLER, 1988). Currently, the family comprises the genera *Crucibulum* Tul.,

Cyathus Haller ex Pers., *Mycocalia* Palmer, *Nidula* White, and *Nidularia* Fr., being placed among the lamellate mushrooms of the *Agaricales* (KIRK et al., 2001).

The following works contributed to the knowledge of such fungi in Rio Grande do Sul State: Rick (1961) reported seven *Cyathus* and *Crucibulum vulgare* Tul. [= *C. laeve* (Huds.) Kambly]; Esposito and Guerrero (1988) reported *C. laeve* and *Cyathus poeppigii* Tul., *C. stercoreus* (Schwein.) De Toni, and *C. striatus* (Huds.) Hoffm.; and recently Sobestiansky (2005) reported *C. stercoreus*.

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In this note we report the occurrence of a nidulariaceous fungus collected in the “Centro de Proteção e Conservação da Natureza - Pró-Mata” (CPCN Pró-Mata), an area maintained by the “Pontifícia Universidade Católica do Rio Grande do Sul” (PUCRS), in the municipality of São Francisco de Paula, region of the meridional plateau of the Rio Grande do Sul State.

MATERIALS AND METHODS

The microscopic analysis of the basidiomata was made under a Leica DM LS2 microscope, equipped with a light tube. The slides were made with 5% KOH plus 1% Congo Red. Scanning electron microscopy studies were performed in the “Universidade Federal do Rio Grande do Norte” (UFRN) with a Philips XL 20 scanning electron microscope. Color terms in parenthesis are those of Korerup & Wanschler (1978), abbreviated as KW.

RESULTS AND DISCUSSION

Nidularia pulvinata (Schwein.) Fr., Syst. Mycol., 2: p. 301, 1822.

(Fig. 1-6)

Basidiomes: 1-6 mm diam., 2-3 mm high, subglobose, brownish orange (KW 5C6) to yellowish brown (KW 5D8). **Exoperidium:** firm to coriaceous with a floccose to cottony surface, irregularly opening in mature basidiomes to expose the peridioles; microscopically composed by thickened and stramineous to yellowish walled hyphae, 4-8 μm in diameter, clamped and with spiny projections along the wall. **Peridioles:** numerous, < 1 mm, dark brown (KW 6F8), with a rugose and viscid surface; microscopically formed by brownish and thick-walled, 2-5 μm in diameter hyphae, branched, with or without short spiny projections. **Basidiospores:** 6-8 \times 4.5-6 μm , ovoid to ellipsoid, hyaline, with a smooth and slightly thickened wall, without a germ-pore but with a conspicuous apiculus.

Material studied: BRAZIL. Rio Grande do Sul State: São Francisco de Paula, CPCN Pró-Mata PUCRS, 24.I.2004, leg. J.-M. Hermann s/n° (ICN).

Discussion: this taxon has a pulverulent peridium surface that is caused by the structure of the hyphae which compose this layer (FLEGLER; HOOPER, 1980). This is a very characteristic feature, which renders this species easily recognizable.

Nidularia pulvinata was firstly reported in Brazil by Baseia & Milanez (2001), who considered it a rare species, as well Brodie (1975), Coker and Couch (1928) and Johnson (1929). Several studies on Nidulariaceae have not reported this species, supporting this idea (GÓMEZ; PÉREZ-SILVA, 1988; MARTINEZ, 1956). The genus was also reported from the state of Paraná by de Meijer (2001), but without any indication of species. This is the first report of a *Nidularia* species from the state of Rio Grande do Sul.

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Fig. 1. *Nidularia pulvinata*: Basidiomes. Scale bar = 5 mm.

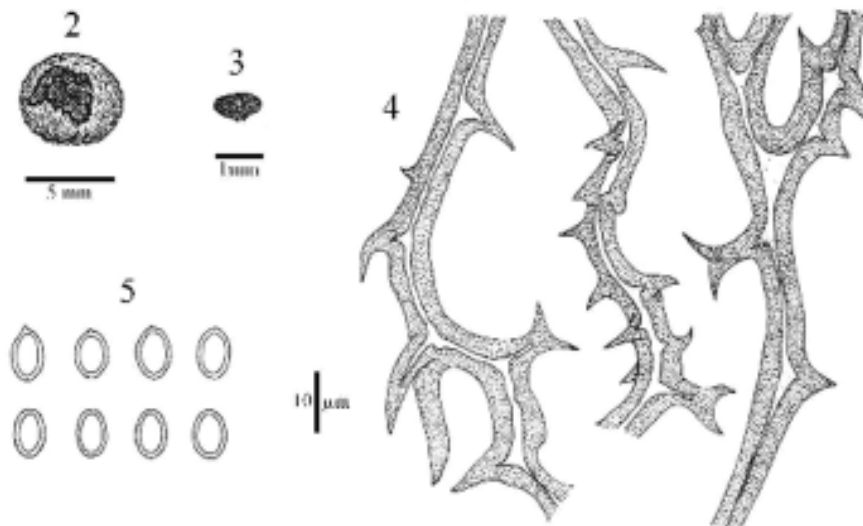


Fig. 2-5. *Nidularia pulvinata*: 2. Basidiome. 3. Peridiole. 4. Hyphae of the exoperidium. 5. Basidiospores.

Fig. 6. *Nidularia pulvinata*: Scanning electron microscopy of the exoperidium hyphae.