

The hunger games

Bloodthirsty, beautiful and strangely captivating, our native carnivorous plants are as wild and wonderful as their overseas cousins, finds Deborah Nicholls-Lee



Left: Aquatic insects snared by bladderwort. Right: A Cape sundew lines up an ant. Facing page: A spider succumbs to a Venus flytrap

WITH its dainty purple flowers, common butterwort (*Pinguicula vulgaris*) appears unsuspecting, but its star-shaped basal leaves are deathtraps for unsuspecting insects, secreting a sticky liquid that holds them in place until the plant's digestive enzymes have finished their meal. 'It's quite effective, actually. You can see small flies and things within a day or two turning into a little smudge,' says Ulrike Bauer, senior research fellow in the University of Exeter's Biosciences department and an expert in carnivorous plants.

Dr Bauer runs off a long list of countries where she has seen insectivorous plants in situ, including the Seychelles, Madagascar, Canada and Brunei. Yet, to witness the gruesome feeding habits of the butterwort, there's no need to board a plane. Most British people are unaware that you can see carnivorous plants 'in multiple regions' of the UK, she explains. 'They are surprised that there are carnivorous plants that are not Venus flytraps.'

The tropical ecologist has seen these bloodthirsty specimens on Devon's Lundy Island, for example, and at the foot of Tryfan mountain in North Wales. 'I think the best region that I've been to is the Dorset/Hampshire border in the New Forest area. There, you are almost guaranteed to see them because there are so many native boglands. You can see multiple species on an afternoon walk.'

Occasionally, however, they are an unwanted presence. 'There's a little place in Dorset near Wareham where American pitcher plants have become invasive and, although people try to eradicate them again and again, they

are still growing in the bogs there,' points out Dr Bauer. 'By introducing them to our very delicate and fragile boglands in the UK, you can upset the natural balance... [they] out-compete our already endangered bog plants.'

The sneaky butterwort is not the only native species to prey on unsuspecting invertebrates. The round-leaved sundew (*Drosera rotundifolia*), resplendent in chartreuse and scarlet, ensnares larger insects with its gummy sci-fi tendrils. 'Butterworts and sundews are basically sticky flypaper traps,' explains Dr Bauer. 'They have sticky glue drops: insects are attracted to them and get stuck on them.' The approach is as gradual as it is grisly. 'They slowly move more and more of these glue drops onto an insect. Sometimes, the whole leaf rolls up.' As the digestive enzymes in the drops dissolve the live prey, the trap becomes a tomb.

'They tend to defy what we're normally taught. Carnivorous plants have gone to savagery'

It is perhaps the aquatic bladderwort (*Utricularia*) that is the UK's most sadistic hunter. Dr Bauer's description of 'a miniature submarine high-speed hoover' evokes the invention of an evil scientist. 'It has bladders that are under extreme negative pressure because the plant pumps water out of them constantly. When a bladder is closed, it becomes a highly loaded suction spring,' she explains. 'As soon

as a tiny aquatic organism touches the trigger hair, the door opens. That bladder suddenly expands and sucks in the water from outside and the animal with it. It's the only carnivorous plant that literally kills its prey by G-force.'

Peat bogs offer the best chances of spotting a carnivorous plant, suggests Dr Bauer, who recommends packing a magnifying glass, as the UK's carnivorous plants can be tiny. It's best to head to areas that are nutrient poor and look for slightly wetter depressions in the bogs where there's a small pond of water.

'Carnivorous plants do not cope well with nutrient-rich places and that's because they specifically became carnivorous to find a way to colonise these extremely nutrient-poor places where other plants can't thrive,' she says. 'They found a niche where competition is reduced.' By snacking on insects, the plants obtain nutrients such as nitrogen and phosphorus.

Merseyside-based ecologist and botanist Joshua Styles is also fascinated by carnivorous plants. 'They tend to defy what we're normally taught about plants, that they're at the bottom of the food chain,' he contends. 'Carnivorous plants have gone to savagery. They've evolved all of these interesting adaptations over aeons because they inhabit really harsh, specialist environments. As amazing as that is—and as vicious as they might be—they're also really delicate. It doesn't take a great deal to destroy populations of carnivorous plants.'

Today, almost all of the UK's 12 varieties of carnivorous plant are red listed and at risk of extinction—a serious issue given their crucial ecological role. From water fleas →



Eating in

Megan Webb's top three carnivorous plants to grow at home

- **Cape sundew (*Drosera capensis*)**

This extremely forgiving South African plant, with its red-and-yellow, tentacle-like leaves, is also known as the 'unkillable sundew' because it is so easy to propagate. It can be grown inside on a brightly lit window sill, as long as it is sitting in rainwater at all times, in a greenhouse, or outside in a bog container. Even when it dies down, it will come back, providing it is ventilated to prevent rot. It requires no dormancy period. With current restrictions on peat buying, this plant is best grown in sphagnum moss with perlite or sand

- **Large-flowered butterwort (*Pinguicula grandiflora*; below)**

Gardeners seeking a carnivorous plant that thrives outside might like this Irish variety of butterwort that can tolerate temperatures as low as -10°C. A half barrel lined with pond liner, with no



drainage holes and filled with the same sphagnum-moss mixture, works well. Ensure the pot does not dry out and, when the plants are young, try to distribute the water to the bottom of the bog. The plant is rain-fed and fairly self-sufficient, but will need extra water in a long, dry summer and a bit of cutting back in winter when its leaves will drop and it will rest as a little bud. In spring, its lime-coloured leaves and deep-purple flowers put on a lovely show

- **Venus flytrap (*Dionaea muscipula*)**

When you've mastered the first two, this North American plant makes the perfect intermediate challenge. Contrary to popular opinion, the Venus flytrap is not a house plant, but a herbaceous perennial that needs a cold, dormant period during the winter to regain its energy for the spring. Keep in an unheated greenhouse or outside in the boggy pot you created for your butterwort. If you get the conditions right, the Venus flytrap is very easy to grow, but, if it starts to go downhill, it can be terrifically hard to revive



Above: Pitcher plants are a pitfall for the unwary. Below: Common bladderwort's insect trap

to mosquito larvae, 'each individual plant of the common bladderwort (*Utricularia vulgaris*) is known to eat more than 10,000 different animals every single year,' notes Mr Styles. 'This is a species that plays a massively important role, not only in forming the plant biomass in that ecosystem, but shaping the other forms of life that are in there.'

In 2017, Mr Styles founded the conservation organisation North West Rare Plants Initiative (www.nwrpi.weebly.com), the work of which includes propagating plants threatened by the draining of peat bogs, for example, or by the leaching of fertilisers into the water table. 'It's these small changes, whether it's to hydrology or to the pH of the soil, that can cause very real declines in these precious little species we have in Britain,' he observes.

‘It's the only carnivorous plant that kills prey by G-force’

Where the Lancashire Wildlife Trust and others have been rewetting the bogs and planting sphagnum to restore these important habitats, Mr Styles has been introducing carefully cultivated native carnivorous plants to try to establish new colonies. 'Most of them have done really, really well,' he says. A cluster of 60 lesser bladderwort (*Utricularia minor*) specimens reintroduced in Greater Manchester has resulted in a regional population that is now in excess of two million.

More than 200 miles away in the village of St Osyth, Essex, horticulture graduate and carnivorous-plant specialist Megan Webb has been growing insectivorous plants for more than 11 years and cultivates hybrids in her garden.



Miss Webb first became interested in carnivorous plants when, as a child, her grandmother gave her a magazine cutting about them. 'It was the first thing I got fixated on,' she admits.

However, the Venus flytrap (*Dionaea muscipula*) she bought from B&Q soon perished. She blames the 'contradictory information' on the internet, which she hopes to correct through her blog The Carnivorous Greenhouse (www.thecarnivorousgreenhouse.co.uk). 'It does take practice,' she discloses. The exotic appearance of carnivorous plants can be particularly misleading. 'People assume that they are house plants [and] that they come from tropical places,' she says. 'Most of them are temperate and can survive frosts quite well. A large majority actually need to be grown outside.' Today, Miss Webb has about 3,000 plants. 'It's quite an addictive hobby—I've just ordered myself a new greenhouse.' 🐛