

BREEDING CABINETS FOR Gouldian Finches

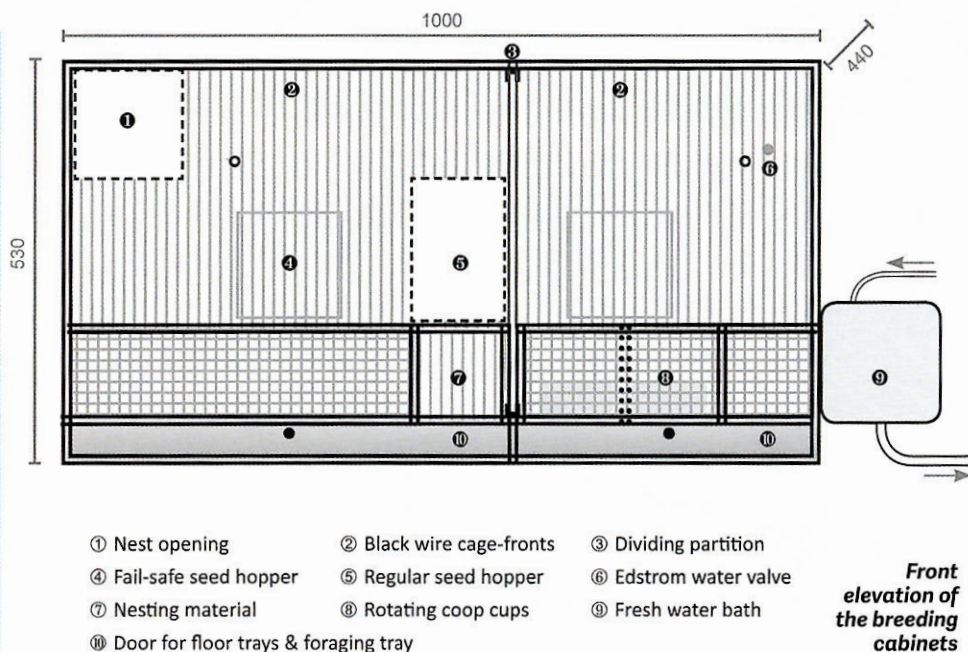
'CUSTOM-DESIGNED AND BUILT'



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THE AUTHOR

Tony Hanks has experience with Gouldian finches that spans over 50 years. His hobby has involved constructing aviaries at various residences and creating a bird room for controlled breeding programs. He resides on the east coast of Australia.



INTRODUCTION

As many readers will know, breeding Gouldian Finches is a rewarding endeavour that requires meticulous planning and care. With experience that spanned more than 50 years, I had collected many ideas from magazines and other breeders—so the idea was to incorporate the best of these in the new breeding cabinets that were to be built.

Gouldian finches can be bred successfully in aviary-housed colonies, but achieving a specific genetic outcome requires using breeding cabinets for individual pairs.

One of the most crucial aspects of genetics-controlled finch breeding is providing an optimal living environment, which starts with a custom-designed breeding cabinet. These cabinets are tailored to meet the specific needs of finches, ensuring their health, happiness and successful breeding.

UNDERSTANDING THE NEEDS OF BREEDING FINCHES

When designing a custom breeding cabinet, it is essential to consider factors such as space, materials, ventilation and accessibility.

SPACE REQUIREMENTS

Finches require ample space to live, fly, and breed. A custom-designed cabinet should allow for horizontal flight, as finches are not strong vertical fliers. A breeding cabinet should be spacious enough to accommodate a single pair of finches, together with up to five juveniles until they become independent.

The dimensions of the breeding cabinets are 100cm in length x 44cm in depth x 53cm in height. Although larger sizes are always preferred, these dimensions were chosen to optimise the available space while allowing for the vertical arrangement of three cabinets high.

MATERIALS AND CONSTRUCTION

The materials used in constructing a bird enclosure are important for the birds' safety and well-being. Non-toxic, durable materials such as powder-coated metal wire, aluminium frames, and aluminium composite panels (ACP) are ideal choices. These materials are easy to clean and resistant to rust and corrosion, contributing to the long life of the enclosure.

The bars of the selected cage fronts were spaced at 10mm, which is more suitable for finches compared to the standard 12mm (half-inch) separation. These are pre-coated black to reduce maintenance and improve visibility.

20mm square aluminium tube is an ideal building material for the frames. They were assembled using nylon joiners in a range of options, including elbows, T-joints, and four and five-way joiners.

Aluminium composite panels are frequently used for sign-writing and are easy to work with. They are available in various colour options. However, gloss white, while effective on the exterior, was found to be unsuitable for the interior surface of the cabinets due to the reflections causing stress regarding the birds' predator awareness. Therefore, this surface was painted matt white.

VENTILATION AND LIGHTING

Proper ventilation is necessary to maintain a suitable environment for breeding finches. The cabinet should allow adequate airflow to keep the air fresh while also preventing cold drafts for Gouldians. This can be achieved with an open cage front on one side and closed panels on the other three walls, floor, and ceiling.

Additionally, providing natural or full-spectrum lighting is important for birds' overall health and breeding success. Modern polycarbonate roofing allows adequate lighting, but it blocks 100% of the UV spectrum, which is essential for bird health. This issue can be addressed by installing full-spectrum lights that mimic natural sunlight and help regulate the birds' circadian rhythms. These lights also enable birds to see the full range of colours, promoting better breeding conditions.

ACCESSIBILITY AND MAINTENANCE

A well-designed bird cabinet should be easy to access for both the birds and the caretaker. Large doors and removable trays make cleaning and maintenance more convenient. Incorporating multiple perches, feeding stations, and water dispensers at different heights encourages natural behaviours. Nesting boxes should be easily accessible for breeding pairs, allowing them to build nests and lay eggs in a safe and comfortable environment.

CUSTOM DESIGN FEATURES FOR BREEDING SUCCESS

When designing these custom breeding cabinets for Gouldian Finches, several additional features were included to enhance the birds' well-being, simplify their care and improve breeding success rates.

WATER OPTIONS

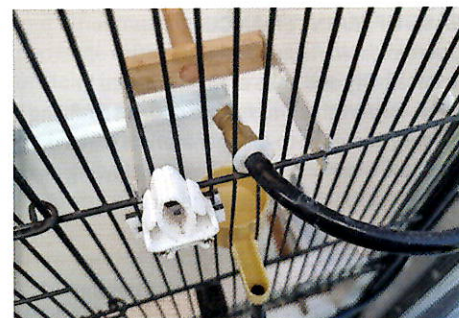
In all aspects of breeding Gouldian Finches, I employ a 'fail safe' approach. This is particularly crucial for both seed and water. Two completely independent systems supply fresh water to the cabinets. Should one system fail—for instance, due to a flat battery—the second water source remains unaffected and continues to function without interruption.

The first option is gravity-fed Edstrom water valves. Birds adapt to this system quickly, like how they drink water off the bird wire after rainfall.

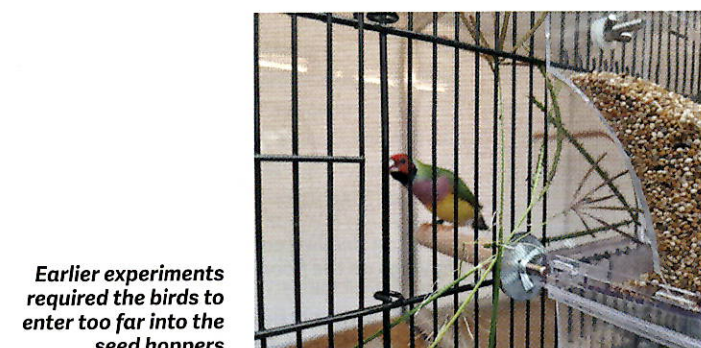
The second water source is an externally mounted bird bath. It operates with mains pressure water, controlled by a timer and runs for 2 minutes daily. The system includes a central drain that allows the bath to be flushed clean with fresh water each day.



Earlier trials used a two-tray system that proved difficult to clean



Edstrom water valves have a simple system included to catch any dripping



Earlier experiments required the birds to enter too far into the seed hoppers

FEED OPTIONS

Finches have a rapid metabolism and need to eat about six times a day. Access to seed is essential, so, again, a 'fail safe' approach was taken. The main source of seeds is a hopper with enough capacity to last up to 2 weeks. Additionally, there are coop cups and a designated foraging area on the floor. When going away, a second hopper is installed into one of the cage doors as an extra precaution.

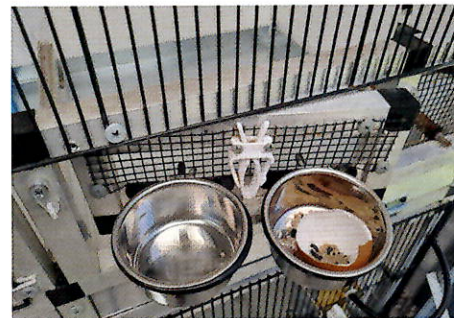
Previous experiments featured attractive plastic hoppers; however, these were not well-received by the birds. The design required that they enter the hopper to access the seed, which caused discomfort and heightened caution due to their natural wariness of potential predators. Instead, metal hoppers with an extended tray into the cage have been significantly better accepted.

ROTATING COOP CUPS

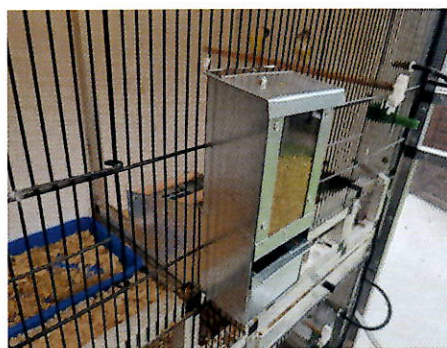
Stainless steel Coop Cups are well-suited for holding shell grit, baked eggshells, sprouted seeds and chopped vegetables. To enable easy refilling with minimal disturbance, a rotating design was used in the breeding cabinets. (Using a drill press during fabrication significantly improved the positioning accuracy of the vertical rotation rods within the cabinets)



An access door opens to slide the floor tray out, which also contains the foraging tray



Rotating coop cups allow for easy refilling without disturbing the birds



The final choice of food hoppers presents the seed inside the cage

FLOOR TRAYS

The initial plan for the breeding cabinets involved a two-tray system on the floor: A lower 'dirt tray' with a 'wire tray' above it. Although these were constructed, the wire trays were challenging to clean, leading to their replacement with a single-tray system.

The final single trays are 25mm deep and filled with fresh pine shavings. The pine absorbs moisture, has a pleasant smell, provides a natural surface for the birds, and is easy to clean by simply replacing it. A 40mm horizontal door is used in front of the tray to allow ample space when removing the tray for cleaning and so that the door can be re-closed during that time.

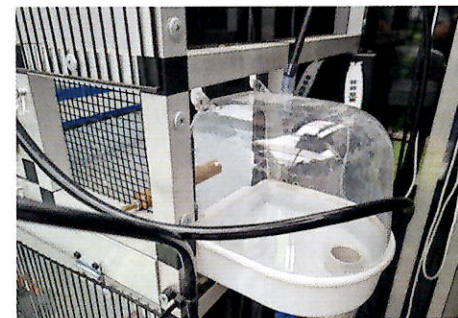
FORAGING TRAYS

Gouldian Finches, being flocking birds, often feed and forage together. To allow for this natural behaviour, each breeding cabinet contains a plastic foraging tray measuring approximately 18cm x 22cm. These trays are placed away from perches and are used to collect spilled seed and husks, crushed eggshells, seeding grasses, shell grit and charcoal.

NESTING AREAS

Nesting areas within the cabinet are essential for breeding finches. Nesting boxes should provide a sense of security and are more effective when designed specifically for Gouldians. These boxes can be constructed from untreated plywood with an external verandah leading to a lowered nest area. Both features aim to reduce chick-tossing, and a wire floor on the verandah helps to maintain cleanliness.

The wire cage fronts have doors incorporated to allow positioning of the nest boxes, and blocks of timber were added to the boxes so that they lock securely into place using their own weight.



Commercial water baths are fitted with water input and an overflow drain in the floor

NESTING MATERIAL

Each nest box is installed with sisal nesting material already in place, but birds often add more as part of their courting procedure. Extra nesting material is provided in a vertical holder to keep it clean before use. This arrangement also makes it easy to monitor when the new nesting material is being utilised.

Once the eggs are being incubated, additional nesting material is not provided. This measure ensures that overly enthusiastic cocks do not continue building on top of the eggs.

A DRY FLOOR

For finches, it is important to maintain a dry floor to reduce the risk of diseases such as coccidiosis. Although water valves are an effective system, birds often block them with seed husks from eating, which can result in continuous dripping onto the floor below. In addition to the potential health risks, a wet floor can also have an unpleasant odour.

The potential dripping problem was resolved by redirecting any water back outside the cabinets. This was achieved using the base of a water hopper, but reverse mounting it with the larger portion inside the cage and the spout outside. A tube is connected to deliver the water to the same drainage used for the water baths. It is important to note that this gravity-fed drain cannot have too small a diameter. (Refer to 'Bernoulli's Principle' online for more information)

CATCHING DIVIDERS

Breeding cabinets with a length of one metre can be inconvenient for catching finches. A sliding vertical divider solves this issue and is used when catching and removing juveniles once they become independent.



Plywood nests have a veranda and a lower nesting chamber



TEMPERATURE CONTROL

Maintaining appropriate temperature and humidity levels is essential for breeding finches. Custom-designed cabinets can include features such as heating elements or humidifiers to regulate these factors, with ideal temperatures ranging between 20°C and 30°C and humidity levels around 50-60%. My preferred option is to achieve this in the bird room rather than the individual breeding cabinets.

Two thermostats are used: one to activate a column heater if night temperatures fall below 12°C and another to turn on an extraction wall fan when the temperature exceeds 35°C. Keeping the environment stable and within these ranges can enhance breeding success and overall health.

SUPPLEMENTARY LIGHTING

The significance of full-spectrum lighting has been previously mentioned. Modern roofing materials limit the amount of UV light birds receive, which can also impact Vitamin D absorption. Therefore, some form of supplement is necessary—either a dietary supplement or artificial light. Both methods are used for Gouldians under roofing, but this discussion focuses on the lighting aspect related to breeding cabinet design.

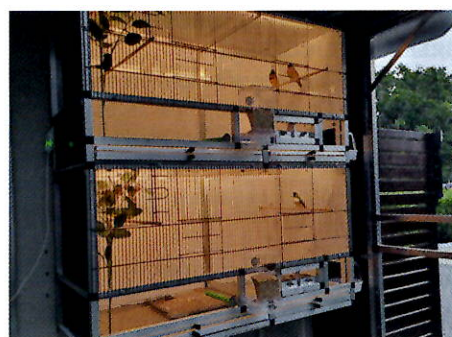
Low-voltage full-spectrum LED lights were installed in each cabinet to enhance the natural light reflected into the bird room. These lights are relatively inexpensive and are commonly sold for indoor plant growth. They are powered by a USB source and come with a timer to operate the lights during daylight hours.

THE BENEFITS OF CUSTOM-DESIGNED BREEDING CABINETS

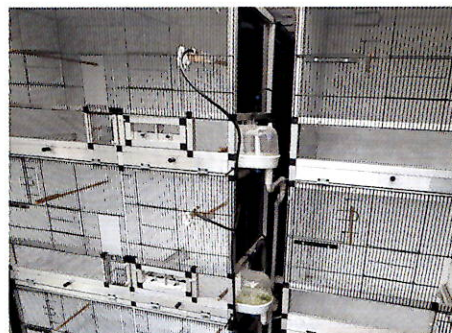
Investing in a custom-designed bird enclosure offers numerous benefits for both the birds and their caretakers.



Nests lock into place using their own weight



LED lighting is used to supplement reflected natural sunshine



Finished breeding cabinets are arranged three units high

ENHANCED HEALTH AND WELL-BEING

A well-designed cabinet provides a safe and stimulating environment that promotes the health and well-being of the birds. With ample space, proper ventilation, and environmental enrichment, Gouldian Finches are more likely to thrive and exhibit natural behaviours.

INCREASED BREEDING SUCCESS

Custom cabinets, tailored to the specific needs of breeding Gouldians can significantly increase breeding success rates. Features such as nesting areas, temperature control, and ample feed options all contribute to a better breeding environment.

EASE OF MAINTENANCE

Custom cabinets are designed with accessibility and ease of maintenance in mind. Removable trays, large doors, self-filling feeders and easy-to-clean materials make daily care and cleaning more efficient, allowing us to focus on the well-being of the birds.

CONCLUSION

Creating a custom-designed bird cabinet for breeding Gouldian Finches is a thoughtful investment that can yield rewarding results. By considering the specific needs of the birds and incorporating features that enhance their environment, caretakers can ensure the health and successful breeding of these delightful birds. Whether you are a seasoned breeder or a beginner, a custom-designed cabinet can make a significant difference in the overall experience and success of breeding Gouldians. 

Far left: A finished cabinet ready to receive pine shavings on the floor, followed by the birds

Left: The foraging tray being used by a pair with fledglings