

A BRIEF HISTORY OF VERTEBRATE PALEONTOLOGY AND THE GROWTH OF THE COLLECTION AT THE UNIVERSITY OF ARIZONA

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ABSTRACT

The vertebrate fossil collection of the University of Arizona expanded due, in part, to active fossil hunting over many years by James G. Honey and his colleagues. It grew to over 20,000 numbered specimens by the mid-1990s. The collection was built for teaching and research but became largely inaccessible and began to deteriorate. Recent efforts by the coauthors led to rehusing and stabilization of the collection, which is once again available for study.

HISTORY

University of Arizona (UA) records indicate the University of Arizona Laboratory of Paleontology (UALP) collection comprises 23,730 numbered specimens from 9,906 fossil localities, primarily from the southwestern United States, with an emphasis on Arizona, and from northern Mexico. The majority of the material is Clarendonian (9–11.5 Ma) and younger. Additional fossils from the Cretaceous, Paleocene, and Eocene of the San Juan Basin, New Mexico, collected primarily in the 1970s, were transferred to and are now curated in the New Mexico Museum of Natural History & Science in Albuquerque.

The precise beginning of the UALP remains unknown. However, it originated during the tenure of Dr. John F. Lance, mostly likely in the early 1950s. Lance trained as a vertebrate paleontologist at Cal Tech in southern California and received his Ph.D. in 1949 as a student of Chester Stock. Lance joined the faculty of the UA in 1950 where he taught geology and vertebrate paleontology and later served as head of the Geology Department.

When Lance established the UALP collection, localities were assigned in a numerical sequence. In 1967 Lindsay introduced a system from Berkeley in which the first two digits of a locality are the last two digits of the year in which the site was first recorded. For example, 6719, Hunter Canyon Wash, Cochise County, Arizona, was the nineteenth locality recorded in 1967.

Lance became involved in studying the geoarchaeology of the Southwest soon after moving to

Tucson. The Rancholabrean sites at Lehner Ranch and elsewhere are noteworthy for the juxtaposition of Paleo-Indian artifacts with proboscidean remains (Haury et al., 1953; Lance, 1959). UA geochronologist C. Vance Haynes and paleontologist Peter Mehringer discovered the Murray Springs Site and led excavations there from 1966 to 1971 (Haynes and Hemmings, 1968; Saunders, 1979).

The Lehner and Murray Springs localities both contain the layer that has come to be known as the “Black Matte.” Several years ago, Bob Brackenridge, a UA geomorphology graduate student, speculated that this black stratum resulted from an extraterrestrial event, a supernova (Brackenridge, 1981). More recently other researchers also suggested that it resulted from an extraterrestrial event (Firestone et al., 2007).

In 1963 Lance took a temporary position at the National Science Foundation (N.S.F.) in Washington, D.C., while his younger daughter was receiving medical treatment at Bethesda Naval Hospital. Following her death, Lance and his family returned to Tucson and the University of Arizona in 1965. In 1967 the N.S.F. asked him to help set up their program in geology and to serve as its director. Lance accepted, and once again left the University. He requested his friend and colleague Dr. Donald Savage to suggest a possible replacement. Savage recommended Everett H. Lindsay, who had just completed his Ph.D. at Berkeley.

Lindsay encouraged interdisciplinary collaboration with archaeology, paleobotany, and paleomagnetic dating. His many graduate students came from several states and two were from Japan. Lindsay



FIGURE 1. Old wooden cabinetry at the Desert Laboratory on Tumamoc Hill, out of alignment.

provided his graduate students with opportunities to do field work and research in Mexico, Pakistan, and China in addition to the U.S.

During Lindsay's twenty-nine years (1967–1996) as professor at UA, he vigorously pursued mapping and collecting new fossil localities as well as previously known localities in Arizona (Lance, 1960) and northwestern Mexico by him and his students. These include the San Pedro Valley (e.g. Gidley, 1922; Stirton, 1931; Gazin, 1942; Jacobs, 1977; Harrison, 1978; Lindsay et al., 1990), the Bidahochi formation (Repenning et al., 1958; Baskin, 1979), and Yepómera, Chihuahua, Mexico (Lance, 1950; Lindsay and Jacobs, 1985; Lindsay et al., 2006) and the Clarendonian Milk Creek Formation in the Walnut Grove Basin (Lance, 1960).

Walnut Grove is the Locality 1 in the UALP catalog. It is one of the most productive UALP localities, represented by 789 UALP specimens. James G. (Jim)



FIGURE 2. Sample of specimens and labels from a drawer that was home to generations of rodents.

Honey, to whom this volume is dedicated, was well liked and much appreciated in the UALP family, informally referred to as the Red Fireballs, of which he was a founding member. Jim's love of field work is reflected in the 467 specimens he collected at Walnut Grove between 1970 and 1979. The many fine camelid specimens from Locality 1 were included in Jim's Master of Science thesis (Honey, 1977) and exhaustively reviewed by Honey (Honey and Taylor, 1978). Jim also initiated a project of screening for microfauna at Walnut Grove, which resulted in a small, uncurated collection of rodents in the UALP.

Locality 77, assigned as Recent (last 10,000 years) by Lance late in his tenure, at one time comprised 328 comparative specimens, from complete skeletons to isolated teeth. However, that number is presently much diminished, presumably through 'appropriation' after Lindsay's retirement. Among the lost is the articulated skeleton of *Canis familiaris* used by Lance to good effect in his first-year paleontology course. Also missing is the skull of a camel that Lindsay hand-carried from Islamabad, Pakistan, to Tucson in a woven fiber basket. This specimen had no formal locality number.

Lindsay retired in 1996, and the University of Arizona chose to discontinue the vertebrate paleontology program. Efforts by preparator Kevin Moodie to maintain the collection received minimal support from the Department of Geosciences, and the collection deteriorated over the next twenty-one years



FIGURE 3. Cleaned and curated specimens in new Lane cabinetry and renovated workspace.

(Figures 1, 2) in their old cabinetry and due to rodent infestation.

In 2017 Dr. Jeffrey J. Saunders, who had completed his Ph.D. on fauna (especially *Mammut*) from spring deposits in Missouri under the direction of Lindsay in 1975, returned to Tucson following his retirement from the Illinois State Museum. He undertook with Lindsay the daunting task of cleaning, repairing, and re-curating the UALP collection. Former graduate student, Dr. Jessica A. Harrison eagerly assumed triumvirate position in this initiative.

In 2018 the UA awarded an internal grant proposal made by Dr. Benjamin T. Wilder, director of the Desert Laboratory on Tumamoc Hill. These funds made possible the purchase of 56 Lane storage cabinets, with 442 drawers. Additional funding was obtained from the Southwestern Foundation for Education and Historical Preservation for the purchase of steel shelving and the renovation of the area in which the UALP collection is housed (Figure 3).

The majority of the collection is now in chronological order and by locality and is once again accessible for study by contacting any of the authors. There is a renovated and equipped preparation lab that

accommodates oversize storage. The transfer, cleaning, and repair of the larger specimens, primarily Proboscidea, is yet a work in progress.

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