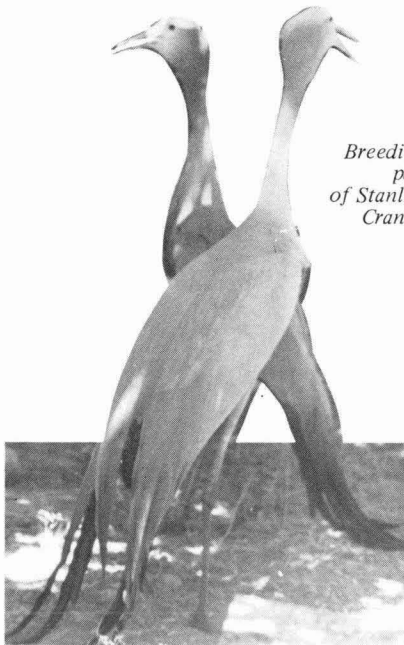


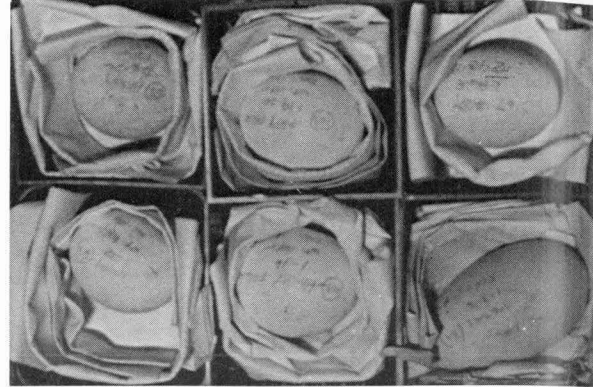
Milking Your Birds

by Richard Rundel
Curator of Birds — L.A. Zoo



Breeding pair
of Stanley
Cranes

In January 1976 we established a policy of pulling the eggs of our Harpy Eagles as they were laid. Two pairs laid 9 eggs in a 75 day period. This represented 4 clutches per bird. Once it was apparent they were through laying, one egg was returned to one pair and immediately accepted and incubated for an additional 3 weeks. After a 6 month rest period both pairs are presently laying again. Egg production through this method was doubled and still allowed the adults to incubate their own egg of known fertility.



Stanley
Crane
1 week old.

Milking birds is a term applied to a method of increasing reproduction in birds through the removal of eggs from the nest, which in turn stimulates additional eggs being laid. Examples may commonly be found among pheasant and waterfowl breeders due to the relatively simple application of this technique. These birds are indeterminate layers, which means they will continue to lay eggs until they have achieved a preset number of eggs in their nest. As long as the eggs are removed, the bird normally laying a clutch of 10 eggs, may lay as many as 30 or 40 eggs.

Once pheasant eggs are retrieved, they may be placed in an incubator where the temperature and the humidity settings are similar to those for domestic chickens. Upon hatching, the young are fully feathered and ready to take care of themselves once given an example of how to feed from a young chicken.

What is not generally understood is that the same techniques may be applied to other types of birds, and although it creates new problems, it also produces dramatic results through a variety of applications.

Birds have a strong basic drive toward breeding, and many first breedings are in spite of the conditions they are kept under rather than as a result of them. For example, the first successful rearing of a toucan was on the sandy floor of a mixed exhibit rather than under the conditions recently established at the Los Angeles Zoo utilizing a tree cavity and allowing the bird to tunnel out its own nest. The first breeding was an exceptional event in comparison to the regularity of our breeding program.

The important point to keep in mind

is that once a bird commences laying, if unsuccessful, it will attempt to lay again. Rarely do you find a bird that nests once and then fails to attempt again if unsuccessful. All of our successes involve early set backs.

Once a pair of birds starts a nesting cycle, it will proceed through a series of stages that begins with pairing and nest building, and ends with the successful rearing of young. If the pair bond is strong, whenever the cycle is broken the pair will attempt to nest again during the duration of the breeding season. The basic idea is to break this cycle intentionally whenever the adults are not needed for incubation or rearing of young to allow them to start laying again.

In the case of a pheasant, the application is simple. With each egg that is removed, that part of the cycle is not completed, and therefore the bird lays another egg, which again is removed, etc.

The same technique can be applied to determinate laying species — varieties of birds that lay a set number of eggs in a clutch. If the eggs are removed as they are laid, the bird will stop laying after a predetermined number of eggs have been laid, whether they are left or taken away. However, if they are removed, following a brief rest period the pair will commence again on a new clutch. The accompanying chart demonstrates that at the Los Angeles Zoo a pair of Stanley cranes, which normally lay a single clutch of 2 eggs per year, laid 16 eggs in a single season. By removing the eggs immediately as they were laid, the adults were not allowed to enter into an incubation stage, and therefore, continued laying eggs at irregular intervals. Sixteen eggs were retrieved with 100% fertility, 9 hatched and 6 babies were successfully hand reared.

**STANLEY CRANE
1976 Breeding Record**

May

- 4 – egg laid – broken same day.
- 6 – egg laid – broken May 8.
- 17 – egg laid – taken to incubator – piped 6/17 healthy chick.
- 24 – egg laid 6/25 – chick found dead in shell.
- 31 – egg laid 6/28 – chick hatched – chick had swollen legs on first day – healthy but unable to walk – subsequently died.

June

- 8 – egg laid – hatched 7/8 – healthy chick (bent toe).
- 20 – egg laid – hatched 7/19 – died getting out of shell.
- 21 – egg laid – died in shell.

July

- 6 – egg laid – fertile – failed to pip.
- 8 – egg laid – fertile – failed to pip.
- 12 – egg laid – hatched – healthy chick.
- 24 – egg laid – hatched – healthy chick.
- 30 – egg laid – hatched – healthy chick.
- 31 – egg laid – fertile – failed to pip.

August

- 14 – egg laid – fertile – failed to pip.
- 17 – egg laid – hatched – healthy chick.

TOTAL – 16 eggs

Once eggs are removed, two new problems are created. With the additional eggs, where the parents are no longer allowed to incubate them, a new method of incubation must be found. Secondly, after artificial incubation, many species of birds are hatched in an altricial state. This means that they are naked, helpless, and totally dependent on parental care, unlike the pheasant chick.

The incubation problem can be solved through a variety of techniques. Incubation settings for humidity and temperature have recently been demonstrated to vary considerably from those used for poultry which is the reason for the low hatchability rate of exotic birds. Once proper settings are worked out, there is no reason why exotics would not hatch as well or as consistently under artificial conditions as domestic birds.

A second technique involves the use of foster parents for incubation, and in some instances, the rearing of young. Society finches, ringneck doves and ringneck parrots, have all been successfully used to incubate and to rear the young of other species of their family.

The third solution involves a very

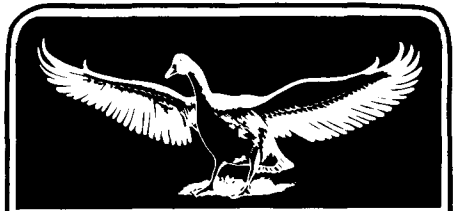
clever, simple technique perfected by Ralph Smith utilizing numerous pairs of a single species or closely related species – in this case members of the genus *Neophema* (turquoise parrots, scarlet-chested parrots, and Bourke's parrots). Once breeding pairs are properly conditioned to having their nest boxes observed on a regular basis, eggs may be removed for inspection. Infertile eggs can then be removed. Small clutches may be combined under one female if laid over similar periods allowing the other hen to begin laying again. By carefully maintaining accurate records, Ralph has been able to determine which pairs lay strong, fertile eggs, which pairs are good parents, and which pairs are just feeders that can be surplused. The young are therefore incubated and reared by natural parents and the maximum breeding potential is achieved.

If a breeder is working with relatively few pairs and wishes to increase his reproduction without getting deeply involved in hand-raising birds, I would like to mention a technique used by Paul Schneider in Riverside. He allows the adult pairs to incubate their eggs and rear their young through the initial 2-3 week difficult period. He then removes the babies for hand-rearing when they are in a more stable condition. This allows the adult pair to go back to nesting again before the season has gone by.

If one wishes to go the entire route of hand-raising altricial birds, one is becoming involved in a very difficult, unique problem which involves special techniques and diets. Although potentially very beneficial, I would recommend it only for the greatest enthusiasts and refer them to Dale Thompson's article on raising altricial birds (*Watchbird* April/May 1976).

Looking to the future, one might consider additional breeding through climatic controls. Experiments which placed birds in isolation chambers have demonstrated that the 24-hour day and season length are both reinforced concepts and not instinctive. Practical observations of the effects of natural temperature and rainfall fluctuations have demonstrated the obvious good and bad effects on breeding these conditions may have.

It might sound futuristic, but interested parties might consider investigating the modification of greenhouses for use of breeding programs as climatic conditions may be closely controlled and breeding periods extended. This application may be more feasible than previously thought as recent studies indicate that large flight aviaries are not necessary for successful breeding programs.



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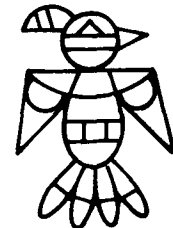
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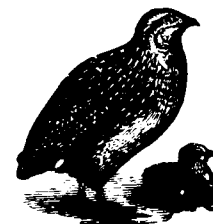


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