the hen from 4 p.m. to 10 a.m.
Close records must be kept because the foster parents and tumblers must lay their eggs at the same time. This allows for the build-up of pigeon milk which is regurgitated to the young for about a week. Without this ' pigeon milk,' the squabs cannot survive.
At about the 10th day of incubation the foster parents' role comes into play. The tumbler eggs should be candled and if the membranes are seen and the egg has a bluish color, it is fertile. Candling will show a fertile egg as dark, where an infertile egg will remain clear.
I take the tumbler eggs and place them under the foster parents until hatching. By taking the tumbler eggs away at 10 days it doesn't harm the tumblers, and keeps the breeding cycle going. In another 10 days the birds will produce another clutch of eggs. (The foster parents' eggs are thrown and when the tumbler eggs hatch under the fosters, they are fed as if they were their own.)
The squabs are fed about one week on pigeon milk and then on whole grains. At 10 days old they are banded. In about 35 days they are full grown and nearly on their own.

Young males show their sex at about 3 months.
For those who'd like to try their hand at raising this beautiful but challenging breed, here are a few tips:

1. Have a dry loft, free of drafts with good ventilation
2. Separate lofts for breeders and young birds
3. Provide an outdoor fly pen for young birds
4. Fresh clean water (change daily)
5. A good feed ration
6. Plenty of grit should always be available
7. Bath water should be offered frequently.
I give cod liver oil capsules and Brewer's yeast tablets twice a week.

Like many tumbler breeders, I strive to breed the perfect bird. It's not easy. It takes time and effort, plus good record-keeping. Sometimes it is such a challenge that the person decides to go with an easier breed. But I've done some winning at the shows and can say that it's worth all of the time when a judge picks your bird as number one.
Win, place or show, the tumbler is quite a rewarding breed, though quite a challenge!

# Softbills for a Mixed Species Flight 

by Jerry Jennings<br>Fallbrook, California

Aquariums are said to relax people and are often found in the waiting rooms of doctors, dentists and attorneys. Indeed, anyone should be understandably anxious in such circumstances. Less frequently encountered in the professional's antechamber is the small aviary or bird cage, perhaps because most people automatically "think parrot" when contemplating a bird or two. Parrots can be quite noisy, occasionally bite, and are prone to great feats of scenery mastication. Hardly the sort of behavior designed to put one at ease.
Fish, on the other hand, are quiet and offer the opportunity to lose oneself in one's thoughts, and to focus on nature and natural things. But fish are not the only route to achieving communion with the natural order. A mixed species flight of small softbills provides a warm experience that can be pleasing both to the eye and ear. Small softbills exhibit such pleasing characteristics as beautiful voices and radiant colors. A mixed bag provides a riot of color, a symphony of sounds, and a cornucopia of curious behaviors. It is easy to forget why one entered the room after having become intently absorbed by the spectacle.
Mixed species softbill collections lend themselves to every occasion and setting including the dinner table. Dinner table? Yes! And at nice restaurants, too, such as Samson's Restaurant at the Koll Center in downtown San Diego. The aviary, over two stories tall, is in the shape of an octagon, each side of which is a series of glass panels six feet high by ten feet long. The aviary is part of the initial design of the multi-storied post modern architecture of the brand new Koll Center, whose office space is leased primarily to professional corporations (attorneys, etc.)

Samson's Restaurant is a tastefully appointed New York style Jewish delicatessen with an extensive menu. The aviary is the center of attention, near which are situated tables for close observation of the inhabitants within. The main feature of this enclosure is a very large, artificial, tropical forest fig tree, constructed in the best Disney style tradition, which cost over $\$ 40,000$ and looks quite real, as it should for that price tag. Around the base of the tree is a small pond with a waterfall, and numerous tropical plants (real ones). Small speakers on the outside emit occasional bird songs, though they are not of the inhabitants', but of native California species.
Approximately 30 birds are maintained in the aviary. With the exception of the Ringed Teal male, whose mate passed away, all the birds are in pairs. These include Black Crakes, Brazilian Cardinals, Palm Tanagers, Kiskadee Flycatchers, Gray-headed Purple Gallinules, Black-throated Laughing Thrush, Red-winged Laughing Thrush, Hartlaub's Touracos, Fischer's Touracos, Finch-billed Bulbuls, Spot-billed Toucanets, and Luzon Bleeding-heart Doves. The Kiskadee Flycatchers were busily hauling bits of Spanish Moss up into the large tree in attempts to build a nest and the other birds were actively scurrying about their home. All the birds were in excellent condition and harmony with each other.
The enclosure is maintained in an immaculate state and the feeding station is situated in an inobtrusive location among the plants on the ground. The enclosure was stocked by the firm, Wildlife Concepts International, owned by Scott Dreischman, former Curator of Birds at Sea World in San Diego. Wildlife Concepts International also provides for the daily care of the birds and


A Ringed Teal drake (Callonetta leucophrys) with an African Black Crake (Limnocorx flavirosta) in the background.


A Red-tailed Laughing Thrush (Garrulax milnei), a species now frequently available to American aviculturists from China, unobtainable ten years ago.


The African Black Crake is probably the most available to private aviculture of all the 120 -odd members of the rail family.
advises on technical aspects of maintenance and species mix.

The concept of a mixed species flight can easily be adapted to the hobby aviculturist in a small backyard. Aviary size is not a critical factor, and enclosures can be fairly small. Size and the plantings within will determine the number of birds that can be comfortably housed. And care with selection of the species to be mixed will determine the harmony within.

Mixed species flights were relatively common in the backyards of private individuals a few years ago, and they are still the source of the greatest entertainment in the nation's zoos (albeit on a grander scale). What's more, the birds mixed in the flight will generally breed, so long as compatible species are together.

When in San Diego, visit Samson's Restaurant at 501 W. Broadway. Other locations featuring birds at restaurants in the area include the Courtyard Restaurant in Old Town, and the Coronado Hotel.


The Koll Center Aviary fronts both on Samson's Restaurant and San Diego's Broadway, and is dominated by a $\$ 40,000$ artificial Ficus tree. Josef Lindholm enjoys lunch and a superb view.

