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She Shan Butterflies Declined by 50 Percent

Shell Nature Watch - Butterfly Explorer - the Butterfly surveyors recorded 51 butterfly species in recent surveys at She Shan, including just four rare species. Compared the 63 species recorded in 2004 (note 1), the data showed a 20 percent decline in the past five years; compared to the over 100 species recorded in 1970s (note 2), there was a drastic fall of 50 percent. Clearly, She Shan's butterfly populations have been plummeting since the 1970s. And yet, noted **Dr. Cheng Luk Ki, Division Head of the Scientific**



The rare White Dragontail (*Lamproptera curius*) is one of the species recorded in She Shan

Research & Conservation Department of Green Power, She Shan is regarded an important butterfly hotspot in Hong Kong, and in the 1970s, 5.7 hectares of *fung shui* woodland at the village was designated as a Site of Special Scientific Interest. This should mean that the butterflies are better protected; but their populations are declining. "If the situation continues, butterflies may leave She Shan forever," said **Dr Cheng**. "We must tackle the problem without delay."

Dr. Cheng Luk Ki said the fall in butterfly population is related to changing landuse in the area. The area of woodland and farmland areas has been greatly reduced (note 3). The area of farmlands and fishponds decreased from 70% in the 1970s to 18% in 2008. Bu contrast, the built area increased from 12% in the 1970s to 22% in 2008, and 11% of the area is now "wasteland". In addition, to meet demand for housing and roads for the increasing population, part of the fung shui wood has been cleared. Many areas of farmland have also been abandoned, indirectly leading to dumping incidents in She Shan, such as in 2004 when a huge volume of construction waste was dumped on farmland here. "When dramatic landuse change happens in places outside the protected fung shui woodland, many butterflies struggle to survive and reproduce," said **Dr. Cheng**.

The fate of butterflies also relies on the health of the century-old Camphor Tree at She Shan which, with a diameter of 420 cm, is listed in Hong Kong's Register of Old and Valuable Trees,



and is a food plant for caterpillars of several butterfly species including Common Bluebottle (*Graphium sarpedon*), Common Mime (*Chilasa clytia*) and Tawny Rajah (*Charaxes bernardus*). The tree's health is in doubt and, though officials have taken steps to help the tree, **Dr. Cheng** is concerned that if the tree cannot be saved, She Shan's butterflies will be further threatened.



The Century-old Camphor Tree at She Shan

Nonetheless, **Dr. Cheng** noted that She Shan remains an important butterfly hotspot in Hong Kong. This, however, was not reflected in an Environmental Impact Assessment for Drainage Work in the Sha Tin and Tai Po Area: this included only 22 species at the assessment area including She Shan, all of which were common. The report was clearly at odds with other surveys. "Accurate butterfly surveys can provide important data for conservation of butterflies," said **Dr. Cheng**. "So I would like to call on more members of the public to carry out butterfly surveys at She Shan in the coming year, to avoid underestimating its butterfly diversity."

Dr. Cheng illustrated with the example of a recent record by Butterfly Surveyors. In April, a vagrant species *Idea leuconoe* was recorded. Vagrant species refers to those that have entered the territory with monsoon wind or important plants and which have yet to establish stable population locally. At present, there is only one record of *Idea leuconoe* in Ng Tung Chai next to She Shan; yet there may be food plants for its larva nearby, and a stable population may be



Idea leuconoe

established in Hong Kong in time. He hoped the newly recruited Butterfly Surveys would obtain more accurate and important discovery in the coming year through long-term and regular surveys.

Note 1: Yiu Vor, 2004

Note 2: Records from M. J. Bascombe, a butterfly expert

Note 3: Comparison of landuse in She Shan from 1976 to 2008. In the early years, areas around



the Fung Shui woodland of She Shan were green, and about 63% were farms in operation and 5% were fish ponds or ponds. There was almost no wasteland with such active agriculture ongoing. Only about 12% of landuse was for housing and other infrastructure. The woodland and farmland were favourable to butterflies. In 2008, farmland areas have clearly dwindled. Only 18% are farms in operation while 27% are abandoned farmlands. Built areas increase from 12% of the 1970s to 22%. In addition, 11% is wasteland which looks like a construction site from aerial view.

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