DID THE MEN ON CORONADO'S 1540-1542 EXPEDITION SEE JAGUARS IN ARIZONA?

BY CINDY COPING, FEBRUARY 17, 2017

Abstract

The widely held belief, that the men on the 1540 Spanish expedition led by Francisco Vásquez de Coronado witnessed jaguars near present day Zuni pueblo on the central Arizona/New Mexico border, is examined for verifiability. Specifically, two documents are examined. These include Francisco Vásquez de Coronado's August 3, 1540 letter to Viceroy Diego de Mendoza and the circa 1563 narrative of Pedro de Castañeda, a mounted soldier on the expedition.

Both original Spanish documents are lost to history, but mention of jaguars is found in Italian and English translations. Evidence, however, shows that the translators may have added their own embellishments and/or errors to surviving copies of both documents as early as the 16th century.

The absence of punctuation in the earliest known copy of Pedro de Castañeda's manuscript makes accurate translation a daunting challenge. An important and previously overlooked key to correct translation is found in two books by Gonzalo Fernández de Oviedo (Oviedo), an early Spanish magistrate of the Province of Darién and naturalist who wrote more than 50 books about the natural and general histories of New Spain. Two of those works, the Sumario and Book XII of Historia General Y Natural de Indias, name and describe the specific animals later Pedro de Castañeda mentioned.

Oviedo, a true Renaissance man, was not only the first European naturalist to write about the New World, but, by regal appointment, was also the official historian of New Spain. In that position, Oviedo handled all manuscripts from the Spanish explorations and conquests, including both documents examined herein. Correct translations of those two documents provide strong evidence that the Coronado expedition members did not encounter jaguars in present-day Arizona or New Mexico.

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Introduction

On March 5, 2014, the U.S. Fish and Wildlife Service (USFWS) designated 764,207 acres in southern Arizona and New Mexico as critical habitat for the jaguar. (FR 79 No. 43 at 12572 *et seq*.) The agency followed this action on December 19, 2016 when it released a draft jaguar recovery plan proposing to spend $605,000,000 to allegedly restore jaguars to the wilds of Arizona and New Mexico.

The recovery plan specifies that the jaguar cannot be delisted in the United States until permeability of the Mexican border is irrevocably guaranteed across most of the width of Arizona plus the boot-heel of New Mexico, as a primary condition. A second condition for delisting requires that the jaguar must attain the status of "least concern" in the United States and 18 other sovereign nations as determined by the International Union for Conservation of Nature (IUCN), a nongovernmental organization that is neither accountable to the United States government nor the American people. (U.S. Fish and Wildlife Service, 2014, pp. xii, xiii, xv)

In light of this new challenge to U.S. national security and sovereignty, common sense joins the scientific method's demand for careful scrutiny of the assumptions used to justify this proposed recovery plan for the jaguar. The most basic of these is the widely published yet heretofore unexamined supposition that breeding populations of jaguars thrived in all parts of Arizona, from the Chiricahua Mountains to the North Rim of the Grand Canyon, prior to the rise of the cattle industry. (Brown, 1983; Rabinowitz, 1999; Robinson, Bradley, & Boyd, 2006) As shown by the examination that follows, neither Coronado nor the history of more recent jaguar presence in the Southwest provides any evidence in support of that primary assumption.

Beginning with recent history and working chronologically backwards, it is well established that no naturally occurring female jaguar has ever been documented in New Mexico. In Arizona, the last known female jaguar was killed in 1963, suspiciously hundreds of miles north of the nearest known breeding population of jaguars and at the same time, suspiciously close to the hunting grounds of a commercial guide who was able to guarantee his unwitting clients success by releasing caged animals just out of sight. The evidence surrounding that event, including the guide's own expert opinion when interviewed in 2010, strongly suggest she had been released into the Arizona wilds from a cage. (Parker, 2010; Parker, 2012a)(Coping, 2010b) (Housholder, 1966) (Brown & Thompson, 2010)

Only two other verifiable records of historical female jaguar presence in Arizona exist. The most recent was a female jaguar killed in 1949 after walking into a deer hunter's camp on the Mexican border. (Brown & Lopez-Gonzales, 2000) A government predator control agent killed the other female jaguar in the mountains south of Tucson in 1919. (Nelson & Goldman, 1933) That was just one year before a famous and wealthy sportsman from Chicago killed a very large male jaguar in a nearby mountain range– suspiciously– on a guided hunt. (1920)

The 2012 Jaguar Recovery Outline and 2016 Draft Jaguar Recovery Plan cite three additional stories of historical female jaguars –each allegedly with cubs–in Arizona. (U.S. Fish and Wildlife Service, 2012b, pp. 18, R003490; U.S. Fish and Wildlife Service, 2016, p. 10) It has been shown, however, that citations to two of these three legendary jaguars with cubs cannot be traced back to any original, verifiable source. Hoffmeister (1986) states that he cannot verify any reports of jaguars allegedly taken at the Grand Canyon, including a reported female with two cubs. He points out there are no preserved specimens. He also states,

> **Supposedly** a female and two cubs were taken in the Grand Canyon area and a female and a cub were taken at the head of Chevelon Creek, Coconino County. *[highlight added]*

Brown and Lopez-Gonzales (2001) likewise regard these two "supposed" jaguar records as unverifiable by stating,

> "**The only actual account** of jaguar cubs being taken in the United States, however, is limited to a June 1, 1906 Arizona Daily Star article in which a female jaguar was reportedly killed in the Chiricahua Mountains and her two cubs are offered for sale…" *[highlight added]*

Actually, *The Bisbee Daily Review* had reported the latter story a day earlier, stating that two bounty hunters were attempting to sell two jaguar cubs in Bisbee for $150. (1906) (Hoffmeister, 1986; Brown & Lopez-Gonzales, 2001; Parker, 2012c)

Brown himself, however, later questioned the authenticity of this jaguar record. In an email dated January 11, 2011 to Arizona Game and Fish biologist Terry Johnson, David E. Brown stated,

> "There are other questionables—the cubs in the Chiricahuas may have been lions as kittens of both species are spotted."

The email was made public through an Arizona public records request submitted by the Center for Biological Diversity. David Brown's 2011 assessment is correct. Since no independent witness is reported to have seen the hide of the cubs' mother, and since the two salesmen had a $150 conflict of interest, that "evidence" of breeding jaguars in Arizona is likewise unverifiable and unreliable. (Brown, 2011; Coping, 2012) (Coping, 2017)

Since, as shown conclusively above, the three aforementioned records are completely

unreliable, the men of the Coronado expedition remain the only possibly verifiable eyewitnesses to the historical presence of breeding, resident wild jaguars in Arizona or New Mexico. By examining two documents upon which all such claims are founded, the degree of probability that the men on the 1540 Coronado expedition actually encountered jaguars Arizona and New Mexico can be evaluated.

Discussion

A Widely Published Belief: Coronado's Men Witnessed Jaguars in Arizona and/or New Mexico

Scientific, historical, environmental and regulatory writers have widely published the legend that the men on Francisco Vasquez de Coronado's 1540 expedition through Arizona and New Mexico saw jaguars en route to the area near present day Zuni Pueblo. (Whipple, 1856; Seton, 1929; Bailey, 1931, p. 283; Pate, 1999; Brown & Lopez-Gonzales, 2001, p. 40; Robinson et al., 2006; U.S. Fish and Wildlife Service, 2012a; Flint & Flint, 2012) The historical presence of breeding populations of jaguars in northern Arizona and New Mexico is therefore almost universally accepted as a scientific fact. Robinson et al. (2006), for example, references George Parker Winship's 1896 translation of Pedro Castañeda de Nájera's narrative of the 1540 Coronado expedition into Arizona and New Mexico as follows:

> "The historic record of jaguars in New Mexico begins with the first written account of what is today the United States. Pedro de Castañeda, who recorded the 1540-1542 expedition of conquistador Francisco Vasquez de Coronado, of which he was a part, mentions that "Gray lions and leopards were seen" somewhere in the vicinity of the upper Gila River". (Robinson et al., 2006, p. 6)

As another example, Lopez-Gonzales (2001) and Bailey (1931) both cite Lieutenant A.W. Whipple's 1856 Report on the Indian Tribes as support for the legend. Whipple (1856) quotes in modern English from Richard Hakluyt's 1582 Old English translation of Giovanni Battista Ramusio's Italian translation of the letter Coronado wrote to Don Antonio Mendoza on August 3, 1540 as follows:

> "Here are many sorts of beasts, as bears, tigers, lions, porkspicks [porcupines?], and certain sheep as big as a horse, with very great horns and little tails . . . There is game of deer, ounces**,** and very great stags"

Both Coronado's original letter and Pedro de Castañeda's original manuscript disappeared centuries ago. In a nutshell, neither record provides verifiable, reliable scientific evidence of 16th century jaguar presence in Arizona or New Mexico.

Although many original documents from the Coronado expedition remain intact to this day, no surviving document corroborates any mention of jaguars as allegedly appears in the two aforementioned documents.

That said, with two documents purportedly originating from members of the trek at least superficially appearing to confirm each other's mention of possible jaguar sightings north

of Mexico, the matter merits a closer look at the fidelity of transcriptions and translations of both.

Document History: Coronado's August 3, 1540 letter to Don Antonio Mendoza

On August 3, 1540, Coronado penned the aforementioned letter at the Totonteac village of Hawikuh. Hawikuh was the most southwesterly of some half-dozen prehistoric towns along the Zuni River in what is now western McKinley County in New Mexico. It is believed today to be the ruins of Hawikku, located about 12 miles southwest of present day Zuni Pueblo. (Flint & Flint, 2012, pp. 588-589) Antonio de Mendoza, the letter's recipient, served as Viceroy of Nueva España from 1535 to 1550. When he sailed to New Spain between April 17 and September 26, 1535, Francisco Vásquez de Coronado was in the entourage that accompanied him.

In 2012, historian/archaeologists Richard and Shirley Flint published numerous, formerly obscure original documents from the Coronado expedition, many of which they transcribed and translated into English for the first time in four and a half centuries. (Flint & Flint, 2012) They report,

> In 1536 *[Mendoza]* received the survivors of the Narváez expedition to La Florida and heard their reports of populous and wealthy pueblos far to the north. A little over two years later, he dispatched Esteban de Dorantes (one of the Narváez survivors) and fray Marcos de Niza to confirm those reports. Then he assigned Francisco Vázquez de Coronado, governor of Nueva Galicia, to lead a full-scale expedition to the Tierra Nueva [New Land] reported by fray Marcos.
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> Mendoza was reported to have spent the equivalent of 85,000 silver pesos as one of the expedition's three principal financial backers. According to the seventeenth-century historian fray Antonio Tello, Mendoza provided 30 pesos of aid to each horseman and 20 pesos to each footman. In 1545, he claimed still to be in debt because of his expenses for the expedition. (Flint & Flint, 2012, p. 594)

Coronado's letter of August 3, 1540 eventually found its way to the Secretary of the Venetian Senate, Giovanni Battista Ramusio (1485-1557). Venice at that time was the hub of information about French, Portuguese and Spanish expeditions to the New World. The Venetian government had spies, ambassadors and informants all over Europe searching out the latest news of all overseas expeditions.

In addition to his official duties, Ramusio also owned a publishing house that produced thrilling and popular first hand accounts of overseas explorations. Although not an explorer himself, Ramusio's public position, his fluency in multiple languages, his personal connections, and most importantly his reputation as the most advanced, accurate and innovative cartographer the world had yet seen, helped connect him with the manuscripts of most or all the famous explorers. He enjoyed access to manuscripts through personal relationships with the explorers themselves and also through his friend and business partner Gonzalo Fernandez de Oviedo, the official chronicler of New Spain.

In 1556 Ramusio published the third of a three-volume set of narratives of the most notable 16th century overseas explorations. This work replaced Ptolemy's inaccurate 2nd century *Geographia,* which had been updated for over a thousand years, as the standard textbook on world geography. In *Terzo Volume delle navigationi et viaggi,* Ramusio preserved the earliest surviving copy of a lengthy except from Francisco Vasquéz de Coronado's August 3, 1540 letter to Viceroy Antonio de Mendoza. The letter is missing some parts, perhaps only minor parts, which apparently did not survive Ramusio's editing. The letter had been awkwardly and anonymously translated into the Italian language.

Interestingly, Volume II was not published until three years after Volume III, and following Ramusio's death. A fire had destroyed Ramusio's manuscript before it went to print, causing the delay. (Flint & Flint, 2012, p. 252; Bryn Mawr College Library Staff, 2017; Mariners' Museum, 2017b)

Four English language translations of Coronado's letter have since been published. Richard Hakluyt translated the letter into English in 1599 in *The Principal Navigations, Voyages, Traffiques, and Discoveries of The English Nation*. That remained the authoritative English translation when it was cited in Whipple (1856). George P. Winship published a new authoritative translation in 1896. In 1940, George Hammond and Agapito Rey produced a new translation. Richard and Shirley Flint produced the most recent English translation in 2012. The translations are described in greater detail later.

Document History: Pedro de Castañeda de Nájera's Narrative

Robinson (2006) cited Pedro de Castañeda de Nájera's circa 1563 narrative of the expedition as evidence of jaguar presence in 1540 near the headwaters of the Gila river. Pedro de Castañeda de Nájera (Castañeda) was a mounted soldier on the famous journey. He brought with him two horses and a jacket of chain mail, in addition to arms and armor. He traveled with the main body of the expedition. Judging from his unit assignments, he evidently never rode with the advance guard or any of the reconnaissance parties.

Therefore, much of what he wrote, even supplying great detail, is second-hand information. Castañeda wrote his narrative of the expedition some 21 years after his return to Compostela. Historians Richard and Shirley Flint suspect Alonso de Zorita had commissioned Castañeda to write the narrative in preparation to raise financial backing for a follow-up expedition, but later abandoned the effort. Since Castañeda was not an eyewitness to many of the events he reports, he likely compiled the details from interviews of other members of the expedition. (Flint & Flint, 2012, p. 378).

In 1540 Coronado was the governor of Nueva Galicia, which encompassed the present day Mexican states of Sinaloa, Jalisco, and Nayarit. That region then, as now, supported breeding jaguars. (U.S. Fish and Wildlife Service, 2016, p. 8) During the 1960s, Nayarit produced most of the Boone and Crockett "trophy book" jaguars taken from Mexico, although by trophy standards those jaguars were generally smaller than jaguars taken from other regions of the Western Hemisphere. Coronado and his men, including some 1,500 Nueva Galician Indians who accompanied them, would therefore likely have had no difficulty in correctly identifying any jaguars they may have seen.

The earliest surviving copy of Castañeda's circa 1563 narrative of the 1540-1542 Coronado expedition is a Spanish language transcription completed in 1596 at Seville by

Bartolomé Niño Velázquez. Richard and Shirley Flint traced the miraculous journey of this document, obscure and forgotten for more than two centuries, from a private library in Seville to its present prominence in southwestern historical literature (omitting the Flints' numerous informative footnotes and citations):

> "[Pedro de Castañeda de Nájera's narrative] is undoubtedly the most often cited and quoted document deriving from the Coronado expedition. It is also, by a considerable margin, the longest contemporary narrative of the entrada. The relación [narrative] has come down to us, however, not as a popular book of its day but in the form of a handwritten copy made in 1596 in Sevilla by [an educated scribe,] Bartolomé Niño Velázquez, either for or from the library of Hernando González, Conde de Castilla. Pedro de Nájera's original document is not known to exist. Once drafted and delivered to its intended recipient (probably Alonso de Zorita), the relación seems to have suffered neglect for centuries, except for the preparation of Niño Velázquez's copy in the 1590s.
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> … Although seemingly written with an eye to publication, the relación did not find itself in print until 1838, and then only in a French translation. Henri Ternaux-Compans, a French collector and bibliographer who was preparing a multivolume series of original narratives of European colonial activity in the Americas, came across Niño Velázquez's transcription of the relación in the collection of Antonio de Uguina, which he had purchased perhaps during the first decade of the nineteenth century.
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> Ternaux-Compans translated and published the lengthy manuscript and, in doing so, according to George Winship 60 years later, "rendered the language of the original accounts with great freedom . . . and in several cases . . . entirely failed to understand what the original writer endeavored to relate." So Pedro de Nájera's report for Alonso de Zorita finally rolled off the presses, altered but still recognizable, as "Relation du voyage de Cibola" in volume of *Voyages, relations et memoires originaux pour servir a l'histoire de la decouverte de l'Amerique*.
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> Around 1844 the Massachusetts-born bookseller and bibliographer Obadiah Rich purchased all of Ternaux-Compans's Spanish manuscripts, including the Niño Velázquez copy of the relación. The 142 volumes of the Rich collection then passed, only four years later, to James Lenox, who donated them to the New York Public Library. There, the 1596 copy of the relación is conserved today in the Manuscripts and Archives Section as Rich Collection no. 63.
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> In the late 1880s or early 1890s George Parker Winship, an undergraduate at Harvard University, seeking to improve on Ternaux-Compans's effort, transcribed and translated into English Rich no. 63 (all except, unaccountably, the first three folios, which appear in print for the first time here). His work was published in 1896 in *The Coronado Expedition*, 1540–1542, which appeared in Part 1 of the Annual Report of the Bureau of American Ethnology of the Smithsonian Institution for 1892–1893.

> Winship's transcription was the first publication of the relación in the author's native tongue, approximately 330 years after he wrote it. Winship's English translation has been reprinted several times, most recently in 1990 by Dover Publications under the title *The Journey of Coronado*, a facsimile re-publication of a 1933 edition issued by Grabhorn Press of San Francisco. In the same year Fulcrum Publishing of Golden, Colorado, reprinted Winship's translation, along with his historical introduction and a modern introduction by Donald C. Cutter, under the title *The Journey of Coronado, 1540-1542*.
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> As part of the national Coronado Cuarto Centennial commemoration in 1940, the historian George P. Hammond, then of the University of New Mexico, and the linguist Agapito Rey, of Indiana University, published their own English translation of the relación among the documents included in Narratives of the Coronado Expedition, 1540–1542. Although that volume was reprinted by AMS Press of New York in 1977, it has now long been out of print.
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> Most recently, in 1992, Carmen de Mora, a professor of Hispanoamerican literature at the Universidad de Sevilla, published another transcription of the relación in her *Las Siete Ciudades de Cíbola: Textos y testimonios sobre la expedición de Vázquez Coronado*. Using Mora's transcription as a base, in 1998 Jerry L. Craddock, a philologist and romance linguist at the University of California, Berkeley, prepared detailed philological annotations for the relación for use in an undergraduate course in Spanish literature that he was teaching. Those notes have not been published, but Craddock generously shared them with us.
>
> All of these editions, as well as Craddock's notes, proved useful to us in reviewing the annotated transcription and translation we publish here. As is clear from our notes and is inevitable when a fresh look is taken at a whole corpus of documents, we have often disagreed with the readings and interpretations of these deservedly renowned scholars. In other cases their work has served to confirm and occasionally cause us to revise our own choices."(Flint & Flint, 2012, pp. 382-383)

George Hammond and Agapito Rey published their translation without a side-by-side Spanish transcript for comparison. The translation is not without fault but it is generally considered much more faithful to the original Spanish text than George Winship's translation. (Morris, 2002, pp. lxxi-lxxiii) (Flint & Flint, 2012, pp. 5-7)

The Flints overlooked the 2002 publication of Pedro de Castañeda's narrative published by Donnelly and Sons, Lakeside Press to commemorate the 100th birthday of their Lakeside Classics series, which T.E. Donnelly founded in 1903. Castañeda (2002) has proven itself an invaluable resource by presenting, side-by side, George P. Winship's Spanish language transcription of Castañeda's narrative on even-numbered pages, with George Hammond and Agapito Rey's English translation on the opposite, odd-numbered pages. It also presents a highly informative historical introduction, also presented in side-by-side Spanish and English, by editor John Miller Morris. (Morris, 2002)

The excerpt quoted from Flint and Flint (2012), above, refreshingly indicates that historians and linguists carefully review each other's work with healthy scientific skepticism. In contrast, many supposedly eminent, journal-published wildlife biologists have been stunningly content to blindly cite and re-cite each other's errors as fact, ad infinitum.

One extreme example is the story of a jaguar in 1825 that escaped from a flooding river, entered the sacristy of a convent nearby and killed four friars. Although the attack occurred in Santa Fe, Argentina, for the next century and a half, biologists repeatedly stated that it occurred in Santa Fe, New Mexico, far north of expected jaguar range and some forty miles from the Rio Grande. (Baird, 1859) (Bailey, 1931) (Brown & Lopez-Gonzales, 2001)

Another often-repeated historical error concerns a jaguar that was killed on the Mexican border in Luna County south of Deming, New Mexico. Knowing only that the jaguar's skin was presented to New Mexico Governor Otero's wife, Bailey (1931) inaccurately reported that the jaguar was killed in Otero County. That error has been frequently repeated in the published literature and its entirely inaccurate location incorporated into published jaguar habitat models cited in the 2016 Draft Jaguar Recovery Plan. (Boydston & Lopez-Gonzalez, 2005) (Brown & Lopez-Gonzales, 2001) (Robinson et al., 2006)

A recent review of historical records of jaguar occurrences in Arizona and New Mexico also revealed that numerous supposedly eminent biologists have relied on up to sixth-hand citations of unverifiable hearsay, with each new author carelessly regurgitating the previous writer's errors–including obvious misspellings. Taking the situation to its ultimate level, in 2014 the U.S. Fish and Wildlife Service, without due diligence of cited studies and models, designated critical habitat for the jaguar on a foundation of remarkably unreliable and inaccurate data and unrealistic, irrelevant habitat models created from it. The 2016 Draft Jaguar Recovery Plan relies on new models founded on the same inaccurate and unreliable data. (Coping, 2012) (Parker, 2012c) (Coping, 2017)

The works of Giovanni Battista Ramusio, Richard Hakluyt, George Winship and Richard and Shirley Flint are without question among the most extensive and significant contributions to documenting the history of Coronado's journey. Nonetheless, this paper contributes heretofore overlooked historical and biological information that disagrees with those writers' interpretation of jaguar presence as alleged to occur in the two Spanish explorers' documents examined herein.

Translations Compared: Coronado's August 3, 1540 letter to Viceroy Mendoza

Ramusio's Italian translation of Coronado's August 3, 1540 letter implies with the words, "tigre"(tigers) and "pardi," (leopards) that the explorers saw jaguars near Cíbola, as stated (emphasis added):

> *...Vi sono di molti animali, orsi,* ***tigri****, Leoni, & porciSpin(os)i, & certi castrati della grandezza d'un cavallo, con corni molto grandi & code picciole. . .*
>
> *Vi sono cacciagioni di Cèrvi,* ***Pardi****, Cavrioli molto grandi…* (Ramusio, 2012)

Hakluyt (1599) translates the last reference to possible jaguars, "pardi," as ounces, cats that are much smaller than jaguars. Hakluyt's version states,

> *Here are many sorts of beasts, as Beares,* ***Tigers, Lions****, Porkespicks, and certaine Sheep as bigge as an horse, with very great hornes and little tailes. . . There is game of Deere,* ***Ounces****, and very great Stagges: [sic]* (Hakluyt, 1599)

Winship's English translation of Ramusio's Italian version of the letter appears reasonably faithful to Ramusio's work but changes Hakluyt's ounces to leopards:

> *They have many animals–bears,* ***tigers, lions****, porcupines, and some sheep as big as a horse, with very large horns and little tails . . . For game they have deer,* ***leopards,*** *and very large deer …* (Coronado, 1904)

The problems in Ramusio's translation above are readily apparent. Two separate words, tigre and pardi, supposedly could refer to jaguars. Further, Ramusio apparently mentions deer twice in one sentence, although he and Coronado both had likely been previously unfamiliar with elk.

Coronado originally wrote the letter knowing it would reach the eyes or ears of the most powerful monarchs in the world. He directly addressed it to the highest authority over a land plagued by treachery and bloodshed between rival Spanish governors. As an explorer, Coronado faced fierce competition for royal license with rival Spanish explorers. (Dille, 2006a) (Dille, 2006b, p. 5) This unlikely choice of words and repetitious sentence structure provide evidence that Ramusio's translation may be unfaithful to the original letter.

In 1940, as part of the Cuarto Centennial commemoration of the expedition, through the University of New Mexico press, George Hammond and Agapito Rey published a new English translation of Coronado's August 3, 1540 letter. Donnelly and Sons chose this translation for their 2002 publication of Castañeda's narrative, including editor John Miller Morris's introductory explanation that George Winship had embellished his translations to boost market appeal. He describes Winship's translation as,

> "wonderfully elegant and refined, but therein lies the dilemma. In its added rhetorical polish and Victorian gloss, it is <u>much</u> less faithful to the original Spanish text [than the Hammond and Rey translation]." American scholars often quote from the 1940 Hammond and Rey English translation because of its greater textual fidelity." (Morris, 2002, p. lxiii)

Many authoritative historians consider Ramusio's translations questionable if not unreliable. Among them, Richard and Shirley Flint analyze the authenticity of the item that immediately precedes Francisco Vázquez de Coronado's March 8, 1539 letter to the viceroy in Ramusio's *Terzo* volume as follows:

> It purports to be the synopsis of another letter written by Vázquez de Coronado on the same day, March 8, but to the viceroy's secretary rather than to the viceroy himself. . . The document appears to be an outright fabrication, but whether Ramusio was victim or perpetrator remains a mystery. . . (Flint & Flint, 2012, p. 32)

In examining another document Ramusio published, the Flints again caution readers not to assume any of Ramusio's translations faithfully represent original text:

> Thus as is evident from Ramusio's unannounced and gratuitous embellishment of the original text of fray Marcos's relación, the fidelity of the translations he published must always remain in doubt in cases such as this one, in which the original-language text is no longer available for comparison…
>
> …In fact, it is a fanciful concoction that combines many elements, both real and imagined, from numerous locales, ascribing them all to Topira and a neighboring community. (Flint & Flint, 2012, p. 32)

The mention of "leopards" in Ramusio's writing, whether real, fabricated or merely a translational error, surely could not have hurt book sales as is evident from the many popular and profitable, although not necessarily accurate publications about jaguars found on bookstore shelves today.

A second passage that raises suspicion is the statement, "for game they have deer, leopards [or ounces], and very large deer [or stags]." The repetition and discontinuity of mentioning deer, then switching the train of thought to leopards and then back to deer seems inconsistent with the work of an educated writer who needs to impress a king. Ramusio's translation therefore is suspect on its face.

Flint and Flint wisely warn their readers to beware of Ramusio's "dubious reputation for fidelity to sources." The Flints further advise readers to corroborate his work against other documents whenever original manuscripts are unavailable for comparison. (Flint & Flint, 2012, p. 253) Accordingly this applies to Ramusio's translation of Coronado's letter of August 3, 1540.

Translations Compared: Narrative of the Expedition by Pedro de Castañeda de Nájara

In the early 1560s, likely 1563, a veteran of the expedition, Pedro de Castañeda de Nájera penned the only document we can compare against Coronado's August 3, 1540 letter for evidence of jaguars: *Relación de la Jornada de Cíbola*. (Morris, 2002, p. lxiii)

With such differences as will be shown between four different translations it becomes necessary to compare each to the original Spanish text. The transcription by George Winship supplies that text. (Castañeda, 2002) The only two possible references to jaguars in the manuscript are found early in chapter II of the Second Part of Castañeda's narrative (emphasis added on the words in question):

> En los ríos de este depoblado hay barbos y picones como en España **hay leones pardos que se vieron** desde el principio del despoblado siempre se va subiendo la tierra hasta llegar a Cíbola que son ochenta leguas la via del norte y hasta llegar allí desde Culiacán se había caminado llevando el norte sobre el ojo izquierdo. (Castañeda, 2002, p. 260)

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> Esta tierra es un valle entre sierras a manera de peñones a hoyos no crece el maíz alto de las mazorcas deste el pie tres y cuatro cada caña gruesas y grandes de a ochocientos granos cosa no vista en estas partes **hay en esta provincia osos en gran cantidad leones gatos cervales y nutrias** hay muy finas tartan turquesas aunque no en la cantidad que decían rocogen y entregan piõnes…(Castañeda, 2002, p. 262)

Three translations presented below in Table 1 differ significantly from one another. This is no surprise considering the original manuscript wants for punctuation. Readers must guess where thoughts begin and end, and whether some words are nouns or adjectives.

Table 1. Summary Of Translations Of Key Phrases Used By Pedro De Castañeda

Author or Translator	Phrase I	Phrase II	Author's clarifying message in footnotes
Pedro de Castañeda	**"leones pardos"** (Castañeda, 2002, p. 260)	**"leones gatos cervales"** (Castañeda, 2002, p. 262)	
Winship, George P. (Winship, 2012, pp. 1271- 1274)	"grey lions and leopards"*	"lions, wild-cats, deer"	*Evidently the mountain lion and wildcat
Hammond, G. and Rey, A.	"grey lions" (Castañeda, 2002, p. 261)	"lions, wildcats" (Castañeda, 2002, p. 263)	
Flint, Richard & Shirley (Flint & Flint, 2012, p. 417)	"leopards [jaguars]"*	"lions and short-tailed cats"	*The Flints offer reasons they interpret jaguars but offer Strout's contrasting opinion that the text refers to cougars

Winship's English translation of Castañeda's narrative mentions possible jaguars in two places. The first possible reference is in Part II Chapter 3 where Castañeda describes Chichilticale and the despoblado of Cíbola:

> There are barbels and picones, like those of Spain, in the rivers of this wilderness. **Gray lions and leopards were seen**. [Winship footnote 11] The country rises continually from the beginning of the wilderness until Cibola is reached, which is 85 leagues, going north. From Culiacan to the edge of the wilderness the route had kept the north on the left hand. . . (Winship, 2012, pp. 1271-1274)

Winship's footnote 11 reads:

> These were evidently the mountain lion and the wild cat.

Winship has translated "leones pardos" as, "gray lions and leopards," unintentionally but errantly embellishing the original text. Either "pardos" is an adjective describing the color of lions or it is a noun describing a second species. It cannot serve both functions at once. Therefore, Winship's translation of this phrase is exaggerated and unreliable.

The second possible reference to jaguars in Winship's translation reads,

> . . . There are large numbers of **bears** in this province, and **lions, wild-cats, deer, and otter**. . . (Winship, 2012, pp. 1282-1283)

Here Winship translates "gatos cervales" as two species–cats and deer. Later translators disagree. They also disagree with Winship on where the cats were seen, due to the confusion caused by missing punctuation in the original manuscript.

Hammond and Rey translate the two possible references to jaguars as shown below:

> In the rivers of this despoblado there are barbels and picones [Hammond/Rey footnote 1] as in Spain. **Grey lions were seen from the beginning of the despoblado**. The land rises gradually until one reaches Cíbola, which is eighty leagues by the northern route. To get there from Culiacán, we marched with the north on our left. . . There are in this province numerous **bears, lions, wildcats, and otters**.

Hammond and Rey interpret "pardos" as an adjective describing the color of the lions seen, and as gray following Winship's lead, but unlike Winship, they omit mention of "leopards" where they never existed in the original manuscript. They also interpret "cervales" to be an adjective of "gatos," and not a second noun–deer– as Winship had done.

Hammond and Rey's footnote 1 reads,

> "Dr. Hodge suggests that the barbels and picones were catfish and Gila trout".

Richard and Shirley Flint also transcribed and translated the narrative. Their version includes their own opinions as annotations in brackets and reads as follows:

> In the rivers of this unsettled region there are whiskered and freshwater carp like [those] in Spain. **There are leopards [jaguars],** [Flint and Flint footnote 421] **which were seen from the beginning of the unsettled region.** The land rises **continually** until Cíbola is reached, which is eighty leagues toward the north [Flint and Flint footnote 422] (Flint & Flint, 2012, p. 417)

Here, the Flints interpret "leones pardos" as jaguars, as if Coronado's companions saw no mountain lions. They then interpret "gatos cervales" as short-tailed cats, without explanation. They agree with Winship on where the cats were seen.

> From Culiacán, until reaching there [Cíbola], [the expedition] had traveled keeping the North Star over the left eye. [Flint and Flint footnote 423] . . . In this provincia there is a great number of **bears, lions, and short-tailed cats**. [Flint and Flint footnote 430]

The Flint and Flint footnote 421 reads,

> j Compact Edition of the Oxford English Dictionary, 2 vols. (New York: Oxford University Press, 1971)] **Strout, 872, in contrast, says, "I believe the animal referred to is most likely the mountain lion or cougar."** See also Document 19, note 77.
>
> 430 "Lions, and short-tailed cats," leones gatos cervales. Whether these lions were mountain lions or jaguars or both is unclear. The short-tailed cats were either lynxes or bobcats, both of which had historic ranges in New Mexico. Charles Yocom et al., Wildlife of the Southern Rocky Mountains, rev. ed. (Healdsburg, CA: Naturegraph Company, 1969), 81. Lobo cerval, lynx, DRAE [Real Academia Española, Diccionario de la lengua española, 21st. ed., 2 vols. (Madrid: Editorial Espasa Calpe, 1992)], 1267. Gato cerval, DRAE, 1029: "Especie de gato [en España] cuya cola llega a 35 centímetros." (Flint & Flint, 2012, p. 684)

It is useful to compare the translators' assumptions with the Flints' footnote 77 of Document 19 (the letter of August 3, 1540 from Coronado to Mendoza), following Coronado's alleged statement, "*there are many bears, tigers, lions and porcupines.*" Footnote 77 reads,

> 77 "The reference here is to jaguars and mountain lions. Jaguars have been present in Sonora throughout historic times and still make solitary forays into southern New Mexico and Arizona. The most recent confirmed sighting was in 1996, and nearly 60 have been seen since 1900. While the northern limit of the jaguar's range probably lay across central Utah, Colorado, and Kansas as recently as 10,000 years ago, that range has shrunk drastically in the last couple of centuries, now being confined to the Sierra Madre Occidental and its foothills in southeastern Sonora . . . David E. Brown and Carlos A. López González, Borderland Jaguars: Tigres de la Frontera (Salt Lake City: University of Utah Press, 2001), 6–9, maps 1 and 2, 30–31, 51, 55.
>
> More credence is given to our rendering of "leones pardos" as "jaguars" here by the facts that the scientific name for leopard is Panthera pardus and that the common name derives from the Greek elements leonto and pardos. Application of the name for leopard to the jaguar would have been natural for Spaniards of the sixteenth century, the leopard being the great Old World spotted cat and the jaguar being the great New World spotted cat. (Flint & Flint, 2012, pp. 654-655)

The source the Flints cite neither claims nor does it imply that the modern forays of jaguars across the U.S. border indicate any possible historical presence in the USA circa 1540. In fact, the cited authors discount many of the records of jaguar sightings more than 100 miles north of Mexico as unreliable. Serious flaws, however, do appear in the cited source, which are analyzed in literature reviews and comments previously submitted to the U.S. Fish and Wildlife Service. (Coping, 2012) (Coping, 2017) (Parker, 2012a) (Parker, 2017)

As stated earlier, no paper trail leads to verifiable original documentation of any breeding populations of jaguars or lactating females in Arizona, although there are confirmed reports of numerous female jaguars that were imported and released for sport hunting. (Brown & Lopez-Gonzales, 2001) (Jones, 1974 Jan 14) (Brown & Thompson, 2010) (Housholder, 1966) (Parker, 2010) (Parker, 2012b) (Coping, 2010a) (Coping, 2012) (Coping, 2017)

Finally, Culver and Hein (2016) conducted genetic tests and concluded,

> "As of 2016, there is no evidence suggesting the presence of a jaguar breeding population in Arizona;"
>
> and,
>
> "[T]here is no evidence of recent female jaguar dispersal events either into or out of the Arizona/Sonora area. Recent means a minimum of 15 years ago (when the Sinaloa/Jalisco samples were collected; we can not detect anything more recent than that), and a maximum of 350,000 years ago." (Culver & Hein, 2016, pp. 16, 17)

The Flints' Note 77 further ignores the dramatic and widely recognized geological and climatological changes that have occurred in Arizona and New Mexico within the last 10,000 years, and the fact that Pleistocene jaguars (Panthera onca augusta) were a different, larger subspecies from modern ones. Even so, remains of such are rare in the United States.

Comparing fauna of the current landscape to fauna on the corresponding Pleistocene landscape is an unreliable approach that is unsupported in the archaeological record.

Hoffmeister (1986 at page 519) states,

> "The remains of *Felis onca* from archaeological sites in Arizona are unknown, while those of mountain lion, *Felis concolor*, are known."

The Flints' claim in note 77, that "Panthera pardus" is the scientific name for the leopard is true; however, Pedro de Castañeda referred to no other animal by its modern Latin name.

The Flints' next claim, that the Greek roots for "leopard" are "leontos" and "pardos" is dubious. The King James Bible, which was first printed in 1611–just 71 years after the expedition–contains just one mention of leopards in the New Testament, in Revelation 13:2 (the Old Testament in contrast was originally written in Hebrew). Strong's Concordance translates "leopard" back to its original Greek as item 3917 in its included Greek Dictionary of the New Testament:

> *3917.* παρδαλις **pardalis** *pár-dal-is;* fem. of παρδος **pardos** (*a panther*); a *leopard:*–leopard.

According to this widely accepted and authoritative source, "pardos" in Greek translates to "panther" while "pardalis," the feminine form, translates to "leopard." The term "leones pardos," therefore, appears more likely to indicate generic panthers rather than leopards. (Strong, 1973, p. 55) This finding also conforms better with the relative

abundance of panthers vs. jaguars in the southwest throughout documented history while also concurring to the relative abundance of mountain lions versus jaguars in the fossil record and in the La Brea tarpits.

The Flints' final claim in Note 77 is likewise refutable: "Application of the name for leopard to the jaguar would have been natural for Spaniards of the sixteenth century, the leopard being the great Old World spotted cat and the jaguar being the great New World spotted cat. (Flint & Flint, 2012, pp. 654-655)

To the contrary, it apparently was never "natural" for 16th century Spaniards to refer to jaguars as "leopardos," because no early Spanish chronicler of the New World ever did. Christopher Columbus had named jaguars "tigres" and shipped specimens back to Spain more than four decades earlier. (Red Ediciones S.L., 2010) By 1540, every educated Spaniard knew what a "tigre" was. Quite consistently, they all referred to jaguars as "tigres," as will be discussed later.

The findings of each of the three translations of Castañeda's manuscript are summarized in Table 2.

Table 2. Comparison of How Various Translators Divide Castañeda's Sentences

Original text > / Translator	"leones pardos"	"leones gatos cervales"	What happens from the "beginning of the despoblado"
Winship	grey lions and leopards	lions, wildcats, deer	The country rises continually
Hammond and Rey	grey lions	lions, wildcats	Grey lions were seen
Flint and Flint	jaguars	lions and short-tailed cats. Foonote: Unclear whether this is wildcats or jaguars	Jaguars were seen

Winship's interpretation that the land rises continually from the beginning of the despoblado is most likely the correct interpretation. Castañeda indicates that the "despoblado," the uninhabited region, began at the ruins at Chichilticalle.

Considering the thousands of domestic prey animals including cattle, sheep, chickens and pigs that the explorers brought along on the journey, which may have attracted jaguars at the beginning of the journey, and the prevalence of jaguars then and now near Culiacán, Coronado's party may have seen jaguars as well as mountain lions, wolves and other large predators for some distance from the beginning of the expedition at Culiacán. Shepherds traveling with the explorers would have killed these predators to protect their two-year food supply.

It would make no sense, therefore, to indicate that the explorers began seeing feline predators only after passing Chichilticalle.

The Spanish explorers consistently referred to jaguars as "tigres"

It was, in fact, natural for early New World chroniclers to refer to New World animals by names for similar Old World fauna. For example, the Spaniards referred to jaguars as "tigres" or tigers, alpacas as sheep, peccaries as wild boars, bison as cattle, etc. (Asua & French, 2005, p. 33) This may explain the origin of the fact that Arizonans and New Mexicans to this day still refer to wild animals by Old World names: in the borderlands jaguars are commonly called, "tigres," javelinas are "pigs," and cougars are "lions."

References to "leopardos," however, do not appear at all in original 16th century Spanish language manuscripts about the New World. According to Gonzalo Fernández de Oviedo y Valdés (Oviedo), Christopher Columbus was the first person to refer to jaguars as "tigres." "Although Oviedo mentions that the natives called the jaguar "ochí," tigre" is the name used consistently for jaguars by early Spanish chroniclers of New World natural history including Oviedo, Alvar Nuñez, Cieza de Leon, Peter Martyr and Jose de Acosta. Even Garcilaso de la Vega, the son of a Spanish father and a royal Incan mother, who wrote the most authoritative history of the Incan empire, did not distinguish between jaguars and tigers. (Asua & French, 2005)

Of the aforementioned writers, only the works of Oviedo and Martyr preceded the 1540 Coronado expedition. Both were official chroniclers to the throne. The main difference between the two is that Oviedo traveled to the New World a dozen times, at times living there and observing the flora and fauna first hand, whereas Martyr never visited the New World.

The spot-on consistency of the aforementioned authors in identifying jaguars as "tigres" is a direct result of Oviedo's personal authority. In order to understand the degree of influence his writings had on both Coronado and Pedro de Castañeda, we must first recognize and understand the magnitude of his personal status.

Oviedo Directly Influenced The Chronicles Of The Coronado Expedition

Gonzalo Fernandez de Oviedo y Valdez (Oviedo) was born the son of a secretary to the royal Spanish court. Through this connection at a young age he became a page at the court of Alphonso of Aragon, the nephew of Spain's powerful King Ferdinand. Alphonso took a liking to Oviedo, trained him in the military arts, and eventually introduced him to his uncle Ferdinand and Queen Isabella. The royal family also took a liking to Oviedo, so at the age of 13, he was appointed an aid to Spain's crown prince Infante Juan, who was his same age. Oviedo retained the position until Juan died unexpectedly six years later. (Mariners' Museum, 2017a)

The year 1492 was pivotal to world history with Spain at its geographical pinion. Driving that pinion were the Catholic monarchs. The marriage of Ferdinand II of Aragon and Queen Isabella I of Castile and León had united Spain's greatest kingdoms. The royal couple began 1492 having won a ten-year battle for Granada, ousting the Islamic Moors that had occupied Andalusia for the previous 500 years.

In a ceremony held in an open field outside the walls of Granada–the last Islamic state on the Iberian Peninsula–on January 2, 1492, the chief of the Nasrid dynasty Mohammed XII solemnly handed over the palace keys to the royal Spanish couple and thereby signified Spain's victorious end to the Reconquista period that had begun 781 years earlier. Oviedo witnessed the pageant. So did Christopher Columbus, who was at court making his third attempt to obtain financing for his historic voyage west. (Eamon, 2011)

In Prince Juan's court, Oviedo shared duties with Admiral Columbus's sons Diego and Ferdinand, and cultivated other important connections that served him well in later years. (Dille, 2006b, p. 2) In 1514 Oviedo himself sailed to the New World along with the new governor, Pedrarias de Dávila, settling on the isthmus of Panamá in the province of Darién.

Although he expected to fill a low level appointment as a notary, Oviedo's status changed unexpectedly. As the fleet prepared to set sail, the official inspector over gold smelting in New Spain died suddenly in Seville. Oviedo's high-level connections helped promote him into the inspector's position as a royal official. (Dille, 2006a, p. 43) Obviously the royal monarchs still held Oviedo in high regard, despite the fact that his position was a minor office. After landing in the New World, Oviedo quickly and greatly added to his income through a variety of successful business endeavors.

A year later, in 1515, Oviedo returned to Spain, this time with his own fleet. He denounced Pedrarias Dávila (more formally, Pedro Arias de Ávila) to King Ferdinand shortly before the monarch's death in 1516. Very soon thereafter he persuaded Ferdinand's 16-year old grandson and successor, King Charles I, to replace the corrupt and bloodthirsty Pedrarias Dávila (Pedrarias) as governor of the province of Darién.

Pedrarias was originally sent to Darién to remove the treacherous and tyrannical governor, Vasco Nuñez de Balboa, who is best remembered for discovering the Pacific coast of New Spain. In 1517 Pedrarias ordered Balboa, his own son-in-law, beheaded for crimes against the throne. He had correctly suspected Balboa of secretly engineering his own predecessor's death. Therefore, when Oviedo set forth on a personal mission to replace Pedrarias as governor, he did so at great risk to his own life matched only by a high degree of self-confidence in his personal relationship with the king.

To Oviedo's great disappointment, he arrived in Spain only to find King Ferdinand on his deathbed. Queen Isabella and their only son Juan had preceded Ferdinand in death. His daughter Catherine had married King Henry VIII, and the only direct remaining heiress to the throne was a second daughter, Joanna, who had gone insane. The crown thus passed to Charles I, uniting Europe from the Netherlands to southern Italy under a single monarch. Oviedo was forced to exhaust his resources and travel to Dunkirk to meet him and petition for the removal of Pedrarias.

Oviedo was a perpetual, prolific writer and in addition to his royal duties, wrote more than 2,000 pages in more than 50 books over the course of 40 years. As William Eamon describes him,

> An indefatigable collector and shrewd observer, Oviedo meticulously recorded his impressions of the plants, animals, mines, and indigenous ways that he observed in the New World. He was an ethnologist, a

> geologist, a climatologist, and natural historian; and he piled up thousands of pages of notes on natural history and Native American culture. (Eamon, 2011)

In 1520, King Charles I, who a year earlier had been elected Holy Roman Emperor Carlos V, commissioned Oviedo to write an account of the natural history of the New World. Oviedo published his report in 1526 under the title, *De la natural historia de las Indias* (Natural History of the Indies), better known as the *Sumario* (Summary). The book was widely read in Spanish as well as in English, French and Italian. It was the precursor to his more extensive 1535 publication of *Historia genera y natural de las Indias* (General and Natural History of the New World.)

Once Oviedo had thus set forth standards and references describing the flora and fauna of the New World, the explorers and chroniclers that followed him did not stray from those standards. There are several good reasons why they did not. First, Oviedo's work was already widely known and accepted. If an explorer strayed from established knowledge to describe and name new animals, it could damage his credibility.

Roger French and Miguel de Asúa describe the key challenge facing New World explorers in credibly documenting the unusual and unknown animals they encountered:

> During the sixteenth century a new genre of writing which aimed at embracing the natural as well as the human landscape of the Indies took form. The 'natural and moral histories' sought to create–and control–the total experience of the encounter with America. *The Natural and General History* of Oviedo and *The Natural and Moral History* of Acosta were the first significant Renaissance answers to the disruptive challenge posed by the creatures of the New World upon the late medieval order of representation of nature.
>
> The weight of ancient learning made itself felt in the outlook of these literary monuments. In what concerns the kind of inquiry into nature, they embodied, respectively, a Plinian and an Aristotelian programme. But notwithstanding these diverse conceptual frameworks, both Oviedo and Acosta endorsed and proclaimed a common empirical approach in their accounts of individual animals, in the sense that they understood that the warrant for the truth of their statements was autopsia and not tradition.
>
> The emphasis on the I-saw-it-myself criterion of truth could have been related to a question faced by travellers to the New World, that is, how to invest their at times fantastic reports with the signs of credibility. Rhetoric devices aimed at convincing the reader that the author was a reliable witness to his own experience were prominent in the early accounts about natural life in the New World. (Asua & French, 2005, p. 232)

Most importantly, on August 18, 1532, King Charles wrote to the Consejo de Indias granting Oviedo authority as the official chronicler of the Indies. At Oviedo's request, all royal officials in the New World would now be required to submit to him detailed reports of the geography, natural phenomena and noteworthy events in their respective

territories. The requirement no doubt included every document related to the Coronado expedition, and this fact may explain the detailed nature of Coronado's letters to Viceroy Mendoza.

William Eamon described the body of Oviedo's final compendium, which not only drew from Oviedo's eyewitness accounts but also those of others, as follows:

> The General and Natural History—the first comprehensive descriptive history of the New World—was fully 50 books long in manuscript, although the 1535, printed edition included only the first 19, which were dedicated to Columbus's voyages and the Caribbean islands. The 20th book was published in 1557. The remainder—contained in a 2,000-page manuscript known today as the Monserrat manuscript after the monastery in whose care Oviedo left it—was not published until the 19th century. (Eamon, 2011)

For the above-named reasons, sixteenth century Spanish New World documentation exhibits a clear pattern of highly consistent nomenclature in describing wild animals. With the exception that Oviedo noted the natives called jaguars, "ochí," jaguars were documented in Spanish by no other name than, "tigres." The word "leopardos" appears only in translations of the original manuscripts to languages other than the original Spanish.

Oviedo's *Sumario* Solves The Punctuation Puzzle

Significantly, Oviedo's 1526 *Sumario* set down permanent descriptions of New World animals that would consistently bear the names he assigned to them to the present day. (Red Ediciones S.L., 2010) In it, Oviedo very clearly described the following four types of cats:

- "tigres" (man-eating jaguars)– in great detail–in Chapter XI;
- "gatos cervales" (large ferocious, man-eating cats) in Chapter XIII;
- "leones reales" in chapter XIV; and
- "leones pardos" (cats that are not the same as tigres, and which do not kill people) in chapter XV.

Oviedo's description of jaguars as "tigres" in Chapter XI mentions the fact that Admiral Diego Columbus had already transported one to Toledo Spain, where it was being kept for all to see. There could be no question what animal he was describing, therefore. Oviedo very carefully described its spots and their distribution around the body. He also described the cat as a vicious man-eater.

"Tigres" had killed so many natives, in fact, that the magistrates of Darién set a bounty on them of five gold pieces. The Spaniards bayed the jaguars with hounds and killed them with crossbows. Therefore, we know from Oviedo's *Sumario* which words in Pedro de Castañeda's description of animals are intended as nouns and which words are adjectives.

Oviedo's *Book XII* Provides More Details Solving the Punctuation Puzzle

During his first trip back to Europe, Oviedo wrote the *Sumario* at Carlos V's unanticipated request. Since he had left his notes in Darién before sailing back to Spain, he wrote it entirely from memory. After returning to Darién, Oviedo described these same creatures a second time in Book XII of the *Historia Natural de Indias Islas y Tierra-Firme del Mar Oceano*, as follows: (Oviedo, 1851)

- Chapter X, describes "tigres" in a manner similar to the *Sumario*;
- Chapter XII describes "leones rasos," which have distribution in the Northern coastal areas and in the South, they are the color of African lions and will kill a native if found alone;
- Chapter XIII describes "gatos cervales" as light, brown, fast, large man-killers, larger than jaguars, and the animal the Christians most feared in New Spain; and
- Chapter XIV describes "leones pardos" as spotted cats that are unlikely to kill people.

Returning to the question of how to properly translate the phrases in question from Pedro de Castañeda's manuscript, the answers are now more self-evident. We can translate the mysterious passages now as follow:

> En los ríos de este depoblado hay barbos y picones como en España **hay leones pardos que se vieron** desde el principio del despoblado siempre se va subiendo la tierra hasta llegar a Cíbola que son ochenta leguas la via del norte y hasta llegar allí desde Culiacán se había caminado llevando el norte sobre el ojo izquierdo. (Castañeda, 2002, p. 262)

Translation: There were cats of the species, "leones pardos," that were seen. From the beginning of the uninhabited area the land rises continually . . .

***

> Esta tierra es un valle entre sierras a manera de peñones a hoyos no crece el maíz alto de las mazorcas deste el pie tres y cuatro cada caña gruesas y grandes de a ochocientos granos cosa no vista en estas partes **hay en esta provincia osos en gran cantidad leones gatos cervales y nutrias** hay muy finas tartan turquesas aunque no en la cantidad que decían rocogen y entregan piõnes… (Castañeda, 2002, p. 263)

Translation:

…There are in this province bears in large quantity lions [a species of cat known as] "gatos cervales" and otters . . . "

Exactly what species of cats Coronado's men saw remains a mystery. Pedro de Castañeda may have seen North American species unknown to Oviedo, and simply assigned nomenclature that belonged to a similar-looking South American species. Since Oviedo described jaguars in great detail and segregated them from leones rasos, leones pardos and gatos cervales, however, it is clear that the cats Pedro de Castañeda mentioned did not include jaguars.

Conclusion

The analysis shows that Pedro de Castañeda used standard biological nomenclature–as set forth by Oviedo–to describe the animals the members of the Coronado expedition saw. He made no mention of jaguars (tigres), much less leopards.

Furthermore, by using the same biological nomenclature to translate the phrases in question, it becomes clear that Castañeda's manuscript does not corroborate the "leopards" mentioned in Ramusio's translation of the August 3, 1540 letter from Coronado to Viceroy Mendoza. Without such corroboration it is impossible to assign any credibility to Ramusio's apparent mention of jaguars.

Hence there is no verifiable evidence that Coronado's men saw any jaguars north of the present day Mexico/U.S.A border. Therefore, we may also conclude that there is no verifiable evidence that breeding populations of jaguars existed in Arizona or New Mexico at any time between the mid-16th and early 21st centuries.

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