



# VIRTUAL REALITY TRAIL OF PLANT LEARNING IN CUHK

Ming Leuk YAU, Tin Hang WONG, Yat Sum CHENG, Ho Lam WANG, Yiu Man CHAN, Kwan Ho WONG, Tin Yan SIU, David Tai Wai LAU



## CONTACT / ENQUIRY:

Dr. David Tai Wai LAU

Shiu-Ying Hu Herbarium, School of Life Sciences, CUHK

Tel: 394 36141; Email: lautaiwai@cuhk.edu.hk

## PLANT LEARNING FEATURES

- |            |             |
|------------|-------------|
| 1. Flowers | 4. Leaves   |
| 2. Fruits  | 5. Root     |
| 3. Trunk   | 6. Overview |



SCAN TO EXPLORE

## OBJECTIVES

1. Provide a virtual, immersive and virus-free alternative plant learning experience to all users
2. Generate unlimited teaching and learning possibilities by collecting and displaying botanical information
3. Promote flipped classroom, self-learning and general science teaching
4. Provide trainings to students for their future career development

## SELECTED SITES AND PLANTS

Virtual Reality Trail of Plant Learning in CUHK aims to provide virtual plant learning routes showing various kinds of natural or urban habitats. Selected sites include United College of CUHK, Herbal garden and Alumni Trail of CUHK, and Tai Wan(大環) in Sai Kung(西貢). On each site, common plant species of ecological, economical, horticultural or medicinal value are tagged with interactive hotspots. Currently, the United College route is firstly produced.

United College



10 SPECIES

Herbal Garden & Alumni Trail



10 SPECIES

Tai Wan, Sai Kung (西貢大環)



20 SPECIES

## COURSEWARE INTERFACES

IOS  
Android



MacOS  
Window

- The VR trails of plant learning in CUHK is a free-to-access Web App supporting both computer and smartphone users. It is an innovative e-learning tool for students and public users to learn plant knowledge by viewing a 360-degree virtual plant learning trail. With the help of VR goggles and smartphone, users can even experience Virtual Reality learning.
- We will provide different modules for users to explore. In each module, users can click on different interactive hotspots to achieve various functions, for example, to view plant photos, to switch location, to view our prepared 360 walkthrough video, and to visit external websites. We aim to provide immersive experience for users to enjoy a virtual field trip without limitation from bad weather, any physical factors and COVID-19.
- On each trail, we provide at least 10 selected plant species, with plant photos, factsheets and dedicated questions to achieve the knowledge sharing with users after playing this Web App.



Choose a device and visit the Web App. Select a plant learning trail.



Follow the instructions to explore the plant learning trail. Scroll to zoom and drag to look around.



Click on different location hotspots to switch viewpoints.



Click the hotspot keys on the tree tag hanging on the selected trees.

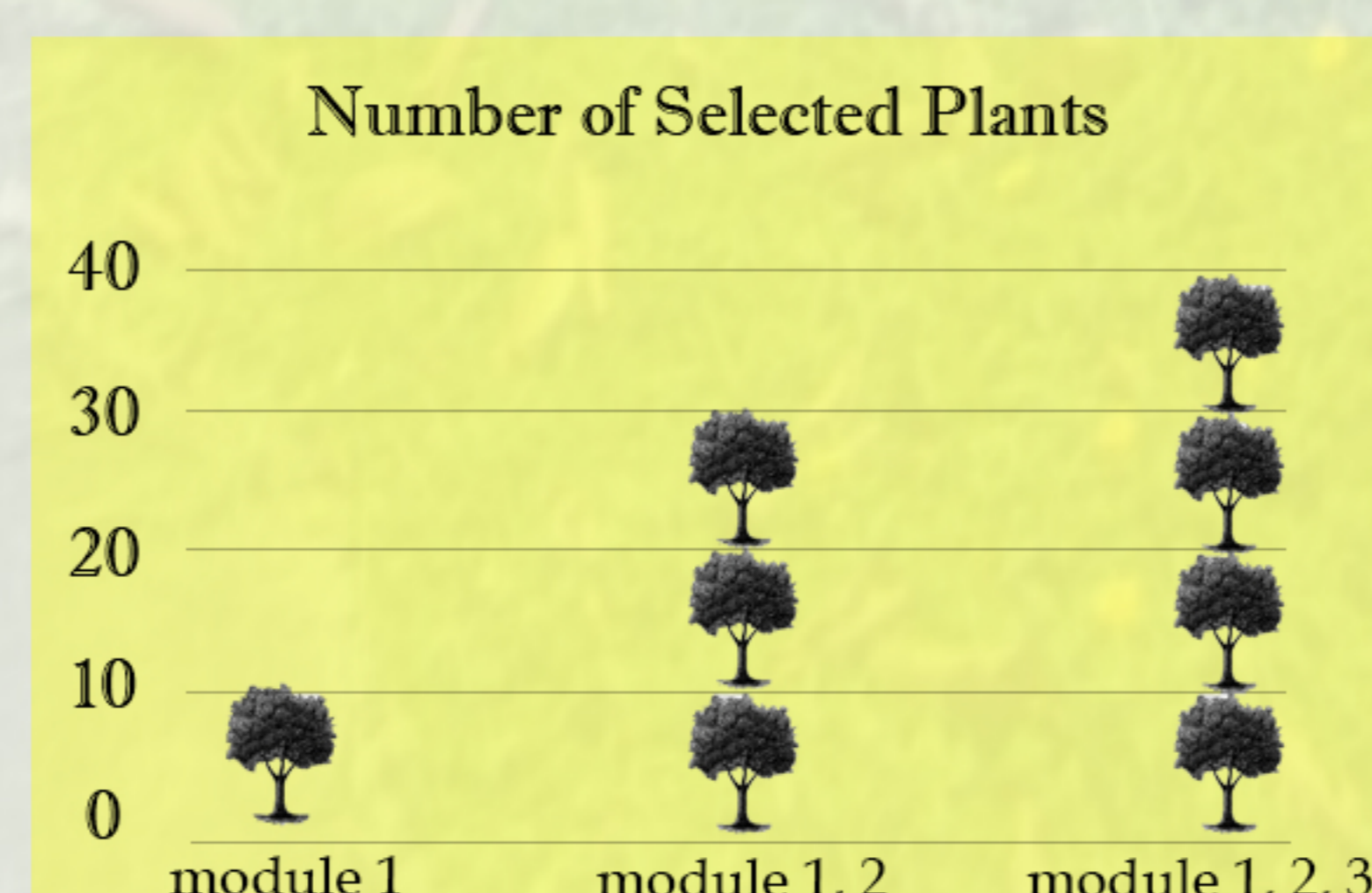
View the plant name, plant photos, factsheet websites and question pages.

Visit the factsheet page for more detail of the selected plant species.

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## OUTCOME AND SUSTAINABILITY

The Virtual reality trail of plant learning in CUHK can be implemented in different university courses. In 2020-2021 academic year, the beta test of this courseware will be run in CUHK courses BIOL 3022, BIOL 3570 and BIOL 4510. Students' comments will be collected for the courseware improvement. In the future, more interactive elements and more plant learning trails will be launched.



## VIRTUAL REALITY EXPERIENCE

Users can experience virtual reality plant learning by using VR goggles and smartphone with built-in gyroscope.

