

Native Orchids of Hkakaborazi National Park

World Orchidologists and orchid hunters have been interested in and recording Myanmar's orchid species since the nineteenth century. Among these researchers, Reverend Parish, Dr. Helfer, Dr. Griffith, Sir William Hooker and Professor H.B. Reichenbach have carried out much research and written about their findings. In 1895, Captain Bartle Grant compiled all the papers about Myanmar orchids written by various writers and published a book called "Orchids of Burma". Starting in 1914, the well known botanist and naturalist F. Kingdon Ward conducted several floristic surveys in Kachin State. He discovered many new orchid species in the northernmost part of Myanmar. In 1920, he discovered a new species of terrestrial orchid in the Nomung area. Later, that orchid was botanically named *Paphiopedilum wardii* in honour of him. Local native called this orchid, 'the Black orchid' because of the dark maroon colour of its flowers. The Nomung area is the only place in the world where the black orchid is found. During the expeditions, the botanists climbed up to about 1,219 m in the mountain that provide the habitat for the black orchid; they took photographs and collected some sample plants as well. The black orchid grows well in the leaf humus on the rock ridges as well as under the small bushes in low light conditions and it was learned from the local people that it blooms from December to February. Most of the black orchids collected were nurtured successfully in the PyinOoLwin Research Nursery, which is located 914 m above sea level. Here the weather is cool and mild and very similar to that which occurs where the black orchid grows naturally. Nearly all the plants flowered in January-February 1998. Other interesting Myanmar orchid species were also collected and nurtured in Pyin-Oo-Lwin. Terrestrial orchids were also observed growing about 2,133m; at this height large trees are rarely seen.

On the first expedition, due to heavy rain, time restriction and period in which the expedition took place (off season), not as many orchid species as expected were collected. However the habitat of *Paphiopedilum wardii* was studied extensively and recorded, and *Cymbidium eburneum*, native to Myanmar, was recorded for this time. Seventeen orchid species were recorded in this expedition. (Shown in Appendix III)

On the Nomung expedition, the botanists collected and studied some 39 orchid species. (Shown in Appendix IV)

The growing and propagation conditions of the endemic *Paphiopedilum wardii* were studied in detail.

Although the orchids listed below had previously been recorded as growing in Myanmar, this was the first time they had been recorded as true natives.

- *Bulbophyllum odoratissimum*
- *Dendrobium brymerianum*
- *dendrobium linguella*
- *phalaenopsis parishii*
- *dendrobium transparens*

The following orchids were recorded for the first time (they are native to Myanmar).

- *Epipogium roseum*
- *Micropera rostrata*
- *Pholidota chinensis*

On the Hkakaborazi National Park expedition 2000, 14 orchid species were collected. (Shown in Appendix V)

The following orchids were recorded for the first time for Myanmar:

- *Cymbidium iridioides*
- *Dendrobium moliniforme*

Many orchid fruits containing seed were also collected and grown in the laboratory for further propagation. Some rare and endangered orchid species that had been collected were propagated in the laboratory using tissue culture technique. Promising result was obtained.

Discussion for Future Research

- On the Hkakaborazi expedition, as a result of collective endeavour, the blue sheep, the black barking deer and the little leaf Munjac were discovered. In addition, the team took the opportunity to observe the rapid development of a national park from protected area.
- On the second expedition, the little leaf Munjac, rare orchids and birds were observed. In addition to examining the existing condition of Hkakaborazi National Park, and assessment was made of the conservation measures required for the park.
- Some Myanmar orchid species, including *Dendrobium cruentum*, *Renanthera inschootiana*, and all *Paphiopedilum* sp. are listed in Appendix I of 'The Convention on International Trade in Endangered Species of the Wild Flora and Fauna as World Endangered Orchid Species' (CITES).
- It was learned that five years previously some traders from China came and purchased *Cymbidium* orchid in the Hkakaborazi area. However the expedition found no evidence of the collection and sale of orchids on large scale. It was noticed that small numbers of black orchid, having been collected by local people, were being sold in the Nomung Market place and being given to visitors as mementoes. Considering the long-term interests of this rare orchid, the local people should be given an educational talk on orchids asking for their cooperation in this conservation.
- The season in which the expeditions took place was not the flowering season. If it had been, more orchid species would have been collected.
- The expeditions established that there is an abundance of naturally occurring orchid species in the Hkakaborazi area. It is necessary to monitor the growth, propagation and estimated numbers of these species. Orchid expedition(s) could take place separately or with other expeditions. Through the joint endeavours of internal and external scientists, we could exchange practical experiences and the internal scientists could acquire knowledge on orchids of an international standard.
- Hkakaborazi National Park has great potential to be upgraded from a National Park to a World Heritage site.
- An education centre should be established in Hkakaborazi National Park, with an exhibition for the public providing information about orchid of the area. A model orchid garden with the orchid species of Hkakaborazi area could also be made.
- Because there are evergreen rainforests, mountains over 3,048m and subtropical forests in Hkakaborazi, there is wide variety of orchids to be studied. As well as botanical and orchid expeditions, educational tours could also be organized in the area.
- There might be new and unrecorded orchid species still waiting to be discovered in Hkakaborazi National Park. It is recommended that cooperative expedition and research programme, involving local scientists and knowledgeable scientists from abroad, be organized in the area to search for any rare, undiscovered Myanmar orchids.

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