

NOTE
Ant Damage to Dendrobium Flowers

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The Agricultural Experiment Station at the University of Guam is currently screening various orchids for use as cut flowers in Guam. Hybrids of the genus *Dendrobium* are currently being screened for release. In March 1990 spots began appearing on developing buds (Fig. 1). Eventually most of the dendrobiums had spotted racemes. The fully expanded flowers frequently had distorted petals and sepals in addition to the purple spotting (Fig. 2).

We began to observe that most of the buds on young, developing racemes had lavender spots. The flat mite, *Brevipalpus californicus* (Banks), produces such symptoms. Microscopic examination showed no mites. Further examination revealed ants crawling on racemes with young buds (Fig. 3). Closer observation revealed that the ants appeared to be damaging the outer surfaces of the bud tissues. The ants were moving back and forth from the racemes to the benches and the ground. The ant was identified as *Pheidole* sp. The following experiment was set up to confirm that the ants were producing the spots and distortion on the buds.

The ants were suspected of causing damage to the buds. Sticky barriers ("stickems") were applied to the bottoms of the racemes, which prevented the ants from getting to the buds.

Four treatments were used:

1. Stickem on the scape of newly developing racemes.
2. Stickem on the scape of racemes with 50% of the buds developed and showing damage.
3. No stickem on newly developing racemes.
4. No stickem on racemes with 50% of the buds developed and showing damage.

Each treatment was repeated on 4 different plants. The total number of plants was sixteen. The plants were grown with these treatments until all flowers had opened. Plants were positioned so that the raceme was isolated to prevent ants from reaching the bud by other routes. The inflorescences were visually evaluated for evidence of purple spotting.

The stickem treatments prevented further damage to the buds. Ants were observed climbing the pseudobulbs of all plants. The stickem acted as a barrier to the ants. It was concluded that the ants were responsible for producing the spotting of the buds. The ants can become a severe problem because ants can

form colonies in each pot. Once the ants are established, it is very difficult to eradicate them from the area. Currently, barriers of sticky substances are the most effective and safest means of preventing damage to the inflorescences.

