size, including the more recent Seber-Jolly method, largely would have been inappropriate for the present data. We strongly recommend, therefore, that biologists avail themselves of the powerful and thorough analyses provided by CAPTURE to analyze capture-recapture data.

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DECOMPOSITION RATES OF VARIOUS QUANTITIES OF BURIED LITTER IN A DESERT.—Whitford, et. al (Pedobiologia 4:243-245, 1980) examined the relationship between the quantity of surface litter and the rate of decomposition in a desert ecosystem. Their results showed that the greater the initial litter weight, the greater the rate of litter disappearance. In the Chihuahuan desert, litter is buried by wind and water around obstructions and in excavations made by animals (Santos and Whitford, Ecology 62:654-663, 1981; Steinberger and Whitford, unpublished data). Based on the data of Whitford, et. al (1980), we hypothesized that litter loss through decomposition would be highest in the large quantity litter bags. Santos and Whitford (Ecology 62:654-663, 1981) showed that the highest rates of decomposition in buried litter in summer was during the first 30 to 60 days. Therefore we chose 6 weeks from late June through early August for this experiment. This is also the period when excavations filled with litter are buried (Steinberger and Whitford, unpublished data).

Creosotebush, *Larrea tridentata*, leaf litter was collected, sun dried for 2 to 3 days, then sieved three times through a series of standard sieves, 5, 8, and 16 mesh to remove small fragments that sift out of the bags. Litter quantitites of 1, 5, 10, 20, and 50 gm are confinded in fiberglass litter bags, 14 cm x 13 cm, mesh size 1-5 mm (Crossley and Hogland, Ecology 43:571-573, 1962). After each bag was filled with litter and weighed, it was placed in a Ziplock (TM) plastic bag to retard handling loss. The 75 litter bags were removed from the Ziplock bags, placed horizontally in three 5 cm deep trenches and covered with soil. One trench was immediately uncovered, the litter bags removed, and resealed in plastic bags. These 25 (5 of each quantity) zero time bags were then processed to provide a correction for organic matter loss due to handling.

After 6 weeks the remaining 50 bags were retrieved and processed in the same manner as the zero-time samples. All samples were processed using the procedure outlined by Santos and Whitford (1981) to correct for soil infiltration into buried litter bags.

To determine the initial organic content of the litter, five 5 gm samples were oven dried at 60 C for 72 hr, burned in a muffle furnance at 450 C for 8 hr and re-weighed. Samples of soil from the site were taken when the bags were buried and removed, and were processed in the same manner as the litter. The site was on the New Mexico State University Ranch 40 km NNE of Las Cruces, New Mexico.

Organic matter loss was greatest in the 1 gm, and least in the 50 gm bags. There was no significant difference in organic matter loss among the 1 gm, 5 gm, and 10 gm quantitites ($p > .05$). But, there was significanct difference in organic matter loss between these and the 20 gm and 50 gm quantities ($F = 63.6$ $p < .0001$) (Fig. 1). Thus the relationship between litter quantitiy and decomposition rate in buried litter in a desert soil is the reverse of surface litter accumulation where decompoisition was higher at higher litter accumulations (Whitford et. al., 1980). The reduction in precent organic matter loss is probably attributable to the reduction in surface areas per unit mass in the bags containing larger quantities of litter. All litter bags used in this experiment had the same surface area: 182 cm^2. In shallow, buried litter accumulations such as these, organisms that contribute to litter breakdown (e.g., mites, collembola, psocoptera, nematodes, bacteria, and fungi) move or grow into the litter from the soil hence the surface-mass relationship would be very important. Whitford et. al. (Amer. Mid. Natur. 1982, 108:105-110) present data showing that under certain conditions disappearance of surface litter also appears related to soil surface-litter interface relationships.

The results of this experiment have important implications for litter decomposition in Chihuahuan desert ecosystems. Litter accumulates in small excavations made by rodents in quantities less than 5 gm. These accumulations are buried and as shown here, decomposition is rapid. Litter also is buried in larger excavations, but these occur at a lower frequency and density than the small excavations.

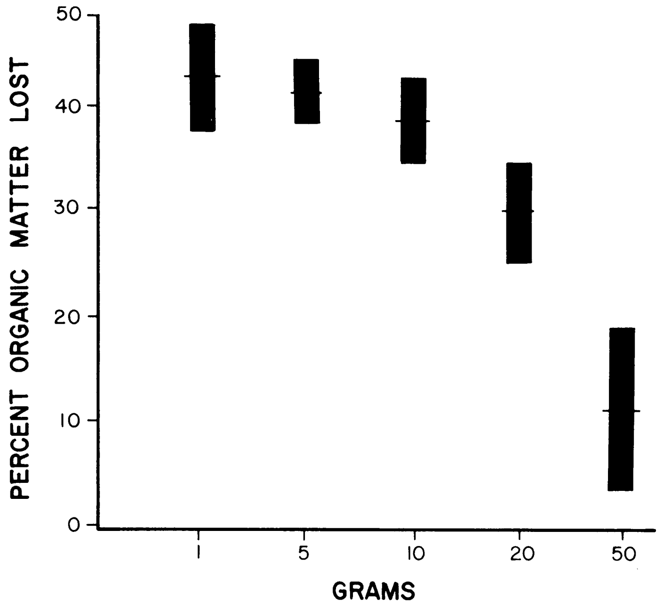

FIG. 1.—Relationship between organic matter loss and initial mass of creosotebush leaf litter buried at 5 cm depth.

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ADDITIONAL RECORDS OF *CORDYLOPHORA LACUSTRIS* ALLMAN, 1871 (HYDROIDA: CLAVIDAE) FROM TEXAS.—*Cordylophora lacustris* is a branched colonial hydrozoan occurring in brackish water and more rarely in inland freshwater throughout the world. Pennak (*Fresh-Water Invertebrates of the United States*, 1978) describes the general distribution in North America as brackish waters of Atlantic and Pacific coast and rivers in Illinois, Arkansas, Ohio, Oklahoma, Tennessee, and Louisiana. *Cordylophora lacustris* was first reported in Texas from Orange, Angelia, McCulloch, and Pecos counties (McClung, Davis, Commander, Pettitt, and Cover, Southwestern Nat., 23:363-370, 1978).

McClung et al. (1978) suggested that *C. lacustris* is probably more widespread than the literature indicates since it is easily damaged and overlooked when nonselective collection methods are employed. To test this theory, four collection stations were established in the Concho River watershed within a 58 km radius of San Angelo, Texas: two stations on the Concho River, one on Spring Creek, and one on the South Concho River. The stations were intensively collected at 30 to 90 day intervals during 1977-79 according to the method described by McClung et al. (1978). Collections were made in riffle habitats similar to those reported suitable for the species. The presence of bryozoans was scrutinized since *C. lacustris* often occurs in association (McClung et al., 1978).

Cordylophora lacustris did not occur at the South Concho site, but was found in 14 of 22 samples from the other three localities. The overwintering condition was observed in January and February collections, and also in a July sample from Spring Creek following cessation of stream flow during dry weather. Colonies were again active when normal flow resumed the following August. These observations dispel the suggestion of McClung et al. (1978) that the overwintering condition may not occur in the warm waters of the state, which they proposed on the basis of their failure to find overwintering colonies in previous studies and the fact that Poirrier and Denoux (Southwestern Nat., 18:253-255, 1973) failed to find overwintering organisms in similar waters in Louisiana.

New localities for *C. lacustris* from Texas include: Bosque Co.; North Bosque R. 0.3 km N Clifton Athletic Field: Brown Co.; Pecan Bayou, 0.3 km downstream from US 83 in Paint Rock; Colo-