

# Observations of *Eclectus roratus macgillivrayi* in Habitat

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On a recent trip into the Iron Range in the northerly portion of Cape York Peninsula, northern Queensland, Australia, I had the thrill of observing Eclectus Parrots (*Eclectus roratus macgillivrayi*) at their natural forest nesting sites. This trip was made in the company of Bill and Wendy Cooper. My other traveling companions were U.S. wildlife artist Albert Earl Gilbert and one of my grandsons, Christopher V. Anderson. Our purpose was to see, in habitat, the Golden-shouldered Parrot (parakeet), the Palm or Great Black Cockatoo and the Eclectus Parrot, as well as the multitude of other interesting creatures and botanicals that inhabit that area. It is very satisfying to be able to say that we succeeded in all respects!

The major reason for our high level of success was the knowledge of Bill and Wendy and their friends (and our guides) Dr. Sarah Legge and her doctoral student Steve Murphy. Dr. Legge has, for several years, been conducting research on the Eclectus Parrots in that area and Steve Murphy is studying the Palm Cockatoos as his doctoral research project. Consequently both Dr. Legge and Steve Murphy are intimately familiar with the locations and habits of both of these species. From her extensive first hand field observations and research Dr. Legge holds a wealth of knowledge of the requirements, behavior, and habits of the Eclectus Parrots in the wild. One of the facets of her research is "why the female is so brightly and so differently colored from the male"?

Dr. Legge shared with me the following information, all of which was previously unknown to me (and I suspect to most aviculturists). I wish to share it with you.

Our guides took us to one forest giant (the occasional giant, emergent tree that towers above the rest of the forest canopy) called the "smuggler's tree." That tree, in its numerous hollows accomodates 17 Eclectus (12 males and 5 females – all of the females in possession of nesting cavities in this one tree), two pairs of Sulphur-crested Cockatoos, roosting cavities in its trunk and branches for a multitude of bats, and a colony of Metallic Starlings (*Aplonis metallica*) in its canopy. This is a real natural "Christmas tree." This tree is however, so large that unless it was pointed out to you, you may well walk right past (under) it without ever being aware of what was going on above you.

The "smuggler's tree" is so named because of the now rusted spikes that were placed up its trunk to make it easier for the poachers to reach the nest cavities. Those spikes can still be seen in its trunk.

Dr. Legge explained to us that, unless threatened, the Eclectus females virtually never leave the vicinity of their nests, relying instead on the males to bring them food. The

females sit in the nest cavity and in the cavity entrance for at least a month before starting to lay eggs (which usually occurs in September). Like most Psittacines, the females incubate and care for the young while they are small but unlike most, the Eclectus females refuse to leave the hollow much before the chicks fledge.

After the chicks have fledged the females return to their nest hollows every day to make sure that no intruders are trying to claim it. The females will vigorously attack any other female Eclectus who ventures too close to the site and will even attack their own males if they attempt to enter the nest cavity.

It was explained to me that all of the nest sites are high in emergent trees, generally from about 60 to 125 feet or more, and are in bright light above the main forest canopy. These conditions are generally only found in the forest's emergent giants. Suitable nest trees in the Australian Eclectus habitat area are rare and the quality of the cavities varies greatly. The majority of the cavities tend to flood during the heavy rains. When this happens even the large chicks drown. Consequently even small and inadequate cavities are guarded by females that have not been able to find something better. Dr. Legge has not yet determined if the intensely colored head of the female Eclectus is a signal to other females that "this hollow is taken," or to prospective mates that she owns a good nest site

In the wild in this area, the Eclectus breed cooperatively in relatively stable groups. Some males help care for the young (feed the nesting female) without contributing any thing genetically to the young. Many males regurgitate food to feed the one female at the nest hollow. Dr. Legge has observed up to eleven males (but usually about five) at one nest hollow (I know a couple of human women who also fit this profile). She thinks that some of the males are mates of the resident female and others may be her offspring. She is netting and color banding the birds, a difficult task in the very high canopy, in order to help sort out these questions. This however provides the researchers the opportunity to obtain DNA material to determine relationships within the colony as well as continued identification of the specific individuals.

Another surprising conclusion of her research is that the Eclectus females are some how able to control the sex of their offspring! In 12 years, one of her study females produced 20 consecutive sons followed by 13 consecutive daughters. Since the statistical probability of producing a particular sex is 50%, it is a virtual impossibility for this to be a chance occurrence. They are now conducting research into this facet of the eclectic Eclectus but they suspect that it relates to the availability or scarcity of acceptable nest sites. ❖