

# Scarlet Macaws and Their Kin in the Desert Southwest

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Today's ornithologists and birders take pride in a variety of references—field guides, published scientific papers, unpublished field notes—that accurately delineate the geographic range of a particular species. Especially in the case of non-migratory species, the limits of their range are well understood. However, in some cases, little thought has been accorded to the long history of humans capturing and transporting live birds to breed them for ceremonial purposes more than a thousand miles from their natural range.

For instance, the Thick-billed Parrot (*Rhynchopsitta pachyrhyncha*), is one of only two parrot species whose natural range once included the United States. The earliest mention of the Thick-billed Parrot is an account written by a member of the 1582-83 Espejo expedition to northern Arizona.<sup>1</sup> There are two noteworthy aspects to this sighting. First, it remains the northernmost sighting of Thick-billed Parrots in the United States. Second, the sighting occurred only 45 air miles southwest from Wupatki Pueblo, where the remains of four Thick-billed Parrots were excavated by archeologists along with 53 Scarlet Macaws (*Ara macao*), a resident of southeastern Mexico.

The macaws' remains unearthed at Wupatki and at least eleven other sites in the southwestern U.S. are the result of a Pre-Columbian trade network that connected southeastern Mexico to the southwestern United States.<sup>2</sup> Wupatki lies 1175 air miles northwest of the natural range of the Scarlet Macaw in the tropical lowlands of eastern Mexico; the ground travel distance via these ancient trade routes that traversed numerous mountain ranges was considerably longer.

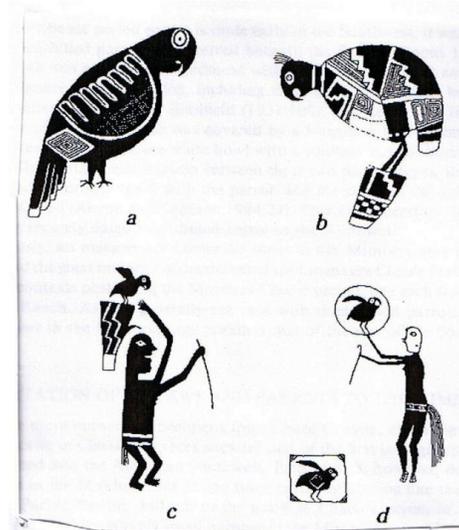
However, the Thick-billed Parrot may once have naturally ranged as far north as the pine forests near Wupatki, complicating the issue of whether its remains discovered there were truly due to human action.<sup>3</sup> Wupatki was built by the ancestral Pueblo people that included the Sinagua. To the southeast, the Mimbres culture—a subset of the Mogollon culture—thrived from about 825-1130 A.D. in an area encompassing the upper Gila River in southwestern New Mexico and southeastern Arizona. By 850 A.D., macaws and parrots were important birds used in ceremony, display, and trade in both these prehistoric communities.

The skeletal remains of Thick-billed Parrots have been found in association with those of Scarlet Macaws and human artifacts at sites that include the Wupatki Pueblo, the Curtis site along the Gila River in southeast Arizona, and Chaco Canyon in northern New Mexico. The highest number of skeletal remains of macaws in the U.S. were excavated at Wupatki. Two factors strongly suggest that the birds were killed as part of a ceremonial

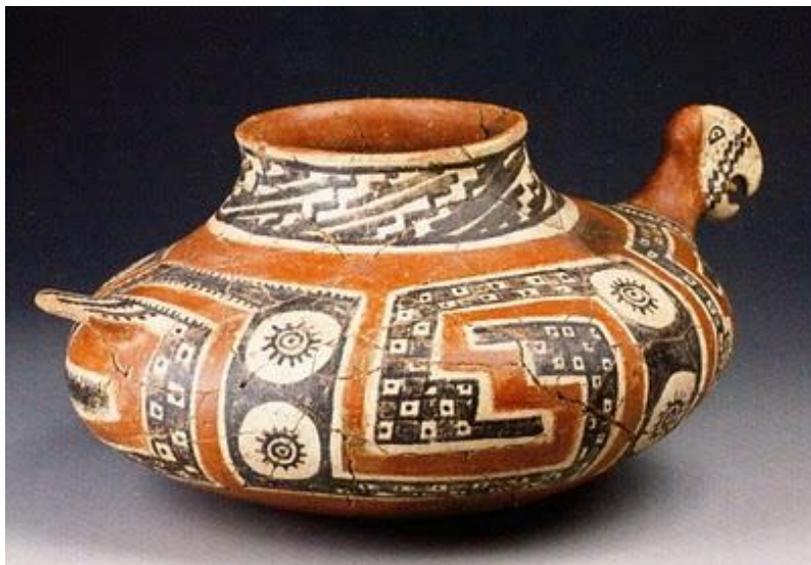
sacrifice. One, archeologists discovered that the remains were a part of deliberate burial pattern, often in special rooms in the community. Two, the age of the birds when sacrificed—around 1 year old—was timed to coincide with the Spring Equinox, March 21-22. The macaws' age when slain is consistent at widespread sites and represented a pattern that continued in the Southwest perhaps until around 1425 A.D.



Scarlet Macaw petroglyph,  
Petroglyph National Monument,  
New Mexico



Scarlet Macaw Mimbres pottery  
motifs (b. may be a quail)



Parrot effigy pot, Tonto polychrome, ca. 1300-1400, p.189, Brassler, *Native American Clothing*, 2009

Throughout history, animals commonly have been used for food and, once domesticated, for labor and companionship. However, examples of animals that have

been considered deities are rare. Perhaps the most well-known are the royal cats in ancient Egypt and sacred cows in India.

In the New World, macaws have played an important role in myth and culture for thousands of years, from the jungles of the Amazon and Central America northward to the Desert Southwest. The brilliantly plumed Scarlet Macaw and turquoise were considered to have the highest value of nearly 250 trade items that were transported hundreds of miles by foot. Puebloans who lived in what is now Arizona and New Mexico mined and processed turquoise to trade with their distant southern neighbors, in exchange for captured Scarlet Macaws.

Mimbres pottery is renowned for its finely painted bowls, decorated with geometric designs and stylized paintings of animals, people, and cultural icons done in black paint on a white background. A wide range of macaw imagery on ceramics—lone birds, travelers carrying birds backpack-style in burden baskets, bird trainers—have been recovered at archaeological sites. This ethnographic evidence supports the theory that macaws were exotic trade items and objects of veneration used in ceremony.

Archeological digs at southwestern sites unearthed intriguing finds that included severed macaw heads and at least one macaw that lacked a left wing. The unique case of a macaw buried with a human child was unearthed at Grasshopper Ruin in central Arizona, puzzling archeologists to this day. At Chaco Canyon, twelve macaw skeletons were excavated from what archeologists dubbed “Room 38.” Here, the skeletons of two macaws were found close to one another in circular cavities that had been dug in the floor and then filled with adobe. One of the bird’s remains was carefully covered over to obscure its location.

The skeletal remains of the Thick-billed Parrot also have been found in Anasazi, Hohokam, and Mogollon or Mimbres period sites. These prehistoric cultures are the ancestors of modern Pueblo Indians. Thick-billed Parrots—emerald green, with scarlet forehead, eyebrow, and shoulder patches—lack the blue and yellow feathers of Scarlet Macaws. The remains of the parrot have not been encountered to the same extent as those of the Scarlet Macaw, presumably due to its more muted coloration and smaller size.

The connection between macaw feathers and a bountiful harvest is embodied by their incorporation into “Corn Mother” fetishes by Puebloan peoples: a perfect head of corn bundled within a cluster of feathers. Scarlet Macaw feathers are still used today in some ceremonies, their feathers associated with the sacred cardinal directions of modern-day Pueblo peoples such as the Hopi, Keres, Jemez, and Zuni tribes. The reverence accorded Scarlet Macaws may stem from their perceived connection to rain, bountiful crops, and rainbows, owing to their yellow, red, and blue feathers. In addition, the multi-hued plumage of macaws suggests the multicolored kernels found on Indian maize.

Scarlet Macaws were transported north from southeastern Mexico in two defined legs of 300-700 miles each. The first ended at either the ancient trade center of Paquimé (also known as Casas Grandes), Mexico, Mimbres Valley, or Chaco Canyon, and took

about seven weeks. The second terminated at Wupatki in northern Arizona. Young macaws hatch in March and must be removed from the nest at around seven weeks of age so they can imprint on their trainers. Carried in baskets, they needed to be protected from the nighttime cold and fed dried corn every few hours, often directly from their keeper's mouth after he'd chewed and re-moistened the kernels. This feeding relationship resulted in human-imprinted birds that were attached to their keeper, but often acted aggressively toward strangers. The amount of effort and care required to successfully transport live birds many hundreds of miles underscores their esteemed status.

The breeding of Scarlet Macaws away from their natural range was most extensively practiced around 1200 A.D. at Paquimé. Located about 120 miles south of the Arizona-Mexico border, more than 500 macaw burials have been found at Paquimé. Although macaw husbandry in Northern Mexico wasn't restricted to Paquimé, macaw feces, adobe nesting cages with perches, eggshell fragments and extensive skeletal remains of breeding-aged birds unearthed there suggest that it was the dominant site in the region for this activity.<sup>4</sup>

The birds' images adorn pottery and their brightly colored feathers may have been used to make masks. Kivas are underground or partly underground chambers used by the men especially for ceremonies or councils. The mural on a kiva wall at Pottery Mound, New Mexico depicts a woman holding a Scarlet Macaw in each hand while lightning flashes from a painted bowl balanced on her head. The theme of calling upon the supernatural to deliver rain is reinforced by the inclusion of insects associated with water—mosquitoes and dragonflies—surrounding her.

Although live macaws were traded, feathers were undoubtedly the more widespread prehistoric trade item. Feathers are unlikely to be preserved under most archeological conditions, with the most notable exception being a macaw feather skirt that was recovered in 1954 in near-perfect condition from a small cave in southeastern Utah's Lavender Canyon.<sup>5</sup> Consisting of 2,336 feathers—1,504 red and 832 blue—this one-of-a-kind artifact is estimated to be around 830 years old. The blue feathers form a thunderbird pattern that may have been a clan symbol.<sup>6</sup> Women are depicted on Mimbres pottery wearing a similar artifact, as is a man on a kiva mural from Pottery Mound, New Mexico. Archeologists believe the skirt was crafted in Mexico, because the technique used to tie the feathers together is comparable to Aztec shields. The skirt is the northernmost Scarlet Macaw artifact discovered to date, more than 1300 air miles from the species' natural range.

The macaw's esteemed position led to its motif frequently appearing in Puebloan artwork. Today's tourists, unaware of the macaw's history must surely puzzle over its inclusion in petroglyph sites in New Mexico such as the West Mesa Escarpment near Albuquerque and Petroglyph National Monument. Petroglyphs at Hovenweep National Monument in Utah are noteworthy, as they represent the northernmost examples of macaws motifs being incorporated into rock art. The Hohokam people of southern Arizona fashioned parrot or macaw effigy pots, complete with head and stubby tail feathers, ca. 1300-1400. The ethnographic record of macaw images would have been far

richer were it not for the custom of ritually “killing” painted Mimbres pottery by smashing it or by punching a hole in the bowl before placing it over the head of the deceased, so that he or she could gaze for eternity into the picture that was painted on the pottery’s inner surface.

With the demise of Mimbres culture around 1130 A.D., Scarlet Macaws disappeared from the Desert Southwest. However, ancient trade routes between southern and northern Mexico continued to be used to transport other goods. As late as 1895, itinerant traders conducted long-distance trade on foot, according to J. Charles Kelley.<sup>7</sup>

## Part II

### Thick-billed Parrots’ Long Journey from Cage To Cage

Following the disappearance of Scarlet Macaws in the Desert Southwest, Thick-billed Parrots continued their nomadic existence in the region. Wandering northward from their core breeding range in northern Mexico’s Sierra Madre Mountains, the birds were observed in southeastern Arizona’s Chiricahua Mountains in 1898, 1900, 1902, 1904, 1906, 1917-18, 1920, 1922, 1935, and 1938. The 1917-18 event was especially robust, with an estimated 1000-1500 parrots noted in Pinery, Rucker, and Price Canyons.<sup>8</sup>

Scattered reports exist of the presence of Thick-billed Parrots in other southwestern mountain ranges. Cattlemen reported to T. Swift, supervisor of what is now Coronado National Forest, the presence of parrots in the southern end of the Pinaleno Mountains sometime prior to 1917. In 1917, parrots were seen in the Patagonia Mountains near Mowry and in the Dragoon Mountains in Cochise Stronghold Canyon. In 1918, a forest ranger reported parrots in Rattlesnake Canyon at the northern end of the Galiuro Mountains. About 150 arrived about the middle of May and remained until early fall. Despite the birds’ presence in multiple mountain ranges during their breeding season, no nest was ever found.

In fact, no Thick-billed Parrot nests have ever been found north of Mexico. However, the species’ high-elevation habitat wasn’t thoroughly searched early in the 19th century when the parrot still occurred regularly in the United States. The species was recorded many times in the Chiricahua Mountains during the early 1900s, strongly suggesting that it was breeding there. Even within the parrot’s core breeding habitat in northern Mexico, few nests have been found. Today, the Thick-billed Parrot nests a mere 56 miles south of the Arizona-Mexico border.

Although Thick-billed Parrots feed mainly on pine seeds, they also eat fruit and juniper berries and were observed feeding on acorns during the winter of 1917. Because of the parrot’s fondness for fruit, it was reviled by orchardists. Also, because various newspapers erroneously reported that the birds ate sorghum, corn, and kaffir corn—the predecessor of today’s milo and grain sorghums—the species also incurred the wrath of ranchers.

Copper and silver mining began in earnest in southeastern Arizona in 1877, drawing thousands of miners and loggers to the region. The relationship between miners and parrots was more complex than the one between fruit growers and the species. On one hand, miners believed that the flocks foretold of riches that were certain to come their way, wrote Austin Paul Smith about their 1904 appearance in the Chiricahuas:

Their appearance greatly excited the miners, who were inclined to consider it a lucky sign, with “strikes” sure to follow.<sup>9</sup>

On the other hand, survival of many destitute prospectors depended on subsistence hunting of wildlife that included parrots. Soldiers also hunted them, as shown by photos of parrots shot by Army personnel in the Chiricahuas around 1904. This intense hunting pressure around the turn of the century resulted in the extirpation of elk, pronghorn, bighorn sheep, and wild turkey from the region, in addition to greatly reducing the number of parrots. Most early accounts of parrots mentioned slaughter, which was the major factor in the parrots’ disappearance from the Desert Southwest. Richard D. Lusk chronicled a typical interaction between timbermen and parrots in the Chiricahuas in 1900:

They [the parrots] appeared to come up the large canon [sic], at the head of which I was encamped, to about midway of the mountains’ height, where the oaks begin to give place to pine, and there they tarried—many of them I regret to say, for aye, for the timbermen in a pole-cutter’s camp hard by, carried away by the novelty of the visitors, began slaughtering them, and captured one by a chance wounding from which it quickly recovered. And I, of course, must have a couple of specimens of this rare straggler (?). The remnant of that picturesque and interesting company, concluding perhaps, though wrongfully, that they were unwelcome to citizenship in this great republic, disappeared, returning, probably, to the land whence they came; and if they tell hard things of the inhabitants of Arizona to their fellows in that country, and to such of its human inhabitants as speak their language, they can scarcely be blamed.<sup>10</sup>

The parrots’ loud calls, sounding much like human laughter, could be heard more than a mile away. That, combined with their gregarious nature and inquisitive disposition, made them a ready target, such as in the winter of 1917-18, when an estimated 100 of the 300 birds in Pinery Canyon were shot. This wanton destruction of Thick-billed Parrots hindered efforts to confirm their breeding in the United States. Following the slaughter of parrots during 1917-18, ornithologists and others who cared about the parrots were reluctant to report their sightings, wrote Charles T. Vorhies:

...a number of summers ago he [F.H. Hands] ‘heard an unconfirmed rumor that a few were on top of the mountains, but it wasn’t allowed to leak out in order to protect them.’<sup>11</sup>

The last time truly wild flocks of Thick-billed Parrots were seen in Arizona and New Mexico was in 1938 and 1964, respectively. Between 1986 and 1993, 88 parrots were re-introduced into the Chiricahuas. The program to return these parrots to Arizona skies

began serendipitously, when U.S. customs officials found themselves with 29 wild parrots that had been confiscated from smugglers. A total of 23 parrots—offspring from Mexican wild birds—were cage-raised for one to six months prior to their release. These 52 birds were augmented by an additional 36 birds later confiscated from smugglers. Breeding was confirmed in 1988, 1989, and 1993. One pair successfully fledged two young in 1988, breeding was attempted (but failed) by three pairs in 1989, and one pair in 1993.

However, most of the captive-raised birds lacked flocking instincts, which are crucial for establishing a sentry system to warn the flock of predators. Once released from their cages, several of the flocks were unable to form social bonds necessary to create and maintain a flock and some parrots took solo journeys to other mountain ranges that lacked pine cones.

Unfortunately, the reintroduced parrots were unable to overcome ongoing drought, predators such as the Northern Goshawk, and parrot wasting disease (psittacine proventricular dilation syndrome). Stands of pine trees—their primary food—were much reduced because of climate change-induced bark beetle infestation and large-scale fires. Thus, the reintroduction effort was discontinued in 1993 and members of this flock were last sighted in 1995.<sup>12</sup>

In 1990, I traveled to the Chiricahua Mountains hoping to encounter a flock of Thick-billed Parrots. When our party arrived at a site the parrots were known to frequent, we were met with the most-dreaded words in the birder's lexicon. *You just missed them. They were here 20 minutes ago.* The disappointment at missing this flock cut deep. My spirits were buoyed somewhat knowing that the species could still be found in Mexico and might someday again be found in the U.S., should a reintroduction program be resumed. Years later, I came across a paper written by W.H. Bergtold, who described his encounter with the species near the site of the ancient trade center of Paquimé:

It was a great surprise to see how different is a wild parrot from a tame one; one must need to get an idea from the latter that a parrot is a slow, lumbering climber, able to use its wings perhaps yet little given to prolonged and vigorous flight. On the contrary, this Thick-billed Parrot flew across deep barrancas [gorges], from mountain to mountain, as swift and strong on wing as a duck, going often in large flocks, which were noticeably divided in pairs, each couple flying one above another as closely as beating wings allowed. Its loud squawk resounded overhead, across the barrancas, and in the pines all day long, from dawn till dusk; and many and many a time a flock could be heard long before it was in sight.<sup>13</sup>

The parrot's habitat preferences, as noted by ornithologists and birders between 1986 and 1993, represent critical information that would serve as a template for any future reintroduction efforts. The 2004 occurrence of a single, wild Thick-billed Parrot in a remote part of southwestern New Mexico—viewed by nearly 500 birders—suggests that the species could possibly re-establish a foothold in the United States. Although the parrot was listed as “endangered” since the inception of the Endangered Species Act in 1973, the U.S. Fish and Wildlife Service had taken little action, despite the agency's policy of adopting a recovery plan within 2.5 years of a species being listed. As a result of a

lawsuit filed by WildEarth Guardians, the agency completed its final recovery plan addendum for the Thick-billed Parrot on July 2, 2013.

Although the sacrifice of a Scarlet Macaw or Thick-billed Parrot a thousand years ago seems odd—even brutal—to us, it was done as a supplication to the gods. Rainbow-hued macaws, transported great distances and tended to for a year, were highly venerated. They were sacrificed in order to create favor with the gods and ensure a bountiful harvest. Viewed in this context, the apparent contradiction—a god that must be sacrificed—is explained. To present the gods with a less-worthy object was to tempt fate: a meager corn harvest and the suffering of the community that would certainly follow.

The way we view the macaw and its relative, the Thick-billed Parrot, has come full circle. Long ago, they were regarded as deities. Later, the Thick-billed Parrot was regarded by miners, settlers, and soldiers as a creature fit only to eat—or to be slain solely because of its exotic appearance, its “otherness,” in the words of evolutionary theorist Paul Shepard.

Bergtold’s lyrical description of his encounter with flocks of Thick-billed Parrots hints at what writer and conservationist Aldo Leopold considered the *numenon* of the Sierra Madre’s pine forests. Leopold was intrigued P.D. Ouspensky’s *Tertium Organum*, in which the Russian philosopher discussed the imponderable essence of material things. Leopold gave an example of Ouspensky’s theory in his paper, “The Thick-billed Parrot in Chihuahua”:

... Ouspensky has called this imponderable essence the *numenon* of material things. It stands in contradistinction to *phenomenon* which is ponderable and predictable, even to the tossings and turnings of the remotest star... Everybody knows, for example, that the autumn landscape in the north woods is the land, plus a red maple, plus a Ruffed Grouse. In terms of conventional physics, the grouse represents only a millionth of either the mass or the energy of an acre. Yet subtract the grouse and the whole thing is dead.<sup>14</sup>

Leopold’s introductory sentence to the paper—“The physics of beauty is one department of natural science still in the Dark Ages”—announced to readers that what they held in their hands was an experiment in the cross-pollination of ornithology and philosophy. Although he substituted the parrot in the final sentence with a species more familiar to him and his American audience, elsewhere in his paper, he wrote, “I here record the discovery of the numenon of the Sierra Madre: the Thick-billed Parrot.” In using phrases such as “the whole thing is dead,” and “the physics of beauty,” Leopold makes clear that the local extirpation or extinction of wildlife takes a massive toll on the human spirit as well.

Future prospects for the return of Thick-billed Parrots to the United States are murky. A century of fire suppression has turned out to be catastrophic for forests in the southwestern U.S. and elsewhere, spawning bigger and hotter fires when they do occur. For instance, the Horseshoe 2 Fire in 2011 burned 70% of the Chiricahuas, decimating its pine trees. The increasing occurrence of fires casts doubt on whether its former habitat

could now support Thick-billed Parrots. Nevertheless, plans are afoot to resume the program to return these charismatic creatures to southwestern skies. When the program does take flight, it can count on the support of a growing number of wildlife aficionados who acknowledge the long association between humans and birds. Throughout the world, long-term bonds we've forged with birds clearly illustrate that their welfare is inextricably linked with the health of the human spirit.

## References

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<sup>3</sup> Hargrave, "Bird Bones," 206-210.

<sup>4</sup> Paul Minnis, Michael Whalen, Jane Kelley, Joe Stewart, "Prehistoric Macaw Breeding in the North American Southwest," *American Antiquity* 58 (2) (1993): 270-276.  
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<sup>5</sup> Lyndon Hargrave, "A Macaw Feather Artifact From Southeastern Utah," *Southwestern Lore* 45 (4) (1979): 1-6.

<sup>6</sup> Video of Scarlet Macaw feather skirt artifact. Youtube.com. Retrieved October 14, 2013.  
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<sup>7</sup> Charles Kelley, "The Aztatlan Mercantile System: Mobile Traders and the Northwestward Expansions of Mesoamerican Civilization," *Greater Mesoamerica: The Archaeology of West and Northwest Mexico*. (Salt Lake City: University of Utah Press, 2010) Chapter 9.

<sup>8</sup> Alexander Wetmore, "The Thick-billed Parrot In Southern Arizona," *Condor* 37 (1935): 18-21.

<sup>9</sup> Austin Smith, "The Thick-billed Parrot in Arizona," *Condor* 9 (1907): 104.

<sup>10</sup> Richard Lusk, "Parrots in the United States," *Condor* 2 (1900): 129.

<sup>11</sup> Charles Vorhies, "Arizona Records of the Thick-billed Parrot," *Condor* 36 (1934): 180-181.

<sup>12</sup> Noel Snyder, Susan Koenig, James Koschmann, Helen Snyder, Terry Johnson, "Thick-billed Parrot Releases in Arizona," *Condor* 96 (1994): 845-862.

<sup>13</sup> W. H Bergtold, "Concerning the Thick-billed Parrot," *Auk* 23 (1906): 425-428.

<sup>14</sup> Aldo Leopold, "The Thick-billed Parrot in Chihuahua," *Condor* 39 (1937): 9-10.

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The scarlet macaw (*Ara macao*) is one of the symbols of the Peruvian Amazon. Its brilliant colors have captivated people all over the world through the iconic images of the birds feeding on collpas (clay licks). Macaws in general, aside from being visually impressive, are important components of jungle life. They disperse seeds which help the regeneration of trees. One of them is that they need sodium and other minerals found in the clay. Another is that macaws enjoy socializing at the claylick every morning. One of the macaw's strongest competitors for the use of trees as nests is the Africanized bee. For some researchers, the macaw's presence is an indicator of forest quality, since the macaw needs certain tree species to nest in that are characteristic of primary forests. Scarlet macaws prefer life in the rainforest. With wide strong wings and hollow bones that aid flight, they can reach speeds of 56 kilometers (35 miles) per hour. The scarlet macaw has a strong, curved beak to crack hard nuts and seeds, and a tongue that can hold onto the kernel to pull it from the shell. They eat clay from riverbanks, though no one is sure why. Males and females both look the same. While some learn to speak, most macaws have limited ability to mimic. Scientific Name. Lifespan. Scarlet Macaws make wonderful pets for the right person. Learn more about their care, housing requirements, temperament, and more. Scarlet macaws are native to the tropical rainforest areas of Central and South America. Its preferred habitat is humid evergreen forests at elevations from about 1,000 to 3,000 feet. In the wild, it dwells mostly in the emergent and canopy layers of the trees. In the wild, scarlet macaw's live in small groups, and when kept as an individual bird as a pet, it needs a lot of interaction several hours a day. Scarlet macaws, like other types of macaws, are usually sold only at avian specialty pet stores or by breeders. Rescue/adoption agencies may also sometimes have this bird given up by owners unable to care for them.