



交通部觀光局
Tourism Bureau, MOTC

Sparkling, Dancing Purple Spots:

Building an eco-friendly environment for
Purple Crow Butterfly & Promoting
environmental education in Siraya

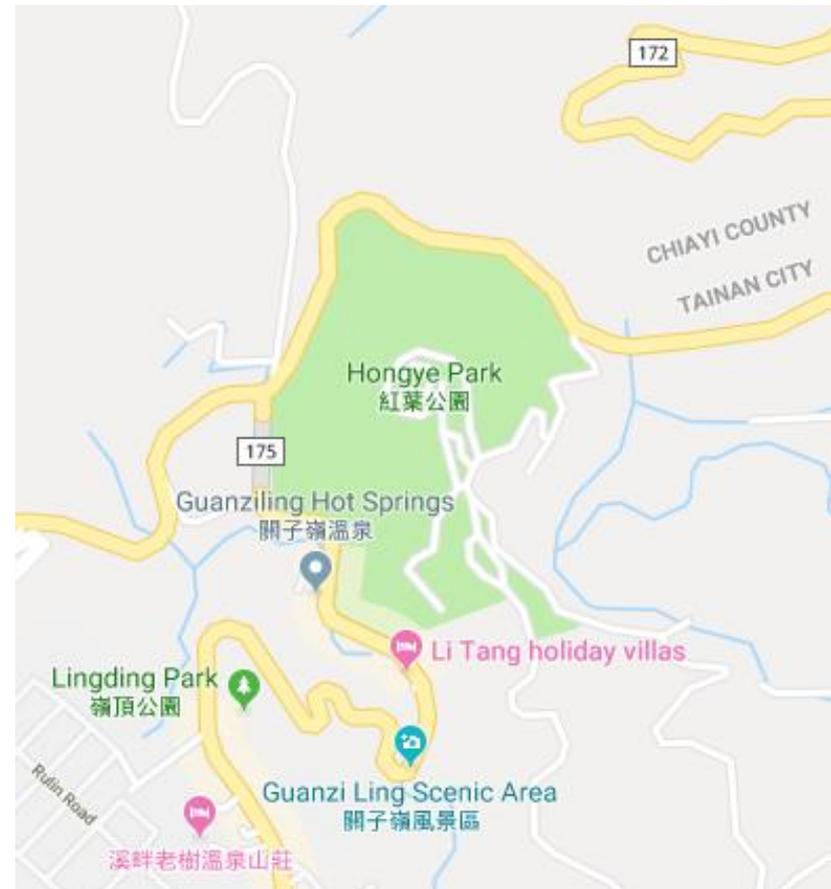
**Siraya National Scenic Area
Administration, Tourism Bureau, MOTC**

2019/04/12

Content



- Project Title
- Evolution of Project with Dates of Each Stage of Development
- Technical Details (site area, conservation techniques, etc.)
- Awareness of the Project Roles and Responsibilities of Persons Involved and Results Generated



Project Title



- **Dancing Genies**
 - Building an eco—friendly environment for Purple Crow Butterfly & promoting environmental education in Siraya

Purple Crow Butterfly is one of the only two wintering butterfly species in the world

Its wintering habits have been damaged, and thus it is necessary to build an eco-friendly environment and to restore the species

Our goal is to hold training for environmental-protection volunteer tour guides, and to hold such ecological guided tours

We introduce industry, government, and schools to local businesses while we develop an eco-based economy



- **Application Type**
 - Environment Awards
 - ED - Environmental Education Programme

Evolution of Project with Dates of Each Stage of Development

(1/7)



- Purple Crow Butterfly is one of the world's only two wintering butterfly species. It flies to warm valleys in the winter and returns to the north by the spring. In Taiwan, there are two "butterfly routes," one in western Taiwan and the other in eastern Taiwan. The routes are called "highways" for butterflies. Located at 334 meters above the sea level, Hongye Park of Guanziling in Siraya is an important wintering habitat for Purple Crow Butterfly.
- Covering roughly 5 hectares of land, Hongye Park is an ecological butterfly restoration park. Its managing agency, Siraya National Scenic Area Administration, devotes to building ecological environs for all species in the greater Guanziling region. It works with conservation group Taiwan Purple Crow Butterfly Ecological Conservation Association throughout the years on managing the restoration of butterfly paths and habitats, growing of nectar plants, and environmental education.
 - 2009~2018: Conducted surveys on wintering-habitat environs of Purple Crow Butterfly
 - 2009~2018: Built wintering habitats and promote environmental education of Purple Crow Butterfly
 - 2010~2018: Organized annual event "Butterfly Wonderland"
 - 2017: Received certification for "Environmental Education Facilities and Places" by the Environmental Protection Administration, Executive Yuan

Evolution of Project with Dates of Each Stage of Development

(217)



- **2009~2018: Conducted surveys on Purple Crow Butterfly' s routes and habitats**
 - At the wintering habitats of Hongye Park, there are in total 203 species under 182 genus and 85 families of plants
 - There are in total **86** strong butterfly-attracting plant species (taking up **42%** of the total plant species)
 - According to survey results, "**Kusukusu Eupatorium**," an orchid variation, is the butterfly' s favorite
 - Mark-and-release study, gender study, wintering migration study, ecological monitoring



Evolution of Project with Dates of Each Stage of Development

(3/7)



- **2009~2018: Built wintering habitats for Purple Crow Butterfly and promote environmental education**
 - All personnel must receive professional training and pass examinations to partake in survey projects
 - The surveys were carried out on mid-year weekends. Every year, **85 people join force**. A total of **765** people have participated in the surveys.



Evolution of Project with Dates of Each Stage of Development

(4/7)



- **2010~2018: Butterfly Wonderland, a highlighted environmental education event**

Year	Dates	Ecological Surveys	Building habitats; restoring plants	No. of visitors
2010	4 days on the weekends of July & August	N/A	N/A	<ol style="list-style-type: none"> 1. 31,094 visitors in total 2. On average, about 455 people participated in summer activities 3. On some days, due to natural factors such as weather, fewer people took part
2011	4 days on the weekends of July	Ecological surveys, applications, and mark-and-release	N/A	
2012	8 days on the weekends of July & August	Ecological surveying and monitoring	N/A	
2013	12 days on the weekends of July & August	Ecological surveying and monitoring of butterflies	57 species, 7,492 plants	
2014	14 days on the weekends of July & August	Ecological surveying and monitoring of butterflies and butterfly-attracting plants	N/A	
2015	12 days on the weekends of July & August	Ecological surveying and monitoring of butterflies and butterfly-attracting plants	3 species, 300 plants	
2016	12 days on the weekends of July & August	Ecological surveying and monitoring of butterflies and butterfly-attracting plants	7 species, 191 plants	
2017	12 days on the weekends of July & August	Ecological surveying and monitoring of butterflies and butterfly-attracting plants	19 species, 424 plants	
2018	12 days on the weekends of July & August	Ecological surveying and monitoring of butterflies and butterfly-attracting plants	11 species, 820 plants	
Total	90 days	-	9,227 plants	



Evolution of Project with Dates of Each Stage of Development (5/7)



- **About Butterfly Wonderland**
 - We work with **Purple Crow Butterfly conservation groups** and **local elementary schools**
 - From 2010 to 2018, it was held **9 times**
- **Interactive Games**
 - Explanation of ecological charts / Purple Crow Butterfly Mark-and-release
 - Display of caterpillars and host plants / Heavenly Matches
 - Dancing Butterflies / Defending Butterfly Species
- **Explanation Volunteers**
 - On average, 380 people take part each year. **90% of the explanation volunteers are students of Xiancao Elementary School**



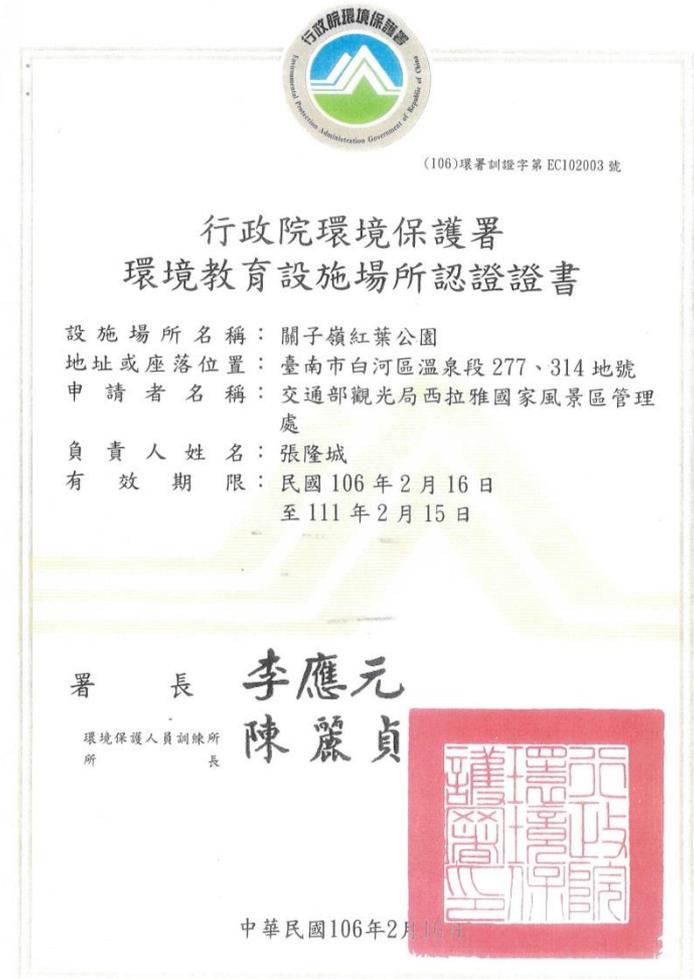
Evolution of Project with Dates of Each Stage of Development

(6/7)



• Certification for Environmental Education Facilities and Places

- Since 2010 till now, Hongye Park has devoted to environmental restoration for nearly a decade
- The Certification for Environmental Education Facilities and Places obtained in 2017 from the Environmental Protection Administration, Executive Yuan makes the park more attractive to visitors from around the world



Evolution of Project with Dates of Each Stage of Development (717)



- Design **Environmental Education Courses**
 - **13** courses have been held, each lasting 2 hours
 - As many as **721** people have taken part, including junior high school and elementary school students and teachers, and inmates at prisons and detention centers
- Educational **plant-growing**
 - On July 14, 2018, 25 volunteers from USA and Canada planted **100** Kusukusu Eupatorium, a kind of orchid
 - The volunteer group has visited Siraya in the last four years and more than a hundred of its members have taken part
- In 2018, trained **83** volunteers
 - **12** volunteers from Siraya (14%)
 - **71** student volunteers from Xiancao Elementary School (86%)



Technical Details (1/5)



- **Mark-and-release of Purple Crow Butterfly**
 - 2011-2018: **116** butterfly species were documented
 - 2018: **17** investigations on the relationship between butterflies and butterfly-attracting plants were held
 - 2018: At least **3** mark-and-releases of Purple Crow Butterfly were held
 - Feb.-Oct. 2018: **9** investigations on butterfly-attracting plants were held
- **Rules for Building Habitats**
 - The butterfly-watching routes are designed for both **leisure** and **educational** purposes
 - Wintering habitats are mainly created **by areas**, instead of stripes
 - Nectar plants and butterfly-attracting plants are grown along butterfly-watching routes. The habitats for caterpillars are set in areas without human disturbance
 - We conserve plant species at where they are, and in principle **we grow native plants**
 - We avoid growing gardening plants as much as possible

Map of Hongye Park

Technical Details (2/5)



- **Plant Management & Support**

- We refurbish damaged sections while strengthening the weaker parts
- A total of **45** explanation boards for Purple Crow Butterfly habitat plants have been set up
- In 2018, in the greater Guanziling region, a total of 10,577 nectar plants were grown



Technical Details (3/5)



- **Habitat Maintenance and Management**

- Establish management schemes and make sure staffers acquire the needed knowledge
- Pesticide-free so as to keep butterflies alive; use organic fertilizers whenever possible

- **Habitat Management Work**

- The work is divided into two types: “daily facility management” and “plant trimming”
- Trimming and management of nectar plants; trimming of plants in the educational butterfly-attracting-plant area
- Mass fertilizing; adjustable use of water
- Remove bitter vine which affects butterfly-attracting plants

- **Plant Management and Environment Maintenance**

- Regularly trim nectar plants
- Trim Kusukusu Eupatorium



Technical Details (4/5)



- **Bring together local businesses and communities with eco-tourism**
 - Butterfly-watching tours shall help to boost local businesses, such as B&Bs, restaurants, and more
 - Community residents may grow butterfly-attracting plants together
- **Organize “Guanziling Eco-tour Tetralogy”**
 - Hot spring baths and overnight stays → Coffee in Siraya → Bucketed wild chicken → Butterfly-watching in Hongye Park
 - Visitors who stay overnight in Guanziling may join mark-and-release of butterflies for free



Technical Details (5/5)



- 2018 international symposium of Tourism Development for Sustainability
 - Held at Nanhua University, on August 29 & 30, 2018 in Taiwan
 - Highlights: “sustainable tourism strategy & crow butterfly ecology”
 - Experts and scholars from Japan, Israel, South Korea, India, the Philippines, and Taiwan exchanged and advocated ideas



Roles and Responsibilities of Persons Involved and Results Generated



- **Governmental agencies**

- Making good use of resources and based on a broad vision, we bring together local businesses, conservation associations, elementary schools, and community groups together

- **Purple Crow Butterfly Conservation Association**

- We pass on concepts of ecological habitat management and environmental education, especially to the younger generation

- **Local elementary schools**

- Train students of Xiancao Elementary School to be guides of eco-tours

- **Local businesses and the residents**

- Purple Crow Butterfly is a regional ecological public property. We must build wintering habitats for it and protect the environment

- **The public**

- We carry out fun events to help people understand how important it is to draw the world's attention to Purple Crow Butterfly - this precious species lives so close to us



Future Vision



Find our video at: <https://youtu.be/UYwhSiDvhJg>

- **Promote Ecological Education and expand butterfly habitats**
 - Practice and promote environmental education and spread such knowledge to the younger generation to make it a social consensus
 - Work with private groups to maintain wintering habitats of Purple Crow Butterfly and to grow more plants in the habitats
- **Construct an eco-friendly tourism economy**
 - Boost local economy by developing eco-friendly tourism
 - Discover new destinations for sustainable eco-tourism in Siraya
- **Organize publicity events and exert ecological-education influence**
 - Continue to hold annual international seminars and draw more attention from the global society
 - Hold a 10th anniversary exhibition of Hongye Park' s butterfly ecological conservation





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THE END

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