

# ON A Jag

## Encounters with Jaguars in the American Southwest

By **Jack L. Childs**  
Photos courtesy of author



The snapshot above and to the right (inset) are the jaguar that the author first encountered in 1996 while cougar hunting in Arizona. They photographed and videotaped this magnificent animal before hiking back down the mountain. The image of the jaguar at far right is from a trail camera in Arizona.

Queen's tail started to wag furiously as her nose scoured the dry Arizona ground. My hunting partner Matt Colvin and I knew that she had picked up the faint scent of a lion and would soon announce to the world that she meant to catch it.

As her first drawn-out bawl split the morning silence, Queen was joined by her four pack-mates. Matt and I found a male lion's scent mark, made by scraping up oak leaves into a pile and urinating on them. Soon after, we found the lion's tracks in the soft sand of the streambed. After a two-hour chase, we heard the hounds jump the lion and soon after, their excited voices told us they had chased it up a tree. The lion had taken refuge in a piñon tree surrounded by bluffs high up on the side of the mountain. Our adrenaline was flowing as we tied the mules and started the long climb to

the hounds. We arrived to see all five hounds under the tree barking up at Matt's soon-to-be trophy.

This hunt was typical of the many hunts Matt and I made over the years. Well, typical if you don't count the 10 or 12 days we normally spent hunting before we actually catch a lion.

The hunt we made a few months later, in August 1996, could hardly be considered typical—at least in outcome. Our group—consisting of Matt, my wife Anna Mary, taxidermist Gavin Weller of Weller Wildlife Studios and I—hiked up another brushy mountainside in southeastern Arizona to the frantic barking of the hounds. We had been trailing what we thought was a male cougar for several hours. The barking hounds were looking up into the branches of a large alligator juniper tree. The animal in the tree was so well camouflaged that it took a minute or two for us to realize just what we had in that tree: a jaguar!

Jaguars have been protected by Arizona law since 1969. We photographed and videotaped this magnificent animal, thanked him for allowing us this brief glimpse into his life, and hiked back down the mountain to the mules. This animal was a 3-year old male

and was to become a part of our lives for the next 11 years.

### Rare Cat of the Southwest

I stated earlier that we average catching a lion every 10 or 12 days of hunting. What are the odds of catching a jaguar in the United States? Since 1900 the historical record shows 65 jaguars documented by photograph or other physical evidence in Arizona and New Mexico. Of these, 41 were killed or photographed by hunters pursuing other game, 22 were killed by government predator hunters, and two were captured on film by remote sensing cameras.

Historical records indicate the possibility that a small breeding population of jaguars was present in the U.S. through the middle of the 20th century. The identifications of the 65 animals documented since 1900 included 22 males, 7 females, and 3 kittens; 33 were not identified as to gender. The last kitten was documented in 1910 and the last known female in 1963.

Just six months before our jaguar encounter, the hounds of lion hunters Warner Glenn and his daughter, Kelly Glenn Kimbro, had brought to bay another adult male jaguar on the Arizona-New Mexico border. They, too, photographed this animal, tipped their hats, and rode away.

Following the two sightings in 1996, the Arizona and New Mexico Game and Fish Departments joined forces to create the Arizona-New Mexico Jaguar Conservation Team (Jag Team) in 1997. The Jag Team consists of state and federal wildlife and land management agencies, university biologists, conservation groups, local landowners, ranchers, and concerned citizens as well as a scientific advisory group made up of the world's leading jaguar biologists. This group meets twice a year in a collaborative approach to help protect and manage the jaguar and its habitat in Arizona and New Mexico. The U.S. Fish and Wildlife Service formally listed the jaguar as an endangered species in the United States on January 31, 1997.

With help and support of the Jag Team, Anna Mary and I founded the Borderlands Jaguar Detection Project in March 2001. This grassroots organization, dedicated to the study and conservation of the jaguar in the Borderlands Region, remains the only field research project on wild jaguars in the U.S. We want to learn as much as we can about jaguars in southern Arizona. Are they residents here or dispersing immigrants from a population in Mexico? If they are residents, what is the size of their home range? What types of habitat do they require? What are their major prey species? Most importantly,

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### ABOUT THE AUTHOR

Jack L. Childs, houndsman and tracker, launched into jaguar research and conservation after a chance encounter with an Arizona jaguar in 1996. He has participated in jaguar research in the Pantanal region of Brazil and the Sierra Madre Mountains of Sonora, Mexico, and in 1998 authored a tracking guide, *Tracking the Felids of the Borderlands*. Jack and his wife, Anna Mary founded the Borderland Jaguar Detection Project in 2001. The project's first five years are documented in *Ambushed on the Jaguar Trail: Hidden Cameras on the Mexican Border*, a book that Jack and Anna Mary jointly authored and richly illustrated with photos of southwestern wildlife. Their jaguar research continues in southeastern Arizona.

# Jaguar Notes

The jaguar (*Panthera onca*) is the third largest cat on the planet. Only the African lion and the tiger are bigger. At the northern edge of their range in southern Arizona and New Mexico, they are smaller than their counterparts farther south. The average weight of a female is 80 pounds with males averaging 120 pounds, but some males may weigh as much as 165 pounds. Females in Venezuela average 125 pounds and males 220; in some South American locations a few individual males have topped 300 pounds.

Jaguars have an orange buff coat with small solid black spots on head and shoulders. On their back and flank are broken rings or rosettes, with each rosette containing 1–3 small black dots. The underbelly is white with large black spots and the inside of the legs and underside of neck is white with black bars. The eyes are reddish gold and the tail is approximately equal to 2/3 of the body length as opposed to the mountain lion whose tail is equal to its body length.

Due to their solitary nature, male and female jaguars are found together only during courtship and mating. Kittens are born after a gestation period of approximately 100 days. Litters containing one to four blue-eyed kittens can be born any time of the year and are raised solely by the mother.

Jaguars belong to the roaring cat family along with the leopard, African lion, and tiger. This family of cats is grouped under the genus *Panthera*. According to Kevin Hansen in *Cougar: The American Lion*, "The ability to roar depends on the structure of the hyoid bone, to which the muscles of the trachea (windpipe) and larynx (voicebox) are attached." In this family of cats, the hyoid bone is not attached to any other bone. Holding their heads low to the ground, jaguars use a series of guttural grunts and coughs as a means of communication over long distances.

Cougars are members of the family of purring cats, grouped under the genus *Felis*. In this family, the hyoid bone is ossified (attached to the spine), making it possible to utter the purring sound. The bobcat, lynx, margay, ocelot, jaguarundi, and domestic cat all belong in this family.

The subfamily of roaring cats (*Panthera*) originated in the Old World in Eurasia and Europe and entered North America via Beringia during the Pleistocene approximately 2 million years ago. A large race of jaguar (*Panthera onca augusta*) occupied much of North America 600,000 years ago and began to colonize South America. Toward the end of the Pleistocene, 15,000 to 10,000 years ago, jaguars had evolved to their present form. Their range extends from the Southwestern United States (Arizona, New Mexico, and Texas) through Central America and into South America (Bolivia, Paraguay, and Northern Argentina). Although jaguars are still found throughout their historic range their numbers have diminished and in some areas they have been exterminated. Population decline is attributed to habitat loss and over-hunting.

The jaguar in Arizona was classified as a predator in 1919 with no closed season or bag limit; it did not receive full protection until 1969. New Mexico granted protection to the jaguar in 1991 and it was placed on the endangered species list in the United States on January 31, 1997. Jaguars are now protected by law throughout the Americas. Documented jaguars killed since 1900 include 65 in Arizona and New Mexico and around 120 in Sonora. Jaguars have never been as abundant as cougar in this portion of their range.

Historically jaguars were sought after by sportsmen as trophy animals, typically on hunts guided by dedicated professional hunters and their hounds. Their aggressive nature and willingness to fight back when cornered has earned a reputation as the toughest game animal to catch with hounds in the Americas. Very few houndsmen have been able to consistently catch jaguars for their clients. One of the best in the business was the late Dale Lee, the youngest of

the famous Lee Brothers of southern Arizona. During his career, Dale and his brothers caught 125 jaguars in areas ranging from northern Sonora, Mexico, south through Central and South America. I met Dale in 1965 and had the privilege of spending time with him on horseback and around campfires during the last five years of his life. Dale never caught a jaguar in the United States, nor had he ever trailed one or seen any jaguar tracks.

Jaguars are scored by the Boone and Crockett club simply by adding the length of the dried skull to the width. The World's Record listed in Boone and Crockett Club's Big Game Records Program measured 18-7/16 points and was taken in Sinaloa, Mexico. The number two and three jaguars were taken in Arizona and scored 18-5/16 points and 18-3/16 points, respectively. The best heads taken in South America exceeded 20 inches.

The majority of the taxonomy and historical information contained herein is from: Brown, David E., and Carlos A López González. *Borderland Jaguars: Tigres de la Frontera*. Salt Lake City, Utah: University of Utah Press, 2001.

do we have a viable breeding population in Arizona?

## Seeking Answers

To answer these questions, we set out remote sensing trail cameras and established a network of track transects. The cameras were placed on major travel routes and natural funnels through areas of core and connective habitats in the mountains of southeastern Arizona. Their purpose was to record the presence of individual jaguars. This is possible because, like human finger prints, no two jaguars have identical spot patterns. The jaguar's tawny orange coat is covered with large black rosettes, each containing one to three small black dots. By examining these rosettes, it is possible to identify individual animals.

The surveys were established in areas where we located high densities of cougar



sign. We assumed that jaguars would use the landscape similarly to lions and travel along the same routes. We had gained considerable knowledge of cougar behavior during more than 40 years of following them in these remote mountain ranges. We used this knowledge to predict the most likely places to find jaguars in this desert environment.

Anna Mary and I conducted the field work from 2001 through March 2005. Humboldt State University graduate student Emil McCain joined the project in June 2004, bringing several years of jaguar research experience gained in Costa Rica and Sonora, Mexico. Emil tripled the number of cameras in the project, and our photographic captures expanded exponentially. We now have over 20,000 images of 25 of the region's wildlife species, including more than 70 photographs of two male jaguars.

However, it was not until December 7, 2001—nine months into the study—that we located our first jaguar. An adult male jaguar, which we named Macho A, walked in front of one of our cameras. This was the first live, wild jaguar ever photographed in the United States by someone intentionally looking for jaguars. The remote cameras photographed Macho A sporadically over the next 2 ½ years, with his last sighting on June 25, 2004, at 8:47 p.m. when Macho A



walked in front of one of our cameras. Just four hours later, another adult male walked in front of the same camera; we named this animal Macho B. We never again saw Macho A, and this had us wondering: Did the two animals have a territorial battle causing Macho A to be driven from his territory? Or, was Macho A killed by Macho B? This remains unanswered. However, upon examination of Macho B's spot patterns we were both amazed and delighted to discover that he was the same animal we had treed and photographed in 1996.

We re-sighted Macho B 90 times between August 2004 and May 2007, including 60 photographs, 4 videos, and 26 sets of tracks. One video clip from February 2007 shows Macho B scent-marking a mesquite tree 47 miles north of the border with Mexico. He was living in habitats ranging from rugged mountains above 5,000 feet

of jaguars is the escalating fragmentation of their habitat. Travel corridors between mountain ranges that these large carnivores use for dispersal, and through which gene flow occurs, are being destroyed at an alarming rate. The Rocky Mountain West is experiencing the fastest rate of human population growth in the United States. Vast tracts of land are being cleared to build homes and other infrastructures to accommodate the influx of people. Although some of this growth can be attributed to reproduction, the majority reflects a "reverse migration" of Americans from coastal areas to the interior Rocky Mountain West.

Additionally, thousands of immigrants are illegally crossing our southern border daily. This mass immigration and the border enforcement measures created to control it are degrading the landscape at an alarming rate. Grasslands are trampled,

to not diminish the reproductive potential of that population. Under these guidelines it is doubtful if jaguar numbers in the U.S. have ever been high enough to sustain sport hunting.

Two jaguars have been killed illegally in Arizona, in 1971 and in 1986, since they gained legal protection in 1969. Although jaguars are also protected in Mexico and throughout Central and South America, resources to enforce these laws are limited throughout much of their range. The killing of jaguars still occurs in these areas today.

The Endangered Species Act (ESA) and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all imperiled wildlife. One prohibition in Section 9 of the Act, in part, makes it "illegal for any person subject to the jurisdiction of the United States to take (including harass, harm, pursue, hunt, shoot



to flat lowland desert floor at 2,500 feet. We used these 90 locations to calculate a minimum-observed range for Macho B of 525 square miles.

Emil used the data from our camera traps for a thesis on "Daily Activity Patterns of Mountain Lions (*Puma concolor*) in Relation to the Activity of their Prey Species in Southern Arizona." He received his master's degree from Humboldt State University in September of 2008. Emil continues as our project biologist.

### How is the Jaguar Faring?

Male jaguars found in the southwestern U.S. are at the extreme northern limit of the species range. They are indeed far-ranging predators. We believe that the U.S. jaguars are part of a single, thinly-distributed population inhabiting a large area from southern Arizona and New Mexico, south through the mountains of eastern Sonora and western Chihuahua, Mexico. Will this Northern population of jaguars be able to persist and possibly multiply? If the known threats to the jaguar are properly addressed, I believe that the landscape will allow jaguars to naturally colonize their former range.

Participants in the Borderlands Jaguar Detection Project believe that the biggest threat to the continuing survival

streams are polluted, and fences are cut to accommodate off-road vehicle traffic carrying both people and drugs. Twelve-foot high "pedestrian fencing" has been constructed in selected areas within our study area. Such barriers have stopped vehicle traffic in selected areas, but only slow a man on foot for about two minutes. Barriers have unintended consequences; for example, the fence has effectively blocked the dispersal corridors of large carnivores and ungulates.

We all agree that national security is our first and foremost concern. However, it seems that much of the degradation could be eliminated or reduced. Some solutions might be found in sensible immigration reform that would allow law enforcement to achieve security aims more effectively. The structures themselves are also part of the solution; for example, pedestrian fences that impede wildlife movement could be torn down and replaced with more wildlife-friendly designs focused on restricting vehicles.

### Is Hunting in the Future?

Will we ever be able to legally hunt jaguars in the United States? Applying principles of wildlife management, state agencies allow hunters to harvest a specified proportion of animals from a healthy population so as

wound, kill, trap or collect; or to attempt any of these) any listed species." It then lists activities that would not violate section 9 of the ESA provided these activities are carried out in accordance with any existing regulations and permit requirements. It states that the following action will not result in a violation of Section 9: "If when using dogs to tree cougars, a jaguar is inadvertently chased and/or treed by the dogs, so long as the dogs are called off upon realization that a jaguar is being chased."

This exception makes it possible to legally hunt cougars in areas known to harbor jaguars, which is a good thing indeed. It means that a once-in-a-lifetime event, such as my friends and I experienced in 1996, is a memorable event instead of a violation of the Endangered Species Act.

If some unscrupulous person were to kill a jaguar for profit, glory, or some other reason, they would be putting hound hunting in jeopardy throughout the known historic range of the jaguar within the United States. If you are fortunate enough to encounter a jaguar in the wild, please take a picture and quietly leave the area. You will be richly rewarded by the experience, and like me, you will find a special place for this memory in your collection of outdoor adventures. ■