

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/294891193>

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

Article · February 2016

DOI: 10.5943/ppq/6/1/1

CITATIONS

0

READS

88

3 authors, including:



Sachin Vasant Rao Thite

Karmaveer Bhaurao Patil Mahavidyalaya Pandharpur (Autonomous)

32 PUBLICATIONS 48 CITATIONS

[SEE PROFILE](#)



Dr. B. A. Kore

Yashavantrao Chavan Institute of Science, Satara

43 PUBLICATIONS 62 CITATIONS

[SEE PROFILE](#)



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

Hande PR, Thite SV and Kore BA*

Department of Botany, Yashwantrao Chavan Institute of Science, Satara – 415 001, (M.S), India

* basavaraj.kore@rediffmail.com

Hande PR, Thite SV, Kore BA 2016 – First report of *Coleosporium* sp. on *Clematis gouriana* in India. Plant Pathology & Quarantine 6(1), 1–3, Doi 10.5943/ppq/6/1/1

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 five

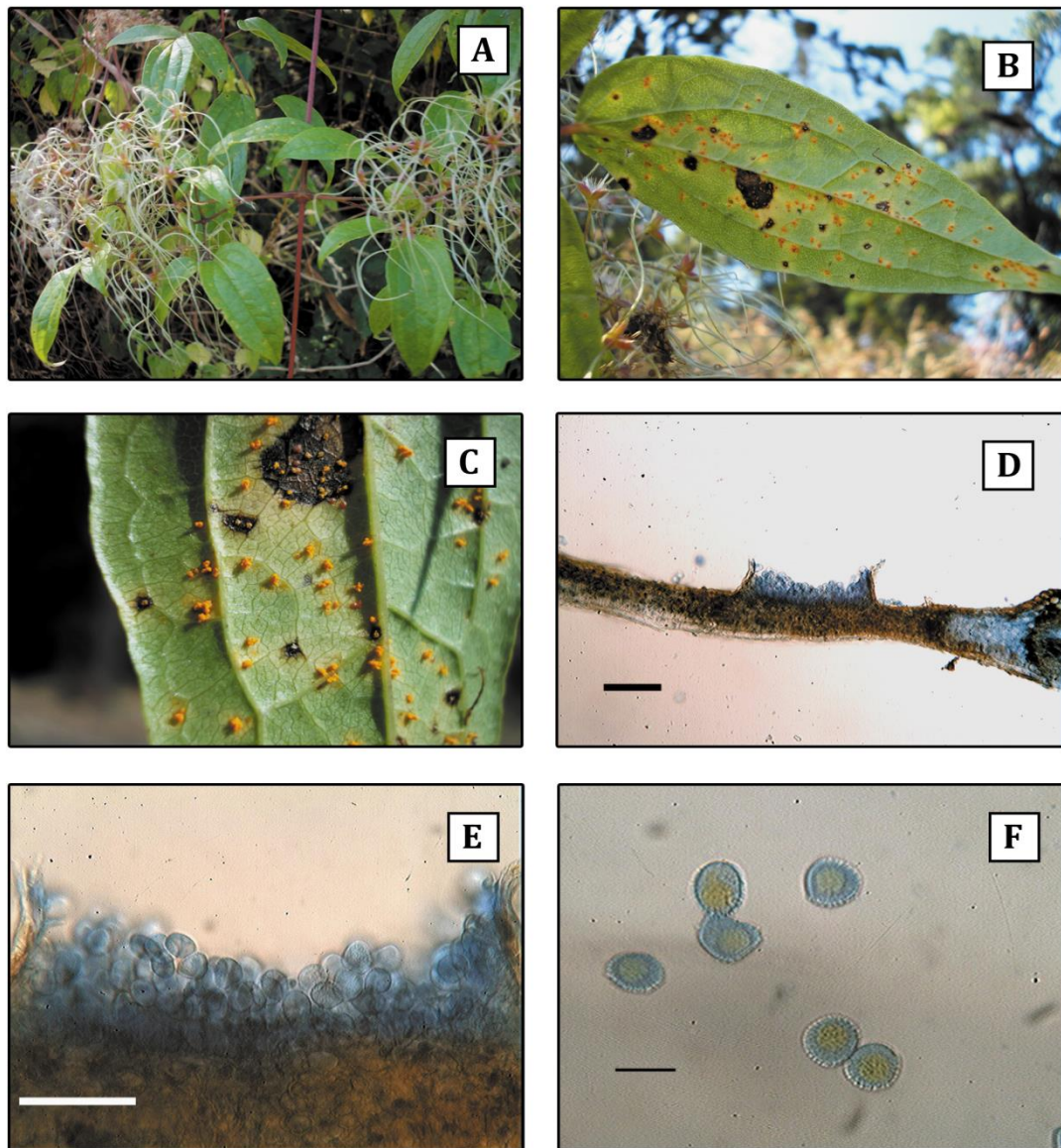


Fig. 1 – *Coleosporium* sp. A: Habit of host plant, *Clematis gouriana*. B: Infected leaf, C: Enlarged portion of infected leaf showing uredinia. D, E: T. S. of leaf showing uredinia (bars = 100 μ m). F: Urediniospores (bar = 50 μ m).

species of *Coleosporium* species have been reported from India (Hosagoudar 1988, 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*.

Acknowledgements

The authors thank Principal and Head, Department of Botany, Y.C.I.S., Satara for providing laboratory facilities. We sincerely thank anonymous reviewers for critical comments and review.

References

- Baiswar P, Chandra S, Kumar R. 2008 – First report of rust caused by *Coleosporium plumeriae* on *Plumeria alba* in India. *New Disease Reports* 16: 40.
- Farr DF, Rossman AY. 2015 – Fungal Databases, Systematic Mycology and Microbiology Laboratory, ARS, USDA. <http://nt.ars-grin.gov/fungaldatabases//%20coleosporium%20asterum-> (accessed 18 September 2015).
- Hosagoudar VB. 1988 – Uredinales of Kerala. *Journal of Economic and Taxonomic Botany* 12, 265–272.
- Hosagoudar VB, Archana GR. 2011 – Rust fungus on Temple Tree in Kerala, India. *Bioscience Discovery*, 2 (3): 343–344.
- Jagtap AP, Singh NP. 2002 – Biodiversity of the Western Ghats of Maharashtra: current knowledge. Bishen Singh Mahendra Pal Singh Publication, Dehra Dun, India.
- Kavale TR, Patil MS. 2009 – *Coleosporium plumeirae* Lev., rust new to the Maharashtra state *Bioinfolet* 6 (4): 368–370.
- Kirk PM, Cannon PF, Minter DW, Stalpers JA. 2008 – *Ainsworth & Bisby's Dictionary of the Fungi*, 10th edition. CABI Europe – UK.
- Patil AR. 2000 – Studies in smut and rust fungi. Ph.D. thesis submitted to Shivaji University, Kolhapur.
- Singh AS, Palni UT. 2011 – Diversity and distribution of rust fungi in central Himalayan region. *Journal of Phytology* 3, 49–59.
- Yadav SR, Sardesai MM. 2012 – *Flora of Kolhapur district*. Shivaji University Publication pp. 29.