Meadow life

Wildflower meadows play an essential role in our ecosystem. To find out more Chris Luck talked to Professor Dave Goulson, who for 12 years has nurtured and studied a Charente flower meadow.

Over the last century (and particularly during the last 50 years) France, along with countries such as the UK, has lost some 80 to 90 per cent of its wild flower meadows. This shouldn’t be confused with intensively managed or so-called ‘improved pasture’, which has little value to anything other than or-called “improved pasture’, which has little value to anything other than the animals it’s grown to feed. This dramatic loss of habitat has played a major role in the decline of a vast range of insect species including what are now popularly termed ‘pollinators’, an extensive range of insects which between them provide the means by which most of our flowers and many of our crops are fertilised. Apart from butterflies and bees, insects aren’t generally at the top of people’s considerations, unless they are a source of irritation or fear. Dave Goulson, however, considers them among the most fascinating creatures in the world. In his popular book ‘A Buzz In The Meadow’ he tells the story of how he bought a run-down farmhouse in Charente and turned its attached land into a meadow full of wildflowers, brimming with life. A biology professor at Sussex University in the UK, he studies bumblebees, which he regards as intellectual giants of the insect world. Sadly, they are in crisis, as are many of the planet’s natural pollinators, and although reported issues with honey bees aren’t really understood, there are enough commercial keepers to maintain populations. What we do know for a fact, based on research into their ecology and foraging preferences, is that one of the big drivers of the bumblebee decline has been the conversion of flower-rich grasslands (hay meadows, prairie, chalk downs and so on) to flower-free farm monocultures. The fragments which remain are often degraded, polluted or simply too small to support viable populations.

With this in mind, in 2003 he purchased Chez Nauche, deep in the heart of rural France, together with thirteen hectares of surrounding land. His aim was to create a wildlife sanctuary, a place where butterflies, dragonflies, voles and newts could thrive free from the pressures of modern agriculture. In particular, he was keen to create a place for his beloved bumblebees, the creatures which he’d spent the past twenty years studying and attempting to conserve. As anyone that has tried it will know, it isn’t easy restoring floral diversity to arable land previously treated with fertilizers, since unnaturally high fertility promotes growth of coarse grasses which out-compete the flowers. Dave therefore enlisted the help of a local farmer, one M. Fontaneau, to cut and remove hay (which he feeds to his goats) each year, thus slowly sapping nutrients from the soil. As the grass weakened flowers started to creep back, regenerating from the seed-bank in the soil, others blown in on the wind or carried in the guts of birds. Dave has experimented with sowing his own mixes and using ‘hemiparasitic’ plants such as yellow rattle, which parasitise grasses. M. Fontaneau often stops by in what probably appears to be some sort of peculiar English fertility ritual. Hay meadows can take a huge time to really establish (perhaps 100 years of continuous management to achieve maturity) but in recent years he has counted in excess of 100 flower species overall. He nevertheless has a long way to go to rival an ancient hay meadow, where up to 50 species can be found in just one square metre. Most exciting is that in summer the meadow is now alive with insects. Each new plant species which arrives supports several new insect species: leaf miners which burrow in the leaves, aphids which suck the sap, predators which chomp down the aphids, pollinators to visit the flowers, tiny weevils which eat the seeds. He has dozens of species of butterflies, dragonflies, crickets, hoverflies, bees and mantises, a seething, chirping, hopping,buzzing network of life which has returned all on its own. There are 16 species of bumblebee alone, including very rare examples such as the short-haired bumblebee, plus honeybees and more than 50 other bee species. With almost as many species of butterflies in his meadow now as have been recorded in the whole of the British Isles, it’s worth taking a look at one of them. On a steep south-facing slope at the southern end of his field ribwort plantain is common underfoot. This is an unspectacular little plant which many will recognise, with inconspicuous brown flowers from which dangle a fringe of yellow anthers and leaves which are the favoured food plant of the lovely Glanville fritillary. This butterfly is named after Lady Eleanor Glanville, one of the very few female lepidopterists of the 18th century and the first to describe this pretty species, which she found near her home in Lincolnshire. Glanville fritillaries have long since disappeared...