

Killdeer Nest Abandonment Possibly Caused by Ants

Bette J. Schardien Jackson and Jerome A. Jackson

Department of Biological Sciences
Mississippi State University
Mississippi State, MS 39762

On 11 July 1984, we discovered a Killdeer (Charadrius vociferus) nest in a 20 cm strip of bare dirt and sparse grasses between a tennis court and a chainlink fence on the Mississippi State University campus in Oktibbeha County, Mississippi. The female was color-banded and known to have nested successfully in the same site in 1983 and at another site earlier in 1984. At the time of discovery the 4 eggs were pipped and all young were alive, active, and peeping, although small ants were moving to and from the nest. When JJ picked up one of the eggs to examine it, ants came streaming from the small hole made by the hatching chick. We removed all of the eggs and killed ants as they left each egg. When no more ants came from the eggs, we formed a new nest depression 10 cm from the old nest and placed the eggs in it. The female immediately returned to shade the eggs from the sun. At 10:00 we returned and the female was on the nest and ants had again found the eggs. We again removed the eggs to rid them of ants, collected some of the ants for identification, and replaced the eggs in the new nest. We then left to look for a suitable chemical to use at the nest to protect the eggs from the ants. When we returned at 10:30, no adult Killdeer was present and the ants had again infested the eggs. We watched until 13:30 and no adult Killdeer appeared. The female's mate was never seen near the nest, but was also color-banded and known to be in the area. At 13:30 we removed the eggs, rid them of ants, and transferred them to a Killdeer nest where four fresh eggs had been broken by a lawn mower 3 hours earlier. That pair, also color-banded, adopted the eggs and three of four chicks hatched and left the nest on 12 July. All three were color-banded and were seen with their adoptive parents two weeks later.

The ants collected were later identified by Richard Brown as Iridomyrmex pruinosus, a species native to the Gulf states. Members of this genus are known to invade bird nests and to feed on eggs. They are also said to "drive setting hens from the nest, especially when the eggs are accidentally broken, and kill hatching chicks" (Smith 1965:54).

Trivers (1972) has discussed what has become known as the theory of "parental investment," wherein the more parents have invested in their young, the stronger the attachment becomes and the less likely they will abandon a nest. We have never known adult Killdeer to abandon all of their hatching young, although late hatching young are occasionally left in favor of leading the others away. Thus, some potent stimulus was involved in the desertion by the parents. We believe it was the presence of the ants.

Also of interest is the adoption of hatching eggs by the Killdeer pair whose own eggs had been destroyed. Their eggs had been incubated for only four days before they were destroyed, thus, they "hatched" young and successfully cared for them after they had incubated eggs for only five days. Normal incubation requires about 24 days (Schardien 1981).

Acknowledgments

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Literature Cited

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