RESEARCH PUBLICATIONS
Hendersonula toruloidea Nattrass. fungus on new host from Nandurbar district (M.S.)

Mangle B. B* and Petli K. B*P

1P.G. & Research Dept. of Botany, G.T. Patil College, Nandurbar 425412 (M.S.) India
2B.S.S.P. Mandati’s Arts, and Science College, Sorgir, Ditr Rhulu (M.S.) India.

Abstract
The present investigation report deals with the fungus collected from Nandurbar district, it is being new addition to the North Maharashtra region. Ipomoea fabulosa Mert. ex. Choisy is being reported as a new host substrate for Hendersonula toruloidea Habitat.

Keywords: Deuteromycota, Hendersonula, Ipomoea fabulosa, Maharashtra.

INTRODUCTION
The genus Hendersonula was erected by Speckelloe. The genus with 12 synonyms have been mentioned on different host-plants. It is a plant pathogen and causes sudden withering of shoots to large branches, firing of leaves and trunk cankers, Dieback (7). It is also human pathogen infect skin and nails (4). After a critical examination found to be not host specific and rare in occurrence.

The fungus was not previously recorded on the mentioned host in these localities.

MATERIALS AND METHODS
Specimens were collected on dead and dried stems of Ipomoea fabulosa Mert ex choisy. These samples were examined as soon as possible for fungal growth and the same samples were incubated at room temperature for one to several weeks in sterile petri-plates with wet blotting paper. The incubated materials were periodically examined for six months. The transverse sections of stroma were prepared & observed under microscope using cotton blue stain, measurements of various parts of fungi were taken. The microphotographs were taken and by using camera lucida sketches of specimens made. Identification of fungi and their host substrate records were confirmed with the help of available literature.

OBSERVATION AND DESCRIPTION
Hendersonula toruloidea, Nattrass.

Hebel gregarious to stromatic, when young are pale brown and at maturity become dark black(fig.1). Pycnidia dark black, conical shaped with small ostioli, one to several per stroma, measuring from 60-317 µm long and 63-267 µm wide.(fig.2)
Conidiophores short, flexuous; conidia often extruded in car, at first one-celled, hyaline to pale brown, 3-episete, 3-celled, conidia cell large dark brown and both cells hyaline, elliptical to cylindrical, thin walled, slightly tapering at ends, 14.7-18.32 µm long and 5.7 µm wide, (fig.3-4) asporogenous on bark of (Ipomoea fabulosa).


PLATE: Hendersonula toruloidea
Fig 1: Hebel
Fig 2: T.S. of stroma showing pycnidium (×200)
Fig 3: Conidia in group (×600)
Fig 4 : Conidia (×1000)
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NEW HOST RECORDED OF FUNGI FROM NANDURBAR DISTRICT (MAHARASHTRA)

B. B. Mangle, K. B. Patil & P. K. Gautam

Abstract:
A study and survey of Saprophytic fungi of Tehsils Navapur of Nandurbar District was conducted. The present investigation report deals with three species of higher fungi (Deuteromycetes) these are Curvularia clavata, Jain; Periconia cambranisa, Mason & M.B. Ellis; Epicoccum purpureum, Ehrenb. being reported for the first time in this region. Mangifera indica, L. (Dead leaf), Tephrosia purpurea (L.) Pers. (Dead fruit wall) & Saccharum officinarum, L. (Dead stem) are being reported as a new substrate record for Curvularia clavata, Periconia cambranisa & Epicoccum purpureum respectively.

Key Words: Ascosporecity; Deuteromycetes; host; new substrates.

Introduction:
The study of fungi is important for common man as well for experts (Gray, 1965). Fungal saprophytes along with bacteria, decay the complex plant and animal materials into simple form which is absorbed by the green plants. In the absence of this decaying process the future generations of green plants would not be able to survive for too long (Burges, 1958).

A good symbiotic relationship exists between the majority of green plants and fungi (Webster, 1980) because the latter infect the roots of the former under the mycorrhizal system. Food, timber and textiles, the three basic needs of human being, are rooted by the fungi, making their study essential for us.

In continuation of taxonomical studies of saprophytic fungi authors surveyed systematically the various localities of Nandurbar district of the Maharashtra state during the rainy and post rainy seasons and collected large number of collections mostly on fallen dead and decaying twigs, leaves and fruits. In the laboratory the samples were examined for fungal growth or incubated at room temperature for one or several weeks and the fungi were identified by direct microscopic observation.

The identification of these fungi and their host substrate records were confirmed with the help of Bhargava, K.S. Jammaladin and M.A. Rave (1991); Ellis M.B. and Pamela Ellis (2001); Vasant Rao, C. Manoharachary; Sureshumar and K. Subbodh (2004); Pande Atul (2008). The critical examination resulted in three species belonging to three genera viz; Curvularia clavata, Jain; Periconia cambranisa, Mason and M.B. Ellis; and Epicoccum purpureum, Ehrenb. being reported for the first time in this region. Curvularia clavata, on dead leaves of Mangifera indica, L.; Periconia cambranisa on dead fruit wall of Tephrosia purpurea, L.; and Epicoccum purpureum on dead stem of Saccharum officinarum, L. are being reported as new substrate record.

The present investigation was carried out with an aim to document the saprophytic fungal diversity of Nandurbar District, besides, substrates in these area have also been surveyed for fungi. The fungi were diagnosed down to the species level based on conventional morphological parameters and this paper gives an overview of the fungal generic and species diversity in as well as climatic effects on shape, size, and development pattern of fungal growth in the region.

B. B. Mangle: PG & Research Dept. of Botany, G.T. Patil College, Nandurbar (MS) India.
K. B. Patil: RSSP, Mandal's Arts & Science College, Sorgi, Dhule (MS) India.
P. K. Gautam: PG & Research Dept. of Botany, G.T. Patil College, Nandurbar (MS) India.
Corresponding Author: bapamangle@gmail.com

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Material and Methods: Area of exploration: Nandurbar district (MS) & Nandurbar district (M.S.), a part of Deccan plateau is situated in northern part of the Maharashtra State, with an area of 5043.3 sq. kms. Between 21 N to 22.03 north latitudes and 73°31'E to 74°52 east longitudes. To the south of the district is Dhulia district, to the west and north is the state of Gujarat, to the north and east is the state of Madhya Pradesh. The district can be divided into two hilly tracts and undulating plain areas. It lies in the Valley of Tapi River & Satpuda Mountains. Nandurbar district is subdivided into six Tehsils namely, Ambajogai, Shalo, Akrani, Nandurbar, Taloda and Navapur. Climate is on the whole dry except during south-west monsoon season (June-Sep/Oct). The average rainfall of the area is 767 mm. The temperature ranges from 34.1°C (max) to 21.5°C (min). The temperature rises in the latter part of February. May being the hottest month of the year with the mean daily max. Temperature of 47.7°C. Relative humidity in monsoon period is 70% and 25-30% in the summer period. The main agricultural produce is wheat, tur, groundnut, rice, chilly, jawar and other pulses while annual crops include cotton & sugarcane. The forests of Nandurbar district are mixed deciduous type.

Substrates of different kinds, collected from arboREAL and terrestrial habitats were considered as source of samples, used to isolate the associated mycflora. Collected samples were placed in polythene bags and brought to the laboratory. samples were immediately and critically examined for fungal growth & the same samples were incubated at room temperature for one to several weeks in sterile petri-plates with wet blotting paper. The incubated materials were periodically examined for six months with direct microscopic observations. The semi-permanent slides were prepared as per literature. The measurement and microphotographs of various parts of fungi were taken. Identification of the fungi and their host substrates were confirmed with the help of Bilgami, K.S. Jasrahdad and M.A. Rizwi (1991), Ellis M.B & Pamela Ellis (2001), Veenni Rao; C. Mancharcharya; G.Sarbehram & K.Sukhdom (2004), Sarbhoye et al (1986) and Kohlmeyer (1979), Kohlmeyer and Valkman-Kohlmeier (1991), Hyde and Sharma (2008) Hyde et al (2000), Kerk; F.M. Cannon, Mirzor, Stalpenn (2008)
**Curvularia clavata:** Fig. 1-Habit, Fig. 2-Conidiophore with conidia (10xX45x)

**Epiceicum purpurascens:** Fig. 3-Conidia (10xX45x)

**Periconia cantharus:** Fig. 4-Habit, Fig. 5-Conidiophore with conidia (10xX45x)

**Systematic Account:**

1.1. **Curvularia clavata**, Jain.

Fungus is foliaceous, colonies effuse, grayish brown, hairy; Conidiophore erect, branched, septate, pale brown and geniculate; Conidia clavate, 6-celled, 3-septate, straight or slightly curved at the third cell from the base which is much larger than the others and usually dark brown. Basal and apical cells are hyaline and intermediate cells are brown, smooth walled. 17.42:22.38 μm long and 6.6-8.8 μm wide with a prominent hilum.

**Habit:** Dead leaves of Monginis indica, 3.

**Location:** Gadh, Tal-Navapur, (M.S.), November 2009.

**Temperature:** 28°C

**Remark:** The present fungus is rare in occurrence and the mentioned host was not found in the previous work.

Text Fig. 1 & 2


It is known as plurivorous fungus on grasses. Sporodochia pulvinate and often seated on host tissue, black, up to 2-3 mm in diameter; conidiophores short pale brown. Conidia spherical or pyriform dark brown to black and golden brown by transmitted light, muriform septa obscured by the rough opaque wall, 10.88-13.08 μm in diameter.

**Habit:** Dead stem of Securaria officinarum, L.

**Location:** Panchgani, Tal-Navapur (MS), November, 2010.

**Temperature:** 28°C

**Remark:** Securaria officinarum, L. was not found as a host for **Epiceicum purpurascens**, Ehrenb in the previous work.

Text Fig. 3


Conidiophore erect, spore swollen, macroconidium, mononematous, widely scattered and not forming well defined colonies, pinhead-like, umberto to brown coloured, unbranched, seporate, cylindrical, conidiogenous cells polyblastic producing short chains of conidia, forming spherical conidial head. Conidia holoblastic, spherical pale brown thick walled 8.5:1:0.75 μm in diameter in acrospetal chains. Conidial germination could not be observed.

**Habit:** Dead fruit wall of *Rhipogonum purpureum* (L.) Pers.

**Location:** Gadh, Tal-Navapur, (M.S.), November 2010.

**Temperature:** 28°C

**Remark:** The present fungus is cosmopolitan in distribution and the mentioned host was not found in the previous work.

Text Fig. 4 & 5

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