

the River Otter Journal

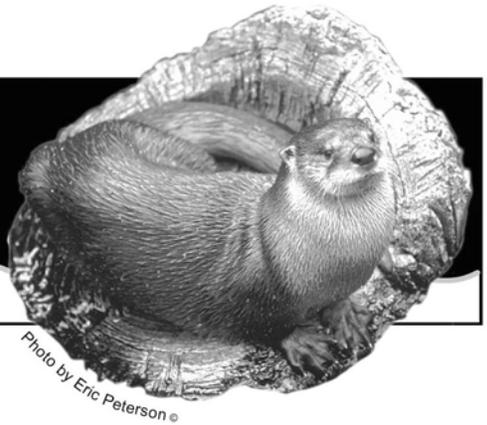


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Photo by Glenn D. Chambers ©

OTTERS ENJOY RETIREMENT TOO! PART I

By Glenn Chambers

“On the Road with Paddlefoot Productions, Inc.” dates back to 1992 immediately following the Missouri Department of Conservation’s (MDC) ten-year otter restoration effort. The release of 845 wild-trapped river otters from Louisiana had just been completed. Up to that point only an estimated 70 wild river otters lived in Missouri. At the time I was a cinematographer and MDC granted me permission to keep river otters in captivity for the purpose of producing three feature-length films about river otters.

With permits in hand, I headed to the marshes of Louisiana to visit the otter trapper who had wild-trapped the otters for the Missouri releases. The mission was all about the possibility of obtaining a baby otter for filming purposes. The deal was negotiated and I personally paid \$1,000 for my first baby otter. I named her Paddlefoot.

Paddlefoot was quite the attraction at our house and little did I know that she would mark the beginning of a long romance with otters. Paddlefoot endeared herself to those around us and before long a request came inquiring about having Paddlefoot appear on-stage for a children’s gathering at the Conservation Department’s Runge Conservation Nature Center in Jefferson City. So I purchased a children’s wading pool, secured my wife Jeannie as a support team member and away we went to “see the kids” at the Runge Center.

The first otter presentation at the Runge Center was just as successful as the statewide otter release program had been. The reintroduction effort was an overwhelming success and MDC decided that live otters would be natural ambassadors for educating the public about river otters. Following that first show, MDC asked if Jeannie and I would consider, under a contractual arrangement, presenting live river otter shows as an educational tool to inform the public about the Department’s efforts to re-establish the North American River Otter in the state. We thought about the educational opportunities that this would offer and decided it would be a good thing.

With our minds made up to further the cause of otters in Missouri, I purchased, for the same price, a playmate for Paddlefoot from the same trapper in Louisiana. We named her Babyfoot (Baby).

Continued on Page 3

Table of Contents

Otters Enjoy Retirement: Part I.....	1, 3
President’s Message	2
Otter Updates	4
MBA Welcomes Freshwater Otters.....	5
David Berg Award	6
New Mexico Otters	6
Habitat Selection of River Otters	7, 8
<i>Castorocauda lutrasimilis</i>	8
Travel with Otters	9, 10
Alarming Trade in Otter Furs.....	10, 11
Otter “Escorts” Mate.....	12

THE RIVER OTTER JOURNAL

is a semi-annual publication of
the River Otter Alliance. Look for the next
edition of **THE RIVER OTTER
JOURNAL** in Fall 2007!

River Otter Alliance Mission

The River Otter Alliance promotes the survival of the North American River Otter (*Lontra canadensis*) through education, research and habitat protection. We support current research and reintroduction programs, monitor abundance and distribution in the United States, and educate the general public through our newsletter, *THE RIVER OTTER JOURNAL*, on the need to restore and sustain River Otter populations.

Our goal is to be a center of communications among wildlife biologists, environmental organizations, fishermen, and all interested parties on a national and international basis, in order to ensure the healthy future of the North American River Otter.

The River Otter Journal has been printed on 30% post-consumer recycled fiber paper.

President's Message

Welcome, readers, to the Spring 2007 edition of *The River Otter Journal*. This edition marks a couple of important milestones. It is my first edition as President, but more importantly, it is the first edition produced by our new *Journal* editor, Diane Tomecek, who has published photographs and an article in previous editions of the *Journal*. Please join me in congratulating Diane and extending her a warm welcome to the River Otter Alliance team. I take this opportunity to also thank Tracy Johnston for her service as President for the past five years and *Journal* editor for the past ten. As I mentioned in my New Year's letter to members, Tracy raised the bar for those who follow in her footsteps in both roles. We are grateful. Tracy's professionalism represented ROA well to its members and to the community. Tracy continues to serve ROA as Vice President and our new Research Committee Chair, and is assisting Diane in the transition of *Journal* duties. Thank you, Tracy.

Spring marks a number of transitions and new beginnings. The Spring Equinox heralds the right of passage for grasses to grow, plants to flower, pollinating (and biting!) insects to hatch, birds and mammals to migrate into new pastures or awaken to care for new young. But wait! What were all those robins doing in my neighborhood in February? (And where did they go in early March?) Did I hear the melodious call of the song sparrow and witness the emergence of daffodils as much as a month early? Did you scratch your head at these phenomena as well?

As far back as ice cores can record – some 800,000 years – Earth has cycled through ice ages and interglacial periods about once every 100,000 years. The historic record reflects that warming from ice ages to interglacials occurs in about one to two decades and lasts about 10,000 years before beginning the slow retreat back into an ice age. We're now 10,000 years into the current interglacial and had actually started to follow the cyclical pattern into another ice age until about 1850. Unprecedented warming starting from an interglacial state was gradual to start, but has been relentless during the last 30 years. There is pretty much no doubt we are headed into a territory not experienced by Earth during its inhabitation by *Homo sapiens*.

Warming will have a widespread effect on all species, but how will it affect otters in particular? We are already seeing population shifts of many species due to warming, and this will affect otters as well. Of added concern with population shifts is that interdependent species are shifting at different rates and times. Predators and prey, herbivores and their plants, plants and their pollinators and symbiotic dependents are not necessarily shifting together. When stream flows slow or stream temperatures increase, habitats supported by those streams that are used by otters for resting, denning, eliminating or marking might become unsuitable. Otter food source populations may die off or shift and may not be replaced – at least not in one otter generation's lifetime. Those are significant impacts. On the brighter side, otters are adaptable and resilient. They have long home ranges and are accustomed to lengthy travels to meet their needs. They are opportunistic feeders, so they should adapt well to changing landscapes and food sources. Space precludes an extended discussion of this issue, but I invite reader commentary and articles supported by science on this topic.

Meanwhile, please sit back and enjoy the variety of articles selected by Diane for her inaugural issue and have a good Spring.

David

River Otter Alliance Accepting Grant Proposals

By Tracy Johnston

The River Otter Alliance will fund grants up to \$1,000 each in the areas of otter-related research, education, reintroduction, rehabilitation and habitat protection, thanks to donations received from the *Rocky Mountain Ark Wildlife Rehabilitation Center* and an anonymous donor. Proposals should state the project's purpose, objectives, tactics, scientific methodology and follow up, as well as how the results will be utilized to benefit otters. The grant is for a period of one year and will require a written report of the findings at the end of that period, with the possibility of publishing the report or a summary of the results in *The River Otter Journal*. Proposals will be reviewed by a research committee, which will include wildlife professionals who specialize in otters and will be awarded by the River Otter Alliance Board of Directors. Grant proposals will be judged by their rationale, significance, scientific merit and benefit to the species, and the probability of the research funded by the grant being successfully completed within a one-year time period. The deadline for proposals is July 1, 2007. Grants will be awarded by September 1, 2007. Grant proposals may be sent to:

The River Otter Alliance
6733 South Locust Court
Centennial, CO 80112
Email: riverotteralliance@earthlink.net

“Otters” continued from Page 1

With two playful otters in tow, a new Chevrolet Suburban, a custom made Wells Cargo otter trailer and a corporation named for the otter, we began our journey with otters – beginning thirteen years of presenting live otter programs to the public. We had three strong, young, energetic “otter boys” on the payroll who could fill in for Jeannie when she had commitments at the office as a nurse.

For thirteen glorious years we traveled five surrounding states to take the otter conservation story face-to-face with audiences of all ages. We traveled over 800,000 miles and saw more than a million folks with emphasis on school-age youngsters. Our longest “one-stand stint” was at the Northwest Sport Show in Minneapolis. The show ran for eleven straight days and we presented four live otter shows per day. For the daily six o’clock evening news, several of the local TV stations alternated evening segments with up-links that featured the otters having their evening meal inside the exhibit tank. I donned my chest waders and fed them by hand from inside the thirty-foot long aquarium. That episode landed us a note in the April 2001 issue of *Reader’s Digest* (page 107) which read: “How Is That Again?” Also, this was in the Minneapolis Star Tribune: “Live otters, housed in a custom-built aquarium, will be exhibited, together with naturalist Glenn Chambers.” More than 250,000 guests attended the event that year, and it seemed that every one of them wanted to see the otters.

During the thirteen-year span, we had three different generations of otters that traveled with us for exhibit purposes. Beginning in 1992, our first two otters were Paddlefoot and Baby (both females, four years on tour), then Little Paddles and Babyface (both females, two years on tour) and finally Splash and Slide (both males, seven years on tour). Sandwiched within this rigorous routine of a live otter program somewhere *every week*, was a five-year filming effort for our National Geographic television show, *Otter Chaos*. The show aired for the first time in April 2000. For that undertaking, I was the cinematographer, director/producer and, most often, the otter wrangler!

During the filming of *Otter Chaos* we had eighteen otters in captivity at one time. Some were pregnant, wild-trapped females whose mission was to provide subject matter for filming baby otters from birth to seven months of age. Some were “bottle babies,” i.e. Splash and Slide who were being groomed to take the place of Little Paddles and Babyface, two females that were becoming too aggressive to handle for exhibit purposes. Caring for eighteen otters (two of them nursing the bottle and having to be fed every two hours) was a double handful - no pun intended!

Jeannie and I divided the care-giving responsibilities for the troupe. Jeannie, who was employed as a full-time oncology nurse in a doctor’s office thirty miles away, assumed the responsibility for the females with babies in the nursery. Decked out in her insulated coveralls and rubber gloves, she would leave home at 4:00 a.m., stop by the facility and feed the nursery crew, continue on to work for an eight-hour plus workday and stop by to feed the crew again on the way back to Columbia. For security reasons we kept the nursery crew in a quiet, remote location, in a custom built holding



Photo by Glenn D. Chambers©

facility designed especially for filming. The wild-trapped females and their babies were destined for return to the wild when the filming project was finished.

At the same time, I was homebound with two exhibit otters, Little Paddles and Babyface, as well as feeding and cleaning up every two hours with the two newborn male puppies, Splash and Slide. When we look back on those seven exhausting months, we wonder how we ever did it. On a weekly basis we continued giving live otter presentations somewhere - and guess what? We carried the newborn “Boys” with all their feeding paraphernalia, and bottle-fed them while on the road!! That was an attraction in itself!! Imagine this - we are in an auditorium, after having given an hour-long live otter program, the exhibit otters are loaded in the Suburban and ready to head home and an anxious audience is waiting to see us feed the hungry bottle babies. You talk about a *zoo parade*! Whew, we were just like the Beverly Hillbillies on tour! It was “On the Road with Paddlefoot Productions, Inc.!”

Be sure to look for Otters Enjoy Retirement Too, Part II in the Fall Edition of *The River Otter Journal*.

Otter Updates

By Diane Tomecek



The Elkins Professorship Award was awarded for fiscal year 2007 to Frostburg State University to support Dr. Thomas Serfass in continuing his work on the river otter reintroduction project in Kenya and Tanzania. The award was for \$75,000 and also allows Dr. Serfass to complete the first comprehensive study of the river otter in North Dakota.



California state assembly bill, AB2485, was passed creating a line item on the state tax form to allow taxpayers to contribute directly to sea otter research and to the other issues facing sea otters today, such as their population recovery. The bill also provides the following protections for the sea otter:

- the requirement for labeling of cat litter packaging to discourage cat owners from flushing litter in the hopes of reducing the possibility of *Toxoplasma gondii*, a parasite contributing to sea otter deaths, from contaminating waste water
- the establishment of an accessible fund allowing game wardens to work toward the betterment of sea otter issues
- increased fines and penalties for harming a sea otter, up to \$25,000

From The Kids Corner

The following student was a finalist in the *River of Words* contest with her poem:

Otter

By Nia Adee (Grades 7-12), Stevensville, MD

Into the river I will go,
To have a look at what is down below,
I play and jump to my heart's delight,
I stay up all through the night,
Then I sleep at dawn,
By the time you come, I'll be gone,
I look sweet but don't be gawking,
Or I will slip away not talking,
I am as cute as can be,
I am an otter so fair and free.



The 25th Mustelid Colloquium is being held in Trebon, Czech Republic on October 4-7, 2007. All individuals with an interest in mustelids are welcome to attend the colloquium. This year, for the first time, there will also be information on the raccoon dog. The registration fee is 160 Euros (approximately \$218) and 80 Euros (approximately \$109) for students. The deadline for registration is August 15, 2007. For further details, please see www.mustelid2007.org.



The Monterey Bay Aquarium opened an exhibit, *Wild About Otters*, on March 31st (see page 5 to learn more about the otters featured in the exhibit). The exhibit includes freshwater otters - such as the African Spotted-Necked Otter



Two female African Spotted-Necked Otter pups at 11 weeks old.
©Monterey Bay Aquarium/Randy Wilder

(pictured above) and the Asian Small-Clawed Otter - in addition to the many other species found in those respective habitats. This exhibit provides an excellent accompaniment to the aquarium's permanent and well-known sea otter exhibit. *Wild About Otters* runs until September 2010.

Monterey Bay Aquarium Welcomes Two Freshwater Otter Pups

(courtesy of the Monterey Bay Aquarium – excerpts from the press release dated 1/24/2007)

The Monterey Bay Aquarium is thrilled to announce the birth of its first mammals. Two freshwater African Spotted-Necked Otter pups - which will be introduced to visitors when the *Wild About Otters* special exhibition opens on March 31 [2007] – were born on November 3 at an off-site aquarium facility.

“The 11-week-old pups are in good health, are gaining weight and are being raised by their mother,” said Michelle Jeffries, the aquarium’s associate curator of mammals. “They’re absolutely captivating, I can’t help but smile when watching them,” she said.

The parents of Kazana (Swahili for “to busy oneself”) and Ajabu (“surprise”) are Neema and Denny, two of the 10 freshwater otters that will be the stars of *Wild About Otters*.

Neema and Denny, on loan to Monterey Bay Aquarium from the San Diego Zoo for the exhibition, have raised three other pups together since 2002. This litter marks the first time Neema has given birth to two pups and the first time she’s had female pups. Her past three litters have consisted of single male pups.

“We wanted to be sure the pups would survive before sharing them with the world,” said Jeffries, “especially since this is Neema’s first time raising two pups.” In the wild, females typically do most of the pup rearing, with a normal litter consisting of one to three pups.

The first several months are critical in assuring a pup’s survival. At three to four weeks old, African Spotted-Necked [Otter] pups’ eyes and ears open; up until that point they rely only on their sense of smell to find their mother. At two months, the pups begin to learn how to swim and the mother starts teaching them how to hunt.

By three to four months, river otter pups are weaned and rely on solid foods for their energy, and [they] hone their hunting skills until they leave to become independent at one year old. Video clips and information about Kazana and Ajabu’s developmental and behavioral stages are online at www.montereybayaquarium.org.

“Neema is a wonderful mother and it’s an honor to watch her care for the pups,” said Jeffries. “She is a watchful, but calm mother - letting her girls explore on their own, but always nearby when the pups call for her.”

Visitors will be able to see both parents and pups when *Wild About Otters* opens at the aquarium on March 31 [2007]. Kazana, Ajabu, Neema and Denny will be housed together in one exhibit. Kamili (female) and Kipenzi (a male who is one of Neema’s earlier offspring) will occupy an adjoining exhibit.



Two female African Spotted-Necked Otter pups, born November 3, shown here at two weeks old.

©Monterey Bay Aquarium/Randy Wilder

In the wild, African Spotted-Necked Otters are found in family groups of a mother and her offspring until the pups reach about five months old and the father rejoins the group. Their cousins, the Asian Small-Clawed Otter, which will also be part of *Wild About Otters*, are more commonly found living with extended family in large groups in their native Southeast Asian habitat.

The exhibit will be home to two sets of Asian Small-Clawed brothers - Satu and Dua and Tiga and Empat - who will captivate visitors with an entertaining range of behaviors, from elaborate water play to ambush games.

The \$3.6 million special exhibition, scheduled to run into 2010, marks the first time the aquarium has exhibited freshwater mammals.

African Spotted-Necked Otters are the most aquatic of all 13 otter species. Their slender and elongated body and semi-laterally compressed tail aid this agile swimmer as it hunts for fishes and frogs, and frolics with friends. The spotted pattern on their neck, chest and/or groin area is unique to each individual.

“The intention of *Wild About Otters* is to bring people close to freshwater otters while telling the urgent story of the threatened sea otters just off of our shoreline,” said Executive Director Julie Packard.

Wild About Otters will show how wild otters - just like the popular sea otters at the aquarium, and people around the world – need clean water to thrive and survive. The special exhibition will feature six African Spotted-Necked Otters and four Asian Small-Clawed Otters, along with remarkable tropical fishes, reptiles and plants that share the otters’ lush natural habitats.

Congratulations to Our New President, David Berg!

By Judy Berg

The Nature Conservancy (TNC) of Oregon held their annual volunteer recognition reception in Portland on Friday, March 9, 2007, an occasion where volunteers were thanked for their hours of dedication, in various capacities, assisting the Conservancy's mission. After one volunteer was honored as Oregon's Volunteer of the Year, David was honored with the first ever *Global Conservation Impact Award*. David's boss, Dan Salzer of the Worldwide office of TNC, honored him for his contribution of over 1200 hours on a new Conservation Project Database, called ConPro. Basically, this project makes it possible for people around the world - working on over 900 TNC projects - to connect, share and learn from those who are working on similar conservation issues.

"David stands out as one of the most dedicated, talented and enjoyable people I've worked with in my 17 years with TNC. It is a real privilege to provide David with this first ever, and so well deserved, *Global Conservation Impact Award*," stated Dan Salzer during the award ceremony.

I have always respected and held this special man in very high regard. Now, I feel even more proud of him and his dedication to TNC's global mission of "saving the last great places on Earth." Mother Nature also thanks him in Her own way too. Please join me in saying - **Congratulations David!**



Photo by Philip McCarty
Courtesy of The Nature Conservancy

River Otters To Jam in New Mexico Rivers

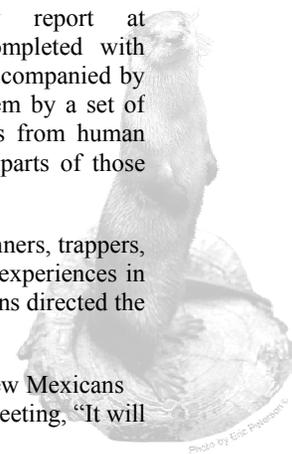
By Melissa Savage

River otters, beginning later this year, are going to be returned to the last state from which they were extirpated. On August 24, 2006, the New Mexico Game Commission voted to direct the Game and Fish Department to implement otter restoration to two state rivers, the Upper Rio Grande in the north and the Gila River in the southwest.

The decision came after Jim Stuart of the Department of Game and Fish presented to the Commission the conclusions of the Department study on the feasibility of otter reintroduction (see the feasibility report at http://www.wildlife.state.nm.us/conservation/documents/river_otter_restoration.htm). The study was completed with assistance from the New Mexico River Otter Working Group, and it took a number of years of research accompanied by river surveys. The study reviewed the potential of a number of river systems in the state and ranked them by a set of criteria such as water quantity and quality, potential prey abundance, streamside habitat and remoteness from human communities. Two of these river systems, the Upper Rio Grande and Gila River, are favored because parts of those systems are surrounded by remote public lands, including scenic river and wilderness designation.

An enthusiastic and diverse group of stakeholders testified in favor of otter reintroduction, including river runners, trappers, conservationists, fisher-men and -women and many others. Dr. Tom Serfass, otter scientist, presented his experiences in the successful Pennsylvania and New York State reintroductions. The unanimous vote to begin reintroductions directed the releases begin in the fall of 2007.

The tasks now include raising funds to acquire and transport otters, as well as care for them until release. New Mexicans are delighted at the prospect of otters in our rivers. As Commissioner Peter Pino so ably commented at the meeting, "It will be like bringing a relative back."



Habitat selection of River Otters in the Alberta Pacific Forest Management Agreement (AI-Pac FMA)¹

By Christopher D. Desjardins (Master's Candidate, University of Alberta)

During the summer of 2006, I performed the field component of my Master's work on habitat selection of river otters, *Lontra canadensis*, in the Alberta Pacific Forest Management Agreement (AI-Pac FMA) area in Northeastern Alberta under the supervision of Dr. Mark S. Boyce out of the University of Alberta. I conducted my fieldwork approximately four hours north of Edmonton, Alberta between the towns of Lac La Biche and Fort McMurray. The study area was located within the boreal plains in an area known as the lakeland region of Alberta for its relatively high proportion of lakes. This region also contains the highest density of river otters in Alberta.

Approximately 2/3 of this region consists of lowlands while the remaining 1/3 is upland. Black spruce muskeg dominates the lowlands, while jack and white pine forests dominate the uplands. These distant landscape features result in massive tracts of wetland surrounding relatively shallow meandering creeks with interspersed lakes, and at higher elevations intermittent rocky streams. Much of this landscape is inaccessible during the summer months due to the high density of wetland.



Photo by Walt Clifford

The human impact on the boreal plains of Alberta comes in the form of oil/gas development, timber harvesting and agriculture. Oil/gas development and timber harvesting were the major disturbances on my study area, and are the principal anthropogenic focus of my Master's. Thus, my principal objective for my study was to develop a model to predict the occurrence of river otters on the AI-Pac FMA using both natural and anthropogenic variables. A secondary objective was to document key characteristics of latrine sites in the boreal plains that managers could use for surveying for presence of river otters.

My sampling method involved choosing streams and rivers in a stratified random manner. When a site was chosen, my field technicians and I would hike a 2-km stream or lake transect

searching for latrine sites. When a latrine site was found, various data were collected. A fecal sample was also collected for the diet aspect of my study.

The location of transects with and without latrines will be assimilated into a resource selection function for my habitat analysis. A resource selection function is a binary model, based on presence/absence data, and I can use it to predict the occurrence of river otters. The covariates that will be investigated for inclusion in the model include the proportion of watershed harvested, density of linear features (seismic lines, roads, etc.), prey type/abundance, stream order, waterway density, riparian type, wetland density and forest type.

Initially, I intended on using hair snares that had been developed by one of Dr. Ben-David's graduate students at the University of Wyoming to estimate the population size of river otters on the AI-Pac FMA. Additionally, I wanted to test the efficacy of this technique and further develop and refine it for application on a large spatial scale. However, this proved to be a very daunting and time consuming task because I wanted to survey such an enormous landscape (~5.8 million hectares). It also proved to be logistically infeasible. Therefore, as this was just an auxiliary objective and not the principal objective of my study, it was shelved. The preliminary testing that we did with the hair snares was quite successful at catching beaver hair, river otter hair, black bear hair and a dog that we aptly called *Lutra* for the summer.

From May to August we surveyed approximately 117 streams and lakes within, and on the border of, the AI-Pac FMA. The streams surveyed ranged from 1st order, intermittent streams to large order (greater than 5th), and included some very large rivers such as the Athabasca River. We found presence of otter, as measured by presence of latrine sites, at approximately half of all surveyed locations. Latrines generally were found on lower order streams and at most lakes. We failed to document the presence of otters on higher order streams, which may be due to seasonal changes in habitat selection. Fish, the principal prey of river otters in the boreal plains, travel during the summer up smaller streams to spawn and our data tends to suggest the river otters are following them. These streams were often smaller and shallower than 1 meter. This implies that otters are either catching prey on these smaller streams or are using them in their movements. It would be more energetically favorable for otters to catch prey on these smaller streams than higher order streams where a pursuit would be longer and prey capture rate would likely be lower.

Continued on Page 8

¹This research was funded in part by a grant from The River Otter Alliance.

Interestingly, we seem to have found an east-west gradient in the presence of latrine sites. Latrine sites were found more often on the eastern half of the Al-Pac FMA. This region has a higher proportion of muskeg and oil/gas development. The western half of the Al-Pac FMA has a higher degree of timber harvesting and more intermittent streams. As river otters are actively managed in Alberta via trapping, data suggesting disparities in east-west occupancy, which may act as a surrogate for abundance, would be beneficial for provincial managers.

As river otters are unlikely to be selecting higher oil/gas density regions, a resource selection function should prove helpful in identifying these key variables and teasing apart the confounding variables. Construction of the resource selection function should be completed by Fall 2007 or early Spring 2008 and a report on my findings will be published in *The River Otter Journal* shortly thereafter.

Ramifications of a Chinese Fossil: *Castorocauda lutrasimilis* from the Jurassic Period - Example of Convergent Evolution toward an Otter-like Docodont

By Paul J. Polechla



Castorocauda lutrasimilis diving for food during the Age of Dinosaurs, 165 m.y.a.
Reconstruction Art: Mark A. Klingler/CMNH

Literature Cited:

Wilson, D.E., and D.M. Reeder (eds.). 2005. *Mammal Species of the World*. Johns Hopkins University Press, Baltimore, MD, 2,141 pp.

Romer, A.S. 1974 *Vertebrate Paleontology*. University of Chicago Press, Chicago, IL, 468 pp.

An exciting recent example of convergent evolution in the aquatic environment as demonstrated by *Castorocauda lutrasimilis* can be found in the journal *Science* (<http://www.aaas.org/news/releases/2006/0224beaver.shtml>). The fossilized specimen, found in Liaoning Province, China between Inner Mongolia and North Korea, is from the Jurassic Period, known as the "age of the dinosaurs." The scientific name, translated from the Latin meaning "beaver-tail, otter-like," stems from the fact that the transverse processes of the centra of the basal caudal vertebrae are dorsally ventrally compressed, and the transverse processes are of unequal length like a beaver's (*Castor canadensis*) tail and it has dentition with recurved cusps or points to chew fish like an otter (Wilson and Reeder 2005) or seal. Plus, the distal caudal vertebrae have anterior and posterior transverse processes that are of equal length like an otter's tail. The preservation for a fossil was extraordinary; it had left impressions of scales, fur, and webbing! It is not in the family Castoridae (family of beavers, living or extinct) or Mustelidae (weasels, otters, and their allies), nor the Order Rodentia (rodents or gnawing mammals) or Carnivora (meat-eating mammals and their allies), nor is it in the group formerly known as the Order Insectivora (shrews and their allies) (Wilson and Reeder 2005). It is in the group known as the docodontan mammaliaform - a primitive mammalian order Docodonta. Although *Castorocauda* [*lutrasimilis*] shows convergence with the modern platypus, this large docodont is most closely related to *Krusatodon* and *Simpsonodon* of England, showing an early faunal interchange. Previously, they were regarded as small terrestrial shrew-like mammals covering in the shadows from the "terrible dinosaurs." This is the first example of a semi-aquatic member of this group! This has caused a reality check amongst the paleontological world. I had to get out my classic copy of Romer (1974) to fully understand it. Also, see this site to see repercussions of the discovery:

<http://evolutionlist.blogspot.com/2006/02/jurassic-beaver-otter-fossil-shows.html>.

The specimen was actually recovered by local people of the region. Analysis and interpretation was performed by scientists from China (Department of Earth Sciences at Nanjing University and Chinese Academy of Geological Sciences) and the USA (Carnegie Museum of Natural History) led by Qiang Ji.

This research has several take home messages. The functional niche or "occupation" of a fish eating mammalian predator is older, by about 100 million years, than paleontologists once believed. It also shows that observant lay people can make important contributions to science and [that] collaborative international research can be very beneficial.

Traveling With Otters

(Dallas World Aquarium)

By Diane Tomecek

Have you ever wondered which zoological facilities have otters? With this issue, I begin what I hope will be a regular feature to give you, our readers, a summary of the experience at the various facilities that house otters. Happy Travels!

One of my co-workers, Steve Harrell, knowing that I am a devoted otter lover, shared with me his experience of the Giant River Otter exhibit, *Lobo Del Rio*, at the Dallas World Aquarium. He discussed how captivating the otters were to him and his family, stating that they watched the otters for at least twenty minutes, alike many of the other nearby aquarium visitors who remained glued to their spots as well. Steve described how the exhibit allowed visitors to look down upon the otters while they made multiple loops of the water enclosure, all while making continuous eye contact with visitors. He reflected how “they were similar to synchronized swimmers, perfectly equipped to be in the water,” yet just as adept on land and the tree trunks within their exhibit. “They were husky, but unbelievably agile as they swam through their self created slalom course.” After his visit, Steve wondered whether any captive breeding had ever been done by the aquarium and pondered that question with me. I was curious myself, so I contacted Dallas World Aquarium to learn more about their Giant River Otters.

The following interview was conducted with Dallas World Aquarium’s otter keeper, Natalie Lindholm, regarding their *Lobo Del Rio* exhibit featuring Giant River Otters. Here are her responses to various questions posed:



Photo by Cindy Harrison ©

Q: How long have you had the exhibit, *Lobo Del Rio*, at the Dallas World Aquarium?

A: *Lobo Del Rio* has been in existence for about three and a half years. It was previously the Jaguar exhibit, which, of course, had panes of acrylic completely enclosing the exhibit at that time.

Q: Why do you refer to the exhibit as *Lobo Del Rio*?

A: Giant River Otters are sometimes called “Wolves of the River” [or *Lobo del Rio* (in Spanish)] due to their habit of roving around in large packs.

Q: What can visitors expect when visiting the *Lobo Del Rio* exhibit?

A: 11 a.m. and 3:30 p.m. are feeding times, and they are usually active about forty-five minutes prior to the feedings. They will remain active for about twenty minutes post-feeding, and then will retreat to one of several dens located within the exhibit.

Q: How would you describe a typical experience there?

A: If folks come along when the otters are napping or off-exhibit, there will not be much to see. In contrast, if the visitors are there in the moments before the feedings, they will get to see the otters swimming and vocalizing. They are actually looking for the keepers to come along, but the public usually thinks they are interacting with them. Anyway, they put on a good show at those times.

Q: How many Giant River Otters does the Dallas World Aquarium have?

A: We have 1.1, or a male and a female, an unrelated pair.

Q: Can you tell me a bit about the otter(s) you have there?

A: Both otters are somewhere in the neighborhood of five and a half to six years old. The female is noticeably larger than the male, and I would guess they weigh around sixty to sixty-five pounds.

Continued on Page 10

“Traveling with Otters” continued from Page 9

Q: I have heard that similar to the spots on a tiger’s ears, the Giant River Otter’s neck pattern is unique to each animal. Is this true?

A: The female has a lighter complexion, with a large bib - white patch on her throat. The male is the typical seal brown color, and his bib consists of a white chin and small spot. In my conservation talk, I mention that, like a giraffe’s spots or zebra’s stripes, no two bibs are the same, and that field researchers use the bib to identify animals in the wild.

Q: Do you do any breeding of the otter(s) at the aquarium?

A: As I tell the public: “They have the breeding part down, it’s the conceiving that is not happening.” We have sent fecal samples to the Cincinnati Zoo’s research department, CREW, to analyze the hormone levels. We have seen fluctuating levels of the various hormones, but no definite pregnancies.

Q: What do you feel are the leading issues facing the Giant River Otter and its conservation?

A: Habitat loss, over-use by man of fishing areas and continued poaching for pelts.

Q: What does Dallas World Aquarium do to respond to the issues mentioned above?

A: We support conservation programs in Venezuela. In particular to the Giant River Otter, we have a comprehensive education program conducted in local communities in Venezuela. A Venezuelan biologist by the name of Ana Carolina Saavedra has worked closely with schools in the villages and communities where illegal capture of Giant

River Otters is most prevalent. Information distributed to local people emphasizes the importance of Giant River Otters to the local ecosystem and the degradation of the ecosystem should the number of otters there continue to decline.

Q: How can people help the plight of the Giant River Otter?

A: Support conservation efforts aimed at Giant River Otter habitat and study. Be aware of what they buy and how it impacts the environment.

Q: Are there other otter species at the Dallas World Aquarium? If so, can you tell me a bit about that program/exhibit?

A: No, only the Giant River Otters.



Photo by Cindy Harrison ©

REPORT TO STANDING COMMITTEE - ALARMING TRADE IN OTTER FURS

(excerpts from the article by the IOSF, dated October 2006 - for the full report visit www.otter.org)

In the past, concern about trade in skins and body parts has been largely concentrated on large fauna such as tigers, leopards and rhino and there has been much public outcry and conservation effort to protect these species. However, smaller species, such as the otter, have been overlooked and their exploitation has gone largely unnoticed. Nevertheless, trade in otter skins is extensive and is usually a part of the whole illegal wildlife trade operation.

There are four species of otter in Asia: Eurasian Otter (*Lutra lutra*), Smooth-Coated Otter (*Lutra perspicillata*), Asian Short- or Small-Clawed Otter (*Aonyx cinereus*) and the rare Hairy-Nosed Otter (*Lutra sumatrana*), although this last species is confined to southeastern Asia.

Otters are a top predator in a wetland system, and as they use both the land and aquatic habitats, they are an ideal indicator species as to the health of these environments. In spite of this, in many Asian countries in particular, little has been done to protect them. Habitat fragmentation has had a significant impact on otter populations, but over-hunting is now threatening their survival in many areas, especially India.

The known trade, [which has] only [come to light] since 2000 during the investigations by IOSF, is only the tip of the iceberg as this is just an initial investigation and further work is needed to establish the true scale of the problem.

Continued on Page 11

"Fur Trade" continued from Page 10

Trade in otter skins is widespread and having a drastic effect on populations of different species of otter worldwide, not just in Asia. This is in spite of the fact that Nepal and China are signatories of CITES.

In 2006, EIA again visited the area and found 11 people wearing otter skin chupa and, in Lhasa, there were at least 38 otter skin chupas available. This represented a decline, but as traders in Linxia in Gansu Province were particularly aggressive on this visit, they were not able to carry out a complete survey.

In many countries, wildlife crime is not seen as a matter of high priority, and therefore there is only minimal effort in terms of money and enforcement. Some people even believe that it is just a local issue and is almost inevitable where there is poverty.

However, the UN has recognized that it is a serious issue of transnational organized crime, which even has a negative impact on the economy and social structure of the countries involved.

The trade in otter skins is a large part of this whole illegal trade, which includes other endangered species such as the tiger and leopard, but the scale of the trade in otters has been largely overlooked. Therefore, efforts must be made to stop this illegal trade in skins completely.

Further action is essential. IOSF would urge CITES to treat this issue as a matter of urgency and to enforce the ban on trade in skin and other body parts. Without such action, not only will the tiger and leopard disappear, but also [some] species of otter, in particular the Smooth-Coated [Otter].

The **Conservation Status** as identified by the IUCN Red List of Threatened Species of the species mentioned above is as follows:

Eurasian Otter (*Lutra lutra*)
NEAR THREATENED

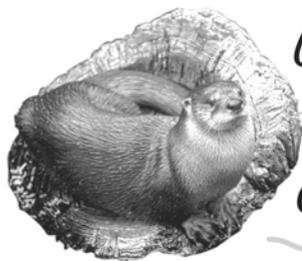
Smooth-Coated Otter (*Lutra perspicillata*)
VULNERABLE

Asian Short- or Small-Clawed Otter (*Aonyx cinereus*)
NEAR THREATENED

Hairy-Nosed Otter (*Lutra sumatrana*)
DATA DEFICIENT

Sea Otter (*Enhydra lutris*)
ENDANGERED

IOSF is grateful to Dr. Vladimir Sevostianov, President of the Commander Island Association; the Wildlife Conservation Nepal for background information and data; and the Environmental Investigation Agency (EIA) for additional data and assistance with this report. Many of the statistics are included in the recent EIA report, *Skinning the Cat – Crime and Politics of the Big Cat Skin Trade* (2006).



The River Otter Alliance

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As a member you will be supporting research and education to help ensure the survival of *Lontra canadensis*, the North American River Otter. You will receive **THE RIVER OTTER JOURNAL** (published semi-annually), with updates on otter-related:

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Otter "Escorts" Mate to Hospital

Story from BBC NEWS (originally published November 2, 2006)

Hospital staff were amazed to see an otter appear to escort its injured mate to the front door of their building. The animals paused at the door and one appeared to look up at an intercom, according to staff at Broadford Hospital on the Isle of Skye. The otters eventually ran away, leaving bloody footprints where they had been.

Charge nurse Chrisann O'Halloran said the night shift could not believe what they were seeing on the hospital's CCTV cameras on Thursday morning. She said: "We have got CCTV inside the hospital and at the front door. Night staff continually monitor it and were looking at it when they saw two otters running up to the door. By the time the staff got to the door they had gone, but there were little bloody footprints where they had been."

The charge nurse added: "It's really funny to watch because one looks up at the door and then turns to the other as if talking to it. I thought the animals are very, very shy, but they crossed a big open tarmac with staff cars parked in it to get to the front door."

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The River Otter Alliance is a non-profit, tax-exempt group organized to promote the survival of the North American River Otter (*Lontra canadensis*) through education, research, reintroduction, and habitat protection.

All work and efforts for this organization and *Journal* are on a volunteer basis by those who share a common concern for the welfare of the river otter and its habitat. We invite all interested persons to contribute their time at any level of the organization.

Visit the River Otter Alliance Web Page at www.otternet.com/ROA

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