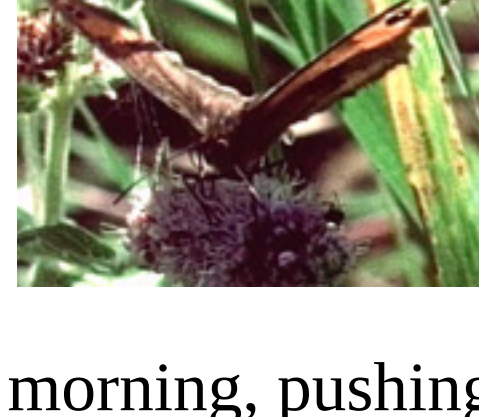


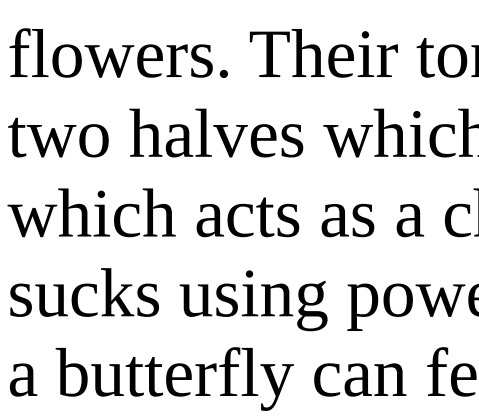
BUTTERFLIES

Life



There are four stages of a butterfly's life, egg, caterpillar, pupa and butterfly. As a butterfly, depending on species, it will live only for 3-12 days. A butterfly emerges from its pupa, early on a spring morning, pushing first its feet then the rest of its body out of the cuticle. It has to dry its body, spread and dry its wings. Flightless for 1-2 hours as it dries, it is very vulnerable to scouring birds looking to feed their chicks. The males emerge one or two days before the females. He will establish and defend a small territory, waiting for a female to fly by. Mating may take a couple of hours, as the male deposits a liquid containing sperm, held within in tiny capsule, in the female's abdomen. He then secretes a foam which quickly hardens to form a barrier to prevent further matings. The female then flies away to mature her eggs. The weight of her maturing eggs makes her body large and heavy and flight cumbersome. She seeks out her caterpillars' feeding plant, devil's-bit scabious for the marsh fritillary, each species favouring a particular plant. She lands on a leaf and senses the plant's chemicals with the tips of her feet, telling her if she has the right plant. Then she lays around 150 eggs on the underside of the leaf, one second at a time, laid in neat rows, and then lays another 150 eggs deposited in a second layer on top of the first. She may rest through the night to lay another batch of 150 eggs the next day. Some species will lay a single batch. In either case once egg laying is complete the exhausted female butterfly dies. The life span of an adult meadow brown both sexes is 3-12 days, wall brown 4 days, large heath 3 days, heath fritillary 2-7 days, marsh fritillary 3-5 days, small blue 4 days, common blue 3 days, Adonis blue 4-12 days, chalkhill blue 4-6 days, wood white 8 days, lulworth skipper 6-7 days, silver spotted skipper 8 days.

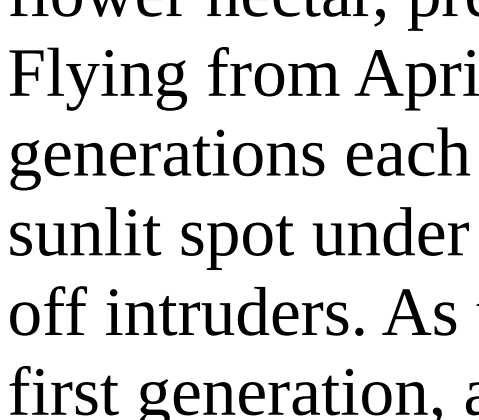
Feeding



63 resident butterfly species in the UK, most at the northern edge of their range. Farmer's use of herbicides and pesticides to protect food development is a threat to most insects, particularly butterflies. Butterflies feed by sucking up nectar from flowers. Their tongue is adapted to do this, made up of two halves which are hooked together to form a groove which acts as a channel for the nectar, as the butterfly sucks using powerful muscles in its throat. Which flower a butterfly can feed from is determined by the length of its tongue. Blue butterflies have short tongues, the small blue's is 5mm long, and so can only feed from shallow flowers like kidney vetch, birds foot trefoil, marjoram, thyme and field scabious.

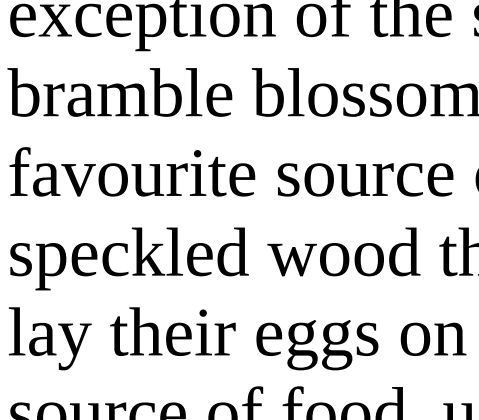
The whites, with slightly longer tongues can feed from deeper flowers, buddleia, bugle, bluebell, dandelion and ragwort. Thistles attract fritillaries with the longest tongue amount British butterflies, 17mm long. A flower's colour also determines which butterflies visit. The large white can distinguish between three colour groups red/yellow, green/blue green and blue/violet. It prefers to feed from purple, violet or white flowers and avoids yellow. The small tortoiseshell prefers yellow and purple flowers. The scent the flower exudes is another factor in flower choice more important to butterflies that feed from tree sap, honeydew and fruit, such as the red admiral and purple emperor. Butterflies drawn to colour fly straight to the flower's nectar, to scent tend to zig zag as they pick follow the aroma. Butterflies know which flower will give the richest nectar at which time of the year. A wood white will feed only from bugle at certain times of the year passing by similar purple flowers. Butterflies emerge from their cocoons when their favourite feeding plant is in blossom, meadow browns emerge as brambles come into flower, gatekeepers and hedge brown with ragwort. In dry weather aphids feeding on leaves of ash and oak produce large quantities of honeydew, inviting the hairstreak butterflies up into the canopy to feed. In wet weather the honeydew is washed off and the hairstreaks feed on ground hugging flowers. Some flowers, such as antirrhinum and foxglove, favourites of bumble bees, are avoided by butterflies, as are wild carrot, hairy willowherb and rosemary.

SPECKLED WOOD



Shade loving, a truly woodland butterfly, with yellow blotches on its dark brown wings making it undetectable among the dark woodland foliage. It seldom feeds from flower nectar, preferring honeydew emitted by aphids. Flying from April to October, they produce two generations each year. The male defends his patch, a sunlit spot under the canopy, spiralling upwards to fend off intruders. As the spring canopy is more open for the first generation, allowing more shafts of sunlight, the wings of the first generation speckled wood have larger yellow blotches, as a better camouflage. The second generation, born in late summer, with less sunlight reaching the forest floor, have smaller blotches.

MEADOW BROWN



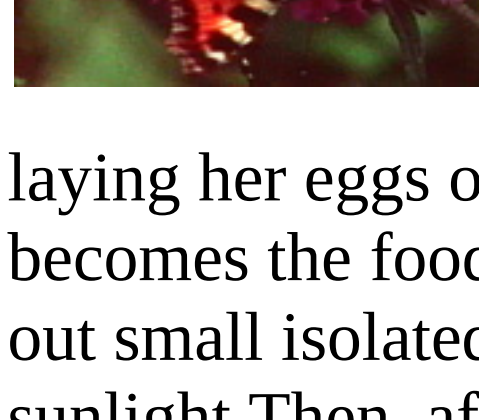
The commonest and most widespread of British butterflies. Flies from June to September, preferring woodland edges. Identified by their eye spots on their wings and that they use four rather than six legs to walk. The eye spots deflect predators away from the butterfly's body to the wings, where damage can be recoverable. When mating a male brown fluttered around the female releasing an alluring scent. With the exception of the speckled wood, they are nectar feeders, bramble blossom, knapweed and thistles being the favourite source of food. Again with the exception of the speckled wood they produce one brood each year. They lay their eggs on grass which becomes the caterpillars' source of food, usually cock's foot and couch grass. In autumn the caterpillars pupate into chrysalis which overwinter, hanging upside down from their feeding plant.

LARGE WHITE



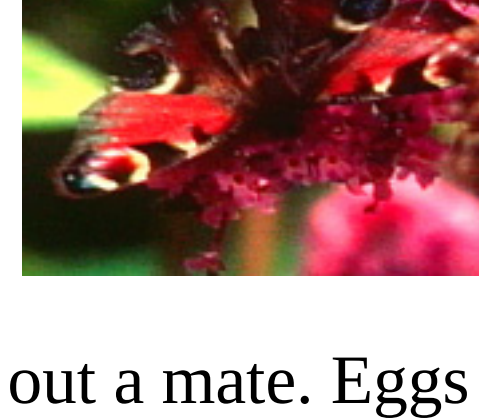
Common butterfly in UK, frequently seen in vegetable gardens and allotments. It has a powerful flight which takes it over wide areas to feed. In some years populations are increased in summer with an influx of migrants flying in from northern Europe. There are two generations of large white each year, the second generation in mid summer producing the most eggs and caterpillars. The female seeks out cabbages and brussels sprouts to lay her eggs, 50-100 yellow eggs laid on the underside of the leaves. Pale green caterpillars emerge, feeding from the vegetable plants, overwintering as grey green chrysalis attached to window ledges and fences to emerge as the next generation of large white the following spring.

TORTOISESHELL



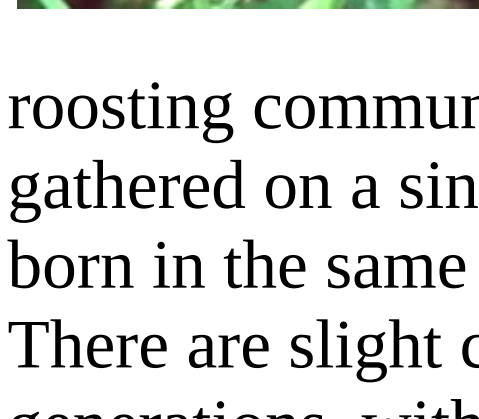
produces two generations each year, each living for nine months. After spending most of its life in hibernation over winter the first generation emerges in March, to mate, with the female laying her eggs on the underside of nettles, which becomes the food source for the caterpillars. She will seek out small isolated patches of nettles growing in full sunlight. Then, after a few weeks, first generation of tortoiseshell dies. Caterpillars emerge from the eggs in June. They spin a protective silk tent in which they grow together fuelling their growth by devouring the nettle leaves around them. They passed through several moults until each crawls away to evolve from a chrysalis into an adult butterfly by mid July. The cycle then repeats. Mating, egg laying, caterpillar, chrysalis with butterflies on the wing in August, hibernating in October to restart the cycle next Spring. In their short lives as butterflies they help the regeneration of wildflowers as they feed from the flower's nectar, carrying pollen from plant to plant, activating the production of seeds for next year's growth.

PEACOCK



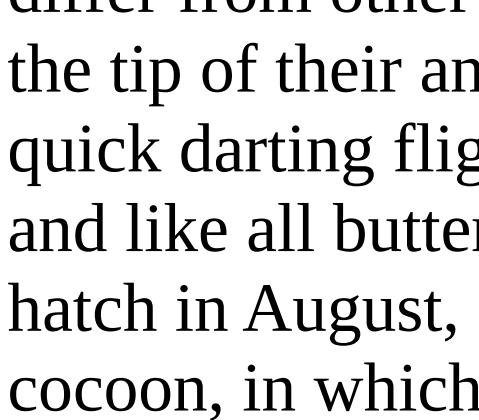
The peacock is widespread in Britain. It lives for about 9 months, hibernating as an adult through the winter, emerging in March, seeking out energy rich nectar to replenish its resources before seeking out a mate. Eggs are laid in batches in May, exclusively on the underside of stinging nettle leaves, which is the sole food plant for the caterpillar. Eggs hatch in a colony of blackish caterpillars, which anchor themselves with a silk thread and set about feeding collectively on the leaves. In June individuals emerge as a chrysalis developing into a butterfly in July. In October the new generation of adult peacocks prepare for hibernation. The peacock has a unique survival technique as it flashes the eye pattern on its wings confusing its predators while it makes its escape.

COMMON BLUE



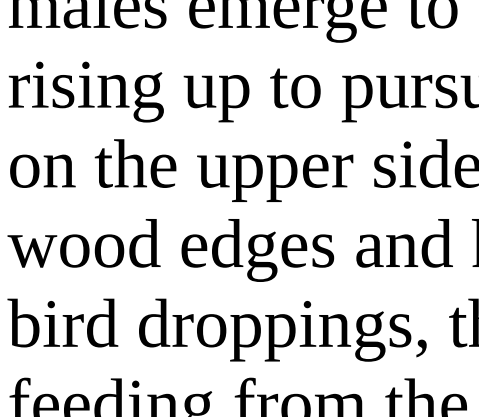
Widespread wherever its favourite food plant is found, the bird's foot trefoil. The male is bright blue, the female brown. The common blue lives in colonies flitting close to the ground by day and roosting communally at night with five butterflies gathered on a single grass stem. With two generations born in the same year, adults fly from May to September. There are slight colour differences between the two generations, with the second generation having more black on their wings, a reaction to the higher summer temperature at the time the larvae and chrysalis develop. Its small white eggs are laid singly on birds foot trefoil hatching into a pale green slightly furry caterpillar. Feeding from the birds foot trefoil the first generation evolves into a pale green chrysalis, and then a butterfly. The second generation overwinters as a caterpillar hidden among the dead leaves to emerge in the spring.

SMALL SKIPPER



Very common in southern Britain. Flies from end of June to early August. Lives in damp conditions with long grass, its favouring feeding plants the musk thistle, burdock and knapweed. Skippers differ from other butterflies by having thicker bodies, the tip of their antennae is thickened and they fly with a quick darting flight. They are usually brownish in colour and like all butterflies fly during the day. Caterpillars hatch in August, eat its own shell and then spins a web cocoon, in which it lives for the next 8 months. The following April it breaks out of its cocoon, feeding on soft grasses until pupates in June, emerging as a butterfly.

COMMA



A common butterfly in southern England. Flies between several feeding sites, favouring woods and shrubland. The comma overwinters as an adult, hibernating in woodland. In spring the males emerge to establish a territory, perching on a leaf rising up to pursue any passing females. She lays her eggs on the upper side of nettle leaves in sunny spots along wood edges and hedgerows. The caterpillars, resembling bird droppings, that hatch from the eggs remain solitary, feeding from the nettles. The chrysalis hangs hidden deep inside vegetation. There are two generations of commas in a year. The first, the offspring of the overwintering butterflies, emerge in early summer and look for a mate. The second generation, emerging in September do not mate but instead feed voraciously in preparation for the winter hibernation.