The Survival of the Fairy : An In-Depth Survey into the Behavior and Life Cycle of the Sand Fairy Cicada, Year 3

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This is the third year of a study that has significantly expanded our knowledge of the tiny Sand Fairy cicada (Sylphoides arenaria). Prior to this study only distribution, habitat and morphology details have been documented. In the first year, the author rediscovered this sand-dwelling cicada on Sydney's urban beaches, the last sighting being 1918. Using ladder transect surveys to map cicada exuviae and belt transects to record male calls: seasonal frequencies, behavioral patterns, predators and a mating sequence were documented for the first time in the study's second year. These surveys revealed seasonal weather events, such as storm surges and not human traffic, have been predominantly responsible for endangering the Sand Fairy's survival. The second year's highlight was capturing this female after mating and filming her egg-laying 2 days later - the shortest ever documented gestation time for any cicada species. In a bid to replicate this event in the study's third year, a controlled simulated beach environment with live Hairy Spinifex and Pigface for vegetation was set up in a glass tank at the author's school. Two emerging wild females were captured and joined by two males who subsequently mated once with a unique female with time between copulation and oviposition measured at 5 and 2 hours respectively, the latter rivalling the shortest recorded time for any insect species. Courting and other behaviors were filmed and documented in captivity for the first time. Ladder and belt transects were continued in the third season, monitoring seasonal trends and differences.

Awards Won:
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