

## ***Aecidium mori* (Barclay) Barclay (Rust Fungus) Parasitic on *Morus alba* L.: A New Record for Nepal**

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### **Abstract**

Recently a rust fungus, *Aecidium mori* (Barclay) Barclay parasitic on *Morus alba* L. was collected from Kalanki, Kathmandu. It is recorded as new to Nepal. The description and distribution of the species are provided herewith.

**Keywords:** *Aecidium*, *Morus*, Nepal, Rust fungi

### **Introduction**

Various authors have contributed their findings on the rust fungi collected from different parts of Nepal. The check reference list to the previous reports can be found in 'Ono, Adhikari & Kaneko (1995), An annotated list of the rust fungi (Uredinales) of Nepal. *Cryptogams of the Himalayas - 3: Nepal and Pakistan*' and Adhikari (1996) "*Biodiversite des Basidiomycetes au Nepal: etude systematique et biogeographique. Specialite Ecologie-Mycologique. Thèse du Doctorat*". Thereafter some more publications were made by Adhikari (1996, 1998, 2016), Adhikari & Durrieu (2016), Adhikari & Manandhar (2013) and Manandhar (2007, 2009). None of these record the publication of this rust on *Morus alba* from Nepal.

### **Results & Discussion**

The rust fungi parasitic on *Morus alba* L. was collected from Kalanki, Kathmandu. Both macro and microscopic photographs were taken. The specimen was examined in my lab and the identification was based on following different literatures on rust fungi. After identification the fungus was noted as new record for Nepal. The specimen gathered is housed in National Herbarium & Plant Laboratories (KATH), Godawary, Lalitpur. The microscopic description and distribution the fungus have been provided below.

### **Enumeration of species**

*Aecidium mori* (Barclay) Barclay, *Jour. Asiatic Soc. Beng.* 60 (3): 225 (1891) (Syn. *Caeoma mori*

Barclay, *Jour. Asiatic Soc. Beng.* 59 (2), 97 (1890); *Uredo mori* (Barclay) Sacc., *Syllog. Fung.* 9:334 (1891); *Peridiopsis mori* (Barclay) K.V. Prasad, B.R.D. Yadav & Sullia, *Current Sci.* 65 (5), 426 (1993); Kaneko, S. *Trans. Mycol. Soc. Japan* 14: 294-301 (1973).

**Description:** Spermatogonia unknown, aecia infecting young and older leaves, epiphyllus and hypophyllus (on both sides), mostly attacking veins, pedicels, young buds and stems, round (0.2mm), oval to elongated, scattered to coalescing up to 1cm even longer and 1 - 0.6 cm broad, yellowish to orange in color, covered with peridial cells which are oblong to polygonum, wall smooth. Aeciospores 9.9 - 16.5 µm globose, obovoid, slightly angular, wall 0.5–1 µm thick, very pale lemon, contents hyaline, non echinulate, germ pores obscure and equatorial. Uredinia and uredospores not found.

Specimen examined – Parasitic on *Morus alba* L., Sukumar marg -1, Machhagate, Kalanki, Kathmandu, Nepal. 2074.6.14 (2017.9.30), no. 2017.9, M. K. Adhikari .

Remark – *Cerotelium fici* (Castagne) Arthur (in *Bulletin of the Torrey Botanical Club* 44: 509, 1917) has hypophyllus uredosori with urediniospores of (19.5–)24–30(–35) × (14–)16–20(–22) µm size,

The present specimen has aecia on both surfaces of the leaves, mostly concentrated to veins, petioles and stems with smaller aeciospores (9.9 - 16.5 µm). Uredospores not found. *Aecidium mori* morphologically is an *Aecidium* based on the

presence of a peridium. However, the spores are able to reinfect the mulberry and therefore function as an uredinial stage (Kaneko, 1973). Several other rusts are reported on *Morus*, including *Phakopsora mori* Buriticá & J.F. Hennen, *P. nishidana* S. Ito, *P. fici-erectae* S. Ito & Otani, *Cerotelium fici* (E.J. Butler) Arthur and two species of *Uredo* (*Uredo morifolia* Sawada and *Uredo moricola* Henn.). All of these differ from *A. mori* in that the sori are not surrounded by a peridium.

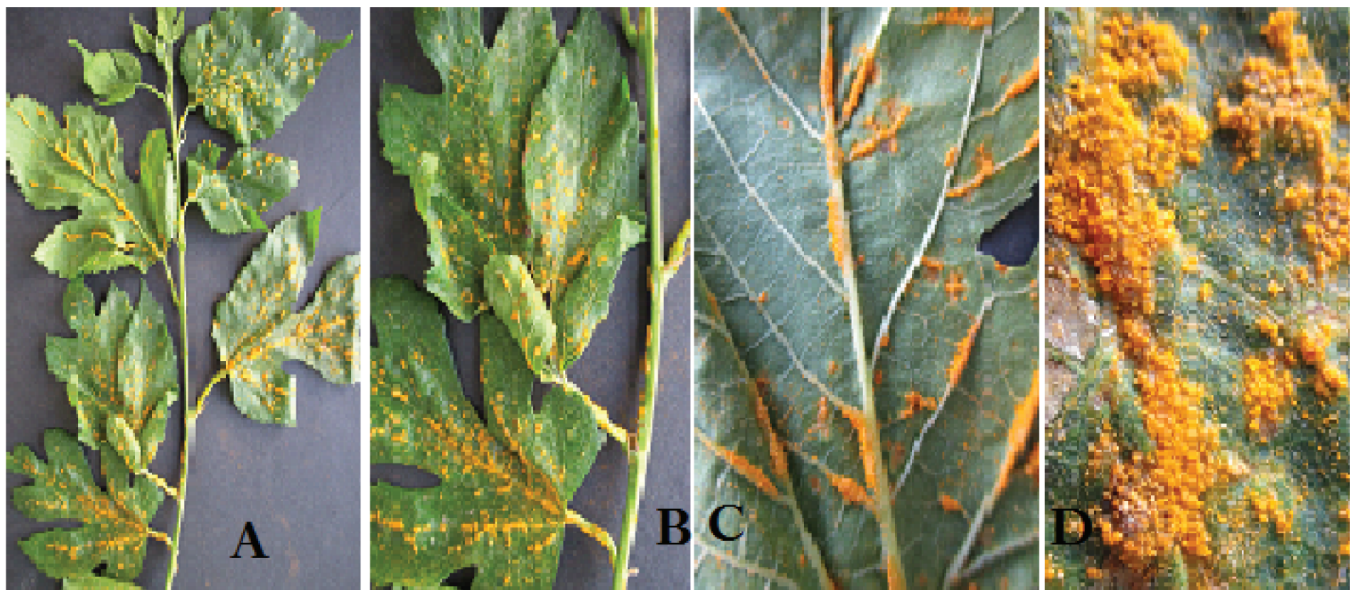
Distribution – Asia (Afghanistan, Burma, China, India, Indonesia, Japan, Korea, Pakistan, Philippines, Taiwan, Thailand and Nepal).

### Acknowledgements

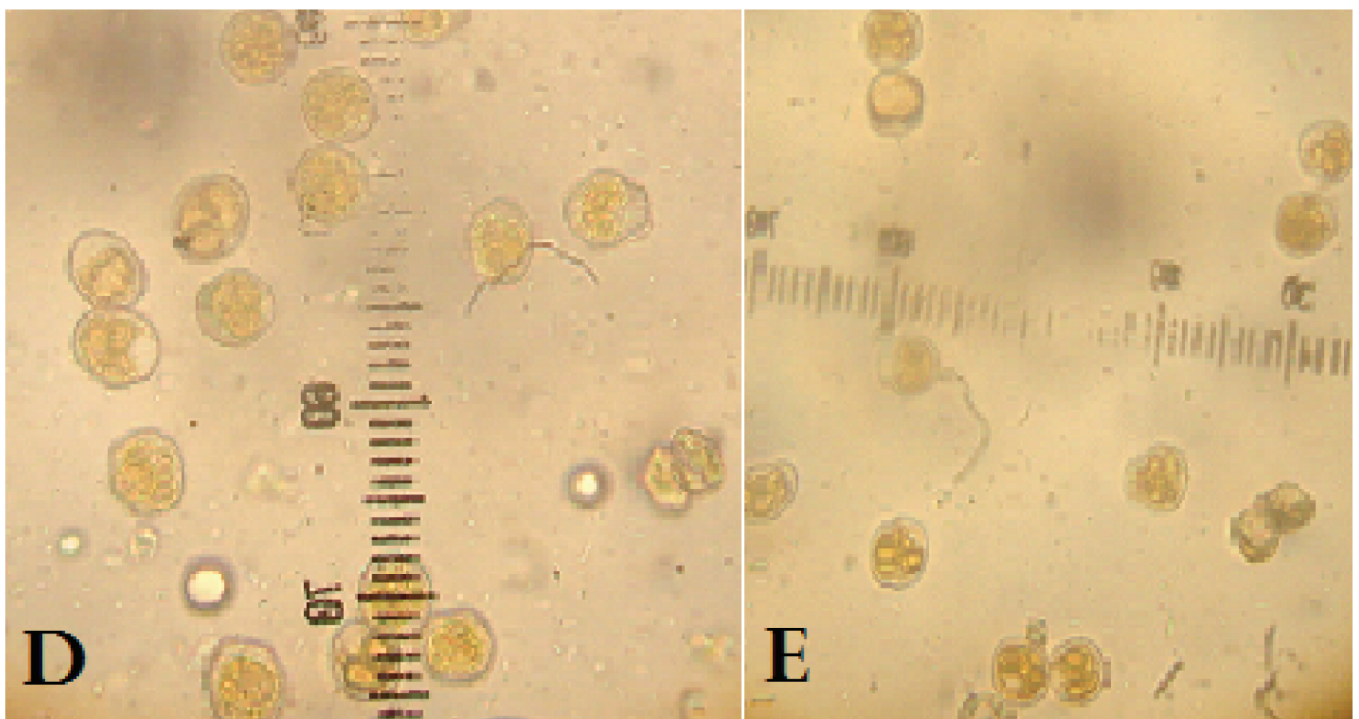
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**Figure1:** A- Plant (*Morus alba*) infected with rust (*Aecidium mori*), B – D close up view of rust infecting veins of leaves and Aecidiosori of the rust



**Figure 2:** D – E Aeciospores of the rust (10 x40)