

## AVICULTURAL OBSERVATIONS ON AUSTRALIAN PARROTS

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The main substance of this article comprised a lecture recently given to members of the Association entitled "The Contribution of Aviculture to Ornithology." I have attempted to show that intelligent aviculture may make valuable contributions to ornithological knowledge, and have illustrated my remarks by particular reference to the various species of Australian parrots.

### I. Behaviour in the Breeding Season.

The aviculturist has many opportunities of intimate observation of the actions of birds at this time. Let me start by describing the reactions of a pair of parrots newly introduced to each other. The cock will usually display to the hen and then proceed to attack her for a few minutes and if she behaves modestly and discreetly all will be well. This brings me to my first point, the description of the nuptial display; similarity in display may be assumed to indicate near relationship. For example, the display of the Red-capped Parrot (*Purpureicephalus spurius*) is quite different from that of the Rosellas (*Platycercus* and spp.) and Ring-necks (*Barnardius* spp.) which are identical.

Now let us assume our pair of birds have settled down amicably, and the breeding season is approaching. Evidence of this will be forthcoming in the increased activity of the birds, particularly in the morning and evening, by the cock frequently displaying to the hen and later by him feeding her frequently. If a suitable nest in the shape of a hollow log is introduced into the aviary, the birds' curiosity will soon overcome their initial nervousness at the sight of a strange object. They will be peering into the entrance very soon, although it is usually some days or weeks before the hen actually enters the hollow. As a preliminary to laying, the hen usually spends most of several days in the nest nibbling the interior and ejecting a quantity of the rotten wood, which I usually put in to simulate the normal interior of a hollow limb. Mating usually takes place during the brief periods which the hen spends in the open at this time.

### II. Egg-laying and Incubation.

Very exact information may be obtained by the aviculturist on these matters. The first-known eggs of the Cloncurry Parrot (*Barnardius macgillivrayi*) were laid in my aviaries in 1939, and are now in the McGilp Collection.

In parrots the eggs are usually laid well before mid-day, and the clutch is laid on alternate days. Incubation usually commences when the clutch is almost completed; sometimes before the last one or two eggs are laid, and these are sometimes infertile.

The number of the clutch varies considerably, but five would appear to be the average for the Parrakeets. The period of incubation is almost exactly 21 days from the commencement of incubation. During this period the hen only leaves the nest about twice a day unless disturbed; when she leaves the nest the cock usually feeds her and she then eats a little seed for herself, has a drink, and returns fairly quickly to the nest. In all, the Parakeets' incubation is the duty of the hen alone; in the case of Cockatiels, the cock sits by day, and the hen by night; the same holds good for some of the Cockatoos. The Lorikeets (of which I have little first-hand knowledge) appear to indulge in "double-banking," as they are frequently within the nest together. Reverting to the period of incubation, the cock sometimes, but not often, enters the nest and feeds the hen while she is sitting.

Once the eggs hatch, the hen leaves the nest a little more often and the cock feeds her, when she does so, and in addition, he enters the log and feeds the young ones himself, especially as they get older. But there is considerable variation in the amount of direct feeding done by individual cocks of the same species. The hen broods the young for most of the day and at night for about the first 14 days after they hatch, but thereafter spends little time in the log by day, except for feeding purposes, and ceases to brood the young at night. I have a few records of the appearance of young when first hatched and at later stages, but will not enlarge upon them here, except to say that the

down of young Parrakeets is pale cream, while that of young Cockatiels (*Leptolophus hollandicus*) is a bright yellow.

### III. The Young Birds.

The next, and perhaps the most interesting, stage is the leaving of the nest by the young. This usually takes place about four weeks after hatching, but all the young do not leave on the same day. Once they leave the nest, they are still a good deal smaller than their parents, in addition to having shorter tails and different colored beaks. They are fed by both parents for the first two or three days after leaving the nest, but in less than a week start feeding themselves, though the parents continue to supplement their food for two or three weeks as a rule. In the case of Black Cockatoos (*Calyptorhynchus* spp.) the parents may continue to feed the young for as long as two or three months after leaving the nest.

### IV. Nestling Plumage and Sexual Differentiation.

In some species, such as the Red-backed Parrot (*Psephotus haematonotus*) and Mulga Parrot (*P. varius*) the sex of the immature bird is quite obvious, the plumage being merely a duller edition of that of the adult. In others, where the coloring is less obvious, the "practised eye," which I claim to have, can accurately distinguish the sex, as proved by ringing the young birds.

At the age of about three months the young undergo a moult of body feathers in which the adult plumage is rapidly attained in some species, such as the Red-backed and Mulga Parrots. The Hooded Parrot (*Psephotus dissimilis*) differs in that identical plumage is retained until the next moult. I have also observed that the assumption of the adult plumage is frequently a gradual process, finishing off quickly; this occurs in the Adelaide Rosella (*Platycercus adelaidae*). In those species, which take up to three years to attain full plumage, further observations may still be required to prove that breeding takes place while in immature plumage. I know of one instance where it occurred in the King Parrot (*Aprosmictus scapularis*).

### V. Number of Broods in a Season.

My observations on captive birds have shown that it is not uncommon for two or even three broods to be reared in one season, and a second clutch may be commenced even before the last young have left the nest. More

frequently, however, a period of one to three weeks elapses. Some species appear to be invariably single-brooded, while in others it would appear to vary from season to season, and also with individual pairs.

### VI. Moults of Adults.

Moulting usually occurs shortly after nesting activities cease, and accurate observations can best be made of captive birds. Those species which breed early such as the Hooded Parrot and the Northern Rosella (*Platycercus venustus*) also moult correspondingly early. On the other hand late-breeding species, like the Blue-winged Parrot (*Neophema chrysostoma*) and Orange-bellied Parrot (*N. chrysogaster*) complete their moult before going to nest. Another observation is that the color of the Crimson Rosella (*Platycercus elegans*) fades noticeably about a month before it commences its moult.

### VII. Sexual Differences in Plumage.

I have often wondered why some ornithologists are so prone to create subspecies based on minor plumage differences which may be seasonal, and at the same time ignore the very marked differences which exist in many cases between the plumages of male and female, and to a lesser extent that of adult and immature.

For instance, I have not seen an adequate description or illustration of the marked difference in plumage between the adult male and female Western Rosella (*Platycercus icterotis*) in any standard ornithological work. Also there is no published account of the well-marked differentiation between the sexes of the Yellow-tailed and White-tailed Black Cockatoos.

### VIII. General Behaviour.

Accurate observations of the notes and calls of birds can be made in captivity. I consider that the tendency to regard the Twenty-eight Parrot (*Barnardius semitorquatus*) and the Port Lincoln Parrot (*B. zonarius*) as one species can be shown to be fallacious by the fact that only a typical example of the former possesses the "twenty-eight" call, that of the Port Lincoln Parrot being quite distinct.

Preening by mates is confined to certain species; I have only observed this habit amongst the Red-backed, Mulga and Blue-bonnet Parrots in the Broadtails and in the

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Cockatiel, Budgerigar (*Melopsittacus undulatus*), and Cockatoos.

#### IX. Hybridisation.

Close relationship is evidenced by the ease with which certain species will breed *inter se*. Some naturally-occurring hybrids were originally described as species, and have subsequently been produced in captivity. Examples are King Parrot X Red-winged Parrot; Crim-

son Rosella X Eastern Rosella; Mulga Parrot X Blue Bonnet.

An English authority on Parrots once expressed to me the opinion that the hybrid between the Hooded and Mulga Parrots would closely resemble the Paradise Parrot. I have recently seen a Hooded X Red-backed Parrot, which is not unlike a Paradise Parrot, and I can well believe his theory is correct.