

## **Indonesian Cockatoos: Lessons from the Wild to Our Homes**

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Five species of cockatoo are native to Indonesia: the Seram or Salmon-crested cockatoo *Cacatua moluccensis*; the "Umbrella" cockatoo *C. alba*; the Lesser Sulphur (or Yellow)-crested cockatoos *C. sulphurea*; the Medium Sulphur-crested *C. galerita eleonora* and *triton*; the Goffin's *C. goffini*; and the Palm *Probosciger aterrimus*. Observations of their natural behaviors in the wild are still quite limited and there exist no detailed studies of any Indonesian cockatoo which approach those in Ian Rowley's book about the Rose-breasted cockatoo, Behavioural Ecology of the Galah. However, enough information is surfacing to begin to draw some lessons of relevance to the care of these magnificent creatures in captivity.

### **Breeding**

Let's look at the breeding behavior of the Moluccan cockatoo. They nest in dark tree cavities, and the parents stay close to the chick, lavishing it with attention. Even after fledging, the juvenile stays with its parents for a year or more. We have seen parents feeding a fledgling while sitting on a tree limb, even seeming to try to force more food upon an obviously-sated youngster. This bird was much older than the weaning age of companion birds.

When one reviews the practices of the 'old' aviculture-- of pulling chicks and putting them in brightly lit rooms in aquaria, and feeding them on a schedule wherein they often cry or beg for food--one gets a window into why many hand-raised Indonesian cockatoos develop severe dysfunctional behaviors such as feather plucking, self-mutilation, aggression and phobic behavior. Lessons from the forest argue strongly for the need for co-parenting, if not outright parental raising of these sensitive birds, if one is going to breed them at all.

Additionally, the limited breeding data on Indonesian cockatoos indicate that the Seram cockatoo breeds once a year between July and September, and probably a second time at the beginning of the year. Usually two eggs are laid; only one is raised. Thus, using recurrent cycles of pulling eggs to induce breeding as still relied on by some aviculturists is not consonant with their natural behaviors.

### **Social Interaction**

We will never be able to fully assess the complex interactions of some cockatoos since population sizes have been depleted, and some no longer flock in the larger numbers they once did. However, cockatoos still live in a complex society based long term social bonds. Generally it is a monogamous society, but this is not absolute. Trappers claim that Seram cockatoo hens have brief "affairs" before returning to their partners but we do not recommend incorporating this into your household protocol!

A recent study by Dudi Nandika ( a student from Jakarta) which was funded by Project Bird Watch, analyzed typical daily behavior of the critically endangered *sulphurea* subspecies of the Lesser Sulphur-crested Cockatoo in Southeast Sulawesi. Since these data were accrued at dawn and close to dusk, they presumably were at the site of the flocking (sleeping) tree. He found that they spent 14% of their time eating; 41% just perching; 21% playing; and only 2% actively socializing; the rest was spent preening and in other activities. Ninety-one percent of the time was spent in the upper and middle tree canopy, perhaps the forest equivalent of our cage tops at home; note that cockatoos generally don't come to ground--their "cage bottom"--to feed.

So playtime is important to cockatoos.. We have observed juvenile Triton cockatoos breaking off the branches they were perched on, falling towards the ground and swooping back up to play another round of this game, all to gleeful squawks of delight. Seram cockatoos play by bathing in wet leaves after a rain; playing with twigs they break off; and stripping bark off larger branches. Their highly developed brains are also kept active during the large percentage of the day spent foraging for food. Fortunately, the message is getting out: it is better for your parrots--- both mentally and physically-- to forage for their food than to just have it presented to them in bowls. But what is often overlooked (literally) is the great *visual* stimulation obtained during foraging flights. The inference is that we should learn to change the *visual ambience* for our cockatoos much more than many of us are probably achieving at home now, especially when one considers that parrots can see into the ultraviolet spectrum.

**Health and Disease:** Psittacine Beak and Feather Disease was present in many Indonesian cockatoos when they were imported in the U.S. and other countries in the 1970's before the disease was even recognized. Project Bird Watch is systematically assessing whether this disease is present in the Indonesian rainforest itself (as it is in Australia) or was acquired from exposure to the cages or housing of the smuggler. However this disease has been detected recently in high percentages of cockatoos studied in several different countries, especially in the EU. We suggest therefore that *all* cockatoos might be screened for this dreaded disease.

One behavior of particular interest to students of cockatoos is feather-destructive behavior (FDB), if only by its absence in the wild. We have been told by Mr. Ray Ackroyd that this behavior is rare in captivity in Australia (where in general, parrots are kept in relatively large outdoor flights). Furthermore, according to trappers, FDB is not observed in wild Salmon-crested, Citron-crested, or Triton cockatoos--*at least until they are trapped and put into cages*, where it may rapidly appear. The same is true for cockatoo aggression against mates or chick. Thus the stress of confinement without adequate space in which to move (and to fly) might be a major contributor to some types of aberrant cockatoo behaviors.

**Diet:** If asked, most of us would probably say that the dominant food of wild Indonesian cockatoos would be nuts, and indeed, the Palm cockatoo (the only black cockatoo in the group) favors the nut (seeds) of the Pandanus pine and ketapong tree (*Terminalia*

*catappa*), using a leaf as a tool to anchor the latter incredibly hard nut of the latter in its foot. But in fact the parts of the tree and plant most often favored by the white and pink cockatoos are the fruits, which they supplement with some nuts, flowers, berries, young leaves and shoots, and the occasional larva or arthropod. In fact, wild cockatoos will eat the fruits off favored delicacies and then drop the nuts! So where does all the protein, omega-3 fatty acid and fat come from that we assume they need to get in the wild, and what happens when we provide all these "normal dietary constituents" to sedentary cockatoos in cages? The more we learn about these creatures in the native habitat, the more new questions and mysteries emerge.