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Reproductive failure and population reduction in *Elaeocarpus blascoi* Weibel: A lonely endemic and endangered tree species of Western Ghats, India

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Elaeocarpus blascoi Weibel, a lesser known endemic tree species growing in the Vattakanal Shola forest of Palni hills, Western Ghats. Since, being a strict endemic species, the tree was under severe threat by various factors and the number of surviving mature individuals identified in the wild habitat as three trees only. The study on reproductive biology was conducted in the natural habitat to study their phenology, floral biology, pollen biology, fruit set and seed germination. The phenological study reveals that leaf flushing takes place from February to May, floral bud emergence commences in September and flowering period extended up to January. New seedlings emergence is not a regular phenoevent, however, in September to October, few seedlings observed with the initiation of monsoon. The floral biological studies of the tree show that the inflorescence was found to be axillary raceme with 7 ± 3 flowers in each inflorescence. Flowers are bisexual, anther dehisces 2-3 hours after anthesis by apical split and stigma become receptive on the day of anthesis and extend upto 6 days. The number of anthers calculated in the flower was 30 and pollen grains were spherical in shape, tricolporate and 60% germination observed at sucrose and Brewbacker's medium after 16 hrs. The pollen-ovule ratio was calculated as 57,037:1. Breeding experiments confirmed that the species permits autogamy and geitonogamy. Six different pollinators were observed during peak flowering period and *Apis dorsata* (Honey bee) was found to be effective pollinator and it takes 55 ± 15 seconds per flower. Percentage of fruit set observed in the natural habitat was 78% and the seed germination rate was found to be less than 5% in the natural habitat. Seed viability test showed that more than 70% of seeds lost their viability after a year and most of the seeds were infested with *Fusarium sp.*, *Lasiodiplodia sp.* and *Penicillium sp.* Large percentage of younger shoots and tender fruits were damaged by unidentified insects and larvae. Further, the natural habitat of the species is altered by commercial plantations, tourism and urbanization in the Palni hills which leads to reduction of species.

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Faunal diversity of Ajmer Aravallis

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Ajmer is located centrally in Rajasthan (India) hemmed in all sides by Aravalli hills. About 7 miles from the city is Pushkar Lake created by the touch of Lord Brahma. The Dargah of Khawaja Moinuddin Chisti is holiest shrine next to Mecca in the world. Ajmer has hot dry summer and cold bracing winter. The winter extends from November to February and summer extends from March to June followed by rainy season till mid September. The temperature varies from 2-45°C. The total population of the district is 2180526. Around 5.56% of total area available for land utilization is covered under forest. Ajmer is abode of certain flora and fauna that are particularly endemic to semiarid and are specially adapted to survive in the dry waterless region of the state. 10 species of fishes, 9 species of frogs, 24 species of reptiles, 100 species of birds and 15 species of mammals are reported from Ajmer.

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