

**An update on orchid diversity in Malaysia, threat, conservation status
and challenges in a changing climate**

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Abstract

Orchidaceae is one of the largest angiosperm families found in Malaysia. Botanical exploration for orchids in various forests and vegetation types since 1999 to date have revealed tremendous changes in species diversity and distribution in Malaysia, being home for more than 4000 species of wild orchids with numbers still increasing today. New species to science and new records to Malaysia numbered between 10-20 new species and up to 50 new records were published yearly since 2010. From my team's account, a total of 47 species are identified as new record to Peninsular Malaysia, which increased the total number to 1103 species in 155 genera of orchids. From these, more the 23% are endemic to Peninsular Malaysia and more than 400 species endemic to Sabah and Sarawak. As studies of orchid diversity continues, the number of species are doomed to change, it might increase in the future if more currently inaccessible vegetation are botanized and more specimens are collected, or it might decreases if rare and endemic species are vanishing due to habitat destruction and conversion to other land use. Apart from these, taxonomic and nomenclature study, too could affect the number of species. It decreases if some are reduced to synonymy or increase if some are raised from varieties, form, or subspecies to species or species complex identity is resolved into multiple genera or species. The environmental condition fluctuations or local climate change could increase or decrease this number, as some species flourished to certain changes; nevertheless some might succumb and lost forever. Major threats like deforestation, conversion of land use, over collecting of flagship species; uncontrolled borderless trades are making it almost impossible to determine the actual species diversity. However, one of the most critical set back for orchid documentation and conservation assessment is due to lack of orchid taxonomists in Malaysia, where there are less than a handful of us. Therefore, species diversity enumerations, conservation status evaluation, conservation plans, and actions are still the countries major challenges while many species slipped out of the country untraced, perished or extinct in the wild without being known of their existence!

Keywords: Orchid, diversity, threat, conservation status, challenges, changing climate, Malaysia.

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