The Avicultural Society of New South Wales (ASNSW)
(Founding in 1940 as the Parrot & African Lovebird Society of Australia)

An Approach to Aviculture (Part II)

by Mike Fidler

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These notes are based upon an address at our September meeting. Mike is a past chairman of the Australian Finch Society in Britain. His speciality is Gouldian finches and parrot finches.

Continued from Part I (Avicultural Review August 1985 Vol 7 No 8)

I have a little message for you about germinated seed. I call it germinated seed as opposed to soaked seed. We have to ask, why do we use germinated seed? Because germinating a seed converts an ordinary seed from a piece of corn flake into a high energy package. There is an actual biological change that takes place. As you soak the seed it releases an enzyme from the germ. These are digestive juices and they are released into the carbohydrate part of the seed and they start the actual process of digestion. They convert the carbohydrate into simple sugars - glucoses, fructoses and the like. They also convert it into simple proteins - amino acids . It also increases the amount of vitamins and minerals in the seed. This is why I prefer to call it germinated seed, as you are actually converting it and not simply soaking it. If you only soak it you have soggy seed. If you let it sprout too much you end up with very expensive green feed. It should be germinated, where there is just a small white growth poking out at the tip. The only problem is that when you soak your seed and germinate it you are also creating the ideal medium for bacteria and worse still a fungus which creates a toxin. I only discovered this about 7 months ago. I had a bug in my own outfit.

I am lucky enough to live near an Agricultural College which is the prime research college for the UK. I plug into them when there is a problem that I can't solve. I had every kind of expert out that you can imagine. I even had an environmentalist out who measured the throughput air through my establishment. It is 14 cubic feet per hour. So I can tell you all sorts of detail about my setup. They checked everything you could imagine. Every bird that died received a post-mortem and pathological report. They couldn't find anything at all. They even reached the stage where they thought it may have been an allergy. Then they tracked it down to the soft food. Now I mix 1/3 of germinated seed in with my soft food. I said it must be the egg and biscuit mix. They tested it and it was normal. I gave them the seed - nothing. Eventually I gave them the soaked seed and as they put it - "This is very interesting". To me it was devastating. By that time I had gone through 40 nestlings. They discovered that it produced this fungus, which is related to a yeast, which produced a toxin under certain circumstances. I was very relieved to learn that there was a very simple solution.

When you have germinated your seed, just before you feed it, put 1/2 water and 1/2 seed in your container and if it is an ice cream container about 1kg (2 litre ice cream container) put in 1/4 cup of normal household bleach. Not the thickened bleach, just the ordinary thin bleach. Stir this in. Just watch the filth coming off. Even if you have rinsed it just prior to putting the bleach in this is still necessary. Leave this bleach in for a minimum of 5 minutes and a maximum of 15 minutes. Then pour it into a sieve used for flour and rinse it thoroughly. At this stage it is perfectly safe to use. Don't worry about any tiny residue that may be left in it.

I can promise you it is perfectly safe. I work in the chemical industry and I know that bleach is made by combining chlorine with common salt. All that happens is any tiny residue that is left; the chlorine gas evaporates very quickly and leaves behind common salt. It is the safest of all disinfectants and will have no residual build-up in the birds whatsoever. In fact I wash all of the utensils I use in the aviary and use them straight away without rinsing.

So if you are using soaked seed I would strongly recommend that you use this method. If you don't I am certain that you will eventually be able to trace losses in your nestlings, and also in some of your adult birds, back to contamination of your soaked seed.

I try to make up my seed each day, but occasionally I make too much. Once it has been cleaned in the bleach, it is perfectly safe to store in the fridge.

I would like to talk about the use of soft food. But first let me talk about feeding birds. Feeding birds is not complex. There is no secret elixir. There is no phenomenal secret that one person has or one country has. All you have to do is know the basic nutritional requirement of the particular species of bird that you are dealing with. For example I was at Taronga Zoo today and they wanted a soft food diet for their finches. I said, let's go into your feeding room and see what you have available and make up the diet from that. Don't worry about what ingredients anyone else is using, let's begin with what you are currently using for your birds, and use that as a basis. They had a dog biscuit mix and they phoned up their nutritionist and asked what it contained. It contained 22% protein and most of the minerals and vitamins. It lacked Choline and Lysine. All they had to do was take the dog meal and sieve it to remove any large lumps and add 1/3 sprouted seed having treated it with bleach first. To 1kg (which is a 2 litre ice cream container full) we added a 1/4 cup of Nutrequin, which is a horse supplement used for horses here in Australia. It contains all the minerals and vitamins that they needed. This was all they needed, because Gouldian finches need a diet that contains approximately 21-22% useable protein. The crude protein in their product was 24%. By useable protein you need to read the container. On some products you will see it will say crude protein content, this is not the same as useable protein. Proteins are made up from simple things called amino acids. Only these amino acids can be absorbed by the body. The crude protein just passes straight through. You need to find out the useable protein content of a product you wish to use. For Gouldians and many other finches, such as Cordon Bleus you need 22%. For birds which are more insectivorous, like my Peter's twin spots, Blood finches, etc., you need 27% protein. They require the same minerals and vitamins. Make sure you always have Cysteine and Lysine, because seeds lack these two amino acids. This is why I am recommending Nutrequin to you because it contains all the things that a bird needs.

Another diet that Vince Axiak uses worked out at 1 1/2 cups of crumbs, 1 egg, 1 teaspoon of Nutrequin. This is just a variation along the same theme. The nutritional content will be the same as the one they have at the zoo. It doesn't matter what the diet consists of, all that matters is what is the nutritional content. The figures I have given above refers to finches. I don't know what parrots need.

To arrive at the useable protein in the dog food used by the zoo, I made an educated guess. The crude protein was 24% and I assumed it would be about 22% useable protein. The Nutrequin has 32% protein in it, so I thought any loss would be balanced by it.

Also, when you germinate seed it increases the protein content from roughly 14% to about 16%. It is obvious that the formulas worked out this way are not 100% accurate. So long as it is within 1% or so either way it is sufficient. This has all been learnt by experience.

If you want to boost the protein content of the diet you can use additives. The Zoo uses egg yolk meal. You could also use Soybean meal. Be careful not to use Soybean flour as it contains an inhibitor. I favour the idea of using different kinds of protein to get the 22% or 27%.

Let me tell you how we arrived at these figures I am quoting so you can understand how we use them. Science has not told us this at all. Science may support what we are doing but it won't endorse what we are doing. There is a difference.

I always describe bird keeping as a bit of a machine gun. So long as you keep producing eggs you can keep going up the scale until you are hitting peak production. Then you will go past it and production will drop. If you are going to experiment, particularly with nutrition, only change one thing at a time. If you change five things and suddenly things go right what do you attribute it to? It does take a longer time to do it this way, but when you are finished you know exactly what does work.

There is a tendency in bird keeping for someone to try something and if he gets results it is hailed a breakthrough. Just because something works once does not mean you have carried out an experiment. It is not proven. For example, Gouldians are prone to go bald. Don't ask me why, I have no idea. I had heard loads and loads of theories as to why they did and even more cures. I decided I would try to solve it. I collected every bald headed bird I could find. I put two to a cage. The first two were the control pair. They were given only water, seed and grit. They were not treated at all. All the other pairs of birds were given each a different treatment. I tried all types of medicines and diets. In some cases, the birds died. In some cases one moulted out and the other stayed bald. It seemed that either the treatments made no difference at all or one bird improved and the other did not. The interesting thing is that the control pair, which received not treatment, moulted out beautifully in three months flat. Would you believe it? I could have been the man who treated the control pair with something and then when they moulted given credit to the treatment. As aviculturists, we can be quite scientific in our own little ways if we just adhere to basic scientific methods.

Going back to nutrition, I would like to emphasise that it doesn't matter how you do it so long as the nutritional content is right. I like to give them as many types of protein as I can and as many vitamins and minerals as I can. This is because I am ignorant of what they really need and I hope that what I miss with one product, I will make up with the next one. The proteins I use are, animal protein, soybean meal (not flour), yeast (but don't feed more than 8% or you will kill your birds) and wheat germ flake. These have different sorts of protein content and values. For animal protein I use mainly meat meal. I actually buy a readymade mix and I add an insectivorous mix to change my values for each species. The insectivorous mix contains all the things I have talked about earlier.

I will say this to you, the biggest problem most of you have is overfeeding your birds. You kill them with kindness. The birds can't get what you give them in the wild. The Gouldian in the wild has a very simple diet. This applies to most birds that I know of. They do require the correct diet but this is never complex.

It may interest you to know why I am visiting Australia.

Newcastle University in the UK does a lot of research work on Gouldian finches in particular and the Australian finches in general. They have been running a project in the East Kimberleys on the Gouldian finch. Basically they are trying to discover why it is declining. While they are there they do other studies as well. I am involved, but only peripherally. They have a valley where they do most of their research, where the Gouldian in former times was very prolific. It is 85 miles long by about 7 miles wide and contains about 30 waterholes. It used to be the main area for trapping Gouldians in Australia. They have been observing the waterholes and measuring the number of Gouldians which come to drink. This has been going on for the past five years. The biggest flock they have seen is 25 in an area where trappers have reported anywhere up to 4,000. They have been doing work on the basic biology of the bird. What does it feed on and where does it nest? They have been doing work on the habitat to see if it is changing.

To cut a long story short, their suspicion so far, and I must stress that this has not been proven, is that it seems highly likely that is is not a shortage of water or food. During the dry season the bird has to fly a long way for water if it is not foraging locally. We believe the Gouldian does not forage locally. There is no shortage of food for most of the year, and this includes the dry season. It is an absolute sea of grasses. There is a tree every 15 metres. The root from the trees gives off a growth inhibitor which stops other trees growing too close. The grasses do the same and grow in clumps. This is a survival technique to protect their water source. There are loads of grass seeds during the majority of the year.

The next point of concern was that the cattle people fire the grasses on average each year. This used to occur naturally about once every two years by lightning strike and so forth. One theory was that the burning was changing the nature of the flora. There is some evidence to support that theory, but no evidence to support that it is happening to the kind of value that is affecting the population of the Gouldian finch. From our knowledge to date, they will eat the grasses which are there, but also there are a lot of side valleys which are not burnt and they still have the natural flora that has been there presumably for thousands of years. There is still more than enough there for the Gouldians and within easy reach of water.

The next question was, does the burning affect the availability of the nesting sites? They staked out an area and they marked out all the potential nesting sites. Then they set fire to the grass and three days later when things had cooled down they went and counted the nest sites that were left. An insignificant number were affected by the firing. There was information to suggest that the damage done to the trees was sufficient to create new nesting sites.

The only other thing there was that may have been causing the problem was found after they talked to the people who used to trap them. There were only seven people licensed and five of them operated in that valley. They talked of 4,000 birds being trapped and over the years many thousands. We also had access to records of the numbers of birds being trapped in the last decade. The number of Gouldians is declining annually.

Speaking to the trappers, the Gouldian was the bird they chased the most. They received three times the price for them that they did for any other finch. The rarer the bird became, the harder they chased it.

Studying the flocking behaviour of the finches coming down to the water hole, no matter how big the water hole was, the Gouldians would come down in a flock at the top end in one small area. The would crowd on top of the other. This makes them very easy to trap. Of all the finches that came down, they were the easiest to trap. The trappers would cover all the waterholes for a radius of about 30 miles with black plastic. This forced the birds to come into one water hole. When the trapping season started they had 6 weeks to make their money. In one trapping it was possible to wipe out the total population of one part of that valley. Very few must get away. Now I must emphasis once again that this is as yet unproven and will take at least another five years of research to clear up, but I am personally certain that this is the cause of the decline of the Gouldian finch in the wild.

Based upon research done on other species of birds, particularly in Africa, it has been proven that the level of predation was dramatic and that only one egg in five would fledge. Of these birds, only one in fifteen would survive to lay an egg. Because the number of predators here in Australia is equal to or in some cases exceeds those in these studies, it is probable to assume that the level of predation on the Gouldian is at least equal to that of the birds in these studies. Normally when a host species is decimated the predators die off because the food source disappears, but in Australia the other finches present in the environment does not allow this to happen. The levels of the other finches, as far as we can see, have not altered. For example, at

some of the waterholes the number of Pictorellas was dramatic. It was just like a colony of bees. There must have been thousands going to each water hole. This has meant that the predators have not died off and are able to prey on the Gouldians just as much as previously.

Mark Fidler is a part of the team of the Save the Gouldian Fund.
Articles (including fostering and nutritional updates by Mike Fidler).
4 Videos and 21 beautiful photos of the Gouldian finch in the wild from ARKIVE Images of Life on Earth .
National Recovery Plan for the Gouldian Finch (Erythrura gouldiae).
Appendix to National Recovery Plan for the Gouldian Finch (Erythrura gouldiae).
Gouldian chicks shine light on fresh season (Alicia Bridges, The Kimberley Echo April 29, 2011).