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Powdery mildew of *Spermadictyon suaveolens*: A report from Maharashtra, India

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Abstract
Spermadictyon suaveolens (Rubiaceae), is a branched shrub, commonly known as Forest champa. During routine survey in November 2021, said host was found to be infected with a typical symptoms of powdery mildew disease. The infected plant specimen was collected and deposited in Herbarium of the Institute of Biology, Department of Geobotany and Botanical Garden, Martin Luther University, Halle, Germany. The pathogen was analyzed based on morphological characteristics and the pathogen was identified as *Erysiphe prasadii*. This is the first report of powdery mildew on *S. suaveolens* from Maharashtra.

Keywords: *Erysiphe prasadii, Rubiaceae, Spermadictyon suaveolens*

Introduction
S. suaveolens Roxb. branched shrub growing up to 1-2 m tall. The leaves are oppositely arranged and elliptic-lance like about 10-20 cm in length and finely velvety in surface. Leaf stalks are 1-2 cm long. Flowers occur in many-flowered spherical heads which are arrange in panicles at the end of branches. The species name *suaveolens* means sweet scented, and refers to the fragrant flowers. It is potent antidiabetic plant and used in folk, Ayurvedic and homeopathic systems of medicine (Kapoor, 1997) [7] During field survey of Mahabaleshwar Dist.- Satara, Maharashtra, India (17°55'46.12"N, 73°45'45.22"E and Elevation- 2289 ft.) During November 2021, *S. suaveolens* was found to be infected with powdery mildew fungi. Disease symptoms included grayish white, circular to irregular patches consisting of epiphytic mycelium and conidia on both surfaces of leaves (Fig. 1 a). As disease progressed, leaves were covered by a gray powdery fungal mass, and older Leaves became yellow and dropped prematurely. Ascomata visible as small black to brown spherical structures upon examination of fresh or dried leaves using a dissecting microscope.

Material and methods
Infected leaves were collected and symptoms were examined by light microscopy. A reference specimen has been deposited in Herbarium of the Institute of Biology, Department of Geobotany and Botanical Garden, Martin Luther University, Halle, Germany. (HAL 2952 F)

Result & discussion
Erysiphe prasadii on *Spermadictyon suaveolens* is morphologically characterized as follows

Mycelium amphigenous, persistent, forming a dense covering over upper surfaces of leaves; conidia formed singly, cylindrical (-ellipsoid), 25–50 × 15–18 µm (Fig. 1b, c). Chasmothecia gregarious to scattered, (85–) 90–140(–170) µm diam.; peridium cells not very conspicuous, polygonal to rounded, about 10–20 µm diam (Fig. 1f).; appendages very numerous, mostly about 40–60 (Fig. 1g), densely crowded, arising equatorially or from the upper half, about 1–2 times as long as the chasmothecial diam., 5–9 µm wide, aseptate or with a single septum at the base, rarely with a single septum in the upper half of the stalk, hyaline, rarely pigmented at the very base, walls smooth, thin throughout or somewhat thicker towards the base, apices irregularly and diffusely branched, tips straight; asci 4–12, obovoid-saccate, 50–80 × 35–50 µm, short-stalked or subsessile, (2–)4–5(–6)-spored; ascospores ellipsoid-ovoid, 16–25 × 9–18 µm, colourless (Fig. 1h).

A literature survey (Bilgrami *et al*. 1991, Jamaluddin *et al*. 2004, Paul & Thakur 2006, Pande 2008, Hosagoudar & Agarwal 2009, Braun & Cook 2012,) [2, 3, 5, 6, 8, 9] showed that no powdery mildew has been reported on *Spermadictyon suaveolens* from Maharashtra. Therefore this is the first report of powdery mildew on *S. suaveolens* from Maharashtra.

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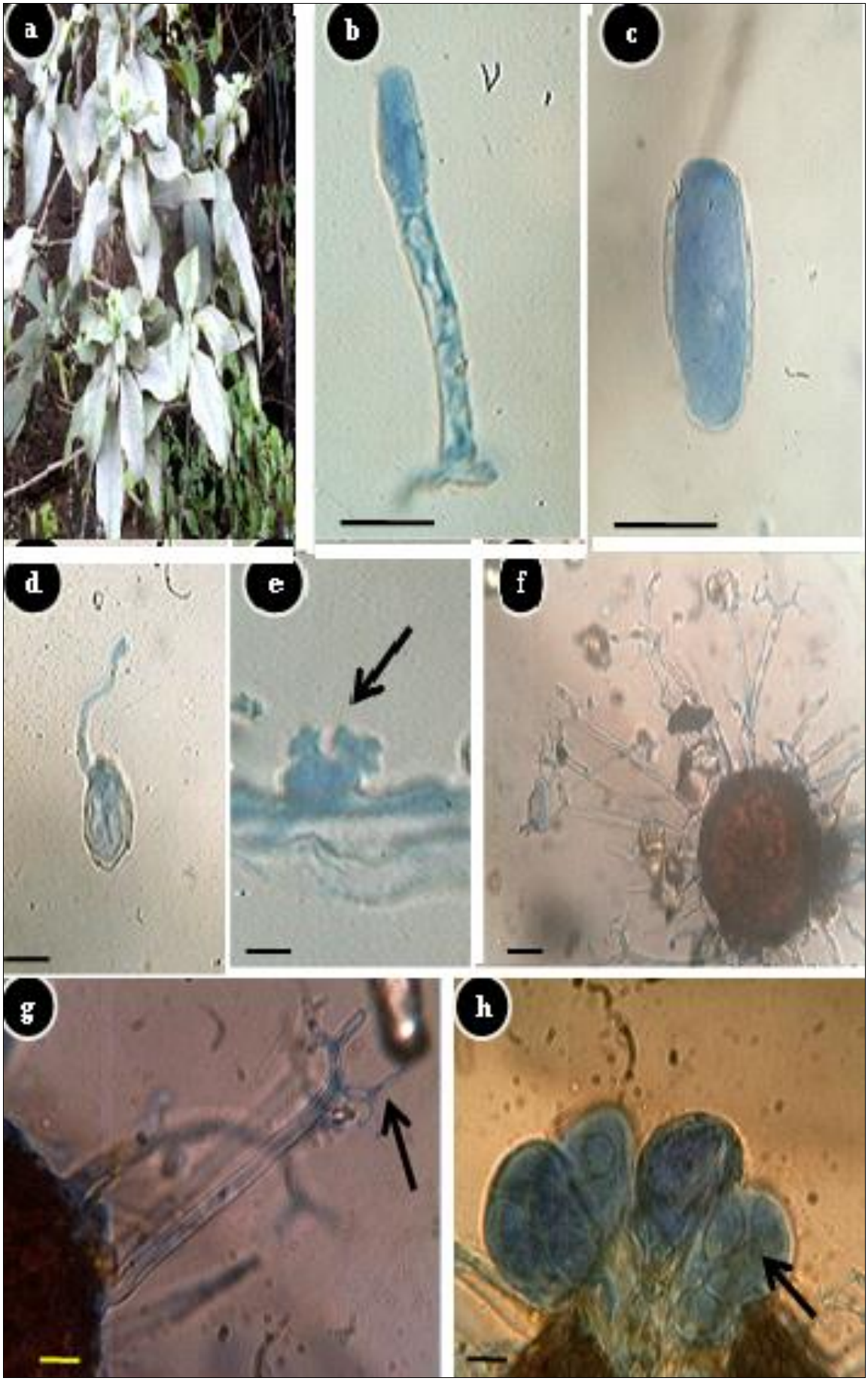

Fig. 1 a – Infected host, b - Conidiophore with single conidium 100x, c- Conidium 100x, d - Germinated conidium, e- Arrow indicates bilobed appressorium, f - Chasmothesium (45x), g - Arrow indicate forked appendage, h - Arrow indicates ascus with ascospores **(Bar, wherever marked = 20 µ).**

References

1. Bhatn MK, Kothari KL. *Microsphaera prasadii*, Curr. Sci,1966:35:370,
2. Bilgrami KS, Jamaluddin MA, Rizwi MA. The Fungi of India. Part III (List and References), Today and tomorrow's Printer and Publishers, New Delhi, 1991.
3. Braun U, Cook RTA. Taxonomic manual of the Erysiphales (Powdery Mildews), Fungal, 2012.
4. Biodiversity Centre (CBS Biodiversity Series No. 11), Utrecht.
5. Hosagoudar VB, Agarwal DK. Powdery mildews of India: Check list. Associated Publishing Company, New Delhi, 2009.
6. Jamaluddin, Goswami MG, Ojha BM. Fungi of India (1989–2001), Scientific Publishers, Jodhapur, 2004.
7. Kapoor LD. Availability of Medicinal and aromatic plants in north West Indian. In: Atal C.K. and Kapus B.M. (edn.) Cultivation and Utilization of Medicinal and Aromatic Plants. Regional Research Laboratory, Jammu Tawi, 1997, 439-448.
8. Pande A. Ascomycetes of Peninsular India. Scientific Publisher, Jodhpur, 2008.
9. Paul YS, Thakur VK. Indian Erysiphaceae, Scientific Publishers, Jodhpur, 2006.