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## PYGMY RABBITS IN THE COLORADO RIVER DRAINAGE

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ABSTRACT.—A range extension of the pygmy rabbit, *Brachylagus idahoensis*, into the Colorado River basin and a hypothesis as to its route of emigration.

The following report records the occurrence of *Brachylagus idahoensis* (Merriam) beyond its published range in the Bonneville Basin. The southeastern record of occurrence is 4.8 km NE Panguitch, Garfield Co. (Stephenson 1966). Holt (1975) reported "an isolated population about 15 miles south of Fish Lake on the Parker Mountain." On 7 July 1982 Michael Coffeen, Utah Division of Wildlife Resources, collected a pygmy rabbit ca 16 km S of the Fish Lake Ranger Station in Wayne Co., T28S R1E S14, elev. 2,379 m, and on 12 September 1982 Mark Oveson, unaware of Coffeen's specimen, reported seeing pygmy rabbits 4.8 km W of Loa, T28S R1E S3, elev. 2,183 m Wayne Co. (personal communication). Since then six live individuals plus two skulls have been collected from the Parker Mountain region of Awapa Plateau. The live animals were used for preparing karyotypes and saved as voucher specimens. This is the first published report of pygmy rabbits outside the Pleistocene Lake Bonneville (Columbia River) drainage. Awapa Plateau is part of the Fremont River watershed that eventually enters the Colorado River. Two of the specimens were females and two were males, but sex was not determined on the other three. Selected mean measurements (in millimeters) of two females and two males compared with means from *Brachylagus* reported by Janson (1946) in parentheses were as follows: Tot. L. 251, 218 (291) (278); Tail L. 20, 18 (17) (17); H.F. 66, 63 (70) (70); Ear. 52, 56 (50) (51). Means of greatest length of skull (N = 8) compared with means of the same measurement on skulls from 23 pygmy rabbits from Dubois, Idaho, are respectively 51.8 (S.E. = 0.72) to 49.8 (S.E. = 0.54). The

voucher specimens and the comparison skulls of the Idaho rabbits were deposited in the mammal collection of the Life Science Museum, Brigham Young University. The rabbits and their sign (burrows and pellets) were essentially confined to tall big sagebrush, *Artemisia tridentata*, stands in shallow washes. This is consistent with other observations on pygmy rabbit habitat as reported by Merriam (1891), Grinnell et al. (1930), Orr (1940), and Green and Flinders (1980). According to some of the older ranchers in Loa, these "little rabbits" have been there as long as they can remember and have been extensively hunted along with cottontails and black-tailed jackrabbits (personal communication, 1984).

Assuming that big sagebrush is essential for these mammals, there are three possible routes of dispersal that might have been used by the pygmy rabbit to emigrate from the Great Basin to the Awapa Plateau (Fig 1). One route would be to exit the Great Basin and Sevier River by following the valley formed by Peterson Creek, near Sigurd, Sevier Co., up to Awapa Plateau. This is essentially the same route now used for Utah Highway 24. The other two routes leave the Great Basin from NE Iron Co. Janson's (1946) distribution map indicates a population of pygmy rabbits 24 km NW of Parowan, Iron Co. Individuals from this or nearby populations could have emigrated east through Buckskin Valley and Dog Valley into the Sevier River drainage SW of Circleville, Piute Co. From that point the most direct route would have been to follow the Sevier River down to its junction with East Fork of the Sevier River north of Circleville, thence east past Kingston along the

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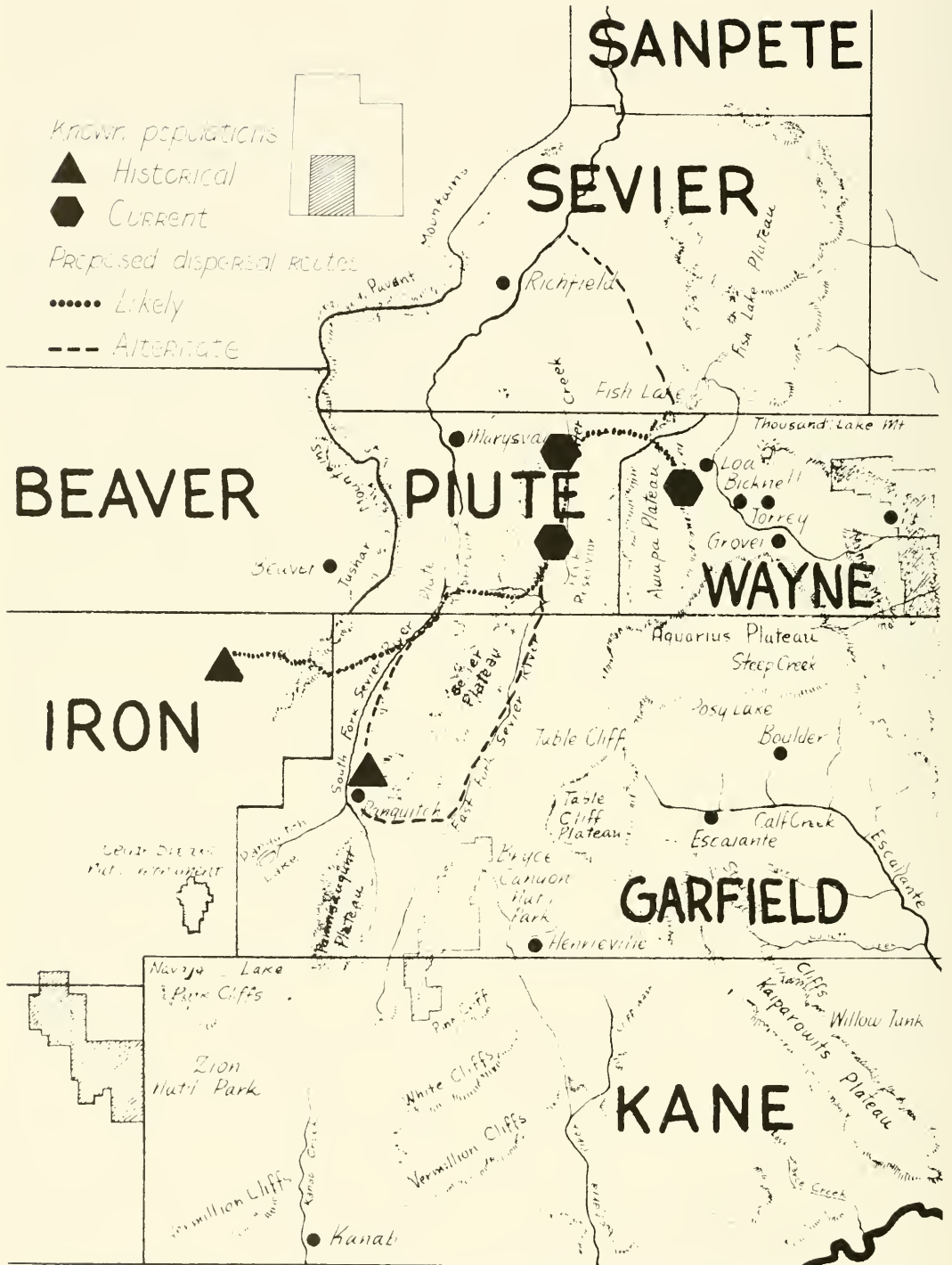


Fig. 1. Locations of historic and present pygmy rabbit populations in the study area and routes of proposed emigration.

lower portion of East Fork of the Sevier River to Otter Creek. This route would then follow

Otter Creek drainage north through Grass Valley to the Parker Mountain Range. Once

into the Sevier River drainage near Circleville an alternate route might have followed the Sevier River south to Panguitch, the location of Stephensen's (1966) pygmy population, and on south along the river to its junction with Red Canyon. This route would then cross Paunsaugunt Plateau through Red Canyon and Coyote Hollow into Emery Valley, just north of Bryce Canyon National Park. The East Fork of the Sevier River flows through Emery Valley, a historic sagebrush community, to its junction with Otter Creek. From this junction pygmy rabbits could have followed the route previously suggested through Grass Valley to Parker Mountain.

During the summer of 1986, we spent several days following the proposed routes looking for pygmy rabbits and pygmy rabbit sign. Both their pellets (they pile their tiny, hard pellets like pack rats) and burrows (entrance shape) are distinctive. We were able to find pygmy rabbits or their sign from Burrville, ca .8 km northwest of Parker Mountain, south through Grass Valley to just north of Otter Creek Reservoir where big sagebrush ends and cultivated land and pastures begin. Holt (1975) found a small population of pygmy rabbits west of Otter Creek Reservoir. However, we were not able to find that population. The valley between Kingston and Otter Creek is narrow and very disturbed. One of the last large patches of big sagebrush along this 19-km route had just been plowed and harrowed which made it impossible for us to tell if pygmy rabbits were or had been there. We

found no sign of pygmy rabbits from Sigurd to Burrville, and no pygmy rabbits or sign were observed through Emery Valley. Because of these observations, we feel the route from northeastern Iron Co. to the junction of the East Fork of Sevier River, up to Otter Creek and north through Grass Valley to Parker Mountain to be the most logical dispersal route for this group of lagomorphs.

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