MATING OF THE SAN LUCAN ALLIGATOR LIZARD, *GERRHONOTUS PAUCICARINATUS*: AN ENDEMIC BAJA CALIFORNIA LIZARD

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*Gerrhonotus paucicarinatus* (Sauria: Anguidae), is small (SV length, 110 mm) lizard reported only from the Cape San Lucas region in the State of Baja California Sur in Mexico. It is quite abundant in the oak-pine forest of the mountains, but also occurs in Lower Sonoran habitats, including meadows, from sea level to 6200 feet. Lais (1976) summarized the literature on this species, most of which is concerned with taxonomy or geographical distribution. Information on reproduction is lacking.

As part of a general study of the herpetofauna of the Sierra de la Laguna we made daily observations in the field over 5 consecutive days, in each of two months in the autumn of 1986. The study area was 3 ha (23°30'-109°54'W). We collected 13 adults of the species (6 females) in October and 8 (5 females) in November. The live specimens were housed in 3 m x 6 m enclosures in the Centro de Investigaciones Biologicas at La Paz, and were observed 8 hours daily.

In the second half of October copulation was observed 5 times (one time in the field). The basic pattern of mating behavior can be summarized as follows:

As the male approaches the female, he maintains a distance of 0.60 - 1.15 m. The male makes slow and deliberate movements to get close to the female, and would then suddenly rush toward her. This behavior is in contrast to that of male iguanids that use rhythmic head-bobbing to approach the female (Carpenter, 1967, 1980; Ferguson, 1970; Gutierrez, 1983). If the female is receptive she remains still, otherwise she tries to escape.

When the male reaches the female and intends to hold her, she always tries to avoid it, thus the male struggles with her until he can grab her neck or shoulder with his mouth. If the male can not grab the neck or shoulder on the first attempt he bites another part of the body to keep her immobile. He then executes a series of rapid movements in order to change his position until he grabs the right side of her neck with his mouth and clasps her with his front legs (Figure 1). At this point, in two of the observed copulations, the pair rolls over several times due to the females' attempts to escape the male's hold. The male positions his tail under the female so that both cloacas are in contact so intromission can take place. The pair is in this position for 5 - 17 minutes, followed by the male's pelvic movements lasting 9 to 18 seconds; at the same time the male made pelvic movements he scratched the sacral region of the female with his hind foot. The female remained still throughout the male's hold in a position very similar to the submissive posture described by Carpenter (1978) for *Sceloporus*. The pair remained inactive for periods up to 54 minutes alternating with periods of sexual excitement and copulatory movements, until the male relaxes his bite and the female liberates herself from the lock position and runs away.

The average time for mating in the five pairs observed was approximately 8 hours and 17 minutes. This was the time from when the male approaches the female for the first time until the female runs from the male after copulation.

*Gerrhonotus paucicarinatus* is probably a temperate lizard that is a fall breeding species, with gametogenesis, mating and fertilization occurring in the
Male no. 1 (with a dot of paint on head) and female no. 4 during copulation in the enclosure.

fall months (Guillette and Casas-Andreu, 1980; Ortega and Barbault, 1984). Mating in *G. paucicarinatus* occurs in the fall; thus embryonic development may occur during the winter followed by parturition or oviposition in the spring.

Undoubtedly, much more work must be devoted to obtain a better comprehension of the general behavior and reproductive cycle of this unique species, which could be the keys for its evolutionary success in the only forest in the entire state of Baja California Sur.

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Literature Cited


