ABS-00138

Conservation strategies of *Hopea erosa* (Bedd.) Slooten, a critically endangered tree species endemic to the Western Ghats of India

N.S. Pradeep[*], and V. Mithun

KSCSTE-Malabar Botanical Garden and Institute for Plant Sciences, Kozhikode, Kerala, India

Corresponding author email: drnspradeep@gmail.com

Keywords: , germination, *Hopea erosa*, pest, seed, Western Ghats

Hopea erosa is an endemic and threatened tree species found in the Western Ghats region, with scattered populations across Kerala. Four natural populations of *H. erosa*, including one sub-population, were identified through a population survey conducted in India's Western Ghats regions. Three of the populations are in the north of the Western Ghats, while the fourth one is situated in the southern end of the Western Ghats in India. The number of individuals ranged from 2-13 mature individuals were recorded. The species faced major threats from deforestation and habitat destruction due to developmental activities, expansion of roads, conversion of agricultural lands and plantations, and variation in the population's flowering synchrony. The low germination rate (12-16%) of naturally fallen seeds due to pest infestation poses a threat to the species' establishment in the wild. A new species of *Alcidodes sp.* (pest) was discovered from the seeds of this plant, and its elongated snout penetrates the seeds deeply, causing severe damage. This will lead to the loss of seed viability. The seeds exhibit recalcitrance, leading to a rapid decline in viability within 7 days. Our team has established a standardized, cost-effective method for prolonging seed viability to 210 days. This is achieved by implementing a conventional storage technique at 20±2°C. This storage condition helps the plant for *ex situ* restoration programmes. To conserve the current populations and to reduce anthropogenic pressure on them, we conducted awareness and training programs in Kerala state of Peninsular India for different categories of people, including forest officials and school and college students. Now, we are involving selected indigenous communities from Kerala in collecting, propagating, and planting seeds in adjacent areas to the native population.