

SCIENTIFIC NOTE

Cicada (*Diceroprocta apache* (Davis)) mortality by feeding on *Nerium oleander*. In mid-July 1977, there was a strong emergence of cicadas, *Diceroprocta apache*, in the vicinity of Tacna, Yuma County, southwestern Arizona. In this desert habitat the adult cicadas were feeding on the sap of many species of desert shrubs, including *Prosopis juliflora*, *Cercidium floridum*, *Cercidium microphyllum*, and *Acacia gregii*. It was commonplace to flush two to fifteen adult cicadas from a shrub of one of these species. In the grounds of a motel and several private gardens in Tacna, *Nerium oleander* had been planted as an ornamental tree. Cicadas were often observed feeding on the twigs of these trees. The plants ranged from 2 to 3 m in height and were of approximately the same size as native desert shrubs. Oleander is native to old world arid areas such as the Mediterranean. It is in the family Apocynaceae and it is widely reputed to be poisonous to livestock when fed upon. If the foliage is broken, it produces a bitter white latex. Characteristically, oleander bushes are very free from herbivore damage, no matter where they are planted. Under 10 separate oleander bushes in central Tacna, I counted 28, 12, 15, 17, 3, 22, 9, 7, 16, and 23 dead cicadas. Under one bush, I know that at least 6 died during the night as they fell on top of my car which had been parked underneath the bush. Both sexes were among the corpses. No dead cicadas were encountered under a total of 17 shrubs of other species, all of which had cicadas feeding on them in central Tacna. The dead cicadas were in various stages of decomposition, which suggests that they had died over a period of several days.

I interpret these observations to mean that oleander is a novel food plant in the habitat of these cicadas, a food plant with which they have not evolved the ability to avoid. In other words, there may well be plants which adult *D. apache* do not feed on in south-

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western Arizona deserts, since they surely must have the ability to avoid poisonous food plants indigenous to their own habitat. However, the fact that they fed on oleander and were apparently killed by it suggests that their avoidance behavior is specific to the set of plants native to the habitat rather than some kind of generalized behavior which would allow them to recognize oleander as a poisonous plant. Judging from the miniscule proportion of oleander in the total biomass of plants fed on by the total cicada population, it seems extremely unlikely that these cicadas would ever evolve resistance to oleander, even if the relevant mutant were to appear.

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