

I don't feed the birds because they need me; I feed the birds because I need them.  
— Kathi Hutton



Fig. 1: Dr. Chang's rooftop aviary makes use of a relatively redundant space of only 13m<sup>2</sup>. With waist-high glass walls and wire mesh ceilings, air circulation is ensured while providing a shield against the winter winds.

Birdwatching has long been enjoyed as a recreational, as well as social activity. In the course of locating then observing different species of birds while appreciating each of their distinct sounds, birdwatchers find relaxation, refreshment, as well as excitement while immersing themselves in nature. What if such mental and spiritual satisfaction could be kept close at hand, right on your rooftop? Imagine waking up to the chirping of canaries and budgerigars that blend in with the local birdsong, golden pheasants and quail pecking on the grains by your feet, while Gouldian finches and cockatiels welcome you with their rainbow colors and bubbly hospitality.

An aviary is a creative and exciting way to make use of any spare outdoor space, especially if these feathered friends spark joy within your heart. The aviary on the Changs' rooftop uses a relatively redundant corner, measuring only around 13m<sup>2</sup>. Originally set up to be a separate plantation area from the rooftop garden, it was designed with a complete drainage system, practically identical to the one in the garden, including drainage trays, non-woven cloth, and suitable planting materials (see Chapter 2 for details). The construction of the aviary has been designed with waist-high glass walls at the bottom and wire mesh walls and ceiling (Fig. 1) to ensure ventilation while providing a shield against the colder winter winds (after all, it is HsinChu - the Windy City - we are talking about!)

There are three keys to building a rooftop aviary: (1) a close-to-nature design, (2) easy maintenance, and (3) approachability. To start off, as previously mentioned in our last edition - *Wildlife Habitat for Quail* - an environment that is designed to replicate their natural habitat is important for undomesticated animals that are to be accommodated around the household. As the base of the aviary is an open soil ground, plants can grow freely without the limitations of planting containers, giving them higher chances to thrive. Dr. Chang ingeniously chose sweet potato



Fig. 2: Four Gouldian finches snacking on some homegrown sorghum. Take just one look at them, and it is self-explanatory as to why they are also called rainbow finches.

leaves as the main plant to cultivate, and the reasons are three-fold. First, sweet potato leaves are a type of climber, and once the leaves reach the top the of the aviary, they create natural shade so that the birds will have somewhere cool to hide from the direct summer sunlight. Secondly, they are edible and extremely fast-growing. Not only do the birds get to nibble on them, the Changs also enjoy their own sustainable supply of organic sweet potato leaves. Lastly, like any other plants, they benefit from animal droppings, specifically the nitrogenous matters in the droppings. This brings us to the second key point - easy maintenance of the aviary.

Once the natural waste-to-nutrient circulation has been formed, there is no need to manually dispose of the bird droppings. Periodically, Dr. Chang adds fresh sand to the aviary ground, not just to cover up the remaining droppings but also to accelerate the decomposition process. For the water supply, we can see yet another pinch of Dr.



Fig. 3: Research found that black-headed Gouldian finches are amiable and even passive while their red-headed counterparts are more aggressive and competitive. Such a difference correlates with the fact that black-headers are often seen in a natural environment where resources are plentiful, whereas red-headed Gouldian finches are more likely found where survival is difficult.

Chang's ingenuity. Positioned under a dripping tap, what seems to be a bird bath fountain is actually a 3-tier dessert tray (Fig. 6). As the tap water gently descends from the top to the bottom, each tier is constantly refreshed with clean water for the birds to drink, play, and bathe in. To ensure easy maintenance, it is important that the dessert tray is raised from the ground, by stacking rocks or bricks underneath, to prevent quail and pheasants - the naughty sand-diggers - from getting the bottom tier muddy.



Fig. 4: A male golden pheasant with stunning plumage. Dr. Chang jokingly named this pheasant *Trump* for its golden head feathers.



Fig. 5: A female golden pheasant has a much duller plumage, but her air is still 'incomparable'. By her feet are some wiggling mealworms, which are added to the birds' diet for more nutrient.



Fig. 6: A 3-tier dessert tray is placed under a trickling tap to provide fresh water for the birds to drink, play, and bathe in.

(Illustrations by Jenny Chang)  
 (Sourced: Gouldian finch head feathers coloring. Retrievable at: <http://www.gouldianfinches.eu/en/genetics/genetics-and-mutations-in-gouldian-finches/mutations-and-inheritance-of-head-coloring/>)



Fig. 7: Bird houses, tree branches, wire, and sticks are hung on the ceiling of the aviary, providing nibbling toys and perching spots for the birds to enjoy.



Fig. 9: Nature is full of amazement. In front of such a joy-filled aviary, there is hardly anyone who can resist the temptation to press their noses against the glass and take in everything the nature has on display.



Fig. 8: Budgerigars, also affectionately known as budgies, pair up to mate and raise off-springs. The pair stays together unless parted by natural or human causes.

The third key to a rooftop aviary is its approachability, and not just in the sense of distance. The aviary has to be friendly for both its feathered residents and the human admirers so that the pleasure can be shared and enhanced reciprocally. Bird houses, tree branches, and wires bent into different shapes can be easily fastened to the aviary ceiling thanks to the wire mesh, serving as nibbling toys or resting spots for the birds to perch and rest on in the course of their exploration in the aviary. Whatever fun they are having will be shared with their fascinated audience, whose noses are pressed against the glass walls (Fig. 9).

An aviary designed to imitate its residents' natural habitat is an ingenious solution to maintenance. With the housekeeping aspects of caring simplified, the fun and wonder of keeping an aviary have definitely been maximized for Dr. Chang and his family.

Desk editor of JDO & a wildlife enthusiast\*

*Annie Chen*

\* Title bestowed by Dr. Chris Chang  
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