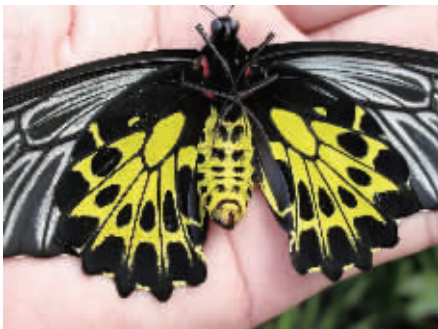


The Butterfly Handbook: Over 200 Species in Ningbo

Striving towards a modern
coastal metropolis
建设现代化滨海大都市



The golden birdwing



Front wings of the orange oakleaf;
Photo by Lin Hailun

A July 5th report by *Ningbo Evening News* titled 'Incomplete Investigation: At Least 115 Butterfly Species Found in Longguan Township' has attracted a great deal of public attention. Ningbo Evening News journalist Shi Chengcheng reached out to Lin Hailun – a famous Ningbo-based botanist and butterfly specialist – to draw a Butterfly Handbook of Ningbo.

7月5日,《宁波晚报》刊登了报道《一份不完全调查显示 海曙龙观乡至少“藏”了115种蝴蝶》,激起了广大读者的好奇心。为此,记者联系了宁波著名植物、蝴蝶研究专家林海伦,为大家绘制这份“宁波蝴蝶手册”。

According to incomplete statistics, a total of 220 butterfly species of 11 families have been found and recorded so far in Ningbo. Among them, 59 species belong to the Nymphalidae family, 43 to the Lycaenidae and 42 to the Hesperidae. Surprisingly, only 26 species of them fall into the famous Papilionidae family, while 27 are from the Satyridae.

据不完全统计,目前宁波已发现并有记录的蝴蝶种类共计11科220种。其中,蛱蝶科有59种;灰蝶科有43种;弄蝶科42种。令人大跌眼镜的是,大名鼎鼎的凤蝶科只有26种,比眼蝶科还要少1种。

Nymphalidae butterflies are the largest group of recorded butterflies found in Ningbo. Many of them have strong wings for speedy flying. Others are fond of sucking animal excrement or garbage;

still others like to drink bleeding sap from tree bark. The caterpillars of Nymphalidae butterflies also have their own characteristics. Species of this family – such as *Vanessa indica* (Indian painted lady), *Vanessa cardui* (painted lady), *Araschnia doris* and *Symbrenthia lilaea* (peninsular jester) – prefer the perennial plant ramie as the host, a trait they share with *Actinote issoria* (yellow coster) and caterpillars of ramie noctuid moths. The peacock pansy caterpillars tend to eat the leaves of *Hygrophila ringens* of the *Acanthus* family, while the Asian comma caterpillars only eat Japanese hop leaves.

作为宁波已发现并有记录的蝴蝶种类中数量最庞大的蛱蝶科蝴蝶,它们有的翅膀厚实,飞行速度极快;有的喜欢吸食腥臭的动物粪便或垃圾;有的喜欢吸食树皮上渗出的伤流液。而蛱蝶科蝴蝶幼虫也各有特色:苎麻是大红蛱蝶、小红蛱蝶、曲纹蜘蛛蛱蝶、散纹盛蛱蝶等蝴蝶的寄主植物,同时也深受苎麻珍珠蝶和苎麻夜蛾幼虫的喜爱;美眼蛱蝶幼虫则偏爱爵床科的水蓑衣叶片;黄钩蛱蝶幼虫只吃葎草的叶片等。

The great purple emperor (*Sasakia charonda*) rates a mention when it comes to the Nymphalidae family. In Ningbo, this pretty butterfly species could only be found in Dayan Town of Fenghua District. The orange oakleaf (*Kallima inachus*) of the same family sounds much plainer, but is famous for its “mimicry” —when closing its wings, it resembles a dead leaf. This camouflage means

that few people ever see their colorful forewings. In sunshine, they send out a purple and blue gloss coupled with wide dark yellow stripes.

在那么多蛱蝶科蝴蝶中,大紫蛱蝶值得一提。此前只在奉化区大堰镇现身,非常稀少。枯叶蛱蝶,听名字“平平无奇”,但它的“拟态”特征在昆虫界十分有名,它的翅膀反面就像一片枯叶。不过,很多人不知道的是,它的翅膀正面,在阳光下会散发出紫蓝色光泽,还搭配有深黄色的宽阔条纹,与另一面截然不同。

In Ningbo, swallowtail butterflies (the Papilionidae family) rank fifth in terms of quantity but first in terms of attention. They are attractive for their colorful appearance, elegant dance and comparatively big size.

在种类数量排名前五的蝴蝶中,凤蝶科蝴蝶无疑是最受关注的,原因只有一个:美!凤蝶科蝴蝶的美,主要体现在两个方面:首先,色彩够鲜艳。其次,舞姿够优美。而且它们大多体型较大,属于中大型蝴蝶,更容易被看见。

Among the 26 species of swallowtail butterflies discovered and recorded in Ningbo, the most precious is the golden birdwing. Gold as its dominant color, this insect is adorned with black spots on its body, dark red hairs on the chest and neck, bird-wing shaped light stripes on the forewings and black stripes on the hindwings. It was first discovered and recorded in July 2009 in Zhanqi Town, Yinzhou District. Its caterpillars are born with a retractable organ behind their head which resembles the tongue of a snake. When the caterpillars get disturbed or stimulated, these glands extend and exude a strong aromatic odor that deters predators. This also distinguishes them from the caterpillars of other butterflies.

在宁波已发现并有记录的26种凤蝶科蝴蝶中,最珍贵的当属金裳凤蝶。它通体以金黄色为主,配有黑色斑点,胸部和颈部还点缀有深红色茸毛,前翅有鸟翼状的浅色脉纹,后翅黑色斑纹较多。金裳凤蝶最早于2009年7月在鄞州区瞻岐镇被发现并记录。而凤蝶科蝴蝶的幼虫长有分叉的臭角腺,平时是缩在头顶部里的,当受到惊扰或刺激时,会迅速弹出并散发出浓烈的芳香气味,让来犯者或天敌感到不适。这一特征,也是其他科蝴蝶幼虫所不具备的。

It is not easy to record the species and quantity of butterflies. Some species may be very rare in one place, but are common in another, and vice versa. Lin proposed a reliable method of locating butterflies by searching for plants. Butterflies are known to rely on the host plants for their survival. No matter how lovely and beautiful the surroundings are, butterflies

flies find them useless if there is no appropriate host plant.

蝴蝶种类和数量的统计颇有难度。可能在一些地方难得一见的蝴蝶,在其他地方就十分常见,反之亦然。林海伦梳理出一个比较靠谱的方法:识木寻蝶。蝴蝶的生存依赖于寄主植物。如果没有相应的寄主植物,再好、再优美的环境对蝴蝶来说都是毫无意义的。

Residents in downtown Ningbo are most familiar with common bluebottle (*Graphium sarpedon*) and the tawny rajah (*Charaxes bernardus*). Their host plants are camphor trees that are found everywhere in the city. What's more, Indian painted lady and Asian comma are also common in our daily life. In Siming Mountain, the Chinese peacock butterfly (*Achillides bianor* Cramer), the spangle butterfly (*Papilio protenor* Cramer) of the Papilionidae family, the doublerday butterfly (*Damora sagana*) and the Indian fritillary butterfly (*Argynnis hyperbius*) of the Nymphalidae family are oft-found butterfly species.

在宁波城区,常见的蝴蝶主要是青凤蝶和白带蛱蝶,因为它们们的寄主植物,是比较常见的香樟树。此外,像大红蛱蝶、黄钩蛱蝶等也是多见的普通蝴蝶。在四明山区,常见的凤蝶科种类有碧凤蝶、蓝凤蝶等。蛱蝶科有青豹蛱蝶、斐豹蛱蝶等。

Butterfly species are generally quite limited in downtown Ningbo mainly owing to the lack of plant diversity. For butterfly caterpillars, sufficient quantities of honey plants are essential for growth. In nature, the survival of different butterflies depends upon the existence of suitable honey plants across four seasons, which is unlikely in urban areas.

总体来看,宁波城区的蝴蝶种类数量还是十分有限的,这跟植物多样性不够丰富有关。当蝴蝶“长”成成虫,还需要有足够的蜜源植物来延续生命。在自然界,不同季节都会有适合不同蝴蝶吸食的蜜源植物。而这一点在城市中是很难保持的。

“For that reason, if we want to see more butterfly species, we will have to expand the diversity of host and honey plants. Meanwhile, don't use insecticides so as to protect the natural breeding of butterflies.” Lin noted.

“因此,如果想要看到更多不同种类的蝴蝶,我们就要多栽种一些不同的寄主植物和蜜源花卉植物,同时不可以喷洒杀虫剂,吸引蝴蝶自己过来繁殖。”林海伦说。

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