Australian Blackwood windfall patterns in the forest interior of the southern Cape afrotemperate forests, South Africa.

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Introduction

- The alien invasive, Australian Blackwood (Acacia melanoxylon), actively introduced to southern Cape’s afrotemperate forests in the early 1950s, is well established today.
- Blackwood is used in the high-quality furniture industry and makes up the largest percentage of the timber volume and revenue from timber sales.
- Past management practices allowed blackwood to grow to maturity in the forest interior to yield good quality timber.
- This practice was justified by the theory that blackwood does not invade aggressively in the forest interior.
- Current perceptions of blackwood’s invasive qualities rest mostly on incidences of spread data in the forest interior vs. margins.
- Studies on how blackwood may be disturbing the natural forest interior dynamics have been mainly absent.
- Blackwood is more prone to windfall than most indigenous trees.
- Allowing blackwood to grow to maturity in the forest interior allows it more time to windfall.
- We hypothesize that blackwood windfall patterns may differ from indigenous species’ natural windfall patterns thereby altering the natural forest disturbance patterns.
- We test this hypothesis by investigating the windfall patterns of blackwood and indigenous species within the forest interior.

Methods

- This is a case study that needs to be replicated and our data and results are therefore preliminary.
- Data was collected in the forest interior of a forest compartment in Tsitsikamma (Lottering).
- The study area is 21.3 ha in size with a forest interior blackwood tree density of 17.32 trees/ha.
- All dead or live wind-felled blackwood and indigenous trees were recorded.
- Each wind-felled tree’s species name, stem diameter, status (dead or alive) and location were recorded, and it was indicated whether the tree was wind-felled directly, or whether it was pushed over by another wind-felled tree, and if so, the particulars of the wind-felled tree that caused the damage.

Results & discussion

![Fig 1 Number of blackwood trees (grey bar) and indigenous trees per species that were felled by wind and by blackwood.](https://example.com/figure1.jpg)

Our data suggests that blackwood is more prone to windfall than indigenous tree species and causes damage by falling on, and felling, indigenous tree species at a higher rate than when wind-felled naturally.

Blackwood may therefore be an aggressive invader in the forest interior by changing the natural disturbance patterns.

REFERENCES