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Red imported fire ant predation on Crested Caracara nestlings in south Texas.—In 1989 I observed two instances of red imported fire ant (*Solenopsis invicta*) predation on newly hatched nestlings of Crested Caracara (*Caracara plancus*) in the vicinity of the Attwater Prairie Chicken National Wildlife Refuge (APCNWR), Colorado County, Texas (29°40′N, 96°15′W). The refuge encompasses 3232 ha of prairie, marsh, cropland and riparian forest and is kept in secondary succession for habitat for the endangered Attwater's Prairie Chicken (*Tympanuchus cupido attwateri*).

A lone caracara chick hatched in Nest 1 and two chicks hatched in Nest 2 on 16 July and 23 July 1989, respectively. Both nests were built 20 cm below the canopy in Macartney rose (*Rosa bracteata*), approximately 2 m above the ground. On the morning of 16 July I checked Nest 1. The male was perched on a nearby Macartney rose and the female was on the nest. Both adults flew when I climbed the nest tree. I found one live day-old chick and the remains of what appeared to be an unfertile egg (egg yolk, shell fragments) at 08:30 h CST. I observed fire ants on shrub branches near the nest. The adults returned to the nest as soon as I left the area. I returned to the nest in the late afternoon and observed the adults in the same positions as in the morning. I climbed the nest tree again and found the chick dead in the nest covered with fire ants at 16:00 h. I retreated to my truck and at 17:00 h CST saw the female fly to the nest. In a few minutes shew flew off with the dead chick in her bill and dropped it approximately 100 m from the nest. The adults remained in the natal area for another five days, usually perched on shrubs near the nest tree. After 21 July the adults were not seen again. On the afternoon of 23 July I checked Nest 2 for hatching. I found two dead one-day-old chicks in the nest covered with fire ants. The adults perched near the nest but did not appear to enter the nest that day. I returned to the nest on July 24, but was not able to locate the adults. Later observations suggest that the adults abandoned the nest.

I observed five caracara pairs hatch first clutches during the period January–March, 1989, but I found only two clutches in June. Both of these were preyed upon by fire ants. Fire ants apparently were not active during the colder weather in January, February, and March (maximum temperatures of 18.7°C, 14.6°C, 21.8°C, respectively), and cold probably restricted the ants' movements. Porter and Tschinkel (1987) found red imported fire ant workers foraged from 15° to 43°C, with maximum rates between 22° and 36°C. Porter (1988) reported red imported fire ant colony growth ceased below 24°C.

Predation by red imported fire ants on newly hatched chicks has been reported for Northern Bobwhite (*Colinus virginianus*) (Stoddard 1931), Wood Ducks (*Aix sponsa*) (Ridlehuber 1982), Cliff Swallows (*Hirundo pyrrhonota*) (Sikes and Arnold 1986), and colonial water-

birds (Drees 1994). Ridlehuber (1982) reported fire ants destroyed three of 20 clutches in Wood Duck nest boxes. Sikes and Arnold (1986) reported that nesting success with fire ants was 40.5%, compared to 74.9% for nests without ants. Drees (1994) found no fire ant mortality of hatchling waterbirds in late February to mid May, but observed 100% mortality of nests monitored during June and July. Information on ant predation on a raptor is limited to a report by Parker (1977) on Mississippi Kite (*Ictinia mississippiensis*) nestlings. Parker (1977) found three kite nests out of 400 had nestlings preyed upon by native ants of the genus *Monomorium.*

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Food delivery and food holding during copulation in the Loggerhead Shrike.—Copulation in mated birds sometimes is accompanied by a ritual, including the delivery of food from one member of a pair to the other (e.g., Lack 1940, Calder 1967, Tasker and Mills 1981). Observed copulations in the Loggerhead Shrike (*Lanius ludovicianus*) appear to share the common element of food delivery by the male prior to his mounting the female. The retention of the food by the female during copulation has also been reported. Here, I summarize behaviors associated with six copulation events I observed by Loggerhead Shrikes during 1991 through 1993, and I suggest one possible interpretation of precopulatory food delivery and the subsequent holding of the food during copulation in this species.