A Natural and Unnatural History of Faunal Change in Southwestern New Mexico since AD 500

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Project goals

- Compile faunal datasets (published and unpublished) and analyze existing collections from as many archaeological sites as possible (currently, 96 assemblages from 45 sites)
- Focus on Mimbres and Upper Gila – San Francisco drainage areas in southwest New Mexico
- Examine changes in species abundance and distribution over time using archaeological and historic records
- Enhance interdisciplinary communication for archaeology and biology
- Publish results in a variety of venues

Aquatic species

Fish uncommon in most archaeological assemblages, even in fine-screened contexts. However, a few sites (Tomolt, 3-Up, and WS Ranch in the San Francisco drainage, Sipe-McFarland and Woodrow Ruin in the Cliff Valley, Janus and Montoya in the Mimbres Valley) have larger numbers, sometimes from just a few contexts.

Archaeological fish remains are nearly always identified to the family level at least. Where possible, more specific identifications are highly desirable for understanding the distribution of native fishes. More than half of the region’s native fish species are threatened or endangered today.

Catfish (Ictalurus) listed in some archaeological reports, but the only native Southwestern species known historically is the common channel catfish (Ictalurus punctatus) found only in the Rio Grande basin. Unclear identification criteria in published archaeological reports make assessing potential changes difficult.

California cooter (Anectonitia californiensis) numerous archaeological specimens from sites, including the Cliff Valley area; this shell is unobtrusive for 40 hours, so transport is unlikely. Largely extirpated in the Southwest today, historic range poorly known.

Changes in species distributions

灭绝或濒危的物种

- 墨西哥黄头鱼（Ictalurus pricei）
- 黄褐色爪哇鱼（Chapmepteryx castanea）
- 三种来自黑山的鱼，当前范围位于里约热内卢德拉格兰德

Initial results

Climate change

Holocene epoch warming and increasing aridification from south to north led to contraction of mammal range and apparentness of meadow voles (Microtus pennsylvanicus) as well. In contrast the ranges of peccary and coyote, for example, have recently expanded northward into the region.

Anthropogenic change

Several obligate aquatic, riparian, and grassland species found in archaeological assemblages are rare or absent today (e.g., mustelids, muskrat, prairie dog), as the increased scale of human impacts has disproportionately affected these habitats.

Improving reporting in zooarchaeology

Zoarchaeologists should be more aware of when taxa occur out of their historic and modern ranges, and discuss this in reports. The use of fine screens to capture rodent teeth and other small but highly informative remains should become a more standard practise (Scarth and Harris, 1985).

When unusual or out-of-range taxa are found, we must discuss how they were identified and distinguished from similar taxa, with reference to anatomical markers or published discussions.

Acknowledgments

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Literature Cited


Guzman, roundtail chub (San Francisco), and probably the razorback sucker (Xyrauchen texanus). Several obligate aquatic, riparian, and grassland species found in archaeological assemblages are rare or absent today (e.g., mud turtle, muskrat, prairie dog), as the increased scale of human impacts has disproportionately affected these habitats.

Beaver range: a Mimbres conundrum

Two decades reported as beavers have been recorded from the closed basin of the Mimbres River (Mimbres site), the only record of this species outside the waterbodies of the Gila/San Francisco and Rio Grande. Were beavers once present in the Mimbres? There are no historical records or even reports from early missions. Compounding the issue, recently beavers have been found active in small floods of the Mimbres. Were these unauthorized translocations?

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