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Establishing the status of the American black bear in southern Missouri

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The current status of the black bear population in Missouri is largely unknown, as we have little to no information concerning its size, reproductive status and origin. However, evidence suggests that the bear population is increasing and the potential for conflicts between humans and a growing bear population makes it essential to learn more about Missouri's bears, including their origins. We tested the hypothesis that Missouri's bears originate from Arkansas against the hypothesis of a relict population that remained in the state and repopulated. To test this hypothesis, DNA was obtained from three relevant bear populations: southern Missouri bears, northwestern Arkansas bears in the Ozark National Forest, and west-central Arkansas bears in the Ouchita National Forest. Missouri bear DNA was collected using hair samples from snares and blood/tissue samples from nuisance bears and Arkansas bear DNA data was obtained from Don White at the University of Arkansas. At this time, nine Missouri bears have been genotyped at six microsatellite loci and have been compared at those six loci to the Ozark National Forest bears ($n=21$) and the Ouchita National Forest bears ($n=45$). Using Structure to assign bears to populations, eight of the nine Missouri bears assigned to the Ozark National Forest population and the remaining bear assigned to the Ouchita National Forest population. This data appears to support our hypothesis that Missouri's bears are likely to have originated from Arkansas. To further test our hypothesis, we are currently genotyping additional Missouri bear hair bear samples (≈ 10) and collaborating in an ancient DNA study of 200 year old Missouri bears ($n=8$).