

DAFM Plant Pest Factsheet

Dendroctonus micans European spruce bark beetle

Irish
Protected
Zone Pest!



Fig 1: *Dendroctonus micans* adult, adults can reach up to 8mm in length

Pest Characteristics

- **Pest:** *Dendroctonus micans*
- **Common name:** European spruce bark beetle
- **Hosts:** The pest can attack a wide range of conifer species. Spruce (*Picea*) species are the main hosts, particularly Sitka (*P. sitchensis*) and Norway (*P. abies*), though some Pine (*Pinus*) species are regularly attacked, such as Scots pine (*P. sylvestris*). There are rare reports of the pest attacking other conifers such as on firs (*Abies*), Douglas-fir (*Pseudotsuga*) and larch (*Larix*)
- **Invasive risk:** High, the species has become widespread throughout Europe since its introduction from Russia, currently only Greece, Ireland and Portugal remain free of the pest. The first finding in the UK was in 1982, though it was probably introduced in the early 1970s. It since spread throughout England, Wales and south-eastern Scotland.
- **Entry pathways:** The most likely pathways for the pest enter new areas is through natural spread and the import of infested wood.
- **Climatic suitability:** The pest is capable of establishing in the Irish climate.
- **Symptoms:** Visible signs of infestation are the resin and frass “tubes” (Fig 2) constructed by females burrowing into the tree. These tubes range from amber to purple or dark brown, turning greyish with time. Tubes can be located around the base of the trunk or underground and are often associated with resin bleeds from the tree. Under epidemic conditions (high populations) mortality can be observed in certain species.



Fig 2: Visible symptoms (a) resin tubes; (b) old resin tubes; (c) tree death as a result of larval feeding



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Fig 3 *Dendroctonus micans* lifecycle

- **Impact:** In its native range, populations and their impacts are controlled by a predatory beetle (*Rhizophagus grandis*). In invaded regions of Georgia, Turkey and Europe there have been significant impacts until the natural predator caught up with its prey or was intentionally released by forestry agencies. In the UK tree mortality in infested stands was estimated at 2% prior to the release of *R. grandis* and between 0.25-1% post release. The pest is not considered a vector of plant pathogenic fungi.
- **Lifecycle:** Females borrow through the bark of host trees to reach the cambium layer where they excavate a chamber (5-20 cm) to lay their eggs. Females can lay up to 300 eggs in groups of 50-80 each in interconnecting chambers. The larvae that hatch aggregate together to feed on the phloem layer of the tree pushing their frass behind them (Fig 3). This aggregation helps the larvae overcome tree defences. Larvae undergo 5 developmental stages called “instars” before a final pupal stage is reached. Adults emerge from the pupa and can remain under the bark for weeks to months. Mating occurs under the bark usually between siblings before the adults emerge.
- **Dispersal:** Adults spread by crawling when temperatures reach ~12°C and can take flight at ~22.5°C. Adults can reportedly fly 10 km or more. Wind dispersal of flying adults can also contribute to natural spread range.
- **Distribution:** The pest is present throughout most of Europe, Turkey, Georgia, Russia and parts of China (Fig 4).
- **If suspected:** If you find suspected symptoms or specimens, please submit images to DAFM at: plantpestreport@agriculture.gov.ie

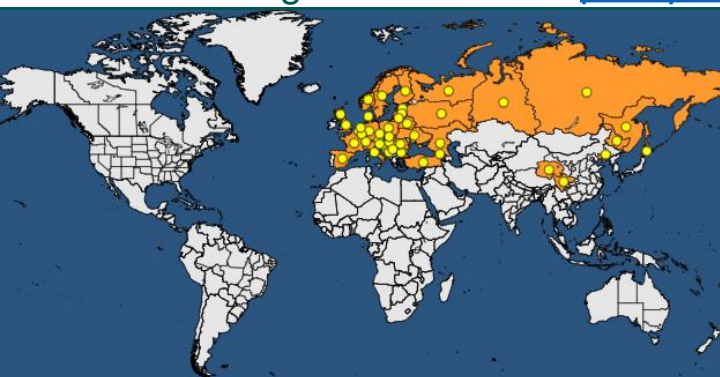


Fig 4: World map of *D. micans* distribution taken from the EPPO database ([Link](#))

Photo credits: Fig 1, Fig 3 (a, c) [EPPO](#). Fig 2 Bugwood (a) & Fig 3(e); Beat Forster, Swiss Federal Institute for Forest, Snow and Landscape Research; (b) Jan Liska, Forestry and Game Management Research Institute (c) & Fig 3(b) Stanislaw Kinelski. Fig 3(c&f) Fabio Stergulc, Università di Udine



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