POPULATION STUDY AND CONSERVATION OF Magnolia banghamii, A NARROW ENDEMIC TREE IN SUMATRA ISLAND, INDONESIA

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INDONESIAN MAGNOLIA

• 28 species > 6 species are endemic
• The IUCN Red List:
  > Endangered: *M. sulawesiana*
  > Near Threatened: *M. borneensis*
  > Least Concern: 5 species
  > Data Deficient (DD): 21 species or 75%
• Main threats: habitat conversion and unsustainable biological use
• For those species with DD status, further studies are required to confirm their current population status, distribution and threats.
Magnolia banghamii

• A narrow endemic *Magnolia* in Aceh Province, Indonesia

• Known only from two specimens collected from one location in Bener Meriah, Aceh Province in 1932
Magnolia banghamii

• The type specimens are incomplete as the perianth of the flower is not present.
• Assessed as DD due to lack of information on the existing population, threats and quality of habitat (Khela 2014)
• The species is not present in any ex situ collections (BGCI 2023)
PROJECT OBJECTIVES

Population surveys were conducted to enhance the conservation of *M. banghamii*. The objectives are to:

1. Assess the current population of *M. banghamii*, including its population size and structure, distribution, and habitat preferences
2. Update the conservation status of the species following the IUCN Red List categories and criteria
3. Collect plant material to be cultivated and serve to initiate an ex situ collection of this species
Survey for *M. banghamii* were conducted using a focused survey method (Brewer 2013)
PROJECT RESULTS

• From the eight surveyed locations, the species was only located at its type location (Uning Tritit) and one additional new location at Tapak Moge
• A total of eight individuals
• One mature individual with dbh 49 cm and height 27 m
PROJECT RESULTS

• The species preferred slope areas (32.8±7.4°) at an elevation range of 1378-1750 m

• We observed that habitat conversion into coffee plantations, settlements, and agricultural areas is the main threat to the species
PROJECT RESULTS

Updated conservation status:
• The EOO and AOO : $12 \text{ km}^2 \rightarrow$ Endangered (EN) B1ab(i,ii,iii, iv)+B2ab(i,ii,iii,iv)
• Critically Endangered (CR) C2a(i), i.e. continuing decline (in any rate) in the population size (C2) and number of mature individuals in each subpopulation $< 50$ (a(i))
• CR D as the number of mature individuals $< 50$.

• CR C2a(i), D
PROJECT RESULTS

Conservation actions:
• The areas where the species is located are unprotected. Therefore, increasing the protection of these areas is urgently needed to support the conservation of the species in situ.
• To ensure the future survival of the species, ex situ conservation of the species is also required as the threats are still ongoing. Therefore, one wild seedling of the species has been collected and is currently cultivated at the Arboretum of Universitas Samudra.
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