

BOTANICAL ODD BALLS Gail Slykhuis



Female cones, *Allocasuarina verticillata*

On a recent ANGAIR nature ramble where the subject of plant identification was Drooping Sheoak, *Allocasuarina verticillata*, I recounted my early confusion associated with the fruiting cones of this species. As a dioecious plant, Drooping Sheoak has separate male and female plants, which should be easily identifiable when flowering, particularly where the female cones are present. The male plants have catkins, the female plants have flowers which develop into woody cones. However, what I discovered were woody cones on male plants. The cause of my confusion was the presence of woody galls, deceptively formed to blend in, masquerading as female cones and housing a solitary insect. Apparently, I am not the only one to be deceived, 'Various species of insects, especially coccids, *Hemiptera*, (Gullan 1984), form distinctive galls on *Casuarinaceae*; some of these may be mistaken for fruiting cones but they are actually modified vegetative branchlets,' *Vol. 3 Flora of Australia*.

This article investigates several galls commonly observed on our local vegetation.

Allocasuarina Galls - *Cylindrococcus* spp.



Young *Allocasuarina* gall

Coccid insects, closely related to scale and mealy bugs are responsible for the galls found on *Allocasuarina* species. Galls are growth malformations and in this situation are caused through the feeding action of the insect. The sap sucking feeding of Coccid insects ensures their saliva comes into close contact with the plant cells. Such contact can stimulate the plant to form galls which will resemble the fruit of *Allocasuarina* species. These galls will be home to either a male or a female insect and by opening a gall you may be lucky enough to locate a cavity containing a pink,



Mature *Allocasuarina* gall

fleshy, legless, creature approx. 0.4cm in length. This is the female coccid, its cavity within the gall providing both food and a home for life. The mature males are winged and therefore able to experience freedom when they leave their galls for reproductive purposes.

Golden Wattle Bud Galls - *Trichilogaster signiventris*

These commonly observed galls are caused by the action of a very small wasp (2.3–3.2mm long). The female wasp lays multiple eggs into the flower or growth buds of the Golden Wattle, *Acacia pycnantha*. On hatching, the wasp larvae secrete chemicals which stimulate the plant cells to form galls. The larvae undergo metamorphosis within the gall, the winged adult wasps emerge through small holes before flying off to find a mate.

The development of galls within a flower bud reduces the flowering and subsequent seed formation of a plant, it is also thought that the growth of galls reduces the overall resilience of the host plant. These factors would explain why *Trichilogaster signiventris* has been introduced into both the Eastern and Western Cape Provinces of South Africa as a biological control agent against Golden Wattle, where it has become an invasive weed.



Golden Wattle bud gall

References : *Pests Diseases & Ailments of Australian Plants (1986)* David Jones, Rodger Elliot

[https://en.wikipedia.org/wiki/Trichilogaster signiventris](https://en.wikipedia.org/wiki/Trichilogaster_signiventris)



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