

## Butterfly (Swallowtail)



Swallowtail butterfly:

### *Papilio machaon*

#### **Distribution:**

in Britain restricted entirely to the Norfolk Broads. Widespread and fairly common throughout Europe, Africa, Asia.

#### **Habitat:**

wetlands such as fens and marshes.

#### **Description:**

black and creamy-yellow with red-and-blue false 'eye'. Extensions on hind-wings. Caterpillars are green, black and orange.

**ize:**

wingspan 95mm.

**Life-span:**

adult lives for one month.

**Food:**

caterpillars will only eat the foliage of a group of plants called umbellifers - a group that includes carrot, fennel and angelica, but they show a marked preference for milk parsley. Adults feed on nectar from a variety of flowers.

The swallowtail is Britain's largest and most exotic butterfly. Its name refers to the extensions on the hind-wings which look rather like a swallow's tail. These 'tails' and false 'eyes' on the hind-wing mimic the head and antennae (feelers) of the butterfly. This confuses birds as to the true head of their prey and gives the swallowtail a better chance of escaping. Sadly, this beautiful butterfly is extremely rare in Britain.

**Swallowtail Habits****Food.**

The caterpillar of the swallowtail butterfly prefers to eat the leaves of milk parsley, which is becoming increasingly rare in Britain today. The adult butterfly uses its long proboscis (tongue) to drink nectar from flat-topped flowers such as milk parsley and thistle.

**Breeding.**

Swallowtails mate during the summer months, from late May onwards and the eggs are laid singly on the upper leaves of the milk parsley. They hatch after about two weeks and at first the tiny caterpillars look like bird droppings. When fully grown they become an attractive green with a black and orange stripey pattern. To frighten away predators, the caterpillar can shoot out a pair of orange 'horns' from its head and produce a smell like ripe pineapple!

However, many caterpillars are eaten by birds, spiders and small mammals. By about the end of summer any survivors have changed into a chrysalis (pupa) which can be either green or brown, depending on the colour

of its background. It is attached to the milk parsley stem by a silk pad and silk girdle. It usually spends the winter in this state and the adult butterfly emerges from its pupa in late May. Quite a few chrysalises are eaten by predators too.

## **Swallowtails and Man**

### **Habitat changes.**

After the last Ice Age, the resulting water from the retreating glaciers produced such a rise in sea level that much of eastern England was waterlogged. About 40,000 square kilometres of land became covered by fen and bog, and in this damp habitat the milk parsley and the swallowtail thrived for thousands of years, undisturbed. In the 18th century farmers began to drain the wetlands with pumps, using wind and steam power, and the fens were slowly but surely turned into wheat fields.

### **Effects on the swallowtail.**

The moisture-loving milk parsley died out as the fenland dried out, and since the swallowtail's caterpillar relied exclusively on the milk parsley for food, the butterfly population began to decrease rapidly. Eventually, only two strongholds were left; Wicken Fen, north of Cambridge, and the area surrounding the Norfolk Broads, which is a man-made habitat, excavated for peat in the Middle Ages. In the early 1950's the swallowtail suddenly disappeared from Wicken Fen. This site appeared to be suitable habitat for the butterfly, but after several failed attempts to re-establish it, careful research showed that although Wicken Fen itself had not been drained, the draining of the surrounding fens had led to a drop in the water table and a slow drying out of the peaty soil. This had prevented the milk parsley from growing tall - the female butterflies only chose the tallest plants to lay their eggs on. Woody plants began to invade the fen which reduced suitable swallowtail habitat. At the same time, the traditional practice of cutting the sedge (tall grasses) was being continued on the fen, but it was being cut in the summer instead of the autumn, as it used to be, and the milk parsley was being cut along with it before it could mature or set seed. Pupae were being destroyed in the cut too. So this overall reduction in the amount and suitability of the food plant had a devastating effect on the swallowtails.

### **The future.**

Although the Wicken Fen project failed to re-establish the butterflies, lessons learned about the swallowtail's ecology are being applied to its remaining stronghold in the Norfolk Broads. It shows just how important it is to manage wildlife habitats correctly and how closely some species of animals and plants rely on each other for their survival.

The swallowtail has been a protected species since 1981, under the Wildlife and Countryside Act. The only way in which habitats like Wicken Fen could be made suitable once more would be to pump enormous quantities of water onto the land, or cut the peat to reduce the fen's height above the water table.

Meanwhile, the swallowtail's future in the Norfolk Broads seems secure, at least for the time being. It is an insect worth preserving, not only for its beauty but also because the British swallowtail is a unique subspecies found nowhere else in the world.

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