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Holm oak (*Quercus ilex*) pests

The Holm oak (*Quercus ilex*) is a hardy evergreen tree native to the Mediterranean, growing 20–25 meters tall. Its leaves vary in shape, with a dark green upper surface and a greyish, downy underside, becoming smooth-edged as they mature. The dark grey bark develops fissures over time.

Highly drought-resistant and long-lived, often surviving for centuries, the Holm oak is prized for its ornamental value and ability to thrive in coastal climates and urban environments, though it requires careful management to flourish.



Holm oak bark scale (*Nidularia pulvinata*)

Background

The Holm oak bark scale is a scale insect that feeds on sap from evergreen oak trees (*Quercus* spp.), particularly Holm oak.

Mainly found in the Mediterranean region (France, Italy, Spain, Portugal, Turkey, and Algeria). It has recently been found in one location in southern UK.

Infestations weaken trees by draining sap, causing stress and increasing susceptibility to other diseases. Damage appears to be mainly restricted to trees growing in urban environments, where they are likely to be stressed by other abiotic and biotic factors.

Symptoms

- Presence of adult female scales with white ovisacs in the crack of the trunk and stem (Fig. 1 a&b).
- Abnormal swellings (galls) on the apical stems (Fig. 2).
- Wilting, yellowing or drooping leaves and branch dieback (Fig. 3).
- Reduced growth.
- Occasional death of infested trees.



Fig 3. Branch dieback and flagging on *Q. ilex* due to *Nidularia pulvinata* infestation.

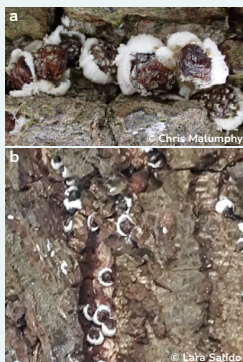


Fig 1. a,b) Adult females *Nidularia pulvinata* in *Q. ilex* trunk crevices.



Fig 2. Galling of apical stems.

Holm oak gall midge (*Dryomyia lichtenstenii*)

Background

The Holm oak gall midge is a small fly whose larvae induce distinctive galls on the leaves of some evergreen oaks (*Quercus* spp.).

Primarily distributed across the Mediterranean Europe (France, Italy, Spain, Portugal) and North Africa (Morocco, Turkey, Algeria), with recent records in southern UK (2022).

Infestations disrupt nutrient flow by inducing gall formation, , stressing the tree and making it more vulnerable to the attack of diseases and pathogens.

Symptoms

- Distinctive galls emerging from the leaf surface. These are fleshy, hairy structures often displaying a reddish or yellowish hue (Fig. 1 a&b).
- Distortion of affected plant parts/stunted growth (Fig. 2).

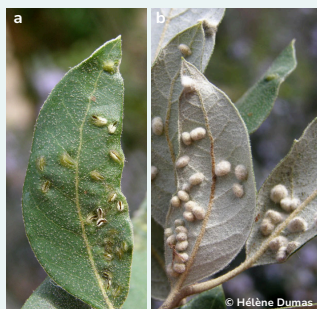


Fig 1. Galls on *Q. ilex* a) upperside and b) underside on the leaves.



Fig 2. Leaf galling and distorted stems on *Q. ilex*.

Holm oak Phylloxera (*Phylloxera quercus*)

Background

The Holm oak Phylloxera is an aphid-like, sap-sucking insect, that feeds on the leaves of holm oak and other oak trees (*Quercus* spp.).

The insect is found in southern Europe (Italy, Spain, France), North Africa (Algeria), and the Middle East (Iraq).

These insects feed on the leaves. Heavy infestation can lead to general decline in the tree's vigour, especially in the case of young or stressed trees. The related species oak leaf phylloxera (*P. glabra*) causes similar symptoms on English oak (*Q. robur*)

Symptoms

- Tiny (<1mm) orange-yellow aphids (Fig. 1a) and nymphs (Fig. 1b) on leaf underside.
- Small, yellowish or reddish spots on the leaf surface around the feeding zone (Fig. 2a&b), that causes leaf discoloration.
- Premature leaf drop and stunted growth (Fig 3).

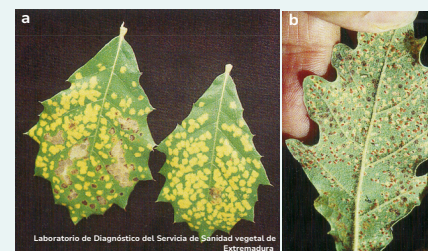


Fig 2. Yellow and brown spots on the a) upper surface and b) underside of *Q. ilex* leaves.

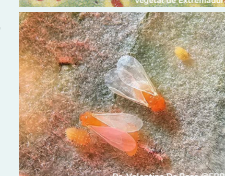
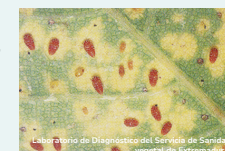


Fig 1. Presence of a) aphids and b) nymphs of *P. quercus*.



Fig 3. Stunted growth on *Q. ilex*.