British Butterflies in Danger

Class:

insecta

Order:

Lepidoptera (butterflies and moths)

Species illustrated: -

Swallowtail
(Papilio machaon)

Habitat: Fenland of few areas of Norfolk only.

Food plant: Milk parsley

Wingspan: Up to 9cm.

Camberwell Beauty
(Nymphalis antiopa)

Habitat: Rare migrant from Scandinavia; also in U.S.A.

Food plant: Willows, sallow, birch, elm.

Wingspan: About 8cm.

Large Blue Butterfly
(Maculinea arion)

Habitat: Officially extinct but formerly the chalk downs of Cotswolds and Cornwall Colonies have been introduced to Devon and Cornwall.

Food plant: Wild thyme.

Wingspan: about 4cm.

The life-cycle of the butterfly is probably too familiar to bear repetition in detail here. The eggs hatch into larvae (caterpillars) which basically eating machines, feeding on a limited range of list plants characteristic of the species. Some like peacocks and small tortoiseshells feed on common plants like nettles. Others such as the swallowtail feed on much rarer plants (milk parsley). As the larva grows it sheds its skin, revealing a new skin beneath, which stretches to allow further growth. The final moult reveals the skin of the pupa (or chrysalis). This hardens to protect the pupa whilst its body gradually changes to that if the imago (adult butterfly), which eventually emerges from the pupa case. The imago is the stage at which the species is spread, and needs food only for energy, which it gets from the sugary nectar of flowers. Again only certain flower species are favoured for nectar, including clover, bramble, thistle and hemp agrimony. This reliance on a limited number of food species is critical to butterfly survival.

Many butterfly species are now recorded as rare. Why is this? Perhaps the word ?rare? should first be clar ified. Some species are rare migrants, meaning they only turn up here irregularly. One such migrant was first seen near Camberwell, now part of London, in 1748, and was so unexpected that it was called the ?Grand Su rprise?. It was attractive to look at, chocolate-brown in colour with a dark border with blue spots, and outside th at a further white border. Thus it came to be known as the
Camberwell beauty
. It comes to us from Scandinavia only in occasional years, presumably as a result of particular conditions there, but has never been known to breed here. Thus it is rare in Britain, not because it is in need of conservation, but because it is at the extreme edge of its range, and has only every turned up here irregularly.

But what of other species? Britain currently has 57 resident native butterflies and six or so that visit us regularly from abroad and which breed if conditions are right. Very few butterflies are as common as they once were. More and more of Britain is being built over with concrete. Hedgerows are torn out, along with all the wild flowers that grow beneath them. Roadside verges are kept neatly trimmed so few plants can ever come to flower. Open woodland is replaced by closely planted coniferous trees, beneath which little can survive. Wetlands are drained and ?reclaimed? for agriculture. Those plants that survive to provide food for the butterfly larva or imago are classed as ?weeds? and sprayed with poisons which as often as not destroy both plan t and butterfly.

Whilst there are fewer of the flowers that provide nectar for all the butterfly imagos, it is the effect on larval food plants that can be most critical. Those that rely on nettle, thistle or bramble may sometimes be better off, since these plants move in wherever man disturbs the ground. But the
Swallowtail
, for instance is suffering badly. Milk parsley, on which its larvae mainly feed, is becoming increasingly rare because the fenland areas on which it grows are being drained for agriculture, and because of the use of agricultural weedkillers. As a result, the swallowtail is now confined to limited areas within nature reserves in the Norfolk Broads. Protection of these last remaining wetlands will be essential for this butterfly to survive.

The many butterflies which once brightened the chalk downs of southern England, such as the
adonis, chalk-hill blue
and
meadow brown
, are also declining in numbers. Once the downs were kept as open grassland by the grazing of large

numbers of sheep and rabbits. But now that numbers of sheep have been greatly reduced due to economic pressures, and rabbit populations have declined as a result of myxomatosis, coarse grasses and scrub have been able to invade the downs unchecked, choking out the butterfly host plants.

The most remarkable example is that of the
large blue
. This had always been a local species in Great Britain, confined to the Cotswolds, Dartmoor and the cliffs of Cornwall and North Devon. Its numbers had been declining for many years, and attempts by conservationists to reverse the trends always failed. In eth early 1980s a research programme by the Institute of Terrestrial Ecology revealed details of its remarkable life history, which helps to explain this species eventual extinction in 1979.

It had long been known that the larval host plant of the large blue was the wild thyme, in which there had been very little, if any decline. The larvae fed on the seeds of thyme for about three weeks, but they also cannibalised others of their kind, so usually only one larva survived per flowerhead. After three weeks, however, they dropped to the ground, where, remarkably, they were found by a species of red ant (usually Mymica sabuleti), and carried back to their nest. There the larva fed on ant grubs, hibernated over winter, resumed feeding on the grubs, and eventually pupated and emerged as an adult about mid-June. If the larva was not initially found by the foraging ants, it died. The problem appeared that, with much reduced grazing in these areas, the vegetation grew so tall and dense that the ants were excluded, even though the thyme survived. So although the eggs were laid and the larvae survived the first three weeks of their life, the absence of their ant host meant the larvae could not complete their life cycle and perished. By the time this life-cycle was discovered, it was too late to save the large blue from extinction. However, conservationists have reintroduced a few colonies into suitable habitats in Devon and Cornwall. The sites are kept secret to give them maximum protection.

It should be added that collection of butterflies has not helped the rarer species, and butterfly collectors today must restrict themselves to the commoner species, if they have any respect for their hobby. But it does seem that butterflies are suffering mainly as a result of changes in their habitat. There is no doubt that they are an important indicator of what will happen to other wildlife, unless these changes can be reversed or at least controlled.

Fortunately there is much that can be done to protect butterflies. Gardeners (and park keepers) can provide suitable habitats by allowing a corner of nettles, thistles, brambles and other plants to develop on their land. The planting of suitable butterfly plants, either wild ones like hemp agrimony or marjoram, or garden species like buddleia, golden rod, valerian and lavender, will attract many butterflies to the garden, both helping to protect the species and greatly increasing the attractiveness of the garden.

Both these developments are ideal for the school garden too.

If you are interested in helping butterflies write to: Butterfly Conservation, P.O.Box 222, Dedham, Colchester, Essex, CO7 6EY