

A new record of parasitism of the introduced London Plane Tree, *Platanus acerifolia* (Aiton) Willd. (Platanaceae) by the Australian native mistletoe, *Dendrophthoe vitellina* (F.Muell.) Tieghem (Loranthaceae)

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Abstract: The introduced London Plane Tree [*Platanus acerifolia* (Aiton) Willd., Platanaceae] is recorded for the first time as being a host for the parasitic mistletoe, *Dendrophthoe vitellina* (F.Muell.) Tieghem (Loranthaceae). The record is from the western Sydney suburb of Riverstone, New South Wales, Australia.

Introduction

Platanus acerifolia, the London Plane tree, is a well known tree species planted in many countries as a street tree because it prefers full sun and is intolerant to shade but is tolerant of polluted city air [as is the case during many days each year at Riverstone!]. It is a deciduous tree growing to 30-40 metres high with a 20-25 metre spread. It is a native of the Northern Hemisphere, although it is stated to be a hybrid between two other *Platanus* species (e.g. Brockman, 1968).

Dendrophthoe vitellina is one of Australia's most common mistletoe species, ranging from the Atherton Tableland in north-eastern Queensland to Mallacoota in Victoria (Robinson, 1997). The flowers are very distinctive in being yellow with reddish tips.

Observations

On 22 October 2005, I was walking along the main street of Riverstone, New South Wales, Australia and noticed flowers of the mistletoe, *Dendrophthoe vitellina* (F.Muell.) Tieghem (Loranthaceae) littered on the footpath near where I was walking. Expecting to see the main host of *Eucalyptus* (Myrtaceae) in the immediate area, I was surprised to observe a tree of *Platanus acerifolia* (Aiton) Willd. (Platanaceae) bearing about 6 plants of this mistletoe above me. Examination of all the other 15 *Platanus acerifolia* trees growing along the footpath in a row along the street indicated that all were parasitized by the mistletoe. None of the *Platanus* trees appeared greatly affected by the infestations, which numbered up to 10 mistletoe plants per tree. No other mistletoe species were found growing on the *Platanus* trees.

Comments and Conclusions

Dendrophthoe vitellina is a mistletoe most commonly observed growing on species of

Eucalyptus and other Myrtaceae (e.g. Robinson, 1997). However, in the most recently published review of mistletoe hosts for the Australian flora, *D. vitellina* is recorded from a very wide range of hosts, some of them introduced plant species to Australia (Downey, 1998). Downey (1998) recorded the following genera and families as hosts of *D. vitellina*: *Schinus* (Anacardiaceae), *Annona* (Annonaceae), *Nerium* (Apocynaceae), *Canarium* (Burseraceae), *Casuarina* (as *Allocasuarina*)(Casuarinaceae), *Callophyllum* (Clusiaceae), *Excoecaria* (Euphorbiaceae), *Chamaecytisus* (Fabaceae), *Cryptocarya* (Lauraceae), *Barringtonia* (Lecythidaceae), *Amyema*, *Muellerina* (Loranthaceae), *Lagerstromeria* (Lythraceae), *Magnolia* (Magnoliaceae), *Hibiscus* (Malvaceae), *Melia* (Meliaceae), *Acacia*, *Pithecellobium* (Mimosaceae), *Rapanea* (Myrsinaceae), *Angophora*, *Callistemon*, *Eucalyptus*, *Eugenia*, *Kunzea*, *Leptospermum*, *Lophostemon*, *Melaleuca*, *Psidium*, *Tristania* (Myrtaceae), *Hakea*, *Grevillea*, *Persoonia* (Proteaceae), *Crateagus*, *Cydonia*, *Malus*, *Pyrus* (Rosaceae), *Citrus*, *Euodia* (Rutaceae), *Populus*, *Salix* (Salicaceae), *Exocarpos* (Santalaceae), *Mischocarpus* (Sapindaceae), *Brachychiton* (Sterculiaceae), *Symplocos* (Symplocaceae) and *Zygogynum* (Zygophyllaceae). *Platanus* (Platanaceae) was not listed in the review, although thousands of herbarium records were apparently utilized for the listings (Downey, 1998). [In my personal scientific opinion, some of these host records are dubious and need verification, e.g. I find it difficult to believe that this mistletoe [*D. vitellina*] could parasitize the poisonous, latex- filled, shrubby *Nerium* (Apocynaceae), but I guess miracles do happen! Likewise for years I have visited the habitats of *Kunzea ambigua* and other species of this genus and never yet observed *D. vitellina* parasitizing these species].

My host record from Riverstone therefore adds another species and family to the known list of actual and potential hosts of *D. vitellina*. With the decline of eucalypts in the Riverstone area, this mistletoe appears to be broadening its host range in order to survive. However, it appears to have had, at the time of writing, few, if any, detrimental effects on the growth and health of the London Plane Trees.

References

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