



## **Pests and Diseases of Amenity Trees** **A summary of some important diseases on Amenity Trees and shrubs in Great Britain**

### **Introduction**

The Tree Advice Trust's staff answer by telephone, and letter many enquiries about all aspects of the growing and management of trees and shrub. Many of these enquiries relate to diseases of trees in gardens, parks, roadsides and in the countryside. This gives our staff a foresight into developing problems which may warrant further investigation on site or in the laboratory. In some instances information needs collating and making available in an appropriate form.

The following list of problems reflects the most commonly asked questions relating to tree health.

If you have a problem with trees and shrubs don't hesitate to contact The Trust's staff for assistance (see the end of this note for details). Your problem could be significant for trees and shrubs throughout Britain.

### **1. Honey fungus**

Honey fungus can kill conifer and broadleaved trees in parks, gardens and woodlands. It is caused by several species of the fungus *Armillaria* and is probably the commonest problem affecting trees and shrubs in gardens. An extremely wide range of woody plants are attacked with fruit trees, Willows, Walnut, Birch, Cedars and Cypresses being particularly susceptible, together with shrubs such as Rhododendrons, Azaleas and Roses. The fungus attacks and kills the roots. It spreads through the soil by means of rhizomorphs, which are commonly known as bootlaces. The toadstools are produced only in the **autumn** and are brown or honey coloured and grow in clumps on dead plants or old stumps. Control of Honey fungus depends on the use of resistant species for replanting and the removal of all diseased plants from the soil, including the roots and stump. There are no chemicals available for control of Honey fungus. For detailed information on recognition of Honey fungus see the Tree Advice Trust Information Note "Honey Fungus".

### **2. Bleeding Canker of Horse chestnut**

Since about year 2000 this disease has become the most important disease on Horse chestnut trees. The symptoms are black marks on the stem and main branches, which weep copious amounts of blackish liquid. Dieback in the crown follows rapidly and eventually the tree may die. Up to 2000, the disease was not common and was believed to be caused by two species of *Phytophthora*. However, the recent outbreaks are now

considered to be caused by the bacterium *Pseudomonas syringae* pv *aesculi*. A full description of the problem is given on the Forestry Commission website [www.forestresearch.gov.uk](http://www.forestresearch.gov.uk).

### **3. Horse chestnut Leaf miner. *Cameraria ohridella***

This pest was first noticed in the Wimbledon area in 2002 and since then has become very widespread in Britain. The larvae of this moth produce mines within the leaves. This leads to heavy mottling and browning of the leaves and early leaf-fall. Although the trees look very unsightly there is no long term damage to the health of the tree. For further information see Exotic Pest Alert, "Horse chestnut leaf miner" available from Forest Research, Alice Holt Lodge, Wrecclesham, Farnham GU10 4LH.

### **4. Phytophthora Root Rot**

Phytophthora are microscopic soil borne fungi which attack the fine roots of trees and shrubs, causing plants to die. Wet soil conditions and heavy mulching favour the disease. Many common garden plants can be affected, but Phytophthora can be a particular problem with Yew (*Taxus*) trees and formal hedges. *Phytophthora* is the only known fatal disease on *Taxus*. See Tree Advice Trust Arboriculture Research Note 58/85 Path or Arboricultural Leaflet No.8 "Phytophthora diseases of Trees and Shrubs" HMSO London.

### **5. Cypress aphid, *Cinara cupressi***

This insect causes brown patches to develop in trimmed Cypress hedges. The damage first appears in late spring or early summer when the foliage becomes yellow or straw coloured. The dying foliage then turns to a rusty brown over the summer. The damage may be restricted to small patches on the hedge or cover larger areas. Leyland cypress hedges are the most commonly affected, but other Cypresses can also be affected. For full description and recommended control measures against this pest see Forest Research Tree Pest Advisory Note "Cypress Aphid"

### **6. Oak Decline**

Oak decline or oak dieback mainly occurs in woodlands, but individual trees in parks and gardens can also be affected. The first symptoms are a change in colour of the foliage, the leaves will be paler green than normal and then turn yellow. Death of fine twigs may follow leading to dieback of larger branches; subsequently the tree may die. Often black "tarry" spots are seen on the main stem. Episodes of the condition have occurred in the past and the condition is now described as "Acute oak decline". Past episodes have been attributed to drought, defoliation by insects, Honey fungus and attacks by Buprestid beetles on weakened trees. Recent investigations isolated bacteria from affected trees and these may be responsible for the current episode of Oak decline. Further information about oak decline is available from the 'Protected Trees' area of the Forestry Research web site [www.forestresearch.gov.uk/oakdecline](http://www.forestresearch.gov.uk/oakdecline)

### **7. Sudden oak death**

Sudden oak death (SOD) is a condition entirely unrelated to Oak decline (see 6. above). Sudden oak death is caused by two species of Phytophthora, *P.ramorum* and *P.kernoviae*,

which can infect hosts other than oak, including Beech, Horse chestnut and Sycamore and ornamental nursery plants such as rhododendrons and Viburnum. In woodland and gardens the disease is spread from foliar infections on rhododendrons to the trees on which bleeding cankers develop on the trunks and may eventually kill the tree. Although Sudden Oak Death is now widespread on nursery stock, the number of trees infected is still relatively low. There are no measures that can be recommended at present for control of the disease. See [www.forestresearch.gov.uk](http://www.forestresearch.gov.uk) for more information.

## **8. Decay fungi**

Fungal fruiting bodies are often found on living trees or growing on the ground near-by. Although as many as 50 different species can be found on trees or on stumps, most of the significant decay is probably caused by around ten species. If fungi are found on trees, it is important that the species is identified so that its importance in regard to tree safety can be assessed. The top ten fungi causing decay in trees in Britain are:-

### **Commonest Host Trees**

<i>Armillaria</i> species	Wide range of broadleaved and conifer trees
<i>Ganoderma</i> species	Wide range of broadleaved trees
<i>Inonotus dryadeus</i>	Oak
<i>Inonotus hispidus</i>	Ash and London Plane
<i>Kretzschmaria deusta</i>	Beech and Lime
<i>Laetiporus sulphureus</i>	Oak, Sweet chestnut and Yew
<i>Meripilus giganteus</i>	Beech, London Plane
<i>Perenniporia fraxinea</i>	Ash, London plane, and Beech
<i>Polyporus squamosus</i>	Beech, Sycamore, Ash and Lime
<i>Rigidoporus ulmarius</i>	Ash, London plane, Poplar, Beech, Lime, Horse chestnut, Sycamore

As noted above identification of the fungi involved is important and the following list of books is recommended for this purpose.

“Mushrooms and other fungi of Great Britain”- Roger Phillips. Published by Pan Books.

“The Encyclopedia of Fungi of Britain and Europe”-Michael Jordan .Published by Francis Lincoln.

“Principles of Tree Hazard Assessment and Management” by David Lonsdale (Chapter 4). The Stationery Office , London

Arboricultural Leaflet No. 5 Common decay fungi in broadleaved trees

FC Leaflet 79 Decay fungi in conifers

## **9. Box Blight**

The first symptoms of Box Blight are brown spots on the leaves; the leaves then turn brown and fall. The bark on shoots and the stem may also be affected and die; there will be grey or black streaking in the wood. Eventually the plants may become completely defoliated and die. Box Blight is caused by two different fungal pathogens, *Volutella buxi*, which has been present in England for many years and *Cylindrocladium buxicola*, which has only been found in the country for the past 10 or so years. Both diseases are favoured by long periods of damp weather and most noticeable during cooler and wetter months. The common Box, *Buxus sempervirens* and its cultivars are attacked by both pathogens, but *B. sempervirens* ‘Suffruticosa’ a dwarf cultivar especially used for

parterres, is particularly susceptible to *Cylindrocladium*. Control measures include cutting out diseased twigs and removing dead plants. There are no approved fungicides available to amateur gardeners to control this blight, but fungicides that include myclobutanil and penconazole and are labeled to control any disease on ornamentals could be used at the owners risk.

Further information see Tree Damage Alert 84 “ A Pox on Box” The Tree Advice Trust “Box Blight rampages onwards” in. The Plantsman ,September 2006 by Beatrice Henricot.

#### **10. Dieback of the Golden False Acacia *Robinia pseudoacacia* ‘Frisia’**

In 2007, many young and early mature specimens of ‘Frisia’ were noticed shedding most of their leaflets. Many of the affected trees died or suffered severe dieback of major limbs in the following year. In some cases there was vigorous recovery growth, only to dieback again. Examination of affected trees has shown death of tissues around buds/leaf scars/spine groups, which develop into cankers in twigs and older branches. These cankers may extend longitudinally, or kill the branch by girdling. The cause of the disease has not yet been determined but investigations by staff of The Tree Advice Trust and monitoring of the problem is continuing.

Further information see Tree Damage Alert no.129-“Frisia Progress” The Tree Advice Trust

#### ***The Tree Advice Trust***

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*Tree Damage Alerts (free), Arboricultural Practice Notes (APN) and Arboriculture Research and Information Notes (ARN and ARIN) are published by the AAIS which is part of the Tree Advice Trust.*

*The Arboricultural Association ([www.trees.org.uk](http://www.trees.org.uk)) publishes a range of information leaflets on growing and managing trees.*

The Tree Advice Trust provides advice, information and guidance on the cultivation, management and care of trees and shrubs grown for ornament and enjoyment to raise the standards of practice in UK.
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