

Fresh Water Fungi From Sipna River, Dist. Amravati (M.S.)

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Abstract: The present paper deals with Four of Mitosporic fungi viz., *Mycoleptodiscus laterlis* Alcorn and Sutton, *Pseudorobillarda phragmitis* (Cunnell) M. Morelet, *Speiropsis scopiformis* Kuthubutheen and Nawawi, *Trinacrium subtile* Riess, *Tripospermum myrti* (Linder) Hughes, *Conidia* of these fungi were encountered in foam samples from freshwater habitats. All of these are being recorded as addition to the fungi of Maharashtra state (India). The data provides information on the distribution of these fungi in India, apart from description and illustrations.

Keywords: Freshwater, foam samples, Mitosporic fungi, Sipna River

1. Introduction

Freshwater Mitosporic fungi are characterized as those dwell in freshwater ecosystems for all or part of their life cycle. According to Goh and Hyde, 1996; Chan et al., 2000; Descals and Moralejo, 2001, this definition of freshwater fungi is vague, as it includes all fungi that may be present in a freshwater environment regardless of their origin. The isolated fungi from freshwater habitats in this work show that there are plenty of higher fungi (Ascomycota, Basidiomycota, and Anamorphic / Mitosporic fungi) in freshwater environment. Most of the species have been described and recorded from terrestrial samples before. The results are in accordance with the broad definition of freshwater fungi (Thomas, 1996). Other researches also found similar results before. For example, *Dactylella heptameres* was isolated from decaying leaves in a pond (Peach, 1950) but this species was originally isolated from terrestrial samples (Drechsler, 1943). Furthermore, Cai et al. (2003) noted "of the 58 species of fungi identified from bamboo submerged in the Liput River, 18 species overlapped with those on terrestrial bamboo samples in the Philippines, Hong Kong and China". The above examples demonstrate that many species from freshwater environment also exist in terrestrial ecosystems.

The present paper deals with eleven species of Anamorphic / Mitosporic fungi viz *Mycoleptodiscus laterlis* Alcorn and Sutton, *Pseudorobillarda phragmitis* (Cunnell) M. Morelet, *Speiropsis scopiformis* Kuthubutheen and Nawawi, *Trinacrium subtile* Riess. *Conidia* of these fungi were encountered in foam samples from freshwater habitats. All of them are being recorded for the first time from Maharashtra state (India). The data provides information on the distribution of these fungi in India, apart from description and illustrations.

2. Materials and Methods

The foam is a mass of bubbles of air or gas in a matrix of liquid film, especially an accumulation of fine and frothy bubbles formed in or on the surface of a liquid. In freshwater habitats, foam is formed by the movement of the water against natural barriers like stones, logs, twigs, especially in lotic habitats, constitutes a natural trap for the conidia of

freshwater Mitosporic fungi. In the present studies, foam samples were collected at morning and evening time from study sites. Approx. 10 ml of foam formed due to fast flowing turbulent water at each study site was collected in plastic bottles and kept for 24 hours to enable the foam to dissolve. Samples of foam were fixed in FAA to yield 5 % foam solution at the collection spot or fixed in FAA taking 4 ml foam solution and 1 ml FAA. These foam samples were brought to the laboratory and examined under a low or high power of microscope using 15X Eyepiece to detect the conidia of freshwater Mitosporic fungi.

Permanent voucher slides of fungi were prepared according to the "double cover glass method" described by Volkmann-Kohlmeyer and Kohlmeyer (1996). Identifications of the encountered fungi were confirmed with the help of Ellis (1971), Hudson and Ingold (1960), Ingold (1942), Jones and Slooff (1966), Kagel (1906), Kuthubutheen and Nawawi (1987), Matsushima (1975), Olivier (1978), Sutton (1980), Sutton and Alcorn (1990), and Tubaki and Yokoyama (1971). Reports of the fungi studied were confirmed with the help of Bilgrami et al. (1991), Sridhar et al. (1992), Jamaluddin et al. (2004) and relevant literature.

3. Systematic Account

1) *Mycoleptodiscus laterlis* Alcorn & Sutton
Mycol. Res., **94**: 564 (1990).

Conidia: hyaline, aseptate, fusiform, curved, narrowed more towards the base then apically, guttulate, 15-18 x 6-8 µm, with single and apical appendage and two lateral appendages, filiform, septate, cellular, 15-24 µm (apical), 5-22 µm (basal) and 12-26 µm long (lateral), and ca 0.5 µm wide. Lateral appendages originate on opposite sides of the conidium in a slightly supermedian position.

Habitat: *Conidia* in foam samples Sipnar River (Tal.- Chikhaldara, Dist.- Amravati), 15 Aug., 2010; Leg., L.C.Nemade

Distribution in India:- Karnataka: *Conidia* in foam samples (Ramesh, 2002); Maharashtra: *Conidia* in foam samples (Present studies).

2) *Pseudorobillarda phragmitis* (Cunnell) M. Morelet
Bull. Soc. Sci. nat. Archeol. Toulon Var, 175: 6 (1968).

= *Robillarda phragmitis* Cunnell, Trans. Br. Mycol. Soc., 41: 405 (1958).

= *Pseudorobillarda phragmitis* (Cunnell) Nag Raj, Morgan-Jones & Kendrick, *Can. J. Bot.*, **50**: 866 (1972).

Conidia: 1-septate, fusiform, both ends rounded, hyaline, smooth, eguttulate, 16-23 x 3-4 µm with 2-4 apical radiating appendages, 15-23 µm long.

Habitat: Conidia in foam samples Sipnar River (Tal.-Chikhaldara, Dist.- Amravati), 15 Aug., 2010; Leg., L.C.Nemade

Distribution in India:- Karnataka: Conidia in foam sample (Rajashekhar and Kaveriappa, 2003); Maharashtra: Conidia in foam samples (Present studies).

3) *Speiopsis scopiformis* Kuthubutheen & Nawawi
Trans. Br. Mycol. Soc., **89**: 584 (1987).

Conidia: hyaline, non-septate, connected by narrow isthmi to form unbranched chains of 5-7 cells, cells at the tip and apex of conidial chain are conical, 6-8 x 2-3 µm, intermediate cells cylindrical, 7-10 x 2-3 µm; conidial chain 40-50 µm long, 2-3 µm wide.

Habitat: Conidia in foam samples Sipnar River (Tal.-Chikhaldara, Dist.- Amravati), 15 Aug., 2010; Leg., Dr.V.R.Patil

Distribution in India:- Uttarakhand: On submerged leaves (Sati et al., 2003); Maharashtra: Conidia in foam samples (Present studies).

4) *Trinacrium subtile* Riess

Beitrag zur mykologie, Haft. 2: (1852).

Conidia: Y-shaped, hyaline, main axis 30-47 µm long, 3-4 µm thick, 2-4-septate; two divergent arms, 1-5-septate, 20-45 µm long. Ando (1992) noted that *T. subtile* has an affinity for aquatic environment.

Habitat: Conidia in foam samples Sipnar River (Tal.-Chikhaldara, Dist.- Amravati), 15 Aug., 2010; Leg., Dr.V.R.Patil

Distribution in India:- Karnataka: On bracket leaves of fern *Drynaria quercifolia* (Sridhar et al., 2006); Maharashtra: Conidia in foam samples (Present studies).

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Figure Legends

Fig. 1. *Mycoleptodiscus laterlis* Alcorn and Sutton,
 Fig. 2. *Pseudorobillarda phragmitis* (Cunnell) M. Morelet,
 Fig. 3. *Speiopsis scopiformis* Kuthubutheen and Nawawi,
 Fig. 4. *Trinacrium subtile* Riess,

