ASU's best-kept secret: Half-million plant and animal specimens

BY ALDEMARO ROMERO
SPECIAL TO THE SUN

JONESBORO — Jonesboro has one of the best-kept secrets in Arkansas: a collection of more than a half-million specimens of plants and animals from around the world preserved and catalogued for posterity.

This collection contains all sorts of creatures, from insects to dolphins, from plants to birds, and is being curated — managed and maintained — by 10 members of the faculty of the Department of Biological Sciences at Arkansas State University.

The first biological collection deposited at Arkansas State University was one of 2,000 specimens of plants in the 1940s. Subsequently, the following ones were added: birds, amphibians and reptiles (1950s), insects and fishes (1960s), mammals, aquatic macroinvertebrates and odonates (dragonflies — 1970s) and mussels (1990s).

These biological collections have continued growing every year. In 2004 the Department of Biological Sciences launched the initiative to upgrade its biological collections up to international standards of curation and information management. To that end ASU applied for and received certification as a Convention for International Trade of Endangered Species site by the U.S. Fish and Wildlife Service and became members of National Science Collection Alliance.

This put the biological collections at Arkansas State University in the same league of recognition as the ones of the Smithsonian Institution in Washington, D.C., The American Museum of Natural History in New York, and the Missouri Botanical Garden in St. Louis, just to mention three of the most important in the world.

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ASU biology graduate student Shelly Kannada examines the carcass of a baby elephant seal found dead in California. This specimen was used in a marine mammal laboratory class to teach students about the biology of these animals.

These collections have been an important resource for research training for more than 50 years providing scientists and students access to a wealth of information about the regional ecosystems of the Mid-South. They have been used as a crucial resource by approximately 500 biologists as well as a number of undergraduate and graduate students.

Among the uses given include the study of past distribution of Arkansas plants and animals, classification of organisms, and the introduction of exotic species. More and more, they are playing a role in the conservation efforts taking place in the Mid-South.

For example, several state and federal agencies as well as private organizations such as the Arkansas Game and Fish Commission, the U.S. Fish and Wildlife Service, the U.S. Forest Service and the Nature Conservancy are implementing models for conservation plans to preserve lands and endangered species in the state.

The biological collections at Arkansas State University are in the same league of recognition as the ones of the Smithsonian Institution.

Several faculty members in the Department of Biological Sciences at ASU have either grants or contracts from these and other agencies aimed at collecting and analyzing information with the purpose of generating knowledge for conservation purposes.

In the last 35 years more than 400 papers and presentations at scientific meetings have been produced that have acknowledged use of collection resources. In that same period several graduate students and post-doctoral students have received part of their training working with the collection and numerous investigators have personally visited the collection, including professional researchers and non-ASU

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graduate students doing thesis research.

Although these collections are primarily research collections, they are sometimes used in public programs at ASU. These uses include tours of the collection, loan of specimens for exhibits, and participation of high school teachers and students into activities in the collections.

As part of the efforts to make the information contained in the collections more accessible worldwide, three ASU scientists — Dr. Allan Christian, Dr. Stanley Trauth and the author of this article — are preparing a major grant proposal to the National Science Foundation in order to computerize all that information and to make it accessible via the Internet.

There are further plans to build a building at the campus of ASU-Jonesboro aimed at maintaining these collections in state-of-the-art conditions. You can learn more about these plans by visiting the Department of Biological Sciences Web site at: http://biology.astate.edu/

More information is available from the ASU Department of Biological Sciences at biology@astate.edu.

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