Pak. J. Bot., 38(3): 873-874, 2006.

FUNGI DETECTED ON *SAPINDUS TRIFOLIATUS* (RITHA) FRUIT FROM MIANI FOREST IN HYDERABAD, SINDH

SHAISTA AKHUND, MUHAMMAD SUHAIL, ISHRAT RANI AND HIDAYATULLAH ABRO

Institute of Botany,
University of Sindh, Jamshoro, Pakistan.

Ritha or Soapnut tree (*Sapindus trifoliatus*) is a beautiful, tropical, deciduous tree of Asian continent. The species is indigenous to India and China and widely cultivated in upper reaches of Indo-Gangetic plains, Shivaliks and sub-Himalayan tracts at altitudes 200m to1500m asl (Levavi Oculos, 2005). The species flourishes well in deep clayey loam soil and does best in areas experiencing nearly 150 to 200cm of annual rainfall. The fruit of Ritha appear in July-August and ripen by November-December. These are obovoid 2-3 lobed, 1.3 to 2 cm diameter, hard and saponaceous. The seed is enclosed in a yellowish brown smooth and hard glabrous endocarp. (Priscilla Abdulla, 1973). The fruit is collected during winter months for seed and or sold in the market as soapnut since It contains saponin which is a good substitute for washing soap and as such used in preparation of quality shampoos, detergents etc. That perhaps is the reason that some Botanists have called the species as *Sapindus detergens* (Anon., 2004) The fruit is also of considerable importance for its medicinal value in Ayurvedic, Unani and Tibetan systems of medicine for treating a number of diseases like common cold, pimples, blemishes, chlorosis, epilepsy, constipation, nausea etc. Soapnut is traditionally used as a natural and effective treatment for skin complaints including eczema, chronic itching and psoriasis. Studies were therefore carried out to identify and quantify fungi associated with Ritha fruit.

During a survey of Miani forest ritha fruits were found to be infected by fungi. The fruits were surface sterilized with a 2% aqueous solution of Sodium hypochlorite NaOCl for two minutes followed by rinsing with sterile distilled water (Kulik, 1981). Another set of untreated fruits was also used. The dried shell of fruits were then cut into 4 pieces with a sterile scalpel and plated together equispaced from each on PDA and Czapek's Dox Agar. Plates were incubated at 28°C for 7 days during which the number of pieces that yielded colonies were noted, enumerated and sub cultured for identification. The fungi were identified after reference to Thom & Raper, (1945); Gilman (1957); Raper & Thom, (1949).

A total number of 11 species belonging to 5 genera viz *Aspergillus niger, Rhizopus nigricans, Rhizopus stolonifer, Mucor luteus, Mucor mucedo, Penicillium funiculosum, A. wentii, A. flavus, A. oryzae, A. ochraceus and Mortierella zonata* were isolated from 80 fruits of Ritha. The highest number of fungal species was obtained without surface disinfection as compared to the number of fungi treated with Sodium hypochlorite (NaOCl). The higher number of fungal species was obtained on Potato Dextrose Agar with or without treatment. *Aspergillus niger* (39.16), *A. flavus* (15.56), *Rhizopus nigricans* (13.41) and *R. stolonifer* (11.13) were few predominant species while *Mortierella zonata* and *Mucor luteus*, were less frequent isolates and recovered from Non-disinfected and surface disinfected fruits in a frequency of 0.96 and 1.32 % respectively. Other fungi recovered in moderate frequency are *A. ochraceous* (2.27), *A.*

oryzae (2.87), *A. wentii* (3.23), *Mucor mucedo* (2.75) and *Penicillium funiculosum* (7.30). There does not appear to be any previous report of fungi associated with Ritha fruit of Pakistan or other part of the world (Sultan *et al*., 1997).

References

Anonymous. 2004. *India Soap nuts (washnuts) Detergent picked from a tree*. In: *Naturwelt.*, at – the natural alternative.

Gilman, J.C. 1957. *A manual of soil fungi*. The Iowa State University Press, Iowa, USA.

Kulik, M.M. 1981. Soybean pod and stem blight. In: *ISTA Handbook of seed health Testing*. International Seed Testing Association, Zurich, Switzerland.

Levavi Oculos. 2005. Indian soapnut shells. In: Sunsun Weed's Wise Woman Forum. Super Natural British Columbia.@ susun weed.com.

Priscilla Abdulla. 1973. *Sapindaceae.* Flora of Pakistan. Stewart Herbarium, Gordon College, Rawalpindi.

Raper, K.B. and C. Thom. 1949. *Manual of Penicillia*. Williams and Wilkins Co. Balitimore, USA.

Sultan, A., S.H. Iqbal and A.N. Khalid. 1997. *Fungi of Pakistan.* Dept of Botany, University of the Punjab, Quaid e Azam Campus, Lahore Pakistan.248pp.

Thom, C. and K.B. Raper. 1945. *Manual of Aspergilli*. Williams Company, Baltimore, USA.

(Received for publication 20 February 2006)