

a population study of GREY-NECKED WOODRAILS in captivity

by Louise Hammond Williams • Richard Rundel (study consultant)

For a period of about three months I have been studying Grey-necked Woodrails (*Aramides cajanae*) at the Los Angeles Zoo. The purpose of this paper is to recount my observations of their social structure and their suitability as a captive bird. The observations were made in the large, well-planted flight-cage at the zoo. It is situated on the side of a hill and, therefore, is built on three levels which are connected by a pathway. The three levels can be further divided into smaller areas, each having its own characteristics. On the lower level there are two small pools connected by a stream. The pools are on slightly different levels, thus necessitating a waterfall, which effectively acts as a divider separating the two areas. The entire flight-cage has an estimated area of about 21,000 cubic meters.

At present, the Woodrails (*A. cajanae*) share the flight-cage with numerous other birds including five species of Ibis, two species of Egret, Black-necked Stilts (*Himantopus himantopus*), Purple Gallinules (*Porphyryula martinica*), and numerous small birds including Pigeons, Mynahs, Parrots and Pheasants.

EARLY PROBLEMS

In the past, other birds have also shared the flight-cage, including some predators which played an important role in contributing to the unsuccessful breeding of the Woodrails. When the Woodrails were first introduced to the flight-cage in November 1966 there were Herons (*Nycticorax nycticorax*) and Boatbills (*Cochlearius cochlearius*) which tended to kill the young which hatched out. Consequently the percentage of success in breeding tended to be rather low. It is only since the removal of these birds that more success has been achieved.

Originally there were about 18-20 birds introduced into the flight-cage. The quarreling that ensued would suggest that this number is too great for the area available. This was also a factor in the breeding; the competition was too great for any success. The number is now reduced to about 10 birds which tend to live either

singly or in pairs — sometimes with a young in tow. This may account for certain reports of Woodrails living in groups of three.

The Woodrails are fairly evenly distributed throughout the flight-cage. However, there does tend to be a slight concentration around the pools in the lower section of the aviary. This may be due to the similarity of this area to the natural environment of the Woodrails — the swamps and marshy coastal areas of Mexico, Argentina and Bolivia. The Woodrails congregate in this area because water is readily available. Much of their behavior pattern is concerned with the water. The most common source of water used by the birds in the upper sections is the waterfall situated in the center level. It can be reached by way of the path above it. Water can also be obtained from puddles which develop in the path, particularly after the overhead sprinkler system has been switched on, as it sometimes is on hot afternoons. These are considerations to be taken into account before any alterations are made to this area. It is important to leave the area immediately above the waterfall open for access, unless some alternative source is provided.

TERRITORIES

The size of the territories varies with the number of Woodrails living in it, with the exception of the upper level for reasons mentioned above. The lower section of the flight-cage can be divided into three small areas, the two corresponding to the positions of the two pools and a third by the lower entrance gate. On this level there are basically two territories although some parts of it are used by several Woodrails. In the section by the lower gate is a territory held by three birds, two adults with one young. This territory stretches as far as the bottom pool. These birds sometimes move a little further to just below the waterfall. Another pair of adult birds have a slightly smaller territory situated near the top pool but basically in the center section. This territory stretches as far as the small dividing

waterfall and as with the Woodrails in the lower area they will sometimes use the part just below this waterfall.

If the two groups of birds are using this area at the same time there is usually a 'test of nerves' between one or both of the adults from each group. The young from the lower gate area will not usually fight and, if it does not move by itself, it is usually chased away. During this little foray the Woodrails will pace up and down an imaginary 'border-line' staying quite close to one another. They emit a series of short chuck-like noises. Quite often nothing happens and one of the birds will quietly retreat. However, occasionally one of the birds will 'push its luck,' so to speak, and there will be a skirmish where the two birds will jump into the air, flapping their wings and trying to peck each other. Little harm comes of this as a rule, and one of the birds will usually back down, leaving the other making scornful 'chucking' noises.

In the center level there is also one other small territory. It extends from the edge of the last territory mentioned, under the center area waterfall to the end, where the path cuts it off. There appears to be only one bird here and water is readily available in this area from the waterfall. This bird will sometimes go down to the top pool, by way of the path, either to drink or to feed. It spends much of its time standing in one position, unlike other birds which move around much more. The fact that this territory is slightly smaller than others may be an explanation. This Woodrail usually fails in any attempt to extend its territory as the Woodrails in neighboring territories are in pairs, and are, therefore, better equipped to defend their ground.

The territories in the upper section of the flight-cage are much larger and have less defined boundaries. There seem to be three birds in this area. Either a pair and one young which has now reached adult plumage; or a pair and one odd bird. This area of the flight-cage has proved to be the hardest to keep track of as it is a lot larger than the other areas and has many

openings through which the birds can move from one place to another. The top left-hand corner of the flight-cage is used by two birds, possibly a pair. They do use the upper areas too.

BREEDING

The Woodrails were introduced to the flight-cage in November 1966. Reproduction began almost immediately; the following breeding season in fact. On the average, Woodrails will breed three times a year between May and October although they have been seen to nest as early as April on one occasion. At first the breeding was not successful; the birds would nest and might even lay eggs but the eggs usually did not hatch and if they did, the chicks never survived for very long.

At that time in the flight-cage there was competition provided by the Common Gallinules (*Gallinula chloropus*) which would use the Woodrail nesting sites. They also competed against them for food. Another hindrance to the breeding of the Woodrails was the presence of semi-aggressive, carnivorous birds which destroyed the young chicks before they were adult.

The success attained in the egg-laying far exceeds the success in the rearing of young to adulthood. There has been about a 90% success in egg-laying as opposed to about a 5% success in rearing young to adults. These figures are merely an estimation and may be a little inaccurate; they are used only to provide an idea of the situation at that time.

The nesting sites used by the Woodrails are of two main types. The birds will nest on the ground in dense cover, however, they will also nest off the ground on a platform — either natural or 'man-made'. The cover around these off-ground sites need not be as dense. The height is not necessarily a limiting factor either because as long as the site can be reached by the Woodrails without too much difficulty they do not seem to mind. A good example of this is present in the flight-cage where there is a tall palm tree just in front of the waterfall in the center section of the aviary. When the Woodrails used it for nesting, however, it was smaller, affording more cover. The tree has a fork formed by three branches which is situated slightly lower than, and about five feet

away from, the path which runs along the top above the waterfall. By standing on the built-up edge of the path and jumping, at the same time fluttering their wings, the Woodrails could 'fly' across to the leaves and onto the fork in the tree. When the tree grew, the cover provided by the leaves was lost and the site became obsolete.

The roofs of the entrance gates in the flight-cage are quite popular nesting sites, especially those with an overhanging tree. The Woodrails seem quite happy to nest there in spite of the frequent banging of the gate and the proximity of the public. The wire roof was covered with palm leaves to encourage the birds to build a nest and the overhanging leaves from the trees provided a good canopy for the nest. Unfortunately, the parrots in the exhibit have not helped to maintain the covers as they chew the stalks of the leaves causing them to die and drop off. One of the most improbable sites was situated about six inches away from the fence at, roughly, waist level. It was visible to the public but not obvious so that the nest was not usually disturbed. However, it

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Grey Necked Woodrail



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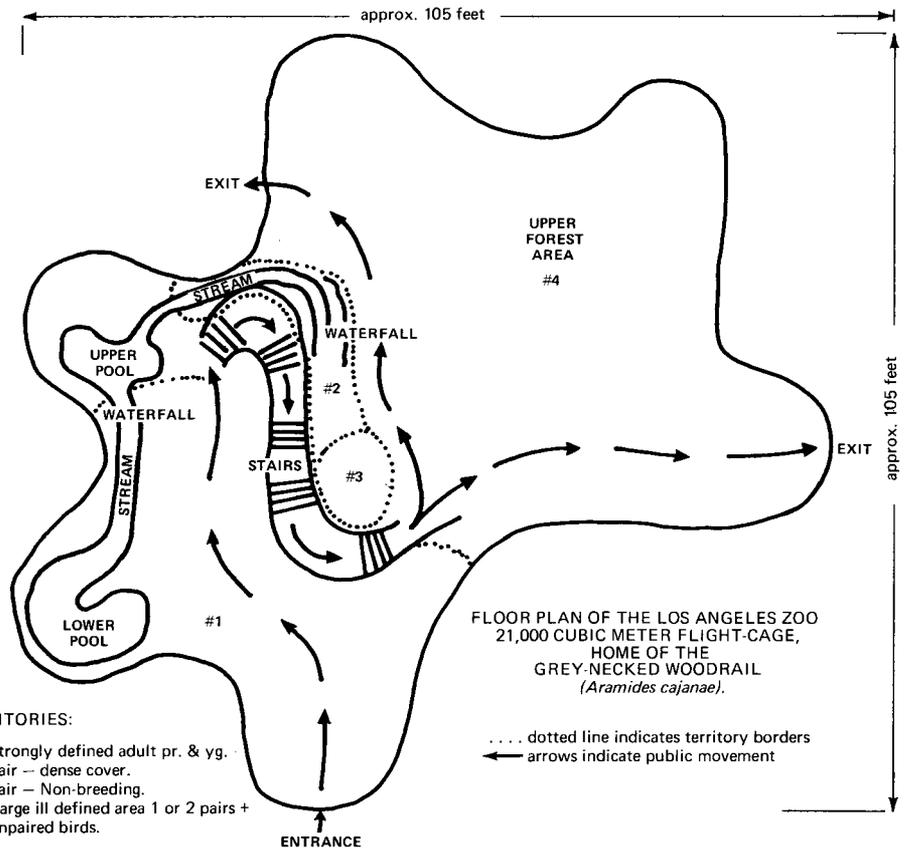
was only a matter of time before some little boy found it and as the cover altered, the nest site became little used and is no longer there.

In every section of the flight-cage there are artificial platforms, generally made of wood and wire. These are frequently used by the Woodrails if suitable nesting materials are at hand. The only problem with the platforms is that there may be competition for the sites from the Ibises, particularly if they are a few feet off the ground. The Woodrails have also been seen to use wire baskets for nesting.

The Woodrail nest is made up of a small

going to be examined they will leave the nest but they never go very far from it. The chicks are nidifugous, and will leave the nest as soon as they are dry. They are a deep chestnut/black color at first but gradually this coloring changes and the young Woodrails begin to more closely resemble their parents. The most prominent distinguishing characteristic of these young birds is their bill color. In the adults the bill is yellow but the bill of the young Woodrail remains dark brown for some time.

The young Woodrail will spend some of its time with each of the parents. Dur-



TERRITORIES:

- #1. Strongly defined adult pr. & yg.
- #2. Pair - dense cover.
- #3. Pair - Non-breeding.
- #4. Large ill defined area 1 or 2 pairs + unpaired birds.

mound of sticks and leaves with a small hollow in the middle where the eggs are laid. Depending on the location of the nest, it can be more ornate or it can be practically non-existent. On one occasion a nest was built in the bracket of a food dish situated on the fence of the flight-cage; the nest resembled that of a thrush.

The average number of eggs laid is 3 or 4 but as many as 5 or as few as 1 have also been known. The eggs, about the size of a chicken egg, are a pinkish buff color and have brown/grey spots. The eggs are laid one a day until the clutch is complete and they hatch out about 16-18 days later. The Woodrails do not react very much when the nest is first examined and will sit quite still on the nest hoping they have not been seen. Once they realize that the approach of a man means the nest is

ing the first few weeks it seems to spend more time with one parent than the other, presumably its mother. As the bird gets older it begins to wander off by itself although rarely straying far from home ground. If it should happen to lose sight of its mother it will emit a soft mewing cry which becomes more frantic if one of the parents is not found soon.

As a rule there is little interaction between the Woodrails and the other birds in the flight-cage. The tree birds do not worry them at all, except in the odd cases mentioned. Most of the interaction is between the Woodrails themselves, in the form of territorial disputes and competition for the nest sites and food.

FEEDING

There is a wide variety of food available to the Woodrails including ground

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L.A. City Planning Department Publishes Final Animal Regulations

The Los Angeles City Planning Department has submitted its final draft of the proposed ordinance to restrict the number of gamebirds, waterfowl and other small birds and mammals to be allowed on residential property within the City of Los Angeles. The proposed ordinance will be submitted for public scrutiny before the City Planning Commission public hearing to be held Tuesday, June 24, 1975, at 7 p.m., at the Northridge Junior High School Auditorium, 17960 Chase, Northridge, California.

Under the proposed regulations, residents on lots of 20,000 square feet or larger in R-1 zones (single family dwelling) will be allowed to keep one gamebird, waterfowl or poultry per 1,000 square feet of lot space and one other small animal per 500 square feet. Residents of RA zones (residential agriculture-minimum lot size 17,500 sq. ft., single family residence) are subject to the same numerical limitations except the minimum lot size is less.

It is reasonable to assume residents of average size R-1 lots of 5,000 square feet

will be allowed fewer animals than those on 1/2-acre and acre parcels. Under the small animal designation a maximum of 35 finches, canaries, psittacines, etc., could be maintained on 1/2-acre lots — far fewer than what most breeders currently possess.

Los Angeles area aviculturists should submit their comments on the proposed limitations to the L.A. City Planning Commission and to their City Councilman as early as possible. Inaction allows the river of regulation to seek the path of least resistance ■

VET'S CORNER — Contd from pg 11

called the cecum, which occurs in pairs, and is similar to the appendix of mammals. Bacteria in the cecum break down cellulose to its digestible components further complementing a more complete utilization of food.

Finally, in the large intestine, water absorption takes place and the solid dark fecal matter is formed.

This material moves, by rhythmic muscular contractions of the large intestine's wall into the cloaca, where in a portion called the urodaeum it mixes with the pasty white urate produced by the kidney. It is then stored in the proctodaeum until the birds owner catches the bird, at which time it is expelled through the anus onto the owners lap or shoes ■

WOODRAILS — Contd from pg 6

meat, fish, fruit, cooked rice, tomatoes, corn, some seed and also any food they can obtain for themselves in the flight-cage. They are omnivorous birds but of the selection provided seem to prefer the ground meat, fish, corn and a little cooked rice.

The Woodrails usually feed during the morning after the fresh food trays have been put out. This is the time they usually spend at the pools, an area in which they often forage for food. The afternoons are usually spent resting or sunbathing.

CONCLUSIONS

Although Woodrails, in the wild, appear to be rather secretive I think this is due more to their habitat than to their nature. They do tend to be rather shy but more wary than secretive. Woodrails in captivity are not very different from Woodrails in the wild. In the wild they are reported to be noisy birds which sing both night and day, more in wet weather. In the flight-cage I noticed that although I would not call them noisy, calls seem to be made less frequently in captivity, they could hardly be called quiet. In keeping with their behavior in the wild they made more noise on wet days or after the overhead sprinkler had been switched on. The call is hard to describe but once it has been heard it is easily recognized. The

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Gene Hall's

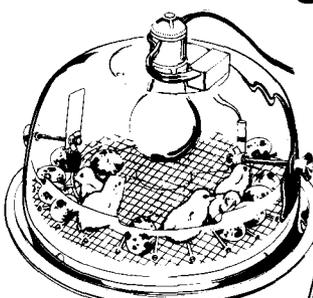
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