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Rapid Assessment of Variability in Water Chestnut (*Trapa natans* var. *bispinosa* Roxb.) through Fruit and Stomatal Analysis

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Abstract: Trapa natans var. bispinosa Roxb, has immense potential in the water logged areas as alternative source of income, but is still under exploited. The study on its wide variability and its characterization is important for improvement and the present study analyses variability through fruit and stomatal morphology in 20 morphotypes collected from local ponds of central Uttar Pradesh and established in the experimental ponds at the Babasaheb Bhimrao Ambedkar University, Lucknow. A significant variation was observed in fruit morphology, yield and stomatal characters. Stomatal pore width showed highest PCV (35.44µm), GCV (35.07 µm), h^2 (%) (97.9) and GAM per cent (147.42), while stomatal density (µm⁻²) showed highest genetic advance (26.01). However, close difference between GCV and PCV values indicated minimal influence of environment in the expression of the stomatal characters, thus may be governed genetically and these are positively correlated with some of fruit, peel, kernel characters. Thus, stomatal characters could be utilised as parameters for selection of superior water chestnut morphotypes for crop improvement in water chestnut.

Keywords: Characterization, Morphology, Trapa natans and variability