



Nest sites of wild parrots

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Where do parrots nest? The simple answer is "In nest boxes." For the most part this is true for nearly all parrots in captivity but in the wild parrots exploit a variety of more interesting sites. While the sites used by nesting wild parrots do differ, most breed in some sort of cavity or hollow that hides the nest and provides a measure of protection against the weather.

Most parrots nest in tree cavities. While pet parrots are renowned among their owners for their ability to chew wood, most species are unable to make hollows in trees suitable for nesting. For this reason most parrots are dependant on tree cavities that form by other means. Branches often break off of large trees leaving the heart wood exposed. This exposed wood then decomposes with the help of fungus and termites leaving a natural hole that may be suitable for parrot nesting. In lowland Peru many of the holes used by Green-winged Macaws (*Ara chloroptera*) are formed in this way when branches break from the towering Dipterix trees. A few parrots may also be able to use holes made by woodpeckers. The hard-headed woodpeckers are especially adapted for pounding out holes in solid wood. After the woodpeckers finish nesting, parrots may move in to raise a family. If the hole is too small or needs a little renovation, the parrots may use their chewing ability to enlarge and customize the hole. The Military Macaws (*Ara militaris*) of northern Mexico are thought to have used the holes of the now nearly extinct Imperial Woodpecker but as this large woodpecker disappears so does this potential source of nest cavities.

The tall and swaying palms that we romantically associate with the tropics also do their share to help out the parrots. In life many palms provide important food sources and in death they often provide nesting places. The tall and spindily palms with the dense clusters of leaves at the top are reminiscent of mops with their handles stuck in the ground. Because of this growth form strong winds (and other factors) can snap off the top of the tree, killing it and leaving the tall thin trunk standing. When this happens, the soft pithy "wood" in the center of the palm begins to rot away leaving the more resistant outer shell. These tall standing tubes provide nest sites for a variety of parrot species. Blue and Gold Macaws, Blue-throated Macaws, Red-bellied Macaws and Dusky Conures (to name just a few) will all use these sorts of sites for nesting. There are some parrots that don't wait around for trees to break or rot. They take matters into their own hands and make their own nest cavities. A handful of species can excavate their own cavities in rotting trees like the Blossom-headed Parakeet (*Psittacula roseata* a relative of the Indian Ringneck) and the Orange-chinned Parakeet (*Brotogeris jugularis*). These birds require trees that are sufficiently soft permit easy digging, but strong enough to remain standing throughout the nesting season. It may be that few trees meet these strict requirements but regardless, this behavior is rather rare among the parrots.



Parrots have found a number of alternatives to soft rotting trees that allow them to excavate with much less risk of the entire structure collapsing. In living palms old leaves often die and their bases remain attached to the tree for many years. These bases provide a thick fibrous mass that surrounds the hard trunk. The fibrous mass is just the right consistency for Yellow-chevoned (aka Canary-winged *Brotogeris chiriri*) and White-winged Parakeets (*B. versicolorus*) and the strong trunk of the living palm helps ensure that the entire structure remains in place until the young safely fledge. Some Aratinga Conures and the Fisher's Lovebird (*Agapornis fischeri*) may also make nests among the old leaves of palms.

Exploiting another completely different substrate is the Patagonian Conure (*Cyanoliseus patagonus*). This parrot from the deep south of Argentina excavates burrows in cliffs and banks along rivers or near the ocean. The Maroon-fronted Parrot (*Rhynchopsitta terrisi*) makes its nests in cliffs in the pine-dominated uplands of northeastern Mexico. The birds' deep burrows on high vertical cliffs provide good protection from most predators that would try to plunder the nest. In other ways these nest sites are much more secure than the tree cavities so many parrots are dependant upon. A perfect example of this can be seen by the endangered Thick-billed Parrot of northwestern Mexico. This species is almost identical to the Maroon-fronted in its feeding and habitat, but where the Maroon fronted uses cliffs, the Thick-billed is dependant on cavities in large old pine trees. The value of these large pines for timber has led to many of them being harvested resulting in drastic declines of this species in the wild. Other species are also known to nest in cliffs like Brown-throated, Red-fronted, and Red-masked Conures and Hyacinth, Lear's, Green-winged and Military Macaws, but some of these may not excavate their own cavities, relying instead on natural crevices to provide nesting chambers.

Some parrots go so far as to build their own nests out of sticks. Some African lovebirds (*Agapornis* sp.) make nests of grass or sticks but these are usually placed in cavities in trees or cliffs. The Slender-billed and Austral Conures of South America may occasionally build stick nests when there are no cavities available. By far, the most famous stick nester is the Quaker or Monk Parakeet (*Myiopsitta monachus*). In lightly wooded and open areas of South America, Quakers gather sticks and construct immense nests on trees, towers or even telephone poles. These nests may contain up to 20 (or more) individual nest chambers each occupied by a different pair of parakeets. These untidy looking stick nests may be over six feet long and weigh as much as 400 lbs!

One of the strangest places that parrots nest is in termite mounds. While this may seem to be the oddest place of all, it is a surprisingly common. At least 34 species, about 10% of all parrot species, have been found nesting in termite mounds. Most of the species that nest in termite mounds are small like the Grey-cheeked Parakeets (*Brotogeris pyrrhopterus*), Green-rumped Parrotlet (*Forpus passerinus*), and Orange-fronted Conure (*Aratinga canicularis*) and the Hooded Parrot (*Psephotus dissimilis*). Some species use terrestrial termite mounds, like the Hooded Parrot, but most use termite mounds that are located in trees that may be 6 to 40 ft. high or more depending on the area. The strangest thing about nesting in termite mounds is that the parrots almost always choose mounds where the termites are still present. As the birds excavate their nest cavities, the termites rush to the broken sections to defend their colony from the avian invader. Fortunately for the birds, the soldier termites have no mandibles and can't bite. Instead, the major



defence of the termites is to shoot small quantities of a sticky irritating glue at the feathered attacker. From personal experience I know that this glue has little effect on human skin and is likely only mildly irritating to the excavating birds. As the birds continue to excavate, the termites become accustomed to the comings and goings of their new neighbors. Eventually the termites seal off their passageways that lead to the bird nests, leaving the birds and termites living peacefully in complete isolation.

From tree cavities to termite mounds, the world's parrots have evolved to use a variety of interesting places to raise their young. While many are confined to using only simple tree cavities, others can exploit a variety of different sites. For instance many macaws like the Hyacinth nest in cliffs but in areas where there are no cliffs like the flat marshy areas of Brazil's Pantanal, the birds resort to tree cavities. A variety of other parrots can choose among different types of sites, but none equal the members of the genus *Brotogeris* for sheer variety of nest sites used. Members of this group that includes the Grey-cheeked, White-winged and Orange-chinned Parakeets are known to excavate nest in termite mounds, palm leaves, rotting trees and they can also use naturally occurring tree cavities. So the next time you look at a nest box remember that there are lots of other places that young parrots are brought into the world.