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Release of Latest Overwintering Danaids Survey Data
Population at Siu Lang Shui plummets 90 percent
Deep Water Bay Danaids number surges 25 times

Environmental group **Green Power** has released the latest “Overwintering Danaids Survey” results, providing an overview of the number of overwintering Danaids recorded at four locations in Hong Kong in late 2016.

A total of 66 Danaids was recorded at Siu Lang Shui, Tuen Mun which is a dramatic 96% decrease from 1,587 recorded the previous year. By contrast, 537 Danaids were recorded at Deep Water Bay, which is the largest number of overwintering Danaids on record for this site. Compared with 21 Danaids recorded the previous year, this a dramatic 25-fold increase. As for Lantau Island, numbers of butterflies at Fan Lau and Shui Hau were similar to last year. The numbers of Danaids recorded this year were 197 and 125, respectively.

Green Power has been conducting surveys of overwintering Danaids for 8 years, since 2009. **Senior Environment Manager of Green Power, Matthew Sin** said the number of Danaids at Siu Lang Shui, Tuen Mun has been fluctuating in recent years. The number of Danaids may increase dramatically every few years, followed by a significant decline the following year. For example, in 2012, 5,000 overwintering Danaids were recorded, which was eight times more than the previous year, but the number of butterflies fell to approximately 200 the following winter. Over 1,000 overwintering Danaids were recorded in 2015 at Siu Lang Shui, which was a 40-fold increase from the previous year. The number of overwintering Danaids plummeted again during the 2016 winter.

Siu Lang Shui is the only “Site of Special Scientific Interest” established in Hong Kong for the conservation of overwintering Danaids, and the largest known overwintering site for Danaids in Hong Kong with a peak record of over 40,000 butterflies. **Matthew** says that the number of Danaids in Siu Lang Shui has been fluctuating in recent years. The exact reasons are still yet to be determined. Frequent extreme weather and loss of natural habitat as a result of development in the Mainland, may affect the number of Danaids that arrive from the north to overwinter in Hong Kong.

Deep Water Bay Danaids number hits record high

Changes in species and habits

Deep Water Bay is one of the few Danaid overwintering sites on Hong Kong Island. The latest survey discovered that the number of overwintering Danaids there has hit a record high. Changes in species of overwintering Danaids and their overwintering habits were also observed.

Matthew pointed out that overwintering Danaids can be divided into two kinds – tigers and crows. The more commonly found tigers in Hong Kong are Ceylon Blue Glassy Tiger (*Ideopsis similis*), Glassy Tiger (*Parantica aglea*), Blue Tiger (*Tirumala limniace*) and Common Tiger (*Danaus genutia*). The more commonly found crows in Hong Kong are Blue-spotted Crow (*Euploea midamus*), Common Indian Crow (*Euploea core*) and Striped Blue Crow (*Euploea mulciber*). Despite the small area of Hong Kong, different overwintering sites vary in the major kinds and species of Danaids. Regarding the overwintering Danaids recorded at Deep Water Bay in 2016, the major species of Danaids shifted from tiger to crows. Blue-spotted Crows comprised nearly all the crows discovered there, showing that the overwintering Danaids appearing at Deep Water Bay in 2016 were mainly this one species.

On the other hand, the period overwintering Danaids stayed at Deep Water Bay is longer than before. Generally, the overwintering Danaids stopover in Hong Kong for about a month, and it is believed they then migrate to warmer areas to the south. The overwintering Danaids had already arrived at Deep Water Bay by late December last year already. Large numbers of overwintering Danaids still remained there in early February this year. **Matthew** believed that this could be related to the warm weather in January this year, as there was no need for them to move to warmer places after their arrival. “The overwintering Danaids at Deep Water Bay were mainly crows, while the majority at Siu Lang Shui and Fan Lau were tigers, which have shown no tendency to stay for longer periods. This might reflect the two kinds of danaids showing different levels of sensitivity to temperature,” said **Matthew**.

Moreover, **Green Power** “Butterfly Surveyor” discovered a brand new overwintering site in Lantau South Country Park in the winter of 2015, with more than 10,000 Danaids recorded. Returning to the same site in winter 2016, however, only 24 danaids were found. **Matthew** remarked, “Although there was hardly any overwintering Danaids assembly, as it is still a newly discovered overwintering site, observations for one or two years more would be essential to determine if it is a regular Danaids overwintering site.”



Green Power's Overwintering Danaids Survey

The survey was launched in 2009 and covers Sui Lang Shui, Tuen Mun; Deep Water Bay, Hong Kong Island; and Fan Lau, Lantau. Shui Hau, Lantau was added to the surveying sites in 2015. The survey starts in around November of each year and typically ends in January the next year. The species, numbers and habits of overwintering Danaids are 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 colder areas in the north to overwinter. At present, the overwintering migration route is not clearly known. Besides Hong Kong, overwintering Danaids are also found in Japan, Taiwan and Hainan; these Danaids might share the same migration and overwintering route.