

Uromyces pentaceae Agarwal sp. nov. on *Pantace busmanica* Kurz.

D. K. AGARWAL

Division of Plant Pathology, IARI, New Delhi 110012

Uromyces pentaceae, a new rust fungus parasitising the leaves of *Pantace busmanica* Kurz. is reported and described for the first time from India.

Key words : *Uromyces pentaceae* Agarwal sp. nov., leaf rust

INTRODUCTION

Pantace busmanica Kurz. grows abundantly in marshy land and on the banks of ponds and rivers in Assam and its neighbourhood states like Meghalaya and West Bengal. In January, 1995 its leaves were found to be infected by a rust fungus. The incidence and severity of the rust was more in shaded places than in the open areas. The collected specimen had both uredinial and telial states and are described below.

Uromyces pentaceae Agarwal. sp. nov.

Uredinia foliicola, subepidermalis, hypophyllae, erumpens, disseminatus, plerumque coalescent. Ligneus brunneae in color (Ridgway, 1912) 0.5-2.00 mm in diametro. Urediniosporae subgloboseae vel late ellipsoidae, obovoidae, pinard-luteus (Ridgway, 1912), pedicillatae, 25.0-30.0 μ m (avg. 22.0-32.0 \times 25.0-28.0 μ m), tunica echinulatus, aequabiliter crassus, 1.0-1.5 μ m co 2-4 disseminatus germen porus (Fig. 1,a), commixtus clavatus, subhyalinae vel hyaline paraphysatus. Telia similiter uredinia excipio qui commixtus urediniae, osbrunneae in color (Ridgway, 1912); teliosporae (Fig. 1,b) unicellularis, subgloboseae vel ellipsoidae, luteo brunneae (Ridgway, 1912), co hyalinae, crassus, papilla ad apice ad 5.0 μ m altus et 7.0 μ m latus, 25.0-35.0 μ m (avg. 22.0-35.0 \times 15.0-25.0 μ m); tunica echinulatus, 1.0-1.5 μ m crassus. Pedicellus hyalinae, persisto, ad 35.0 μ m longus. Paraphysatus hyalinae vel subhyalinae,

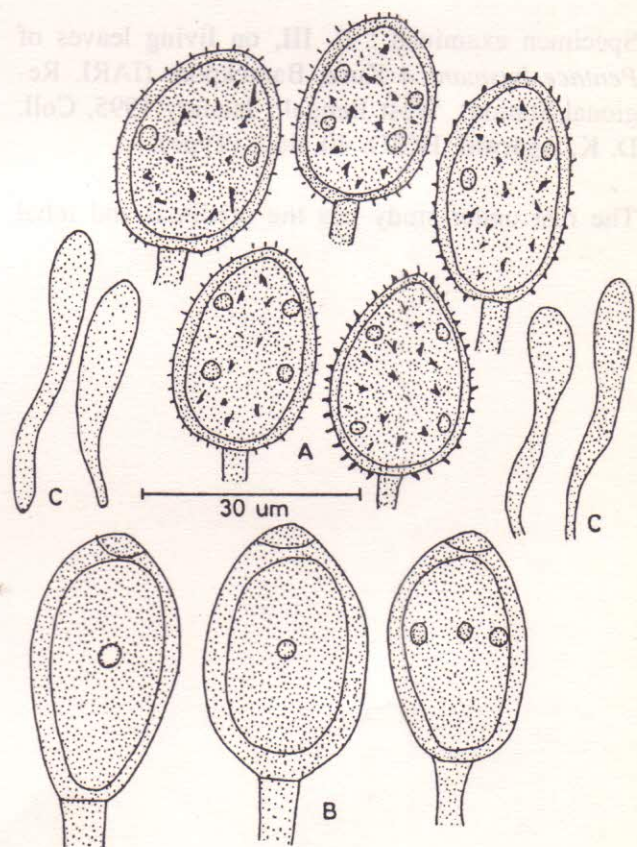


Fig. 1. *Uromyces pentaceae* Agarwal. sp. nov.
a. Urediniospores; b. Teliospores; c. Paraphyses.

clavatae, commixtus teliosporae (Fig. 1,c).

Uredinia foliicolous, subepidermal, hypophyllous, erumpent, scattered, sometimes, coalescent. Wood brown in colour (Ridgway, 1912), 0.5-2.00 mm in diameter. Urediniospores sub-globose to broadly

ellipsoidal, obovoid, pinard yellow (Ridgway, 1912), pedicellate, 25.0-30.0 μm (avg. 22.0-32.0 \times 25.0-28.0 μm), wall echinulate, uniformly thick, 1.0-1.5 μm with 2-4 scattered germ pores (Fig. 1,a), mixed with clavate, subhyaline to hyaline paraphyses. Telia like uredinia except that they are found mixed with uredinia, bone brown in colour (Ridgway, 1912); teliospores (Fig. 1,b) single celled, subglobose to ellipsoid, yellowish brown (Ridgway, 1912), with a hyaline, thick, papilla at the apex upto 5.0 μm high and 7.0 μm broad, 25.0-35.0 μm (avg. 22.0-35.0 \times 15.0-25.0 μm); wall verruculose, 1.0-1.5 μm thick, pedicels hyaline, persistent, upto 35.0 μm long, paraphyses, hyaline to subhyaline, clavate, mixed with teliospores (Fig. 1,b).

Specimen examined : II, III, on living leaves of *Pentace busmanica* Kurz, Barackpore (IARI, Regional Station), West Bengal ; January 1995, Coll. D. K. Agarwal, HClO. 40, 467. (Type).

The rust under study has the uredinial and telial

stages present together on the same leaf and therefore they are considered to belong to the same genus. The telial phase of the fungus shows it to be *Uromyces*. Review of the literature revealed that so far there is no record of this genus occurring on the species *Pantance busmanica* (Saccardo, 1902 ; Sarbhoy *et al.*, 1986, 1996, Uppal *et al.*, 1934). Hence, a new epithet "*pentaceae*" justifying its name as *U. pentaceae* is proposed.

REFERENCES

Ridgway, R. (1912). *Color Standards and Color Nomenclature*. Washington D. C., p. 43.
 Saccardo, P. A. (1902). *Syll. Fung.*, 16 : 357.
 Sarbhoy, A. K. ; Agarwal, D. K. and Varshney, J. L. (1986). *Fungi of India* (1977-81). VIth Supplement, Associated Publishing Company, New Delhi, pp. 227.
 Sarbhoy, A. K. ; Varshney, J. L. and Agarwal, D. K. (1996). *Fungi of India*. VIIth Supplement. C.B.S. Publishing and Distributors, Daryaganj, New Delhi, pp. 350.
 Uppal, B. N. ; Patel, M. K. and Kamat, M. N. (1934). *Fungi of Bombay. Deptt. Agric. Bombay. Bull.*, 176.

(Accepted for publication February 17 2003)

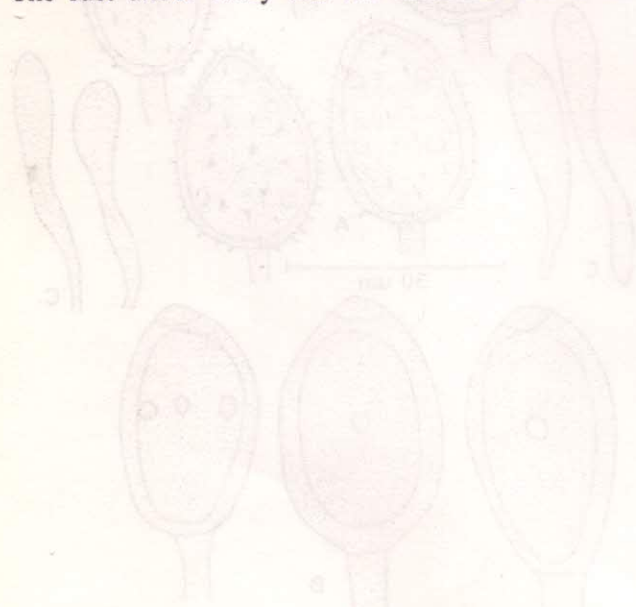


Fig. 1. *Uromyces pentaceae* sp. nov. (a) Teliospores, (b) uredinial spores. Scale bar = 10 μm .