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# UPDATES OF HISTORIC AND CONTEMPORARY RECORDS OF JAGUARS (*PANTHERA ONCA*) FROM ARIZONA

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## ABSTRACT

We summarize >80 accounts of jaguars killed and/or photographed in Arizona during a 160-year period. These accounts include 13 previously unrecorded animals and six contemporary photographic records. The period with most records occurred between 1900 and 1920. Occurrences ranged from Sonoran desertscrub < 1000 m ASL to mixed conifer forest at 2,134 m ASL. Every county in Arizona save four had jaguar records and distribution of records indicate a north by northwest movement along montane corridors from the southeastern quarter of the state northwest to the Grand Canyon. Three counties bordering Sonora yielded numerous records over protracted periods, namely Santa Cruz, Cochise, and Pima Counties. The distribution, number of occurrences and records of females and sub-adults before 1920 suggest some animals may have been breeding residents.

## INTRODUCTION

Historic wildlife accounts provide important insights into past distributions and enhance our understanding of how a species interacts with its environment. Historic occurrences also shape informed discussions regarding the recovery and conservation efforts of extirpated species and are useful in understanding habitat requirements, vegetative associations occupied, and movement corridors (Hatten et al. 2005). This is true of jaguars (*Panthera onca*) in Arizona.

Records indicate that the occurrence of jaguars in Arizona was greater than recent observations suggest (Housholder 1958, Lange 1960, Hoffmeister 1971, 1986; Brown 1983, Brown and Lopez 2001, Culver 2016). Records demonstrate that the species was a generalist occurring over a wide area at a variety of elevations and in diverse habitats. Accounts indicate a more or less sporadic occurrence throughout much of the eastern two-thirds of the state with a northwest movement along montane corridors (Brown and López 2001) rather than along river bottoms as suggested by Hatten et al. (2005).

The discovery of a previously undocumented jaguar photo in a tavern in Superior, Arizona, prompted an intensive search of historic literature and we indexed newspapers for additional records than had already been reported. Thirteen previously unpublished accounts and six recent photographic records were discovered (Appendix 1) and presented here along with summaries of data obtained from ~82 documented jaguars (Appendix 2). Additionally, we present four newly discovered photos of Arizona jaguars (Figs. 1, 2, 3, and 4) and maps showing all known records for Arizona (Map 1, Map 2) and a graph depicting jaguar occurrences by decade (Fig. 5).

## METHODS

We researched the newspapers indexed online, evaluated previously published accounts, and prepared a summary of jaguars known to have been killed or photographed in Arizona (Appendix 2). Due to the rarity of these cats, the taking of a jaguar in Arizona was often reported by several news media and parroted over periods of a week or more,

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Figure 1. Photo of Manuel Guzman taken in 1902 with jaguar killed in 1901 near Bloomerville, Superstition Mountains, Maricopa County. (UAZ 28256).



Figure 3. Photo from Arizona Republican of Jaguar killed in the Santa Rita Mountains in 1919 by state trapper and sold at auction. Photo caption reads "Hide of 200-lb Mexican Jaguar killed by state hunter in the Santa Rita Mountains near Tucson and disposed of at sale yesterday." (UAZ 28273)



JOE CAI - "PANOHO LOS ENCINOS" SONORITA AZ.  
KILLED FALL 1916 - TEMPORAL CANYON 1ST KNOWN TIGRE IN THE AREA

Figure 2. Photo of Joe Cai (left) and two unknown men taken in 1916 with pelt of jaguar killed in Temporal Canyon, Santa Rita Mountains, Santa Cruz County with the handwritten notes of Bob Gholson, friend of Joe Cai. (UAZ 28265).



Figure 4. Photo of hide of jaguar killed near Douglas, Cochise Co., ca. 1945-53 ,(USNM 603062; UAZ 28271).

thus aiding our evaluation. We found the key search words of the most utility to be; "jaguar", "leopard", "tiger", and "tigre". We included only those jaguars killed and/or photographed and omitted accounts of jaguars taken on modern guided hunts, jaguars seen or rumored to be roaming mountain ranges, and implausible accounts.

Photographs of ca. 24 different jaguars were found. Twenty-one of these were submitted to the University of Arizona mammal collection where they were provided museum voucher numbers (Appendix 2). The other two photographs can be found in Billingsley (1971) and in the collection of the Arizona Historical Society (AHS19020). When two or more records may be addressing the same jaguar, we take a conservative approach and count it as a single cat or discuss that probability so the reader can form their own opinion (Appendix 2). The Shufeldt (1921) report of "several jaguars" was assigned only two animals so as to not unduly inflate the numbers.

All known surviving persons who killed a jaguar in Arizona were interviewed by one of us (DEB). Persons interviewed are indicated with an asterisk (Appendix 2). During these interviews details of the encounter were gleaned along with detailed locality information. We also interviewed other credible sources who provided additional details of jaguars killed in Arizona.

Several of the recent jaguars roamed widely during the time they were monitored, and these movements are noted (Appendix 2). When mapping jaguars recently photographed we used the location and or date of the first documented photograph as the location on the maps. For historic records we used the best available data provided and if only a county is given, we place the location for that jaguar in the center of the county (Map 1, Map 2).

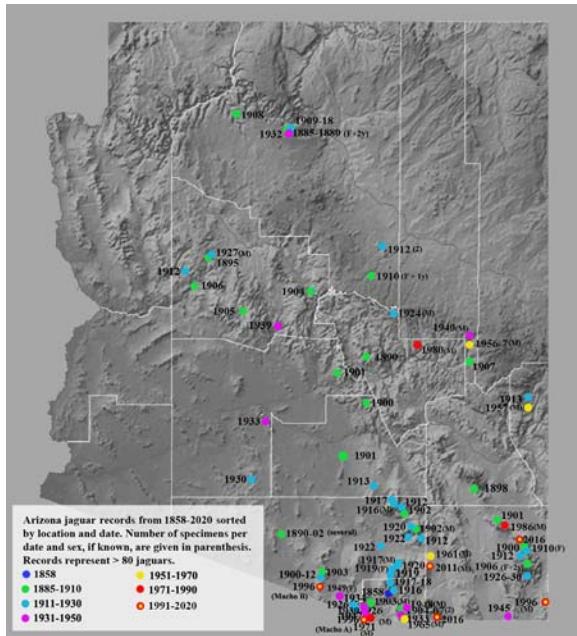
Additions to the amended 2001 Brown and Lopez table (Appendix 2) are literature records predating 1900, a report from Herbert Brown in Shufeldt (1921), jaguars discovered during our research, jaguars after 1996 verified with photographs from trail cameras (Culver 2016), media citations, and miscellaneous information that was reported about each animal. We acknowledge the issues associated with newspaper accounts, verbal reports, and other unvouchedered sources, but assert that the records presented are the most complete record of jaguars killed or photographed in Arizona.

## RESULTS

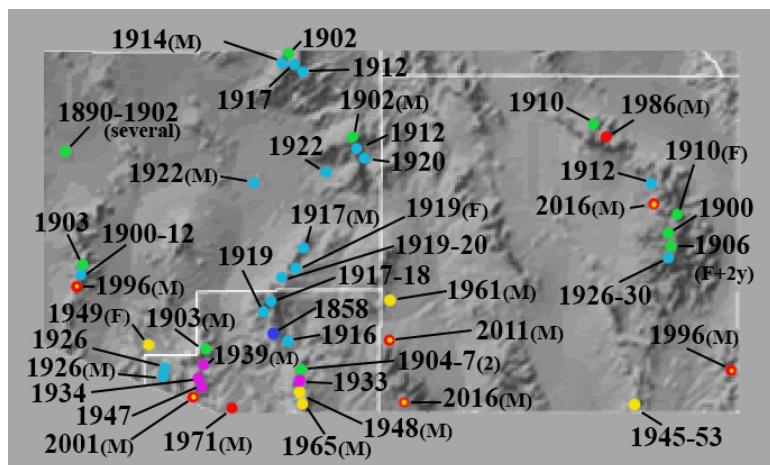
Early accounts of jaguars are comprised primarily of animals killed by trappers and/or hunters (Duffin 1962, Brown 1983, Brown and Lopez 2000, 2001). We found 13 reports of jaguars killed in Arizona prior to 1953 that were not documented in previous jaguar accounts. These, along with six individuals photographed on trail cameras or by houndsmen and one reliable verbal report (Appendix 1), brought the total number of jaguars reported in the state to >82. Nearly all early newspaper accounts employed sensationalistic language typical of the period, exaggerated the details of the chase and the weights or lengths of the jaguars killed. Additionally, jaguars were often erroneously reported as the first of their kind to be killed within the state or area or as having escaped from captivity. Conflicting information was occasionally given by various papers, or even in the same story.

We also dismissed two previously reported records in Brown and Lopez (2001). Although the female killed by T. Penrod in 1963 and the male trapped by R. Culbreath in 1964 were not taken on guided hunts, we have reliable information (S. Smith, pers comm.) that these jaguars had been translocated from what is now Belize and released on the Fort Apache Indian Reservation some time prior to being taken.

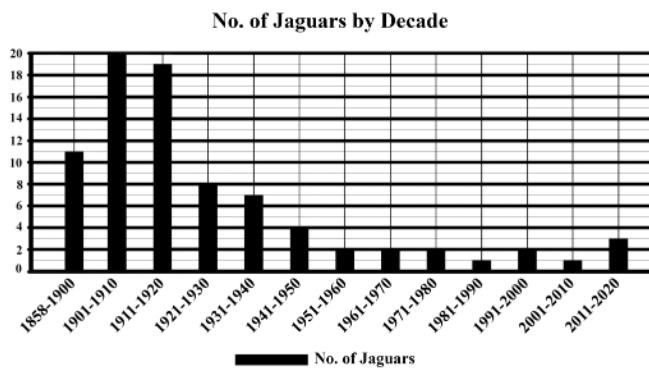
The earliest jaguar known to be killed in the state was in 1858 and the most recent was photographed in August 2021. When the sex was provided, 24 animals were reported as males and 7 as females, leaving the sex of the majority of records (n=>51) in question.



Map 1. Arizona jaguar records from 1858-2021 by location and date.



Map 2. Arizona jaguar records from 1858-2021 by location and date: Santa Cruz, Cochise and eastern Pima Counties.



Note: There were "several" jaguars reported killed between 1890-1902.  
We assigned this period two jaguars and plotted them in the 1858-1900 column.

Figure 5. Number of jaguars reported killed or photographed in Arizona by decade

The last female jaguar documented in Arizona was killed in 1949 (Appendix 2). Five subadults were reported, including a newspaper account of a female and two kittens, all prior to statehood in 1912.

If the Askins' 1890 report of a female jaguar accompanying the male he killed is credible (Anonymous 1890a, b, c, d), 14 jaguars were taken or reported as multiple animals with no sex given for two pairs (Appendix 2).

Six different jaguars were photographed between 1996 and 2016. Three of these were first seen by hunters pursuing mountain lions. Two of these, Macho B and El Jefe, were later documented for many years on trail cameras. Remote cameras first documented three other jaguars in Arizona between 2001 and 2016 (Appendix 2).

Undoubtedly additional reports remain to be discovered and many have been forever lost to us. Jaguars were reported during every month of the year and from every county save Apache, La Paz, Mohave, and Yuma. Most reports (>61%) involved localities within 130 km of the U.S.-Mexico border in Pima, Santa Cruz, and Cochise counties where

jaguars have occurred from our earliest to latest records (Appendix 2, Map 1, Map 2).

## DISCUSSION

Determining the actual number of historic Arizona jaguars is problematic due to vagaries in historic reporting, e.g., Herbert Brown's report (Shufeldt 1921) stating that he knew of additional jaguars killed in Arizona but omits mentioning them due to his inability to recall details. A similar report can be found in an article in the *Tucson Citizen* (Anonymous 1902d).

James Ohio Pattie's 1826 sighting of a "leopard" along the lower Colorado River (Davis 1982) may actually be the earliest Arizona jaguar record, but it is not recognized here as it likely occurred in the delta region of Sonora, Mexico and because the animal was not killed.

Arizona's diverse topography offers a variety of habitat options to wide ranging wildlife such as jaguars. Due to the general nature of most reports, assigning specific habitats to many jaguar records is of debatable value. Habitats encountered in a single mountain range may encompass everything from desertscrub or grasslands to mixed conifer forests (Brown 1994). Even when a canyon or portion of canyon is given as a local, multiple habitat options persist. Additionally, it cannot be known if any jaguar killed in a specific habitat was not merely in transit to another. Almost all the jaguars are found in mountainous terrain and woodlands, regardless of the habitat (Map 1, Map 2).

Proximity to water required by all large predators also likely plays an important role in jaguar occurrences (Harris et al. 2020). Historically, Arizona jaguars appeared to be habitat generalists and were encountered in habitats ranging from Sonoran desertscrub >1,000 m ASL to mixed conifer forest at ca. 2,134 m ASL (Brown 1994). Underscoring the plasticity of jaguars are two smuggled animals released by hunting guide Curtis Prock in the White Mountains, Apache County in June 1963 (S. Smith, pers. comm.). Both these cats appeared to be in good condition when killed several weeks after being released and were apparently faring well despite being captured in the tropics of Belize. The female killed 28 September 1963 (UAZ 28272; Anonymous 1963a, b; Associated Press 1963; Davis 2013c) contained scavenged elk remains in its stomach. The male trapped 16 January 1964 (Skull NMNH: USNM 289015; photograph UAZ 28262; USFWS Files; Anonymous 1964; Hoffmeister 1986) appears very robust as evidenced by photographs.

The most telling habitat data are those gleaned from photo-documented jaguars on or before 1996.

These animals were most consistently photographed within Madrean Evergreen Woodlands (Brown 1994), some over many years. These observations are further supported by historic and contemporary records in Santa Cruz, Cochise and southern Pima (Baboquivari, N. Santa Rita Mountains) Counties, which contain the majority of Arizona's Madrean Evergreen Woodlands. Madrean Evergreen Woodlands may figure in as much as ca. 41% of known jaguar occurrences in the state.

The relatively large number of records, their widespread nature, and frequency prior to 1920 suggests that historically Arizona may have supported a thinly and widely dispersed population of breeding jaguars (Map 1, Map 2). Interestingly, two of three females reported with kittens were from Coconino County in northern Arizona. In addition to the females reported with kittens, one male jaguar (Anonymous 1890a, b, c, d; Appendix 2) was reported to be accompanied by a female. Two other pairs had no sex reported. Since jaguars are solitary except at breeding time or when in a family group (a female with young), pairs may have been sexual mates, siblings, or a female with young and would likely increase the number of female jaguars reported for Arizona, though this cannot be known (Appendix 2). Nonetheless, reports of multiple jaguars ceased after February 1912 possibly indicating a reduction in breeding activity due to reduced numbers (Appendix 2). However, two small jaguars were taken after statehood, and could be construed as juvenile or more likely young adult animals dispersing northward from Mexico or the products of reproduction within the state. The first, taken in 1922 south of Tucson, measured 1.5 m in length and the second a male (UAZ 14141) that weighed 39.9 kg dressed was killed in 1965 (Appendix 2).

The revelation that the jaguar killed in 1963 was illegally smuggled into Arizona for guided hunts (S. Smith, pers. comm.) and therefore not a naturally occurring animal, suggests female jaguars may have disappeared from Arizona earlier than previously thought. The date for the last documented naturally occurring female jaguar in Arizona is 1949 (ca. 12 km north of the Mexican Border) with the penultimate female reported in 1932 from the Grand Canyon. This brings the total of known female jaguars for the state to seven.

Though a few areas have consistently produced records of jaguars over time, it should be noted that they were never taken with anywhere near the regularity as were other large predators such as mountain lions (*Puma concolor*), black bears (*Ursus americanus*), or Mexican gray wolves (*Canis lupus baileyi*). The three mountain ranges with the most jaguar occurrences (n = 8 ea.), Santa Rita (if El Jeffe

is included), Atascosa/Pajarito (if Macho B is included), and Chiricahua Mountains, only average a jaguar every 14.85 years if the first and last record for each range is used. The uncommon nature of jaguars in Arizona is underscored by them often being reported as the first of their kind or on numerous occasions being misattributed to escaped menagerie animals such as the 1898 jaguar from the Pinaleño Mts. and 1902 jaguar killed by Garcia from the Rincon Mts. (Anonymous 1893 a, b, c, d; Anonymous 1902a, b, c, d, e, f; Anonymous 1907; Anonymous 1922; Anonymous 1934a, b; Appendices 1 and 2).

Many of these cats, just as in recent times, likely represent vagrant or dispersing animals from Mexico rather than residents. The southeastern Arizona counties bordering Mexico: Cochise, Pima, and Santa Cruz, not only have some of the earliest records of jaguars in Arizona but also the most recent. Santa Cruz County has records dating from 1858 to 2017 and Pima County from ca. 1890-2011, while Cochise County's range from 1900-2021. These three counties account for over half, >60%, of the known jaguar records in Arizona.

Jaguar records are supported by specimens (n=11), photographs (n=20), newspaper articles (n=38), literature (n=52), personal communications to authors (n=7), or various combinations of the above (appendix 2). Thirty-four jaguar records are supported by two or more sources and 13 by three or more sources (Appendix 2).

Combining photographs and physical specimens there are 26 individual jaguars from Arizona represented in collections nationwide (Appendix 2). Six jaguars are represented by both photographs and physical remains. The remains of two jaguars are in the possession of the U.S. Fish and Wildlife Service and one is in private ownership.

Eliminating records from the map (Map 1, Map 2), starting with the earliest, at ca. 20-year intervals reveals a steady retreat from northern most to southernmost occurrences. With one exception, Blue House Mountain 1980, jaguars cease to be reported from north of the Gila River by 1957. However, this was for all practical purposes, the last record of a jaguar occurring outside Cochise and Santa Cruz Counties. It should be noted that Macho B (Map 1; Appendix 2) was first sighted in Pima County (Baboquivari Mtns) and later roamed into south-central portions of Pima County adjacent to Santa Cruz County. However it spent the majority of its time in the later where it died in 2007. Failure of jaguars to recolonize habitats north of the Gila River may be due to increased anthropogenic impacts prohibiting northward movement from the borderlands.

Occurrences indicate north by northwest movements in montane ranges from the prey rich Madrean-Petran Evergreen Woodlands (Brown 1994) of the borderland Atascosa, Patagonia, Santa Rita, and Chiricahua Mountains to the Grand Canyon with no evidence of use of major river valleys. It is no coincidence that Arizona's smallest county, Santa Cruz at ca. 1,990.6 km<sup>2</sup>, accounts for nearly 30% (21.9%, n=18) of the state's jaguar records. This county's topography is primarily comprised of a series of southeast to northwest trending contiguous highlands and mountain ranges extending northward from Sonora, Mexico into the United States. This corridor represents the most significant immigration pathway for jaguars in the western U.S.

When artificial political boundaries of counties are discarded and these south-central Arizona Madrean-Petran Highlands are considered a whole, this small area represents >30% (30.4%, n=25) of known jaguar occurrences for the state. Similarly, nine jaguars are documented from the Chiricahua Mountain Complex (Dos Cabezas, Chiricahua, Swisshehm, Pedregosa Mts) which shares a similar, though not as unbroken, transborder topography linking with the Sierra Madre Occidental to the south. Interestingly the Huachuca Mountains straddling the border of Santa Cruz and Cochise counties and representing the eastern edge of the south-central Arizona Madrean-Petran Highlands has only one known jaguar record despite being only ca. 22 km distant from the Patagonia Mountains which logs five jaguar records. The Huachuca Mountains are largely bordered by open grasslands to the south and southeast and desertscrub to the west. It connects with the Madrean-Petran Highlands via an arch of hilly terrain north of the San Rafael Valley. This lack of southern continuity with highland migration routes may account for the lack of records in what otherwise appears to be excellent habitat. While Pima County at ca. 14,786 km<sup>2</sup> tallies >21% (21.9%, n=18) of the recorded jaguars for the state most of these animals or at least their ancestors likely passed through Santa Cruz County at one time. Significantly, the Santa Rita Mountains which straddles both counties and represents the northern terminus of south-central Arizona Madrean-Petran Highlands are the locality for seven jaguars.

Under-represented mountains in addition to the Huachuca Mountains include the Peloncillo and Pinaleño Mountains with no jaguars being reported from the Galiuro or Pinal Mountains. Despite numerous records from some ranges, these cats were never common anywhere.

Jaguars are known for their broad diets (Brown and Lopez 2001). Prey items documented for

Arizona cats include frogs, deer, a black bear, livestock, burros, calves, and horses (Appendices 1 and 2; Brown and Lopez 2001). Several jaguars were reported as stock-killers or killed as stock killers (n=18. Appendix 2).

Cameras employed by hunters, law enforcement, and researchers have proved to be a useful tool in detecting and documenting secretive wildlife species such as jaguars. The seeming influx of jaguars into Arizona over the past 25 years is largely attributable to an increase in popularity of trail cameras. Trail cameras were the first to detect half of the six jaguars documented in Arizona during this period.

No decade has passed since 1858 without a jaguar being killed or photographed in Arizona (Fig. 5). The numbers of jaguars reported killed per decade peaked in 1901-1910 and 1911-1920 with 20 and 19 cats killed, respectively. The number of jaguars reported killed declined to <10 between 1921-1930, and <4 between 1941-1950 (Fig. 5).

When the low numbers of females and the absence of any female jaguars in Arizona for >70 years are considered, the possibility that Arizona will ever support a breeding population of jaguars without the introduction of females is highly unlikely. Especially so, given that releasing female jaguars into historic habitat is not recommended in the existing Jaguar Recovery Plan. This omission places the onus of the recovery of a breeding population of jaguars in the United States on Sonora, Mexico, where populations are currently declining (Brown 2018).

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Appendix 1. Historic and contemporary additions to existing records of Arizona jaguars.

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1. 17 April 1895 the hide of Jaguar killed by Pete F. White was raffled off at the Owl Saloon, Prescott, Yavapai County (Anonymous 1895, Anonymous 1927)

**"THE CITY AND COUNTY: NEWSY ITEMS FROM OUR TOWN AND SURROUNDING COUNTRY**

*The beautiful hide of the jaguar recently killed by P. F. White, will be disposed of to some one (sic) this evening at the Owl saloon. A bear skin will also be awarded to some one (sic) at the same place."*

*"Pete White killed a Mexican jaguar about 18 years ago in the same country and raffled his hide for \$150."*

There are few details given in the short 1895 article, however, the 1927 article adds a few more details of importance such as a general location (Camp Wood area) of the jaguar.

2. Jaguar taken by trapper during spring 1898 in Pinaleño (Graham) Mountains, Graham County. This jaguar was variously reported as a "Mexican jaguar" and "African leopard" the later supposedly the product a train wreck in Lordsburg, NM in which animals from a menagerie supposedly escaped. We were able to find a widely circulated report of a train derailment near Lordsburg five years earlier (Anonymous 1893) but there was no mention of escaped animals despite searches under several headings. (Anonymous 1898a, b, c).

**"A DAY IN FORT GRANT, GRAHAM COUNTY, NEAR WILLCOX**

*A trapper sold a skin supposed to be that of a South American Jaguar to a soldier for \$30 and is promised a like sum for a duplicate (there is supposed to be two of these wild animals in the Grahams) at any time. This beast has killed many ponies and cattle during the winter. The trapper got a bounty of \$30 for killing the jaguar, or \$60 gain, less the powder and time."*

**"LEOPARD KILLED- ESCAPED FROM A MENAGERIE AND GOT INTO A TRAP**

*The leopard was a magnificent specimen...The leopard was prowling around Taylor canyon (sic) when he unluckily got his foot fastened in a steel trap. ...On visiting his traps early one morning last winter he was very much surprised at seeing a large spotted animal making frantic struggles to get away...He was obliged to fire six shots before the struggles of the animal were brought to an end..."*

This is the first and only record of a jaguar from the Pinaleño Mountains.

3. Jaguar trapped in August 1901 by Manuel Guzman near Bloomerville (Reavis Ranch), Superstition Mountains, Maricopa County. This record is supported by a photograph (Fig. 1) taken in 1902 of Mr. Guzman and his jaguar pelt. This is the earliest known photograph of a jaguar taken in Arizona. Photograph UAZ 28256 ( Anonymous 1901a, b, c, d, e, f).

**"KILLED A JAGUAR**

*Manuel Guzman killed a jaguar in the Superstition Mountains near Bloomerville recently and brought the skin to town this week. The jaguar is a beautifully spotted black and yellow creature and is exceedingly rare in Arizona, though quite plentiful in some portions of Mexico. The supervisors paid Manuel a bounty of \$20."*

4. A public notice of payout of Pinal County funds of \$20.00 on 3 July 1901 to George Lobb for a jaguar scalp.(Anonymous 1901b).

**"BOARD OF SUPERVISORS**

*The following demands were allowed out of expense fund:*

*R. Mille, constable.....4.10*

*W.J. Marks, lion scalp.....20.00*

*August Kegal, J.P.....13.50*

*Geo. Lobb, jaguar scalp.....20.00*

*G.E. Angulo, interpreter.....2.00*

*T.H. Harris, blacksmith work....10.50*

*Maria Ramirez, indigent, allowed \$8 per month."*

5. Jaguar brought into Tucson in 1903 by Papago (Tohono O' odom) hunters and purchased by businessman/merchant Andre (Andres) Rebeil and displayed in his store (Anonymous 1903b).

*"About a month ago some Papago Indians shot a large leopard in the Baboquivari Mountains and brought it to Tucson and it was purchased by A. Rebeil who sent the hide to Los Angeles and had it dressed and made into a rug. It was returned to him this morning and is now on show in his store window. It is a beauty. The animal is reported to have killed a large number of young calves and colts."*

6. Jaguar killed by camp cook at "White Mine" near the mouth of Slim Jim Creek with the Hassayampa River, Yavapai County. The "White Mine" in the article appears to be the White Gold Mining Company located north of Wickenburg which closed in 1908 (Anonymous 1905).

*"L.L. White who is in the city from the white mine (sic) says that the camp cook a few days ago killed a leopard within a hundred yards of the camp house...White didn't have the skin with him to prove it but he said that the boys at camp have it and are curing it with the scalp and claws attached."*

7. Jaguar killed in 1907 by Joe Hobbs in the vicinity of Burro Creek, Yavapai County (Anonymous 1906a, b).

**"LIVELY CHASE AFTER A JAGUAR**

*...The hide of the ferocious animal is a particularly striking one, showing all the distinctively beautifully blended colors characteristic of this branch of the cat family. It is now in the possession of Mr. Hobbs, whose unerring aim brought sudden death to the destructive creature...With two dogs the following morning the scent was again found at daybreak. ...Over mountain and cliff, through dell and brake, the chase continued until four o'clock in the afternoon, when a dead burro was found, with a portion of the shoulder eaten by the jaguar, the animal not yet cold. ...The jaguar refused to be treed, in every case when tired seeking refuge on top of some rocky cliff... the entire afternoon was spent traveling at as rapid a rate as possible, until almost sundown, when the dogs chased the jaguar into...the place where Hobbs and Gesung were searching for the horses...Hobbs fired the fatal shot which brought it to earth..."*

8. Jaguar killed by Joe Cai in Temporal Canyon, Santa Rita Mountains, Santa Cruz County, autumn 1916. Photograph (Fig. 2) was brought into the Tucson Office of the Arizona Game and Fish Department without information other than what was written on the picture. Larry Langstaff directed us to a ranch owner who in turn referred us to Bob Gholson, a friend of Joe Cai who was familiar with the photo: Photograph UAZ 28265.

*"In 1916 Joe Cai and a friend were hunting deer in Temporal Canyon in the Santa Rita Mountains. Their dog had run ahead and eventually Joe heard the dog yelping and ran forward. He found the dog in the process of being mauled by a jaguar and shot it in the bung hole and killed it. The dog was badly injured and was put down."*

The hide of the jaguar was in the possession of Mr. Cai ca. 1960 after he had moved to California but was deteriorating. No sex was assigned to the cat. (pers. comm., Bob Gholson to RDB 2017).

9. Caught in 1917 with a leghold trap west of Cañada del Oro in the Catalina Mountains, Pima County. The greatly exaggerated length in the article is likely a transcription error based on the similarly sounding numbers of 7 and 11 (Anonymous 1917a).

**"7-FOOT JAGUAR CAUGHT IN TRAP; HEAD FOOT WIDE**

*A jaguar, measuring 11 feet long, with a head a foot across, was found dead in a bear trap west of Canada del Oro a few days ago, according to a report reaching the city today. The trap was baited by the Capelen boys. The animal was the third of the kind to be caught in the Catalinas within a year."*

10. Killed in 1919 in Santa Rita Mountains, Santa Cruz County, by State Trapper. A poor-quality photograph (Fig. 3) of the hide and possibly the skull is featured in a newspaper article on a state fur sale. This appears to be a different animal than the jaguar killed in the Santa Rita Mountains in April that same year by federal Predatory Animal and Rodent Control agent L. Parker (USNM 231961, Table 1) in that this cat was trapped ca. a month earlier by a state agent and the hide was sold at auction and not deposited in the National Museum. Photograph UAZ 28273 (Anonymous 1919).

**"\$1000 WORTH OF ANIMAL HIDES SOLD BY ARIZONA**

*Seven big lions, seven timber wolves, and one Mexican jaguar have been taken in the southern part of the state in the last 40 days"*

11. In 1922, A small jaguar measuring ca. 1.5 m in length is killed on 4 September by dove hunter John Johnson 24 km south of Tucson, Pima County. The jaguar is killed with a shotgun while it was in the act of depredating a calf. The small size of this jaguar suggest that it was possibly born in the state or perhaps was a dispersing juvenile/subadult from Mexico (Anonymous 1922b).

**"YOUNG LEOPARD IS KILLED 15 MILES SOUTH OF TUCSON**

*A half-grown leopard, the most voracious animal found in the Arizona mountains, and the most dreaded by stock growers, whose animals they kill in great numbers, was killed Monday afternoon near the Nogales road, within 15 miles of Tucson."*

12. Jaguar killed by rancher in the vicinity of Douglas, presumably in Cochise County, between 1945 and 1953 (Fig. 4). On 21 June 2014 Erika Bribiesca Brown sent the pelt of an adult jaguar, accompanied by a brief letter to the AZGFD who forwarded the hide and letter to the National Museum in Washington D. C. A portion of the letter that accompanied the pelt is copied below. USNM 603062 pelt; Photograph UAZ 28271.

*"Please accept this scientific donation to the Arizona Game and Fish Department of a jaguar pelt in honor of Evelin Clark Bribiesca and Sergio Bribiesca Elvira."*

The Bribiescas lived in and around Douglas, Arizona and Agua Prieta, Mexico from 1944 to the late 1970s. Dr. Bribiesca was a doctor and a rancher but not a hunter. A patient of his gave him the pelt from a jaguar shot on a ranch in the vicinity of Douglas sometime after he moved to the area in 1944. Their son, born in 1948, remembers lying on the pelt when he was young."

13. October 1980 large male jaguar trapped and killed by stockman on Blue House Mountain, White Mountain Apache Reservation, Apache County. The jaguar had killed a calf and the trap was set for what was thought to be a mountain lion. The kill was reported to bear hunting guide Steve Smith who was camped at Rotten Springs by White Mountain Wildlife Officer Tom Caddo. We have been unable to locate a photograph of this animal or find any additional information.

14. On 7 March 1996, Warner Glenn photographed a "bayed" male jaguar in the Peloncillo Mountains, Cochise County (Quimby 1997; Erickson 1997; Kreutz 1997; Bodfiled 1997; Madrid 1998; Carrell 2001; Tobin 2002; Blakeslee 2006a, b; Nolan 2007; Photograph UAZ 28267; Glenn 1996; Brown and Lopez 2000).

15. On 31 August 1996, Jack Childs and Matt Colvin treed and photographed a male jaguar in the Baboquivari Mountains, Pima County. Childs later documented the jaguar in the Pajarito/Atascosa Mountains, Santa Cruz County and in the Coyote Mountains, Pima County. Later known as "Macho B," this cat was seen and photographed several times over 12.5 years before being euthanized due to kidney failure after being collared by the AZGFD on 3 March 2009 (Kreutz 1997; Erickson 1997; Madrid 1998; Tobin 2002b, 2004; Blakeslee 2006a, b; Nolan 2007; Anonymous 2007; Hanson et al. 2009; Steller 2009a, b; Davis and Steller 2009a, b, c; Wagner 2012c, Photograph UAZ 28268A, UAZ 28268B, Childs and Childs 2008).

16. 9 December 2001, male jaguar known as "Macho A" first photographed by Jack Childs in the Pajarito Mountains, Santa Cruz County. This jaguar has not been photographed since 2004 (Tobin 2002a, b; Petruska 2002, Blakeslee 2006a, b; Anonymous 2007; Photograph UAZ 28270; Childs and Childs 2008).

17. First photographed on 29 November 2011 in the Whetstone Mountains, Cochise County, by houndsman Donnie Fenn, a male jaguar ("El Jefe") was monitored for three years and 10 months in two southern Arizona mountain ranges. This cat moved into the Santa Rita Mountains, Santa Cruz County, where it was photographed numerous times (Loomis 2016). Observed by Border Patrol helicopter pilot on 2 June 2012 south of Mansfield Canyon in the Santa Rita Mountains, Santa Cruz County. Border Patrol Agent Lance Lather later captured three trail camera photographs of the same animal on 1 and 3 September 2011. On 23 September 2012 this cat was photographed by an AZGFD trail camera north of Box Canyon, Santa Rita Mountains, Pima County. The University of Arizona Jaguar Monitoring Project, funded through a USFWS grant, documented this jaguar from 25 October 2012 to 26 June 2015. The last photograph was 26 September 2015, in the Santa Rita Mountains by UAZ Citizen Science Program (Davis and Steller 2011; Lacey 2011; Davis 2012a, b, 2011a, 2014c, 2016a, b, 2017c; Culver 2016, Grant 2016; Photograph UAZ 28277a, UAZ28277b).

18. A male jaguar was photographed on 16 November 2016 in the Chiricahua Mountains complex in Cochise County by M. McCabe for the BLM/University of Arizona Citizen Science Project. Monitored by the University of Arizona Citizen Science Project as of 16 November 2016, this is the only jaguar currently known to exist in Arizona. Most recent detection as of time of submission of this paper was 20 August 2021. (Associated Press 2017a; Davis 2017a, b, c; Hunt 2017; Photograph UAZ 28275a, UAZ 28275a).

19. On 29 November 2016 a male jaguar known as "El Gordo" and "Yo'oko" was photographed by a U.S. Border Patrol in the Huachuca Mountains, Santa Cruz County. This was the first jaguar reported from this mountain range. It was documented by University of Arizona Citizen Science Project from 1 Dec 2016- 26 March 2017. Last seen on 6 June 2017 on Border Patrol camera. Reported killed on an unknown ranch in Sonora, Mexico on 22 June 2016; Davis 2016; Hernandez 2016; Bryan 2016; Associated Press 2017B; Davis 2018a, b; Serraaglio et al. 2018; Photograph UAZ 28276).

## Appendix 2. Jaguars reported killed or photographed in Arizona 1858-2020. \*Interviewed by David E. Brown.

| Date                | No. | Sex | No. of Juveniles | Persons involved                                | Location  | Documentation   | Notes  |
|---------------------|-----|-----|------------------|---|---|---|--|
| 25 June 1858        | 1   | ?   | 0                | Fuller,<br>Grosvenor,<br>P. R. Way              | South end of<br>Santa Rita<br>Mts, Santa<br>Cruz Co.                            | W. A. Duffin<br>1960, Davis 1982  | Jaguar killed while<br>camped in Santa<br>Rita Mts with min-<br>ing partners Gros-<br>venor and Fuller.<br>On Way's return<br>trip to Tucson to buy<br>supplies, he was<br>informed that "Mr.<br>Fuller had killed a<br>tiger in my<br>absence."                                 |
| 1880-1885           | 3   | F   | 2                | Unknown   | Grand<br>Canyon<br>Village,<br>Coconino Co.                                     | Memorandum of<br>H. C. Lockette in<br>letter by L. L.<br>Hardgrave to E.<br>A. Goldman 14<br>Jul 1943 in<br>Lange 1960;<br>Hoffmeister 1986 | Female with two<br>young.  |
| Ca. 13 July<br>1890 | 1   | M   | 0                | P. Askins, C.<br>Bouquot;<br>bounty<br>trappers | Green Back<br>Valley, Gila<br>Co.   | Anonymous<br>1890a, b, c, d   | Jaguar measured<br>2.4 m total length.<br>Two cats were<br>reported treed, a<br>male was killed<br>but the other cat,<br>reported to be<br>female, escaped.<br>Dead cat placed<br>on display in<br>Globe post office.<br>The other jaguar<br>killed one dog,<br>wounded another. |
| 1895                | 1   | ?   | 0                | P. F. White                                     | Santa Maria<br>Mts, near<br>Camp Wood,<br>Yavapai Co.                           | Anonymous<br>1895, 1927   | Hide raffled off for<br>\$150 at Owl<br>Saloon in Prescott<br>on evening of 17<br>April 1895.  |
| Spring 1898         | 1   | ?   | 0                | Trapper   | Pinaleño Mts,<br><40 km from<br>Ft. Grant,<br>"Taylor<br>Canyon",<br>Graham Co. | Anonymous<br>1898a, b, c  | Bounty of \$30.00<br>paid. Said to have<br>killed livestock<br>over the winter.<br>Hide bought by<br>soldier at Ft.<br>Grant. Another<br>account claims it<br>is an escaped<br>African leopard.<br>Hide taken to Ft.<br>Sill.  |

| Date        | No. | Sex | No. of Juveniles | Persons involved                 | Location  | Documentation   | Notes  |
|-------------|-----|-----|------------------|----------------------------------|---|---|--|
| 1900        | 1   | ?   | 0                | Unknown                          | Chiricahua Mts, Cochise Co.                           | Schufeldt 1921; 1902 letter from H. Brown in Lange 1960; Brown and Lopez 2000 | No details   |
| August 1900 | 1   | ?   | 0                | H. Allen, E. Laughery; houndsmen | Top of the World, Gila Co.                            | Anonymous 1900a, b; Hoffmeister 1986; Brown and Lopez 2000                    | Jaguar reported to be a "large cat" taken with dogs. Hoffmeister gives locality as "near Globe".   |
| 1890-1902   | >2  | ?   | 0                | Native American hunters          | Tohono O'odham Reservation, Baboquivari Mts, Pima Co. | 1902 letter from H. Brown in Schufeldt 1921; Anonymous 1902d, f, 1903b, 1918  | "I have seen several hides brought in by Papago Indians of animals killed in the mountains southwest of Tucson." H. Brown 1902. "Judge Meyer, who has been in this country for almost forty years says, he once saw two leopards similar to this one, that were killed in the Baboquivari Mountains southwest of Tucson." The jaguar pelt pictured hanging from the mirror over the bar in 1901 photo of Tucson's Cactus Saloon (AHS 19020) may represent one of these cats. |
| June 1901   | 1   | ?   | 0                | J. C. Riggs, ? Ross; houndsmen   | Dos Cabezas Mts, Cochise Co.                          | 1912 letter from E. J. Hands in Lange 1960; Brown and Lopez 2000              | Taken with dogs.   |
| 3 July 1901 | 1   | ?   | 0                | G. Lobb                          | Pinal Co.   | Anonymous 1901b   | Listed in public notice of Pinal Co. payouts, \$20.00 bounty paid for the "jaguar scalp".  |

| Date          | No. | Sex | No. of Juveniles | Persons involved                                | Location  | Documentation  | Notes  |
|---------------|-----|-----|------------------|---|---|--|--|
| 13 July 1901  | 1   | ?   | 0                | M. Guzman;<br>U.S. Geological Survey<br>hunter  | Bloomerville<br>area,<br>Superstition<br>Mts, Pinal Co.               | Photograph UAZ<br>28256; Anonymous<br>1901a, c,<br>d, e, f   | Killed near Bloomerville (Reavis Ranch), \$20.00 bounty paid.<br>Earliest known photograph of an Arizona jaguar.<br>Relatives of Mr. Guzman claim he killed another jaguar in the Santa Catalina Mts, Pima Co. We could find no record of this.  |
| 1902          | 1   | ?   | 0                | M. Copland                                      | Cañada del<br>Oro Canyon,<br>Catalina Mts,<br>Pima Co.                | US Forest Service files, Coronado NF Tucson;<br>Brown and Lopez 2000   | No particulars.  |
| 18 March 1902 | 1   | M   | 0                | T. Garcia,<br>grandfather;<br>houndsmen         | Rincon Mts,<br>above<br>Cebadilla,<br>Zack Vail<br>Ranch, Pima<br>Co. | Photograph AHS<br>51506; UAZ<br>28253; Anonymous<br>1902a, b,<br>c, d, e, f, 1907,<br>1922a, 1934a, b;<br>Schufeldt 1921;<br>Brown and Lopez<br>2000 | Tracked with dogs and killed in a cave. Bought by W. C. Brown and photographed with daughter Carrie Brown sitting on the jaguar on porch of Brown's saloon in Tucson. Brown was in possession of the hide and skull but their whereabouts are unknown. Bounty paid. It was speculated that this cat escaped from a menagerie during a train wreck in NM. |
| March 1903    | 1   | ?   | 0                | Native<br>American<br>hunters                   | Baboquivari<br>Mts, Pima<br>Co.                                       | Anonymous<br>1903b   | Purchased and displayed in store window by A. Rebeil. Said to have been a stock killer.  |
| 8 August 1903 | 1   | M   | 0                | P. Yborra or<br>Ybarra,<br>Professor R.<br>Lusk | Atascosa<br>Mts, Santa<br>Cruz Co.                                    | Anonymous<br>1903a, c, d, e, f;<br>Lange 1960;<br>Brown and Lopez<br>2000  | 9.6 km east of Oro Blanco. Killed in cave, "6 <sup>th</sup> known in last 20 years."   |

| Date                  | No. | Sex | No. of Juveniles | Persons involved                               | Location   | Documentation   | Notes  |
|-----------------------|-----|-----|------------------|--|--|---|--|
| ca. 1904              | 1   | ?   | 0                | Mr. West                                       | Near Camp Verde, Yavapai Co.   | B. Housholder pers comm. 1977 to D. E. Brown; Brown and Lopez 2000  | Verde River near Camp Verde  |
| April 1905            | 1   | ?   | 0                | L. L. White, camp cook                         | Mouth of Slim Jim Creek on Hassayampa River, Weaver Mts, Yavapai Co. | Anonymous 1905  | Killed by camp cook ca. 100 m from camp house. More specifically this jaguar was reported taken off the east edge of Wild Horse Mesa at the southeast end of the Weaver Mts. The skin was being cured with "scalp and claws attached". |
| 10 May 1906           | 1   | ?   | 0                | J. Hobbs, J. Archambeau                        | Boulder Creek/Burro Creek, Yavapai Co.                               | Anonymous 1906a, b  | Killed a burro and taken with dogs.  |
| 31 May 1906           | 3   | F   | 2                | J. Martinez and friend; bounty hunters         | Chiricahua Mts, Cochise Co.  | Anonymous 1906c, d; Knipe Coll. AHS, Tucson; Brown and Lopez 2000   | Female killed at den and two kittens captured. Kittens offered for sale in Bisbee for \$150 for pair or \$80 each.   |
| 1904-1907             | 2   | ?   |                  | Bounty hunters                                 | Patagonia Mts, Santa Cruz Co.  | 20 January 1921 memorandum of V. Bailey quoting R. L. Parker in Lange 1960, Brown and Lopez 2000  | Unclear if these cats were together.   |
| ca. 1907              | 1   | ?   | 0                | Unknown  | Near Fort Apache, Navajo Co.   | H. Garcelon in Seton 1929; Lange 1960; Brown and Lopez 2000   | "Mogollon Mountains" Fort Apache Indian Reservation  |
| January/February 1908 | 1   | M   | 0                | J. Chinchappa and tribal members, Supi Indians | Mouth of Coconino Wash, 6.4 km south of Grand Canyon, Coconino Co.   | Photograph AHS Spec. Coll.; Anonymous 1908a, b, c; L. Parker to V. Bailey in Lange 1960; Kolb brothers to E. A. Goldman in Hoffmeister 1986; photo of hide in | Tracked through snow and killed. Jaguar killed a calf or colt. Two horses were killed during the hunt. "Old animal with much worn teeth". Hide bought for \$25 by L. Shaffer at Grand Canyon   |

| Date            | No. | Sex | No. of Juveniles | Persons involved            | Location  | Documentation  | Notes   |
|-----------------|-----|-----|------------------|-----------------------------|---|--|---|
|                 |     |     |                  |                             |   | Billingsley 1971; Brown and Lopez 2000   | who sent it to Frank Boyer.   |
| October 1910    | 2   | F   | 1                | G. Winslow; predator hunter | Head of Chevelon Canyon, Coconino Co.               | E. W. Nelson <i>in</i> Lange 1960; Hoffmeister 1986; Brown and Lopez 2000  | Female with young   |
| 1910            | 1   | F   | 0                | "Cowboy"                    | Fly's Peak, Chiricahua Mts, Cochise Co.             | Housholder 1958; Lange 1960; <i>fide</i> AZGFD Ranger R. Morrow; Brown and Lopez 2000  | No details (this may be the Riggs jaguar photographed by the Riggs family 1912).                                |
| 1900-1912       | 1   | ?   | 0                | Unknown                     | Baboquivari Mts, Pima Co.                           | C. T. Vorhies <i>in</i> Seton 1929   | No details: may be one of the animals reported by Schufeldt 1921.   |
| 12 January 1912 | 1   | ?   | 0                | J. Hands                    | Bonita Canyon, Chiricahua Mts, Cochise Co.          | UAZ 28257; Skin rug with skull embedded and photograph of rug; Seton 1929; Anonymous 1932; Hock 1955; Lange 1960; Hoffmeister 1986; Brown and Lopez 2000 | Pelt at UAZ Museum. Reported to be 2.4 m long (Hock 1955). DNA examined by M. Culver Lab, University of Arizona |
| February 1912   | 2   | ?   | 0                | L. King                     | W. of Sunset Pass, SW of Winslow, Coconino Co.      | E. W. Nelson <i>in</i> Lange 1960; Hoffmeister 1986; Brown and Lopez 2000  | Two jaguars poisoned, presumably together. Likely sexual pair or female with juvenile or siblings?              |
| 1912            | 1   | ?   | 0                | O. Bozarth, E. Contreras    | Bozarth Mesa, ca. 100 km W of Prescott, Yavapai Co. | Housholder 1958; E. W. Nelson <i>in</i> Lange 1960; Brown and Lopez 2000   | Adult roped and killed with rocks. Jaguar killed a colt.  |
| 1912            | 1   | ?   | 0                | Unknown                     | Rincon Mts, Pima Co.                                | C. T. Vorhies <i>in</i> Lange 1960   | No details  |
| ca. 1912        | 1   | ?   | 0                | Unknown                     | Catalina Mts, Pima Co.                              | C. T. Vorhies <i>in</i> Seton 1929; Lange 1960; Brown and Lopez 2000   | Adult, shot while feeding on burro.   |

| Date             | No. | Sex | No. of Juveniles | Persons involved            | Location   | Documentation   | Notes  |
|------------------|-----|-----|------------------|-----------------------------|--|---|--|
| 1913             | 1   | ?   | 0                | J. H. Durham; rancher       | N. Tortolita Mts, Durham Hills, Pinal Co.  | E. A. Goldman saw pelt <i>in</i> Seton 1929; Lange 1960; Hoffmeister 1986; Brown and Lopez 2000   | No details   |
| 1913             | 1   | ?   | 0                | Killed by deer hunter       | Red Mt, north of Clifton, Greenlee Co.   | B. V. Lily cited <i>in</i> Carmony 1998; Brown and Lopez 2000   | No details   |
| ca. 1914-1916    | 1   | M   | 0                | E. K Nagge and party        | Upper Cañada del Oro, Catalina Mts, Pima Co.   | Pelt obtained by Wm. F. Cody, Coronado National Forest files; Cowgill 1970; Brown and Lopez 2000  | Adult, trapped. Jaguar killed a burro belonging to a miner. National Forest files give the data as "around 1916" but the touring schedule of W. F. Cody does not have him in Tucson area at this time. Hide does not appear to be in either of the W. F. Cody museums. |
| 1916             | 1   | ?   | 0                | Joe Cai and friend; hunters | Temporal Canyon, Santa Rita Mts, Santa Cruz Co.  | Photograph UAZ 28265; <i>fide</i> R. Gholson to R. D. Babb  | Adult attacked dog of deer hunters. Hide was in possession of Mr. Cai in 1970's but was in poor condition. Current disposition of hide unknown.  |
| 11 May 1917      | 1   | M   | 0                | E. J. Dougherty' PARC Agent | 16 km south of Helvetia, 4.8 km west of Greatererville post office, Santa Rita Mts, Pima Co. | Skull and skin NMNH: USMN 225613; Anon- ymous 1917b, c, d, e; Seton 1929; Nelson and Goldman 1933; USFS files; Hoff- meister 1986; Brown and Lopez 2000 | Trapped. Reported as 2.1 m long and weighing 68 kg.  |
| ca. 19 June 1917 | 1   | ?   | 0                | Capelen boys                | West of Cañada del Oro, Santa Catalina Mts, Pima Co.   | Anonymous 1917a   | Found dead in baited leghold trap. Reported to have died of star- vation. 2.1 m long. Said to be the third jaguar caught in the Santa Cata- linas that year.   |

| Date                | No. | Sex | No. of Juveniles | Persons involved                          | Location   | Documentation   | Notes   |
|---------------------|-----|-----|------------------|---|--|---|---|
| 1909-1918           | 1   | ?   | 0                | Unknown                                   | Grand Canyon, Coconino Co.                               | E. W. Nelson <i>in</i> Lange 1960; Brown and Lopez 2000   | No details  |
| Winter 1917-1918    | 1   | ?   | 0                | Federal PARC trapper                      | Old Baldy (Mt Wrightson), Santa Rita Mts, Pima Co.       | S. P. Young <i>in</i> Seton 1929; USFS files, Tucson; Brown and Lopez 2000  | Trapped at 2,134 m elevation.   |
| February/March 1919 | 1   | ?   | 0                | State trapper                             | Santa Rita Mts, Santa Cruz Co.                           | Photograph UAZ 28273; Photo of hide in Anonymous 1919   | Appears to be different jaguar than the following for these reasons: hide was sold at auction and not given to NMNH and listed as killed by State Hunter not Federal Hunter |
| 19 April 1919       | 1   | F   | 0                | L. Parker; PARC agent                     | 8 km northwest of Greaterville, Santa Rita Mts, Pima Co. | Skull and skin NMNH: USNM 231961; USBS files; Seton 1929; Hoffmeister 1986; Brown and Lopez 2000                              | Adult "old but not very large". Locality given as "Ridge east of Parker Ranch, north end of Santa Rita Mts, near Castle Dome".  |
| 9 January 1920      | 1   | ?   | 0                | S. R. Graham and party; Houndsmen/hunters | Rincon Mts, Pima Co.                                     | Coronado NF files, Tucson; Anonymous 1920a, b, c, d; Seton 1929; Brown and Lopez 2000   | Adult, taken with hounds. Hide was taken by Graham as trophy.   |
| Winter 1919-1920    | 1   | ?   | 0                | Unknown (B. Chester? Hunter)              | West Santa Rita Mts, Pima Co.                            | Anonymous 2920e; C. T. Vorhies <i>in</i> Seton 1929; V. Bailey <i>in</i> Lange 1960; USFS files, Tucson; Brown and Lopez 2000 | Presumably this is the same jaguar as mentioned in the news article cited. Ran with hounds into mine shaft, shot in head with .45.  |
| 1922                | 1   | ?   | 0                | F. O. Knipe                               | Rincon Valley, Pima Co.                                  | Photo UAZ 28258; <i>fide</i> H. Barassi, R. M. Pinto, and R. M. Turner to D. E. Brown; Brown and Lopez 2000                   | Killed by ranchers on FK Ranch, appears to be subadult.   |

| Date             | No. | Sex | No. of Juveniles | Persons involved         | Location  | Documentation  | Notes  |
|------------------|-----|-----|------------------|--------------------------|---|--|--|
| 4 September 1922 | 1   | M   | 0                | J. Johnson; hunter       | 24 km south of Tucson, Pima Co.   | Anonymous 1922b  | Young jaguar measured 1.5 m. Subadult? Killed by dove hunter with shotgun while jaguar attacked calf.  |
| 12 April 1924    | 1   | M   | 0                | J. Funk; PARC houndsman  | Head of Canyon Creek, Gila Co.  | Skull and skin NMNH: USNM 244507; Anonymous 1924; Nelson and Goldman 1933; Brown and Lopez 2000  | Type specimen for <i>Panthera onca arizonensis</i> . Reported as taken near Cibecue on S.C.A.I.R.  |
| 1926             | 1   | ?   | 0                | F. Ott; PARC agent       | 28.9 km south of Cerro Colorado Mts. Santa Cruz Co.                                     | Housholder 1958; Lange 1960; Brown and Lopez 2000  | Poisoned as stock killer, evidence of only one jaguar taken by Ott in 1926 was found in newspaper (USNM 247337). See 30 November record for discussion.  |
| 30 November 1926 | 1   | M   | 0                | F. Ott; PARC agent       | 32 km west of Nogales near Arivaca, Santa Cruz Co.                                      | Skull NMNH: USNM 247337; Anonymous 1926a, b, c, d, e; Nelson and Goldman 1933; Housholder 1958; Lange 1960; USBS files; Hoffmeister 1986; Brown and Lopez 2000 | Adult poisoned as stock killer. The USNM tag gives 32 km. W. Of Nogales as locality. Newspaper articles state "near Arivaca" as the location. Lange (1960) gives "18 mi (28.9 km) S. Of Cerro Colorado Mts." as the location where both Ott jaguars were killed. This later location places the cats. ca. 1.9 km west of Ruby. |
| 28 December 1927 | 1   | M   | 0                | C. Miller; ranch foreman | Cypress Mt; 14.4 km south of Camp Wood. Santa Maria Mts, north of Prescott, Yavapai Co. | Photo of UAZ 28254; Anonymous 1927; M. D. Musgrave in Lange 1960; Hoffmeister 1986; Brown and Lopez 2000   | Photo of two men carrying jaguar in snow, said to be a stock killer.   |
| 1926-1930        | 1   | ?   | 0                | Unknown                  | Chiricahua Mts, Cochise   | H. C. Lockett in Lange 1960  | No details   |

| Date       | No. | Sex | No. of Juveniles | Persons involved                | Location                                | Documentation   | Notes   |
|------------|-----|-----|------------------|---------------------------------|---|---|---|
| Co.        |     |     |                  |                                 |   |   |   |
| 1930       | 1   | ?   | 0                | H. S. Miller; hunter            | Sand Tank Mts, Maricopa Co.             | Anonymous 1930; fresh pelt seen by H. C. Lockett <i>in Lange</i> 1960; Brown and Lopez 2000                                   | "The beast measured eight feet (2.4 m) in length and nearly three feet (0.9 m) in height at the shoulder. It was an exceptionally large and beautiful specimen".  |
| 1932       | 1   | F   | 0                | Taken by predator control agent | Grand Canyon Village, Coconino Co.      | H. C. Lockett <i>in Lange</i> 1960; Hoffmeister 1986; Brown and Lopez 2000  | Taken in pine forest possibly by state predator control agent.  |
| March 1933 | 1   | ?   | 0                | Frank Colcord; PARC houndsman   | Patagonia Mts, Santa Cruz Co.           | Photograph UAZ 28259; Anonymous 1933; Housholder 1958; USBS files; <i>fide</i> J. Windes to D. E. Brown; Brown and Lopez 2000 | Said to be a stock killer   |
| 1933       | 1   | ?   | 0                | Killed by rancher               | Foothills of Estrella Mts, Maricopa Co. | Housholder 1958; <i>Arizona Republic</i> (?); Hoffmeister 1986; Brown and Lopez 2000  | Not confirmed: despite extensive searches in several Arizona and national newspapers including the <i>Arizona Republic</i> between 1920-1940 under jaguar, leopard, tiger, tigre, Mexican leopard, Mexican tiger, Buckeye and Sierra Estrella. Hoffmeister gives 1928-1929 as the date. |
| 1934       | 1   | ?   | 0                | Unknown                         | Atascosa Mts, Santa Cruz Co.            | Hibben <i>in Lange</i> 1960; Brown and Lopez 2000   | No details  |
| 1939       | 1   | ?   | 0                | Trapped by unknown individual   | Bloody Basin, Yavapai Co..              | H. C. Lockett <i>in Lange</i> 1960; Hoffmeister 1986; Brown and Lopez 2000  | No details  |

| Date                  | No. | Sex | No. of Juveniles | Persons involved                             | Location  | Documentation  | Notes   |
|-----------------------|-----|-----|------------------|--|---|--|---|
| 23 November 1939-1940 | 1   | M   | 0                | *L. (Red) Harris; houndsman                  | Turkey Track Ranch, Ramanote Canyon, Atascosa Mts, Santa Cruz Co. | Photograph UAZ 28260; Anonymous 1940; Wildlife Society 1974; Brown and Lopez 2000                                | Killed livestock, chased with hounds and treed. Said to have weighed 36.5 kg. Horse meat was reported found in the jaguar's stomach.  |
| 1940                  | 1   | M   | 0                | Lavern West; predator control agent WMAN     | Trout Creek, WMAN, Apache Co.                                     | fide L. West to S. Smith; Brown and Lopez 2000   | Subalpine forest, taken as a stock killer. Taken with hounds.   |
| 1945-1953             | 1   | ?   | 0                | Killed by rancher                            | Killed on a ranch in the vicinity of Douglas, Cochise Co.         | Pelt NMNH: USNM 603062; photo of pelt UAZ 28271; pelt and letter from E. B. Brown, Dr. Bribiesca's granddaughter | Pelt given to Dr. Bribiesca by a patient. Granddaughter donated pelt to AZGFD who sent it to the NMNH.  |
| 1947                  | 1   | ?   | 0                | J. Converse                                  | Atascosa Mts, Santa Cruz Co.                                      | AZGFD Ranger G. Peterson in Housholder 1958; Brown and Lopez   | Adult. Jaguar reported to have killed a heifer.   |
| Spring 1948           | 1   | M   | 0                | R. Harshman; houndsman.                      | South of Patagonia, Patagonia Mts, Santa Cruz Co.                 | Housholder 1958; Brown and Lopez 2000  | R. Harshman is said to have been a predator control agent.  |
| 13 November 1949      | 1   | F   | 0                | W. Noon Sr., W. Noon Jr., *D. Karam; hunters | Cerro Colorado Mts. Arivaca area, Santa Cruz Co.                  | UAZ 26266 photo; Anonymous 1949a, b, c, d, e; Thompson 1953; Hock 1955; Hoffmeister 1986; Brown and Lopez 2000   | Reported to weigh 49.8 kg and measure 1.9 m length. Killed by W. Noon who was dressing a deer with this son when he saw the cat crouched 6 m away. Skull was damaged and discarded and hide kept by Mr. Noon. |
| Winter 1956-1957      | 1   | M   | 0                | J. Gilbert                                   | WMAN, Apache Co.  | Skull UAZ 06408; Brown and Lopez 2000  | Skull found.  |
| October-November 1957 | 1   | ?   | 0                | Mr. Ferguson                                 | Red Mountain, north of Clifton, Greenlee Co.                      | fide Sewell Goodwin to D. E. Brown; Brown and Lopez 2000   | Killed while deer hunting   |

| Date             | No. | Sex | No. of Juveniles | Persons involved   | Location                                      | Documentation  | Notes  |
|------------------|-----|-----|------------------|--|---|--|--|
| 26 July 1961     | 1   | M   | 0                | *S. Goodwin, E. Hilton, H. Barnett, T. Ferguson; houndsmen/hunters | Empire Mts, Cochise Co.                       | Photograph UAZ 28261; Barnett 1961; Anonymous 1961; Davidson 1962; Brown and Lopez 2000  | Chased into the Total Wreck Mine and killed. Reported to have killed several calves.   |
| 14 November 1965 | 1   | M   | 0                | *L. McGee; hunter  | Patagonia Mts, Santa Cruz Co.                 | UAZ 14141 skull; Photograph UAZ 14141; Anonymous 1965; Associated Press 1965; Foust 1965; Palmer 1965; Brown and Lopez 2000  | Young male, field dressed weight 39.9 kg. Killed by deer hunter. Last jaguar killed before jaguars were given state protection in 1968. Freshly killed cat examined by D. E. B. while working for AZGFD.   |
| 16 October 1971  | 1   | M   | 0                | *R. Farley, T. Cartier; hunters                                    | ca. 8 km east of Nogales, Santa Cruz Co.      | Skull UAZ 22869 (went missing from collection Jun 2009); Photograph UAZ 28278; Santa Cruz Co. Court records; Ready 1971; Farley 1971; Avery 1971; Anonymous 1971a, b; Fieberg 1971; Brown and Lopez 2000 | Weighed 58.9 kg. Killed by duck hunters at Brickwood Pond Santa Cruz River, off Highway 82 ca. 6.4 km east of Nogales. Stomach full of frogs. Head and hide in possession of R. Farley. Boys charged with illegally killing a jaguar and later cleared of charges. |
| October 1980     | 1   | M   | 0                | Tribal stockman  | WMAN, east side of Blue House Mtn, Apache Co. | Pers. comm. Tom Caddo to S. Smith  | Trapped and killed by rancher. Reported to have killed a calf. Said to be large male.  |
| 14 December 1986 | 1   | M   | 0                | J. Klump; houndsman/rancher/hunter                                 | Dos Cabezas Mts, Cochise Co.                  | Photograph UAZ 28255; AZGFD records; Anonymous 1987; Kreutz 1987; Quimby 1988, 1993, 1997; Yozwiak 1993; Newman 1993; Sandlin 1995; Associated Press 1995, 1998; Brown and Lopez 2000                    | Mounted specimen in possession of USFWS, killed as stock killer.   |

| Date             | No. | Sex | No. of Juveniles | Persons involved                         | Location   | Documentation   | Notes  |
|------------------|-----|-----|------------------|--|--|---|--|
| 7 March 1996     | 1   | M   | 0                | W. Glenn; houndsmen/ rancher/ hunter     | Peloncillo Mts, Cochise Co.                          | Photograph UAZ 28267; Glenn 1996; Quimby 1997; Erickson 1997; Kreutz 1997; Bodfield 1997; Madrid 1998; Carrell 2001; Tobin 2002b; Blakeslee 2006a, b; Nolan 2007; Brown and Lopez 2000.   | Adult/treed while hunting lions. First AZ jaguar known to be released alive.   |
| 31 August 1996   | 1   | M   | 0                | J. Childs, M. Colvin; houndsmen/ hunters | Baboquivari Mts, Pima Co.                            | Photograph UAZ 28268A; UAZ 28268B; Kreutz 1997; Erickson 1997; Madrid 1998; Brown and Lopez 2000; Tobin 2002b, 2004; Blakeslee 2006a, b; Nolan 2007; Anonymous 2007; Davis 2009a, b, c; Steller 2009a, b; Davis and Steller 2009a, b, c; Dougherty 2009; Kaufman 2010; Rabinowitz 2010; Wagner 2012a, b, c. | Young adult/treed and released alive. First sighting of the jaguar known as Macho B. Later photographed by BJBp from 2004-2009 in the Coyote, Pajarito/ Atacosa Mts. Believed to be ca. 16 years old at death. Remains were given to SDNHM (SD24467) but later seized by USFWS who are currently in possession of the skeleton and hide. |
| 9 December 2001  | 1   | M   | 0                | J. Childs et al.                         | Pajarito/ Atascosa Mts, Santa Cruz Co.               | Photograph UAZ 28270; BJDP; AZ/NM Jaguar Conservation Team; Tobin 2002a, b; Petruska 2002; Blakeslee 2006a, b; Anonymous 2007; Childs and Childs 2008.  | Macho A, adult. Photographed on trail cameras. Last seen on trail camera heading south towards Mexico followed closely by Macho B in 2004.   |
| 29 November 2011 | 1   | M   | 0                | D. Fenn; houndsman/ hunter               | Whetstone Mts, Cochise Co.; Santa Rita Mts, Pima Co. | Photograph UAZ 28277a, UAZ 28277b; Davis and Steller 2011; Lacey 2011; Davis 2012a, b; 2013a, b; 2014c; 2016a, b; 2017c; Loomis 2016; Wilderman 2016; Culver 2016;  | Adult. Treed and photographed by houndsman D. Fenn in Whetstone Mts Nov 2011. Later known as El Jefe, documented on trail cameras, by scat, and tracks by UAZ Jaguar   |

| Date             | No. | Sex | No. of Juveniles | Persons involved                            | Location                                 | Documentation  | Notes   |
|------------------|-----|-----|------------------|---|--|--|---|
|                  |     |     |                  |   |  | Grant 2016.  | Monitoring Project (USFWS grant) 25 Oct 2012-26 Jun 2015. A team of professional biologists monitored the jaguar from Oct 2012-Jun 2015. Monitored by UAZ Citizen Science Program 8 Jul 2005-25 Sep 2015 (date last detected); Forensic evidence indicated it killed then ate a black bear. |
| 16 November 2018 | 1   | M   | 0                | M. McCabe; BLM/UAZ Citizen Science Project. | Chiricahua Mountain complex, Cochise Co. | Photograph UAZ 28275a, UAZ 28275b; Davis 2017a, b c; Associated Press 2017a; Hunt 2017                                       | Adult. Monitored by UAZ Citizen Science Project 16 November 2016-26 June 2020. Documented by the Phoenix Zoo 26 July 2017 and CDB June 2018. Only jaguar known to exist in Arizona as of August 20, 2021.   |
| 29 November 2016 | 1   | M   | 0                | Border Patrol                               | Huachuca Mts, Cochise Co.                | Photograph UAZ 28276; Associated Press 2016. 2017b; Davis 2016c, 2018a, b; Hernandez 2016; Bryan 2016; Serraglio et al. 2018 | Adult. Photographed on trail cameras. First jaguar reported from the Huachuca Mts. Later known as Yo'oko. Documented by UAZ Citizen Science Project from 1 Dec 2016-26 Mar 2017. Last seen alive 6 Jun 2017 on BP Camera. Reported killed in Mexico Jun 2018.                               |

Key to abbreviations: AHS: Arizona Historical Society; AMNH: American Museum of Natural History; ASU: Arizona State University; AZGFD: Arizona Game and Fish Department; BJDP: Borderlands Jaguar Detection Project; BLM: Bureau of Land Management; BP: Border Patrol; FS: Forest Service; NMNH: National Museum of Natural History; PARC: Predatory Animal and Rodent Control; SDNHM: San Diego Natural History Museum; SCAIR: San Carlos Apache Indian Reservation; UAZ: University of Arizona; USBS: United States Biological Survey; USFS: United States Forest Service; USFWS: United States Fish and Wildlife Service; USGS: United States Geological Service; WMAN: White Mountain Apache Nation.