# DESIGN AND CONSTRUCTION OF A NEW AVIARY

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**Text and Photographs by Anthony Wirrell**

It is extremely unlikely that any enthusiast's first aviary will be their best. Having two other efforts behind me, I was keen to learn by my mistakes and overcome the problems which only experience shows us.

With construction spanning approximately six months, it was a family project with assistance coming from my wife and (in varying degrees) from my three children.

Previous problems had been especially related to mice and cold draughts. Since my interest is in breeding Gouldian Finches, the aim was to overcome these design faults.

Dimensions

This was to be a larger aviary than those I had constructed previously. During the planning stage, it always seemed a real good idea to add a metre here and there. The real consequences are often not really appreciated until you either have to do the work, pay for the materials, or both!

Four main separate flights were planned with each one 2.1m wide and approximately 3m deep. The front 1.2m of each flight is open, with the balance in the sheltered area.

Behind the main flights is a workroom to provide a protected access and another three internal, fully enclosed, smaller flights.

The total overall size of the building is 8.4m x 6m.

## MATERIALS

With ease of working in mind,

***Top: View of the finished aviary. Above: Aviary foundations showing slab layout and front sealed soil area for plants. Left: Timber framework during construction.***

oregon timber was selected for the framework. Sections were made and delivered by a local timber framing company; a decision which was very effective in both time and money. As discussed later, the foundations are on a concrete slab.

External walls are Hardiplank, while Hardiflex (fibro) was used to line the internal walls. With a rather detailed internal layout of flights, sheltered areas and partitions, there was a surprising number of internal walls to be completed.

Two types of wire were used in the new aviary: standard half inch welded mesh was used on any internal wire divisions, while a heavier gauge was used for all external applications. This extra strength will assist with protection from predators and all wire was also painted a very dark green to improve visibility.

The roof was constructed from two materials with matching profiles: Customorb Zincalume for the main areas and clear Alsynite for the skylights and the front open areas.

***Side view of the finished aviary (compare with photographs on previous page and bottom of next page).***

## BEATING THE MICE

The problem of mice was handled with a concrete slab which completely seals the floor. This is covered with sand in the flights and can be raked over or replaced regularly.

The fully sealed floor also involves an area 1200mm wide and 900mm deep at the front of each main flight. With the concrete floor and then an agricultural drain at the bottom, this area was filled with topsoil so that seeding grasses and shrubs could be grown.

All outside wire was limited to no closer than 800mm from the ground. As a result, lower walls offer a sheer vertical surface to prevent mice entering this area.

Previously I had used some of the other possible solutions. These included the extension of outside walls 600mm below the surface, and the use of broken concrete and glass as barriers. All of these efforts were eventually overcome by the mice, so I am hoping that my new approach with a completely

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sealed concrete slab will be more successful.

## BEATING THE DRAUGHTS

With an interest in breeding Gouldians, I was well aware that draughts and cold winds would have to be eliminated, or at least controlled.

This is certainly stressed in the excellent book by Dr Rob Marshall and John Sammut "A Guide to Gouldian Finches".

I had previously used plastic blinds which could be dropped into place on an "as needed" basis. This was an untidy solution which still allowed some draughts, and annoyingly unsuccessful as they flapped about in the wind.

Aviaries are too often built with more thought given to the view from the house, rather than what is needed for the benefit of the birds. For warmth in winter and protection from the coldest winds, the open front should be facing north.

The other "conventional wisdom" is to provide an area of each flight which is protected. This was achieved by the use of shield walls which are built half way down from the roof. This then protects the upper area of the inside portion for each flight - hopefully where the birds will feel the most secure.

Another feature included in the new aviary was the use of shutters. These are also described in John Sammut's book. I was able to adapt the idea so that when open, the protective shutters slide up behind the shield walls. Around May each year they will be lowered to create enclosed protection during the colder months.

As mentioned earlier, the aviary also includes three smaller internal flights. While these do not have wire frontages to the outside, they have each been built with a wire covered external window. This supplements the light from the skylights and also provides cooler fresh air in summer. Once again, as the colder months approach, the windows can be closed to increase the protection.

Finally in an effort to largely eliminate draughts, the entire ceiling area was lined underneath the corrugated roofing. An opaque material like Hardiflex was unsuitable because of the skylight panels. This was solved successfully by using mesh reinforced plastic (Polyscrim).

***Right: Front view showing the shield walls to protect enclosed areas. Below: Internal walls and partitions lined with Hardiflex.***

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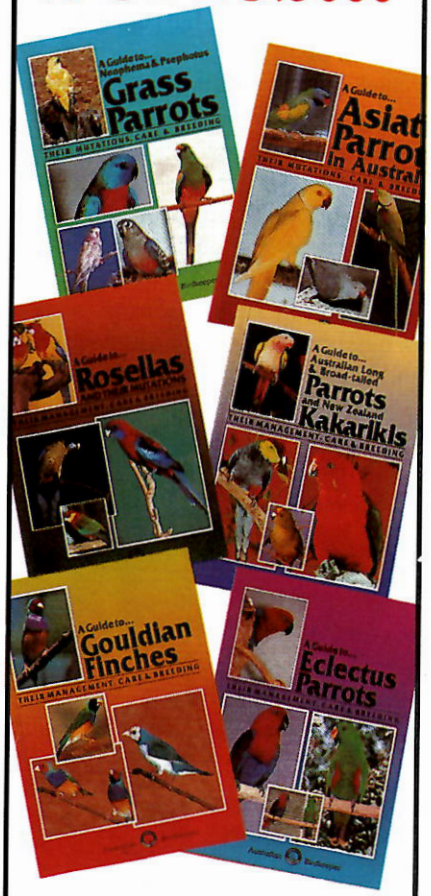


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## THE WORKROOM

Some readers may consider a workroom to be an unnecessary luxury. However, it can be used very productively and greatly reduces some of the burdens associated with the hobby.

The workroom in my new aviary is quite large at 1.8m x 6m. This is partly the result of needing to provide access to the various flights, but I believe that it has also been used well.

Included in the room is protected access to all seven flights; breeding cages suitable for Bengalese; divider cages for sorting and sexing birds to be sold; quarantine cage for new arrivals; area for seed storage bins; work bench area; laundry tubs; controls for lights and watering system; storage shelves for nest boxes and all the usual supplies; and of course room to sit and enjoy in a comfortable protected environment.

The floor is again a concrete slab which can easily be hosed out to maintain cleanliness. All feeding stations are located adjacent to the flight access doors so that it is not necessary to disturb the birds.

## ELECTRICITY

Once again it may sound like a luxury, but it was surprisingly reasonable to have an electrician connect the electricity service to the aviary.

This provides enormous benefits - both for the birds and for the convenience of the owner.

Electricity in my new aviary is now used to power the controller for the watering system as described later.

Electricity also provides three simple lighting systems: One on a time switch to extend the "daylight" hours during winter, especially important if young are being reared. A second circuit is on a light sensitive switch to provide low illumination night lights. These enable the birds to roost again if they are disturbed and also attract some edible insects. Thirdly, there are some standard lights which are very helpful to turn on when more light is needed for any procedure.

Of course electricity could also be used to provide heating if needed. I expect that the draught prevention measures and our local climate will make artificial heating unnecessary in my situation.

## WATER

With the vast range of irrigation systems available for the home garden, they are simple to apply to an aviary.

These can also be used to connect water to the aviary, and to deliver it to the birds.

I have used a programmable controller for my system. These offer many standard features and are now readily available at modest cost.

One circuit was connected to provide water for the plants and seeding grasses which grow in the front section of each main flight. This has been programmed to operate for 10 minutes each day and has been very efficient.

Another circuit is used to supply fresh

***Right: Internal sliding shutters to provide winter protection. Below: Front view of the finished aviary.***

***Left: Feeding stations are located adjacent to flight access doors. Below:Reinforced plastic was used to eliminate draughts under the roof corrugations.***

drinking and bathing water in each of the flights. This works on an overflow system for one minute each day, with the run-off again going into the front planted areas.

I have used quarter spray microjets with individual variable taps. This system allows us to adjust and direct the flow so the bowls are flushed clean every day.

Previously I had used dripping taps, but the new micro-irrigation products allow for enormous improvements. The water is cleaner for the birds and maintenance is easier for me.

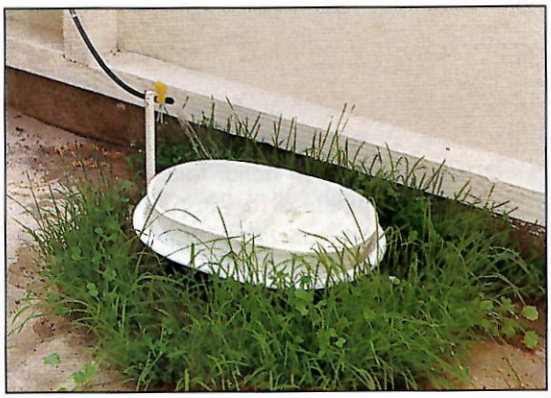
The other aspect of water in the new aviary has been the inclusion of a second hand laundry tub. This has also proved to be well-worthwhile and greatly simplifies the regular cleaning of bowls, or rinsing of foods.

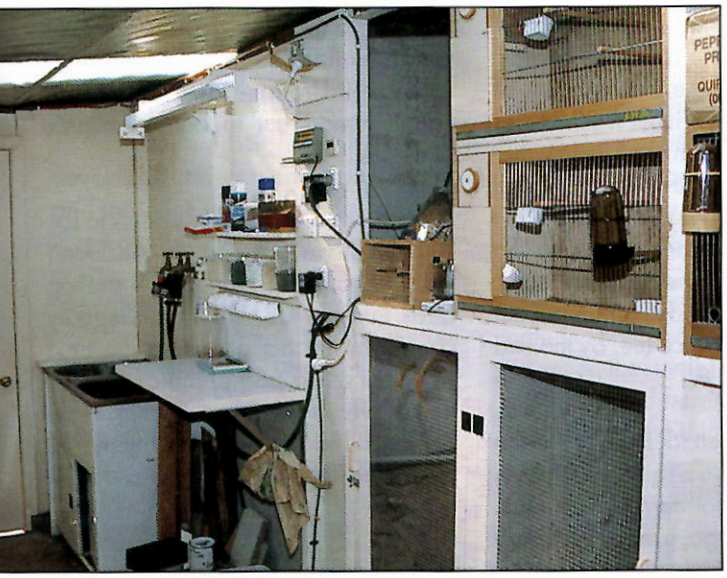
## CONCLUSION

Designing and building a new aviary can be very satisfying.

We all strive for the aviary to be finished so that we can enjoy our hobby. However, extra time taken for design and planning can certainly achieve a more productive and satisfying result.

Like the articles I have benefited from before, I hope that my contribution will assist other readers in their future plans. AK





***Above: Micro-irrigation provides an overflow system for daily fresh water.***
***Left: Central workroom provides access to all flights as well as storage and work areas.***
***Below: The planted front sections of the main flights.***

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