BEARS MAGAZINE

MOUNTAIN BIKING THROUGH THE GRIZZLIES

PLUS:
ARE THE LAKE LOUISE MUGGERS STILL ALIVE?

STATE OF THE GOLDEN BEAR

BLACK BEARS ARE EVERYWHERE

AND MUCH MORE!!!

BEARS $3.95 (CANADA $5.95) - SPRING 96
61>
4
0 74470 86635 0

TRACKING THE GREAT BEAR

Mystery Bears by Jim Halfpenny, Ph.D.

We were in a small village in western Red China. I stared at the bear foot in a sidewalk drug store. Clearly, it came from a brown bear (*Ursus arctos*), but where was this mystery bear from? In arid Qinghai province, there were no bears. It must have come overland on the ancient silk-road trade route — from who knows where.

To learn the value of the bear to the locals, I asked my scientist friend if he could buy it. He looked at me with troubled eyes, searching for the correct words. Finally he spoke, his concern about alleged medicinal properties, "Dr. Jimers (Chinese mispronunciation of Jim) don't buy it...it REALLY doesn't work!" After my further explanation, he bargained the price down to $16 for the single paw. The whole bear was therefore worth over $100 on the local economy. A large sum to locals, and a significant threat to continued existence of bears. I wondered, how many bear species have gone extinct or will at the hands of modern people?

Eight species of bears remain, but it appears that humans have exterminated subspecies in recent times. The last Atlas bear (*U. crowtheri*) disappeared from Africa just before the turn of the century and we may never see another Mexican grizzly (*U. a. nelsoni*). Firearms and poisons have hastened the bear's demise, but the real killer is insularization due to habitat destruction.

Do we know all the bears? There are stories told, and documented individual bears that don't conform to the scientific picture of eight species. These mystery bears, found in isolated regions of the world, stretch our imagination. To understand where the mystery bears may fit in the classification scheme of science, we need to review the species concept.

Biology is far from an exact science and most biological definitions abound with exceptions. While the species concept is a king pin for taxonomic organization, it is not exempt from problems created by human attempts at pigeon holing. Seldom are biological concepts as simple and clear cut as we attempt to make them.

The species is the classification level defined by breeding; that is different species do not interbreed and subspecies interbreed. To hedge our bets, we say that if breeding does occur between species fertile offspring are not produced. Indeed, a female horse and a male donkey interbreed, but the resulting mule is sterile. Therefore, a donkey and a horse are considered separate species. Certainly, different genera should not successfully interbreed.

What of bears? Early taxonomists were largely splitters, erecting not only new species every time they received a new specimen, but also new genera. Remember, for example, the venerable Peterson's Field Guide series to mammals once listed brown bears as *U. middendorffi*, grizzlies as *U. horribilis*, black bears as *Euarctos americanus*, and polar bears as *Thalarctos maritimus*.

Against this background, bear taxonomists were shocked when a male polar bear at the National Zoological Park bred a female Kodiak brown to produce fertile offspring. The offspring had the blocky head of a brown bear, and the larger feet and longish hair of a polar bear (for a picture, see Stirling, 1993, *Bears: Majestic Creatures of the Wild*).

Hybridization between genera quickly cast doubt on bear taxonomy. Soon there were examples of brown bears hybridizing with American and Asian black bears, Asian with American black bears, and even sloth with sun bears. Now we recognize black, brown/grizzly, and polar bears as all members of the same genus, *Ursus*. Some, including myself, even place the sun (*Helarctos malayanus*) and sloth (*Melursus ursinus*) into *Ursus*, though more distant from other members. All recognize the above bears as subfamily *Ursinae*.

With increasing genetic knowledge, we now know that all *Ursinae* have 72 chromosomes and most will interbreed when placed together. Spectacled bears (subfamily *Tremarctinae*) and panda bears (subfamily *Ailuropodinae*) have 53 and 42 chromosomes respectively and do not interbreed with other living bears.

When classifying and looking for mystery bears, we must remember wild populations can produce hybrids. One interesting North American specimen may represent a hybrid or a "living fossil." When C. Hart Merriam did his monumental, but splitting classification of grizzlies, he recognized one bear as significantly different from grizzlies and named it *Vetularctos inopinatus* which translates to ancient, unexpected bear.

The bear was killed at Rendezvous Lake, Barren Grounds, Canada in 1864. Merriam described it as "buffy whitish" with a golden brown muzzle. He suggested that "*Vetularctos* may claim a rather ancient line of descent, from which the giant short-faced and spectacled bears arose - a line quite different from the one culminating in *Ursus* proper." Others have suggested that it was a cross between a grizzly and a polar bear. Lumpers say it is an aberrant grizzly. The specimen is still in the National Museum and DNA studies could shed some light

continued on page 44

Mystery Bears ...continued from page 39
on this mystery.

Interestingly, there is another *Vetularctos*-like report from Kodiak Island. In 1943, Clara Helgason described her girlhood experience when hunters shot a large, off-white bear with hair all over his paws. Some thought it was a polar bear far from its known range, others said it was an albino. However, hair on the bottom of the feet suggests it was not a Kodiak brown bear.

Other mystery bears may exist in isolated areas classified only in the legends of local people. Here we turn from the realm of mainstream science to that of cryptozoology, literally the science of animals that remain hidden from scientists. Legends and local reports have been the source of many important zoological discoveries and should be carefully scrutinized. Karl Shuker, compiler of mystery bear reports, believes "prehistoric bears still prowl the backwaters of the world." Much of the following material is based on his compilation.

Two possibilities occur on the Kamchatka Peninsula of Russia. The "irkuiem," a giant white bear reported as recently as 1987, has been suggested to be related to or descended from the giant short-faced bear (*Arctodus simus*). Interestingly, the Arctic Alaskan eskimos talk of "qoqogaq" - the giant polar bear. For that matter, what about Merriam's *Vetularctos*? Also reported from Kamchatka by Dr. Stan Bergman is a truly gigantic, short-faced, all black bear that exceeds in size all other bears. Russian hunters, in the early 1920s, supported Bergman's claims by killing bears weighed at 1,400 to 1507 pounds. These bears, now apparently gone, have been assigned to *U. a. piscator*.

In South America only one species, the spectacled bear (*Tremarctos ornatus*), is known to exist. It is a small, black and white, well-marked animal. Therefore, the report from Leonard Clark in 1954 that he shot a large, all black bear in Peru is of note. Natives know the all black bear as "milne." From the Muscarena Mountains of Columbia come reports of red-furred bears. The South American fossil record includes three described species of short-faced bears (*Arctodus brasiliensis*, *bonariensis*, and *pamparus*). Could any of the above reports represent a "living fossil?"

From Red China prior to 1960, only rumors circulated of the Shennongjia white bear called "baixiong" by natives. Then four were captured and displayed in Chinese zoos. It apparently roams the mountain forests of southeastern Hubei Province and is thought to be a brown bear (*U. arctos*). Interestingly, the Shennongjia sounds similar to the white-colored, black bear of British Columbia known as the Kermode. Kermodes also roam in densely forested mountains. Do dense forested mountains share the possibility to harbor mystery bears?

Africa is an unusual in that bears are notably missing. The lack of bears in Africa may not have always been the case. The fossil Langebaanweg Bear (*Agriotherium africanum*) found in South Africa suggests that bears must have been distributed over much of the continent between 4 and 5 million years ago. Diminutive fossil brown bears (*U. a. faidherbianus*) have been found in northern Africa and may have persisted into Christian times as reports and remains associated with human artifacts occur.

Africa's only recent bear, the Atlas bear (*U. a. crowtheri*), may have been exterminated by the 19th century due to habitat destruction. While there was a living specimen exhibited in the Marseilles Zoological Gardens in 1830, the last Atlas bear specimen dates from 1844. Yet, reports still surface of bears in the Atlas Mountains.

While an isolated pocket of wilderness may yield a new species of living bear, we have more immediate concerns including the alarming increase in fragmentation of existing bear populations. Isolated populations may suffer from a lack of genetic diversity, which ultimately impedes their survival. Even in relatively large protected areas, such as the Yellowstone ecosystem, genetic diversity is a concern. But of greater importance are the point source conflicts with humans, problems which include beehives, orchards, crops, livestock, garbage, pets, corridor blockage, and habitat destruction. These create threats that bears may not overcome. The public needs to be educated on how to live with bears. If we can let bears survive, then we can survive on the planet earth! If not?!

My thanks to Matt Bille, science writer, for his insights and help.
Join me next issue for a look at the giant bears of the past and present.