

picta per acre in open water of Michigan and Pennsylvania marshes, respectively.

Probably 60 turtles per acre (148/ha) is representative of *T. coahuila* population densities in most small marshes in the Cuatro Ciénegas basin, as the study area does not appear atypical. The aquatic *T. coahuila* thus occurs in densities roughly comparable to the aquatic species *Chrysemys picta* and *Pseudemys scripta*, and at considerably higher densities than its terrestrial congeners, *T. carolina* and *T. ornata*.

MORTALITY AND REPLACEMENT.—Proper analysis of any population requires data on age-specific survivorship and fecundity (Deevey 1947; Hutchinson and Deevey 1949; Andrewartha and Birch 1954; Slobodkin 1961). Birth rates and death rates depend strongly on the age distribution of the animals, and even density may mean little without some knowledge of the population's age structure. Unfortunately no natural size groups that might indicate age were apparent in *T. coahuila*.

Few mortality rates in any phase of the life cycle of turtle populations have been published. Probable reasons for the lack of information are the comparatively low year-to-year mortality of adult turtles and their relatively long life spans, making it difficult to follow a population for the many years that would be necessary to measure age-specific mortality.

Prenatal mortality may take the greatest toll in many turtle populations. Moll and Legler (1971) reported that predators, chiefly lizards (*Ameiva*) and armadillos (*Dasypus*), robbed 213 of 231 nests of *Pseudemys scripta* in Panama. Predators destroyed many nests of *Gopherus berlandieri* in southern Texas (Auffenberg and Weaver 1969). Only an estimated 2 percent of an annual complement of 6,000 *Chrysemys picta* eggs in Michigan survived to become part of the population (Gibbons 1968b); egg predation was thought to be a major factor. Mortality curves (Slobodkin 1961) of the *C. picta* population seemed to fit two general patterns: type IV, heavy mortality in the young (i.e., egg) stages; and type III, constant mortality rate with age in the mature segment of the *C. picta* population (Gibbons 1968b). Mortality affecting immature *C. picta* (which comprised an estimated 60 percent of the population) was judged to be constant but lower than that affecting adults, but Gibbons seemingly did not account for greatly reduced growth rates after maturity. This appears to have had nearly as great, if not greater an effect on the survivorship data than did the supposed greater exposure to environmental hazards with increased activity associated with reproduction in mature turtles as Gibbons (1968b) suggested.

I found shells or old skeletal remains of 18 *T. coahuila* in the study