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INSIGHTS ON FLIGHT CAGE BEHAVIOR

by Richard Rundel, Curator of Birds,
Los Angeles Zoo

View of mid-section of aviary from upper walkway.

Upper pond of L.A. Zoo aviary with Cock of the Rock taking a drink.
As we look about us, the world is one gigantic flight cage. All known forms of life are confined to a very small area in comparison to the size of the known universe. But if we compare the surface area of the earth to the number of animals inhabiting the earth, it might seem scarcely populated. The significant point is that species evolved in an environment that would support a certain density or number of birds within a given area.

Since wild populations are continually trying to expand and do not, there must be some reason why the density of birds in any given situation is as it is. Although the original cause may be as simple as a limited food source, the total effect may involve behavioral changes of a permanent nature regarding social interaction. By placing a bird in a communal aviary with a few perches and some room to fly, the problem is generally not physical (lack of exercise) but behavioral. As the density of birds in your aviary increases, unless the natural behavioral factors separating them in the wild is compensated for, your birds will be in a high pressure situation which will result in short life spans and decreased breeding activity. A bird isolated by itself may adapt individually to a simple low risk life style and set longevity records. This would apply to any species. Paired birds have the pressures of each other’s moodiness and behavioral changes caused by one bird’s aggressive inclination to breed which is out of phase with its mate. The subdominant does not have the option to fly away as in a wild environment. This applies to any species that forms a pair bond (e.g. large toucans, birds of prey).

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different species. Additional members of the same species present a competitive situation for food, mates and virtually everything else. This competition may be stimulating through reinforcing pair bonds. The presence of an extra male has been observed in Australian psittacines to stimulate nesting activity. It may also be disruptive at the same time if sufficient space to move away from each other is not available. Dusky lories, *Pseudos fuscata,* like many of the larger lories, are flock birds in the wild. As a pair bond forms, that pair becomes aggressive toward its flock mates and stationary around a nest site leaving the remaining flock to continue wandering. In a captive situation, the first pair to form reacts aggressively to other members with disastrous results if they are not removed. In a small aviary, the flock is physically compatible but behaviorally incompatible during the breeding season.

Acquiring only a male and female, however, is risky as one may dominate the other, a common situation. The Los Angeles Zoo solved this dilemma by placing a flock of seven birds in our large flight cage (100 feet by 100 feet) and successfully bred the dusky lory for the first time in this country. Sufficient space was provided for an aggressive pair and a nomadic flock.

Birds of a different species will affect our pair of dusky lories to the degree that they compete for food, space or in any form of interaction. A ground bird will have little effect unless it decides to perch on a nest box at night. A pigeon might compete for perching space, a physical competition, but a parrot may be as disruptive behaviorally as the unpaired dusky lories — especially if it is another species of large lory. There is an important difference between physical competition for space and behavioral competition among flock mates and closely related species. A flight cage might be overstocked behaviorally but understocked physically.

Within our world, life is assumed to be compatible, but if we were to closely examine it, we would find that the general health conditions and average life spans would be considered very poor by captive standards. What we dream of creating within a man-made flight cage is a form of animal Eden which in the wild does not exist. This is not to say that what one is trying to create is not possible. A properly designed and balanced captive enclosure is more conducive to

The cassowary, a large ground bird, is at one extreme. Generally solitary and compatible only for very brief periods during the year, cassowaries may only be kept one bird per exhibit and introduced at the appropriate time for breeding. Raising cassowaries together as chicks may extend their compatibility but is only a temporary solution. A few species flock together the entire year and do well in a captive dense situation. Weaver birds and ibis are good examples of stable, naturally dense populations that do well in captivity.

Beyond our simple naturally occurring pair, additional birds in a communal aviary may be divided into two groups — birds of the same species and those of
a long life and successful reproduction than any comparative natural environment. A stable wild population of birds will include large numbers and breed only to replace losses. A captive population will be unstable due to few individuals, but the potential for a rapid increase in number is present. The loss of one harpy eagle would drastically affect our program but would have little effect on the wild population.

Birds, theoretically, should live over ten years and attempt to nest on a regular basis. I say attempt as pairs are individually different. Some pairs will nest under the worst conditions. Many first breedings fall into this category. Other pairs will fail even to attempt to nest under ideal conditions, requiring some change. A large majority, however, should consistently attempt to nest on a regular cycle.

The Los Angeles Zoo has pioneered behavioral analysis of its exhibits with many pleasing results. Our flight cage is self-supportive based upon small breeding flocks of noncompetitive species. Behavioral studies of the grey-necked woodrail (Aramus cahanea) and crimson-rumped toucanets have been published in previous Watchbird issues and may serve as examples.

Studies involving more aggressive birds have also demonstrated the usefulness of behavioral analysis. Once isolated in a properly prepared exhibit (properly proping an exhibit is critically important but will have to wait for a future article) every species of toucan we worked with laid eggs. Two successful world’s first breedings were recorded in 1975 (plate-billed mountain toucans, Andigena laminirostris, and pale-mandibled aracaries, Pteroglossus erythropygius). Our bird of prey breeding program has produced equally gratifying results. Over the past 18 months, by isolating pairs in suitably proped exhibits, ten species of birds of prey have nested to the point of laying eggs including two pairs of harpy eagles, crested eagles, cinereous vultures and king vultures.

The potential for establishing stable captive breeding populations exists for any species if a proper behavioral analysis is made and implemented. There will be those who will read this article and speak of exceptions. Swans, for example, may be very territorial unless crowded with other swans. They will then revert to a social hierarchy. This is not a unique captive situation but a common wild phenomenon which swans have adapted to over millions of years. Increased densities of small nonaggressive birds (finches) may be compensated for by visual barriers in the form of huge planting, by vocal barriers in the form of a waterfall and to a lesser degree by the adaptability of individual birds. This is not true of large aggressive birds.

The bird embargo of 1972 demonstrated our reliance upon imported birds. The quarantine program has temporarily relieved the situation, but due to rising nationalism in foreign countries and increasingly difficult permit regulations and procedures, the number and variety of birds imported will slowly decline. Within five years, birds will be exchanged only between governments and institutions similar to our present arrangement with Australia. Unless captive breeding populations are established now, many species of birds will not longer be available at any price.

Upper Level of aviary.