EVENTS CALENDAR
APRIL-AUGUST 2018

MAY 1-JULY 11
“Earthworks: A juried show of decorative arts and fine crafts by Wyoming artisans”

MAY 10
7 p.m. – Zach Hutchinson, Audubon Society. “Birds of Peru” *

JUNE 14
1:15 p.m. – Summer Animal House for Children

JUNE 21
7 p.m. – Eileen Lemm, Werner Wildlife Museum. “The Quetzal’s 100th Birthday Bash”

JULY 12
1:15 p.m. – Summer Animal House for Children

JULY 19
7 p.m. – Dwaine Wagoner, “Butterflies of Natrona County”

AUGUST 9
1:15 p.m. – Summer Animal House for Children

AUGUST 16
7 p.m. – Darren Divine, Ph.D., Casper College, “Managing Wildlife in Arid Habitat – the Role of Developing Suitable Water Resources”

Fast and Furious: The American Badger

BY: INDIA HAYFORD, MUSEUM ASSISTANT

One of the most common questions asked by children visiting the Werner Wildlife Museum is, “Do you have a honey badger?” Nope, sorry, no honey badgers but we do have several excellent examples of American badgers. Though the honey badger gets more play on YouTube, the American badger, *Taxidea taxus*, is every bit as fascinating. Members of the species have been known to successfully take on opponents ranging from rattlesnakes, a viable dinner option, to grizzly bears who poke their noses into the wrong place while hunting for their own dinners.

Badgers are members of the weasel family, Mustelidae, and the only extant members of the genus *Taxidea*. The American badger is generally divided into four subspecies which differ in range, skull shape, and fur color and patterning. However, ranges overlap considerably, and subspecies readily interbreed, resulting in intermediate types of badgers. Wyoming is home to *Taxidea taxus taxus* and *Taxidea taxus jeffersonii*.

Badgers aren’t picky about their habitat as long as there are good places to dig and a decent burrowing rodent population to keep them fed. Grasslands and sagebrush flats are particularly well-populated by badgers, but individuals have been found in marshy areas and on 12,000-foot mountains as well.

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The American badger packs a lot of ferociousness into a small package. Nose to tail tip, these short-legged, flat-bodied creatures are only about 2 feet long and on average weigh 15 to 20 pounds, though an exceptionally large male may reach 30 pounds. Females are usually shorter and about 25 percent lighter than males. Alas for the myths of childhood, a badger cannot turn completely around within its skin, but that skin is loose enough to facilitate remarkable flexibility and woe unto the predator that grabs a badger by the scruff of the neck.

The badger’s grizzled color results from long black guard hairs overlaying a yellowish tan to brown undercoat. Its neat triangular head features white cheeks, black patches in front of each ear, a dark brown or black muzzle, and a median white stripe that runs from the nose to the base of the head or all the way down the back, depending on the subspecies. Paws and legs are dark brown to black and end in formidable claws. Long shaggy hair hides the upper part of the legs making the badger look stockier than it actually is and sometimes giving the illusion that the animal flows rather than runs.

Badgers are built for burrowing. The badger’s round ears are protected from dirt by stiff bristles. Nictitating membranes cover and protect the badger’s eyes. Partial webbing and long curved claws on the front feet facilitate digging. To compensate for wear and tear, front claws grow faster than rear claws which are shorter and shovel-shaped. When digging vigorously, a badger flings dirt 4 or 5 feet into the air and can easily outpace a shovel-wielding human.

Badgers are carnivorous, eating an average of 1.5 to 2.5 pounds of meat daily. Prairie dogs, ground squirrels, and other small mammals are preferred prey though in a pinch badgers aren’t averse to making meals off anything from skunks to voles. Badgers regularly block off accessory entrances to prey animals’ burrows then dig through the main entrance in search of a meal. They have also been known to dig their way into a burrow via a back entrance to wait inside the main entrance to catch homecoming prey. In the summer, badgers add a significant number of insects to their diet as well as the aforementioned rattlesnakes. Not only does a badger’s tough, loose skin deflect fangs, but the badger is immune to any venom a rattler does manage to inject.

Badgers and coyotes regularly team up to hunt, combining the coyote’s superior sight and land speed with the badger’s digging prowess. Though some scientists scoff at the notion that these pairings are anything other than opportunistic, badger-coyote teams often hunt together on a regular basis and have been sighted indulging in play as well. That being said, in times of scarce prey, badgers have been known to turn coyote pups into snacks.

Mature badgers are nominally nocturnal while young badgers are most active during daylight hours. Most of the year, they occupy shallow dens with an oval-shaped entrance about 1 foot wide by 8 inches high. Breeding animals dig burrows that are up to 30 feet long and lead to a grass-lined chamber 2 to 10 feet under the ground where the young will be born and raised. Such burrows usually have a single entrance surrounded by a mound of dirt, unlike the burrows of prey animals that supply themselves with a backdoor. Given their well-deserved reputation for ferocity, badgers can generally drive off any animal that comes sniffing around, including clueless humans and most dogs, the exception being dachshunds which were specifically bred to hunt badgers.

Badgers are solitary animals except during breeding season or, in the case of females, when raising young. Though mating occurs in late summer, fertilized eggs don’t settle into the uterus until late winter; a process called delayed implantation. Two to five pups are born in early spring after six weeks of gestation. Their eyes open within six weeks and soon after that, they emerge from the den to look around at the world. The mother badger nurses her young for about two months, introducing solid food before weaning is complete. Young animals begin leaving the den as the weather warms up and are most vulnerable to predation during the next two years. After that, badgers may live as long as 14 years in the wild and 26 years in captivity, with average longevity being about 10 years.

Adult badgers like their space, occupying home ranges that may be as large as 2.5 square miles, depending on the time of year. Males generally have larger home ranges than females, and there is little territoriality among individuals except occasionally during the mating season. Within that home range, a single badger digs numerous burrows and during the summer occupies a new one each day. Reuse of dens increases in the fall, and when winter falls, a badger usually settles in one place. Natal dens are more complex than daily dens, but mothers may move their litters several times to facilitate foraging. Badgers don’t hibernate but may enter a state of torpor during periods of extreme cold and/or low prey availability. Whenever the temperature rises above freezing, badgers shake off the doldrums.
The Werner Wildlife Study Series is pleased to announce the upcoming presentations for the summer quarter of 2018.

On May 10, Audubon Ornithologist Zach Hutchinson returns from his adventures in Peru to discuss the birds and birders he encountered while teaching classes on bird banding in that country. This program will be a week earlier than usual so be sure and make a note on your calendar.

On June 27, Museum Assistant Eileen Lemm will talk about the quetzal, the sacred bird of the Mayas and Aztecs, and about the Werner’s own quetzal, originally tagged in 1918. Come help us celebrate the quetzal’s 100th anniversary with cupcakes and a trip to the bird room to see this remarkable creature.

Anyone who has ever paged through the museum’s beautiful notebook, “Butterflies of Natrona County,” will be delighted to learn that author and photographer Dwaine Wagoner will be the guest speaker on July 19. If you have ever wondered about the identity of those butterflies that visit your garden each year, this is the man to ask.

The final speaker of the summer will be Darren Divine, Ph.D. and president of Casper College. Divine holds a doctorate in wildlife management and returns to the wildlife series on August 16 to talk about the role of developing suitable water resources for managing wildlife in arid habitat.

All these family-friendly programs are free and open to the public. Doors open at 6:45 and presentations begin at 7 p.m. upstairs in the Africa-Arctic Room. Reservations are welcome but walk-ins are never turned away. Many programs become standing room only, so come early to find a seat. Call the museum at 307-235-2108 for more information.

WILDLIFE STUDY SERIES at the Werner Wildlife Museum

Free and open to the public!

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Programs are held upstairs at the Werner Wildlife Museum unless otherwise noted. The public is welcome at all presentations. Reservations are appreciated but walk-ins will never be turned away.

* Note: week earlier than usual
of the season and venture out into the air to see what there is to eat.

Though occasionally a mountain lion, bobcat, eagle, wolf, or coyote may take down a badger, records kept by the federal government show that the main causes of mortality among adult badgers are — in descending order — vehicles, farmers, sport shooting, and fur trapping. Wyoming Game and Fish classifies badgers as fur-bearing animals that may be harvested by licensed trappers during regulated seasons. Indiscriminate destruction of badgers is prohibited though landowners may kill animals that are observed destroying fields, irrigation systems, livestock, or similar things on privately owned land. Badger tracks are remarkably similar to coyote tracks, making the proper identification of unseen poultry and crop predators difficult. Rich Olson, a rangeland wildlife habitat specialist with the University of Wyoming Extension Service, notes that “The best evidence of badger damage is the presence of tracks, dens, and/or holes dug in search of prey … badgers will consume all of their prey except for the head and fur along the back.” The downside of destroying or relocating badgers from any given location is the proliferation of small mammals in their absence including mice, voles, and rabbits.

Though this species is listed as “least concern” in terms of endangerment, with an estimated U.S. population of several hundred thousand, the overall population is decreasing, especially in grasslands that have been converted to intensive agricultural uses and where colonial rodents such as prairie dogs are being systematically destroyed. T.t. jacksonii in Ontario and T.t. jeffersonii in British Columbia are listed as endangered, with only a couple hundred of either species remaining in the wild.

Badgers are not interested in confrontation and will not attack without provocation. Despite their undeniably antisocial nature, they only become aggressive when harassed, cornered, or someone puts her boot smack dab in the middle of a den entrance — ask me how I know that. Though most animal control officers are willing to answer homeowner calls about nuisance skunks and raccoons, they draw the line at bobcats and badgers. In the unlikely event that a badger prefers city living in your backyard to life on the open prairie, call the Wyoming Game and Fish Department at 307-777-4600.

Werner Hosts Casper’s Finest

O n January 23, a group of police officers, detectives, and support staff gathered at the Werner Wildlife Museum to hold the first community briefing of 2018. Organized by Detective John Hatcher, public affairs officer for the Casper Police Department, community briefings are a chance for the public to meet the men and women who keep Casper safe and to see how personnel prepare for each day’s work.
Date Night at the Museums

On February 9, 2018, The Casper Museum Consortium held its bi-annual “Date Night at the Museums.” Date night is a progressive dinner between four of Casper’s museums: Fort Caspar Museum, the National Historic Trails Interpretive Center, The Science Zone, and the Werner Wildlife Museum. The final stop for the date night extravaganza was the Werner where the participants had coffee and dessert.

Director of Museums, Patti Wood Finkle, started off the Werner festivities with an introduction to the museum’s history and a quick overview of the different activities and programs offered at the museum. Afterward, the group gathered in the Africa/Arctic Room for refreshments and to hear a presentation by museum assistant Eileen Lemm on love and relationships in the animal kingdom. There they learned that of the 5,000 species of mammals, only 3 to 5 percent live some sort of monogamist lifestyle. Here at the museum, we are lucky to have three examples of these faithful animals: an American Beaver, a dik-dik, and a prairie vole. With such a small percentage of mammals living a monogamist lifestyle, guests were shocked to learn that 90 percent of all birds practice monogamy.

Following the presentation, the group mingled freely about the museum, perhaps pondering their own love lives and that of each animal they came upon. Nothing is certain in this life: though we all seek the strong family ties of the beaver and a significant other that is as loyal as the dik-dik, we could end up with a clingy prairie vole. Don’t fret too much about your own relationship because we are all part of the animal kingdom, doing what comes naturally.

For information on “Date Night at the Museums” in July, see caspermuseums.org.

Eileen Lemm leads a discussion on love in the animal kingdom for date night.
A
tas, poor humans. Compared to fellow
mammals, the whiskers that grace
human chins and cheeks are little more
than hairy adornments prone to getting
caught in zippers or tickling the noses
of loved ones during a shared kiss. This
wasn’t always so, though, and the human
upper lip contains vestigial muscles once
associated with tactile sensory organs
called vibrissae.

Visually and functionally different from
the shorter, softer pelage that comprises an
animal’s coat, vibrissae are deeply rooted
stiff hairs that connect to muscles and
nerves. Terminology in this understudied
area isn’t standardized, but classification
is generally based on whether vibrissae
are located on the face or body. Those
located on the upper lip are called primary
vibrissae. All other vibrissae on head and
body are called secondary vibrissae.

All mammals possess vibrissae at
some stage of development except for
humans and monotremes – platypuses and
echidnas. A few species develop prenatal
vibrissae but lose them before birth.
Though most commonly located on the
face and head, vibrissae may also be found
on legs and feet. Walruses and manatees
have stiff vibrissae all over their heads and
bodies. Canine whiskers are limited to
jaw, muzzle, and eyebrows. The facial
whiskers and nerve cells of California
sea lions are so sensitive that they can
detect size differences of as little as 1/2 a
centimeter. Thanks to their facial vibrissae,
common seals can follow hydrodynamic
trails left by fish long after the potential
prey swims away.

Some vibrissae are tipped with
proprioceptors, a type of sensory organ
that transmits information about an
animal’s environment to its brain via the
nervous system. These highly adapted
whiskers supplement short-distance
vision, aid animals in locating food,
perceiving danger, navigating in low
light conditions, maintaining balance,
determining dimension and depth,
communicating mood, and sensing a
wide range of environmental conditions
including wind direction, tidal movement,
and proximity of stationary and dynamic
objects. A University of Michigan study
suggested other vibrissae functions include
intraspecies communication, dispersion
of pheromones, and maintaining head
position while swimming.

Vibrissae are not interchangeable
sensors but are arranged in such a way
that each group of vibrissae collects and
transmits specific types of environmental
information. Vibrissae are moored in hair
follicles lined with nerve cells that range in
number from 100-200 per whisker in cats
and rats to 1500 per whisker in walruses.
When vibrissae contact a solid surface, air,
or water currents, they transmit information
about those phenomena to nerve cells
in the follicles which in turn transfer the
information to the brain. Each vibrissae-
containing follicle is precisely represented
in the sensory cortex of the brain.

Most vibrissae studies have been
conducted on rats. Rats have two types of
facial whiskers: long mobile face whiskers
called macrovibrissae and shorter densely
packed hairs called microvibrissae. These
creatures can control the angle at which
each whisker protrudes from the face,
unlike many other species which are
limited to protracting or retracting whiskers or in whom whiskers are immobile. Rats whisker-twitch their way through life, monitoring their environment with vibrissae that can vibrate two dozen times per second.

Cats are particularly well-endowed with proprioceptor-tipped vibrissae that let them know exactly where their bodies are in relation to their surroundings, a trait known to veterinarian and cat-owners as “kitty radar.” Most obvious are the eight to 10 whiskers that grow on padded areas on either side of the nose and mouth and those that comprise the eyebrows. Shorter and stiffer vibrissae guard the cheeks, jawline, and chin. In addition, cats have vibrissae on the back and insides of their legs, as well as short tuffs of vibrissae in and around their ears, between their toes, and on their paw pads. As nocturnal hunters, cats use vibrissae for spatial orientation, to know when prey is within range, and where to bite that prey. By detecting minute changes in air currents around objects, even blind cats can successfully navigate their way through life. A cat whose whiskers have been cut or otherwise damaged is at a huge disadvantage, having been deprived of its primary sense. Sphinx, a domestic feline that has been deliberately bred for hairlessness, may or may not be born with whiskers. Sphinx without whiskers should not be used for breeding to avoid passing on this debilitating trait.

Vibrissae of ground-dwelling mammals such as shrews and moles enable navigation of narrow underground burrows in low or no light conditions. Changes in air currents alert these animals to possible predators or changes in habitat condition. Some species of ground dwellers, such as the Etruscan shrew, can distinguish prey from nonprey with the touch of a single whisker.

The word itself (singular vibrissa, plural vibrissae) comes from Latin vibrare, which means to vibrate, to suddenly propel, to brandish, or to wave. The same Latin source gave rise to the words vibrate, vibrato, and veer. All one has to do is look at a questing mouse or an agitated cat to grasp the connection between this collection of words. The earliest recorded scientific use of the term came in the late 17th century when scientists used it specifically to refer to the hairs inside human nostrils. Human nose hairs are not equivalent to mammalian vibrissae and so can be kept in check by trimming without fear of disrupting balance or compromising the ability to keep one’s head above water.

Forward-pointing whiskers can also indicate a friendly, inquisitive mood. A fearful or angry cat draws bunched up whiskers flat against the sides of its face. When extremely agitated or alarmed, the animal’s whiskers point forward, and every hair from vibrissae to tail plumes stands on end. Add a snarl and pinned back ears to these signals and someone is liable to get scratched unless she backs off immediately.

Vibrissae position is a good barometer of mood and woe be unto he that ignores whisker signals from a cat. When an animal is relaxed and feeling mellow, its whiskers extend sideways without a flicker of movement. A hunting cat points its whiskers in the direction of its prey.

Whiskers on a sea lion. Photo courtesy of Art Van Renssalaer.
Youth Art Show Debuts

STORY AND PHOTOS BY: INDIA HAYFORD, MUSEUM ASSISTANT

“Songs Without Words,” an art show of work by Wyoming youth between the ages of 11 and 17, premiered in February. Featured artists included Taylor Nokes, Elizabeth Arner, Alexis Finkle, and Talynn Paterson.

Taylor Nokes and “Arctic Wonder.”

Alex Finkle and “Parchment Owls.”

Talynn Paterson and “Pouncing Fox.”