

Eucalyptus maidenii Turret Gall Organism

Formal Discovery Report for DOI Registration

Caleb Charles Manley
Upala Co.

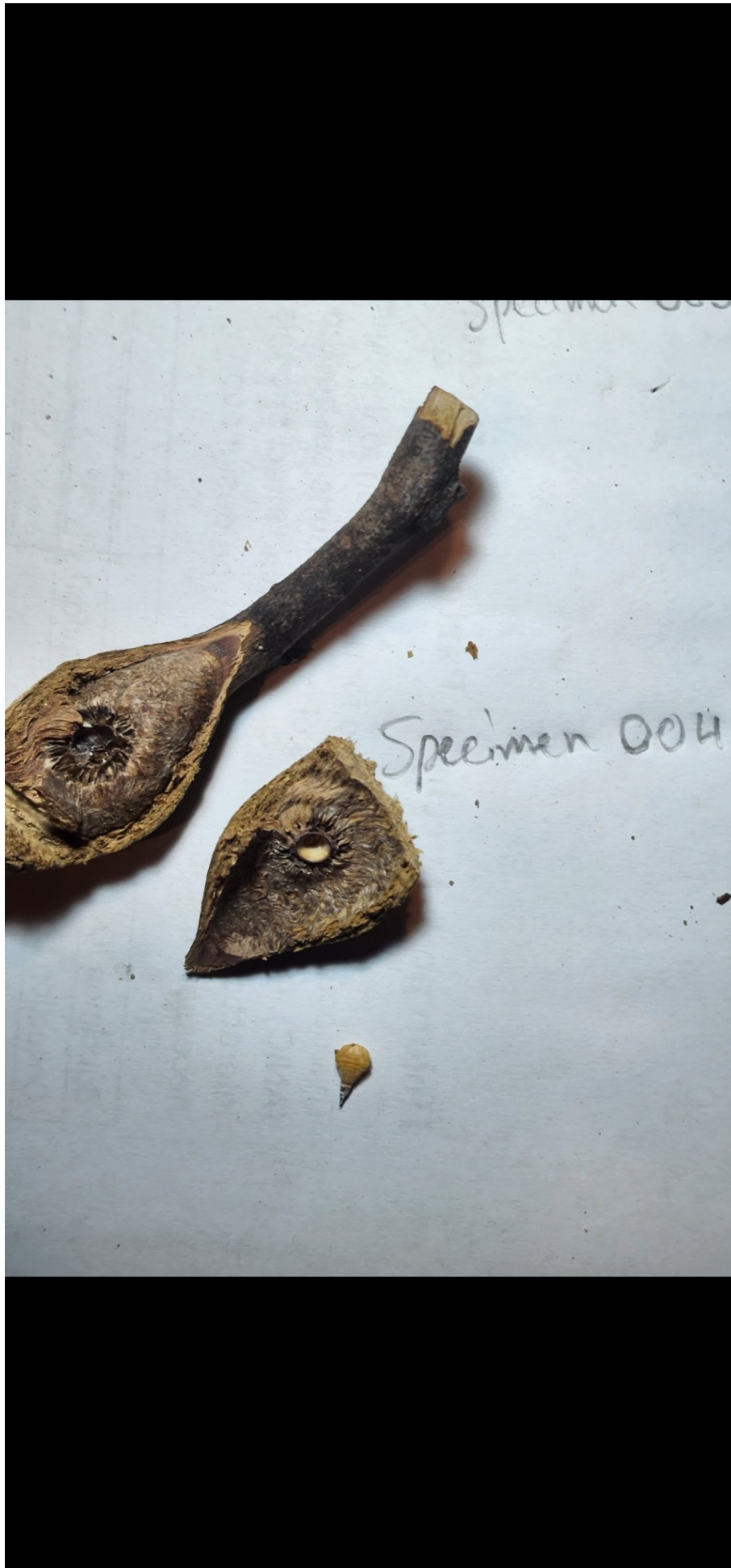
Abstract

This report documents the discovery of a previously undescribed gall-associated organism forming turret-like structures within *Eucalyptus maidenii* branches. The organism demonstrates unique larval morphology and gall architecture, representing a potentially novel taxon of ecological and evolutionary significance. Provenance is secured through photographs, physical specimens, and timestamped records, with preparations underway for formal deposition and DOI registration.

Specimen Documentation



Specimen 001



Specimen 002



Specimen 003



Specimen 004



Specimen 005



Specimen 006



Specimen 007

Morphological Description

The organism presents as a soft-bodied larva encased within a woody gall structure. The larva produces a pointed, keratinised turret that maintains an open airway to the external environment. Gall tissues exhibit a circular fibrous iris-like pattern around the turret base. Developmental observations indicate sequential growth stages: initial larval occupancy, turret formation, subsequent enlargement, and eventual emergence or death within the chamber.

Comparative Assessment

Preliminary comparisons suggest divergence from known ant and wasp gall systems. Unlike hymenopteran galls, the turret structure is persistent, keratinised, and aligned to maintain airflow. The organism does not resemble typical Cecidomyiidae (midge) larvae, which lack turret morphogenesis. Fungal involvement cannot be excluded but is unlikely to account for larval morphology. The combination of traits supports recognition as a distinct gall-associated entity, possibly representing a novel insect lineage or unique adaptation.

Provenance & Holotype Statement

Holotype: Specimen 001 (*Eucalyptus maidenii* branch gall, collected Wyndham NSW, Sept 2025). Preserved dry with photographic documentation and voucher images. Paratypes: Specimens 002–004, representing additional developmental stages. All stored in sealed vials and cross-sectioned gall samples. Provenance secured by timestamped digital records and photographic evidence.

DOI Confirmation Statement

This document constitutes the formal discovery report of the *Eucalyptus maidenii* turret gall organism and is hereby prepared for DOI registration, securing authorship and provenance under international standards.

Provenance & IP Protection

All specimens remain under the custody of the discoverer, Caleb Charles Manley (Upala Co.). Plans are in place to deposit holotype and paratypes with CSIRO and/or collaborating museums. This ensures compliance with ICZN protocols and secures authorship rights through DOI attribution.

Acknowledgements

Acknowledgements are extended to CSIRO entomology contacts, museum partners, and independent advisors consulted during the early documentation stages. Their input has supported the preparation of this archival record.

References

– Shorthouse, J.D. & Rohfritsch, O. (1992). *Biology of Insect-Induced Galls*. Oxford University Press. – Stone, G.N. & Schönrogge, K. (2003). The adaptive significance of insect gall morphology. *Trends in Ecology & Evolution*. – CSIRO (2025). Private correspondence and advisory notes.