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# CARRION COMMUNITIES IN THE NORTHERN CHIHUAHUAN DESERT

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ABSTRACT. Carrion community composition was examined in 40 rabbit carcasses at three northern Chihuahuan Desert study areas in Texas and New Mexico from May to August, 1976. Four seral stages of decomposition are described for the carcasses: Fresh, Active, Advanced Decay, and Dried. Of 80 arthropod species collected, 63 are identified as participants in the carrion community. Six vertebrate forms were participants. Probable feeding roles of arthropod and vertebrate taxa are presented. Diversity and concentration of dominance were calculated for seral stages, and relationships to resource diversity and food chain complexity are discussed. Removal efficiency of vertebrates and colonization efficiency of arthropods are correlated to describe a probable abbreviation of arthropod carrion communities in small carcasses; possible implication for arthropod adaptations are presented. No direct correlation appeared between carrion community composition and area meteorological conditions.

Tissues of dead animals provide a food source within ecosystems, supporting a population of consumers that include decomposers and invertebrate and vertebrate animals. This consumer population may in turn support associated populations of predators and parasites, producing a "microcommunity" (Reed 1958).

Previous investigations of carrion communities have focused largely upon carrion insects (Motter 1898; Illingworth 1926; Brannon 1934; Fuller 1934; Kaufmann 1937; Howden 1950). Behavior and food habits of vertebrate scavenger species also are well-known for vultures (Parmalee 1954; Stager 1964) and coyotes (Murie 1951; Rogers 1965). The role of microbes in processing animal tissue has been extensively investigated (Elkan and Moore 1960; Okafor 1966; Wahlquist 1971; Cahenzli 1975). More comprehensive studies of the carrion microcommunity conducted in the eastern United States by Reed (1958), Payne (1965), and Johnson (1975) have ad-

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