



## First report of *Coleosporium* sp. on *Clematis gouriana* in India

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### Abstract

In December 2014 leaves of *Clematis gouriana* with typical symptoms of rust were collected from different localities of Satara district. Based on its morphological characters, the pathogen was identified as *Coleosporium* sp. This is the first report of rust on *C. gouriana* in India.

**Key words** – *Clematis gouriana* – *Coleosporium* sp. – rust

### Introduction

*Clematis gouriana* (Fig. 1 A) is a common climber overtopping shrubs and low trees along forest borders of ranges of Sahyadri. Flowers are very fragrant. The leaves are used as a remedy for treating wounds in cattle. The plant is also used as a medicine for leprosy and fevers (Yadav & Sardesai 2012). During a survey executed in 2014, this plant was found to be severely infected with rust. The severity of disease was high during winter. Many leaves were covered with bright yellow-orange coloured uredinia on the lower surface (Fig. 1 B, C). There were irregular yellow patches on the upper surface of leaves corresponding to the position of the uredinia. The patches turn dark brown and there is premature leaf fall. The rust was found in hilly areas and not in the plains.

### Material and methods

Microscopic observation of an infected portion was carried out on routine microscopes.

### Results and discussion

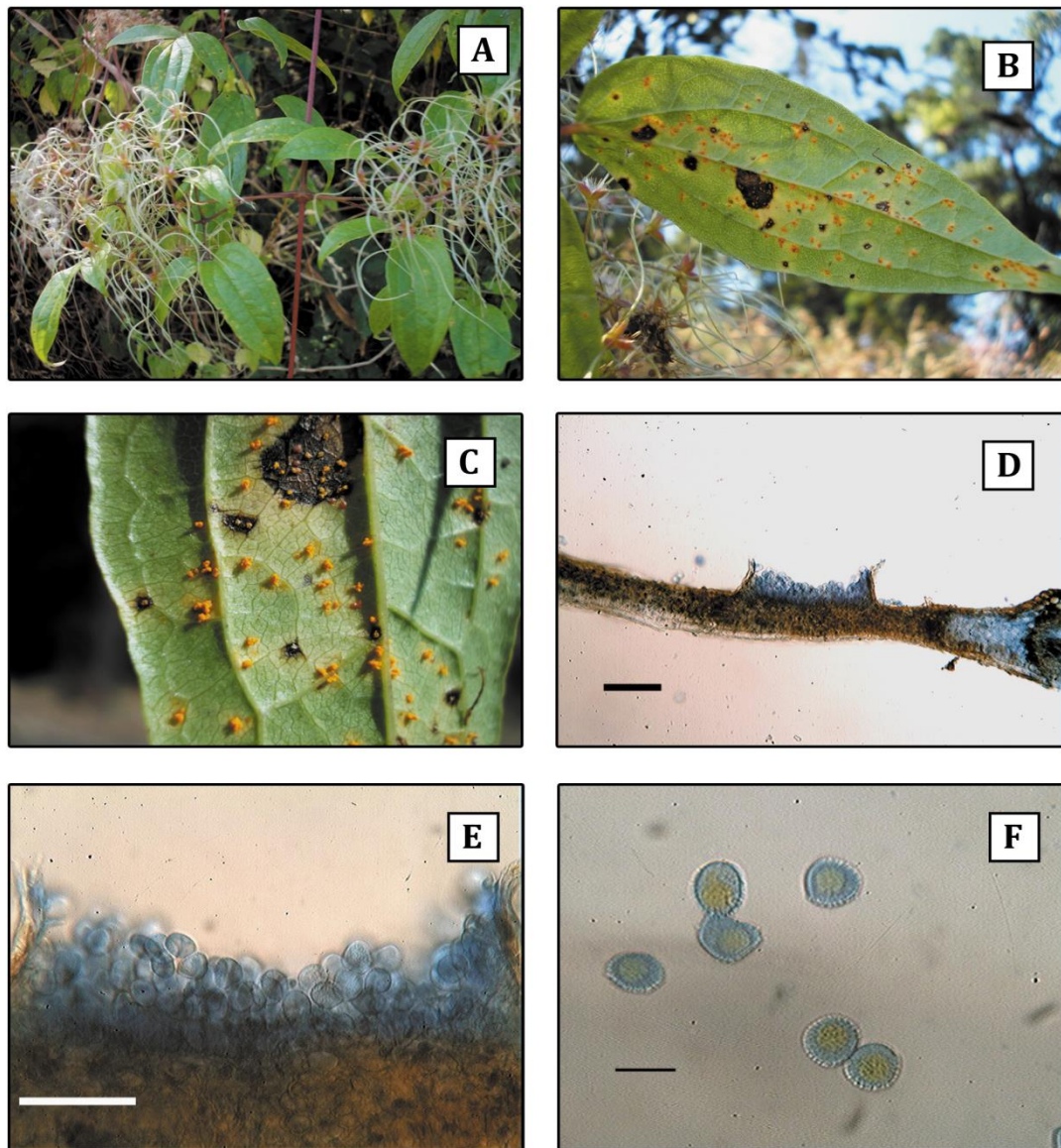
#### *Coleosporium* sp.

Fig 1

Uredinia hypophyllous, spread along veins, erumpent, cupulate, peridiate, young conoid, with apical central opening, mature flat (Fig. 1 C, D, E). Urediniospores irregular in shape, subglobose, ellipsoid to nearly rectangular, verrucose,  $30.0\text{--}38.5 \times 27.5\text{--}29.0 \mu\text{m}$  (Fig. 1F). Telia not observed. Based on above morphological characters, the pathogen was identified as *Coleosporium* sp.

Material examined – A voucher specimen is deposited with Ajrekar Mycological Herbarium at Agharkar Research Institute, Pune (M.S.) India (Accession No. AMH-9677).

Notes – The genus *Coleosporium* (Coleosporiaceae) was established by L veill  in 1847 (Patil 2000) and currently comprises about 100 species worldwide (Kirk et al. 2008). To date six



**Fig. 1** – *Coleosporium* sp. A: Habit of host plant, *Clematis gouriana*. B: Infected leaf, C: Enlarged portion of infected leaf showing uredinia. D, E: T. S. of leaf showing uredinia (bars = 100 µm). F: Urediniospores (bar = 50 µm).

species of *Coleosporium* have been reported from India (Hosagoudar 1988, Sinha & Singh 1992, Patil 2000, Jagtap & Singh 2002, Baiswar et al. 2008, Kavale & Patil 2009, Hosagoudar & Archana 2011, Singh & Palni 2011). Of these, *Coleosporium clematidis* Barclay has been recorded on *Clematis buchananiana* and *C. montana* from Himalaya and nearby regions (Singh & Palni 2011), *Clematis* sp. from Kerala (Hosagoudar 1988), and *C. hedysarifolia* and *C. wightiana* from Kolhapur and Mahabaleshwar, respectively (Jagtap & Singh 2002). According to database of Systematic Botany and Mycology Laboratory (Farr & Rossman 2015), *Clematis gouriana* is infected by *Coleosporium clematidis* in China, Philippines and Taiwan. However, according to our knowledge, this is the first report of *Coleosporium* on *Clematis gouriana* in India. The significance of this report is that *Coleosporium* is slowly and steadily establishing in India on different species of *Clematis*.

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