

DAFM Plant Pest Factsheet

Toumeyella parvicornis Pine Tortoise Scale

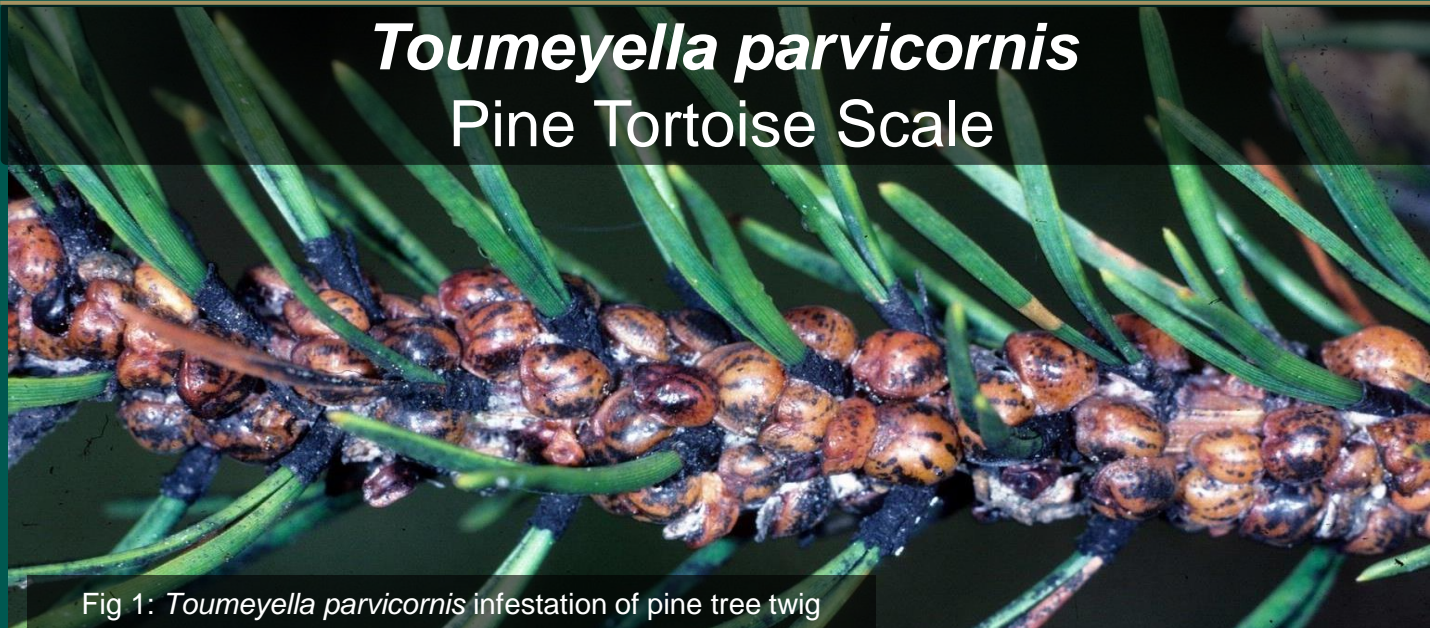


Fig 1: *Toumeyella parvicornis* infestation of pine tree twig

Pest Characteristics

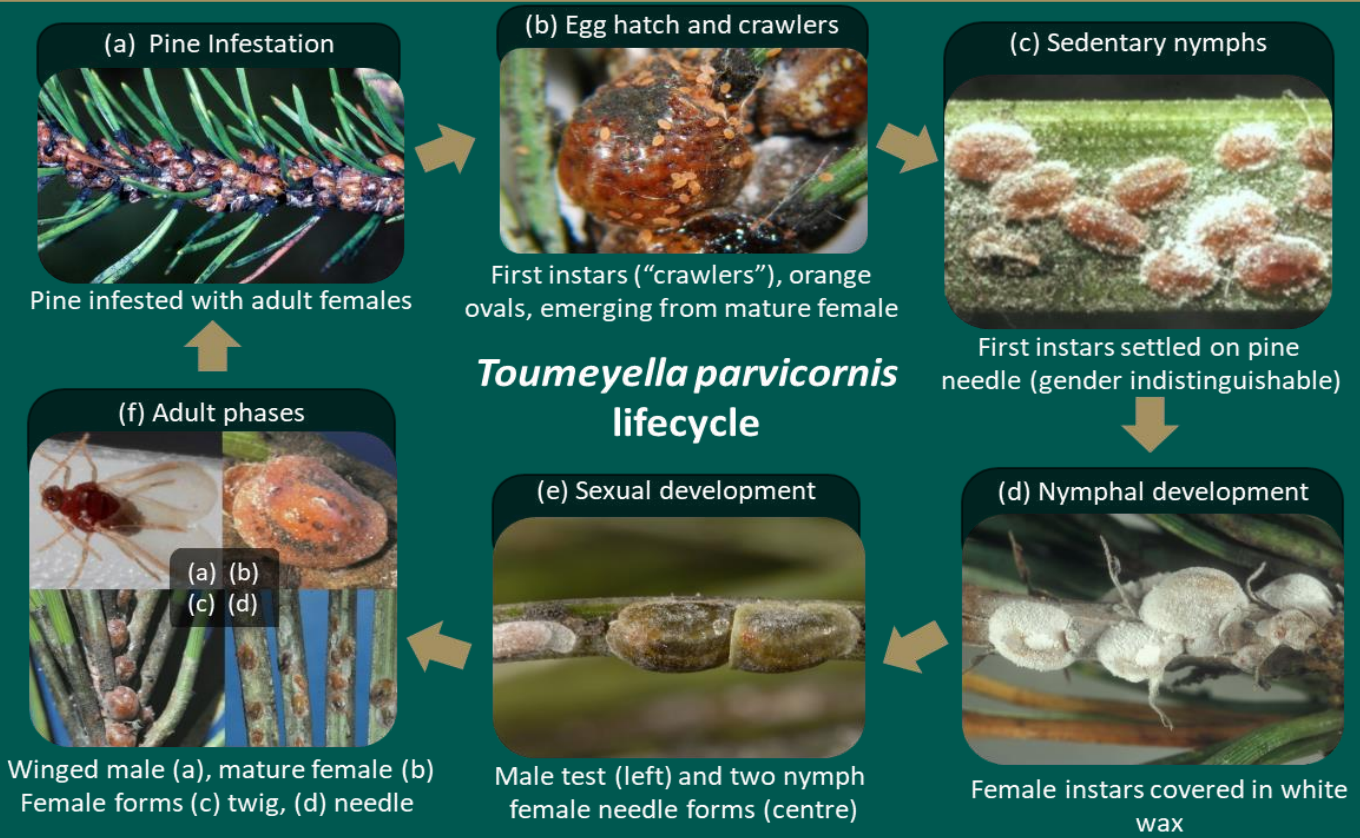
- **Pest:** *Toumeyella parvicornis*
- **Common name:** Pine tortoise scale
- **Hosts:** Pine trees of the genus *Pinus*, such as Scots pine
- **Invasive Risk:** *Toumeyella parvicornis* is a pest from North America which has recently established in some regions in Italy and France. It poses a distinct risk to pine trees should it be accidentally introduced into Ireland.
- **Entry Pathways:** The pest can be introduced to new regions on Live plants for planting and Cut foliage and branches of *Pinus* species
- **Adaptability:** This pest is considered capable of establishing in the Irish climate and producing 1-2 generations per year.
- **Impact:** In invaded regions the pest has caused significant damage to native pine trees and is proving difficult, if not impossible, to eradicate.
- **Visual Symptoms:** The pest is found feeding on tree sap from pine needles and twigs (Fig 1 and Lifecycle). Infestations can cause dieback of twigs and branches (Fig 2). At high infestation levels mortality can occur, though this is generally only associated with younger trees. Other visual symptoms include a powdery white coating visible on pine branches and a black sooty coating (fungal mould growing on honey dew secreted by females) covering areas below infestations (Fig 2).
- **Dispersal:** Females are only mobile during the first instar stage of their lifecycle (see lifecycle on next page). Crawling of nymphal instars only facilitates spread over short distances, long distance dispersal is via wind or hitchhiking on other insects, birds or machinery.



Fig 2: Visual symptoms of *T. parvicornis* infestations on pine trees: (a) white powdery coating on twigs; (b) black sooty coating; (c) dieback of pine branches



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- **Distribution:** Considered native to the North American continent. This pest has since spread to several Caribbean islands as well as the EU (Fig 3). The outbreaks in the EU were in Italy (2014) and France (2021).
- **Lifecycle:** *Toumeyella parvicornis* undergoes a number of developmental stages during its lifecycle. Mature females are immobile and lay eggs directly below their bodies. The first "instar" stage, commonly known as crawlers, are mobile and once hatched they emerge from underneath females to seek out suitable settling sites to commence the sedentary phase of their lifecycle. Once in place the crawlers feed directly upon the tree sap and undergo a number of transformations (nymphal phases) before mature adults are produced. Mature adult males have wings and emerge in the spring to seek out fertile females with which to mate and begin the cycle once again.
- **If suspected:** If you find a suspected specimen please submit images to DAFM at: plantpestreport@agriculture.gov.ie

Photo credits: Fig 1; Lifecycle (a) © Lacy L. Hyche, Auburn University, Bugwood.org; Fig 2 © Chris Malumphy, Fera, U.K.; Lifecycle (b) © Jill O'Donnell, MSU Extension, Bugwood.org; Lifecycle (c), (f-b,c,d) Antonio Pietro Garonna, University of Naples Federico II, Italy; Lifecycle (d), (e) Lyle Buss, University of Florida, USA. Lifecycle (f-a) © Claude Pilon, Canada.

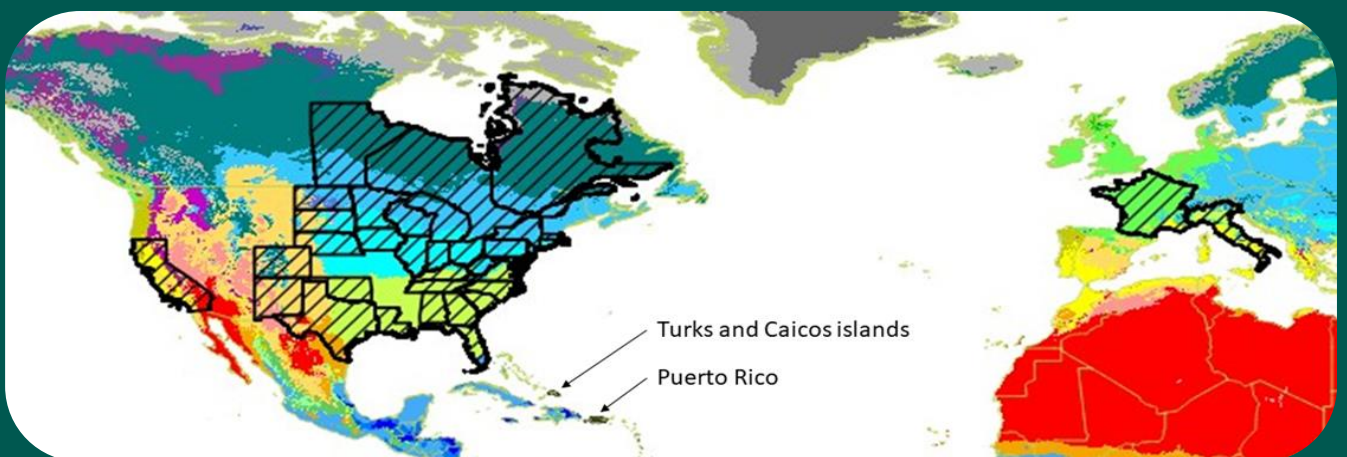


Fig 3: Known global distribution of *T. parvicornis* overlaid on climate classifications of regions



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