

area (mostly on land), but this gives little indication of the actual mortality affecting the population. Several *T. coahuila* had serious carapacial burn scars, and some mortality can probably be attributed to fires. Several small patches of recent burning were noted in spring 1969 by M. A. Nickerson (pers. comm.), one of them within the study area. Two dead marked *T. coahuila* Nickerson found had burn scars, circumstantial evidence that fire killed them.

The population of *T. coahuila* studied was composed of approximately 57% adult females. Assuming that all were sexually mature, probably 90 females were capable of reproduction in the adult population of around 160 individuals. The annual egg production of these females may be about 400 eggs per season if (1) all 90 deposit at least a single clutch averaging 2.7 eggs (240 eggs produced); (2) if 47 (53%) deposit a second clutch averaging 2.4 eggs (110 eggs produced); and (3) if 31 (35%) deposit a third clutch averaging 1.7 eggs (50 eggs produced). To maintain a stable population individuals dying each season must be replaced. If adult mortality is low, a total annual complement of 400 eggs in the population studied could safely withstand rather high losses from the time of deposition to the time sexual maturity is attained.

SOCIAL RELATIONSHIPS

No aggressive encounters between *T. coahuila* were observed in the field, although individuals frequently foraged near one another. Four times I saw two or more *T. coahuila* in the same vicinity. Usually only one turtle was initially seen and watched, but when I moved forward to secure it, I found a second turtle nearby. Twice a male and a female were involved; in another instance a male was caught but the second individual escaped. On one occasion three turtles, all females, were within 3 meters of each other.

The limited evidence suggests no defense of a territory in nature, but frequent fights between *T. coahuila* have been noted in an outdoor enclosure at Arizona State University (W. L. Minckley, pers. comm.) Fighting in nature may not be as rare as suggested, but only difficult to observe, as Evans (1961) pointed out.

Evans (1956a, 1956b) reported aggressiveness and social hierarchies in captive *T. c. carolina*. Penn and Pottharst (1940) reported marked aggressiveness and fights among captive *T. carolina major*. In a laboratory study involving 13 *T. c. carolina* in two groups, Boice (1970) observed: (1) stable social hierarchies resembling those of more commonly studied vertebrates; (2) hierarchies accompanied by behaviors that ranged from pushing to biting; and (3) a potential for territoriality