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HIMALAYAN BALSAM

Impatiens glandulifera

Where does it come from and how did it get here?

Popularly known as bee bums, policeman's helmet and poor man's orchid, Himalayan balsam was introduced from Kashmir to Kew Gardens in 1839. Escapee colonies appeared in Hertfordshire and Middlesex by 1855, and the plant is now widespread across the UK and Ireland, forming dense monoculture stands along many rivers.

Main picture: Himalayan balsam's sweet-scented pink and white flowers appear between June and October.

Inset: Up to 800 spring-loaded floating seeds can be fired up to 7m from each parent plant.

*Below: The invasive but less vigorous orange balsam (*Impatiens capensis*) reached the UK in 1822.*



© Stacy Whalen

What's the problem?

Himalayan balsam is the tallest annual plant in Britain, growing up to 3m high. Studies suggest that it can reduce native plant diversity by up to two-thirds: first shading out native species, then out-competing them for the attention of bees and other pollinators with its long flowering time and plentiful nectar. Native insect numbers are also reduced.

When the shallow-rooted plants die back in autumn, river banks are left bare and vulnerable to erosion. Soil is then eroded by winter floods and dumped in river gravels as silt, suffocating insects and fish eggs.

What can I do about it?

Planting or otherwise causing Himalayan balsam to grow in the wild is against the law in the UK and Ireland. With the landowner's permission, you can help to control it by:

- * Pulling it up before the seed pods start exploding, ideally before the plant can flower or set seed
- * Cutting each plant below the lowest node of the stem (if you cut above this point, it can still re-sprout)
- * Spraying with glyphosate (if near water, regulatory approval is likely to be required)
- * Allowing sheep or cows to graze young plants
- * Reporting any sightings to the RISC or Alien Watch recording schemes, or the UK's PlantTracker app (see page 9)

Compost or pile up the plants in a shady spot, where stems and leaves will wilt and desiccate quickly: few seeds will germinate in future years. On a river or stream, work downstream from the headwaters, so the area you've cleared isn't recolonised from upstream. Revisit monthly, then keep checking occasionally for at least 3 years to exhaust the seed bank: you can also help to restore native species by re-sowing with a suitable meadow seed mix.



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HARLEQUIN LADYBIRD

Harmonia axyridis

Where does it come from and how did it get here?

Also known as multicoloured and Halloween ladybirds, harlequin ladybirds are native to Asia, from Kazakhstan eastward to Korea, Taiwan and Japan. After being introduced to North America as a biological control for aphids, they were first noted in the UK in 2004. In Ireland, 2 colonies were found in 2010.

Invasive harlequin ladybirds are usually red or orange with 15-21 black spots (as above), or black with 2 or 4 orange or red spots (as below).

They are always over 5mm long.

Native British ladybirds also take several colourations, but are always less than 5mm long.



© Paul Scott

What's the problem?

Harlequin ladybirds are considered the most invasive ladybirds on earth, and extended their range in the UK by 100km per year between 2004 and 2008. During breeding periods they fly strongly, migrating long distances in search of high-density aphid populations. Being larger than many native ladybirds, they also predate voraciously on other species' larval stages, and leave less food for them by reducing overall numbers of aphids. In 2012 a major European study showed that the British native 2-spot ladybird declined by 44% in just 5 years after harlequin ladybirds arrived.

Besides threatening native species, harlequin ladybirds damage orchard crops by feeding on soft fruit when aphids are scarce in late summer and autumn. During winter they hibernate in large numbers inside buildings: if disturbed or crushed, they emit an unpleasant smell and coloured fluid which can stain soft furnishings, and even changes the taste of wine if ladybirds are accidentally harvested with grapes. They may also trigger allergic reactions, and have been reported to bite people in self defence.

What can I do about it?

If you see harlequin ladybirds, you can help to control them by:

- * Removing hibernating harlequin ladybirds from a building by securing a nylon stocking inside a vacuum cleaner's hose with a rubber band, before sucking them up into this bag and disposing of them.
- * Reporting any sightings to the Harlequin Ladybird Survey at www.harlequin-survey.org
- * In Ireland, reporting them to the Alien Watch recording scheme (*see page 9*)

INVASIVE PARASITES & PATHOGENS

Like Dutch elm disease which devastated the UK's elm trees after it arrived in 1957, there's a whole host of nearly-invisible invasive pathogens and parasites which also threaten our native species and landscapes. These include:

Ash dieback (*Chalara fraxinea*) hit the headlines in 2012 when it was detected on saplings from the Netherlands in a nursery in Buckinghamshire. This fungus is now found across the UK, causing leaf loss and dieback before killing affected trees completely.

Chytrid fungus (*Batrachochytrium dendrobatidis*) is a parasite causing mass global extinctions of frogs, newts and other amphibians. It is carried by resistant species like the American bullfrog, and has been called 'the worst infectious disease ever recorded among vertebrates in terms of the number of species impacted, and its propensity to drive them to extinction'.

Crayfish plague (*Aphanomyces astaci*) is a water mould carried by American signal crayfish. Invariably deadly to the UK's native white-clawed crayfish, its spores can survive for up to 2 weeks on damp water sports equipment or crayfish traps.

Salmon fluke (*Gyrodactylus salaris*) is a tiny leech-like parasite which also affects trout, grayling and other salmonid fish. Although it hasn't yet reached the UK, its impact in Scandinavia has virtually wiped out salmon in more than 40 Norwegian rivers since 1970. It has also been found in Germany, France, Portugal and Spain.

Sudden oak death is caused by *Phytophthora ramorum*, a fungus-like pathogen which produces bleeding cankers on infected trees' trunks, and kills larch and chestnut trees as well as oaks. First reported in a garden centre in Sussex in 2002, it can be spread by mists, air currents, footwear, car and bicycle tyres, and animals' paws.