

# A new larval host plant for the Botany Bay Diamond Beetle, *Chrysolopus spectabilis* (Fabricius) (Coleoptera: Curculionidae).

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Abstract: *Acacia sophorae* (Labill.) R.Br. (Mimosaceae) is recorded here as a new larval host plant for the Botany Bay Diamond Beetle, *Chrysolopus spectabilis* (Fabricius) (Curculionidae) from the Hastings Point area, north-eastern New South Wales. This brings the known number of larval host plants to seven, all of which are *Acacia* species.

## Introduction

The biology and host plants of the Australian weevil, *Chrysolopus spectabilis* (Fabricius), have been reviewed recently by Hawkeswood (1991, 1992). Further observations on the host plants of this weevil were made on 7 September 1993 at Hastings Point, north-eastern New South Wales (28°20'S, 153°35'E) and are reported here for the first time.

## Observations

A dying plant of *Acacia sophorae* (Labill.) R.Br. (Mimosaceae) about 1 m in height, had collapsed near the base onto a semi-cleared area in heathland on Holocene sand at Hastings Point, New South Wales. Some of the branches/stems had rooted and had been partially covered with sand and other debris through wind action.

Examination of some of the main root system and the branches/stems which had been submerged, revealed that they were being eaten by the larvae of weevils (Curculionidae) and longicorn beetles (Cerambycidae). The thickest root/branch system measured 35-45 mm in diameter, tapering down to about 20mm.

Four almost mature larvae were collected from their chambers. These were measured and the results recorded in Table 1. The larvae occupied only the portions of the branches and main taproot of the plant which were situated below ground level, i.e. those parts covered entirely by sand. Most of the infested portions were moist to very wet, were rotting and produced a characteristic strong smell of decaying proteins and oils from the *Acacia* wood. The chambers were usually filled at either end

with compacted faeces and chewed wood fragments. The identity of the weevil was confirmed by the presence of fragments of the bodies of two dead adult *C. spectabilis* in separate chambers. These adults had probably died as a result of fungal attack in overly moist pupal chambers before they had a chance to emerge. The larvae were preserved and are in the collection of the author.

## Discussion

Previously, there have been six larval host plants recorded in the literature for *C. spectabilis* (Hawkeswood, 1991; Hawkeswood, this paper, Table 2). The record of *A. sophorae* as a larval host takes this tally to seven and clearly indicates that certain *Acacia* species, which are known to be adult food plants, may also be larval hosts, viz. *A. sophorae* was initially listed as an adult host, by Hawkeswood (1991), but this is now known also to harbour larvae. Further research should extend the larval host spectrum considerably.

The larvae collected from Hastings Point conform to the brief description of Froggatt (1893) and resemble the rough illustration of Tillyard (1926). This larval material will be described in detail by the author at a later date. *Chrysolopus spectabilis* appears to prefer young *Acacia* plants for food in disturbed areas (Hawkeswood, 1991, 1992) and this seems to be the general case in northern New South Wales. The beetle is becoming rarer in this area as

the heathlands and associated woodlands are being continually cleared. Fortunately, the species is widespread and should be found in the various National Parks and Reserves to the immediate south of Hastings Point.

Pupal chamber dimensions			Stem diameter
Length	Width	Height	
52	8-10	8-9	42
55	6-8	6-8	40
40	8-10	7-8	23
42	8-10	9-11	42

Table 1. Measurements of some pupal chambers of *Chrysolopus spectabilis* (Fabricius) in the wood of *Acacia sophorae* (Labill.) R.Br. (Mimosaceae) at Hastings Point, New South Wales. (All measurements are in mm).

**Literature Cited**

**Chadwick, C.E.** (1978) Distribution and foodplants of certain Curculionoidea (Coleoptera) with special reference to New South Wales. *General and Applied Entomology*, 10: 3-38.

**Froggatt, W.W.** (1893) On the life-histories of Australian Coleoptera. Part 1. *Proceedings of the Linnean Society of New South Wales*, 8: 27-42.

**Froggatt, W.W.** (1902) Insects of the wattle trees. *Agricultural Gazette of New South Wales*, 13: 701-720.

**Froggatt, W.W.** (1927) Native insects and introduced trees. *Australian Naturalist*, 7: 12-14.

**Gallard, L.** (1916) List of insects associated with *Acacia decurrens*. *Australian Naturalist*, 3: 112-114.

**Hawkeswood, T.J.** (1991) Review of the history, biology and host plants of the Australian weevil *Chrysolopus spectabilis* (Fabricius) (Coleoptera: Curculionidae: Aterpinae). *Spixiana*, 14: 17-25.

**Hawkeswood, T.J.** (1992) A new adult host plant for *Chrysolopus spectabilis* (Fabricius) (Coleoptera: Curculionidae). *Victorian Entomologist*, 22: 42-43.

**Illidge, R.** (1922) Insects of wattle trees. *Queensland Naturalist*, 3: 61-64.

**Tillyard, R.J.** (1926) *The Insects of Australia and New Zealand*. Angus and Robertson Ltd., Sydney [1-560].

Host Plant	Locality	Reference
<i>Acacia baileyana</i> F. Muell.	Brisbane, Qld	Illidge (1922)
<i>Acacia decurrens</i> (Wendl.) Willd.	Sydney, NSW	Froggatt (1902), Gallard (1916)
<i>Acacia longissima</i> Wendl.	Sydney, NSW	Froggatt (1893)
<i>Acacia pycnantha</i> Benth.	Wee Waa, NSW	Froggatt (1927)
<i>Acacia sophorae</i> (Labill.) R.Br.	Hastings Point, NSW	this paper
<i>Acacia suaveolens</i> (Sm.) Willd.	Sydney, NSW	Froggatt (1893), Chadwick (1978)
<i>Acacia terminalis</i> (Salisb.) MacBride	Sydney, NSW	Froggatt (1893), Chadwick (1978)

**Table 2.** Summary of the larval host plants and some references for *C. spectabilis* (Note: All hosts are Mimosaceae).