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FOR IMMEDIATE RELEASE

5/10/01

CONTACT: Elizabeth Pillaert (608) 265-2547, pillaert@facstaff.wisc.edu

EXHIBIT OPENS A DOOR TO GALAPAGOS ISLANDS

MADISON - The Galapagos Islands, a naturalist's paradise and the crucible for "the most enduring and important episode in evolutionary science," are revealed in all of their historical and scientific splendor in a new exhibit at the University of Wisconsin-Madison's Zoological Museum.

The exhibit, "Galapagos Quest: The Wisconsin Connection," documents the volcanic Pacific islands, and their natural and human history through the prism of the Wisconsin scientists who've visited, collected and studied there over the last several decades.

Photos, artifacts, letters, maps, bones and bird skins are used to tell the story of the islands made famous by naturalist Charles Darwin who visited there in 1835 and, years later, used the islands' animal inhabitants to help illustrate his theory of evolution.

For nearly 30 years, UW-Madison scientists, notably Zoological Museum researcher Elizabeth Pillaert, have salvaged the remains of already-dead birds, tortoises, marine iguanas and other animals native to the islands. The work has enriched the collections of Catholic University in Quito, Ecuador, and helped legions of scientists and conservationists studying the islands' wildlife.

The free public exhibit, curated by Natasha Nicholson, is in 123 Noland Zoology Building, 250 N. Mills St. The exhibit, open weekdays 10 a.m.-3 p.m., will be displayed until the end of the year.

###

-- Terry Devitt (608) 262-8282, trdevitt@facstaff.wisc.edu

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News and Features

Agricultural and Consumer Press Service

440 Henry Mall

Madison WI 53706 (608) 262-1461

College of Agricultural and Life Sciences

University of Wisconsin-Madison

rec. April 26, 2000

For Immediate Release

For More Information:

Scott Craven (608) 263-6325

craven@calshp.cals.wisc.edu

WILDLIFE COLLECTION GOES TO UW-MADISON

James Borman has moved on to the happy hunting ground, but his legacy will touch people throughout Wisconsin. Over his lifetime, he assembled a massive collection of preserved wildlife specimens from North America and elsewhere. Borman, who died in 1999, willed his collection to the University of Wisconsin-Madison.

Instead of being sequestered in a single collection where most of it would never see the light of day, Borman's collection is being widely distributed, where it will help to educate thousands of people every year, according to Scott Craven, a wildlife ecologist and Extension wildlife specialist at the College of Agricultural and Life Sciences.

"In terms of courses that deal with the natural history of local species, you can have photos, CD-ROMs and websites, but there's no substitute for seeing the actual animals. If you can't view a living animal in the wild, the next best thing is a first-rate specimen in the lab. And that's what the Borman collection gave us and a lot of other people," Craven said.

When he first inspected the collection at Borman's house, Craven was flabbergasted. Borman lived in a modest house in a working-class neighborhood of Waukesha. From the street, you would never guess the bounty the house held, he said. "He had hundreds, if not thousands, of North American species, ranging from insects to a paddlefish to a polar bear skull."

-more-

WILDLIFE COLLECTION -- add one

The collection ranged from moose and bison head mounts to full body mounts of wolves, badgers and owls to turtle shells, rattlesnake skins and butterfly displays. Among the more unusual entries: a sheep skull with a flint arrowhead embedded in it, a 20-foot python skin, and a duck-billed platypus (probably acquired in a trade). The collection included examples of just about every large mammal in North America, along with many small mammals and hundreds of birds, reptiles, amphibians, fish and insects.

With a new tenant waiting to occupy the house, Craven had to move the collection as quickly as possible. Fortunately, Feb. 26 dawned sunny and warm as Craven and 20 student volunteers moved the collection to the lawn and sidewalk. This created a neighborhood carnival atmosphere, with neighbors, passersby and even the Waukesha police stopping to inspect the motionless menagerie before it was loaded into three 17-foot trucks and two vans.

The volunteers spent all day transporting the collection to the UW-Madison campus. They moved hundreds of glass jars, delicate mounts, and other fragile items, and didn't break a thing, Craven reported. The collection filled the attic of the UW Stock Pavilion.

U.S. Fish and Wildlife Service agents and state game wardens have inspected the collection and certified that it was all pre-1960s, and thus legal to possess and distribute.

Today, it would be impossible to assemble a collection remotely resembling Borman's, since the laws have changed regarding collection and possession of wildlife. For example, the collection included three large glass display cabinets filled with dozens of native songbirds -- something that would be a federal offense to put together today. Taxidermy costs for the hundreds of heads and full body mounts would be astronomical, Craven added.

Craven chairs the UW Natural History Museums Council, which links all the UW-Madison collections. The bulk of the Borman collection will stay at the UW-Madison, with the remainder distributed to educational agencies throughout the state. In early April, Craven began distribution.

WILDLIFE COLLECTION -- add two

The UW-Madison Zoological Museum, the UW-Madison Wildlife Ecology department teaching collection, and the zoology department at the UW-Richland Center each got hundreds of specimens. The Vilas Zoo in Madison, Upham Woods Environmental Center at Wisconsin Dells, the 4-H Program, and wildlife and fisheries educational programs at the Wisconsin Department of Natural Resources also shared in the bounty. The remainder will go to state parks and other other DNR facilities around the state. A vanload of "northwoods"-type things, including the moose head, went to the Kemp Natural Resources Station near Minocqua. A golden eagle went to the Fennimore School District, home of the Fennimore Golden Eagles.

Borman was a tool and die maker, and spent time as a hunter and a hunting guide in the Western United States. He was also a collector and a wheeler and dealer back when it was legal to do so, and he was a skilled taxidermist, according to Craven.

"The vast majority of this collection will be well-used throughout the state," Craven said. "I'd like to think that if Mr. Borman knew where it was going and how it will be used, he'd be very pleased."

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rjc stuffed collection 4/00

EDITOR: A black-and-white hardcopy photo of a small portion of the collection is available. Please call JoAnn Colby, (608) 262-1461.

300 pixel/inch jpg photo files available for download through Netscape and Internet Explorer.

Low-resolution images are at:

http://www.cals.wisc.edu/media/news/04_00/wildlife_collection.html

Follow the links to the 300-pixel files (about 200k to 400k), click or right-click on the picture, and "save as" whatever.

Note: the two Craven pictures were taken with an electronic camera and aren't the greatest.



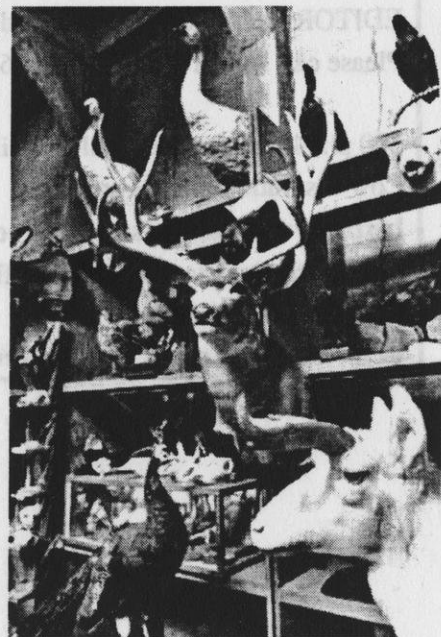
Wildlife ecologist Scott Craven and an otter, inspecting a few of the bird mounts from the Borman collection.

[High Resolution File](#)



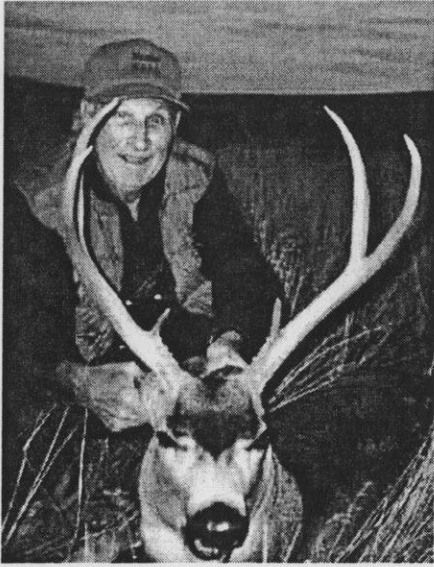
Wildlife ecologist Scott Craven, along with a polar bear skull and some deer mounts from the Borman collection.

[High Resolution File](#)



One small segment of Borman's collection, in the attic of the U.W. Stock Pavilion. (Note Attack 'Possum at upper right)

[High Resolution File](#)



James Borman on one of his trips to the Western U.S.

[High Resolution File](#)



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NEWS

UNIVERSITY OF WISCONSIN-MADISON

Office of News and Public Affairs
28 Bascom Hall • 500 Lincoln Drive
Madison, Wisconsin 53706-1380

Phone: 608/262-3571
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October 13, 1999

TO: Talk/public affairs show hosts/producers

FROM: Liz Beyler, Office of News and Public Affairs, (608) 263-1986

RE: OCTOBER INTERVIEW IDEAS

NORTH AMERICAN SYMPOSIUM ON BAT RESEARCH

Just in time for Halloween, the University of Wisconsin-Madison Zoological Museum will be hosting the North American Symposium on Bat Research October 27-30. Bat authorities will be roosting at the UW-Madison Memorial Union, where the latest research on bat conservation, population biology, ecology and reproduction will be presented. In addition, a special workshop is being planned to help teachers get acquainted with bats and introduce these important animals into school curricula. Finally, vendors with bat-related products will be on hand to show their wares. For more information, contact zoology professor **John Kirsch**, (608) 262-3766/262-4831 or wildlife ecologist **Rebecca Christoffel**, (608) 265-8264. Kirsch will be out of town the week before the conference, so for other contact information during that time, contact Terry Devitt, Office of News and Public Affairs, (608) 262-8282.

A HALLOWEEN STORY: THE REAL FRANKENSTEIN

This Halloween you may see trick-or-treaters at your door wearing Frankenstein masks, but do they know the REAL story of Frankenstein? Why did a 19-year-old woman write the novel "Frankenstein" and publish it anonymously? Why did the famous Boris Karloff movie "Frankenstein" portray the monster as a grunting, murderous brute, when in the book he reads Milton's "Paradise Lost," cries about the treatment of American Indians, and emerges as one of the most humane, articulate and sensitive characters in the story? What does the novel "Frankenstein" say to us today about how we still create monstrous criminals by labeling them so before they're ever given a chance to become otherwise? This Halloween, find out the REAL story of Frankenstein by talking to UW-Madison English professor **Emily Auerbach**, who included Frankenstein's creator Mary Shelley in her award-winning "Courage to Write" series of radio documentaries on women writers. You can reach Auerbach at (608) 262-3733.

--Mary Lock Albrecht (608) 262-9792

--more--

Talk tips/Add 1

INTERNATIONAL BANKER TURNS EDUCATOR

An international banker has joined the School of Business staff with the express intent of giving something back to his alma mater. Ted Beck, who has 20 years of experience in international banking around the world, recently became associate dean for executive education at the School of Business. He grew up in Madison and earned his MBA degree here in 1976. Beck will oversee the new Fluno Center for Executive Education now being constructed on University Avenue. The \$24 million facility, which will open next March, will house classrooms and lodging for business executives taking short courses at the School of Business. Beck can be contacted at (608) 262-2668 or tjb@bus.wisc.edu.

-- Jeff Iseminger, (608) 262-8287

If you have difficulty reaching any of the sources or have questions about a particular tip, feel free to call the staff member listed at the bottom of the tip.

Thanks!

ON CAMPUS

Bluestones "weave harmony"

Renowned classical guitarist Robert Bluestone and weaver/tapestry artist Rebecca Bluestone want to change the way you see and hear the arts.

During a residency Oct. 24-31, the Bluestones will conduct concerts, lectures and demonstrations, including a professional development workshop for artists, school outreach activities, an advocacy speech to business groups and functions designed to build bridges between the arts and the community.

The work of these artists is based upon a common ground: guitar and loom are both handmade, tightly strung wooden instruments requiring a shared love of form and texture, tone and timbre, honed by hours of solitary practice. Robert and Rebecca are each fascinated by the interplay of the subtle variations of sonic and visual tints in their work.

Highlights of the residency include a Robert Bluestone concert starting at 12:30 p.m. Sunday, Oct. 31, at the Elvehjem Museum of Art. Rebecca Bluestone's weavings will be displayed Oct. 16-Nov. 6 at Memorial Union Galleries.

NOTABLE

Elvehjem Museum receives grants

The Elvehjem Museum of Art has received grants to produce a publication on its ancient coin collection and conduct a conservation survey of some of its paintings.

The National Endowment for the Arts award of \$15,000 will be used to produce a publication of the Elvehjem's collection of Greco-Roman coins dating from 600 B.C. to A.D. 400, as well as a catalogue of the museum's impressive collection of Greek vases.

The Institute of Museum and Library

Recent sightings by Jeff Miller: If a tree falls ...

If a tree falls in the water, and nobody is around to hear it, does it make a sound? This fallen tree, partly submerged in the creek that feeds University Bay on Lake Mendota, hasn't made any noise for quite a while. But it does cast a croaggy reflection amid the falling leaves of autumn.

**Just hummin' along**

Students from Kappa Epsilon Sorority and Kappa Alpha Theta organizations blow bubbles, cheer and throw confetti to the crowd while riding a Humvee-type vehicle during the Homecoming parade. The parade around the Capitol square was one of a host of activities for students and alumni during the week of Oct. 14-15. Photo: Jeff Miller.

Services grant of \$16,426 will support a detailed conservation survey of about 200 Old Master and Soviet Realist paintings from the Elvehjem Museum's permanent collection.

Ward takes tough stance on sweatshop monitoring

In its continuing effort to end sweatshop labor, UW-Madison is adopting some of the toughest standards in the nation for licensed manufacturers. Chancellor David Ward says.

As of Jan. 1, 2000, the university's nearly 500 manufacturers of apparel and merchandise must disclose the locations of their factories and ensure the protection of female workers from discrimination and harassment, Ward says. These guidelines are outlined in the February 1999 agreement reached between Ward and concerned students.

UW-Madison's licensees must also follow the standards of the draft code of conduct from the Collegiate Licensing Company. The new guidelines will be included in current, pending and renewed UW-Madison licensing agreements.

"It is repugnant to have the university's logos and marks appear on articles possibly produced under hostile and abusive working conditions, and safeguards against such practices must be instituted and enforced," Ward wrote in an Oct. 12 letter announcing the changes to the CLC, which manages trademark licensing for UW-Madison.

Only a select number of universities — Arizona, Duke, Georgetown, Michigan and North Carolina — have imposed or will impose such strict requirements for its licensees.

Enrollment exceeds 40,600

The university has enrolled 40,610 students this fall, a 1.2 percent increase from the 40,109 students enrolled in fall 1998.

The total includes 28,351 undergraduates, a 2 percent increase over last year, and 8,523 graduate students, up 29 students from last fall. The undergraduate total includes 5,675 new first-year students, up from 5,596 last year.

Among the university's four professional schools, there are 2,122 students: 859 in the Law School, 583 in the Medical School, 317 in the School of Veterinary Medicine and 363 in the School of Pharmacy. There were 2,069 professional students last fall.

Minority students total 3,776, compared to 3,748 last fall. Of that group, African Americans account for 856 (570 of them undergrads); Hispanic/Latino students, 1,002 (662 undergrads); targeted Asian Americans, 256 (185 undergrads); and American Indians, 224 (142 undergrads).

University officials believe these totals are incomplete because an all-time high of 951 students, about 2.4 percent of all enrollees, did not provide any ethnic designation on their registration materials.

Work to reroute traffic

The next phase of the water main replacement project along Babcock and Observatory drives is scheduled to begin Monday, Oct. 25, weather permitting. The project will affect traffic patterns and bus service in that area for several weeks.

On Monday, Babcock Drive between Linden and Observatory will be closed to traffic, and by mid- to late next week, work on Observatory Drive from Babcock Drive to Liz Waters should be under way. At that point, there will be no thru traffic on Observatory Drive between Charter Street and Babcock Drive until the project is completed. Access to parking lots along Observatory Drive will be allowed from one direction or the other for as much of the construction period as possible. Permit holders will be notified about alternative lots in the event they are unable to park in their assigned ones.

Bus routes will be rerouted along Linden Drive to Elm and Observatory drives.

ALMANAC

Zoo
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Almanac lists facts, figures and miscellany of campus interest. Know something or want to know? Call us: 262-3846, or e-mail: wisweek@news.wisc.edu.

Rankings: Hospital is consumers' choice

UW Hospital and Clinics has been named a 1999 Consumer Choice Award winner by the National Research Corporation, a nationally recognized health care performance measurement firm.

The designation, given to just 126 hospitals nationwide, is based on a national study of consumer assessments of their health plans, personal physicians, local hospitals and health systems as well as their own current health status. This year, more than 170,000 households representing approximately 400,000 covered lives responded to the mail survey, which concluded in June.

"Consumer choice award" winners are those organizations in each market achieving the highest composite score on four measures of consumer preference: best physicians, best nurses, best reputation and best overall quality. In some markets, co-winners were chosen where findings fell within the error range for that market. UW Hospital was the only Madison hospital named and one of two in Wisconsin.

Bats in the Rath?

Just in time for Halloween, the university's Zoological Museum will be hosting the North American Symposium on Bat Research Oct. 27-30. Bat authorities will be roosting at the Memorial Union, where the latest research on bat conservation, population biology, ecology and reproduction will be presented. In addition, a special workshop is being planned to help teachers get acquainted with bats and introduce these important animals into school curricula.

New: Labor group forming

There is a nascent institution on campus dedicated to campus worker/labor education and activism called the UW-Madison Labor Center. The UW Labor Center is a project of the UW Federation of Labor, which says it wants to nurture collaboration between UW workers, students and faculty on labor issues. Information: Paul Lachelle, 256-8961; plachelle@ssc.wisc.edu.

Did you know?

Pumpkins take a dive every year at the Hoofers SCUBA Club annual underwater pumpkin carving contest. This year, divers dunk their pumpkins in Lake Mendota Sunday, Oct. 31, at 10 a.m. off the pier by the boathouse behind Memorial Union Terrace. Information: Jaime Laluzerne, 250-4754.

Resources: IRS wants to help

The Internal Revenue Service is holding a special "Problem Solving Day" to help international students and employees who have problems related to federal income taxes. The Problem Solving Day will be held on Thursday, Nov. 4, from 10 a.m. to 6 p.m., at the Red Gym. Appointments: (414) 297-1260.

Backward glance

From Wisconsin Week, Oct. 18, 1989: The Dalai Lama tells 8,500 at the Field House that compassion is the key to happiness. ... Business Dean James Hickman will step down from his post but remain on the faculty. ... University officials have prepared a report detailing how they handled each of 152 complaints of discrimination or harassment during the past year. ... ASPRO, the newly organized lobbying mechanism for the Academic Staff Assembly, has attracted 314 members, including Chancellor Donna Shalala.

Quotable

"Diplomatic immunity does not grant a license to kill. Immunity should not be confused with impunity."

— Juan Pablo Letelier, guest speaker (for details, see page 9)



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Zoology Museum

Aug. 28, 1995

TO: Editors, news directors
FROM: Terry Devitt, (608) 262-8282; Brian Mattmiller, (608) 262-9772
RE: Rhino on Picnic Point

Staff members from the UW-Madison Zoological Museum plan to excavate the skeletal remains of a rare white rhinoceros buried 10 years ago at the old experimental farm near Picnic Point. The rhino, which once belonged to the Milwaukee County Zoo and died a natural death there, was buried on Picnic Point to assist museum curators in preparing the animal's bones for inclusion in the museum's osteological or skeletal collection, one of the better research collections of its kind in the world.

According to John Dallman, a retired Zoological Museum curator, it was necessary to bury the 3,200-pound, 15-foot-long animal because it was too large to fit in the museum's bug colonies where the remains of smaller animals are scoured clean by flesh-eating beetles. Burying an animal, says Dallman, allows the decomposing forces of nature to do the work of cleaning the bones. Before burial, the head of the rhino was removed to protect the valuable horn that is prized in some parts of the world as ornamentation and for its supposed medicinal properties.

Weather permitting, the excavation will take place near the old apple orchard at the base of Picnic Point Wednesday, Aug. 30. Interested media are welcome to cover the rhino's disinterment beginning at 10 a.m. that day. Vehicle access to the area will be permitted for accredited media and can be gained through the gate on University Bay Drive. Office of News and Public Affairs staff will be on hand. Dallman has one cautionary word, however: While the rhino has been buried for 10 years, its flesh may not be fully decomposed, in which case the animal will be reburied. Dallman can be reached by leaving a message at the UW-Madison Zoological Museum at (608) 262-3766, or at his home, (608) 798-2760.

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10/25/93

CONTACT: Frank Iwen, (608) 262-3159

(Note to editors, news directors: B&W photos of Vo Quy are available by calling (608) 262-0067)

REBUILDING VIETNAM'S WAR-TORN LANDSCAPE

MADISON — As long as armies have gone to war, camp followers have gone, too.

And Vo Quy, an ornithologist who plied the Ho Chi Minh Trail, is perhaps one of history's most unusual camp followers.

Following in the wake of the North Vietnamese Army in the early 1970s, he began the search for what remained of his country's bird and animal life. Even as the battles raged, he initiated the first scientific studies of the environmental effects of the Vietnam War.

Systematically bombed and napalmed, and seeded with mines, the Ho Chi Minh Trail was at the time some of the world's most dangerous real estate. But Vo Quy, who in the 1950s helped conduct some of the first environmental surveys of Vietnam, felt pressed to begin the work of restoring Vietnam's war-torn landscape.

"It was very dangerous," says Vo Quy, who now directs the Center for Natural Resources Management and Environmental Studies at the University of Hanoi. "In 1971, we tried to go into South Vietnam, but it was too dangerous. By 1974, we had gotten far into the south."

Sitting in a quiet, Noland Hall office on the University of Wisconsin-Madison campus where he is a visiting fellow, Vo Quy recounts the war and the mind-numbing

-more-

realization that nearly 5 million acres of his country had been destroyed beyond use — defoliated, bombed, drained, scorched.

"I visited every part of my country and I saw with my own eyes the devastation of war and the mistakes of development. Our country has suffered a lot."

Despite the depletion of resources under 100 years of French colonial rule and the toll exacted by 30 years of continuous war, Vietnam was and is considered to be one of Asia's most beautiful and ecologically rich nations.

Speaking in thickly-accented English, Vo Quy swivels in his chair and with a pencil and paper sketches his hopes for reclaiming land lost to the war and a burgeoning population of 71 million, half of them born after the 1968 Tet offensive.

"In Vietnam we have a poor country. The people exploit the natural resources. After the war, we had to cover the scar of the war — rebuild the bridge, the house — and the people have to go to the forest for wood. And the people need something to eat."

As the chief architect of Vietnam's conservation strategy, Vo Quy has labored now for nearly 20 years to help reclaim millions of acres of barren, war-scarred land. His work has been recognized internationally, earning him the Gold Medal of the World Wildlife Fund and a Global 500 Award from the UN Environmental Program.

The burdens of war and peace, he says, have stripped the once lush hills of Vietnam of their rain forest mantle. Fifty years ago, nearly half of Vietnam was covered in forest. Today, intact forest covers only 10 percent of the country.

Those forests that remain, says Vo Quy, are some of the most remote and pristine forests anywhere, places where scientists are discovering previously unknown birds, reptiles and mammals.

Vo Quy – Add 2

Vietnam, he says, has now embarked on a massive campaign of reforestation, planting nearly 500,000 acres a year. "We think the forests are very important for our country. We have to plant at least 741,000 acres per year" to keep pace with deforestation.

"To plant one or two trees is very easy. To plant 500,000 acres is not so easy."

Vo Quy and a small cadre of Vietnamese field biologists have struggled to overcome obstacles of geography, climate and sociology. Some of the first post-war experiments to reclaim the land failed, he says, because scientists did not factor in the needs of the people in the countryside. They have now developed a system of sustainable agriculture — incorporating forests, crops, ponds and gardens — upon which to pin their hopes.

"I believe many people will use this system to reclaim barren land. It is not simple, but we have no other way. If the forests disappear, if the farmer disappears, we will have no way to survive."

###

— Terry Devitt, (608) 262-8282



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News & Information Service
19 Bascom Hall • 500 Lincoln Drive
Madison, Wisconsin 53706-1380

Zoology Museum

Phone: 608/262-3571
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Oct. 25, 1993

TO: Editors, news directors
FROM: Terry Devitt, (608) 262-8282
RE: Vietnamese Conservationist Vo Quy

Vo Quy, an internationally known field biologist and director of the Center for Natural Resources Management and Environmental Studies at the University of Hanoi, is a visiting fellow in the UW-Madison Zoological Museum. He has come to the United States largely through the efforts of the International Crane Foundation and is spending time here working on the translation of his landmark index of Vietnam's birds.

Vo Quy is the architect of efforts to restore the war-torn landscape of Vietnam. He has helped develop and implement a system of sustainable agriculture that promises to help revitalize hundreds of thousands of acres of land made barren by war and a rapidly growing population.

As a scientist, Vo Quy is well known for his studies of Vietnam's birds and the discovery of previously unknown birds.

He can be reached through Frank Iwen, a curator of birds at the UW-Madison Zoological Museum. Iwen's number is (608) 262-3159.

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FOR IMMEDIATE RELEASE

12/15/92

CONTACT: John E. Dallman, (608) 262-3766

IN SEARCH OF THE GIANT BEAVER
JOHNSON CREEK FARMER UNEARTHES AN ICE AGE TREASURE

MADISON — When Jim Erb began digging an irrigation sump on his Johnson Creek farm this summer, he had no idea that he would dredge an important part of Wisconsin's late Ice Age history from the muck.

But when he brought his discovery to the attention of John Dallman, the UW-Madison paleontologist knew instantly that Erb had made the find of a lifetime: the perfectly preserved mandible of a giant beaver, an animal that last paddled Wisconsin's lakes and waterways more than 9,000 years ago.

"It's an extremely important discovery because so few have been found," said Dallman as he cradled the foot-long, chocolate-colored jawbone. "And it is more or less in perfect condition."

The jawbone, complete with a grooved, saber-like incisor and a full set of grinders, represents the business end of an animal that may have weighed as much as 350 pounds and measured seven feet from nose to tail tip. It roamed — or more likely paddled — the Wisconsin landscape sometime after the last glaciation and shared this epoch with the much more familiar mastodons and the occasional woolly mammoth.

The find marks only the fourth time that any remains of this giant animal have been found in Wisconsin, said Dallman, curator of paleontology at UW-Madison's Zoological Museum.

-more-

Giant beaver -- Add 1

The last time giant beaver remains were found in the state was in 1968 when a complete skull and a few other bones were unearthed at Hope, Wis. on the Fred Witte farm. In the 1920s, construction workers discovered a partial mandible along the Milwaukee River near Estabrook and Lincoln parks, and another partial jawbone was found in the late 1960s in Plain, Wis. That bone had been found years earlier and was kept at a local school where it resided in the biology teaching collection until it was rediscovered by UW scientists.

Many of these bones have since been given to UW-Madison's Zoological Museum (the Plain specimen is in the UW-Madison Geology Museum) and are now a part of the state's most extensive collection of Ice Age bones.

The bones, said Dallman, tell tales about the animals they came from and invariably add to the storehouse of knowledge of the late Pleistocene and Holocene, epochs characterized by the disappearance of cold-adapted animals and the reappearance of animals that had retreated to the south during glacial advances.

It was a time of rapid climate change, when woolly mammoths lived at the edge of massive glaciers, when whales swam in what is now Lake Michigan, and when the top of the food chain was reserved for early humans and dire wolves.

"We really know little about the giant beaver," Dallman said. "Nothing has been found to associate them with houses or dams. There are not enough remains to tell us how they behaved or to shed light on their taxonomic relationship to other animals.

"They are believed to have been aquatic. They had tiny legs that would have made it difficult for them to move around on land. And during the winter, what these giant animals did to shelter themselves from the subzero temperatures we just don't know."

The diet of the giant beaver is also an enigma, said Dallman. "There were plenty of good things to eat in the water. It would have needed to eat something to wear down its perpetually growing teeth," — incisors the size of small walrus tusks.

But since the modern beaver co-existed with the giant beaver during the late Pleistocene epoch, it is unlikely that they shared the same diet, Dallman said. Cattail roots, a nutritious food, is one educated guess about what was on the giant beaver's menu.

The most recent giant beaver find, was made just outside of what Dallman calls the "Golden Triangle," an area defined on the Wisconsin map by Madison, Lake Mills and Jefferson.

"I euphemistically call it the Golden Triangle because this is an area where a lot of this stuff has been found," he explained.

Indeed, Dallman himself has excavated the remains of three late Ice Age mastodons — furry, elephant-like creatures — from a single site near Deerfield since 1966.

Dallman said Erb deserves high praise for recognizing the importance of his find and for halting his excavation until experts could probe for more remains. Erb even helped UW-Madison scientists by contributing the use of his back hoe.

"He knew that this was something important, something unusual, and he went through a lot of effort to bring it to our attention," Dallman said. "There is a lot of this stuff out there and when we can take a look at it and explore the site before it is disturbed, we can get some important clues about what was going on during a fascinating time in our state's history."

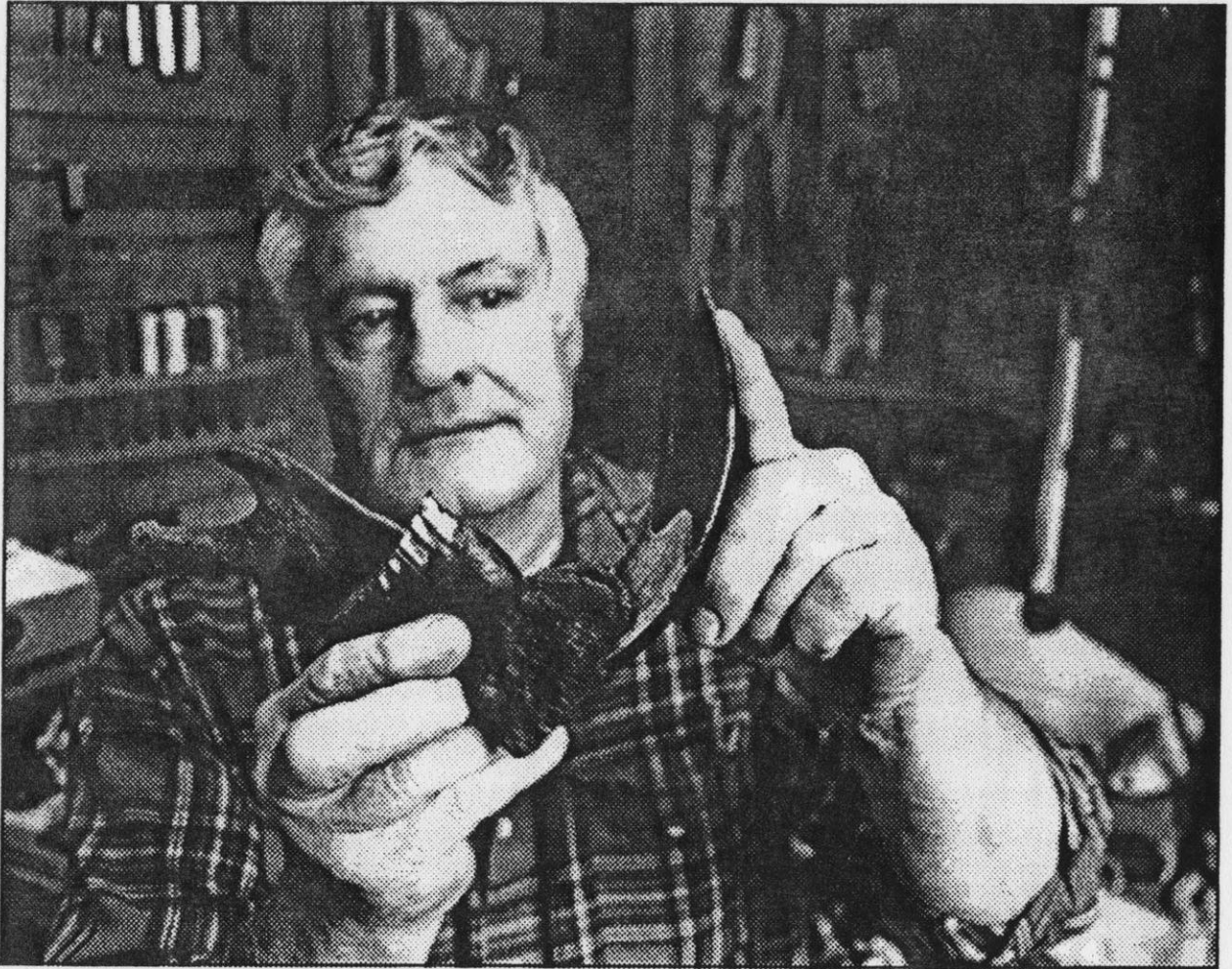
Although Dallman was unable to find any more bones at the Erb farm, he plans to return this spring to continue his search for the remains of Wisconsin's late Ice Age and Holocene megafauna.

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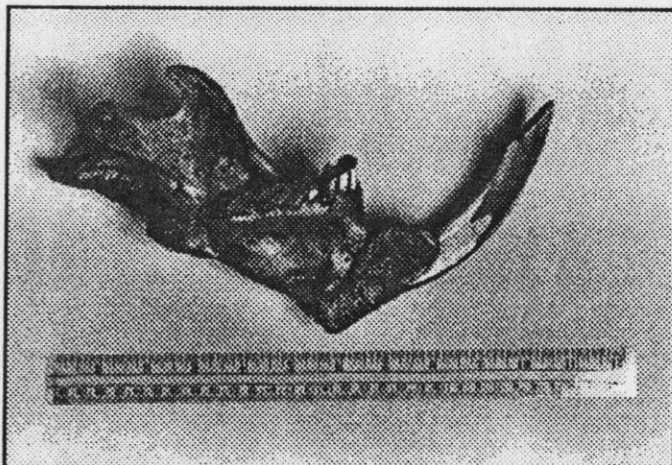
— Terry Devitt, (608) 262-8282

Photos available to accompany this story

For black-and-white prints of these images, call University News and Information Service at (608) 262-0067.



John Dallman, curator of paleontology at UW-Madison's Zoological Museum, with giant beaver jawbone.



The foot-long, chocolate-colored giant beaver jawbone.



1 • 8 • 4 • 8

NEWS

UNIVERSITY OF WISCONSIN-MADISON

News & Information Service
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9/27/91

CONTACT: John A. W. Kirsch, (608) 262-3766

PHOTO EXHIBIT DEPICTS BRAZIL'S FORGOTTEN WILDERNESS

MADISON--The Pantanal, one of the world's least known natural wonders, is the subject of a new photo exhibit at the University of Wisconsin-Madison's Zoological Museum.

Lying near the common border of Brazil, Bolivia and Paraguay, the Pantanal is a lush grassy plain half the size of Germany. It is inhabited by more than 600 species of birds, giant anteaters, armadillos, capybaras and millions of caimans, relatives of the crocodile.

The presentation features color photographs and descriptive text of this endangered region by Chicago photographer and UW-Madison alumnus Vic Banks.

The exhibit opens Oct. 2 and will be on display through Dec. 20 in Room 123 Noland Hall, 250 N. Mills St. Museum hours are from 9 a.m. to 5 p.m. weekdays.

###

EDITOR'S NOTE: Vic Banks will be available for media interviews on Oct. 1 between 1 and 4 p.m. Color transparencies and black and white pictures are available for use by the news media. To obtain pictures or arrange an interview with Banks, contact Terry Devitt at (608) 262-8282.

THE UNIVERSITY OF WISCONSIN ZOOLOGICAL MUSEUM

EMAIL ADDRESS: UWZM@WISCMACC.BITNET

FAX: (608) 262-5395

The University of Wisconsin Zoological Museum, located on the fourth floor of the Noland Zoology Building, 250 North Mills Street, is the center for research on taxonomy and distribution of vertebrates and mollusks in Wisconsin. The museum is an important part of graduate and undergraduate education, providing material and instruction in such courses as comparative anatomy, ornithology, and mammalian ecology. Specimens are loaned for independent study by students and professionals (both intra- and extramural), and the staff provides identifications and information for state and federal agencies. A major research effort involves the Molecular Systematics Laboratory, in Birge Hall, where DNA technology is used to establish the relationships of vertebrates.

The museum's collections include 20,000 study skins of birds and mammals; 12,000 skeletons representing all vertebrate classes; 2,000 paleontological specimens; 22,000 alcohol- and formalin-preserved vertebrates including fish, amphibians, reptiles, and the W.B. Quay collection of fluid mammals; 3,100 specimens comprising the H.W. Mossman Collection of Mammalian Reproductive Organs; 1,500 birds' eggs and nests; and nearly 250,000 mollusks. Notable among these holdings is the world's most extensive assemblage of skeletons from the Galapagos Islands. In addition, the museum houses 800 historical instruments, over 100,000 histological preparations, and a library of 24,000 books and reprints.

Acquisition of specimens by the museum began over a century ago. New material is added through gifts, exchanges, field expeditions (most notably in Ecuador and Argentina), and deposition of specimens collected by state and federal agencies and persons carrying out research within the university. The Zoological Museum is primarily a research facility; therefore, tours are not provided for the general public, though they are sometimes offered by special arrangement. One public exhibits hall and several case-exhibits specific to university courses are maintained. The exhibits hall, located on the first floor off the Mills Street entrance, will feature an exhibit on Brazil's endangered wetland, the Pantanal, from October through December 1991.

The museum is open daily from 9:00 am to 4:40 pm. Staff members include John A.W. Kirsch, Director (262-4831); E. Elizabeth Pillaert, Chief Curator and Curator of Osteology (262-3766); Frank A. Iwen, Curator of Mammalogy and Ornithology (262-3159); John E. Dallman, Curator of Vertebrate Paleontology and Historical Instruments (262-3159); John Lyons, Curator of Fishes (221-6328); and Paula J.I. Landers, Manager of Information Systems (262-3766).

OFFICE INFORMATION

The Zoology Department main office is located in room 145 Noland. The hours for this office are 8:00 a.m. - 12:00 noon and 1:00 p.m. - 4:30 p.m., Monday through Friday. There is an auxiliary office located in 441 Birge Hall. The hours for this office are 8:00 a.m. - 12:00 noon, Monday through Friday.

All work such as typing, copying, etc., should be given directly to Kim Morgan, our Departmental Secretary, or Grace Krewson in the Birge Hall office. If Kim is not available, items can be left with the receptionist. Please be sure your instructions are complete and attached to your job. The items will then be distributed to the office support staff for completion.

In general, typing and copying of exams, coursework, research proposals, letters, manuscripts, etc., is done on a first in, first out basis. It is recommended that we be given ample time (3 days) to complete your projects. Most jobs are completed on the same day they are received. However, during peak times such as grant deadlines and exam times, your project may be delayed.

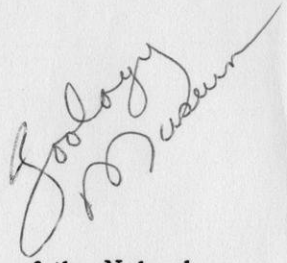
Questions, concerns, and problems about payroll, insurances, fee remissions and fee deferrals, or other benefits should be referred to Betty Konshak, pay and benefits specialist. Betty also provides Notary Public services.

Accounting questions relating to budgets, purchasing, billings, grant accounting, etc., should be referred to Dan Leland, our account specialist.

Questions and problems relating to travel expense reports and travel advances should be referred to Laurie Lind.

Inquiries and questions relating to the Zoology Graduate Program should be referred to Pam Henderson.

THE UNIVERSITY OF WISCONSIN ZOOLOGICAL MUSEUM

A handwritten signature in cursive script, likely reading "Zoology Museum", is written in the upper right corner of the page.

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The museum's collections include 15,000 study skins of birds and mammals; 12,000 skeletons representing most vertebrate classes; 2,000 paleontological specimens; 21,000 alcohol- and formalin-preserved vertebrates; 1,500 birds' eggs and nests; and nearly 250,000 mollusks. Notable among these holdings is the world's most extensive assemblage of skeletons from the Galapagos Islands. In addition, the museum houses 800 historical instruments, over 100,000 histological preparations, and a library of 24,000 books and reprints.

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BIENNIAL REPORT OF THE UNIVERSITY OF WISCONSIN ZOOLOGICAL MUSEUM

JULY
1989

Joseph M. ...

NOLAND ZOOLOGY BUILDING

250 NORTH MILLS STREET

MADISON, WISCONSIN 53706

E-MAIL ADDRESS: UWZM@WISCMACC.BITNET

FROM THE DIRECTOR

The last two and a half years have been extraordinarily busy and productive ones for us, and it hardly seems possible that so much time has passed since I last wrote to you. Here I'd like to call attention to the highlights, many of which are treated in more detail in separate articles.

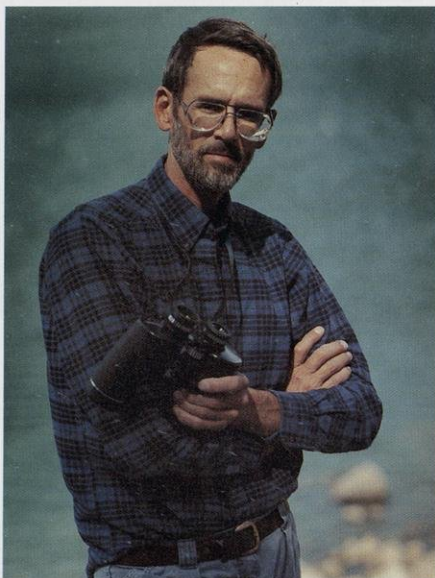
Perhaps the best and most important news is that we completed our drive to match the Reeder Challenge Grant and exceeded the goal by 30%. The interest on our endowment is now sufficient to help support special projects like the Galapagos collection, improve our computer hardware, and enhance the training of UWZM curators. We could not have reached, much less exceeded, our goal without your generous response to our appeals; we've tried to acknowledge each gift individually, but if we missed a few of you, I apologize and ask you to accept our sincerest thanks now. We hope that our success—and by “our” I mean all of you as well as the museum staff—will encourage another donor to establish a new Challenge Grant. In the meantime, we have been channeling new donations toward special projects such as the Osteological Collection and the Galapagos Expeditions; in addition, a special gift enabled us to produce this report in color for the first time. If you wish to contribute to a specific project, please specify that on the donation coupon (page five) or your check.

In the 1987 report we featured an article on the Third Galapagos Expedition, yet since then Elizabeth Pillaert has made a fourth trip and is well into her fifth, again with generous support from the university's Nave Fund. We anticipate that this will be the last collecting trip, but trust that our good relationship with the Charles Darwin Research Station will continue. This issue's **Spotlight** is on Elizabeth and her activities both in Madison and on the Galapagos.

Certainly this will not be the end of our involvement with South American scientists. Robert Bleiweiss' 1987 mainland expedition was extraordinarily successful, and he plans another trip early in 1990. My own collaboration with Dr. Osvaldo Reig of the University of Buenos Aires continues with yearly visits to Argentina and reciprocal trips by Osvaldo to Madison. In fact, he will be a Tinker Visiting Professor here during 1990 (back page).

So successful and important are our South American initiatives that with this issue we launch a Spanish summary. The translation is by Paula Landers, who joined the staff this year to cover some of the duties of our former registrar, Mary Jones, and to supervise the computerization project. Paula also contributed the article on page four about how that project is going.

As if field work in South America were not enough, both Frank Iwen and I made trips to China during the past two years—Frank as an invited member of a People to People exchange on Wildlife Conservation, and I to attend a symposium on Asian Pacific Mammalogy in Beijing jointly sponsored by the Chinese and American mammal societies. Some of Frank's notes on his trip appear on page two.



JOHN A. W. KIRSCH
(photo by Don Chandler)

MENSAJE DEL DIRECTOR

Los dos años y medio pasados han sido para nosotros de tanta actividad y tan productivos que casi no parece posible que haya transcurrido tanto tiempo desde la última vez que les escribí. Me gustaría aquí llamar la atención sobre las novedades sobresalientes que tuvieron lugar desde mi último informe, muchas de las cuales son relatados en más detalle en artículos separados.

En el informe de 1987, presentamos un informe sobre la tercera expedición a las Islas Galápagos. Desde entonces, E. Elizabeth Pillaert realizó un cuarto viaje, y está iniciando un quinto, nuevamente con el generoso apoyo del Fondo Nave de la Universidad. Anticipamos que este será el último viaje de recolección de ejemplares, pero esperamos continuar nuestros buenas relaciones con la Estación Científica Charles Darwin (ECCD), en otros aspectos. El artículo **Spotlight** de esta edición da más

detalles sobre Elizabeth y sus actividades en Galápagos y en Madison.

Seguramente no terminaremos con esta actividad nuestra asociación con científicos sudamericanos. La expedición de Robert Bleiweiss de 1987 al Ecuador, fue un verdadero logro, y Robert está preparando otro viaje para 1990. Mi propia colaboración con Dr. Osvaldo Reig de la Universidad de Buenos Aires continúa con visitas anuales a la Argentina y viajes recíprocos de Osvaldo a Madison. Me complace anunciarles que nos visitará aquí como un “Tinker Visiting Professor” en 1990, como detallamos en la nota que aparece en la última página.

Nuestras relaciones con América del Sur son tan importantes y exitosas que hemos decidido ofrecer en esta edición este resumen en castellano. La traducción es de Paula Landers, quien comenzó sus actividades en el museo este año para atender algunas responsabilidades de la anterior catalogadora, Mary Jones, y para supervisar el proyecto de computarización de la colección. Paula contribuyó también la nota sobre este proyecto que creemos que anda muy bien.

Como si el trabajo en el campo de América del Sur no fuese suficiente, tanto Frank Iwen como yo viajamos a China durante los dos últimos años—Frank como miembro invitado de la delegación norteamericana en el programa sobre conservación de animales salvajes patrocinado por “People to People,” y en lo que a mí respecta para asistir a un simposio sobre mastozoología del Pacífico-Asiático en Beijing, patrocinado en conjunto por las sociedades de mastozoología de China y de los Estados Unidos. Algunas notas sobre el viaje de Frank aparecen en las páginas internas.

La mayoría de nuestras investigaciones siguen teniendo lugar en el laboratorio de hibridación ADN/ADN. Nuestro Asistente Conservador, Carey Krajewski, terminó sus estudios de Ph.D. sobre la filogenia de las grullas en Diciembre, mientras que Allan Dickerman comenzó con sus investigaciones para su tesis de doctorado sobre roedores cricétidos. Mark Springer de la Universidad de California-Riverside también terminó su trabajo sobre varias familias de marsupiales herbívoros, y todos ellos junto conmigo estamos completando

Many of the research activities of the museum continue to focus on the DNA/DNA hybridization laboratory. Assistant Curator Carey Krajewski completed his Ph.D. study of crane phylogeny in December, while Allan Dickerman began dissertation research on cricetid rodents. Mark Springer from the University of California-Riverside finished his work on several families of herbivorous marsupials, and all of us together are tying up the loose ends of our studies on carnivorous marsupials (page three). Robert Bleiweiss begins a two-year NSF grant to work up his splendid collection of Ecuadorian hummingbirds, and we look forward to hosting visitors from Argentina and Australia during the coming year.

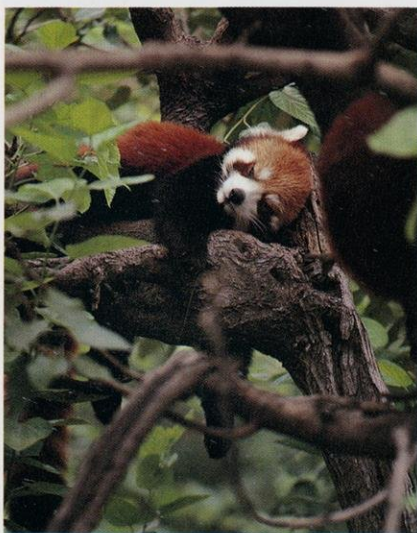
The museum's support to extramural workers continues to grow and challenge our ability to do all that is required: the number of visiting researchers increases, and the volume of loans has increased each year. John Dallman installed a new exhibit featuring the egg collection and is working on another drawing on our wonderful set of historical instruments in celebration of the College of Letters and Science's centennial.

Finally, we underwent the first stage of an outside review by the American Association of Museums in October, 1988. We are proud to report that the museum received high marks for its curatorial standards, objectives, and ethics. Not surprisingly, however, the reviewer lamented the smallness of our permanent staff compared to the magnitude of its duties. We hope these comments from outside professionals will encourage the administration to consider some long overdue staff additions.

la evaluación de nuestros datos sobre marsupiales carnívoros. Robert Bleiweiss está comenzando el usufructo de una beca de la Fundación Nacional de Ciencia (NSF) que le permitirá durante dos años trabajar con su magnífica colección de tejidos de colibríes del Ecuador. También tenemos el placer de anticipar la visita de colegas y estudiantes de la Australia y Argentina en el laboratorio durante el próximo año.

El apoyo del museo a investigadores visitantes de otras instituciones siga creciendo y desafiando nuestra capacidad de poder afrontar todo que ello requiere: el número de investigadores visitantes siga creciendo y el volumen de solicitudes de préstamo de ejemplares aumenta cada año. John Dallman ha inaugurado una nueva exhibición en la que se presenta nuestra colección de huevos, y está preparando otra que ofrecerá al público nuestro conjunto de antiguos instrumentos de investigación para la conmemoración del centenario del Colegio Universitario de Letras y Ciencia.

Finalmente, en Octubre de 1988 pasamos por la primera fase de una inspección de la Asociación Americana de Museos (AAM). Estamos orgullosos de poder informar que el museo recibió grandes alabanzas por sus normas de conservación, por sus métodos, y por sus normas éticas sobre el tratamiento de las colecciones. A pesar de todo lo realizado, asombrosamente no podemos menos que lamentar que nuestro personal permanente sea tan escaso, especialmente en relación con la magnitud de sus obligaciones. Esperamos que este comentario contribuirá a convencer a las instancias administrativas sobre la urgente necesidad de otorgarnos algunos cargos que hace tiempo que estamos requiriendo.



LESSER OR RED PANDA
(photo by John Kirsch)

IWEN IN CHINA

In June, 1987 Curator of Birds and Mammals Frank Iwen was an invited member of the People to People International Wildlife Conservation Delegation to the People's Republic of China. This delegation, a part of the Citizen Ambassador Program, provided a forum for the exchange of ideas between wildlife conservation professionals of both countries. The hosts for this visit were the Chinese Association for Science and Technology (CAST) and the Chinese Academy of Science. Frank's paper at the meeting, "Museum collections as an information resource for wildlife management," was initially presented to the delegates of the Beijing Institute of Zoology. Portions of the paper were subsequently given at research sites visited during his three-week tour.

A number of interesting papers were presented by the Chinese scientists, and some of what was reported could be experienced firsthand. One of the Chinese success stories with the greatest potential for conservation is the reintroduction of the Milu (Pere David's Deer), which became extinct in China within this century. The Milu were returned to China from captive stock brought to Europe in the late 1800's. They are now being studied and propagated at the Milu Ecological Research Center in the countryside near Beijing, with the intention of establishing a nucleus herd of approximately 100 individuals which will become the source for future releases in selected protected areas of their former range.

Conservation of wildlife resources is a concern of many Chinese biologists who are acutely aware of the aesthetic, biological, ecological, and economic importance of their native species. However, the need to integrate

a wildlife ethic with national and regional goals remains as much a sociological problem as a biological one. For example, the Giant Panda is internationally recognized as symbolic of Chinese friendship, and promoted as such by their federal government. The Panda also occupies a favored position in the hearts and folklore of the Chinese people, and the concern for this species pervades all levels of society and government. Local attitudes about other species, equally threatened, are frequently much different. As in many cultures, some species are viewed from a culinary perspective rather than one of preservation.

Among the highlights of Frank's trip were the research areas visited. The major facilities included the Milu Ecological Research Center, the Panda Research Center and Wolong Nature Preserve of Chengdu, the National Laboratory Primate Research Center of China in Jinhong, and the Research Institute of Tropical Crops in Yunnan Province. Smaller facilities included the Elephant Research Station near Jinhong, the Beijing Museum, and the Xian Forestry Institute.

Cultural exposure was an equally important part of the delegation's China experience. Visits to the Great Wall, the Ming Tombs, The Forbidden City, and the Xian Terracotta Warriors were some of the "tourist activities" arranged by CAST coordinators while the group was en route to scheduled research stops. Each site visited gave the delegation a greater appreciation for this ancient country, with an historical perspective on the traditions which have followed these people into the present day. Regional Chinese meals, rarely passed in silence, became a part of a daily ritual of friendship.

NEWS FROM THE DNA LABORATORY

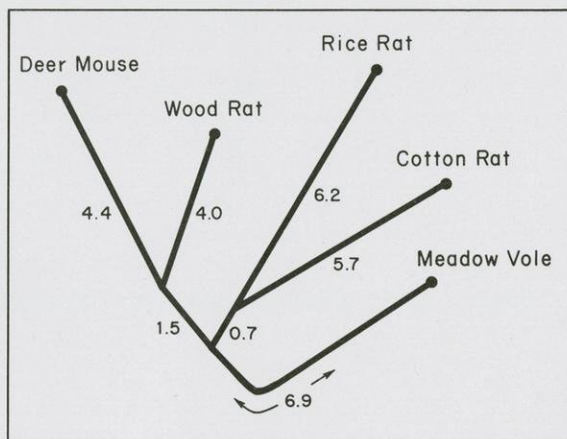
In 1984 we began to put together a laboratory for the study of bird and mammal DNAs using the technique of DNA/DNA hybridization, which involves making artificial hybrids between the corresponding strands of DNA from different species. DNA, the genetic material, consists of two chains of chemical bases which are said to be complementary, since the binding of the strands together depends on links between specific pairs of four bases arrayed along the length of each. Genetic information is conveyed by the sequence of bases along the chains, and that sequence is altered over evolutionary time. Since the stability of hybrids depends on how closely the strands match, and that in turn reflects the changes in DNA that have taken place since the species diverged from their common ancestor, measurement of the stability of a hybrid DNA provides an index to relatedness between the species it represents. When all possible hybrid combinations are made and tested, we can construct a phylogenetic tree relating the various species. For example, North American deermice and woodrats are closer to each other than to South American rodents belonging to the same family, and the meadow vole, which represents another family, is relatively distant from all of these.

As this tree—based on Allan Dickerman's study of cricetid rodents—suggests, often one of the most interesting aspects of the phylogenetic pattern is that it says something about geographic history as well. Allan's results support a division into South American species vs. North American ones, resolving a long-standing point of uncertainty about cricetid relationships. This is especially interesting because it suggests that the 250 South American species may all have evolved from a Central American progenitor—yet these rodents have a very short fossil record in Latin America, and therefore must have evolved rather quickly.

The rodent work ties in with Robert Bleiweiss' study of hummingbirds, since results on both cricetids and hummingbirds provide evidence for a more recent and extensive radiation of Andean genera. Early classifications of hummingbirds distinguished two subfamilies on the basis of bill and plumage characteristics, the Phaethornithinae and the Trochilinae. The obvious ecological pressures molding bill and plumage form in hummingbirds raise doubts about the utility of these characters as reliable indicators of relationship, but Robert's preliminary results do support this division. While the phaethornithines appear to be a relatively homogeneous group, his results indicate surprisingly large genetic distances among representatives of the two groups. Several trochiline genera seem to be more similar to phaethornithines and are therefore primitive for the Trochilinae; these genera, which tend to contain few species, might be remnants of an old radiation of lowland trochilines present before the Andean uplift.

Our projects on Australian bandicoots and dasyurids (carnivorous marsupials) also have zoogeographic implications, for they show that New Guinean subgroups of both families evolved in isolation from mainland relatives. This was not evident from previous classifications, which tended to confuse New Guinean and Australian species, sometimes placing them in the same genus. The new collections of opossums from Ecuador, added to those made in Argentina, will also enable us to test several hypotheses of relationship among opossums—of which there are about seventy species—proposed by Osvaldo Reig, John Kirsch, and others on the basis of anatomy. Our early results confirm the separation of opossums into large- and small-bodied animals, groupings that correspond to differences in dentition, chromosomes, and blood proteins; one of the small-bodied forms is shown below.

Finally, a long-standing project was brought to completion in December of 1988, when Carey Krajewski finished his study of crane phylogeny. This work had been carried out in collaboration with the International Crane Foundation (ICF) in Baraboo, Wisconsin, which supplied blood samples from all fifteen living species of cranes (approximately half of them considered endangered). Carey's results clearly show the existence of several closely related groups. The Crowned Cranes of Africa, as expected, are quite distinct from other cranes. Among the latter, the enigmatic Siberian Crane may represent the oldest branch. The Sandhill Crane (the only species native to Wisconsin) defines its own group and also appears to be a rather ancient species. The Whooping Crane, now poised at the brink of extinction, belongs to a group of Eurasian species (the Common, Hooded, Blacknecked, and Japanese Cranes), whose genetic divergence is so slight that relationships among them cannot be resolved with DNA hybridization data. The two remaining branches of the crane tree are occupied by one cluster of Australasian species (the Sarus, Brolga, and Whitenaped Cranes), and another of African or central Asian birds (the Stanley, Wattled, and Demoiselle Cranes).



DNA PHYLOGENY OF SOME AMERICAN RODENTS
(drawn by Cheryle Hughes)



A MOUSE-SIZED MARSUPIAL, GENUS *MONODELPHIS*
(photo by John Kirsch)

THE SOUTH AMERICAN EXPEDITIONS

In the summer of 1987 Robert Bleiweiss led our first expedition to mainland Ecuador as part of an array of studies in the adaptive radiation of Ecuadorian vertebrates (hummingbirds, rodents, and marsupials). Our investigation was approved by the Ministry of Agriculture and Stock Breeding (Ministerio de Agricultura y Ganadería, or MAG), and the field work was conducted in collaboration with personnel from the Department of National Parks and the national museum (Museo Ecuatoriano de Ciencias Naturales, or MECN), Quito. Robert's party began field work in late July and members continued to work in Ecuador through the first week of October. In addition to Robert, the personnel consisted, at various times, of Juan Carlos Matheus (MECN), Manuel Olalla Padilla (MAG), and Allan Dickerman, Frank Iwen, and John Kirsch from the UWZM.

Robert's plan was to construct a transect of eight localities that would enable us to sample faunas in the widest possible range of mountain and lowland habitats on both sides of the Andes. Near the end of the collecting trip, we agreed to a request by the Ministry of Energy and Mines to participate in an environmental impact study of an oil-exploration site in the Amazon basin (Shushufindi, in Napo Province). The most exciting moment came at the end of our stay there, when Colombian guerrillas came across the border and commandeered one of the pipelines; some of us made it back to Quito by plane, others by a rough ride in a jeep.

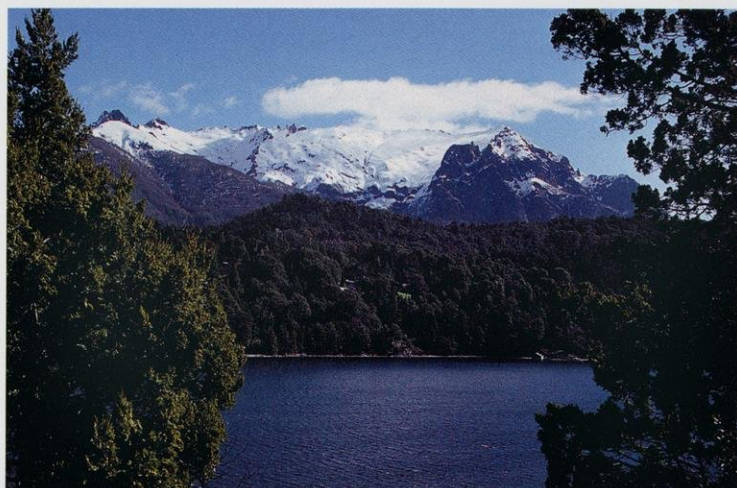
Over the course of the three months we collected nearly 400 specimens, including about 200 each of hummingbirds and mammals, and were able to preserve tissues of almost all specimens for DNA studies. At the end of the field season, we left a comprehensive series of bird specimens with the MECN and the Central University, and brought all mammal specimens back to the University of Wisconsin for identification. Particularly exciting is the first exemplar—from Shushufindi—of what may be a new species of the rice rat, *Oryzomys*.

The museum's 1988 expedition to Argentina was certainly one of the most productive field trips in this series, sponsored by a joint NSF and Argentinean CONICET grant to John Kirsch and Osvaldo Reig. On this occasion Allan Dickerman, whose work on the cricetid rodents has already been mentioned, accompanied Kirsch. They left Madison on Labor Day and returned in October, working mostly in the region near Iguazu Falls and in the lake country of the Andes.

Iguazu is located at the tip of the "peninsula" of Argentina bordered by Brazil, Paraguay, and Uruguay. This is the nearest to the tropics that one gets in Argentina, and the field party visited the province in order to trap some of the marsupials and rodents which have their southernmost extensions there. Like so much of the world, Argentina was dry last (northern) summer, and at first the animals were few and far between. Soon enough it began to rain, though, and the mice and opossums seemed to spring from the ground like toadstools. On the last day the group was astonished to find one trap occupied by a peculiar cricetid rodent previously known only from a single specimen taken hundreds of miles to the north, in Brazil.



SOUTH AMERICA, SHOWING SOME LOCALITIES MENTIONED IN THE TEXT
(drawn by Cheryle Hughes)



THE ANDES NEAR BARILOCHE, ARGENTINA
(photo by John Kirsch)

After ten days at Iguazu, Kirsch and Dickerman left for the Andes, trapping along the way in La Pampa Province. The recent rains had left much of the countryside flooded, and flocks of flamingoes and other waterbirds were everywhere. (Indeed, the regularity with which they saw wildlife—including native cats and deer—was a major pleasure of the trip: a thrilling moment came one day when no fewer than four condors were discovered feeding within a hundred meters of the car.) On the morning of the third day they arrived in Bariloche, a small city sited on a lake of breathtaking beauty. A fascinating aspect of the area is how greatly the countryside changes within only a few miles, mainly due to the rain-shadowing effect of the cordillera. For example, much of the work was done in dry parkland reminiscent of the North American southwest, while other trapdays were spent in the cool, dense Valdivian rainforests.

A major aim in going to Bariloche was to collect *Dromiciops australis*, a small marsupial of obscure relationship which is only found in southern Chile and Argentina. Although October is not the best time for finding the animal, Allan trapped one on the last day.

Allan drove back to Buenos Aires by way of Rio Negro Province, the northernmost part of Patagonia. Another exciting moment came one morning when Allan found a dead specimen of *Lestodelphys halli*, a small carnivorous animal that is perhaps the rarest of all South American marsupials.

DATABASE PROJECT: KEEPING PACE WITH THE TORTOISE

One activity with far-reaching implications for collection management is getting information about specimens into computer databases. With the debate about "biodiversity" currently raging in Congress, there is a new awareness of the importance of museum holdings—and of access to information about them. It is clear that many of the regional collections such as the UWZM's are invisible to the research community. Electronic databases are the best means of making these holdings known, and are likely to become a focus of increasing attention in our information age.

The UWZM's project to computerize its collections began in 1980, when microcomputers were hardly able to handle the task. Still, we are now seeing the end of the race. Despite the slow approach we, like the tortoise, have a goal in mind.

Thanks to the programming knowledge of our consultant Jerry Burns and the dedication of Elizabeth Pillaert and Paula Landers, the skeleton collection is now completely entered. Our program, written in FoxBASE+ for the IBM PC-AT, represents a sophisticated leap from the earlier database implemented on Apple II's. With the new program, data entry will be easier and less subject to error; additionally, organization and retrieval of information will be more concise and simplified. Jerry's program is driven by a menu which directs responses to assure more consistent data representation. Records of specimens are indexed by their museum-division prefix and catalogue number, thus avoiding inadvertent duplication of entries. Measurements for each specimen will be stored and arranged differently as dictated by class. For example, wing-measurements apply only to birds (and some mammals!), and so these parameters are not recorded for other vertebrates; nor will the data-enterer be prompted to supply them. To facilitate research enquiries, collection reports will be generated in taxonomic sequence as well as in catalogue-number order.

Now that all of the skeleton information has been entered, our next project is the skin collection. Frank Iwen has precisely outlined the contents of the files, and over two thousand records of mammalian skins are already entered. We anticipate that entries will be completed for these by year's end and that work on the bird skins will begin by the start of 1990. Our goal, however, includes complete integration of all museum holdings. File structures appropriate for fish, amphibian, reptile, mollusk, and even the historical-instrument collections need to be developed before these collections can be merged into the main program. A considerable amount of work still lies ahead, but we believe that, once completed, we will have one of the best—and certainly most individualized!—museum databases yet devised.

SPOTLIGHT ON: E. ELIZABETH PILLAERT

Elizabeth is a Texan whose professional training is extensive, having begun with a B.A. from the University of St. Thomas in Houston and continued with archaeological studies toward a master's degree received from the University of Oklahoma, as well as with later studies at the UW-Madison. After several years in the Anthropology Department, she joined the museum as Curator of Osteology in 1965, assuming the additional position of Chief Curator in 1967. Under her care, the skeletal collections have grown to become one of the most extensive and best-curated series in any university museum, reflecting her own research interests and commitment to serving the many and varied interests of university and state-agency zoologists. She has been a consultant on dozens of projects, and has an extensive personal bibliography. Elizabeth's main research interest since 1979 has centered on the UWZM's collection of Galapagos vertebrates. During her several trips to the Galapagos, she has also established and curated the Charles Darwin Research Station's own research collection.

Like all of us in the museum, Elizabeth wears more than one hat, and one of her major roles is as Chief Curator, responsible for maintaining the flow of work in the museum and supervising the work of the other curators. Since we have a relatively small staff, this might seem unnecessary, but we rely a great deal on volunteers, hourly helpers, work/study, and other temporary staff. All these people have to be trained, their work assigned, timesheets kept, and so on. One of Elizabeth's major innovations was to secure help from the federally funded work/experience program, now unfortunately much cut-back. Along with the director, Elizabeth also prepares and administers the budget, assembles the information needed for writing grant proposals and reports, and interacts with the public in various ways.

Elizabeth's appointment as Curator of Osteology was made by then-director William Reeder when it became clear that



E. ELIZABETH PILLAERT (photo by Don Chandler)

growing use of skeletons would be made by Zoology Department courses such as comparative anatomy and animal mechanics, as well as by state archaeologists and the Department of Anthropology. At that time our skeletal collection was quite small: just a few hundred specimens, poorly documented and curated. Under Elizabeth's guidance it has grown to over 10,000, including the magnificent series from the Galapagos. All have good information and are properly boxed, and each bone is labelled with the catalog number so it is certain to get back in the proper place after study.

"Visitors are often surprised at how few of our skeletons are articulated (that is, put together)," remarks Elizabeth, "but you can't learn everything about bones from mounted specimens. Of course, if it's properly done, articulation suggests a great deal about the ways animals move. But if you really want to know exactly how the bones fit together, measure them, or study their pathologies in detail, you have to keep the bones separate so you can examine them closely." Pathologies are one of Elizabeth's main interests, and an important reason why we started the Galapagos collection: disease, age, physical damage, and the like indicate a lot about the conditions under which animals live—and die. The Galapagos, in their isolation and interest for evolutionary biologists, are a perfect place to investigate these influences.

On the Galapagos, introduced animals, as well as new diseases and insecticides, have put severe pressures on the native birds and mammals. Our series of skeletons permits studies of how these factors have affected the animals in recent years, and continued collection since the seventies also documents the spread of species new to the islands. "One example is *Crotophagus ani*, the Cuckoo-shaped Ani that was brought on to some of the inhabited islands to keep ticks off the introduced cattle," relates Elizabeth. "In 1978 and 1979 I saw no Anis on the islands, but in 1985 they were in the highlands of Santa Cruz. By 1987 they had spread to Isabela and to the coast of Santa Cruz; as predicted, they have now invaded the largest undisturbed island in the archipelago, Fernandina. In seasons when they cannot find their preferred food (seeds), Anis may attack the young of native mockingbirds and warblers."

The major uses of our skeletons, however, are as demonstration or research items in Zoology courses, and as comparative material for identification of fragmentary remains found in archaeological sites, among suspected illegal imports, and in forensic investigations. It takes a long time to become familiar with the variation in form and size within common species, to say nothing of the differences between familiar and rare ones. Courses in anatomy hit the highpoints, but there is no substitute for simply sitting and studying the bones of a wide range of species for long periods. "When I first asked Bill Reeder to teach me something about bones," Elizabeth recalls, "he sat me down in the collection and told me to come back and talk to him in six weeks. At first I didn't know what I was going to do during all that time; but soon I got absorbed in the bones, and was fascinated by the way they fit together and help the muscles do their jobs. The six weeks went by in a flash!"

Again, articulated skeletons are useful for some studies, but the remains that anthropologists and others are called upon to identify don't come so conveniently put together. "In archaeology we have a term—'soup cultures'—for the remains of operations that really do a number on the bones, as stewing does. Often the job of figuring out what animal they came from is hopeless, but it is surprising how much you can learn from fragments that are just a little bit larger."

Another problem faced by those charged with the task of identifying animal remains is estimating how many individuals of each species were present in the site where the bones were collected. One simple way of doing so is to count up the number of elements that occur singly, paired, or in series in an animal (one skull, two femurs, seven neck vertebrae, and so on) and divide accordingly. "But sometimes you can do better than that," Elizabeth says. "For example, if you have two shin bones that are of different sizes, differing states of maturity, or come from the same side of the body, then obviously you have at least two of that species." Obvious, yes, but only to one who is sensitive to such subtleties—and has a large comparative collection to learn from.

A continuing problem in carrying out this sort of work, though, is freeing yourself from prejudice. Elizabeth tells a joke about herself illustrating just this point: "Once a restaurant in town was suspected of serving dog to its customers, and I was brought some cooked bones from their garbage cans and asked to figure out what kind of dog it was. Now cooking changes skeletons a lot, and I knew that, but as I was looking at the bones I thought, 'This is the weirdest dog I ever saw,' until suddenly it hit me: 'you turkey! This isn't a dog—it's a turkey!!' I'd been handed someone's Thanksgiving dinner."



SUNSET IN THE GALAPAGOS (photo by E. Elizabeth Pillaert)

NEWS FROM THE COLLECTIONS

Loans: Once again, the number of specimens loaned by the museum has doubled since our last report, attesting to the growing interest in and use of the collections; in the last academic year John Dallman processed 146 loans involving 3116 specimens, about evenly divided between research and teaching. Of the research-related loans, three-quarters went to off-campus workers, demonstrating increased state and national awareness of the importance of our holdings.

Accessions: Though the number of new specimens continues to climb, the rate of acquisition has slowed, due to a conscious policy of being more "choosey" about what we take. This is an inevitable result of reduced staffing, both to do the preparation and the paperwork, and not to lost collecting opportunities. At the same time, there were many notable additions, including a large lot of prairie spiders (about 2000) and a valuable series of 3000 river clams donated—along with his reference library—by Harold Mathiak.

Exhibits: Maintenance of our still-popular endangered species exhibit, implemented jointly with the Natural History Museums Council, has delayed work on a planned exhibit of mammals. Even so, Curator of Exhibits, Paleontology, and Historical Instruments John Dallman recently installed a small exhibit explaining the differences between horns and antlers on the second floor of Noland, and a presentation on birds' eggs opened recently. John is also working on an exhibit dealing with historical laboratory equipment in celebration of the College of Letters and Science's centennial.

Paleontology: We now have an exceptional series of australopithecine (early hominid) casts donated by Curator Emeritus John Robinson. These casts are the ones reproduced by the Wenner Gren Foundation and document early human evolution. A cast of our superb giant beaver skull (*Castoroides ohioensis*) has been prepared for exchange with the University of Kansas. We will receive another giant beaver skull, of *Castoroides kansasensis*, from that university to augment our representation of this genus.

Historical Collection: A substantial number of laboratory instruments was donated by the Electrical Engineering Department. These items are important because they represent the kinds of analytical instruments also used by researchers in Zoology. We received a Foerst electric centrifuge from the Laboratory for Limnology, of particular significance because it was developed by J. P. Foerst when he was a mechanic in the UW's Physics Department. Our example is an improved commercial model made in Chicago, used to separate small organisms from water samples.

The Laboratory for Limnology also donated the memorabilia of Chancey Juday, presented by members of his family to the Laboratory in 1987. These materials include Juday's master's degree, the doctorate of laws bestowed by Indiana University in 1933, and his Leidy Medal. These items, along with laboratory equipment from the Laboratory, were assembled into an exhibit commemorating Juday's contributions. That exhibit—prepared by John Dallman—is now on display at the Laboratory.

Birds and Mammals: Six new metal cases have been added for expansion of the collection since the summer of 1987. We are finally beginning to reduce the mechanical damage to specimens brought about by overcrowding and are making some gain in reducing the long-term destructive effects of vapors given off by the older wooden cases. We still need to replace some mammal cases and essentially all of the bird cases before we can finally meet acceptable standards necessary to assure adequate specimen preservation. Similar needs for cases and shelving will have to be met in the basement space, now that we have begun to move limnological and other collections into that area.



JUAN CARLOS MATHEUS,
(photo by Robert Bleiweiss)

Numerous additions of specimens have been made since the last newsletter. Included are a collection of birds obtained in Rwanda by Professor Timothy Moermond of the Zoology Department; a set of cricketid rodent skins and skulls from Argentina arranged for by John Kirsch; a number of fluid-preserved bats and bat skeletons collected by Patricia Morton in Costa Rica; the rodent and hummingbird skins and skeletons obtained by the First Mainland Expedition to Ecuador; a series of seabird skeletons from Midway Island collected by Paul Sievert; and a collection of aquatic birds donated by Fred Zimmerman in recognition of the late Professor George Wagner. In addition, Penny Reynolds brought back over sixty mammal skeletons from South Africa, and Mike Putnam obtained three rare Whitebreasted Ground Pigeons in Australia.

The significance of these major accessions lies in their relationship to past and current research interests of staff in the Zoology Department and the Zoological Museum, as well as the collaborative efforts with South American colleagues who have generously provided assistance and worked with our field personnel. Special recognition is certainly due to Dr. Fausto Sarmiento, Director of the Ecuadorian National Museum, Juan Carlos Matheus, Curator of Birds and Mammals, and other staff of that museum; and to Dr. Osvaldo Reig, his associates at the University of Buenos Aires, and Orlando Scaglia of the Municipal Museum of Natural Sciences, Mar del Plata, Argentina.

Gifts: In the other direction, a gift of local bird and mammal skins and some skeletal material, destined for the National Museum of the People's Republic of China, was arranged by the curatorial staff with the Mammal Division of the U.S. National Museum of Natural History. This presentation, which included materials from other institutions in the United States, was made by Smithsonian staff in July, 1988. Word has been received from W. Chris Wozencraft, Assistant to the Director of the U.S. National Museum, that the Chinese were most pleased with our contribution and wish to reciprocate with a gift of specimens to the UWZM.

To help advance the teaching, research, and public service efforts of the University of Wisconsin Zoological Museum, I contribute \$ _____.

I understand that my gift is tax-deductible to the extent allowed by law.

Name _____

Address _____

City _____ State _____ Zip _____

Please make your check payable to "UW Foundation - Zoological Museum" and send to the museum, 250 North Mills Street, Madison, WI 53706.

Indicate on the check or in the space below if you wish the money to be directed to a special project of the museum.

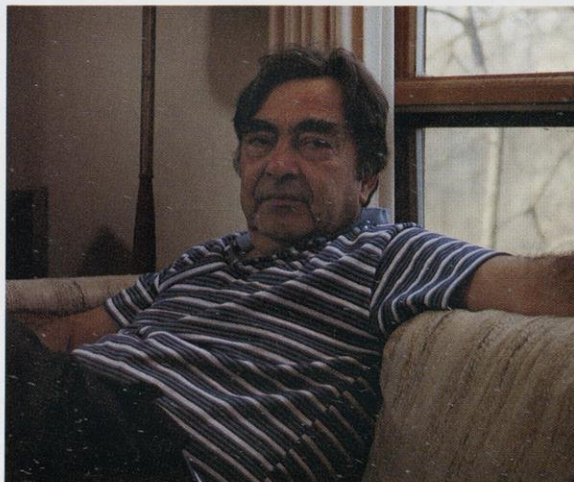
Project _____

REIG TO VISIT

During the spring semester of 1990 the museum and Department of Zoology will welcome Dr. Osvaldo Reig as a Tinker Visiting Professor. The University of Wisconsin administers funds from the Tinker Endowment designed to facilitate extended visits of Latin American academics to U.S. institutions, and Dr. Reig will be one of two such at the university during the next academic year. Osvaldo Reig is a distinguished evolutionary biologist with a bibliography of over 150 papers and membership in both the Soviet and U.S. National Academies of Science; he has twice been a Guggenheim Fellow—once at Harvard University and later at the University of London, where he received his Ph.D. degree. Reig's interests are extremely broad, embracing the paleontology of amphibians and mammals as well as studies of modern vertebrates using biochemical and chromosomal techniques. He is also noted for his work in the philosophy of biology; and his wife, Estela Santilli, a philosopher of science who will accompany him to Wisconsin, has received an honorary appointment in the Philosophy Department for the period of their visit.

As a visiting professor, Osvaldo will offer a graduate seminar in evolutionary theory and participate in the campus' Ibero-American Studies Program. We all look forward greatly to continued interaction with him during 1990.

DR. OSVALDO A. REIG
(photo by John Kirsch)



PRÓXIMA VISITA DE O. A. REIG

En Enero 1990, el Museo y la Facultad de Zoología recibirán al Dr. Osvaldo A. Reig como "Tinker Visiting Professor." La universidad maneja fondos de la Fundación Tinker destinados a facilitar visitas de cierta extensión de académicos latinoamericanos a instituciones de los Estados Unidos. El Dr. Reig será uno de los dos invitados a la Universidad de Wisconsin por ese programa para el próximo año académico.

Osvaldo A. Reig es un distinguido biólogo evolucionista con una bibliografía de más de ciento cincuenta títulos. Está asociado con la Academia de Ciencias de la URSS y es miembro extranjero de la Academia Nacional de Ciencias de los Estados Unidos. Dos veces ha sido un "Fellow" de la Fundación Guggenheim—una vez en la Universidad Harvard y otra en la Universidad de Londres, en la que recibió su doctorado. Los intereses de Reig son extensos, e incluyen la paleontología de mamíferos al igual que los estudios de

vertebratos modernos usando técnicas bioquímicas y citogenéticas. Además, se lo conoce por sus trabajos sobre la filosofía de biología; y su esposa, Estela Santilli, es una filósofa de ciencia y lo acompañará a Wisconsin en Enero, habiendo recibido una nombramiento honoraria de la Facultad de Filosofía durante su visita.

Como un profesor visitante, Osvaldo ofrecerá un seminario de postgrado en biología evolutiva y participará en el programa de Estudios Ibero-Americanos. Es un placer para nosotros anunciar su visita a Madison como un miembro de nuestra facultad en 1990.

University of Wisconsin
Zoological Museum
Noland Zoology Building
250 North Mills Street
Madison, Wisconsin 53706

E-mail: UWZM@WISCMACC.BITNET

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Release: Immediately

3/16/88

CONTACT: John E. Dallman (608) 262-3159

POLAR BEAR SKELETON GIVEN TO UW-MADISON MUSEUM

MADISON--Chief, the late Vilas Park Zoo polar bear, will soon become part of the collection at University of Wisconsin-Madison's Zoological Museum.

Museum curator John E. Dallman said Tuesday (March 15) that Vilas Park Zoo Director David Hall had offered the museum the skeletal remains of the popular bear.

Chief was shot Sunday (March 13) by a Madison police officer acting to save a man who had climbed into the bear's pen.

"It was a dreadful situation," Dallman said of the circumstances surrounding Chief's death. "It's tragic, but we can salvage something by using the skeleton for teaching and research."

The UW-Madison Zoological Museum has one of the nation's better skeletal collections, Dallman said. People come from all over the world to study the unreconstructed bones of thousands of birds, fish and mammals stored neatly in boxes on the fourth floor of UW-Madison's Noland Hall.

Most of the skeletons in the museum's collection are not put together, Dallman said, because assembled skeletons take up space. Space is at a premium at the museum. Dallman said it is unlikely that the 900-pound Chief's skeleton will be reconstructed.

Dallman said the museum's skeletons are used largely by students and scientists.

Add 1--Polar bear

Students use the skeletons as learning tools to develop skills in animal identification and research, and scholars use the bones in a wide array of studies to learn more about the biology and lifestyles of animals.

Archeologists, Dallman said, frequently use the museum's specimens to help identify the bones of animals unearthed at archeological sites.

Dallman said Chief will be a particularly valuable addition to the museum's collection because polar bears are rare.

"For animals that are threatened, inclusion in these kinds of collections is extremely important. Where else are you going to find the materials?"

The museum's skeletal collection contains the remains of just about everything from aardvarks to zebras, Dallman said. Of particular note is the museum's Galapagos collection, a collection of the remains of animals scavenged from caves and remote areas of the islands made famous by 19th century naturalist Charles Darwin.

The Galapagos collection, Dallman noted, is considered to be one of the best in the world.

But while some of the museum's skeletons come from exotic locales, the remains of many other animals come from more familiar places.

Chief is not the first zoo animal to be given to the museum. Another polar bear and an elephant, Princess, have come from the Vilas Park Zoo; and a rhinoceros came from the Milwaukee County Zoo.

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-- Terry Devitt (608) 262-8282

Scientist cracking crane family code

WI. Week 8/12/87

by Terry Devitt

On old farmland, within sight of southern Wisconsin's low-lying Baraboo Hills, UW-Madison zoologist Carey Krajewski gleans the raw material for his research.

Krajewski's precious raw material is the blood of the 15 species of cranes that still walk the earth, birds of a family that appeared some 55 million years ago when the Rocky Mountains first pushed skyward and the ancestors of today's horses were no bigger than dogs.

The blood Krajewski seeks, measured in drops, comes from feathered donors at the International Crane Foundation and will be used, in concert with the tools of the genetic engineer, to reconstruct the crane family tree.

"People have been trying to do this since Darwin," said Krajewski, a graduate student and researcher at UW-Madison's Zoological Museum.

In the past, family trees of the tall wading birds have been built on the basis of such things as behavior, anatomy and even vocalization, but all are subject to varying interpretation and no one tree has ever been universally accepted.

Krajewski's approach relies on a technique called DNA-DNA hybridization and promises, for the first time, to produce an accurate history of the crane family and fuel the debate as to how the 15 crane species, all of which seemed to have evolved from a common ancestor in Europe or Asia, colonized every continent on earth except South America.

According to Krajewski, some scientists argue for closely related animals' natural ability to disperse and colonize different parts of the world while others argue that

geological phenomena, the shifting and drifting of the world's continents, simply moved them to different parts of the world.

With an accurate family tree and the ability to tell when in the history of the earth one crane species diverged from another, it would be possible to match that date with a particular geologic event, events routinely dated by scientists.

"It's like putting pieces of a puzzle together where the pieces are floating continents," Krajewski said.

Developed at Yale University, the technique Krajewski is using to rebuild the crane family tree employs DNA—the twisted-ladder-shaped material that is the basis of heredity in plants, people and animals.

First, the DNA is extracted from the cranes' blood cells and the DNA ladder is sheared down the middle to form single strands. The single strands from two different crane species are mixed together and allowed to fuse, but not every rung of the hybrid DNA ladder is a precise fit.

The mismatched rungs, according to Krajewski, mark the genetic differences the species have incorporated since they last shared an ancestor.

Because cranes evolved from one common ancestor the technique opens the way for a complete exploration of the living crane family lineage.

"What this technique allows us to say is which of these species are most closely related," Krajewski said. "It indicates overall genetic similarity."

Not only does Krajewski's work promise to place the whooping, sandhill and Siberian cranes on their respective branches of the family tree, but also it



TWO CROWNED CRANES in a display at the International Crane Foundation in Baraboo. The cranes soon may be placed on their respective branches of the crane family tree through research at the University of Wisconsin-Madison's Zoological Museum.

—University News Service photo

bears the potential to determine when in history a particular species evolved.

"Once you have the family tree, and we already know something about dating geologic events like the patterns of continental drift, you can combine that with the knowledge of the current distribution of cranes and make an attempt at dating crane speciation events," Krajewski said.

Although the technique of DNA-DNA hybridization has been used in recent years to trace the lineage of other bird species, Krajewski's crane project promises to be among the most complete

because of the relatively small number of crane species, all of which are conveniently on hand at the Baraboo-based Crane Foundation, a 45-minute drive from Krajewski's UW-Madison laboratory.

Simply collecting raw material for this kind of project, Krajewski said, is often the most difficult part.

By having all of the world's crane species—including several endangered birds—in one place, the blood Krajewski needed to complete his crane DNA library was drawn by veterinarians and Crane Foundation staff in one day. ■

Release: Immediately

08/11/87

CONTACT: Carey Krajewski (608) 262-4831

CRANES: REBUILDING THE FAMILY TREE

by Terry Devitt
University News Service

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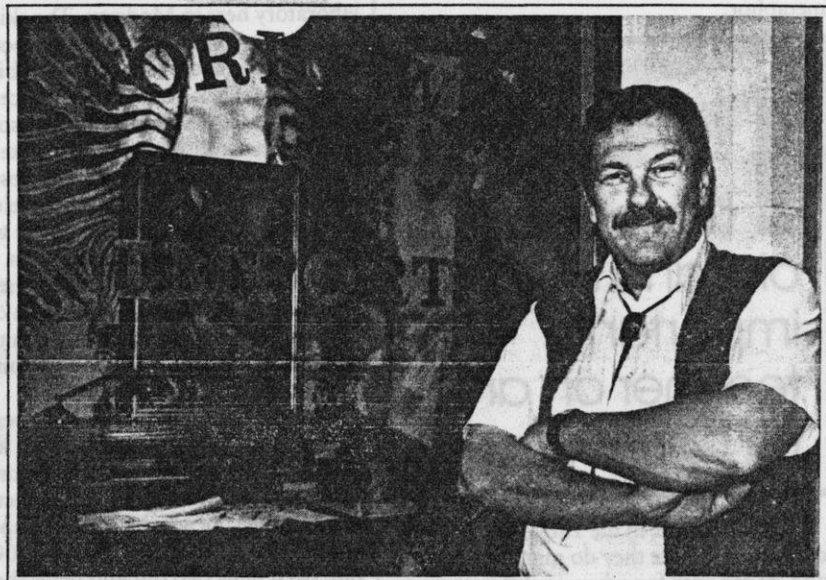
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The



Don't call on curator Frank Iwen if you really want to buy an emerald bird feather.

ZOOLOGY COLLECTION

By Ellen Rulseh
Assistant Editor

You may remember being stared at by specimens which were behind glass cases or suspended over your head as you went to and from classes in Birge Hall. The menagerie of critters: mounted ducks, skeletons of lion, ostrich, kangaroo, chimpanzee, that buffalo head hanging off the old balcony, has now migrated from Bascom Hill to a new lair on Mills Street, Noland Hall, completed in 1972. The building was named, as a plaque at its entrance says, for Lowell Evan Noland, a "distinguished teacher of zoology, 1921 to 1966, whose knowledge, skill, and enthusiasm were joyfully shared with generations of students."

Zoology Museum curators John E. Dallman '53, '58, '77 and Frank Iwen '55, '58 are out to keep the joy alive, even though the animals whose pelts, teeth, and bones they oversee are not. The staff of six includes curator Elizabeth Pillaert, director John Kirsch, registrar Mary Jones, and preparator Nancy Rogge.

The museum, currently celebrating its centennial, conducts DNA research, morphometric studies (measurements of animals, description of physical features), systematic studies (which compare species, individuals, and their variabilities within the same species), both anatomical and behavioral studies. A secondary role is developing exhibits for public information. Its four collection rooms on the fourth floor of Noland contain some 14,000 specimens of birds and 10,000 mammals. The recently constructed "Species For Sale" exhibit on the ground level vividly illustrates some of the problems that have been created by illegal trade in wildlife. To step into the space is to enter a warehouse where illegal traffic in protected animals takes place.

The gem of the exhibit is a small "office" mocked up to serve the illegal trader. It's complete with roll-top desk, zebra and tiger hides (from a zoo) on one wall and a stuffed emerald green bird, the "resplendent quetzal," the sacred bird of the Mayans. Large wooden packing crates stacked to viewing height in the center of the room serve as display cases. One stamped "Caracas" in red ink on one side, contains stuffed animals: a collared toucan, a gaviel, a crocodile-type reptile and a yellow-headed parrot. There are four shipping crate displays, and a couple of panels of standard exhibit cases. Exhibit designers Dallman and Iwen plan to send parts of it on tour throughout the state this spring.

More than a dozen students strolled through the exhibit during the half-hour Frank Iwen spent introducing me to the under-belly of pythons, lizards, alligators, and the illegal trade which transforms them into belts, shoes, and wristwatch bands. These goods, confiscated by federal agents, were on display behind the glass and beside samples of the hides and pelts from which they came.

The U.S. Fish and Wildlife Service is charged with enforcing protective laws, but its job is hampered by the enormity of the traffic and the difficulty in discriminating between products made from protected and unprotected animals. A willing market in the United States alone accounts for over 100 million (both legal and illegal) animal skins and products each year.

"In Third World countries," says Iwen, "elephant herds are being taken just for their tusks. In some instances the people who take them need the income; you can't separate social issues from the biological. From an ecological aspect, one can look at the deplorable destruction of tropical forests."

The case that houses several fur coats, including a spotted leopard, reminded me of an ad run recently in a national magazine. It showed a woman pulling up the collar of her dark fur. The copy read, "She may be snuggling with an illegal smuggler." It was sponsored by a national wildlife protection group to inform the public of

how we can unknowingly become complicit in illegal trade of endangered species.

"A lot of these things are brought in unintentionally by tourists who want souvenirs," says Frank Iwen. "This exhibit is to establish awareness."

Preserving exotic species by importing them to large game farms in the United States may actually create problems. Imported animals that have similar ecological requirements to native species compete for food and space. They may introduce diseases to the native species that have no immunity. Many species introduced into our biological community have become pests: the starling, the English sparrow, the rock dove—pigeons found in parks. It's hard to justify. A zoo has its own uses—an educational one, and as a research tool. But on game farms we've lost some of the control we have in a zoo.

"A couple of years ago I got a call asking how to get a lion out of a basement," Iwen recalls. "Little cubs grow into large lions. God only knows how it was fed; I suppose they just opened the door and threw it a chunk of meat. A staff member from the local zoo brought a tranquilizer and they got it out."

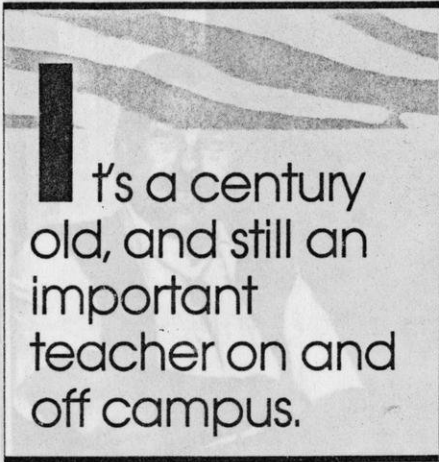
In Wisconsin, the illegal trade in black-bear parts has become a major concern. The hides, claws, paws (and even the gall bladders used as aphrodisiacs in the Orient) make bears a lucrative commodity. Iwen says that while the black bear is not an endangered species, there was no hunting in 1985 because of the population decline. There probably is illegal trafficking in white-tailed deer as well.

In addition to the extinction of species through illegal sale, the exhibit documents the pressures of resource abuse and competition with human settlement which have caused many animals to disappear from Wisconsin. A map in the exhibit focuses on a few of the better known species that have been lost. Dates of locally extinct animals are: caribou, 1842; wolverine, 1870; elk, 1866; mountain lion, 1857; fisher, 1920 (reintroduced); bison, 1832; wild turkey, 1872 (reintroduced); passenger pigeon, 1899. For some species, the habitat no longer exists, precluding reintroduction, while others, such as the wild turkey and the fisher, have been reintroduced, and are doing very well.

Habitat destruction and environmental contamination are threats to game and non-game animals alike. In Wisconsin there is no longer a situation in which nature takes its course. Humans have supplanted native predators that were an integral part of the environmental scheme. Now, humans serve as the primary regulators of populations such as the white-tailed deer.

A now extinct passenger pigeon flies in a glass covered diorama above Frank Iwen's desk. The pastel hues behind the bird suggest a presence of sky. "It's from the turn of the century," Iwen tells me. "At one time the birds were very abundant.

"When animals become extinct we lose far more than a species. Species are made unique by their genetic combination of materials. And we are on the *frontier* of just beginning to learn what species extinction may mean for man. For this reason museums have put specimens away for future years. How do we *know* what's best to collect today? I like to use the crystal ball metaphor.



It's a century old, and still an important teacher on and off campus.

"For example, in the 1800s people collected eggs like they do matchbooks, and traded eggs for others in different parts of the country or world for color, size, texture. Some people were interested for biological reasons. Books were written, trade journals were published. It was a classic hobby industry. Federal laws later prohibited collecting these materials.

"Then in the late 1950s field biologists noticed certain species of birds were suffering a decline. The eggs didn't hatch, or when they did, the young died, or the birds crushed the eggs. Someone said: the eggshells are getting thinner. We began measuring shells from old collections. Those found after World War II became thinner. Finally, a correlation between thinning eggshells and the use of DDT was made by Professor Joseph J. Hickey in our department of wildlife ecology. By looking into our crystal ball of experience, we can be sure the specimens will be used but we cannot always predict *how* they will be used.

"Some of the most endangered species are the ones we know least about. The black-footed ferret, the California condor, the whooping crane. Every bit of informa-

The exhibit, "Species for Sale," is free and open to the public. The display in Room 123, Noland Hall, 250 N. Mills St. can be viewed between 8:00 a.m. and 4:30 p.m. Monday through Friday.

Teachers and leaders of civic groups can arrange special tours of the Zoological Museum by calling (608) 262-3766.

tion we can get from living or or dead animals helps us solve the puzzle.

"We're involved in the wolf recovery program. Wisconsin has the southernmost wolf population in North America. Any wolves found dead are turned over to the Zoological Museum. We cooperate in performing autopsies on wolves received in this way with the U.S. Fish and Wildlife laboratory here in Madison. The skin and skeleton are kept for research purposes and the data is turned over to the wolf biologist in the state, Dick Thiel, at the Office of Endangered Species. Wolves have sometimes been confused with the coyote. It is an animal associated with wilderness; there are people who carry their wolf prejudices, but it's an exciting species. They're wonderful, if you've heard or seen them. I've worked with Wisconsin wolves. There was a pack in North Central Wisconsin consisting of a dozen individuals. Now, in the entire state the total population is only thirteen."

In the collections room Iwen opens up a long, wide drawerful of gulls, their wings folded up, eye sockets bulging cotton. Each bird has a tag which tells who collected it, where, when, its weight, and wingspread length. Many specimens are over 100 years old. Iwen pulls two out and reads the dates: October 3 and November 2, 1877. "It isn't the specimen for its own sake that's important, it's the information it conveys. We must have a minimum set of data, some of which are obtained when collected, some when prepared by us. Things like the animal's color, weight, body length, and length of ear become important or potentially important. All specimens have a tag, a catalog number. It's like a library of information in which the books have not yet been written."

The museum has the only extant specimen of a Wisconsin mountain lion. It was taken near Appleton in 1857. This one, now skin, bones, skull and hide in a drawer, was obtained by Lawrence College from a bar near Appleton. Nose to tail it measures six feet and, according to Iwen, once had dental problems. He pointed out two broken canine incisors.

Animals are brought to the museum pretty routinely; Iwen, whose curatorial specialty is birds and mammals, does some identification of eagle feathers for federal or state wardens.

He opened another drawer. Wolf hides. He lifted several out and laid them on a tabletop; one hide was of coyote crossed with a dog. While some species have become extinct or endangered with the presence of humans, coyotes have expanded. Says Iwen, "I don't think there's a state in the union they're not found in. The coyote is more of a generalist than the wolf, not dependent on a strong ungulate population—deer, moose, elk." And like humans, now an endangered species ourselves, not as concerned about motors, lights, pollution. □

*Boyd
M. Iwen*

From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: 608/262-3571

Release: **Immediately**

6/20/86

CONTACT: John E. Dallman, Frank Iwen (608) 262-3159

ZOOLOGISTS MEET THE FLYING SNOUT LEAPER

MADISON--As a rule, scientists expect the unexpected.

But 800 zoologists meeting at University of Wisconsin-Madison this week had no idea they would encounter the flying snout leaper.

Nor were they expecting a treatise on the rapa-nui, a chimera of sorts from Easter Island that, during its March-to-April mating season, has a tendency to lay varicolored eggs on plates and baskets in human dwellings.

Then there's the unicorn. What annual meeting of one of the country's premier biological societies--the American Society of Mammalogists (ASM)--would be complete without at least one paper on the fabled single-horned animal.

It was decidedly not run-of-the-mill fare for a scientific meeting. But these and other furry curiosities made their academic debut nonetheless in Spilogale, "an occasional journal of the American Society of Mammalojests." The tounge-in-cheek periodical was unveiled here for the visiting zoologists Wednesday (June 18) at the annual ASM banquet.

Spilogale was orchestrated by resident jester John Dallman, whose more serious moments are spent as curator of paleontology and historic collections for UW-Madison's Zoological Museum, and by Frank Iwen, the museum's curator of birds and mammals. The 10 pages of their journal are filled with photographs and articles describing the behavior, habitat and distribution of the fascinating but fictitious flying snout leaper, unicorn and rapa-nui.

The flying snout leaper, also known as the rhinograde or the earwing, is so named for its L-shaped snout--an appendage that over time "developed ... into a leaping organ"--and for large ears that give it an ability to fly.

It was found only in the now-lost South Pacific archipelago of Hi-yi-yi and one of the few known skeletons of the beast is housed at the UW-Madison Zoological Museum.

The rapa-nui is described as an extremely elusive animal, but one that adapts readily to human companionship. The only known captive specimen, according to the Spilogale monograph, was the victim of an unfortunate accident. Slipping on spilled jelly beans, the rapa-nui met its fate in a nearby vat of hot dipping chocolate.

It's remains, too, are stored in the rare species cabinet of the Zoological Museum.

A simplified explanation of the unicorn traces the distribution of the beast through history and describes the magical powers attributed to its centrally placed horn. The horn, it seems, could be used to purify contaminated water and also gave the unicorn power over other animals.

According to Dallman, the lone survivor of a population of Maine unicorns, unable to find work as a leader of other animals, is now employed as a groundskeeper at a Maine university where it uses its horn to keep the grounds free of litter.

Although Spilogale is a one-time publication, the fun it pokes at serious science is a John Dallman staple. Traditionally, Dallman erects an April Fool's display, a display that in the past has included such rarities as a piece of hide from the hippopotamus-like nauga. The nauga's hide is prized for its hairless surface and great similarity to plastic.

Why have all this fun at the expense of science?

"We sometimes take ourselves too seriously," Dallman said. "A little comic relief is good punctuation. But there is also a calculated advantage to this and that is to get people to be more critical of what they see. People shouldn't accept at face value everything they see in an educational institution."

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Release: **Immediately**

6/9/86

CONTACT: John A. W. Kirsch (608) 262-3766, Frank Iwen (608) 262-3159

(NOTE TO EDITORS AND NEWS DIRECTORS: Coverage of the ASM meeting is invited. Because of its size and subject matter, the meeting holds the potential for many new and interesting stories. Those covering the meeting are asked to pick up press badges at the ASM registration desk in the lobby of Sellery Hall on the UW-Madison campus. The Old Madison West Room in Memorial Union will be set aside for interviews. For more information, programs and abstracts, contact Terry Devitt at (608) 262-8282.)

BATS TO ELEPHANTS: UW-MADISON TO HOST MEETING OF ZOOLOGISTS

MADISON--Everything from aardvarks to zebras will be on the agenda next week (June 15-19) for 800 scientists attending the 66th annual meeting of the American Society of Mammalogists (ASM) at University of Wisconsin-Madison.

The meeting, to be held at the Memorial Union and the State Historical Society, will feature talks on such things as genetic variability in wild animal populations, conservation, animal behavior and ecology.

Sponsored by the UW-Madison Zoological Museum, the meeting is being held for the first time in Wisconsin despite the fact that the driving force behind the founding of the society was Wisconsin educator and scholar Hartley Jackson.

"This is a premier national biological organization. To have the meeting here is a coup for the university," said John A.W. Kirsch, director of the Zoological Museum. "For the museum, it's also the start of the celebration of our 100th year. We see it as a statement of our hopes and ambitions in these fiscally troubled times."

Founded in 1919, the society promotes the study of mammals and serves as a forum for mammalogists and their research.

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-- Terry Devitt (608) 262-8282

*Zoological
Museum*

UW-MADISON ZOOLOGICAL MUSEUM: A RESOURCE FOR THE DNR

By Terry Devitt

Science Editor, University of Wisconsin-Madison

For museum curator Frank Iwen, space is like money: There's never enough. But to Iwen, the man who cleans, catalogs and stores thousands of bird and mammal specimens for the University of Wisconsin-Madison Zoological Museum, the battle for space is the good fight. You never know, he says, what these collections will mean to future generations.

Few people are more drawn to the need for good museum collections than biologists. Iwen's point is well made, however, by the case against the pesticide DDT, a case made with the help of Wisconsin bird eggs, collected in the last century and squirreled away for decades before wildlife ecologist Joseph J. Hickey used them to study eggshell thinning in peregrine falcons.

"Twenty years ago," according to Iwen, "biologists first noted that the eggshells of some birds were getting thinner, thin enough so that eggs were inadvertantly crushed by parent birds. Using our collections and others, Hickey was able to look at the thickness of eggshells through time and see exactly when the shells started to become thinner.

"He found that the eggshells remained constant in thickness until a period right after World War II, the time when DDT first began to be used widely. After that finding, it was only a matter of time before the link was made between DDT, its interference with calcium metabolism in birds and the thickness of eggshells.

"The point is that we really don't know how some of these collections are going to be used in the future. There was no way that the people who made those collections in the 1800s could have seen how those eggs would be used."

With that maxim in mind, Iwen helps preside over what many consider to be one of the finest zoological research museums in the country.

"The key word here is research," says Iwen. "Although we do put up some displays for the public, our primary mission is to serve as a resource for university, state, federal and private sector researchers. The vast majority of our collection is not mounted, but prepared, cataloged and carefully stored for quick access by scientists."

According to Iwen, both the stature and collections of the museum have been enhanced by a climate of close cooperation between museum and Department of Natural Resources (DNR) personnel. Iwen says a sort of symbiotic relationship has evolved over the years.

"Many of our specimens are obtained from wardens, game managers and other DNR personnel who work in the field. In return, some specimens are mounted and loaned to the DNR for use in traveling exhibits or at DNR centers like the MacKenzie Environmental Education Center in Poynette."

But, says Iwen, the relationship is deeper than just exchanging frozen carcasses for mounted birds and mammals. In a variety of ways, the Zoological Museum and the DNR have worked together to provide scientists with the raw material needed to further our basic knowledge of the fish, mammals and birds that help define the wild character of the state.

A program of particular interest to Iwen is the wolf project. Iwen and others at the museum have worked closely with Dick Thiel of the DNR's Bureau of Endangered Resources. Thiel, well known for his studies of Wisconsin's wolves, uses the UW-Madison museum as a repository for the dead wolves that he's found in the field.

"Our concern with this project is primarily that of preserving the wolf material for further studies," Iwen says. "I think this is critical because the wolf, an endangered species, is barely hanging on in Wisconsin. By preserving wolf skeletons and skins for researchers we can perhaps gain new

insights into an animal that the state is working very hard at trying to reestablish.

"To many people, the value of studying skin and bones may not be obvious. But it's frequently possible to learn as much about an animal by studying it in the lab as it is to learn about it by observing it in the field," Iwen says.

Dead wolves, found by Thiel and others, are brought to the museum where they are photographed, skinned and prepared for post-mortem examinations by veterinarians at the National Wildlife Health Laboratory on Madison's west side.

"We'll do a rough preparation of the specimen here so that the veterinarians can look at it and take any organ samples they deem necessary. We are usually involved in the post-mortem where we look for signs of disease or some other trauma that may have led to the death of an animal.

"Sometimes people find animals that are so badly decomposed that only the hide and part of the skeleton are left. In a case like that, we can clean and prepare what's left and look at it to see if perhaps the animal was killed by a poacher, hit by an automobile or died of natural causes. Knowing just how these animals died is important. The information is crucial to people at the DNR who are trying to get the wolf reestablished here."

Working in a similar vein, museum experts often lend their expertise to the wardens who enforce state and national game and wildlife laws. With a staff of seven curators and other professionals, the UW-Madison Zoological Museum is a resource frequently tapped for expert witnesses as well as forensic determinations.

"We have helped law enforcement people identify things like eagle feathers," according to Iwen. "The trade in eagle feathers is, of course, illegal. There are people on our staff who can identify eagle feathers at a

glance. We're frequently called on to give testimony as expert witnesses in cases like that."

Museum resources are also used by DNR wardens to become familiar with types of wildlife. For example, instead of just collecting one or two specimens of a particular bird, the museum makes an effort to collect a variety of specimens of a particular species. Individuals within bird species vary and they also display different plumage at different times of the year.

"Because we have the specimens readily available and centrally located, it's easy for wardens to come in here to study the different plumage of ducks, for example. With this knowledge, it's frequently possible, by looking at the feathers, for a warden to tell if a particular bird has been killed out of season."

DNR field biologists, according to Iwen, can use the museum's collections in other ways, too. "If a field researcher is interested, for example, in coming up with a radio collar for an animal that he'd like to study in the wild, he may begin his work at the museum by examining and measuring different specimens of that animal. It's nice if you have some specimens to work with when you're building a device for use in the field."

The museum also places an emphasis on public education. Working in concert with the DNR, the museum has been able to bring at least part of its collection into the public eye. With, among other things, 8,000 mammal specimens, 12,000 bird skins and 10,000 skeletons, there is much to interest the public.

"We make a lot of our material available to the DNR's Bureau of Endangered Resources, people at the DNR who are on the educational side of things," says Iwen. "They go to many schools in the state to preach the message of

endangered species and it helps if they have some specimens to show students. We frequently provide the DNR with mounted specimens on a long-term basis for these kinds of programs."

According to Iwen, if some materials are too rare or too fragile to loan out, museum personnel can make and supply facsimiles. For example, museum curator John Dallman in recent years unearthed the remains of several mastodons from farm fields near the Dane County town of Deerfield. He's also excavated remains of the giant beaver, 500-pound creatures that once inhabited the state's lakes and streams.

As skulls of the giant beaver are rare, it's not possible to loan out the museum's only intact skull. However, Dallman has made casts of this skull and selected bones of the mastodon and loaned the realistic replicas to the DNR headquarters of the Southern Unit of the Kettle Moraine State Forest.

Along with fossil bone facsimiles, bird skins and animal skeletons, museum curators also lend their expertise. Iwen says all museum specimens require careful and periodic maintenance. Insect pests and rodents along with ordinary wear and tear can take a toll on a museum's collection. Even simple exposure to sunlight or excessive humidity can greatly harm a bird or mammal skin.

"Specimens do need care, even after they're mounted or prepared, and that care requires a knowledge and understanding of how best to preserve certain materials," says Iwen.

Using this expertise, Iwen and other museum curators have been able to help care for and preserve mounted specimens used at various DNR facilities. According to Robert Wallen, program specialist-naturalist at the MacKenzie Environmental Education Center, not only does the Zoological Museum provide skulls and specimens that would otherwise be difficult to get, but it also lends the preservation expertise of its curators.

"They've helped us rejuvenate bottled specimens, brittle bones and worn mounts," Wallen says. "It's behind the scenes kind of work, but it's important. The bird, bobcat, fisher and wolverine specimens in our conservation museum play an important role in our educational programs. Some of those materials are hard to come by. It's crucial that we keep them in good shape."

But while UW-Madison Zoological Museum curators interact in many ways with the DNR, Iwen says the most important ongoing project from the museum's standpoint is obtaining specimens from the DNR.

"I think that's absolutely essential. This material must be preserved and it takes a special effort on the part of the field worker to get this material to us. We are very appreciative of those individual efforts made over the years."

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*Zoological
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From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: 608/262-3571

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ISLANDS YIELD RARE FINDS FOR UW-MADISON MUSEUM

By TERRY DEVITT
University News Service

MADISON--University of Wisconsin-Madison Zoological Museum Curator E.

Elizabeth Pillaert held a small, oblong box in the palm of her hand.

The box held a jumble of rodent bones that seemed not at all unusual in a place where skeletons, animal skins and bird mounts crowd shelves and spill from cabinets and drawers.

But to the experienced eye of a zoologist like Pillaert, who collected them on a recent trip to the Galapagos Islands, the bones were something special.

"This," said Pillaert, "is the giant rat, a muskrat-sized creature that's probably been extinct for a hundred years and one that's rare for a museum to have in its collection. There are just a few of these in museums throughout the world and no one, as far as we know, has ever seen one alive.

"They're difficult to come by, but I was on a roll this last trip."

Pillaert was referring to the most recent of her three expeditions to the islands first made famous by 18th century naturalist Charles Darwin. "I found four skulls as well as some other bones of the giant rat. For zoologists, it's a big deal. I tried to find them before and couldn't."

Pillaert is one of only a few people allowed on the Pacific Ocean islands to collect the remains of birds, mammals and reptiles. Her latest trip yielded

Add 1--Galapagos finds

13 wooden crates filled with 341 specimens representing 51 different species.

The Galapagos, an Ecuadoran national park, are well known for their unusual and extremely fragile plant and animal communities. Travel on and between islands is strictly controlled to protect the islands' natural character. Even residents must get permission to travel beyond inhabited areas and some islands are entirely off limits to all but a select few.

During her three-month expedition, Pillaert traveled to 13 of the 16 islands in the archipelago, located 600 miles west of the coast of Ecuador. She collected such things as penguin skeletons, the remains of a giant tortoise and the skins and bones of various Darwin finches, boobies and flightless cormorants.

"I pick and choose where I go to make sure that I can collect the things I want," said Pillaert. "I get ideas of where to go from other scientists, people who study particular species. They know where certain animals live and die."

Pillaert did much of her collecting by combing beaches and exploring the lava tubes that pock the islands' volcanoes.

The islands' two types of owls use the lava-formed caves as roosts where they regurgitate pellets of undigestible material, mostly bones and feathers. Pillaert mines the pellet deposits to uncover the remains of small animals that would otherwise be hard to find.

"One of the hard things to get are finches," Pillaert said. "They're very small and easily covered up."

But according to the UW-Madison researcher, Darwin finches are of great interest to naturalists because they've developed a multitude of adaptive types from one common ancestor.

One of the more bizarre finches observed by Pillaert was the sharp-beaked groundfinch on Wenman Island, a place only five people a year are allowed to visit.

Add 2--Galapagos finds

"This particular species is sometimes called the blood-eating finch. They live near colonies of masked boobies and they light on these boobies, which are much larger birds, and peck at the base of the boobies' tail feathers until they draw blood.

"They do ingest the blood, but it's not known if they do it for food or to slake thirst. It's interesting because finches of that species don't do that on any island but Wenman."

At least half of the specimens collected by Pillaert will be turned over to the National Museum of Ecuador after they are cleaned and prepared by UW-Madison curators. She said it will take three or four years to process all of her recently-collected specimens.

Pillaert continues a tradition of UW-Madison research in the Galapagos that goes back to 1969. And she does plan to return to the islands.

"I can't stand the idea of not going back," she said.

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-- Terry Devitt (608) 262-8282

*Biological
Museum*

DNR, UNIVERSITY COLLABORATE ON MANY PROJECTS

There is a long tradition of cooperative efforts between the Wisconsin Department of Natural Resources (DNR) and the University of Wisconsin-Madison. That tradition continues today as DNR personnel and UW-Madison faculty, staff and students work together on dozens of projects.

Although it is impossible to list all of the ongoing collaborative projects here, a brief description of some of the work now taking place helps illustrate the depth and breadth of a university-DNR relationship embedded in a commitment to the people and natural resources of Wisconsin.

*Lake trout research: To gain a better understanding of why stocked lake trout in Lake Michigan fail to establish self-sustaining populations, the DNR is helping support the work of UW-Madison Sea Grant researcher Ross Horrall. Horrall and others are studying the history of native lake trout and comparing characteristics of trout spawning reefs in Lake Michigan with those in Lake Superior where remnant populations of lake trout still survive.

This group is also studying the possible effects of lake contaminants on egg and sac fry survival as well as better ways to plant trout on their former spawning reefs. The eventual goal is to help the DNR and other agencies reestablish self-sustaining lake trout populations.

*Aquaculture: In the Great Lake region, aquaculture plays a key role in the management of fishery resources and has potential as a method of food production. Working through the Sea Grant program, scientists are conducting studies to determine the proper dietary and environmental needs of cultured fish species like perch, walleye, trout and whitefish.

This research is supported in part by the DNR and takes place at the UW's Aquaculture Research Laboratory located at the DNR's Lake Mills Fish Hatchery.

The lab is operated by Sea Grant and the UW-Madison College of Agricultural and Life Sciences in cooperation with the DNR.

*Acid Rain: The experimental acidification of northern Wisconsin's Little Rock Lake is a benchmark study that will help scientists understand what will happen to certain northern lakes if they continue to be dosed with acid rain. This study, which involves dividing the 45-acre lake with a plastic curtain, is being conducted by the DNR, the U.S. Environmental Protection Agency, UW-Madison's Center for Limnology, UW-Superior, the University of Minnesota, the University of Minnesota-Duluth and the U.S. Geological Survey.

*Water Resources Management: Teams of UW-Madison graduate students, working under the auspices of the Institute for Environmental Studies (IES) Water Resources Management Program, have worked closely with DNR specialists to study and produce comprehensive watershed management plans for Black Earth Creek in Dane County, Fox Lake in Dodge County and Lake Redstone in Sauk County.

*Wetland Mapping: IES faculty and research assistants from the UW-Madison Environmental Remote Sensing Center have used satellite imagery, aerial photography and other remote sensing techniques to help the DNR map Wisconsin's extensive and important wetland areas.

*Remote Sensing: The Remote Sensing Center has also conducted studies for the DNR and NASA to determine the potential of using Landsat satellites to monitor the water quality of Wisconsin lakes.

*Wildlife Damage Program: Begun in 1983, this DNR-administered program works through Wisconsin counties to help offset the damage done to crops and property by wild animals. Students in the UW-Madison wildlife ecology department help DNR specialists prepare educational and informational materials and help formulate new ways to stem wildlife damage problems.

*Zoological
Museum*

MUSEUM TOURS

While the University of Wisconsin-Madison's Zoological Museum is chiefly a research museum, an emphasis is also placed on public education, according to museum curator Frank Iwen.

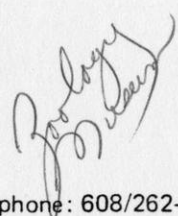
To meet the educational needs of school and civic groups from around the state, special tours of the museum can be arranged. Tour participants are able to view much of the museum's mammal, bird, fish, reptile and mollusk collections.

At present, a special exhibit on the trade and exploitation of wild animals and the products made from them has been prepared by the university in conjunction with the U.S. Fish and Wildlife Service.

The exhibit, "Species for Sale," is free and open to the public. The display is in Room 123, Noland Hall, 250 N. Mills St., Madison, and can be viewed between 8 a.m. and 4:30 p.m. Monday through Friday.

Teachers and leaders of civic groups can arrange special tours of the Zoological Museum by calling (608) 262-3766. The museum is located on the fourth floor of Noland Hall on the University of Wisconsin-Madison campus.

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From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: 608/262-3571

Release: Immediately

11/21/85

CONTACT: David Heath (608) 262-3766

ENDANGERED CLAMS MAKE A LONG-DISTANCE MOVE

By INGA BRYNILDSON
University News Service

MADISON--Clams aren't the sort of animals you hear much about -- until they get in the way of something.

That's what U.S. Telcom found out when it tried to lay a communications cable across Wisconsin's St. Croix River and ended up in a clambled.

"It wasn't just an ordinary clambled," said David Heath, a University of Wisconsin-Madison malacologist--a zoologist who works with mollusks such as clams. According to Heath, who identifies mussels for the UW-Madison Zoological Museum, this clambled happened to be home to Wisconsin's only federally endangered clam, the Higgins' eye pearly mussel.

Last summer U.S. Telcom successfully threaded its fiber optic cable from Chicago to Milwaukee, then to Madison, Eau Claire and Hudson in northeastern Wisconsin. But the company ran into the clambled when it tried to cross the St. Croix to the Twin Cities.

Billy Cashwell, U.S. Telcom project manager, said the two-inch-wide cable is part of a coast-to-coast long distance telephone network. "Normally, we bury the cables along rail corridors and take them across rivers on railroad bridges," he said.

But when Cashwell and his crew reached Hudson, they discovered a swing bridge that opens to make way for tall boats on the St. Croix. Burying the

cable in the riverbottom seemed the most obvious option.

But the railroad bridge passed directly over a known bed of Higgins' eye pearly mussels. Not wanting to stray too far from the rail corridor, the corporation had to seek a federal permit to continue.

The U.S. Fish and Wildlife Service (FWS) required U.S. Telcom to survey the clambed, and Heath was among scuba divers contracted for the job. The survey initially turned up two Higgins' eyes along the 10-foot-wide, 1,500-foot-long path between Wisconsin and Minnesota.

"Two may not sound like many," said Heath. "But considering how rare they are, it's really quite a few."

The FWS decided the endangered species designation warranted relocation of the clambed. Early this fall, Heath and two other divers moved 626 mussels, including five more Higgins' eyes, upstream of the cable site. Each mussel was identified and numbers were scratched on shells of the Higgins' eyes before they were placed in the new bed.

According to Heath, there are 81 species of mussels and clams in Wisconsin. The divers dropped the more common species overboard at the new site, but hand-placed rare species such as the Higgins' eye in the proper position, with their siphons -- a food-gathering organ resembling a straw -- sticking out of the mud.

The relocation took about three days. Working at depths of 15 to 25 feet, the divers anchored a rope along the route of the cable and cleared clams within five feet on either side of the cable's intended path.

Although visibility was poor on the murky riverbottom, Heath said the divers didn't use lights. "Lights wouldn't do any good, because the mussels are dug so far into the mud that you have to go by feel.

"We were lucky because the St. Croix has a sandy bottom," he added. "It's much slower going on a gravel bottom."

The mussels have a good chance of surviving, Heath said. In a similar move on the Mississippi River near Moline, Ill., all hand-placed mussels found were alive a year after relocation, including three Higgins' eyes.

Last month U.S. Telcom successfully dug its communications cable six feet under the St. Croix riverbottom and across to Minnesota. The seven transplanted Higgins' eye pearly mussels are safely in a new bed upstream.

Thanks to the work of Heath and the other divers, both the company and the mussels are, once again, happy as clams.

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Release:

Immediately

7/12/85

CONTACT: John E. Dallman (608) 262-3159

(Photos available from University News Service)

DEERFIELD FARMS KEEP SPROUTING MASTODONS

By TERRY DEVITT
University News Service

MADISON--To the residents of tiny Deerfield, Wis., the John Neath farm and the adjoining Elmer Schimelpfenig homestead are known as the mastodon farms.

In a marshy field where these two Dane County farms meet, John E. Dallman and others from the University of Wisconsin-Madison Zoological Museum have spent nearly 20 years probing for the remains of the elephant-like mastodon, a furry beast that weighed up to eight tons and last walked the Earth during the Ice Age.

So far, Dallman has pulled three well-preserved mastodon skeletons from the muck and he's uncovered evidence -- a tooth -- of a fourth. But Dallman thinks he's just scratched the surface.

"The three animals we have don't represent any cataclysm. They didn't die at the same time and I believe that if we can find evidence for four animals, there surely are others."

Dallman's theory goes something like this: 10,000 years ago, about the time his mastodons met their fates, the cornfield Dallman is now excavating was a small lake, home to beaver and surrounded by willow, poplar and spruce trees.

At the east end of the prehistoric lake, near the area where the mastodons

-more-

were unearthed, several small streams ran into the lake basin. The streams, says Dallman, were responsible for washing the mastodons and possibly others into the lake where their bones lay in the mud, protected from the elements and scavengers.

"These animals probably died up on shore and were in a state of partial decomposition when heavy rains, melting glacial water -- we're not sure what -- picked up their bones and carried them into the lake," Dallman said.

"As soon as the stream of water hit the lake, it lost its carrying capacity and dropped the bones in a sort of dome-shaped pattern. We found two skeletons in exactly the same pattern and with the same complement of bones which is really curious."

Of interest to Dallman is the fact that the skeletons were not quite complete. The femurs, or thigh bones, for each animal were missing.

"We've gotten three animals out of that lake and no femurs," Dallman said. "There are several theories as to why the femurs are missing, but the likliest is that they were just too heavy to be washed into the lake. A mastodon haunch would have weighed well over 600 pounds."

Dallman discounts the possibility of scavengers having made off with the heavy limbs. "There is no evidence that predators were responsible for removing the things we couldn't find. We examined the skeletons and could find no evidence of toothmarks, nor could we find anything else to account for the animals' deaths."

There is evidence, however, that one of the animals suffered from a severe case of osteoarthritis. One of its vertebrae had a sharp bone spur pushing on the spinal cord which, Dallman said, would have made life very hard for that mastodon.

"That growth was very sharp and I would guess that it would have given that animal a pinched nerve at the very least and, given a threatening situation, the animal would not have been able to respond quickly."

Although mastodons have been the only large animal remains found so far at the Deerfield site, Dallman said he hopes to uncover the remains of other animals that existed at the time mastodons roamed Wisconsin.

"We're looking for a host of other animals that should be there," Dallman said. "I would certainly keep my eye out for the giant beaver. You don't find too many of those, but they are found in poorly drained areas where the bones are preserved by mud and that's exactly the sort of situation we have here."

The giant beaver, according to Dallman, weighed up to 500 pounds and was seven feet long from nose to tail. Only one of the giant rodents has been found in Wisconsin, although it is believed that they may have been common here during the Ice Age.

Dallman's Deerfield finds, including a nearly perfect 175-pound mastodon skull, are now catalogued and stored in the UW-Madison Zoology Museum. The bones are used mostly by students and researchers.

Piecing one of the skeletons together did cross Dallman's mind. However, he said doing so would not only be expensive, but space in the museum is at a premium and articulated skeletons take up too much room.

Despite that problem, Dallman said he hopes to find a few more things on the Schimelpfenig site and nearby Neath farm to add to the museum's collection.

Dallman, in a recent interview, was quick to praise the landowners for their help. "They're marvelous people. They're interested in what we're doing and so far they've given us carte blanche. It is a sacrifice on their part because we're occupying space that can be farmed."

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BIENNIAL REPORT OF THE UNIVERSITY OF WISCONSIN ZOOLOGICAL MUSEUM

MARCH
1985

John A. W. Kirsch

NOLAND ZOOLOGY BUILDING

250 NORTH MILLS STREET

MADISON, WISCONSIN 53706

This report covers the period from January, 1982, until the present. It describes the events and acquisitions during that span, and indicates the current activities and plans of the museum. We hope to publish a biennial report from now on.

LOGO

The Zoological Museum's new logo (upper left), designed by Curator of Exhibits and Historical Instruments John Dallman, appears for the first time in this report. For some months, we spent a portion of each museum meeting trying to decide on the best design. Obviously, the use of a badger was inevitable, but by incorporating its bones this logo emphasizes the museum's commitment to building one of the country's finest skeletal collections. Expect to see it on stationery, business cards, and T-shirts.

HISTORY

Another important decision was the establishment of the date of the beginning of the museum. While there had been a "natural history cabinet" associated with the study of zoology almost since the founding of the Madison campus, all specimens associated with that cabinet were destroyed in a fire in 1884. Following the fire, materials designated as part of a "zoology museum" were set aside in 1887, and we have therefore chosen that date as the year of our founding. This proved to be a serendipitous choice, because we have set certain goals that should appropriately be realized in the next biennium.

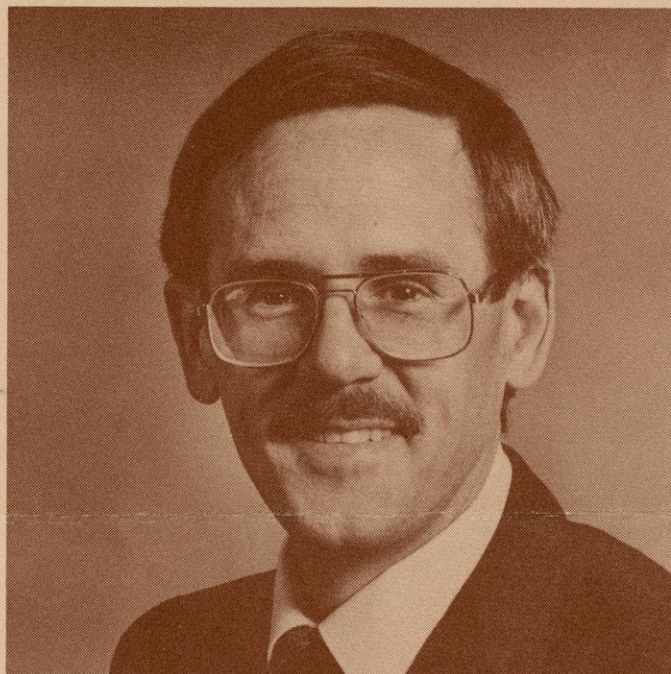
MUSEUM TO HOST ASM MEETINGS

A major event of our hundredth year will be the meetings of the American Society of Mammalogists (ASM) from 15-19 June, 1986. Curator of Birds and Mammals Frank Iwen and the director presented the invitation to the society at its June, 1984, meetings. The ASM has a membership of several thousand, and over 800 mammalogists attend each year's convention, normally held on university campuses or at a major museum. Hosting this conference will be a big job, and we would welcome help from anyone who wishes to be part of the local committee. We will have excellent assistance from the Memorial Union, dormitories manager, and officials of The Wisconsin Center. Several special events are planned, including a wine and cheese party at the Capitol and a picnic at the lake. We hope to have the mammal collections in apple-pie order before the meetings, including computerization of the records.

A major congress of behavioral biologists will also be meeting on the Madison campus the following year, and the museum looks forward to helping with the arrangements for that conference.

ARRIVAL OF NEW DIRECTOR

Perhaps the recent event with the most far-reaching implications was the arrival of a new director. John Kirsch (see photo) is a mammalogist known for his work on the taxonomy of marsupials. This is not the first time he has lived in Madison: as a beginning graduate student, he spent a semester here in 1962 before leaving for Australia on a Fulbright Fellowship. Australia proved so fascinating that he stayed there for five years, went on to spend two years chasing opossums in South America, and then held successive museum and faculty positions at Yale and Harvard. In addition to his duties as director and Zoology Department faculty member, he is commencing research on the DNA of marsupials and rodents. It is his hope that the UWZM will become one of the museums known for the use of biochemical methods in studying the systematics of vertebrates.



JOHN A. W. KIRSCH (photo by Don Chandler)

NEW EXHIBIT TO OPEN

In collaboration with the Natural History Museums Council, and under the direction of John Dallman, the museum is preparing an exhibit on endangered species for our display room on the first floor of Noland. In part deriving from an exhibit promoted by the Shedd Aquarium in Chicago and an article in *National Geographic*, this presentation has been substantially improved by donations from the US Fish and Wildlife Service's Chicago office and agencies in Alaska. We expect a formal opening in April of 1985; a travelling exhibit is also planned, and we and the council shall seek grants to develop this project.

COMPUTERIZATION PROGRESSING

Data-manager Peter Overton and Chief Curator Elizabeth Pillaert have nearly completed computerization of the skeletal collections, among our biggest and most complex, and Curator of Mollusks David Heath has begun entering his collection. We began to computerize these records some years ago, with financial assistance from the Natural History Museums Council and the Zoology Department. The advantages of placing all catalogue data on computer files include the ability to respond quickly to requests for information—such as the locality or collector of a specimen—that otherwise could only be answered with great difficulty; and to pose questions that would not even have been answerable before, such as those involving correlations among data. After some consideration, we decided to make this a totally in-house operation, main-frame programs then (and now) being both inconvenient and expensive to operate. Peter chose an excellent program which has been improved several times over the years; our files will even be portable to other machines than the Apples in current use.

As noted, a goal for the next eighteen months is getting the mammal data filed. A major aid toward meeting this goal will be acquisition of a new IBM PC-AT and a more powerful database-management program. Several times faster than the Apple and equipped with a 20-megabyte hard disk, the new machine will enable us to transfer dozens of floppy disks to a single file and search them faster and more efficiently. We hope to have the system implemented by the end of this academic year, when Peter Overton graduates and leaves the museum.

MUSEUM RECEIVES GRANTS

The last eighteen months have been active ones for writing grant proposals. We are happy to report that most of these have been successful, and include two awards from the Natural History Museums Council. The first of these was for improvements to the computer system which have materially speeded up the process of entering data. The second is to aid Elizabeth Pillaert in making a third expedition to the Galapagos (see story on page three). Most of the remainder of the funds needed for this trip have come from a third grant by the university's Nave Foundation.

RENOVATIONS PLANNED

The Zoology Department has given permission for the museum to use the center area of the Noland Zoology Building basement, a space of about 2,200 square feet, for collection storage. This space is badly needed for the extensive "wet" collections, including some 16,000 lots of fish and invertebrate specimens collected by the Center for Limnology and at present curated by John Lyons. In order to make best use of the area, we intend to put compactors in the basement. Compactors are moveable shelves mounted on rails which obviate the need for aisles, and thereby allow double the usual amount of storage in any given area. The new space will permit us to consolidate all of the spirit

specimens and thus indirectly benefit other collections—for example, additional room will be created for the burgeoning skeletal and mollusk collections on the fourth floor.

We have made a submission to the Biological Research Resources Program of the National Science Foundation for a grant to cover purchase and installation of the compactors, and to provide temporary staffing to facilitate the move. As part of the University's commitment to the project, which will make a large number of specimens available for research and education, the College of Letters and Science and the Center for Limnology have agreed to sponsor a new curatorial position devoted to the limnology collections.

JOHN ROBINSON RETIRES

The Zoological Museum is pleased to enjoy the services in retirement of John Robinson, noted paleontologist and anthropologist. Professor Robinson was a student of the celebrated Robert Broom and is acknowledged as one of the world leaders in the study of human evolution. He continued to teach in the department during the first year of his retirement, and has contributed a good deal of his time toward planning a future exhibit on primate biology. As well, he has applied his considerable skills toward producing a photographic record of our historical instrument collection.

Coincident with his retirement, John Robinson has made a gift to the museum of his entire professional library, including a beautifully organized reprint collection that documents much of the history of hominid paleontology. His gift also includes many cranial casts and memorabilia of Robert Broom, including some of Broom's original sketches.



JOHN ROBINSON (at left) and ROBERT BROOM at work in the field in 1947

GALAPAGOS EXPEDITION #3

In December Elizabeth Pillaert began her third trip to the Galapagos Islands to collect salvage specimens for the museum ("salvage" means already deceased animals that are collected and cleaned up for the museum). The Zoological Museum is, aside from the US National Museum, the only institution outside Ecuador currently allowed to collect in the archipelago. Our skeletal collections from there are the second largest in the world, and will be materially increased by this expedition. In addition to collecting on the main islands for species not yet represented among our holdings, Elizabeth will have an opportunity to join a US National Oceanographic and Atmospheric Administration trip to Wenman, one of the farthest and least-visited islands. She will be gone until late March, 1985, making this the longest of our three trips. Registrar Mary Jones accompanied Elizabeth for the first five weeks of the expedition, and reports good results so far.

The award of a Nave Foundation grant to help finance this trip is recognition of the museum's commitment to Latin American studies, a commitment which is echoed by the director's personal research interests in the mammals of South America.

GALAPAGOS PRINTS

The museum is acting as agent for a set of bird prints by Godfrey Merlen, a member of the staff of the Darwin Research Station on the Galapagos. These prints constitute a limited edition of 300 which Merlen has donated as a means of raising funds for the station, and cost \$110 including postage and (for Wisconsin residents) sales tax for the set of three. The original paintings have been selected by the Ecuadorian post office to grace a set of stamps commemorating the 25th anniversary of the station. While the museum receives no profit from sales of the prints, we have undertaken this task partly to express our gratitude to the Darwin Research Station, and as a means of making our involvement in Galapagos biology known to the wider scientific community. Response has been enthusiastic, even though few advertisements have yet appeared. If you have any interest in purchasing a set, we suggest you contact us soon! A framed example of the print depicting flightless cormorants is on display in the museum. Checks should be made out to "Galapagos Prints."

To help advance the teaching, research, and public service efforts of the University of Wisconsin Zoological Museum, I/we contribute \$ _____.

I understand that my/our gift will be matched one-for-one, and is fully tax-deductible.

☐ Enclosed is my/our check.

☐ I/we prefer to make a pledge of \$ _____ annually. Please send a reminder every year in _____ (indicate month)

Name _____

Address _____

City _____ State _____ Zip _____

Please make your check payable to "UW Foundation - ZM Centenary Fund" and send to the museum or directly to the University of Wisconsin Foundation, 702 Langdon Street, Madison WI 53706.

OUTREACH

The museum has been in the news several times during the past two years. A feature article, with color photos, was published in the *Wisconsin State Journal* in July, 1983, and notes of our activities have appeared in the L & S supplement to *On Wisconsin* and various professional newsletters. John Dallman and Klaus Westphal (director of the Geology Museum) participated in a call-in program on Pleistocene animals on WHA radio in December, 1983; and John was interviewed by the University News and Publication Service for a brief program on endangered species aired in November of that year. In addition, John Kirsch was interviewed for WHA radio shortly after his arrival.

John Dallman also produced casts of mammoth, mastodon, and giant beaver bones as well as Paleoindian implements for the new interpretive visitors' center at Interstate Park, which is under the aegis of the National Park Service.

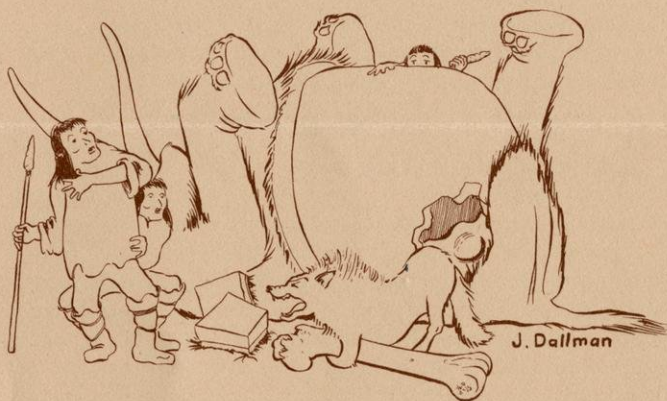
The museum's tour program continues to be popular. No doubt this is partly because, uniquely among the university's museums, we provide a chance to see what goes on "behind the scenes." Last calendar year some 3,000 school children visited the museum, and an additional 50 smaller, noneducational groups toured. In line with our instructional mission, several courses regularly use the museum specimens and facilities, and over 300 professional researchers (including many from state and federal agencies) worked here. These research-related activities are in addition to our vigorous loan and exchange program.

CHALLENGE GRANT RECEIVED

The museum has received a \$50,000 challenge grant from Lynn and William Reeder. If we are able to match this amount within three years, \$100,000 will be added to the museum's endowment. Since the terms of the gift require that matching funds come from private donors, we are now initiating a campaign to solicit donations; about 10% of the money has been pledged so far. A coupon is provided at the bottom of this page to facilitate participation. Each dollar contributed will be matched one-for-one; and, of course, donations are tax-deductible. Since raising the \$50,000 is a major goal to be reached in our 100th year, we have designated this the "ZM Centenary Fund" to emphasize its anniversary aspect.

RESEARCH IN THE MUSEUM

John Dallman continued his excavations at Deerfield, looking for additional remains of the fourth mastodon discovered in the ancient lake bottom there. Thus far this last animal is represented only by a single molar. Starting last year, a five-year program of careful excavations by two-inch increments was conducted to recover microfauna and environmental data. Perplexingly, the first three skeletons lacked femurs (thigh bones). Could Pleistocene dogs be responsible for carrying these away? An article on what happened to Deerfield's mastodons appeared in the *Deerfield Independent* in April, 1984.



The possible fate of the Deerfield mastodon thighs . . .

David Heath, our Curator of Mollusks, has been surveying freshwater mussels in the Sugar River in Dane and Green Counties. David's is only the second quantitative survey ever done in Wisconsin waters, and he is finding as-yet-unexplained sequences of species from the headwaters downstream. The known range of the federally endangered Higgin's Eye mussel has been expanded and a population of another proposed endangered species (perhaps the only healthy one anywhere) was first found this summer in Wisconsin.

Elizabeth Pillaert has carried out two analyses of Galapagos skeletons, one on the two species of land iguanas and another on the three species of boobies. In part this work has been done to prepare for return of specimens to Ecuador, our agreement being that up to half the material collected will go back to that country.

The director, John Kirsch, received grants for his research on the evolution and biogeography of marsupials and other mammals. These include two three-year awards from the National Science Foundation for DNA and brain studies, and another from the same foundation to visit colleagues in South America in order to plan collaborative research under the Latin American Cooperative Science Program. Travel funds from the UW Graduate School also enabled him to attend meetings in Australia during the summer, and to begin similar collaborative ventures with co-workers there. As part of the Australian phase of the marsupial work, a graduate student from the University of California—Riverside who is studying these mammals will work with Kirsch next year.

NOTABLE ACQUISITIONS

David Baerreis, recently retired from the Anthropology Department, has donated his collection of thousands of North American snails. Reference collections of mollusks are significant tools used by archaeologists in identifying animal remains and environmental conditions at middens. We are especially glad to receive the snails at a time when mollusks are becoming one of the three main areas of emphasis in the museum (the other two being skeletons and limnology). In addition to the Baerreis snails, over 4,000 specimens have been added to the malacology collection in the last biennium, and a sample of the extraordinary Baker collection transferred to the University of Michigan some years ago is being returned to Madison. David Heath has done a spectacular job in bringing mollusks to the point where they are, along with historical instruments, one of the most uniformly curated collections in the museum.

A substantial number of specimens are also being acquired for the historical collection, and there is no doubt that we are receiving many donations as a result of the favorable publicity gained in the last few years. The more notable additions include: devices for detecting waves in soft materials and radiation-detection instruments, donated by John Ferry and John Willard, respectively, both of the Department of Chemistry; electrical apparatus given by Richard Reines, Department of Electrical Engineering; and laboratory equipment presented by Nelson Davis, Department of Botany.

John Dallman's son Jay worked with the Geophysics Department in Antarctica during two seasons, and was able to salvage seven carcasses of South Polar Skuas for the museum. Astonishingly, the four that were made into complete skeletons gives us nearly as many specimens of this species as any other museum in the world (there are only 36 altogether).

John Kirsch returned from Australia having established three new exchange programs with Australian institutions, bringing to four the number of contacts we now have for adding to our series of Australian mammals and birds, since our association with Dr. Pat Watters of the University of New England in Armidale, New South Wales, continues. Exchanges with Latin American museums are expected in the near future as well, partly as a result of Kirsch's collaborative efforts there.

Finally, Preparator Nancy Rogge is enthusiastic about continuing donations of exotic animals by the Milwaukee Zoo. Recent acquisitions include a nine-foot alligator and a splendid tapir.

VOLUNTEERS NEEDED

Obviously, the museum's increasing activities, and ambitious plans, strain the resources of our staff. We badly need volunteer help—to do clerical and some curatorial work, to lead tours, and to help in the planning and pursuit of the public-service program. If you are interested in being of assistance, or know of someone who would like to help, please contact us.



From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: 608/262-3571

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1/12/84

CONTACT: R. Alexander Brink (305) 247-0279, James F. Crow (608) 263-1993,
John Dallman (608) 262-3159, William F. Dove (698) 262-4977

UNICORNS -- A WISCONSIN IDEA

MADISON--Passers-by stared in disbelief at a "unicorn" nonchalantly grazing in a Maine pasture in the 1930s. The unicorn, after all, is considered to be a mythical beast.

Fifty years later, millions of Americans saw a photograph of Maine's unicorn in the Jan. 1 issue of Parade Magazine. It seems that University of Maine biologist W. Franklin Dove had transplanted the horn buds of a day-old Ayrshire bull calf from the sides of its head to the center of the forehead. The horn grew into a powerful weapon, and the unicorn-like animal became the leader of its herd.

The story began, however, in the classrooms and animal breeding facilities of University of Wisconsin-Madison -- where Dove learned embryology and transplanting techniques as a genetics doctoral student in the 1920s. The department, located within the College of Agricultural and Life Sciences and known as the experimental breeding department, consisted of two staff members -- R. A. Brink, still an active geneticist, and chairman L. J. Cole.

"Dove was Cole's student but since there were only two professors, we were both involved with all the students," said Brink, who was part of Dove's Ph.D. examination committee. "I remember Dove as a very good, hard-working and ingenious student. And he had other skills as well. He was a cabinet maker, and earned his way through graduate school."

Add 1--Unicorns

E. B. Hart, chairman of agricultural chemistry, gave Dove access to calves born in Hart's experimental herd.

Hard evidence of the success of Dove's later experiments in Maine now resides in the UW-Madison zoology museum.

"We have skulls of seven cows and one goat, all with one large center horn," said John E. Dallman, curator of paleontology at the museum. "Dove had read the old literature and found many references to unicorn-like animals produced by manipulation of the horns."

Dove's son, William F. Dove, a UW-Madison professor of oncology, donated the skulls to the zoology museum several years ago in honor of the spirit of unfettered research at Wisconsin.

"My father had many germinal teachers here," Dove said, "people like Charles Bardeen from anatomy, L. J. Cole, Michael Guyer from zoology, and R.A. Brink."

Dove said his father's doctoral thesis involved the transplantation of tissues and the genetics of cattle, interests that eventually resulted in his Maine experiments.

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--Jacqueline Kelley (608) 262-8282/271-4496

feature story

From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: (608) 262-3571

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CONTACT: Scott Craven (608) 363-6325; John Dallman (608) 262-3159;
Richard A. Dickinson (608) 264-5237

UNLAWFUL ITEMS FROM ZOOLOGY COLLECTION TO HIGHLIGHT EXHIBIT

By JACQUELINE KELLEY

University News Service

MADISON---It's an unremarkable-looking white metal cabinet, the kind commonly used for storing just about anything.

But the contents -- including a jaguar pelt, a tortoise-shell comb, snakeskin shoes, an Indian headdress and a bottle of sea-turtle oil -- tell a remarkable tale. A tale about people who are unaware of, or insensitive to, the fact that they are trafficking in unlawful items, according to John Dallman, a curator at the University of Wisconsin-Madison zoology museum in room 434 Noland Hall, 250 N. Mills St.

"These items are all derived from endangered species and have been given to us by the U.S. Fish and Wildlife Service, which confiscated them in Wisconsin," explained Dallman. "Some of them will be part of an exhibit we'll be putting together this winter."

During a recent meeting with UW-Madison zoologists to plan the exhibit, Special Agent Richard Dickinson of the U.S. Fish and Wildlife Service said

-more-

that every year, scores of disappointed travellers forfeit such items, bought in foreign countries as souvenirs, to customs officials on their return to the U.S.

"'Importers' who intentionally smuggle or engage in commerce in protected wildlife may be sentenced up to five years in prison and given \$20,000 in fines," Dickinson said. "The U.S. government is serious about enforcing federal wildlife laws that restrict international commerce in endangered wildlife."

He pointed to U.S. participation in the Endangered Species Convention with more than 60 other nations, as well as other laws such as the Migratory Bird Treaty Act, the Endangered Species Act and the Lacey Act -- an umbrella statute covering all types of illegal wildlife.

Violators of these laws within the U.S. are pursued and prosecuted with equal vigor, said Dickinson, adding that the U.S. Fish and Wildlife Service, "upon conviction or forfeiture of wildlife, donates confiscated wildlife items to public educational, scientific or zoological institutions." The UW-Madison in recent years has received several items such as a polar bear, a jaguar and numerous migratory birds.

"Many of the items we get from the government are scientifically useful," said the UW's Dallman, "even though we often lack the data on their origin a scientist would want -- location, date of retrieval and type of animal habitat. Some of the items will become part of the upcoming exhibit -- a joint project between UW-Madison and the U.S. Fish and Wildlife Service -- that will expose the public to an array of illegal items made from endangered animals.

"We hope to sharpen people's awareness that collecting such objects is illegal and that they could be fined. The exposure may alert people who may not realize they're breaking the law, and, of course, help protect the animals. It's important that people realize they may be contributing to the global extinction of an irreplaceable animal species.

"In fact," Dallman continued, "I wonder why people use any animals for fairly trivial purposes, especially when synthetic substitutes are almost always more practical."

Dickinson added that if the market for unlawful items dried up, poachers would go out of business because it would no longer be profitable. "This can be achieved by increased public awareness of their unknowing aid to poachers, and with vigorous prosecution of violators who engage in commercial transactions in unlawful wildlife parts and products," he explained.

Dallman said that people visiting foreign countries often get duped into buying unlawful items which they must surrender to U.S. customs. Often they must pay a fine as well.

Fashion styles and current fads in collectibles account for the popularity of some items, Dickinson said, pointing to tortoise shell jewelry and songbird collections. All migratory birds except the English sparrow, pigeon and starling are protected, yet the Service still catches people who collect, mount and sell protected birds, according to Dickinson. Legal game birds, however, can be mounted.

UW-Madison wildlife ecologist Scott Craven said the idea for the upcoming exhibit arose from his having seen a similar display at the Shedd aquarium in Chicago.

"It was very realistic and made a good point," he said. "It showed raw materials and products made from endangered species in rough-looking shipping crates, just as they might appear at dockside."

Craven was able to purchase the display crates from the aquarium through a grant from the UW-Madison Natural History Council. They will arrive at UW-Madison in January and become part of the exhibit, which will be displayed late this winter in Madison in some public place. The exhibit may then travel outside Madison, the scientists said.

UW cutlines

*Zoology
Museum*

From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: 608/262-3571

Release: For immediate release

10/27/83

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ITEMS MADE FROM ENDANGERED SPECIES EXAMINED BY ZOOLOGY MUSEUM CURATOR

John Dallman, a curator at the University of Wisconsin-Madison zoology museum, examines part of a collection of unlawful items confiscated in Wisconsin by the U.S. Fish and Wildlife Service. The items, donated to the University, include clothing accessories made from snakes and alligators, sea-turtle oil and a jaguar pelt. All were made illegally from protected animals.

Release: **Immediately**

3/29/83 jk

CONTACT: John E. Dallman (608) 262-3159

APRIL FOOL'S DAY REVISITS ZOOLOGY

MADISON--It's a bird! It's a plane! It's a--leaf?

Mother Nature sometimes seems to delight in fooling our senses and firing our imaginations.

Do does John Dallman, a curator of the zoology museum at the University of Wisconsin-Madison. His annual tribute to April Fool's Day goes on display Friday (April 1) on the second floor of Noland Hall, 250 N. Mills St.

This year's theme could be called "Things are not always as they seem," and features natural objects with interpretations. Dallman said that people frequently bring him objects found outdoors, or even in attics, for identification. The finders often are wrong about the origin or use of the specimen. "But sometimes they're right."

The exhibit consists of several "found objects" and identifies each--rightly or wrongly.

The exhibit draws attention to a commonly misidentified object, a "fern fossil"--a stone slab with black etchings of what seem to be fern-like plants. "They're common as grass," Dallman said, "and they're not fern fossils. They're deposits of magnesium oxide from water passing over the stone."

A fierce-looking hunk of calcium is labelled as a molar tooth from the Cardiff giant, unearthed more than a century ago at Cardiff, N.Y., and later sold to P. T. Barnum.

Add one--zoology

Also on display is a reddish, oval-shaped rock. The legend claims it is a volcanic bomb from Antarctica. When a volcano erupts, the legend alleges, lava is hurled through the air, where some of it cools into spherical shapes, or bombs.

Perhaps the most eye-catching specimen is a skeleton of the "rhinograde," a little-known animal reportedly found only on a few Pacific Islands. Harold Stumpke has written and illustrated a book about this strange creature, which purportedly travels on its very long nose and uses its ears as wings. Dallman has a copy of the book.

Other display items include dung from a giant ground sloth, a cactus wren's nest, a stick gnawed by a beaver, the mummified head of a sea turtle--with a "face" looking remarkably extra terrestrial, a pueblo roofing tile and a musket ball from the Wisconsin Heights battle of the Blackhawk War.

In about two weeks, the display will add another dimension--the true identities of the objects. Until then, viewers will be left wondering.

There is more than teasing and humor to Dallman's April Fool's Day exhibits. He hopes they will help viewers discriminate more critically in accepting what they are told, even when it is verified with detailed data and appears authentic. Experts, he said, can make mistakes--even perpetrate hoaxes.

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feature story

*Syzygy
Museum*

From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: (608) 262-3571

Release: **Immediately**

4/9/82 jk

CONTACT: John E. Dallman (608) 262-3159

MUSEUM CURATOR DISPLAYS HIS YEARLY APRIL ABSURDITIES

MADISON--An elk's tooth in a chicken egg, a railroad spike bent around a rail flange, Napoleon Bonaparte's obsessive ambition--these and other phenomena can be attributed to a little understood natural force called syzygy. Or so claims a zoology museum curator who delights in tongue-in-cheek absurdities of a pseudo-scientific nature.

Alarmists had predicted the end of the earth on March 10, when all the planets clustered on the same side of the earth. The end, of course, didn't come.

However, the clustering effect--syzygy--took its toll in more subtle ways, some of which are on exhibit on the first floor of Noland Hall (250 N. Mills St.) at the University of Wisconsin-Madison, where curator John E. Dallman has assembled his annual tribute to April foolishness.

One legend indicates that charged particles, the result of syzygy-caused sunspots, generated high winds that lifted warblers from their wintering areas and carried them to Wisconsin two months before their regular migration.

Four dead warblers are mute evidence of syzygy, claims Dallman with deadpan innocence. Further evidence is a Chilean penguin, thrown off course by erratic lines of magnetic force used for orientation.

Perhaps the most striking example of syzygy's evil ways is the skull of a cow with one large horn in the middle of its forehead. "Domestic animals that faced

Add one--syzygy

in one direction for long periods of time, such as cows in stanchions," the legend reads, "developed outgrowths on their foreheads."

Humans, too, are affected by syzygy, which occurs every 179 years. For example, Napoleon was spurred to actions resulting in lost armies and sunken navies 179 years ago.

So. . . Dallman once again has astounded the gullible. And for the record--he explains that "syzygy" was coined by an amateur astronomer typing the report of his discovery on a machine with a defective "y" stroke.

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feature story

From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: (608) 262-3571

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8/26/81 jk

*Zoology
Museum*

CONTACT: Zoology Office (608) 262-1051

UNLIKELY EXHIBIT FEATURES UNBELIEVABLE ANIMAL PRODUCTS

MADISON--If you can believe that diced newts, along with figs, provide the filling for a famous American cookie, then you'll love a current zoology department exhibit at University of Wisconsin-Madison.

Likewise if you find it credible that the milk of the cow-like Arctic bryl is unusually high in butter fat, a fat used in a popular hair dressing called Bryl-creem.

Or that a compound extracted from the Nye bird's quills is useful as a cough suppressant named NyQuil.

These and other zany tidbits are in an exhibit conceived by zoology museum curator John E. Dallman as a parody of serious science. They supposedly illustrate the processing of natural products until they no longer resemble the source.

Appalled fig newton lovers can be assured that none of it is real, but rather continues a zoology department tradition of interpreting and demystifying biological technology for the public. (In fact, don't try making fig newtons with real newts -- they're poisonous!)

The exhibit, for example, contains a stuffed neat, which looks something like a large mole. Neats, it is explained, are rock-dwelling animals that require extra lubrication in their wrists and ankles to suppress arthritis. A compound made from their feet is used as a leather preservative.

Add one--exhibit

The skeleton of a Kiwi bird is also on display. The entire body of the Kiwi is charred and ground to a powder as a colorant for shoe polish. The degree of charring determines the depth of color.

The collection displays a piece of hide that comes from the hippopotamus-like Nauga, an animal common to African river systems. The Nauga's hide is prized for its hairless surface and great similarity to plastic.

The museum is located on the first floor of Noland Hall, 250 N. Mills St. Building hours are 8 a.m.-4:30 p.m. and the exhibit will be on display for at least another few weeks.

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feature story

From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: (608) 262-3571

Release: Immediately

5/11/81 jk

*Zoology
Museum*

CONTACT: John Dallman (608) 262-3159

LOTS OF 'UNICORNS' IN UW-MADISON ZOOLOGY MUSEUM

MADISON--Last week, millions of Americans watched in disbelief as a creature from the distant past trotted across their TV screens and playfully butted his mistress. The unicorn, apparently, had returned!

Two California naturalists said they created the first unicorn in 500 years. Although not a true unicorn, a mythical creature half horse and half stag, it was indeed a goat with one large horn in the center of his forehead--a curious fellow by any reckoning.

"But he's not the first unicorn in 500 years," says John E. Dallman, curator of paleontology at the Zoology Museum of the University of Wisconsin-Madison.

"In fact," he says, "we have skulls of seven cows and one goat all with one large center horn."

They're the result of an experiment in the early 1930s by a University of Maine biologist, W. Franklin Dove.

"Dove read the old literature and found many references to unicorn-like animals produced by manipulation of the horns," says Dallman.

Such creatures became aggressive and dominated their herds of cows or sheep because of their single, well-placed weapon.

Add one--unicorns

Using clues from earlier workers, Dove operated on very young animals. With cattle, he removed the horn buds from each side of the head, trimmed them flat and placed them on the skull bone in the middle of the forehead.

One of Dove's animals, an Ayrshire bull with unusual prowess, was two-and-one-half years old when Dove published his work in 1936 in The Scientific Monthly.

William Dove, a Madison resident and son of W. Franklin Dove, donated the skulls to the Zoology Museum several years ago.

It's obvious that the cow horns came from the fusion of two separate transplanted buds because the tips are slightly split. The live animal's horn, however, was sheathed and looked like one well-formed horn.

The goat's horn twists towards the left because it originated from only one bud.

"These are interesting specimens," says Dallman, "to anyone interested in bones. They're fine examples of the biomechanical responses of bone under stress."

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feature story

From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: (608) 262-3571

Release: **Immediately**

7/22/80 ses

Zoological Museum

(Photo available)

CONTACT: Frank A. Iwen (608) 262-3766

EXTINCT WILDLIFE SPECIMENS MAY BE SEEN AT MUSEUM

MADISON--A three-dimensional historical and scientific collection of Wisconsin wildlife with some specimens from as far away as the Galapagos Islands is available for public viewing at the University of Wisconsin-Madison Zoological Museum.

Over 10,000 birds and mammals, in addition to thousands of skeletons, fossils, fish, and insects, are preserved for study at the museum. Some species have been extinct for 10,000 years, like the mostadon whose skeleton was brought to the museum after it was found near Deerfield. Other species are just as uncommon but not as old, like the mountain lion found near Appleton in 1857.

The museum is not a room full of wildlife panoramas behind glass. The curators explain it's more like a library than a museum, with shelves and drawers filled with an untapped and irreplaceable resource of information.

"The whole idea of what is a museum is what aspect people are exposed to," said Frank A. Iwen, one of three museum curators and an expert on the bird and mammal collection. "Most people only see exhibits--they don't get to see the back-rooms where other important research and learning take place. I like to look at the museum as a library and a storehouse of information that has not been put in books. This is the vast resource that people are unaware of."

Add one--museum

For example, a whole drawer of snowy white owls, one of which was found in 1877, may not seem important now, Iwen said, but if the owl suddenly disappears from Wisconsin and scientists want to find out why, the same collection will become an invaluable source of information.

"You never know how a collection will be used," Iwen said. "Take the case of DDT and the sudden decline in the numbers of offspring birds produced. Without 100-year-old egg collections, we wouldn't have learned that DDT caused egg shells to get dangerously thin."

About 50 groups each year take tours through the museum with the curators, Iwen, John Dallman and Elizabeth Pillaert. Many university classes also use the collection: art classes draw birds, anthropologists sketch bones, German classes translate zoological names.

About 1,000 new specimens are added yearly to the collection thanks to donations from Wisconsin's Department of Natural Resources, the U.S. Fish and Wildlife Service, and UW-Madison researchers who contribute international as well as local specimens.

"We have an image of what we'd like to show in the future," Iwen said. "We'd like to make the museum an experience that appeals to all the senses, one that includes natural bird sounds and animal noises. Museums don't have to be sterile."

The museum, located on the fourth floor of the Noland Zoology Building at Mills and Dayton streets, is not open on a daily basis, although the curators have yet to turn away any interested individuals. Reservations for group tours should be made with the curators at (608) 262-3766 as far in advance as possible.

UW news

From the University of Wisconsin-Madison / News Service, Bascom Hall, 500 Lincoln Drive, Madison 53706 / Telephone: 608/262-3571

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CAMPUS OFFERS CURES FOR CABIN FEVER

By INGA BRYNILDSON
University News Service

MADISON--It's holiday break. The kids are home from school. They've built a brigade of snowmen and practically cleared the lawn of snow by making snow-angels. Now come the words every parent dreads: "I don't have anything to do."

Instead of the usual offerings, you could take them to see a banana tree -- with real bananas -- or a 10-foot-tall mastodon skeleton. Or take them to hear Christmas carols performed in a bell tower, or to gaze at the stars through an observatory telescope. All these things are as near as the University of Wisconsin-Madison campus. Best of all, they're free.

Here's a roster of holiday offerings at UW-Madison (times listed may vary over the holidays, so it's best in some cases to call ahead):

-- The Bells of Christmas Are Ringing: The last bell concert of the year at the Carillon Tower will celebrate the music of Christmas and Hanukkah. John Harvey, UW-Madison emeritus professor of music and official university carillonneur, will begin ringing the bells at 3 p.m. Sunday, Dec. 22.

According to Harvey, as many as 50 people can fit inside the heated keyboard room of the tower. "It usually turns into a sing-along," he said. Children and adults alike are welcome to climb up to see the bells. "Or you can sit in your car outside and listen," said Harvey. The Carillon Tower is located across from Bascom Hall on Observatory Drive.

-- Star of Wonder, Star of Light: The Washburn Observatory on campus is open to the public the first and third Wednesdays of each month. From November through April, observatory shows begin at 7:30 p.m., although they are canceled if skies are cloudy.

The observatory, overlooking Lake Mendota on Observatory Drive, features a 15-inch refracting telescope. Observatory officials caution that Halley's comet viewing is not on the agenda due to interference from city lights.

-more-

Add 1--Campus cures

-- The Cattle Are Lowing: Many city kids never visit a dairy farm -- even in America's Dairyland. The university's 100-cow herd is milked twice daily and visitors are always welcome. Milking is at 3 a.m. and 1:30 p.m. in the Dairy Cattle Center, 1815 Linden Drive. The observation deck is located next to the milking parlor in the middle of the building on the north side.

-- Visions of Sugarplums: Well, not quite. But you can watch the university's famous ice cream being made, along with yogurt, cheese and butter. The dairy plant in Babcock Hall at Babcock and Linden Drives is open weekdays from 8 a.m.-2 p.m.

To reach the glass observation deck, use the main entrance on the building's east end. Climb the stairs to the second floor and walk to the end of the hall. Dairy products, including UW-Madison's famous ice cream, are also for sale at a counter in the building.

-- Walking in a Winter Wonderland: The UW Arboretum is a favorite oasis in the city in all seasons. Miles of hiking and ski trails lace the Arboretum's 1,280 acres. The Arboretum is open to the public daily from 7 a.m.-10 p.m.

-- Jingle Bell Rock: The Geology Museum in Weeks Hall at Charter and Dayton streets is open weekdays from 8:30 a.m.-4:30 p.m., and Saturdays 9 a.m.-noon. In addition to a mastodon skeleton, the museum has fossils, minerals, crystals and more from around the world, as well as moon rock replicas. (608) 262-2399.

-- Deck the Halls with Boughs of Holly: And cacti and orchids and banana trees. The UW-Madison Botanical Greenhouse in Birge Hall is open weekdays for tours by older children and adults. Come in out of the snow and see lilly pads in bloom on a small pond. For tours, call (608) 262-2235. The greenhouse will be closed the week between Christmas and New Year's.

-- To See if Reindeer Really Know How to Fly: You can find out the truth of this and other animal mysteries with a trip to the university Zoological Museum in Noland Hall. The museum is open for small group tours weekdays 9 a.m.-4 p.m. Phone (608) 262-3766.

In addition, an exhibit on endangered species is open without appointment in Room 123 of Noland Hall, on the west corner of Johnson and Mills Streets. The exhibit features pelts and now-illegal products made from endangered species including wolf, eagle, sea turtle, leopard and others.

-- You'll Go Down in History: You won't find Rudolf the Red-Nosed Reindeer at the State Historical Society Museum, but you will find other notable characters. The museum, located at the west end of the State Street Mall, is open 9 a.m.-5 p.m. weekdays and Saturdays, and noon-5 p.m. Sundays (when the university isn't in session).

The special exhibit through Feb. 2 is "Six Generations Here: A Family Remembers," featuring photographs and artifacts from the Krueger Family of Watertown. Permanent exhibits on Wisconsin's history -- including antique dolls -- are also open for tour. The museum's gift shop has a unique collection of crafts and gifts from Wisconsin.

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-- Inga Brynildson (608) 262-3846