E2-18: An anti-fungal compound from *Camellia sinensis*

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Camellia sinensis (tea) is attacked by the Shot Hole Borer beetle, *Xyleborus fornicatus*. Some clones of tea (2025) have been found to be more vulnerable to attack by the beetle than others (2023). The beetle has a symbiotic relationship with the Ambrosia fungus, *Monacrosporium ambrosium*, which appears to be essential for the completion of the life cycle of the beetle. Although many other fungi are present in galleries abandoned by the beetle, the Ambrosia fungus alone is found in occupied galleries.

Stems of the tea clones 2023 and 2025 were separately extracted with dichloromethane and methanol. The extracts were tested for anti-fungal activity against *Cladosporium cladosporioides*, *Monacrosporium ambrosium* and *Aspergillus niger* using preparative silica gel plates. Anti-fungal activity was observed to be highest in the dichloromethane extract of the vulnerable clone 2025. These extracts were fractionated using medium pressure liquid chromatography. The fractions were monitored by the TLC- Bioassay method. A white crystalline compound A1 (m.p. 220- 221°C) was isolated from the most active fraction of the dichloromethane extract. This compound was also found in the hot dichloromethane extract of the stem bark of clone 2025 together with α-Spnasterol and 1 other sterol.

A research grant from Council for Agricultural Research Policy is acknowledged.