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Reproductive ecology of *Humboldtia decurrens* Bedd. ex Oliver: An endemic legume of the Western Ghats, India**A K Sreekala and M Jayalakshmi**

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Humboldtia decurrens Bedd. ex Oliver belongs to the family Fabaceae, is restricted to the evergreen forests of Kerala and Tamilnadu in the southern Western Ghats. The plant favors much shady, riparian and undisturbed environment at an altitude of 200-900 m ASL with severely fragmented population. The study on reproductive ecology was conducted in the natural habitat to understand its phenology, floral biology, pollination mechanism, fruit set and seed germination. The phenological study reveals that leaf flushing takes place from August to October, flower bud initiation commences in November and flowering period extends up to March. The plant possess cauliflorous, racemose inflorescence with 12-15 flowers and varied sepal coloration from white to pink, but petal remains white. Pollen grains are spherical and 52.25 µm in diameter. Pollen-ovule ratio was calculated as 1062:1. Maximum pollen viability was noticed on the day of anthesis itself which get decreased on consecutive days after anthesis. The species imparts various pollination traits including flower shape, color, reward type and amount, nectar composition and timing of flowering. Occurrence of versatile anthers illustrate a proof for anemophilous pollination but species display a more support towards melittophily by rewarding subsequent amount of floral as well as extra floral nectaries. Bees and butterflies are the major pollinators. Breeding experiments confirmed that the species permits both geitonogamy and xenogamy. The fruitification will take about a month after the drooping of flowers and continues till the next vegetative phase. The scarcity of pollinators, low insect visitation rates and infestation of fruits by insects affect the fruit production and thereby decreases the seed set. Natural factors along with anthropogenic activities adversely affect its population growth and its establishment in the wild.

Biography

A K Sreekala has completed her PhD from Kerala University in 1998 with specialization of Plant Reproductive Biology. She has published more than 80 papers in reputed journals, chapters in books and presented her research in national and international meetings.

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