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2014 Overwintering Danaids Survey Result Released

Largest overwintering site in Hong Kong, Siu Lang Shui, becomes stop-over

Environmental group Green Power released the latest results of the Overwintering Danaids Survey, which revealed a declining number of Danaids - tigers and crows - at Siu Lang Shui, Tuen Mun, the largest overwintering site in Hong Kong. Significant behavioural changes have also been observed, including more active movement and a shorter length of stay. It appears that Siu Lang Shui might have changed from being an overwintering site to a stop-over.

Siu Lang Shui, Tuen Mun, is the largest local overwintering site of Danaids. It is also the only Site of Special Scientific Interests set up for the protection of overwintering butterflies in Hong Kong. Published records indicate that at the peak the number of overwintering Danaids reached 40,000 at the site. Green Power launched its Overwinter Danaids Survey in 2009, and the results have fluctuated. In the first year, a few dozen were recorded; the number rose to over 5,000 in 2012, then plummeted and reached the record low of 41 in 2014.

Mr. Matthew Sin, Senior Environmental Affairs Manager of Green Power, remarked that the cause of the fluctuating Danaids population at Siu Lang Shui is not yet known. He pointed out that there are various factors that are associated with the change – such as climate change. If winter in the East Asian regions is not as cold as in the past, Danaids may have a lower incentive to move south and the migration habit may also be altered. In addition, many Danaids come to Hong Kong through Southern China, where there is rapid development and many natural habitats have disappeared. This will also affect the overwintering butterflies. The southward-migrating Danaids need to rest during their journeys, and if these mid-way stops are destroyed, they may not reach the final overwintering sites.

Furthermore, **Matthew** brought attention to the recent change in overwintering habits of the butterflies. In general, Danaids come to Hong Kong to overwinter. During cooler days, they will stay on tree branches and climbing plants, and shelter in covered places and woodlands. They will also lower their activity to conserve energy through the winter, much like hibernation. However, in the past season, Danaids in Siu Lang Shui were abnormally active, flying all over and feeding.

Mr. Chan Chia-Lung, a Taiwanese expert on Danaids, classifies gathering sites of the butterflies into "overwintering" and "ecological" types. The former provide overwintering sites for migrating Danaids, while the latter provide shelter and food. **Matthew** observed that in November last year, when the number of Danaids peaked at Siu Lang Shui, most butterflies were flying all around and did not stop at tree branches as in the past. In the following two weeks, the butterflies left Siu Lang Shui gradually, and by early December there were almost no more Danaids at the site. **Matthew** said that Siu Lang Shui may have changed from being an overwintering butterfly valley to an ecological site. He remarked, "The overwintering Danaids have become more active and fly around instead of staying on the trees. They also shortened their length of stay from over a month in the past to one to two weeks. From the feeding behaviour and shorter stay, it seems that the Danaids have adopted Siu Lang Shui as a stop-over rather than a overwintering site in their overwintering journey."

Apart from Siu Lang Shui, Tuen Mun, Green Power's Overwintering Danaids Survey also covers Deep Water Bay, Hong Kong Island; and Fan Lau on Lantau. Significant declines in butterfly population were also seen at these two sites. At Deep Water Bay, the number dropped from 175 in 2013 to a mere 17 in 2014. At Fan Lau, a slight drop was observed: from 177 in 2013 to 109 in 2014. **Matthew** indicated that the figures have fluctuated in recent years. Green Power will continue to monitor the local environmental changes, to gain an understanding of the relationship between environmental factors such as climate change and butterfly populations.

Green Power's Overwintering Danaids Survey

The survey was launched in 2009 and covers Siu Lang Shui, Tuen Mun; Deep Water Bay, Hong Kong Island; and Fan Lau, Lantau. Survey starts in November of each year and ends in January of the next year. The species, numbers and habits of overwintering Danaids were recorded. There are 13 Danaid species in Hong Kong; most have the habit of overwintering in groups. Every year in autumn and winter, thousands of Danaids fly to Hong Kong from the north, stop for a while and return to the north or reproduce in the overwintering sites. At present, the overwintering migration route is not clear. Besides Hong Kong, overwintering butterflies are also found in Taiwan and Hainan. It is possible that the three places lie on the same overwintering route.