



Published by
www.researchtrend.net

***Tripospermum melghatensis*- A new anamorphic fungus from Melghat Tiger Reserve, Maharashtra, India.**

Rashmi Dubey and Shreya Sengupta

Botanical Survey of India, Western Regional Centre Pune, Maharashtra, India

*Corresponding author: dr.rashmidubey@gmail.com

| Received: 29 June 2016 | Accepted: 29 August 2016 |

ABSTRACT

Tripospermum melghatensis sp.nov. collected from the leaves of *Terminalia* sp. found in Melghat Tiger Reserve, Maharashtra, India is described and illustrated here. This species is distinguished by its very long conidiophores and the longest conidial arm is 50 % hyaline and 50 % is brown, the remaining 2-3 arms are hyaline at the tip and here proposed as a new species.

Key Words: Asexual fungi, Biodiversity, *Terminalia*.

INTRODUCTION

Melghat Tiger Reserve is located in the Vidarbha region of Maharashtra state, India and is perhaps the largest remaining Tiger habitats in Central India and occupies some part of Maharashtra, Madhya Pradesh and Chattisgarh. The vegetation varies considerably with the change in altitude, soil, temperature, humidity and rainfall. Dominant forest types are teak bearing forests and mixed deciduous forests. During a mycological survey of fungi associated with leaves in the Melghat Tiger Reserves of Maharashtra, an interesting fungus was collected from the leaves of *Terminalia* sp (Combretaceae). It shows remarkable difference from all previously described species of *Tripospermum* in having very long conidiophores and the longest conidial arm is 50 % hyaline and 50 % is brown, the remaining 2-3 arms are hyaline at the tip and here proposed as a new species. As per mycobank and Index Fungorum databases a total of 33 species has been reported in *Tripospermum* (Anonymous 1 & 2).

MATERIAL AND METHODS

Samples of dried leaves were placed in paper and aluminium foil bags, taken to the laboratory, and prepared according to Castaneda-Ruiz (2005). Mounts were prepared in PVL (polyvinyl alcohol, lactic acid, and phenol), and measurements were made at different magnification. Photomicrographs were taken with the help of Nikon eclipse 50 i microscope connected with Nikon DS- Fi 1 camera. The type specimen is deposited in Botanical Survey of India, Western Regional Centre, Pune with accession no.

***Tripospermum melghatensis* R. Dubey sp. nov.**
Fig. 1

Mycobank MB 815474

Etymology: Species name based on the name of Host Plant.

Colonies abaxial on living leaves, 5-7mm in diameter, black sooty blotches, growing intermixed with members of Capnodiales. External

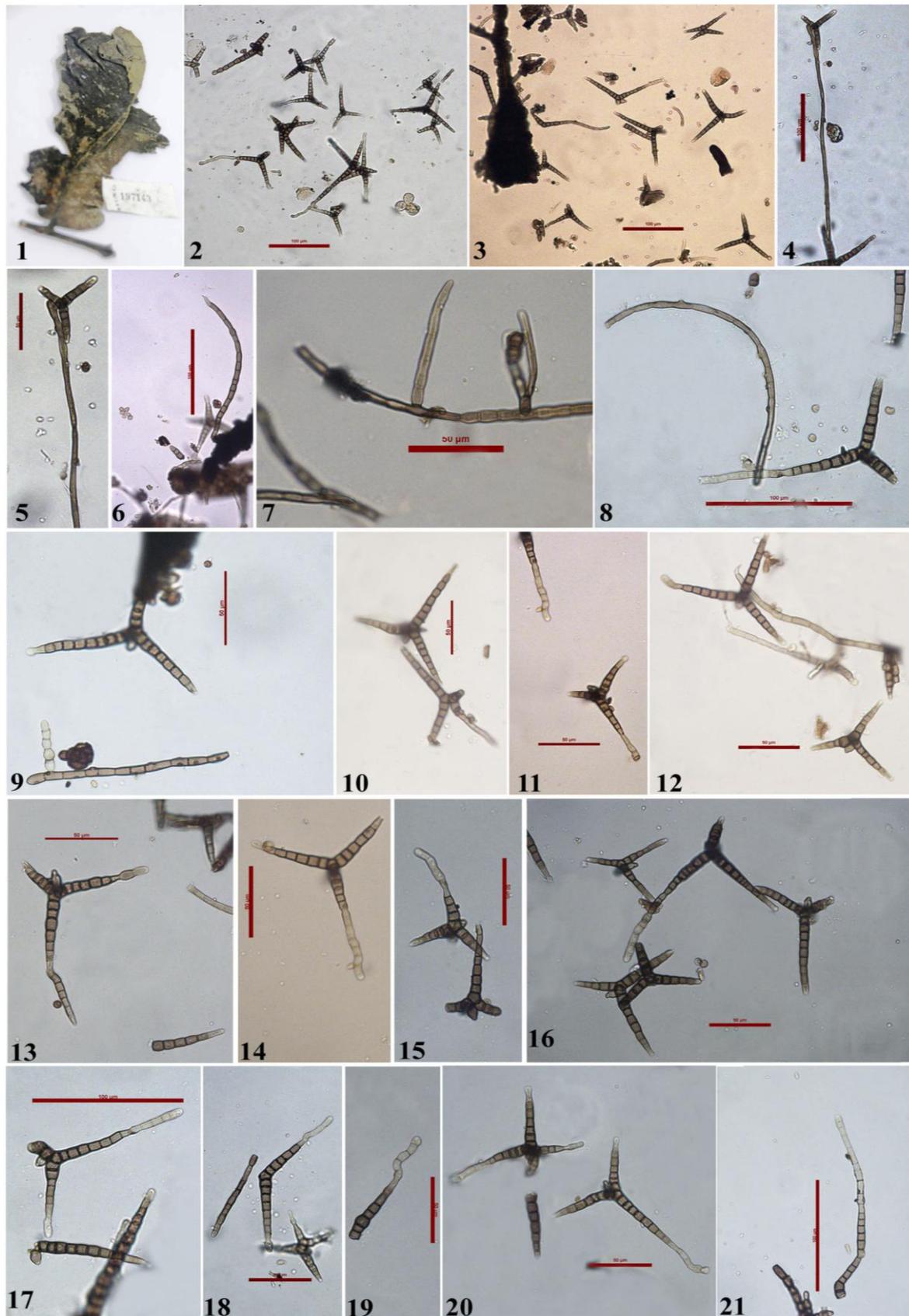


Fig. 1. *Tripospermum terminaliae* sp. nov. 1 ooty mold infection on *Terminalia* sp. 2-3 Conidia with members of Capnodiales. 4-5 Conidia and conidiophores. 6-9 Hyphae. 10-16 Conidia. 17-21 Conidial arms (50% hyaline and 50% brown)

mycelium superficial on leaves. Hyphae hyaline to pale brown coloured. Hyphal cells $12-18 \times 4.85-7 \mu$. Conidiophores solitary, ascending, cylindrical, straight to bent, upto 330μ long and $4-7 \mu$. Conidiogenous cells present. Stalk cells pyriform, 1-2 celled, smooth, brown, $8-13 \times 5-6.5 \mu$. Conidia typically composed of 3-4 radiating arms, arms upto 130μ long and $0.6-10 \mu$ wide at the base, tapering to $3-4 \mu$ near the tip, 4-21 (average 12), septate, smooth, unequal in size, In longest conidial arms 50-60 % part is brown and other 40-50 % is paler and hyaline towards the tips, remaining 2-3 smaller are hyaline at the tips only.

Material examined: On living leaves of *Terminalia* sp. from Melghat Tiger Reserve, Maharashtra, India, BSI (WRC).

This species of *Tripospermum* was found intermixed with Capnodiales. Perhaps the coincidence of their reported simultaneous occurrence in the same area of the foliage is due to equivalent environmental requirements or represents a symbiotic association of unknown nature. A total of 33 species have been described in the genus *Tripospermum*. Description of all species was compared to the fungus on *Terminalia* sp. *Tripospermum melghatensis* sp. nov. resembles some species more than others. *T. melghatensis* resembles with *T. acrobaticum* (Rocha & Barreto 2010) in conidial structure but conidiophores absent in *T. acrobaticum*. This species resembles with *T. acerinum* (Syd.) Speg., 1918; *T. fici* (Sharma et al. 1995); *T. gardneri* (Berk.) Speg., 1918; *T. juglandis* (Thum.) Speg., 1918 and *T. lamiacearum* (Sharma et al. 1995) in having hyaline conidial arms. *T. acerinum* is similar to *T. melghatensis* in having hyaline conidial arms but the conidial arms are smaller than that of the arms of *T. melghatensis*. *T. gardneri* also resembles with *T. melghatensis* but conidial arms are only 6-8 septate. In *T. lamiacearum* the conidia are 2-3 armed and conidial arms are $14-109 \times 5.5 - 10 \mu$. In *T. stelligerum* Speg. the conidial arms are 50-60 μ long. The most distinguishing character of the

present species is that it is having very long conidiophores (which are up to 330μ), conidial arms are upto 21 septate, unequal, longest conidial arm is 50% hyaline at the terminal portion and the other 50% is brown at the base. Thus it is assigned as a new species.

ACKNOWLEDGEMENTS

Author is thankful to Director, Botanical survey of India, for his kind support and providing all the research facilities. They are also grateful to the Head of the office, Botanical Survey of India, Western Regional Centre, Pune, for his kind support and encouragement. Ministry of Environment and Forest, New Delhi, is thankfully acknowledged for financial assistance.

REFERENCES

- Anonymous 1, 2016 – Fungal Database Nomenclature and species identification. MycoBank.
<http://www.mycobank.org/Tripospermum> (accessed on 29.06.2016).
- Anonymous 2, 2016.
<http://www.indexfungorum.org/Tripospermum> (accessed on 29.06. 2016).
- Castaneda-Ruiz RF. 2005. *Metodología en el estudio de los hongos amorfos*. 182– 183. Anais do V Congresso Latino Americano de Micología. Brasilia.
- Rocha FB, Barreto RW, Bezerra JL, Meira Neto JAA. 2010. Foliar mycobiota of *Coussapoa floccosa*, a highly threatened tree of the Brazilian Atlantic forest. *Mycologia*. 102(6):1240-1252.
- Sharma CD, Rai AN, Vyas KM. 1995. Two new leaf loving dematiaceous taxa from Madhya Pradesh. *Indian Phytopathology*. 48(4):412-418.
- Spegazzini C. 1918. Notas micológicas. *Physis Revista de la Sociedad Argentina de Ciencias Naturales*. 4(17):281-295.