

Presentation format: Oral

Orchid diversity and conservation in Thailand: A case study of *Dendrobium* orchids in the northern region

Thitiporn Pingyot¹, Anchalee Nuammee¹, and Supalak Pumikong¹

¹ Queen Sirikit Botanic Garden, The Botanical Garden Organization, Mae Rim, Chiang Mai, Thailand

Among the diverse array of orchids in Thailand, consisting of nearly 1,300 species, the genus *Dendrobium* Sw. stands out as one of the largest. It is mainly distributed in the northern part of the country, and certain species such as *Dendrobium chrysotoxum* and *Dendrobium scabrilingue* hold significance to local people and culture. Previous taxonomic studies and literature reviews have reported 149 species in Thailand. However, 27 species are listed as nationally threatened. 18 of these are endemic to Thailand, 17 are Endangered (EN) and 10 are Vulnerable (VU). Moreover, 109 species (73% of *Dendrobium* species in Thailand) are distributed in the northern region, with 60 species found in hill evergreen forests and 27 species restricted to only one forest type. Many of these species grow in small and specific habitats. Over the course of a five-year field research project, we found that populations of *Dendrobium* orchids have been declining due to threats such as habitat loss, wildfires, and over-collection for ornamental purposes or illegal trade. In order to effectively allocate funding and conservation efforts, we followed a three-step process. Firstly, data from literature, herbaria, and field surveys were compiled to generate preliminary checklists of *Dendrobium* species in northern Thailand, including data on their geographic distribution, population size, and threats to their natural habitats. Secondly, a conservation status assessment was conducted, followed by prioritisation and hierarchisation of the species. This allowed for the identification of species requiring urgent conservation efforts and facilitated intensive ecological surveys. Finally, conservation efforts were implemented for the selected species, supported by regular monitoring. Currently, four species are included in the conservation project at the Queen Sirikit Botanic Garden. In the future, collaborative conservation projects and the formulation of policies for the sustainable utilisation of natural resources will be crucial in protecting *Dendrobium* species in northern Thailand.

Keywords: conservation actions, conservation status, endangered species, natural habitat, sustainable use