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First record of *Pseudoidium* sp. on *Heterophragma quadriloculare* in India

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Abstract

In September 2013, severe powdery mildew symptoms were observed on the leaves of *Heterophragma quadriloculare* (Bignoniaceae). Based on morphological characters the pathogen was identified as *Pseudoidium* sp. This is the first record of *Pseudoidium* sp. on *H. quadriloculare* in India.

Key words – Bignoniaceae – Erysiphales – *Erysiphe* – *Heterophragma quadriloculare* – *Pseudoidium*

Introduction

Heterophragma quadriloculare is a large deciduous tree that is widely distributed in Madhya Pradesh, Gujarat, Maharashtra, Andhra Pradesh, and Karnataka. Various parts of this plant are traditionally used in rural areas as an anti-diabetic, night emission, antidote, and for its antimicrobial activity and antifungal activity.

The occurrence of powdery mildew in its anamorph stage on *H. quadriloculare* was first observed in Asangaon (17°36’07.85” N 73°56’19.6” E, elevation 760.5 m in September 2013. In March 2014, the pathogen was also found in the ranges of hills *viz*. Yavateshwar (17°41’02.91” N 73°56’58.15” E, elevation 1042.1 m) and Varoshi (17°52’04.42” N 73°45’03.12” E, elevation 863.08 m).

Materials and Methods

Infected leaves were collected and symptoms were examined by light microscopy. A reference specimen has been deposited in Ajrekar Mycological Herbarium at Agharkar Research Institute, Pune (M.S.) India (accession no. AMH-9615).

Results

Symptoms included greyish white powdery growth consisting of epiphytic mycelia and conidia mostly on adaxial surface of the leaves (Fig. 1a, b). Symptoms on the abaxial surface were less conspicuous and older leaves were more susceptible. Severely infected plants were defoliated.

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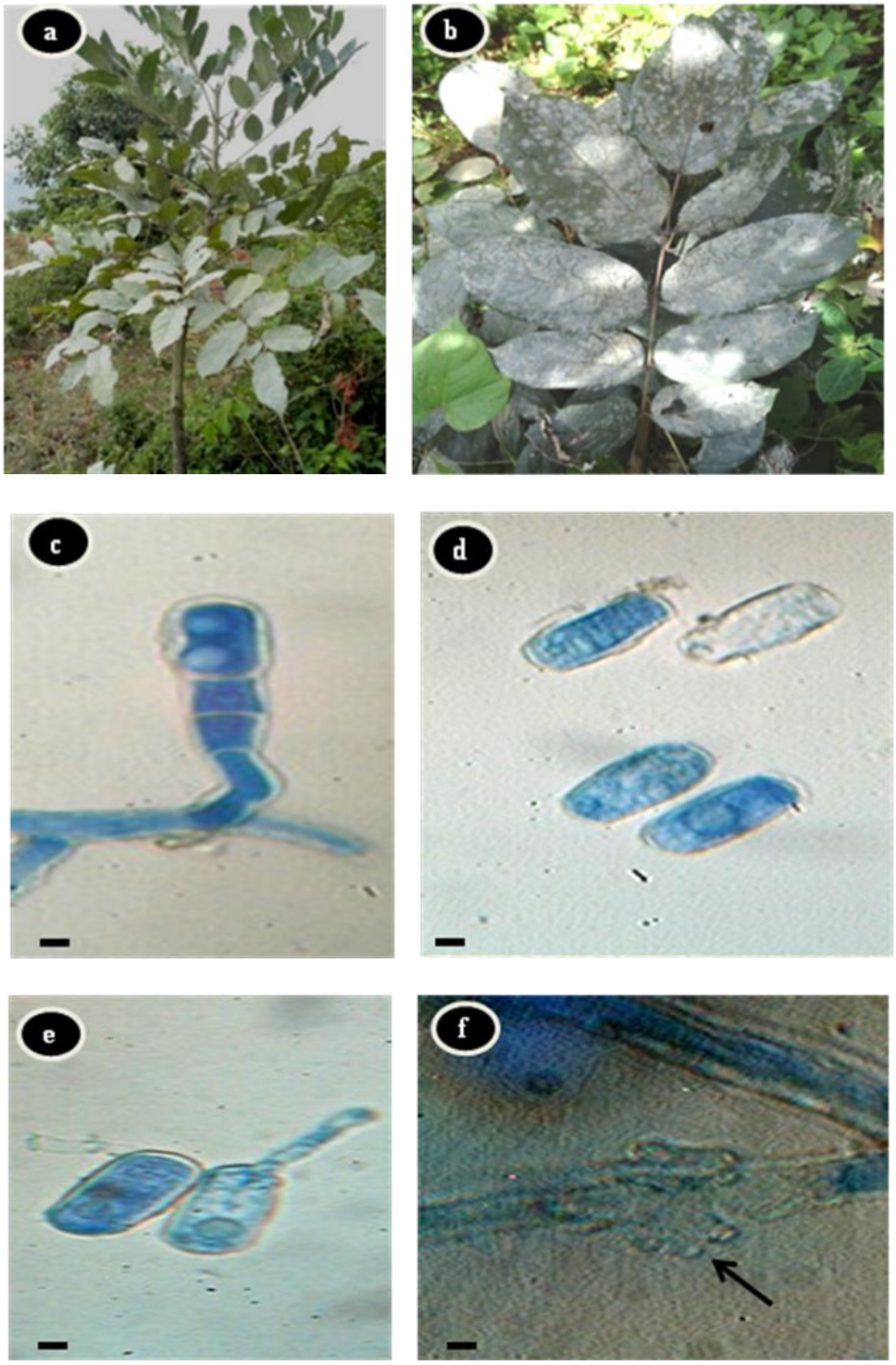

Fig 1 – Powdery mildew on *Heterophragma quadriloculare*. a, Infected host. b, Symptoms on adaxial surface of leaf. c, Conidiophore with single conidium. d, Conidia. e, Germinated conidia. f, Arrow indicates bilobed hyphal appresorium. – Bars = 20 µm.

Pseudoidium sp. (*Erysiphe* sp.) on *H. quadriloculare* is morphologically characterized as follows. Conidiophores 28–42 µm followed by 1–2 shorter cells or sometimes by a cell of about the same length known as foot cell, subsequent cells rarely longer than the foot cells, forming conidia singly (Fig. 1c). Conidia at the top are ovoid, up to 26–34 × 29–41 µm. Fibrosin bodies absent (Fig. 1d). The conidia always germinate at the end or just below the end but never at the side (Fig. 1e). Germ tubes are more or less straight. Appressoria of the mycelia were bilobed (Fig. 1f) and that of germ tubes were lobed. Combination of these features suggests the pathogen belongs to genus

Pseudoidium (Braun & Cook 2012). No teleomorph stage was found to be associated with this pathogen during the present study.

Discussion

Ramkrishnan (1957) reported another powdery mildew, *Phyllactinia heterophragmatis* on the same host in India. However, there is no record of *Pseudoidium* sp. on *H. quadriloculare* from India or elsewhere (Bilgrami et al. 1991, Jamaludin et al. 2004, Paul & Thakur 2006, Pande 2008, Hosagoudar & Agarwal 2009, Braun & Cook 2012, Mycobank 2017). Therefore, this is the first report of *Pseudoidium* sp. on *H. quadriloculare* in India.

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