



# 蘭科植物的保育與可持續利用

## Conservation and Sustainable Uses of Orchidaceae Plants

蕭麗萍 嘉道理農場暨植物園

Gloria SIU Lai Ping Kadoorie Farm and Botanic Garden

### 全球的蘭科植物

「蘭花」乃蘭科植物的俗稱，她們是全球顯花植物其中最大的一個科。野生蘭花生長幾乎遍佈全球，從熱帶至溫帶地區、在潮濕至乾燥氣候，也能發現她的芳蹤，但她們主要分佈於熱帶地區。

據可靠估計，現有蘭科植物超過700個屬，約25,000種。自1850年代起經蘭花愛好者及商業化的種植者悉心繁育出來的雜交種與變種則達100,000多個。千嬌百媚的蘭花吸引了不少古今中外人士的讚賞。在歐洲，早於十八世紀中葉，引自熱帶，花大且艷麗的蘭花便教不少植物愛好者讚歎不已。事實上，第一種於英國(皇家植物園邱園)開花的熱帶蘭花——鶴頂蘭(*Phaius tankervilleae*)正是於1778年從中

### Orchidaceae Plants in the World

Plants of the Orchidaceae family are commonly known as orchids (Lan Fa). Orchidaceae is one of the largest families of flowering plants in the world. Although orchids occur naturally almost everywhere, from the tropics to temperate zones, and in both humid and dry climates, most of the group's diversity exists in the tropics.

Reliable estimations indicate that there are currently about 25,000 recorded wild species in more than 700 genera in the world. Over 100,000 hybrids and varieties produced by hobbyists and commercial growers since the 1850s. Many orchids are very beautiful and have attracted the fancy of people in both the East and the West since ancient times. In Europe, the exotic beauty of large



中國海南省的熱帶森林  
Tropical forest in Hainan  
Province of China.





由卡特蘭屬與蕾麗蘭屬雜交而來的雜交種  
A hybrid is crossed between  
the genus of *Cattleya* and *Laelia*



由 3 個屬雜交而來的雜交種 (其中之一為萬帶蘭屬)  
A hybrid is crossed among 3 genera  
(*Vanda* is one of the genera)



帶有香味的萬帶蘭  
屬雜交種 *Vanda*  
*Mimi Palmer*  
A hybrid, *Vanda*  
*Mimi Palmer*, with  
nice fragrance.



春蘭  
*Cymbidium goeringii*

國引入的。現今，不少形態獨特及色彩艷麗的蘭花已響譽於國際花卉市場。在中國自唐朝末年（公元九世紀下半葉），即距今一千多年已有規模化的國蘭栽培（如春蘭 *Cymbidium goeringii*），國蘭在深受大眾讚賞之餘，更被文人雅士視為高潔優雅、正直不朽的象徵。

and colourful orchid flowers from the tropics stunned plant lovers as early as the mid 18<sup>th</sup> Century. In fact, the first tropical orchid that flowered in England, at Kew Gardens, was *Phaius tankervilleae* which was introduced from China in 1778. Nowadays, orchids with unique and colourful flowers are popular in international flower markets. In China, there has been a history of more than 1,000 years of cultivation and admiration of Chinese *Cymbidiums* (e.g. *Cymbidium goeringii*) since the late Tang Dynasty





## 中國的蘭科植物

我國跨越熱帶、亞熱帶及溫帶，蘭科植物資源十分豐富及獨特，是我國顯花植物中三大科之一。已記錄的有173屬約1,200多種，當中約有450個特有種。我國野生蘭中不乏世界著名的花卉名種，例如兜蘭屬、杓蘭屬、獨蒜蘭屬、石斛屬、蘭屬、蝦脊蘭屬、萬帶蘭屬及指甲蘭屬中的一些種和變種就有很高的觀賞與藥用價值。



中國其中最大的一個帶葉兜蘭野生種群  
One of the largest wild populations of *Paphiopedilum hirsutissimum* in China



流蘇石斛的花  
Flowers of *Dendrobium fimbriatum*

(circa 800 AD). Chinese Cymbidiums, which often appealed to elegance and righteousness of educated people of that time, have now become very popular with orchid lovers from every strata of society.

## Orchidaceae Plants in China

The diversity of orchidaceae is very rich and unique in China, as the country spans the tropical, sub-tropical and temperate zones. More than 1,200 species in 173 genera recorded (of which about 450 species are endemic to China) so far, making Orchidaceae one of the top three families of flowering plants in China. Many of them are famous worldwide. For example, some species and varieties of the genera *Paphiopedilum*, *Cypripedium*, *Pleione*, *Dendrobium*, *Cymbidium*, *Calanthe*, *Vanda* and *Aerides* etc. have high ornamental and medicinal values.



帶葉兜蘭的花  
Close up of the flower of *Paphiopedilum hirsutissimum*



杏黃兜蘭（金兜）、麻栗坡兜蘭、硬葉兜蘭（銀兜）、黃花獨蒜蘭、雲南獨蒜蘭及墨蘭等等更是舉世知名的觀賞花卉。



多花指甲蘭的艷麗花朵  
Showy flowers of *Aerides rosea*



硬葉兜蘭變種的優雅花朵  
Close up of the elegant flower of *Paphiopedilum micranthum* var. *eburneum*



Of these, *Paphiopedilum armeniacum*, *P. malipoense*, *P. micranthum*, *Pleione forrestii*, *P. yunnanensis* and *Cymbidium sinense* (Ink Orchid) are the most well-known examples.

花朵帶有香味的墨蘭／報歲蘭  
Flowers of Ink Orchid (*Cymbidium sinense*) with nice fragrance

北宋出版的《証類本草》留下我國最早的藥用蘭花（天麻和石斛）木刻圖。我國更是獨蒜蘭屬、杓蘭屬及槽舌蘭屬的分佈中心。香港是華南地區的一部份，位處熱帶北緣及亞熱帶的南緣，故此，本土蘭科植物的多樣性亦相當豐富。本港的蘭科植物分屬於54屬，合共有123種及4變種，擁有我國十分之一的蘭科物種。蘭科植物確是我國珍貴的野生資源。

The “Zheng Lei Ben Cao” (*A Diagnosis of Medical Herbs*), which was published in the North Sung Dynasty (960 to 1127 AD) had the earliest wood engravings of medicinal orchids (*Gastrodia elata* and *Dendrobium* sp.) in China. China is also the distribution centre of the genera *Pleione*, *Cypripedium* and *Holcoglossum*. Hong Kong is a part of the South China region and is located in the inter-phase of the northern boundary of the tropics and southern boundary of the sub-tropics, and hence the diversity of native orchids is rich.





經過科研人員不斷的努力，這幾年來，我國仍有不少科學新種及中國新記錄種的發現。例如作者在2000年發現的科學新種—南嶺齒唇蘭及在2005年發現的中國新記錄種—雲葉蘭屬的 *Nephelaphyllum pulchrum*，2005年確定的中國新記錄種—兜蘭屬的 *Paphiopedilum helenae* 等等。



王氏槽舌蘭的花  
Flowers of *Holcoglossum wangii*

### 中國野生蘭花的保育與可持續利用

近數十年間，人類的活動成為野生生物生境遭破壞、自然資源過度耗用的主要原因，結果導致許多動植物的野外種群數量急劇下降。我國的野生蘭花資源雖然豐富，然而，她們目前的狀況卻十分嚴峻。超過200種的野生蘭花已進入瀕危、極度瀕危甚至面臨即將在野外滅絕的困境。可幸，我國的國家林業局、野生動植物保護司自2001年已對某些受到威脅的野生蘭花及地區開展了保育行動來拯救她們。香港嘉道理農場暨植物園亦早於1970年代

There are 123 species and 4 varieties in 54 genera of native orchids in Hong Kong, representing some 10% of the total number of orchid species found in China. Orchidaceae plants undoubtedly are a part of the valuable asset of natural resources of China.

As a result of the hard work of many scientific researchers, new species of orchids are still being discovered in China. For instance, this author discovered a new to science species, *Anoectochilus nanlingensis*, in 2000, a new record species, *Nephelaphyllum pulchrum*, for China in 2005, and the *Paphiopedilum helenae*, which was a new record for China confirmed in 2005.

### Conservation and Sustainable

#### Utilization of Wild Orchids in China

In recent decades, humans have been largely responsible for the loss of natural habitat and increased exploitation of natural resources, resulting in the decline of many wild populations of animals and plants. Although wild orchid resources are rich in China, the present status of wild populations of native orchids in China is worrying. More than 200 species of native orchids are driven into endangered, critically endangered or even at the edge of extinction in the wild. Fortunately, the Wild Fauna and Flora Conservation Department of the State Forestry





蕭麗萍於 2000 年發現的科學新種—南嶺齒唇蘭

A new to science species, *Anoectochilus nanlingensis*, was discovered by Gloria Siu in 2000

最近由一位國內的植物學家—劉演確定的中國新記錄種—兜蘭屬的

*Paphiopedilum helenae*  
A newly confirmed new record species, *Paphiopedilum helenae*, for China by a Mainland botanist, Liu Yan, in 2005.



初，在白理桃女士的領導與胡秀英院士和賀理士嘉道理爵士等的協助下，創立了我國首個「本土蘭花保育中心」來拯救我國的野生蘭花。它保育了本港 123 種本土蘭花中約 90 個物種及華南與西南受威脅的本土蘭花。在屢敗屢戰、不屈不撓的奮鬥下，我們成功繁殖了約 60 種我國受危的本土蘭花，當中 20 多種的幼苗（如香港拖鞋蘭 / 紫紋兜蘭、五唇蘭、束花石斛、三褶 / 白花蝦脊蘭、花葉開唇蘭 / 金錢蓮等

Administration has started comprehensive conservation actions and initiatives in some regions and on certain threatened wild orchids since 2001. In Hong Kong, the Kadoorie Farm and Botanic Garden established the first "Native Orchid Conservation Centre" in China under the direction of Mrs. Gloria Barretto, M.B.E., during the early 1970s with support of Prof. S.Y. Hu and the late Sir Horace Kadoorie. The Centre has conserved some 90 species out of the 123 native Hong Kong wild orchids and other threatened wild orchids native to south and southwest China. Under continued and unfailing efforts, we have successfully propagated some 60 species of threatened native orchids in China, among which seedlings of some 20 species (e.g. *Paphiopedilum purpuratum*, *Doritis pulcherrima*, *Dendrobium chrysanthum*, *Calanthe triplicata*, *Anoectochilus roxburghii* etc.) have been growing steadily and reaching mature flowering stages. This success represents a significant step forward for orchid conservation in China.

蕭麗萍於 2005 年發現的中國新記錄種—雲葉蘭屬的 *Nephelaphyllum pulchrum*  
A new record species for China (*Nephelaphyllum pulchrum*) found by Gloria Siu in 2005







等)已穩定地成長並進入成熟期/開花結果期。她們的茁壯成長正代表我國本土蘭花保育工作又向前邁進了一大步。

在成功地大量繁殖與培育好受危蘭花的大前題下，我們也開始嘗試將當中一些已繁育好的植株來進行可持續與合理的利用。首先，我們種植這些人工繁育的蘭花於嘉道理農場暨植物園溫室內來吸引公眾對她們的關注與了解，以加強蘭花保育工作的公眾教育。其次，我們也利用這些大量繁殖的本土蘭花植株來推動城市生態綠化及增加本港園林美化的本土物種。目前，外型優雅而花期長的竹葉蘭(*Arundina graminifolia*)，已獲得初步的成果。最終，為了促進我國花卉栽培業能朝著更具



花期長的香港本土蘭花—竹葉蘭  
*Arundina graminifolia* is a Hong Kong native orchid with a long flowering period.

As the mass propagation of threatened orchid species has been a success, subsequently we started putting some of these progenies into rational and sustainable uses. Firstly, some of these artificially propagated orchids have been planted in greenhouse at KFBG to arouse public awareness and strengthen public education on orchid conservation. Secondly, we also make use of them on ecological urban greening and enriching the native species diversity in horticultural landscaping in gardens in Hong Kong. For instance, the trial of using the Bamboo Orchid (*Arundina graminifolia*) which possesses elegant shape and has a long flowering period in Hong Kong, has been quite successful for this purpose. Finally, in order to promote the floriculture industry in China, we have started trials on hybridization of the *Phaius magniflorus*, whis is a Hong Kong endangered species successfully propagated in KFBG, with the more common *Phaius tankervilleae* some 4 years ago. This resulted in a hybrid with pretty and bigger flowers than the *Phaius tankervilleae* and also a more robust vegetative part. This example in

在嘉道理農場暨植物園被成功大量繁殖的大花鶴頂蘭  
Successfully mass propagated orchid, *Phaius magniflorus* at KFBG.



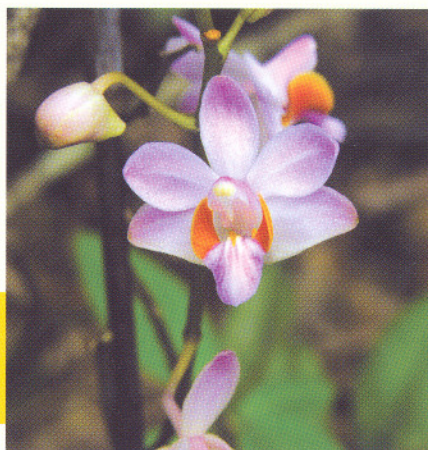




在嘉道理農場暨植物園被成功繁殖的香港拖鞋蘭／紫紋兜蘭  
Successfully propagated Hong Kong Lady's Slipper Orchid, *Paphiopedilum purpuratum* at KFBG



五唇蘭清雅的粉色花系  
Close up of the pink series flowers of *Doritis pulcherrima*



鶴頂蘭的花  
Flowers of Nun Orchid, *Phaius tankervilleae*

中國特色的發展，四年前我們更將成功繁育好的本港瀕危種—大花鶴頂蘭與較常見的鶴頂蘭進行雜交，去年已獲得花比鶴頂蘭大而美，植株較壯健的優良雜交種。這正意味著，只要把我國珍稀瀕危的蘭花保護及繁育好，則可合理有序地利用這些珍貴甚或特有的資源，來創立我國特有及自主創新品牌之多樣化的蘭花生產業，打入國際花卉市場，為國家攬取更多的外匯收益。

(以上圖片由嘉道理農場暨植物園高級自然保育主任蕭麗萍小姐提供)

KFBG demonstrates that when the conservation and propagation of the rare and endangered orchid species well managed, then we can make use of these rare and even endemic natural resources in a rational and orderly way. This paves the way for creating a new and unique floriculture industry of orchids in China with self-owned intellectual property right and /or patents and these orchids to be sold in the international flower markets to get more foreign exchange revenue for the country.

(The above photographs are contributed by Miss Gloria SIU Lai-ping, Senior Conservation Officer of Kadoorie Farm and Botanic Garden)