

REGULAR ARTICLE

Aquatic fungi from Buldhana district

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KEYWORDS

Aquatic hyphomycetes, Ingoldian fungi, India

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ABSTRACT

Present paper deals with five species of freshwater hyphomycetes belonging to five genera were isolated from foam samples collected from the river Purna of Buldhana District. Two species viz. *Dendrosporomyces prolifer* Nawawi, Webster and Davey and *Varicosporium scoparium* Roldan and Honrubia are being reported for the first time from India. One species viz. *Wiesneromyces laurinus* (Tassi) Kirk is being reported for the first time from Maharashtra state. Two species viz. *Isthmotricladia laeensis* Matsushima and *Speropsis pedatospora* Tubaki are being reported for the first time from Buldhana District. Brief notes and illustration are given for each taxon. Geographical distribution of each species in India is also provided.

CB Volume 2, Year 2011, Pages 56-58

Introduction

Freshwater hyphomycetes were practically untouched until the pioneering work of Ingold (1942), who recognized them as 'Aquatic Hyphomycetes'. Later these fungi have also been described as "Freshwater Hyphomycetes" (Nilsson, 1964) and "Water borne Hyphomycetes" (Webster and Descals, 1979). There are more than 500 named species of hyphomycetes known from freshwater habitats. Most are described from temperate regions and are Ingoldian fungi, while there is little information on tropical species. To India, the aquatic hyphomycetes were studied by Ingold and Webster (1973), Subramanian and Bhat (1981), Sridhar et al. (1992), Galiyah and Manoharachary (1987), Agrawal et al. (1990), Sati and Tiwari (1997) and Sati et al. (2002). In Maharashtra, these fungi were studied by Thakur (1977), Patil and Kapadnis (1980), Talde (1981), Talde (1983), Borse and Patil (2006), Borse and Patil (2007), Patil (2009), Pawara (2009), Wagh et al. (2009), Nemade et al. (2009), and Patil et al. (2010). The present study is a part of an extensive survey of freshwater fungi from Maharashtra.

Materials and Methods

The foam samples were collected from Purna river of Buldhana District (Maharashtra). Soon after collection in small plastic vials, the foam was fixed by adding a few drops of formalin-acetic acid-alcohol (FAA) mixture. They were later scanned under microscope in the laboratory for the presence of conidia.

The encountered fungal species were identified with the help of Ingold (1975), Marvanova (1997). The distribution of these fungi were confirmed with the help of Kamat (1971), Bhide (1987), Bilgrami (1991), Sarbhay et al. (1986), Sarbhay et al. (1996), Shridhar et al. (1992), Jamaluddin (2004) and relevant literature. Voucher slides of the fungi reported were deposited in

the mycology herbarium, P. G. Department of Botany, S. S. V. P. Sanstha's L. K. Dr. P. R. Ghogrey Science College, Dhule (M. S.).

Taxonomic account

1) *Dendrosporomyces prolifer* Nawawi, Webster and Davey (Fig.1, Plate-1)

Conidia: holoblastic, terminal, hyaline, branched, consisting of a main axis, mostly hook-shaped, 150-295 µm long, 2.5-3 µm wide at the base, broadening above to 7-8 µm 8-13 septate and bearing from 7-11 lateral arms arising mostly from the convex side of the axis, up to 250 µm long x 7-8 µm wide. The first laterals may in turn give rise to secondary and tertiary branches.

Habitat: Conidia in foam samples.

Remark: The descriptions and measurements of conidia are completely agree with that of *Dendrosporomyces prolifer* Nawawi et al. (1977). Therefore, it is assigned to that species. It makes new addition to the fungi of India.

2) *Isthmotricladia laeensis* Matsushima (Fig.2, Plate-2)

Conidia: stalked clavate, as wide as branches, mostly shorter than branches, three branches, 70-100 µm long, basal branching of the arm initial arising from the stalk cell.

Habitat: Conidia in foam samples.

Distribution in India: Karnataka (Sridhar and Kaveriappa, 1984, 1988), Kerala (Sridhar and Kaveriappa, 1985) Western Ghats, (Rajashekhar and Kaveriappa, 2003), Maharashtra (Borse and Patil, 2007).

Remark: The measurements and descriptions of conidia are completely agree with that of *Isthmotricladia laeensis* Matsushima (1971). It is being reported for the first time by Borse and Patil (2007) from Maharashtra.

3) *Speiropsis pedatospora* Tubaki (Fig.3, Plate-1)

Conidia: consist of a basal cell and three to five divergent arms and each arm, which does not always forms the basal cell, consist

of clavate cell, which are formed in acropetal chains. Conidia pale to mid pale brown, $10 - 14 \times 4 - 7 \mu\text{m}$. ; branches of compound structure up to $90 \mu\text{m}$. long.

Habitat: Conidia in foam samples.

Remark: It is being reported for the first time from Buldhana District.

Distribution in India: Maharashtra (Patil and Kapadnis, 1980, Patil, 2009), Andhra Pradesh (Monoharachary, 1989), Karnataka (Sridhar and Kaveriappa, 1984, 1986, 1988; Chandrashekar, Sridhar and Kaveriappa, 1988), Western Ghat (Subramaniam and Bhat, 1981), Western Ghats, (Rajashchkar and Kaveriappa, 2003).

4) *Varicosporium scoparium* Roldan and Honrubia (Fig.4, Plate-1)

Conidia acrogenous, typically branched in more than one plane, elements cylindrical, apices rounded with main axis slightly curved sometimes with loss of apical dominance, $z = 80-150 \times 2-3.5 \mu\text{m}$, up to 6-septate, scar truncate, branches in 1-3 orders, lateral, single, diverging in various planes and mostly on one side of the parent element, straight or solitary curved.

Habitat: Conidia in foam samples.

Remark: The measurements of conidia and descriptions are completely agree with that of *Varicosporium tricladiiforme* Roldan and Marvanova (1992). Therefore, it is assigned to that species. It has been reported for the first time from India.

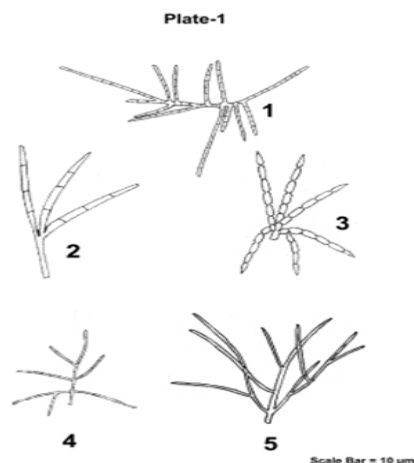
5) *Wiesneriomyces laurinus* (Tassi) Kirk (Fig.5, Plate-5)

Conidia chain: 7 – 9 celled, $60 - 90 \mu\text{m}$. long with individual cells $9 - 11 \mu\text{m}$, long $\times 3 - 3.5 \mu\text{m}$ wide.

Habitat: Conidia in foam samples.

Distribution in India: Western Ghats, (Rajashchkar and Kaveriappa, 2003), Gujrat (Ahire et al. 2009).

Remark: The measurements and descriptions of conidial chain and individual cell are completely agree with that of *Wiesneriomyces laurinus* (Tassi) (Kirk, 1984). Therefore, it is assigned to that species. It is being recorded for the first time from Maharashtra.



Figure

- 1) *Dendrosporomyces prolifer* Nawawi, Webster and Davey
- 2) *Isthmotricladia laeensis* Matsushima
- 3) *Speropsis pedatospora* Tubaki
- 4) *Varicosporium scoparium* Roldan and Honrubia
- 5) *Wiesneriomyces laurinus* (Tassi) Kirk

Acknowledgements

The authors are thankful to Dr. S. N. Nandan, Principal and Dr. Sandhya Patil, Head, P. G. Department of Botany, S. S. V. P. Sanstha's L. K. Dr. P. R. Ghogrey Science college, Dhule, M. S. for library and laboratory facilities. The author V. R. Patil

thankful to Late Principal Dr. Suresh Pawar, and Management of Shri V. S. Naik Arts, Commerce and Science College, Raver, Dist., Jalgaon for encouragement.

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