



# First report of *Melampsora dimorphospora* on white willow in Pakistan

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During a uredinological survey carried out in September 2012 in the Ushu valley of Swat district, Pakistan, leaves of the medicinally important tree *Salix alba* L. commonly known as white willow, were found to be infected with a rust fungus. Uredinia were abaxial, scattered, rounded and brownish yellow. Urediniospores were found of two different types: one type of urediniospores were observed to be subglobose, golden brown in color,  $18\text{--}23 \times 18\text{--}27 \mu\text{m}$  with hyaline spore walls of to  $2.5 \mu\text{m}$  thickness, echinulated with obscure germ pores. A second type of urediniospores were found, subglobose to broadly ellipsoidal, catenulate in short chains,  $(22\text{--}) 27\text{--}33 \times 28\text{--}36 \mu\text{m}$  with dark brown,  $2.5\text{--}3.5 \mu\text{m}$  thick, verrucose spore walls, germ pores were up to 2, tending to be equatorial. Paraphyses were numerous, intermixed, capitate to clavate,  $20\text{--}26 \times 30\text{--}47 \mu\text{m}$  with up to  $4 \mu\text{m}$  thick wall. Based on these

morphological traits and dimorphic urediniospores, the rust was identified as *Melampsora dimorphospora* S. Kaneko & Hirats, a sample of which was deposited in LAH Herbarium (LAHAM20006) of the University of the Punjab, Lahore. It has previously been found on *Salix koriyanag* Kimura (Koriyananagai) from Japan (Hiratsuka et al. 1992). To the best of our knowledge, it is a new record for Pakistan.

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## Reference

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