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Eolian Sand Deposition Induced Constrains and Seedling Strategies in *Blepharis sindica* T. Anders: An Endangered Serotinous Medicinal Herb of Indian Thar Desert

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Abstract: *Blepharis sindica* T. Anders (Acanthaceae) is an endangered medicinal herb from Indian arid zone. Due to serotinous habit, dried plants get buried under eolian sand deposition during summer and so the germplasm experiences difficulties to establish potential seedlings. Patchy occurrence of the populations restricts the gene exchange and the germplasm reflects local habitat limited adaptations. Canopy height enables the plants to escape from deep burial at growing sites but with a cost of seed weight reduction. Highest canopy (53.6 cm at site-I for 2017) was found with lowest seed weight (1.11g for 100 seeds). *In-vitro* seedling shoot lengths from stored seeds of site-I were higher where plants faced greater load of eolian burial during last generations. Seedling responses revealed the genetically tuned strategies to withstand against eolian pressure by local germplasm in the species.

Keywords**:** Eolian sand, Plant canopy, Germplasm, Seedling strategies, Endangered