

OCTOBER PROGRAM:
WED. 18 OCTOBER, 7:30 P.M.
RM 120, ACKERT HALL, KSU

CARNIVORES OF KANSAS
WITH AN EMPHASIS ON THE
AMERICAN BADGER
ECOLOGY, EVOLUTION,
AND BEHAVIOR OF MAMMALS



Don't miss this program!

CARNIVORES OF KANSAS, WITH AN EMPHASIS ON THE AMERICAN BADGER.
Donald Kaufman will present general information on carnivores in Kansas, then some natural history, etc. on the American badger, and finally some patterns of where badgers/coyotes, collectively, choose to burrow on Konza Prairie. Dr. Kaufman will also have some mammal specimens.

Professor Donald Kaufman, Ph.D., 1972, University of Georgia
Ecology, Evolution, and Behavior of Mammals

Join Dr. Kaufman for dinner prior to the evening program at Los Potrillos, 5:30 p.m.

NORTHERN Flint Hills Audubon Society,
P.O. Box 1972, MANHATTAN, KS 66505-1972



prairie falcon

NORTHERN FLINT HILLS AUDUBON SOCIETY
NEWSLETTER

Vol. 35, No. 2 ~ OCTOBER 2006

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Upcoming Events:

- OCT. 11 BIRDSEED SALE ORDER DEADLINE
- OCT. 14 BEGINNING BIRDING FOR THE NOVICE
BIRDER 8 A.M. MEET AT PARKING LOT
SOUTH OF ACKERT HALL, KSU
- OCT. 18 CARNIVOROUS BADGERS
DONALD KAUFMAN, 120 ACKERT HALL
CORNER OF DENNISON & CLAFLIN
- OCT. 21 BIRDSEED PICKUP
UFM 9-12p.m.

PARTNERSHIP WITH A BADGER

TOM MORGAN

“There exists an ancient clay pot from Casas Grandes, Chihuahua, Mexico. It was fashioned by an artist whose culture became extinct long before America was discovered. Beautifully proportioned, it has the head of a brush wolf modeled in bas-relief on one side and the head of a badger on the other.”

By Scott Skinner (1990) Earthmover. Wyoming Wildlife 54:4-9.

The American badger (*Taxidea taxus*) is an irascible predator that prefers to be alone, or so it is thought. In fact, it seems to form partnerships.

A badger's body is well-designed. The skin is loose-fitting, allowing it to squirm around passages where most creatures would remain stuck like a cork. The eyes have membranes to protect sensitive surfaces from abrasion. The wedge-shaped head has long hairs near the ears to keep much of the dirt out. The outer hairs are very resistant to abrasion, because the badger digs so constantly that it may be said to be a swimmer within the loose soil of its preferred habitat. When dirty, it shakes like a dog shakes off water. It's hard for me to imagine exactly what the skin feels like when the badger shakes off the particles of dirt.

Its front paws have partial webbing which helps the paw support the leverage of the long claws as they tear through dry, hard soil. The front claws loosen the soil. The badger then shovels the dirt under its belly. Then it backs up, using its hind paws to push the dirt, sometimes kicking the dirt several feet into the air, like a geyser rising to the sky.

The usefulness of its relatively wide body is apparent when it backs out of a hole, pushing a quantity of dirt with its body as well as its hind legs. Because of its low-slung design, its burrows may be about 14 inches wide and eight inches tall. Some characteristics that permit a badger to move dirt quickly also make it an admirable fighter & hunter. Its bulk blocks prey from jumping around or under it. And a badger can swivel its head up to snag prey that attempts to jump over its head. On open ground, fighting a large antagonist, a badger can squirm around to punish an attacker who has a fold of skin in its mouth. A wrestler who moves a few pounds of earth every day probably has strength in the clenches.

In the wintertime, a badger occasionally emerges, even when there is snow on the ground, because its prey is in a vulnerable location and often soundly asleep. A badger has sensitive smell and hearing to help it guess the position of animals in the earth.



Other predators are potential collaborators. If successful in nabbing a badger's prey, a red-tailed hawk develops a habit of being interested in a badger's activities. But a red-tailed hawk is not a communicative collaborator.

Although a badger rushes towards an irritating individual with surprising rapidity, it moves about a third as fast as a tall, slender coyote. The abilities of these predators are complementary, and a coyote can be skillfully endearing. Outdoorsmen, naturalists, & scientists have observed interactions between these animals. According to Samuel Aughey (1884, *The American Naturalist* 18: 644-645), “The coyote would go in front of the badger, lay its head on the latter's neck, lick it, jump into the air, and give other expressions of unmistakable joy.”

When a badger approaches, the coyote may wag its tail and roll on its back. They play, touch noses and sometimes rest close to each other. A carefully documented study was conducted in brushy areas of Wyoming where the coyotes were handicapped by not having unobstructed areas to chase Uinta ground squirrels. A group of these squirrels have interconnected tunnels which can cause an unsuccessful below ground hunt. To survey the above ground territory, a badger must try to make itself taller by propping itself up. Therefore, a coyote would be expected to catch more prey when hunting with a badger, and a badger would be expected to have better results when guided to areas by a coyote where the latter would monitor a few of the exits. When associated with a coyote, a badger spends more time below ground where it eats. A coyote will snatch food from a badger's mouth, and for a badger, solitary meals are no hardship.

According to J. F. Dobie (1950, *The Voice of the Coyote*, 386 pp.), the beautiful pot from Casas Grandes is perfectly balanced. The bas-relief sculptures of the coyote and badger are positioned for mutual pursuit. Dobie writes, “The eared features are not upright, but horizontal. Twirl the pot, counterclockwise, and coyote follows badger and badger follows coyote – each ‘winning near the goal,’ forever associated and forever separated.”

© 2006 Tom Morgan

LEAVING THE PORCH LIGHT ON

DRU CLARKE

Our dogs get us up at night to let them out, so we turn on the porch light beforehand to give the nighttime visitors a chance to beat it before the dogs can nab them.



Sometimes we forget to turn the light off, as with foggy brains we arise half an hour later to let the dogs back inside. So, we attract a lot of night fliers to our screen door.

These are mostly moths, but sometimes a delicate may fly flits against the screen or a June bug bats and punches like a boxing glove wielded by a delirious fighter. The moths, once settled, lay peacefully flat, having bathed in starlight (or porch light incandescence), and patiently let me photograph them in the early morning. Once I counted five unknown species, so sent the images to Ted Hopkins who kindly identified them for me.



It was their soft muted colors and unique configurations that most appealed to me. Many wing shapes were elongated trapezoids, not the more boxy butterfly wing, that they held horizontally when resting. I discovered that many had an adaptation called a frenulum, a hook or row of bristles on the hindwing, that joined the forewing to the hindwing, and this combined with the wing shape allowed them to be strong fliers. A hawkmoth – one of the sphinxes, so named because of the uplifted posture of their larvae – has been spotted far out to sea.

Many have feathery antennae, but some of these sensory organs resemble shortened versions of those of lobster's antennules and may serve in establishing balance and orientation as well as determining what something smells and tastes like. We know of their acute sense of smell, as one may attract males to captured females who release fragrant pheromones. This sexual attractant was utilized to deceive female-seeking male gypsy moths by slathering a goo imbued with the pheromone on boards affixed to trees in an effort to biologically control epidemic outbreaks of them in the east coast's forests.

Most moths are viewed with distaste by folks who know their larvae well: corn earworms; hornworms; bagworms; webworms; cutworms all wreak havoc on our crops and other leafy foliage. (Who hasn't stripped the husk off an ear of corn and gotten slimed by a smashed earworm?) But one can't help but smile at the familiar woolly bear caterpillar, larva of the Isabella moth, who is fun to play with (although you really can't predict the severity of the coming winter by the diameter of the fuzzy black ends flanking the rich brown middle); and what childhood is complete without playing with a Mexican jumping bean animated by a moth larva salsa dancing inside.

Some moths rival the butterflies with their size and beauty. My husband found a dead luna moth in the hay, so it rests now in a wreath I keep adding to of natural artifacts we find. The luna moth



is double-brooded: Ours had yellow wing margins show that it emerged in summer; those that emerge in spring have pink to purple wing margins. Why is this? An \$8000 Oscar de

la Renta dress in the NY Times Style Magazine was the color (and perhaps the texture) of a luna moth, but the designer didn't get the margins right. Indeed, fashion and textile designers have mimicked the zigzagging, intricate geometric patterns of moths' wings to make some of our most appealing apparel.

The giant silk moths, like the dusty rose and chocolate brown Cecropia who is 4 to 6 inches large, exclusively fly at night. I have never found one on my screen door, so I think I will leave the porch light on, just in case one happens by.

© 2006 Dru Clarke



It's a long hike from these Flint Hills of Kansas to the lake country of northern Minnesota and the eastern plains of Montana, but there are pebbles dropping in those areas whose ripples must in some way wash through here. In Montana, a group of ranchers is finding those "environmentalists", the Nature Conservancy, are becoming their best friends. In simplest terms the Conservancy's procedure is often to secure still natural land from altering development, while allowing agricultural usage, that includes prescribed conservation practices, in private hands to remain in place.

Now a new organization, the American Prairie Foundation (allied with the World Wildlife Fund, according to the Washington Post) has bought 60,000 acres there with plans to add, through private donations, another 3.5 million acres, on which buffalo would roam free of cattle and fences. Access for "tourism, bird-watching and hunting would be available on nearly all this land." Just what form this access would take and whether the wealthy donors and others would have equal access is unclear to me.

Naturally, of the two, the ranchers prefer the Conservancy approach. And what seems clear is that the "Buffalo Commons" future for the Great Plains, an idea put forth to much western disdain by eastern professors Frank and Deborah Popper in 1987, is alive and beginning to take some kind of shape.

Similarly, up north family resorts and wild woodland in countryside that had only washboarded sand roads threading through when we first saw it, are becoming private condominiums connected by lots of pavement. In one example, half of twenty recently built ones have been sold at prices advertised at over \$400,000 each. These are intended as second homes that must draw enough energy to be heated to 55 degrees through the northern winter whether anyone is there or not, or frost-heave will re-design them.

The existence of such changes is of course not hot news. To the extent that it already exists here seems to me less noticeable. I've discovered there's

more tourism to the grasslands than I had realized, but it seems to be mostly pass-through tourism. At the same time there appears to be serious talk about destination hotel complexes at our reservoir preserves, which it is claimed, will not compromise the original aims of the preserves. There are lots of ripples from elsewhere floating about that seem worth noticing in an area that is one of those "last great places."

Meanwhile, no doubt real estate values on Pluto have plummeted now that it's officially no longer zoned as a planet. The surviving planets don't offer much of an investment either, this month, although Saturn pays a few dividends in the wee hours, trading places with the Moon, and a waning one at that, on the 16th and 17th. Jupiter should be more noticeable than lower Mercury as the two fade earlier and earlier into the evening twilight through the 24th. And the Moon gets stingy in its own way. According to *The Old Farmer's Almanac* it's traveling such a southern path these days that it's three days past new before it stays up in the evening sky long enough to be seen still up after sunset -- the lowest and hardest to see crescent moons in 18 years. It will be at first quarter on Halloween, with Fomalhaut, the star beneath it. However, earlier, mid-evening on the 9th, it should be high enough to provide the show of it passing partially in front of the Pleiades. The Orionid meteor shower's main appearance should be on the night of the 19th-20th.

So the best investment offers to be in the stars. The Avian sisters in particular will be in full performance. That's bright blue Vega of the compact Lyre Bird high in the evening a little westward. Deneb, at the tail of the stretched-out Swan will be almost straight up then, with Altair, of the triangular spread known as Aquila the Eagle, a little further down the Milky Way. And then out of the northeast, like an old fashioned unwavering single locomotive headlight, will come Capella of Auriga the pentagonal charioteer. Full moon, the 10p13 on the 6th, New 12a14 the 22nd. DST won't quit the party till 2 a.m. the 29th.

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Back-to-School Checklist

~ Green Choices for School, Home, or Office ~

- ✓ **Paper:** Look for paper with as much recycled content as possible. Paper with recycled content will generally state two numbers, for instance: *75% recycled; 25% post consumer waste (PCW)*. This means the 75% recycled content is comprised of 25% recycled from “used” paper and 50% from mill scraps or other unused paper. Purchasing recycled paper with a high PCW percentage is desirable because you are saving trees as well as diverting waste from landfills. For information on specific products, see: <http://www.newdream.org/buy/bts/paper.php> or <http://www.conservatree.org/paper/AddlProductsOfc.shtml>.
- ✓ **Notebooks:** Notebooks can also be made from recycled materials. Many popular notebook binders are made from vinyl, a substance which is particularly damaging to the environment as well as to human health. When vinyl is manufactured, the carcinogen dioxin is released into the air and water from factories. If you buy notebooks with recycled vinyl, you can prevent more vinyl from being manufactured. There are also notebooks made of alternative materials such as rubber from old tires.
- ✓ **Pencils/ Pens:** There are two things to consider here – what materials the pencils and pens are made of and how long they will last. Avoid anything disposable, because it will quickly end up in a landfill. Refillable pens and pencils can be used many times. If you choose to buy wooden pencils, look for brands that are certified by the Forest Stewardship Council (FSC), meaning the wood was harvested in a sustainable manner. Pencils made from recycled materials, such as rubber or plastic, are also available.
- ✓ **Computers:** Look for Energy Star computers; they use less energy than other equipment. Another consideration is what happens to computer equipment (as well as other electronics) at the end of its lifespan. Computers contain a great many toxic metals, which leach into the environment when these items are discarded. Some manufacturers take back old computers and reuse the component materials. See http://www.svtc.org/cleancc/pubs/2005%20_ReportCard.htm
- ✓ **Printers:** If you’re purchasing a new printer, look for one that prints duplex – on both sides of a sheet of paper. If you already own a printer, you may be able to purchase a duplexer to attach to it, depending on the model. By doing this you will cut your paper use in half and have printouts and files that are half as thick.
- ✓ **Batteries:** Use rechargeable batteries to limit toxic substances being released into the environment. Nickel Metal Hydride (NiMH) batteries are far less toxic than the popular NiCad batteries. To see where you can recycle batteries and other items in your area, check <http://www.earth911.org>



You can request that your local vendors carry these items or suggest that your local school order some of these products in bulk to sell to parents at a discount.

To learn more about how you can make a difference for birds, other wildlife, and the environment, visit www.audubonathome.org.



NORTHERN FLINT HILLS
 Audubon Society
 P.O. Box 1932
 MANHATTAN, KS
 66505-1932

PRINTED ON 100% POST-CONSUMER
 RECYCLED PAPER

NON-PROFIT ORGANIZATION
 U.S. POSTAGE PAID
 PERMIT No. 662
 MANHATTAN, KS 66502

RETURN SERVICE REQUESTED

Published monthly (except August) by the Northern Flint Hills Audubon Society, a chapter of the National Audubon Society.
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 Also available on-line at www.ksu.edu/audubon/falcon.html

Subscription Information: Introductory memberships - \$20/yr., then basic membership is \$35/yr. When you join the Northern Flint Hills Audubon Society, you automatically become a member of the National Audubon Society and receive the bimonthly Audubon magazine in addition to the Prairie Falcon newsletter. New membership applications may be sent to Treasurer, NFHAS, P.O. Box 1932, Manhattan, KS 66505-1932. Make checks payable to the National Audubon Society. Membership renewals are handled by the National Audubon Society and should not be sent to the NFHAS. Questions about membership? Call 1-800-274-4201 or email the National Audubon Society join@audubon.org.

If you do not want to receive the national magazine, but still want to be involved in our local activities, you may subscribe to the Prairie Falcon newsletter for \$15/yr. Make checks payable to the Northern Flint Hills Audubon Society, and mail to: Treasurer, NFHAS, P.O. Box 1932, Manhattan, KS, 66502-1932.

RARE BIRD HOTLINE: For information on Kansas Birds, subscribe to the Kansas Bird Listserve. Send this message <subscribe KSBIRD-L> to <list_serve@ksu.edu> and join in the discussions.

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