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Observations of Nectaring by Butterflies at Kadoorie Farm & Botanic Garden

August 2015

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Fauna Conservation Department
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ABSTRACT

Between May and September 2003 a project investigating the nectaring habits of butterflies at the Kadoorie Farm & Botanic Garden, Butterfly Garden was undertaken. The present document is a revision of the earlier internal report and is intended as a reference for butterfly garden management in Hong Kong and the region.

Ten plant species were observed being utilized as nectar sources by 31 butterfly species using a point count method. Two plant species present in the garden, *Salvia farinacea* and *Melampodium* sp., were not visited as significant nectar sources, nor were they used by butterflies as larval hostplants. It was recommended that these plants be replaced with more attractive nectar source plants. Two butterfly species of conservation concern, *Troides helenus* and *Troides aeacus*, used nectar plants, with *Agapanthus africanus* being strongly preferred by *T. helenus*.

Lantana camara, *Agapanthus africanus* and *Duranta erecta* were the most utilized nectar source plants, accounting for 71% of all nectaring observations.

Observation of Nectaring by Butterflies at Kadoorie Farm and Botanic Garden

August 2015

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Cover photo: Several butterfly species commonly recorded at the Butterfly Garden on Kwun Yum Shan from top left to right Paris Peacock, Great Mormon, Dragon-tail and Blue Admiral

INTRODUCTION

The contents of this report represent a revision and update of the findings of a study undertaken by Dr Roger Kendrick in 2003 which was produced as an internal report. The aim of the study was to observe the nectaring habits of butterflies utilising the Butterfly Garden on Kwun Yum Shan approximately 340m above sea level (ASL). Results of the study, apart from providing an insight into habitat use by butterflies, also serve as guidance regarding the management of plant species provided in the garden.

METHODS

A point count system was conducted at the Butterfly Garden, with nine observation points used, as per Figure 1. Each point was observed for five minutes, scanning a radius of 5 metres for butterflies that were clearly nectaring from flowers (not just perching on the flowers) within the Butterfly Garden. The order of observation points recorded followed consecutive numbers one through nine, as per Figure 1. Each species that was recorded nectaring at any one observation point was not counted again at that point (i.e. the abundance of each species per point was not recorded). Observations were logged on a recording form (Appendix 1) by marking the count point number for the identified butterfly species nectaring at the specified plant. Observations were carried out either in late morning or early afternoon on sunny days. Species were identified by comparison with Bascombe *et al.* (1999), with difficult species photographed *in situ* for later comparison with identification plates in Bascombe *et al.* (1999).

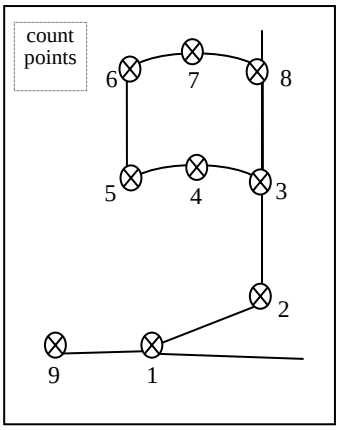

Figure 1.Observation points for butterfly nectaring counts at KFBG Butterfly Garden.

Recording took place on 26th May, 3rd June, 18th June, 24th June, 15th July, 4th August and 10th September 2003.

Data Analysis

For each flower species, the number of butterfly species that utilize it and the number of "dependent" butterfly species (i.e. those butterfly species that have only been recorded nectaring from this plant species in this survey) are calculated by tabulating plant species (columns) and butterfly species (rows). Additionally, the number of records observed is calculated by summation of records from this table.

Further analysis of the distribution of nectaring observations is undertaken in order to assess the best areas for observation with the existing planting regime, by summation of observation counts for each observation point.

RESULTS

A summary of the data on nectaring sources used by each butterfly species is presented in Table 1.

	Plant Species										
Butterfly species	*Agapanthus africanus*	*Asclepias curassavica*	*Duranta erecta*	*Gamolepis chrysanthemoides*	*Hibiscus rosa-sinensis*	*Lantana camara*	*Melampodium* sp.	*Pentas lanceolata*	*Salvia farinacea*	*Wedelia trilobata*	Total nectaring point counts
Acytolepis puspa						1		2			3
Argyreus hyperbius	1	1				4				7	13
Artogeia canidia				*1							1
Catopsilia pomona			*2								2
Danaus chrysippus						2			1		3
Danaus genutia		1		2		2					5
Delias pasithoe	*1										1
Euploea core			6			8					14
Euploea midamus			10	2		5				3	20
Eurema hecabe			1	1						1	3
Everes lacturnus										*1	1
Graphium agamemnon						*6					6
Graphium sarpedon			1			5					6
Hebomoia glaucippe	2	1			1						4
Ideopsis similis		1	1			12		1			15
Junonia almana										*2	2
Junonia iphita						7	2			1	10
Papilio bianor			*2								2
Papilio helenus	8										8
Papilio memnon	11	5	1			7		5			29
Papilio paris	3	1	3			11		2			20
Papilio polytes	2	2	3			12		8	3		30
Papilio protenor						*1					1
Parantica sita						*1					1
Telicota ohara				1						1	2
Tirumala limniace	1	1		1		7				1	11
Troides aeacus						3		1			4
Troides helena	20		1						1		22
Ypthima baldus							1			2	3
Ypthima lisandra										*2	2
Zizeeria maha										*1	1
Total observations	**49**	**13**	**31**	**8**	**1**	**94**	**3**	**19**	**5**	**22**	**245**
Number of butterfly spp.	**9**	**8**	**11**	**6**	**1**	**17**	**2**	**6**	**3**	**11**	**31**
Unique species	**1**	**0**	**2**	**1**	**0**	**3**	**0**	**0**	**0**	**4**	**11**

Table 1. Number of nectaring butterfly observations for plant species May-Sept 2003. Unique species marked with (*).

The most frequently observed butterflies using the butterfly garden for nectaring during the observation periods were (in rank order, giving percent of observations) *Papilio polytes* (12.3%), *Papilio memnon* (11.8%), *Troides helena* (9.0%), *Papilio paris* (8.2%) and *Euploea midamus* (8.2%).

The most frequently used plants as nectar sources were (also in rank order) *Lantana camara* (38.4%), *Agapanthus africanus* (20.0%), *Duranta erecta* (12.7%), *Wedelia trilobata* (9.0%) *and Pentas lanceolata* (7.8%).
In terms of the number of butterfly species using each plant species, the rank order of plants is as follows:

Table 2

Rank	Plant species	Number of butterfly species nectaring
1	*Lantana camara*	17
2=	*Wedelia trilobata*	11
2=	*Duranta erecta*	11
4	*Agapanthus africanus*	9
5	*Asclepias curassavica*	8
6=	*Gamolepis chrysanthemoides*	6
6=	*Pentas lanceolata*	6
8	*Salvia farinacea*	3
9	*Melampodium* sp.	2
10	*Hibiscus rosa-sinensis*	1

Of the ten plant species recorded as being visited by butterflies as nectar sources (Table 2), five species had butterflies that used only one plant species for nectaring (unique species in Table 1), these plants being (in rank of the most butterfly species restricted to that plant) *Wedelia trilobata* (four butterfly species), *Lantana camara* (3 spp.), *Duranta erecta* (2 spp.), *Agapanthus africanus* (1 sp.) and *Gamolepis chrysanthemoides* (1 sp.).

There were only two butterfly species of conservation significance observed nectaring, *Troides helenus* and *Troides aeacus*. The former strongly preferred *Agapanthus africanus* as a nectaring source (20 of 22 observations), whilst the latter was seen using *Lantana camara* and *Pentas lanceolata.*

The distribution of nectaring observations by observation point is listed below (Table 3):

Table 3

Observation point	Number of nectaring observations
1	25
2	24
3	24
4	51
5	22
6	14
7	25
8	19
9	5

Observation point 4 stands out as being used at least twice as often as any other observation point with regard to nectaring butterflies. The upper section of the loop path (points 3, 4 & 5) was twice as attractive for nectaring compared with the lower section of the loop path (points 6, 7 & 8). Point 9 recorded only five observations.

DISCUSSION

Data Analysis

Statistical analysis was not undertaken for this five month survey due to the irregularity of recording. A full annual survey with regular recording (irrespective of frequency) could be analysed statistically to provide robust results. The accuracy of results obtained will increase with an increased frequency of recording, so long as the identification of butterflies and plants can be reliably undertaken.

Ease of operation

The field operation of this project, namely the identification and counting of butterflies nectaring at flowers, proved to be relatively straightforward for larger butterfly species. Smaller species, specifically certain Lycaenidae and Hesperiidae required photographic records for subsequent identification against reference material, both from the KFBG specimen collection (collection of J.J. Young) and in Bascombe et al. (1999). The process of photographing butterflies is generally time consuming. This was usually the case for species which needed photographing for the purpose of identification during this project. The point count method was fairly simple to use, as the nectaring / not nectaring at each observation point approach negated the need to count the actual number of nectaring events by each species at each observation point. The latter method would have been impossible to undertake as 360° vision would have been required. Anyone wishing to undertake this point count method would need to be familiar with butterfly species identification. Plant identification at the butterfly garden was assisted by name plaques, though not all species were labelled. The advice of the Flora Conservation Department was sought on several occasions to aid with plant species identification.

Implications for site management

All plant species that had one or more butterfly species that uniquely visited that plant should be retained in the butterfly garden. Of the remaining five plant species, two are used as larval host plants by butterflies and moths (*Asclepias curassavica* and *Hibiscus rosa-sinensis*) and thus should be retained, as should *Pentas lanceolata* due to the relatively high number of butterfly nectaring observations for this plant. Two species (*Salvia farinacea* and *Melampodium* sp.) are not significant nectar sources, nor utilised as larval host plants and could be replaced with other plant species.

The possibility of microclimate determining which areas of the butterfly garden are best as nectaring sources should not be overlooked. Given that the upper section of the loop path is less shaded, it is generally warmer than the lower section of the loop path. This will increase the amount of general butterfly activity. It may also promote quicker plant growth and possibly higher nectar production rates. This combination of factors may account for the higher number of nectaring observations made at the upper section of the loop path than elsewhere in the butterfly garden. Should there be a need to increase the attractiveness of the lower loop section, then replanting with higher nectar content / production, shade tolerant plants may be worth considering. Preference to native plants should be considered, especially as *Lantana camara* is recognised as an invasive weed species that outcompetes most native herbaceous and shrubby plants.

Future monitoring

The present study has demonstrated a relatively simple procedure to monitor which plant species are utilised by butterflies as nectaring sources in the butterfly garden. However, the project was only undertaken during the wet season, when butterfly activity is high and there are diverse nectar sources available. This project could be repeated to cover a whole year cycle, at least at monthly intervals, ideally weekly, so as to account for the different butterfly species' phenological cycles

and cover the available plant flowering period(s) in full. This would enable a much more precise understanding of the nectaring sources that are utilised by different butterfly species.

Such nectaring surveys could be investigated in other local butterfly gardens to broaden our knowledge and understanding of insect / plant relationships and assist in guiding management planning within the gardens. Furthermore, planting of larval food plants compliments the function of the nectar plants by attracting even more diversity.

CONCLUSIONS

Based upon the results obtained from the five month survey, the following conclusions can be drawn.

- The project has demonstrated the feasibility of a more substantive monitoring project to assess nectaring sources utilised by butterflies at the butterfly garden, though the counting of actual nectaring events by all butterfly species at each observation point would not be feasible.

- More detailed environmental monitoring, in conjunction with a full year nectaring survey and plant map of the butterfly garden, could greatly improve our understanding of which plants are good nectar sources for butterflies, throughout the annual cycle. This would then allow a better planting regime to be considered.

Nectaring would be unaffected if two existing plant species *Salvia farinacea* and *Melampodium* sp. were removed from the planting list for the garden.

Recommendations for future management of the Butterfly Garden

- Labelling of all the plants in the butterfly garden, and indication of whether the plant is used as a nectaring source or as a larval food plant, would greatly facilitate both the nectaring recording programme and the visitor understanding of how butterflies and plants interact.

- A full recording programme should be undertaken over a continuous 12 month period on a weekly basis, in order to fully establish the existing use of the butterfly garden by butterflies and diurnal moths, thus enabling a more comprehensive analysis of which plants are actually beneficial and which plants are wasting space and or other resources (e.g. water).

- Two plant species could be replaced *Salvia farinacea* and *Melampodium* sp. with other, more nectar rich plants, or with butterfly larval host plants.

- Other known nectar sources for butterflies could be considered for future planting, see Appendix III for suggested species.

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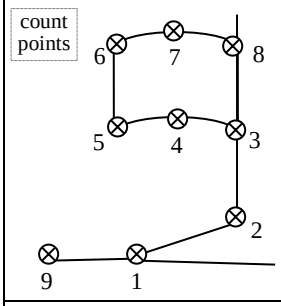
Appendix I: Butterfly Recording & Nectaring Form (Template)

Date: _____ Time:_____ Recorded by:_____ Department: _____

Temp:_____ Humidity:_____CC:_____ Beamfoot wind scale:_____ Weather:_____



butterfly species	plant species	*Lantana camara* 馬纓丹	*Lantana camara* 雪白馬纓丹	*Duranta erecta* 假連翹	*Duranta erecta* var Lass 假連翹	*Clerodendrum japonicum* 赪桐	*Mussaenda erythrophylla* 紅葉金花	*Allamanda schottii* 硬枝黃蟬	*Pavetta hongkongensis* 香港大沙葉	*Odontonema strictum* 紅樓花	*Ixora chinensis* 山丹	*Salvia farinacea* 粉萼鼠尾草	*Asclepias curassavica* 馬利筋	*Wedelia trilobata* 三裂葉蟛蜞菊	*Agapanthus africanus* 百子蓮	*Hibiscus rosa-sinensis* 大紅花	*Penta lanceolata* 五星花
Abisara echerius 蛇目褐蜆蝶		1 2 3 4 5 6 7 8 9															
Acytolepis puspa 鈕灰蝶		1 2 3 4 5 6 7 8 9															
Argyreus hyperbius 斐豹蛺蝶		1 2 3 4 5 6 7 8 9															
Athyma nefte 相思帶蛺蝶		1 2 3 4 5 6 7 8 9															
Cyrestis thyodamas 網絲蛺蝶		1 2 3 4 5 6 7 8 9															
Danaus chrysippus 金斑蝶		1 2 3 4 5 6 7 8 9															
Danaus genutia 虎斑蝶		1 2 3 4 5 6 7 8 9															
Delias pasithoe 報喜斑粉蝶		1 2 3 4 5 6 7 8 9															
Euploea core 幻紫斑蝶		1 2 3 4 5 6 7 8 9															
Euploea midamus 藍點紫斑蝶		1 2 3 4 5 6 7 8 9															
Eurema hecabe 寬邊黃粉蝶		1 2 3 4 5 6 7 8 9															
Graphium agamemnon 統帥青鳳蝶		1 2 3 4 5 6 7 8 9															
Graphium sarpedon 青鳳蝶		1 2 3 4 5 6 7 8 9															
Hebomoia glaucippe 鶴頂粉蝶		1 2 3 4 5 6 7 8 9															
Hestina assimilis 黑脈蛺蝶		1 2 3 4 5 6 7 8 9															
Hypolimnas bolina 幻紫斑蛺蝶		1 2 3 4 5 6 7 8 9															
Ideopsis similes 擬旖斑蝶		1 2 3 4 5 6 7 8 9															
Junonia iphita 鉤翅眼蛺蝶		1 2 3 4 5 6 7 8 9															
Lamproptera curius 燕鳳蝶		1 2 3 4 5 6 7 8 9															
Lethe europa 長紋黛眼蝶		1 2 3 4 5 6 7 8 9															
Neptis hylas 中環蛺蝶		1 2 3 4 5 6 7 8 9															
Papilio bianor 碧鳳蝶		1 2 3 4 5 6 7 8 9															
Papilio helenus 玉斑鳳蝶		1 2 3 4 5 6 7 8 9															
Papilio memnon 美鳳蝶		1 2 3 4 5 6 7 8 9															
Papilio paris 巴黎翠鳳蝶		1 2 3 4 5 6 7 8 9															
Papilio polytes 玉帶鳳蝶		1 2 3 4 5 6 7 8 9															
Parathyma sulpitia 殘鍔線蛺蝶		1 2 3 4 5 6 7 8 9															
Pieris canidia 東方菜粉蝶		1 2 3 4 5 6 7 8 9															
Remelana jangala 萊灰蝶		1 2 3 4 5 6 7 8 9															
Troides aeacus 金裳鳳蝶		1 2 3 4 5 6 7 8 9															
Troides helenus 裳鳳蝶		1 2 3 4 5 6 7 8 9															
Udara albocaerulea 白斑嫵灰蝶		1 2 3 4 5 6 7 8 9															
Ypthima baldus 矍眼蝶		1 2 3 4 5 6 7 8 9															
Ypthima lisandra 黎桑矍眼蝶		1 2 3 4 5 6 7 8 9															
Zemeros flegyas 波蜆蝶		1 2 3 4 5 6 7 8 9															
Zizeeria karsandra 吉灰蝶		1 2 3 4 5 6 7 8 9															
Zizeeria maha 酢醬灰蝶		1 2 3 4 5 6 7 8 9															
Zizina otis 毛眼灰蝶		1 2 3 4 5 6 7 8 9															
Other butterfly species seen																	

Appendix II: Common Name of Butterflies

Scientific Name	Common Name	中文名
Acytolepis puspa (Horsfield, 1828)	Common Hedge Blue	鈕灰蝶
Argyreus hyperbius (Linnaeus, 1763)	Indian Fritillary	斐豹蛺蝶
Catopsilia pomona (Fabricius, 1775)	Lemon Emigrant	遷粉蝶
Danaus chrysippus (Linnaeus, 1758)	Plain Tiger	金斑蝶
Danaus genutia (Cramer, 1779)	Common Tiger	虎斑蝶
Delias pasithoe (Linnaeus, 1767)	Red-base Jezebel	報喜斑粉蝶
Euploea core (Cramer, 1780)	Common Indian Crow	幻紫斑蝶
Euploea midamus (Linnaeus, 1758)	Blue-spotted Crow	藍點紫斑蝶
Eurema hecabe (Linnaeus, 1758)	Common Grass Yellow	寬邊黃粉蝶
Everes lacturnus (Godart , [1824])	Tailed Cupid / Indian Cupid	長尾藍灰蝶
Graphium agamemnon (Linnaeus, 1758)	Tailed Jay	統帥青鳳蝶
Graphium sarpedon (Linnaeus, 1758)	Common Bluebottle	青鳳蝶
Hebomoia glaucippe (Linnaeus, 1758)	Great Orange Tip	鶴頂粉蝶
Ideopsis similis (Linnaeus, 1758)	Ceylon Blue Glassy Tiger	擬旖斑蝶
Junonia almana (Linnaeus, 1758)	Peacock Pansy	美眼蛺蝶
Junonia iphita (Cramer, 1779)	Chocolate Pansy	鉤翅眼蛺蝶
Papilio bianor (Cramer, 1777)	Chinese Peacock	碧鳳蝶
Papilio helenus (Linnaeus, 1758)	Red Helen	玉斑鳳蝶
Papilio memnon (Linnaeus, 1758)	Great Mormon	美鳳蝶
Papilio paris (Linnaeus, 1758)	Paris Peacock	巴黎翠鳳蝶
Papilio polytes (Linnaeus, 1758)	Common Mormon	玉帶鳳蝶
Papilio protenor (Cramer, 1775)	Spangle	藍鳳蝶
Parantica sita (Kollar, 1844)	Chestnut Tiger	大絹斑蝶
Pieris (Artogeia) canidia (Sparrman, 1768)	Indian Cabbage White	東方菜粉蝶
Telicota ohara (Plötz, 1883)	Dark Palm Dart	黃紋長標弄蝶
Tirumala limniace (Cramer, [1775])	Blue Tiger	青斑蝶
Troides aeacus C & R Felder, 1860	Golden Birdwing	金裳鳳蝶
Troides helena (Linnaeus, 1758)	Common Birdwing	裳鳳蝶
Ypthima baldus (Fabricius, 1775)	Common Five-wing	矍眼蝶
Ypthima lisandra (Cramer, 1780)	Straight Five-ring	黎桑矍眼蝶
Zizeeria maha (Kollar 1848)	Pale Grass Blue	酢漿灰蝶

Appendix III: List of Nectar Plant Species

Scientific Name	Common Name	中文名	Provenance
Agapanthus africanus (L.) Hoffm.	African Lily	百子蓮	Non-native
Allamanda schottii Pohl	Small Allamanda	硬枝黃蟬	Non-native
Asclepias curassavica L.	Blood-flower Milkweed	馬利筋	Non-native
Clerodendrum japonicum (Thunb.) Sweet	Pagoda Flower	赪桐	Non-native
Cuphea ignea A. DC.	Cigar Flower	雪茄花	Non-native
Duranta erecta L.	Golden Dewdrops	假連翹	Non-native
Eranthemum nervosum R. Br.	Blue Eranthemum	可愛花	Non-native
Graphistemma pictum (Champ. ex Benth.) Benth. & Hook. f. ex Maxim.	Painted Graphistemma	天星藤	Native
Hibiscus rosa-sinensis	Chinese Hibiscus	大紅花	Non-native
Ixora chinensis Lam.	Chinese Ixora	龍船花 (山丹)	Native
Lantana camara L.	Lantana	馬纓丹	Non-native
Salvia farinacea Benth.	Blue Sage	粉萼鼠尾草	Non-native
Schefflera heptaphylla (L.) Frodin	Ivy Tree	鴨腳木	Native
Stachytarpheta jamaicensis (L.) Vahl	Jamaica Vervain	假馬鞭	Non-native
Strobilanthes cusia (Nees) Kuntze	Chinese Rain Bell	板藍	Native
Tylophora ovata (Lindl.) Hook. ex Steud.	Ovate Tylophora	娃兒藤	Native
Murraya paniculata (L.) Jack.	Orange Jasmine	九里香	Native
Mussaenda erythrophylla	Red-leaved Mussaenda	紅葉金花	Non-native
Odontonema tubiforme (Bertol.) Kuntze	-	紅樓花	Non-native
Pavetta hongkongensis Bremek.	Hong Kong Pavetta	香港大沙葉	Native
Passiflora moluccana Reinw. ex Blume var. teysmanniana (Miq.) de Wilde	King Snake Creeper	蛇王藤	Native
Penta lanceolata	Egyptian Starcluster	五星花	Non-native
Vitex negundo L. var. *cannabifolia* (Sieb. et Zucc.) Hand.-Mazz.	Yellow Bramble	黃荊	Native
Wedelia trilobata (L.) Hitchc.	Wedelia	三裂葉蟛蜞菊	Non-native
Zanthoxylum avicennae (Lam.) DC.	Prickly Ash	簕欓花椒(簕欓)	Native

(species names as per www.hkflora.com and http://herbarium.gov.hk, accessed 3 Sept 2015)

Reference guide books for plants:

1. Loi, J., Shiu, C., Chau, L., & Fung, T. 2005. Pictorial Guide Book of KFBG Plants (Revised Edition). Kadoorie Farm & Botanic Garden, Hong Kong.

2. Lai, C.C., Yip. Y., Yip, K.L., Ngar, Y.N., & Liu, K.Y. (2008) Field Guide to Trees in Hong Kong's Countryside.

About KFBG

Kadoorie Farm and Botanic Garden (KFBG) is situated in the rural New Territories, on the northern slopes of Tai Mo Shan, Hong Kong's highest mountain. Two steep spurs enclose its deep-set valley. Within KFBG are streams, woodlands, orchards, vegetable gardens, walking trails, live animal exhibits, floral exhibits, sustainable agriculture demonstration plots, art exhibits, a wild animal rescue centre, a native tree nursery, and, other conservation and education facilities.

In the post-war years, Hong Kong was flooded with destitute refugees. Many had traditional knowledge of crop production and livestock farming but no stock, others had land but no experience. They required support to rebuild their lives. In 1951, in response to these pressing human needs Lawrence and Horace Kadoorie established the Kadoorie Agricultural Aid Association (KAAA), which became a key partner of the Hong Kong Government in devising and implementing a plan to help Hong Kong feed itself. The Kadoorie brothers, part of a well-established business family, saw wealth as a sacred trust to benefit mankind. With such aid, thousands of people received agricultural training; thousands of pigs, chickens and ducks were bred and given to farmers or sold to them on credit; thousands received micro-loans; and numerous wells, irrigation channels, roads, footpaths, bridges, pigsties and farm houses were built. The farm site at Pak Ngau Shek was established in 1956 as a base for livestock breeding and distribution, agricultural research, farmers training, public education and recreation. The barren slopes were terraced and planted with orchards and vegetable gardens. The development of the botanic garden began in 1963 and the plant conservation programme from 1972.

On 20th January, 1995, the Legislative Council of Hong Kong passed the Kadoorie Farm and Botanic Garden Corporation Ordinance (the Hong Kong legislation Chapter 1156) incorporating KFBG as a non-profit corporation designated as a conservation and education centre. It is a unique public-private partnership, for while the KFBG Corporation is a public organisation, it is privately funded by the Kadoorie Foundation (over HKD 80 million per year); these funds are supplemented by small donations from the public and occasional project-related Government grants that enable us to extend our work.

Since 1995, KFBG has been conducting a wide range of nature education, nature conservation and sustainable living programmes both on-site, and, throughout Hong Kong and South China.

In a time of severe global crisis – including the inter-related issues of widespread disconnection from nature, each other and self; the ever-increasing exploitation of, and unwise over-reliance on the world's dwindling resources to support unsustainable lifestyles; climate change; shrinking of natural habitats and species loss – KFBG, as an organisation, raises awareness, undertakes rigorous science-based species conservation and ecosystem restoration, and offers new ways of thinking and living to respond to the world's problems. Hence, our work brings hope and improvement by focusing on nature conservation, sustainable living and holistic education that re-connects people with nature. By working together with the public, Governments, academia, NGOs and businesses, we can protect our common future.

Our mission is to harmonise our relationship with the environment. Our vision is a world in which people live sustainably with respect for each other and nature.