Isla Formosa

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Biodiversity, Agriculture and Culture of Taiwan Summer Program

Program Description

The Biodiversity, Agriculture and Culture of Taiwan (BACT) Summer Program took place between June 23 and July 22, 2012 at the National Taiwan University (NTU) in Taipei, Taiwan. The Program is offered by the Center for International Agricultural Education and Academic Exchanges at NTU and the professors and graduate students who presented the lectures throughout the Program, represented multiple departments in NTU's College of Bioresources and Agriculture and the College of Science. We also had visiting Professor Emeritus Dr. Tom Gavin, from Cornell University, and his wife Mrs. Robin Gavin, accompany us throughout the program. There were a total of twenty-five participating students. Eight students came from China, ten were from Taiwan, and seven came from the USA. The program was taught in English and the international students who did not know Chinese had to take a couple of Chinese classes; surprisingly this only included five students and I was one of them.

During the first week and a half of the program, we stayed in Taipei and attended lectures on campus. These lectures covered Taiwan's culture, geography, agriculture, and biodiversity. Throughout the program we visited museums, historical sites, and national parks. We also had DIY sessions where we learned how to make traditional Chinese dumplings, write calligraphy, harvest and transplant rice, and indigo tie-dye. For the next two weeks we hopped into a tour bus and travelled down the east coast, west coast and into central Taiwan. We stayed at Meifeng Farm where we harvested sugar beets, did an early morning bird watch, a late night moth observation, and hiked Mt. Hehuan. We visited Sun Moon Lake, stayed at Shueili Wood Utilization Center, Phoenix Tea Farm, and Sitou Experimental Forest. In Sitou we conducted our group research project and then we returned to Taipei to present our findings and finish out the program.

Research

Inspiration

In 2006, Northern Taiwan experienced mass tree fern death. After a few years of research, scholars concluded that the disease could be caused by plant pathogenic fungi, weevils, overdevelopment, or climate change. *Sphaeropteris lepifera* (Common tree fern) is most seriously affected. When the diseased tree fern is cut down one can observe the rotten interior of the trunk. Scientists are trying to find a solution to stop the disease because tree ferns are now used in the cultivation of orchids, a very profitable market. After learning this information when we were in Yanmingshan National Park hiking the Datun Trail, our interests were peaked, and when we arrived to Sitou we noticed that tree ferns were ubiquitous in the park. This project focuses on *Sphaeropteris lepifera* (Common tree fern) and *Alsophila spinulosa* (Taiwan tree fern) and how density and human impact affect the growth of these tree ferns.

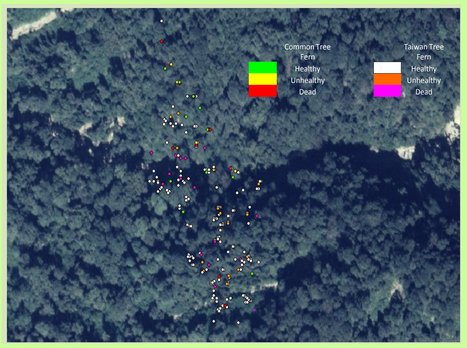


Fig. 1: GPS location of each tree fern in the Fern Arboretum

	Common Tree Fern	Taiwan Tree Fern
Healthy	17	146
Unhealthy	5	16
Dead	7	19
Total	29	181

Fig. 2: Recorded results for the Fern Arboretum

Conclusion

In total 332 tree ferns were counted and recorded for this research. Out of the 332, 210 trees were counted in the Fern Arboretum. Based on the results from Figure 2, there were far more dead tree ferns in the Fern Arboretum than in the Bird Watching Trail. Another finding was that the Taiwan tree fern was more abundant in the Fern Arboretum than in the Bird Watching Trail. We concluded that there are more dead tree ferns in the Fern Arboretum because the tree ferns are very densely packed and there is a high level of human activity and disturbance, compared to the Bird Watching Trail.

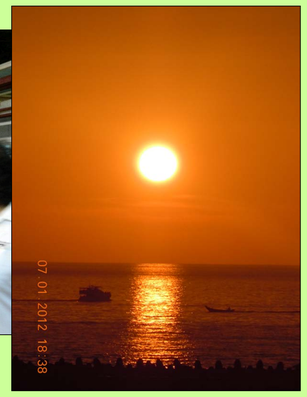
Top Experiences

Yeliu Geopark

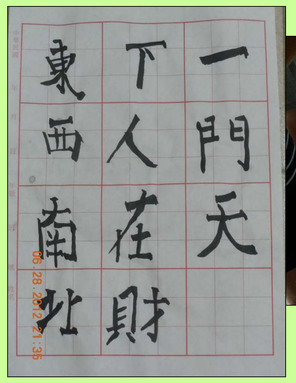
Planting and harvesting rice

Hiking Mt. Hehuan

Dunshui



The food & the people!



Calligraphy

Making dumplings

Indigo dying

Meifeng Farm

Acknowledgements

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Sponsors for high impact experiences for BESC and the BESC poster symposium include the Department of Plant Pathology and Microbiology, the College of Agriculture and Life Sciences, the Office of the Provost and Executive Vice President for Academic Affairs.