Military Macaw Nests in Trees:

IF NOT HIGH, THEN DEEP

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Throughout its geographical distribution the threatened Military Macaw (Ara militaris) is normally associated with using relatively inaccessible cliffs for nesting. However, on the coast of Jalisco in Mexico, a population of the subspecies mexicanus nests in trees, which brings about different ecological constraints. The Loro Parque Fundación supported Dr. Katherine Renton, of the National Autonomous University of Mexico, and her team to study the population, with the objective to help its conservation. The researchers have recently reported the results of their studies on the nest-selection of these macaws.*

The first point they make is that these Military macaws are like other large-bodied secondary cavity-nesters, being constrained to use cavities of sufficient size to permit access, while also selecting characteristics to reduce predation. The researchers located tree-cavity nests of Military Macaws in tropical dry semi-deciduous forest; and for each nest they determined cavity characteristics, and compared the structure of nest-trees with nearest-neighbour trees. They also established transects in each of deciduous, semi-deciduous, and oak forest to determine tree cavity availability over an area of 6 ha. Military Macaw nest-sites occurred most frequently in cavities of live parota (Enterolobium cyclocarpum) trees. The nest-trees had significantly larger diameter and branching height than the four nearest neighbour trees, indicating that the macaws selected tall, emergent trees as nest-sites.

Cavities used as nest-sites by the Military Macaws were also in significantly larger trees, at a greater height, and had larger entrance





Left: Military Macaw (Ara militaris mexicanus) in Jalisco, Mexico. Above: Military Macaw in nesting tree.

diameter and depth than all accessible cavities. The researchers outreach with local communities in macaw nesting areas, and found that height above the ground was the main factor predicting nest-cavity selection, possibly to reduce predation risk. Also the nearer a nest-cavity was to the ground, the more likely it would be deeper. The researchers suggest a trade-off in which Military Macaws may select a nest-cavity high above the ground regardless of depth, but when using lower cavities, these tend to be deeper. Overall there was a low density of cavities with characteristics suitable for nesting, and these were concentrated in semi-deciduous forest.

The species-specific selection of nest-cavities by Military Macaws, and the low density of suitable cavities in these tropical forests have conservation implications. Understanding its nesting requirements is essential to develop strategies to preserve habitat features that sustain its breeding productivity and survival. The fact that the Military Macaws along the coast of Jalisco use tree-cavity nest-sites makes them highly vulnerable to human nest-poaching, compared with other populations nesting in cliffs. Nest poaching is intense in the region, making it imperative to implement environmental

establish alternative economic activities, such as ecotourism based on observation of Military.

Macaw nests, that may provide incentives for conservation of the macaws and their nesting habitat.

Most Military Macaw nest-cavities occurred in large trees (of about 1m diameter) at extremely low densities, all in semi-deciduous forest, and may be a limiting resource for reproduction of the population. Selective forestry practices tend to extract the larger trees, and bring macaw conservation into conflict with forestry practices aimed at extraction of large valuable-wood trees. The researchers make clear that a landscape management strategy to maintain breeding habitat for the Military Macaw should focus on conservation of primary semi-deciduous forest.

*Sylvia Margarita de la Parra-Martínez, Katherine Renton, Alejandro Salinas-Melgoza and Luis Guillermo Muñoz-Lacy. (2015) Treecavity availability and selection by a large-bodied secondary cavitynester: the Military Macaw. Journal of Ornithology 156: 489-498