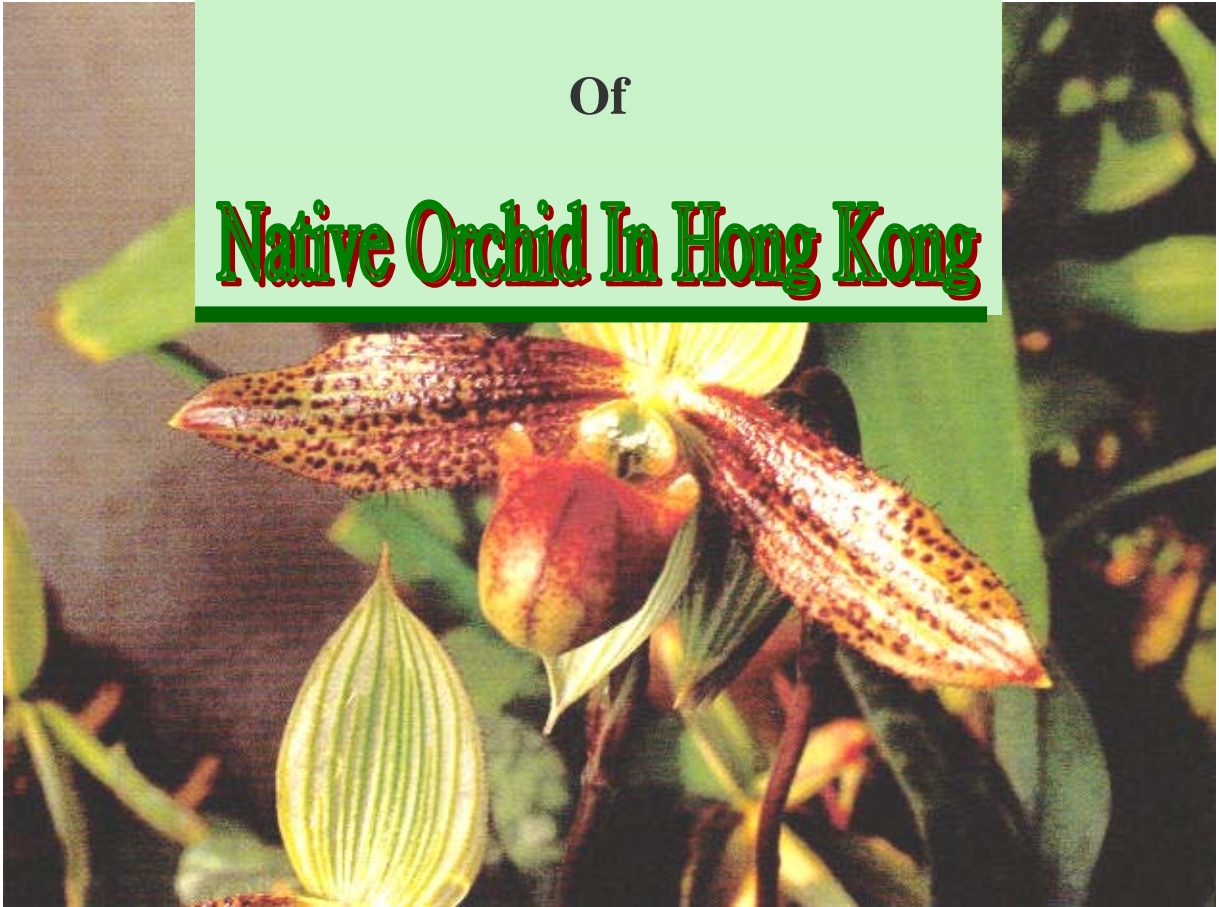


**A Proposal**  
**For**  
**The Education & Conservation**  
**Of**  
**Native Orchid In Hong Kong**



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## 中文行政撮要

1. 蘭花家族有 20,000 個品種，每年都有新品種被發現，受《瀕危野生動植物種國際公約》及各國政府保護。
2. 香港有約 120 個蘭花品種，其中 13 個是世界獨有品種，包括 *Spiranthes Hongkongensis*。
3. 『空氣監察』的「蘭花保育及教育計劃」是研究本港野生蘭花品種及環境對其影響，對學生進行保育野生蘭花的教育、並以此提高市民的環保意識。
4. 計劃分五部份：展覽、互動網頁、蘭花數據庫、教育課程及出版。
5. 互動網站：將蘭花知識及保育，深入淺出地上載網站；網站鼓勵讀者互動，讓其可上載圖片、發表討論及公布活動。
6. 蘭花數據庫：以中英兩文，紀錄本港及鄰近地區的蘭花品種及分布，市民在網頁發表的蘭花資料亦可收入數據庫當中；如資源許可，會在本港及鄰近地區(中國大陸及東南亞)進行蘭花統計調查等研究，以擴大數據庫的一手資料。
7. 教育課程：分教師及學生課程，日後計劃設立「蘭花資源中心」為學校、青少年中心及提供蘭花圖書室、教材及展覽，開放與公眾參觀。
8. 出版: 出版有關保育蘭花的丁書刊及教材套。
9. 展覽：制作展品巡迴全港中學展覽，亦可在香港花展或其他公眾活動中展出。



## A. Background

The Orchid family is one of the largest groups of flowering plants with as many as 20,000 species in 700 genera. Virtually every year, new species of Orchid are found. Orchid can grow on tree or roots and their ecology are far from complete studied and many remained poorly investigated.

Orchid flowers are of bright color and are relatively easy to maintain. Due to these attractive characteristics, some people like to buy orchids from other places as souvenirs or as home decoration when they are on a trip. As a result, some rare and attractive species are subjected to heavy exploitation. Furthermore in recent years, the orchid industry developed rapidly and many orchid species have been exploited, cultivated and shipped to different countries. As orchid is under the threat of extinction, import and export of the species are regulated by the Governments. In fact, Most orchid species are protected under the Convention on International Trade of Endangerous Species (CITES).

## B. Orchid in Hong Kong

Hong Kong is home to rare and endangered wild orchids, one of which is *Spiranthes hongkongensis*. The number of known native orchid species in Hong Kong has been doubled, from about 60 in the early 1970s to about 120 at present. Even after more than 20 years of work on orchid research in Hong Kong, we still discovered and recorded new species over the last few years. In general, we host some 120 species of native orchids, with about 13 endemic species, which endemic means it is not found anywhere else in the world. This continued growth of number and of new founding of orchid species suggests that Hong Kong has a long history of orchid evolution and speciation in divergent habitats. However, conserving wild orchids, in particularly rare ones, is becoming more challenging as Hong Kong is increasingly urbanized at an astonishing speed and the natural environment diminishes consequently.

Regarding protection of Orchids in Hong Kong, trading of highly endangered wild orchids, such as slipper orchids, is prohibited under the Animals and Plants (Protection of Endangered Species)

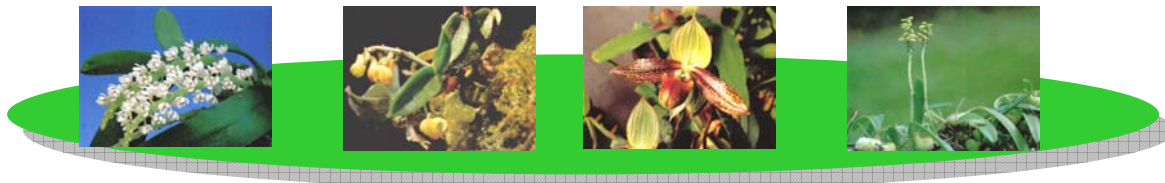


Ordinance. Furthermore, import, export or possession of other wild orchids, including their parts and derivatives requires a license, which it must be obtained in advance from the Department of Agriculture and Conservation (AFCD). Under the Forests and Countryside Ordinance, Chapter 96, damaging plant in any forest or plantation on Government land is prohibited and the sale and possession of the listed species which includes orchid are controlled. As for artificially propagated orchids including their parts and derivatives, prior to the import and export of these items, they also require a valid export permit issued by the exporting country. Any person contravening the above provisions is liable to a maximum fine of \$5 million, two-year imprisonment and mandatory forfeiture of the specimens upon conviction.

Although ordinances are available for protection of Orchids, as orchid flowers are beautiful and sometimes small in size, it has become common that illegal import of orchids is found among travelers returning from mainland China, particularly around the Chinese New Year. Furthermore, it becomes popular that some people bought orchids from other places as souvenirs when they are on a trip. This is evident as AFCD make a note to members of the public to remind not to bring orchids into Hong Kong without a license on their return from visits to other places. This is thus evident that public do not know much about the ordinances and status of conservation of Orchid.

### **C. Mission**

As Orchid is of conservative value and is under threat, it is important to let public knowing that Hong Kong hosts a variety of orchids in which some of them are ever endemic and noting that there are related ordinance and regulation associated with Orchids. It is also important to conduct surveys in order to study the present status of native orchids in the hopes of conserving them. With these efforts, detailed assessments of Orchid's population size and breeding system of many orchid species could then be obtained and appropriate management strategies to conserve the orchids could be developed.



As such, the missions of the Air Monitor Orchid Project are:

- To research into the native orchid, mainly in Hong Kong, the species, changes and effects of pollution;
- To educate the public, especially primary and secondary school students the nature, species and conservation of native orchid;
- To promote environmental protection and clean air at large via improving public awareness of orchid conservation.

In order to achieve these aims, we design various programs and activities as follows:





#### D. Educational website

In addition to exhibition, website will be established focusing on Hong Kong wild and rare orchid as well as those found in South East Asia. South East Asia flora species will also be included with an aim to introduce that orchid species could be of many and species found in other places may also be found in Hong Kong. A member server will be established in order to allow exchange of information and to allow members to contribute and share more information such as new records or new observations and to the website. Furthermore, members or visitors after browsing this website could contribute new information such as new record of new species or latest news to the website, which this website will be updated regularly.

#### E. Database

A database filled with photos and information of wild and rare Orchid in Hong Kong as well as South East Asia will be established in connection with the website. We will update not only information and photos; our members and visitors through the Internet will also update it. The members' and visitors' information could then be fully utilized and contribute to the pool of information in the database. The database will be a bilingual system. Further to general information and photos such as images of herbarium specimens and indigenous plants taken from the wild, the database will be planned to keep titles of relevant literature. Thus members and visitors could contribute knowledge not only on an ordinary level but also on academic and even scientific level.

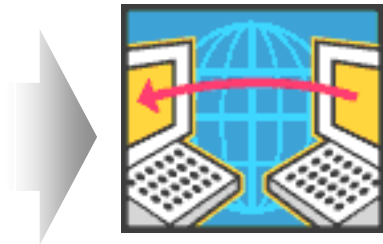
As distribution of Orchids will be useful for those who are particularly interested in Orchids and for future management and construction of conservation plan, it was planned to conduct a survey throughout Hong Kong and even China regions or Southeast Asia regions in collaboration with Universities, government departments and other organizations to construct a distribution map of Orchid species HK. This worth of information is planned to be available on our website for



public. Furthermore, new founding could be uploaded by members in order to improve the accuracy of our founding. With the data, various diversity index and statistical analysis could be calculated to provide more scientific and more acknowledgeable information which this result could be exchange with different organizations to improve our knowledge in this area and to develop management and conservation plan.

In short, we wish to establish database initially such as:

- GIS-based Orchid distribution maps
- Specimens database of wild Orchids in Hong Kong
- Images database of wild Orchids in Hong Kong
- Distribution database of wild Orchids in Hong Kong



### F. Teaching course

Teaching course will be prepared including seminar and field trip. The teaching course is of 2 types: one for school teachers or university students, another for lower form students. The aims of the teaching courses are to provide ecology and biology information about Orchid, conservation value of Orchid, species of Hong Kong Orchid and methods of conducting basic survey and identification of Orchid.

For the seminar, there will be composed of 3 classes, 1 hour for each class. For field trip, there will be 2 trips, one for introduction of common orchid and the other one for skills training such as identifying and conducting survey. For students' classes, we will have a simplified version, for instance, instead of going to country parks, we may provide seminars and park visit. We also plan to establish a Orchid Learning Center:



- ✓ to provide games, books, literatures and learning kits for visitors, students and teachers;
- ✓ to introduce the beauties of Orchid and the importance of conservation of Orchids as well as other flora and fauna; &
- ✓ to be equipped with an environmental education resource library, a seminar room and an exhibition room.

It is wished to build up teachers' capacity by providing regular teacher training workshops, advisory services and student activities on the implementation of environmental education.



To facilitate ease of use of the database as mentioned above, we plan to connect our resources such as the library database on our educational website. Thus schools can book to use various support facilities to conduct their own environmental education activities.

### G. Publication

In order to reinforce the student-learning process, an Orchid Resource Pack will be developed to support the teaching course and can be distributed to schools. The resource pack will include book, Identification sheet and pamphlets. The book will detail ecology and biology, species of orchid in Hong Kong, identification methods of Orchids and finally surveying method and simple



statistical skills. The identification sheet will be valuable for field trip as user can use the photos and simply information on the sheet to look for different orchids by themselves. The pamphlets will be a simple way to deliver extract of the book with an aim to introduce the beauty of Orchid and the importance of conservation of wild life. Ultimately, the aim of the pack is to allow teachers / interested parties to prepare the tour as well as for post visit activities.

In order to evaluate our education programmes effectiveness, teachers / participates are encouraged to fill in a Tour Evaluation form and send it back to us after the visits. Questions include reasons for the visits; effectiveness of the programme to improve students' knowledge, arouse students' concern on the environment, choice and design of route and whether the tour content satisfied teacher's teaching objectives; staff performance during the visit, and whether the school would apply to join the tour again.

## **H. Exhibition**

To arouse public interest of orchid and its value of conservation, exhibition will be one of the means to convey these messages. Exhibition will be arranged in collaboration with university or experts in order to develop the latest and best exhibition materials. Materials will be prepared to exhibit in every year Hong Kong Flora Exhibition as this can arouse public interest that some flora could be very rare and has a significant ecological value in wild and should not be brought to Hong Kong with proper license and be taken from the wild environment and provide a good opportunity for public to know some of Orchid species in Hong Kong, particularly those endemic to Hong Kong.

Exhibition will also be held in school in conjunction with seminars as sometimes seminars could only be available for small amount of students or higher class students or teachers instead of the students of the whole school. This will help to arouse students' interest in orchid and conservation of wild flora and fauna.



## I. Conclusion

The AMHK Orchid Project is a creative idea. It is a soft selling tactic for the environmental protection and conservation. The beautiful orchid will then be the medium of green education. With our teaching courses, exhibitions, educational website, database and publication, the message is transmitting together with beautiful orchids to general public.

On day in the future, there will be native orchid grows brightly and healthy, all over the countryside of Hong Kong. After all, the Orchid Project is more than the conservation of native orchid.

**- End -**