

大嶼山植物保育與鑑賞： 香港杜鵑及香港細辛

Flora conservation and appreciation on Lantau Island: Hong Kong Azalea and Hong Kong Asarum



研究項目
Research Projects

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1 香港杜鵑的花及生長形態
Flower and growth form of Hong Kong Azalea



2 香港杜鵑未成熟的果實
Developing Fruit of Hong Kong Azalea



3 香港細辛的葉
Leaves of Hong Kong Asarum

大嶼山擁有豐富且具保育價值的本地植物群，全因其多樣化的棲息地——包括山地地形及原始森林。香港杜鵑 (*Rhododendron hongkongense* Hutch.) 是其中一種位於香港高海拔地區的植物，它更是本地唯一一種被列為易危的杜鵑花品種 (圖1及2)。此外，香港細辛 (*Asarum hongkongense* S. M. Hwang & T. P. Wong Siu) 為大嶼山特有植物，其分佈範圍極窄且被列為極度瀕危物種 (圖3及4)。因此，本計劃旨在透過對這兩種代表性的植物進行科學研究，向公眾展示大嶼山植物群的保育及鑑賞價值。這個為期30個月的項目將記錄上述兩種受保護植物的分佈範圍、棲息地類型和種群規模。他們的遺傳多樣性和種群獨特性也將通過種群基因組學和最先進的測序技術進行評估。更重要的是，這些科學成果會透過電子學習平台、講座和工作坊傳遞給市民，以提高他們對保育大嶼山的意識。



4 香港細辛的花
Flower of Hong Kong Asarum

The Lantau harbors a wealth of native flora with high conservation value and diverse types of habitats ranging from mountainous terrains to indigenous forests. For instance, Hong Kong Azalea (*Rhododendron hongkongense* Hutch.) is the only vulnerable Azalea species found at high altitudes of Lantau in Hong Kong (Figure 1 and 2). Besides, Hong Kong Asarum (*Asarum hongkongense* S. M. Hwang & T. P. Wong Siu) is endemic to Lantau with very limited distribution and is recognized as critically endangered (Figure 3 and 4). For this reason, this project aims to conserve and reveal the beauty of Lantau flora to the general public with scientific research on these two representative species. In this 30-month project, the distribution range, habitat types and population size will be documented for the two plant species. Their genetic diversity and population uniqueness will also be assessed through population genomics with state-of-the-art sequencing technologies. More importantly, these scientific findings will be delivered to the general public via e-learning platforms as well as talks and workshops with an aim to arouse their awareness in Lantau conservation.



5 胡秀英植物標本館的3D植物資料庫

A demonstration of the 3D plant database of the Shiu-Ying Hu Herbarium

本項目的保育目的是要以科學證據凸顯大嶼山植物群的保育價值，並提高公眾對保育大嶼山的意識。具體而言，本項目將重點關注兩種位於大嶼山不同生境中的受保護植物物種——香港杜鵑和香港細辛。這兩種植物在《香港稀有及珍貴植物》一書中分別被列為「易危」和「極危」。然而，由於科學數據不足，它們的保育狀況均未得到國際評估。它們在世界自然保護聯盟 (IUCN) 紅色名錄中的描述為「數據不足」(DD) 或「未評估」。此外，以科學為本的公眾教育對於保育生物多樣性同樣重要。這可通過向公眾宣傳介紹生物多樣性的不同面向來實現，例如物種多樣性及其生態系統服務、其觀賞和藥用價值，從而引起公眾對保護及延續相關物種的關注。因此，為大嶼山的香港杜鵑和香港細辛的保育提供全面的科學依據，以及提高公眾對大嶼山植物群的保育意識，本項目有四方面的目標：

1. 鑑定和記錄在大嶼山發現的兩個特別的物種：香港杜鵑和香港細辛；
2. 揭示大嶼山香港杜鵑的種群獨特性；
3. 揭示大嶼山香港細辛的種群獨特性；
4. 向市民推廣大嶼山植物之美，並提高他們保育大嶼山的意識。

為達致計劃目標，實地考察將定期舉行以記錄香港杜鵑及香港細辛的生境及作植物鑑定。亦會採用種群基因組學，分別闡明兩個物種主要種群的遺傳多樣性及獨特性。同時開發以文獻綜述、創新且有吸引力的3D模型 (圖5) 和科學發現為後盾的電子學習教育平台，並以公開講座和工作坊向公眾傳遞。

The purposes of this project is to highlight the high conservation value of Lantau flora with scientific evidences, and to arouse public awareness in Lantau conservation. Specifically, this project will focus on two plant species found in different habitat in Lantau, the Hong Kong Azalea and Hong Kong Asarum, which were listed locally as "vulnerable" and "critically endangered" in the book of Rare and Precious Plants of Hong Kong, respectively. Yet, neither of their conservation status was recognized internationally due to insufficient scientific data, which was described as "data deficient" (DD) or "not evaluated" in the IUCN Red Data List. Meanwhile, educating the public is equally important in conserving biodiversity by the support of sound science. Different perspectives of biodiversity can be interpreted to the public, such as species diversity and their ecosystem services, ornamental and medicinal values, which in turn arouse public attention in conserving and sustaining the ecosystem. In order to provide comprehensive scientific evidence for the conservation of Hong Kong Azalea and Hong Kong Asarum in Lantau, as well as to raise public awareness on Lantau flora conservation, the objectives of the project are listed as below:

1. to authenticate and document two spectacular species, Hong Kong Azalea and Hong Kong Asarum, found on Lantau Island;
2. to reveal the population distinctness of Hong Kong Azalea in Lantau;
3. to reveal the population distinctness of Hong Kong Asarum in Lantau;
4. to promote the beauty of Lantau flora to the general public and enhance their awareness in Lantau conservation.

To achieve the objectives, field surveys, habitat documentation and plant authentication will be carried out for Hong Kong Azalea and Hong Kong Asarum in Lantau. Population genomics will be employed to elucidate the genetic diversity and distinctness of their major populations. An e-learning education platform integrated from literature review, innovative and attractive 3D models (Figure 5) and scientific findings will be developed for public usage. Public talks and workshops will also be conducted to enhance the community outreach and communication.



大嶼山
Lantau