

23 February 2012

### **“Overwintering Danaids Survey 2011” Results**

#### **Overwintering Danaids Visited Siu Lang Shui Again and Overwintering Pattern has Changed**

A total of 13 Danaid species have been recorded in Hong Kong. All except Plain Tiger have the habit of overwintering in groups. There are mainly three groups of overwintering Danaids in Hong Kong: crows, tigers (excluding Common Tiger) and Common Tiger. Past records show that local Danaid populations rapidly increase from October to November each year. It is estimated that many come from regions north of Hong Kong, migrating south in October to find a warm overwintering site. They will return to the north in February to March the following year, or may reproduce in the overwintering site.

Since the winter in 2009, Green Power has been conducting surveys of overwintering Danaids in Siu Lang Shui, Deep Water Bay and Shing Mun Country Park. The species, number, cycle and habits of the migratory butterflies visiting Hong Kong are recorded. There are still many suspected overwintering sites locally, Green Power extended the survey in 2011 to include more sites, such as Tai Tam of Hong Kong Island, Pillar Point and Tai Lam Chung of Tuen Mun, Shui Hau, Shek Pik and Fan Lau of Lantau south.

#### **Survey Results of Overwintering Danaids in 2011**

##### **Siu Lang Shui**

The first survey (8 December 2011) recorded 576 danaids, over 90% of which were crows and about 2% were tigers including Common Tiger. Most butterflies gathered on the tree branches or climbers with little activity, indicating they were in the state of overwintering. The second survey (29 December 2011) recorded 25 Danaids.

##### **Deep Water Bay**

142 Danaids were recorded, over 40% were crows, the remaining 60% were tigers including Common Tiger.

##### **Shing Mun Country Park**

95 Danaids were recorded, about 15% were crows, the other 85% were tigers including Common Tiger.

### **Other Sites**

Included Tai Tam of Hong Kong Island, Pillar Point and Tai Lam Chung of Tuen Mun, Shui Hau, Shek Pik and Fan Lau of South Lantau. No overwintering Danaid population was found in the 6 surveys. However, in the past, there were non-formal records of overwintering Danaids in these sites. Fan Lau, for instance, saw a few thousands of Danaids overwintering each year in the past.

### **Analysis**

#### **Changes in Danaids Overwintering Pattern at Siu Lang Shui**

Since the 1990s, Siu Lang Shui has been found to be an overwintering site for Danaids. Every year, thousands to tens of thousands of Danaids overwinter in the woodland there. According to previous records note, during the peak period from 1999 to 2005, 4,000 to 40,000 overwintering Danaids were found in the area. Siu Lang Shui is the largest overwintering site of Danaids in Hong Kong, and is the only Site of Special Scientific Interest (SSSI) set up for overwintering Danaids. Surveys in 2009 and 2010 reported 41 and 65 overwintering Danaids, a mere 1% of past record. The two consecutive years without much overwintering Danaids had caused alarm. But the latest survey in 2011 reported 601 Danaids, showing that butterflies are returning to Siu Lang Shui. Although the number is not as high as in the peak period, the result shows that the butterflies have not given up the overwintering site at Siu Lang Shui.

It was generally thought that overwintering Danaids arrive at Siu Lang Shui in late November. The latest survey found some changes in the pattern. In the past, the overwintering Danaids stayed at the site until January to February of the following year, they have left earlier this year in December. This reflects that overwintering period of Danaids is shortened, or they are leaving for other overwintering sites.

#### **Overall Increase in Crows Populations**

At Siu Lang Shui, crows consisted of 70-80% of the overwintering Danaid population. The declining figure of overwintering Danaids means that the number of crows is also reduced. In 2009 and 2010, almost no Danaids was reported. There had been speculation that whether the migratory behavior of crows was changing or there were other factors, for example, the butterflies might have come across natural disaster during their migration or some mid-stations along their migration route have been damaged. But in the latest survey in 2011, we recorded 590 overwintering crows at Siu Lang Shui, a number even higher than two years ago.

Similar situation was also found in another overwintering site Deep Water Bay. In 2009 and 2010, we recorded 145 and 170 Danaids. The figures might seem normal, but the proportion of crows was drastically reduced from 54.48% in 2009 to 2.94% in 2010. The latest survey in 2011, however, found 142 overwintering Danaids, 41.55% of which were crows, increasing substantially from the 2.94% in 2010. This is another evidence that crows populations are returning. In Shing Mun Country Park, the 2011 survey reported 14 overwintering crows, similar to previous record.

The survey showed that the population of crows is rising slightly in 2011. This is certainly a good news to all butterfly lovers. Nevertheless, the number of overwintering crows is way below that recorded in the peak period from 1999 to 2005. The outlook is not optimistic. We will continue to closely monitor the number and distribution of overwintering crows and collect more data for analysis.

*Note: Data from Hong Kong Lepidopterists' Society*