was uneventful.

The 1997 breeding season came and went and I was becoming frustrated. The pair had settled down and seemed to be enjoying their new surroundings. The Hawk-heads are marvelous eaters, receiving a varied diet of seeds, pellets, fresh fruits and veggies, legumes, pastas, breads, and nuts. Our pair has a preference for orange foods, especially carrots, sweet potatoes, mango, and papaya.

In the early spring of 1998, we noticed a change in the Hawk-heads. Both the male and the female began to spend most of the day in their nest box. They had also become extremely aggressive towards me. The hen would thrust herself across the cage and let out a series of shrill cries. The male on the other hand, was a bit more timid. He would sit towards the back of the cage, ruffling his breast feathers while rocking back and forth. If he became very agitated, he would display his ruff and begin to hiss.

The pair was observed copulating on numerous occasions and in April the female laid an egg that she quickly destroyed. All that remained were a few shards of shell. Luckily, we had a back up plan as this was not our first experience with egg-eaters. Hurriedly, Mike removed the box and revised it in such a way that the egg would roll safely into an area that the female could not access. Mike inserted a sloped floor just above the bottom of the nest box that extended just beyond the boot. The egg would roll to the end of the slope and drop into a waiting pan filled with shavings.

Three days after the hen broke her first egg, she laid a second and later, a third. These two fertile eggs were safely retrieved and placed into the incubator. We were anticipating babies at about 26 to 28 days after the onset of incubation. However, our joy soon turned to frustration as midway through incubation the incubator failed and both eggs were lost.

Fortunately, I have had the opportunity to raise baby Hawk-heads. In 1995 when I first became enamored with the Hawk-heads, a friend of mine put me in touch with a breeder who had a baby still in the nest. On the day the breeder delivered Harley, he was

just four weeks old. Hawk-head babies are adorable. Harley was all head and pin feathers. Whenever I attempted to feed him, he would lunge at the syringe raising his pinned ruff and making "ehh, ehh," noises.

Harley grew into a very affectionate and devoted pet. He loved playing board games with the kids. He would snatch a game piece and quickly run away. At night he enjoyed sleeping nestled in my neck as I watched television.

When Harley reached the age of two, we began to notice changes in his disposition. He became fearful of my daughters, shrinking away from them. He also became aggressive towards my husband. Hawk-heads are naturally territorial and he began attacking fingers and toes. Hawk-heads move swiftly and are adept flyers. Harley would swoop through the house, tail spread and land on Mike's head or shoulder and deliver a painful bite. He has a Jekyll and Hyde persona – sweet one minute and nasty the next. Harley is usually docile with me. However, once over stimulated, he will become assertive

The other babies I have raised have turned out much like Harley. I find Hawk-heads to be very high-strung and nervous once they reach sexual maturity. There have been reports of mate aggression in this species.

All in all, I am still very enchanted with the Hawk-headed parrot. We have relocated our challenging pair into a larger cage in a more secluded area. We have also purchased a new incubator and Mike has improved on his nest box design for egg-eaters. It is a labyrinth style nest box that measures 16 x 12 x 30 inches. It has a second floor that is sloped at a 7 degree angle. This allows the egg to slowly roll into a safe chamber that is cushioned by soft material. The chamber is created by placing a raised partition at a 45 degree angle just above the second floor. The partition is then dressed with sheet metal to prevent chewing. The space between the partition and second floor is just large enough to allow the egg to roll into the chamber.

Our hope is that this breeding season will be far more productive than in the past.

For the Love of Lovebirds

by Vera Appleyard Los Angeles, California

ne of the most rewarding and enjoyable birds to breed are Peach-faced Lovebirds Agapornis roseicollis. They make exceptional parents and can be bred in a wide variety of beautiful colors. Well-socialized, handfed lovebird babies make terrific pets, and I rarely have enough babies to meet the demand. They are easy to house, easy to convert to healthy diets (contrary to myths), and they are not easily disturbed from nesting.

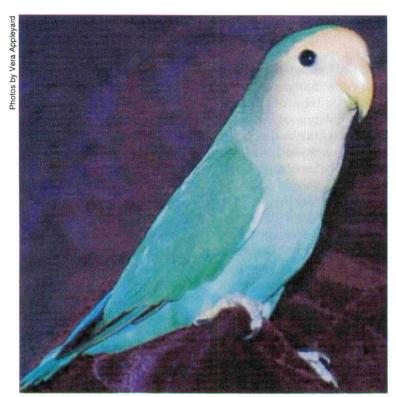
Acquiring Stock

Lovebirds are not sexually dimorphic. There are some subtle differences between cocks and hens, but for every characteristic someone will tell you they have seen that characteristic in the opposite sex. Some visual differences between the sexes are that hens tend to have a wider stance on the perch, and hens have wider pelvic bones which move a bit when felt with a finger. Also, when you place nesting material in a cage, both hens and cocks will shred the material, but hens will tuck the material under their wings to take them to the nesting box. Males will try to do this, usually unsuccessfully. The best method of determining sex in lovebirds is through DNA testing, and I do this with all my birds before pairing them up.

The wide variety of color mutations makes it hard not to want one of each in the beginning, but it is important to think through a long-range plan when putting together pairs. A classic pair of normal Peach-faceds is a must in every lovebird aviary. Because of the obsession with color mutations, it is actually difficult at times to find a good example of the wild-type bird. When deciding upon your other pairs, remember that certain colors are dominant and can take over your aviary if you are not careful. Pied and American cinnamon are examples of this. Remember if you put two Pieds together, you will get all pied babies. I prefer not to do this, as it is nicer to have a variety of babies from each clutch.

Keep clear records with birds such as American cinnamons because you want to know which of your babies are split to this color (not visual) so you can inform your buyers who may not want this color popping up unexpectedly in their babies. Study up on color genetics before you buy anything so you understand what the combinations will produce.

The most popular colors in my experience are blue series birds such as blue Pieds, whiteface violets, American Cinnamons (with or without violet factor), and Violet Pieds. It is best to buy birds with a known background (i.e., color genetics of parents and grandparents). Record keeping is important, especially in areas where there are limited numbers of certain



This is a Dutch Blue mutation of the Peach-faced Lovebird

colors. You want to avoid accidentally breeding closely-related birds.

Do not sacrifice size and conformation for color. Take a good look at some photographs or drawings of the show standard and try to match that as closely as possible. If you find a stunning color example with a certain poor characteristic (size, head shape, flight feathers crossing), be sure to match

that bird with a mate that does not have these poor characteristics.

Cages and Nesting Boxes

There are two ways to breed love-birds—in large aviary groups and by individual pairs in separate breeding cages. Because I want to carefully control the color mutations in my lovebirds, I use the latter method. It is also much easier to "keep the peace" among lovebirds when they have separate cages. You can remove pairs from flight cages at breeding time and place them in smaller cages more suitable for breeding. Breeding cages should give enough room so that birds can "beat their wings" without hitting anything.

When pairing up birds for the first time, never put a new lovebird into the established territory of another bird. This is particularly true with hens. A hen will attack to protect her territory. It is best to introduce the pair into a neutral cage. Closely watch the pair for the first 72 hours. While a little bickering can be fine, if one bird is biting the other bird on the back of the neck this can be very dangerous. I have only had a few situations where hens went so far as to attack the new mate, but if I had not observed the behavior the male could have been killed. In cases



This "yellow" bird is in reality a mutation called Violet Pied.

where the hen is just a bit annoyed by the new cage mate, she will generally come around in a few days or weeks.

The nest box is your next consideration. I have found that I get the best results with English Budgie nesting boxes. These open on the side via a sliding, two-part door. They have a little raised platform at the entrance and a lower area where the hen nests. These are nice because the hen can have company while nesting (the cock will often sit on the perch over the raised platform) without being crowded. I usually remove the concave wood piece intended for budgies. I hang the nest box on the outside of the cage, and then use wire clippers to cut a hole in the cage wall. Make sure you file down any sharp points on the cut wire.

Nesting Material

Humidity is very important for the successful hatching of lovebird eggs. In southern California, where it can be extremely dry, many lovebird breeders supply wetted palm fronds as nesting material. Lovebirds adore this and they can be used in any part of the country. I have decimated quite a few potted palms this way.

Go to a store such as Home Depot and grab a few ordinary potted palms. They are inexpensive, and while one is recovering from the cuttings, you can use the fronds from the next one. The hens shred the long fronds and stuff them under a wing until they look like little pin cushions. They carry them into the nest box this way. I also use shredded, plain white paper towels. Lovebirds will use their own lost feathers for the nest too.

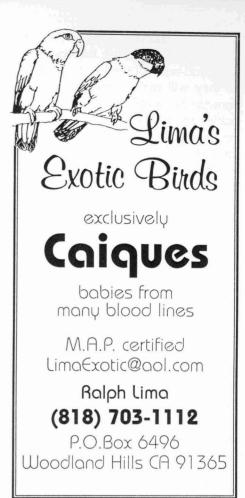
I continue to supply nesting material even after the eggs are laid, as this keeps the nest fresher and keeps up the appropriate humidity level. Some hens do not build a thick enough nest. For this reason I also give them a head start by adding two to three inches of Care Fresh to the nest box first. The hen builds her nest on top of the substrate. This prevents the chicks from ending up on the bottom of a nest box on a slippery wooden floor where they cannot get a proper grip, which can lead to splayed legs. It also cushions them if they have an overzealous mother who

sits very tightly on them. I prefer this material to pine shavings as it is softer and more acceptable to the hens.

Breeding Diet

Nutrition determines the quality and health of your lovebird breeding pairs and young. It is what ultimately determines the quality of your babies once you have chosen healthy, genetically diverse stock for breeding pairs. Diet must be largely fresh, whole foods.

The simplest way to give lovebirds excellent green nutrition is by feeding fresh wheatgrass. Most lovebirds will take to it quickly. It is easy to feed, leaves no mess (just some "grass" to scoop up), and guarantees a wide spectrum of vitamins and minerals. Another plus is that wheatgrass does not spoil if you leave it in the cage all day. Also, feed a good pellet, hookbill junior seed mix, corn on the cob (they eat corn in the wild), sprouts, cooked quinoa or brown rice, and any other vegetables (I find they prefer them to be chopped up small). I also add dried egg food after babies hatch.





Hand-raising and Socializing Babies

I hand-raise all my lovebird babies so they will make tame, sweet pets. Sometimes people buy these tame babies and let them "go wild" so they can breed them since they want the particular color mutations.

Unlike some other parrot species, it is very easy to breed lovebirds that are hand-raised. In fact, some of my most protective hens were my tamest babies. I generally prefer to pull babies as the oldest of the clutch reaches 14 days of age. I will take the first three at this point and leave the younger birds in the nest box for a few more days.

Lovebirds are not difficult to hand feed. They seem to intuitively understand the syringe. I have never had to struggle with a 10-day-old lovebird on even the first feeding of formula. They take to the syringe immediately and pump away. There is no need to "power feed" or tube feed lovebird babies. They eat quickly on their own. This fact makes them an easier bird for the beginner to handfeed. I basically fill their mouth and let them set the pace of eating. They are not messy eaters, either. It goes right down the hatch. I start with five feedings a day, then drop down to four by the end of the first week. They get an eight-hour break overnight.

Abundance Weaning Is for Little Birds Too

Abundance weaning simply means that you let the bird decide when it is finished being handfed. You never "starve" the bird to get it to eat. In fact, birds are more likely to pick at new foods if they have had their appetite stimulated by a "shot" of formula. Lovebirds start to get a little annoyed by the syringe at five or six weeks of age. They still want the food, but they do not want to be totally "filled" with formula. They balk if you try to give them the usual size feeding. Do not force the issue. Let them have their taste, and then supply them with as wide a variety of foods as possible.

Lovebirds do tend to thin down quite a bit during the weaning process, especially when they first fledge. They seem to know they need to knock off a few pounds to get good lift off. Pay careful attention to this as you don't want a bird to get too thin. I find lovebirds are just not big piggies when they wean the way some birds are. For example, my English Budgies will stuff themselves with millet until their crops are so big they can barely stand up. Lovebirds tend to eat a little all day long rather than gorge themselves.

Before sending the bird to its new home, it is best to wait three more days to be sure the bird is 100% weaned. You'll know pretty quickly if there is a change in the bird's appearance or vitality. A new owner might not notice the subtle signs that you would notice. These few extra days can also prevent "regression," a phenomenon that can occur with birds weaned too quickly. This is when the bird wants to be handfed again after being off formula for a few days, and can occur when it goes through the stress of being in a strange new home without clutch mates. Handfed lovebirds do not wean as young as parentfed lovebirds. Some of my babies take 10 weeks to wean completely.

It is a bad idea to rush the weaning process. I have received quite a few disturbing e-mails from people all over the country who have questions about why a bird died four to five days after they brought it home. When they describe the signs, these cases often sound like slow starvation deaths, especially when they report that the bird was barely weaning age when they brought it home. I see this kind of "rushing" to finish hand feeding with all species, but it seems to be epidemic with lovebirds, possibly because some breeders do not want to "waste" too much time on an inexpensive bird. I find this disturbing and hope that people with this attitude give up on bird breeding.

The Market for Lovebirds

The lovebird has gotten a totally undeserved reputation for being a nasty, unfriendly bird. Largely this is due to pet shops selling "handfed" babies that have been left in cages for weeks or even months. The customer is falsely told that although the babies

have "gone wild but you can easily tame them in a day or so." It is very important to continue to socialize lovebirds during the first six months of life. Because they are inexpensive, they often get neglected in pet stores while the larger parrots are handled daily.

A good way to keep your babies tame as they wean is to get a nice big towel in the evening, collect a bunch of squealing babies, and sit in front of the television. The babies will hide in the towel, running in and out while screeching in mock terror when you reach in to grab them. They love this and it creates a wonderful bond between the birds and human hands. It is a great way to use "couch potato" time and the towel keeps the droppings off the sofa.

Because of the disappointments people have had in pet store lovebirds, there is a market for tame baby lovebirds directly from breeders.

One of the best ways to get direct customers is via a web page. Put up a few pictures and a few paragraphs on your philosophy of socializing tame babies. You can get a web page for free and there are numerous large bird sites that will allow you to put a link on their site for free. Add a waiting list so that when you do not have babies available, people can give their email addresses. You send out a mass mailing when babies hatch and interested people can send a 50% deposit to hold a baby until weaned. My web site's mailing list has over 300 people on it after less than a year. Many of these people will not follow through, but a few will, so I always have a market for my babies.

The most rewarding part of breeding lovebirds is the phone call or email that you get a few weeks or months down the road when the new owner tells you how much they adore this sweet addition to their family. These delightful, clownish birds have many loyal fans out there.

Vera Appleyard has bred Peach-faced Lovebirds for many years. She has recently branched out to Fischer's and Abyssinian Lovebirds as well. She is the Guide for Birds at About.com (http://birds.about.com) and has her own web site at http://parrotparrot.com. She is a member of the African Love Bird Society and the American Budgerigar Society.