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**The Red Strawberry Finch    *Crimson Finch***  
**Black-capped Lory    One Week in Brazil**  
***The Red-breasted Goose***  
**White-browed Woodswallow**

# The Crimson Finch

## A Striking Little Aussie!

Text by Glenn Johnson

Photos by Julian Robinson [www.flickr.com/photos/ozjulian/](http://www.flickr.com/photos/ozjulian/)

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and Aviarylif.



### Introduction

The Crimson Finch *Neochmia phaeton* has always been one of the rarer Australian finches in captivity, and even more so since the mid-late 1980's, when the previously legal trapping of wild finches in Australia was prohibited across all states. They unfortunately have a bad reputation for being aggressive, and this together with the fact that they are reasonably expensive in comparison to many other finches, could well be a couple of the main reasons as to why they are not so commonly kept.

### Description

There are two types of Crimson Finches, the black-bellied, which is the nominate form and the much less common white-bellied subspecies *N. p. evangelinae*. In captivity, as is also the case in the wild, the black-bellied race is far more common and subsequently less expensive than

the white-bellied. The crown is dark brown, the back and wings are paler brown washed with red, the tail is long, scarlet on top and black underneath. The cheeks along with the entire under parts are deep crimson, the flanks are spotted white, and the centre of the belly is black in the nominate race and white for *N. p. evangelinae*, and the beak is red. Hens are duller, with black beaks. They are an elegant bird, generally standing very upright on the perch, and range from 120-140mm in length.

### Distribution

The black-bellied Crimson Finch is found along the coastal areas of the tropical north from north-western Queensland, through the top of the Northern Territory and into the north of Western Australia, their range also stretches inland in some areas. The white-bellied race is found in north-east Queensland, from Rockhampton to the Cape York Peninsular and southern New Guinea. Within their natural range, Crimsons can be found living amongst long grasses growing along watercourses; they also frequent sugar cane fields in areas where it is grown. They are also commonly found in Pandanus country, where they will often build their nests amongst the long, strap like leaves that form the crown of these trees.



Wild adult male  
Crimson Finch

### Housing

Crimson Finches, like Gouldians can suffer



Julian Robinson



Wild adult male  
Crimson Finch in moult

Julian Robinson



Wild adult female  
Crimson Finch

Julian Robinson



Wild adult female  
Crimson Finch in moult

Julian Robinson



Wild adult male  
Crimson Finch





**Suitable aviaries for housing  
Crimsons**

badly in inclement weather, keeping this in mind an aviary suitable for Crimsons should afford them a reasonable amount of protection from the elements. Whilst they will live and breed in a basic small unplanted box style aviary, they look and do much better in a well planted flight aviary that offers them suitable facilities to bathe in, as they love nothing better than taking a dip during warmer weather. The aviary can be fully roofed, which is certainly a great way to keep the floor dry in wet weather, or can incorporate a roofed shelter section attached to an open flight, so long as it provides adequate cover during cold, stormy weather as well as when it is very hot. Another thing to bare in mind if there is to be an open flight is to ensure that there is good drainage, as damp floors brought about by inadequate drainage can lead to all sorts of health problems not only for finches, but birds in general. The walls of the shelter section should be lined with tea tree branches or similar to give the birds both places to roost and nest. When it comes to housing Crimsons with other finches it must be said that they have a rather bad reputation for being aggressive,

however this is certainly not true for every pair, and many will coexist very well in a mixed finch collection. As with the mixing of any species, close observation is the key.

### ***Diet***

The base diet is a standard finch mix, comprising of mixed millets and canary seed. They love green food, such as unripe millet heads, milkthistle, chickweed, and summer grass seed heads etc. When feeding green food it is best offered hung up off the ground, where they will spend a great deal of time picking it over. The provision of live food is essential if you wish to gain the best breeding results with Crimsons; to this end mealworms, white ants, fly larvae and fruit fly will all be taken. In addition to the live food, sprouted seed, madeira and insectivore cake along with egg and biscuit mix are all excellent supplementary foods for when chicks are being reared. Grit in the form of shell grit, baked fowl eggshells and charcoal should always be available to them, as should fresh water provided in clean





**Crimson Finch pair sharing an aviary with Cuban Finches**

receptacles, which is really just common sense.

## ***Breeding***

Crimsons will usually attempt to breed in the warmer months and generally prefer to build their own bulky dome shaped nest, constructed from coarse grasses, and lined with coconut fibre and feathers, in this regard a preference for mostly white feathers is shown. They usually build their nest high up in the tea tree branches that line the shelter walls or in natural growing shrubs in the flight. On the odd occasion they have been known to use nest boxes, cane nests and hollow logs, but certainly more often they prefer to construct their own. Once the nest is constructed egg laying will commence. The usual clutch size is five to seven eggs, and fertility is generally good. Incubation lasts around 14 days. It is very common for the



**Wild immature Crimson Finch**

Julian Robinson



**Juvenile wild Crimson feeding on the ground at the campground at Bell Gorge WA**

Julian Robinson



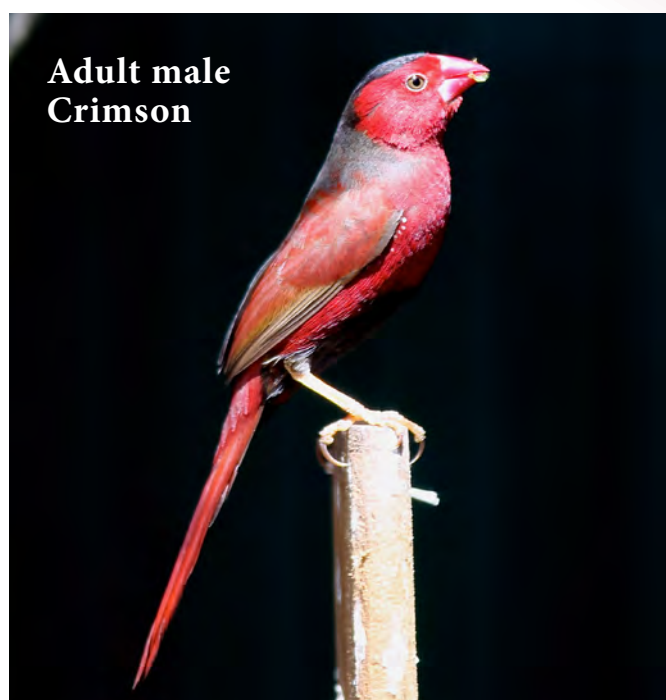
**Wild immature Crimson Finch**

Jon Irvine





**Wild adult female Crimson  
Finch**



**Adult male  
Crimson**

parents to nest again soon after the young fledge. They show a great dislike for nest inspections, so as tempting as it may be to take a look, it is best to avoid doing so if breeding success is to be achieved. To avoid any potential aggression from cock bird, the young from each clutch are best removed from the breeding aviary once independence is reached.

### ***Conclusion***

Crimsons are strikingly beautiful, reasonably hardy and given the right conditions, diet and facilities, not all that difficult to breed. With Crimsons becoming harder to acquire these days, it is up to present day aviculturists to breed them to assure their availability for future breeders in years to come. ~



# One Week in Brazil



**Far too Short**

**but memories that will last a lifetime!**

A follow on from the article, Blue Macaw Week, issue 02/15

By Simon Degenhard

After the main events, the Spix's Macaw *Cyanopsitta spixii* handover and subsequent World Wildlife Day 2015 formalities were over, it was time to see a little bit more of what Brazil had to offer. And so it was that on Wednesday the 4th of March we commenced our short, but sweet tour of a few of the most amazing parts of this beautiful country with a visit to the national park that sits just outside of the city limits of Brasilia, Parque Nacional de Brasília, which we all found very interesting indeed. It was there that Martin Guth had a close encounter with a camera shy monkey; I'm quite certain that I heard it shouting "no photo, no photo" as it lunged forward, teeth bared, in an attempt to get a taste of ACTP's El Presidente!

Thursday began with Tim Jn Baptiste leaving us to fly back to São Paulo at the crack of dawn, with his mission being to collect another Spix's Macaw, an eleven year old female, Turquesa, that the Brazilian Government had offered to loan to ACTP in order to boost the genetic diversity at their Berlin breeding centre. This offer by Brazil truly signifies

how strong the relationship between ACTP and the Brazilian Authorities really is and further cements the partnership.

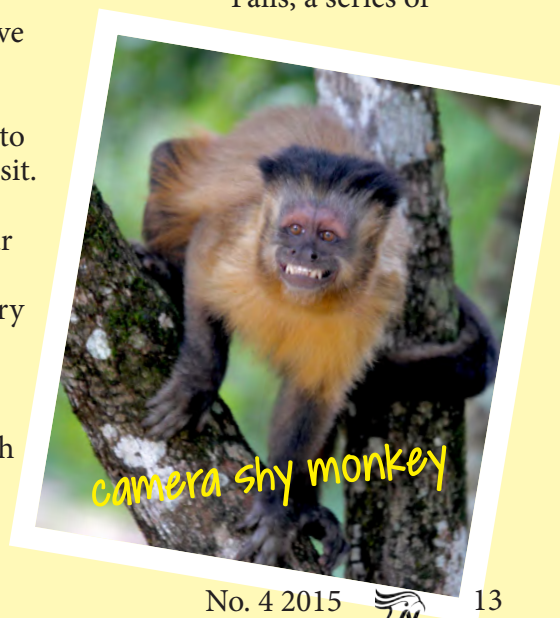
For Martin and I, it was also time to bid Brasilia farewell and take a flight to our next destination - Foz Iguazu. We were headed there for a meeting, scheduled for Friday morning, with the management team of the government run facility, Itaipu Zoo, which is a breeding, research and education centre that is home to an array of animal species, including the incredible Harpy Eagle *Harpia harpyja*. They have been successfully breeding this beautiful bird of prey since 2007 and to date have produced 17 chicks, including a cute little bundle of joy that happened to time it's arrival into the world perfectly with our visit.

We were afforded a guided tour of the facility, including both the behind the scenes veterinary clinic and breeding centre and the public area, which we thoroughly enjoyed. And even had an up-close encounter with a friendly South American Tapir *Tapirus terrestris*.

Other species found at the zoo include the Illiger's Macaw *Primolius maracana*, King Vulture *Sarcorampus papa*, Southern Tamandua *Tamandua tetradactyla* aka Collared Anteater, Jaguar *Panthera onca* and ocelot *Leopardus pardalis* plus many other species too numerous to list here.

At this point I'd like to extend a huge thank you to team at Itaipu Zoo for taking precious time out of their busy schedules in order to show us around.

Friday afternoon saw us take a boat ride to the amazing Iguazu Falls, a series of







*Illiger's Macaw at Itaipu Zoo*

and the volume of water that fell on us in a continuous flow was simply mind blowing!

Needless to say, we got soaked, but this was all part

of the experience. Iguazu Falls, although not a great birding destination, is without doubt a place worth visiting.

On Saturday morning we bid Foz Iguazu farewell, and

waterfalls that form part of the border between Brazil and Argentina. The falls stretch in width for 2.7 kilometres (1.7 miles). Their height varies between 60 metres (200 feet) and 82 metres (or 269 feet). This makes the Iguazu Falls taller than Niagara Falls and twice as wide. A large proportion of the water is thrust down Devil's Throat, a long chasm that is 82 metres high, 150 metres wide and 700 metres deep. This chasm has a distinguishing U-shape. Interestingly, there are several islands within the river and the falls.<sup>1</sup>

The boat trip takes you some 5 kilometres up stream on what is a relatively calm stretch of river.... that is until the falls come into view. Incredible doesn't even come close to describing this place. The immense power of nature is immediately evident at the first glimpse of the falls; the size and level of noise is astonishing. The boat took us underneath one part of the falls



*Simon makes a friend*



*The incredible Iguazu Falls*

headed to our next destination, the home of the world's largest parrot, the incomparable Pantanal. We flew into Campo Grande, where a driver, who then took us to a small aerodrome on the outskirts of the city, from where we



*King Vulture at Itaipu Zoo*



would take our next flight into the Pantanal, met us.

Approximately 20 minutes later the car pulled up alongside the small 4-seater Cessna aircraft and the pilot, who not surprisingly spoke very little English and was mid-way through his pre flight checks, greeted us. The gear was loaded, seatbelts fastened and we were off down the dirt runway, up, up and away!

Though obviously far from being the first time I had flown, it was by far the smallest plane I had ever travelled in and it must be said that I was somewhat nervous on take off and then again around half way into the 30 minute trip when we had to divert from our flight path to avoid a strong, but isolated rain storm. Whilst it was a little unnerving to be in such a small aircraft flying around the edge of a storm, it was undoubtedly amazing at the same time!

Getting our first look at the

Pantanal from the air was nothing short of incredible and coming into land on the grass runway next to the Pousada Aguape lodge, where we would be staying the night was a thrill to say the least...but the best was certainly still to come...

The moment we stepped out of the plane we heard it, the familiar call of large macaws, as if the adrenalin wasn't already pumping enough, it was unmistakable, the calls we were hearing belonged to the one and only Hyacinth Macaw *Anodorhynchus hyacinthinus*. Martin and I ran in the direction of the sound, and before I knew it a very long held dream had been realised, I had seen the most majestic of macaws in the wild for the first time!

We first saw a pair flying some 150-200m away, then another and another as they alighted in the tops of tall palm trees. With camera in hand, Martin and I quickly made our way to where they were, my hands were shaking with excitement, but trying my best to hold it steady, I fired off my first shots of these

magnificent creatures. After observing them for some 20-30 minutes, in total awe of their breathtaking beauty, we made our way into the lodge to check in.

After a quick freshen up, I walked outside, camera in hand again of course, to check out the rest of the surroundings and to my absolute delight there were more Hyacinths flying in, others were perched in the surrounding palm trees and yet more were eating from a purpose built trough that was filled with palm nuts for them to enjoy. Finding them was proving simple; deciding when I had taken enough pics was the hard part!

To make this magical afternoon even more so, it was not long before I saw my first ever, wild Toco Toucan *Ramphastos toco* as well, another long held dream fulfilled! I spotted the first of the Tocos as it flew in and alighted on a palm frond on the opposite



View of the Pantanal from the plane, close to where we stayed



View from the plane of the rain falling on the mountains



**Grumbach**

**"Because hatching may not be a coincidence"**

-Bird Park Walsrode



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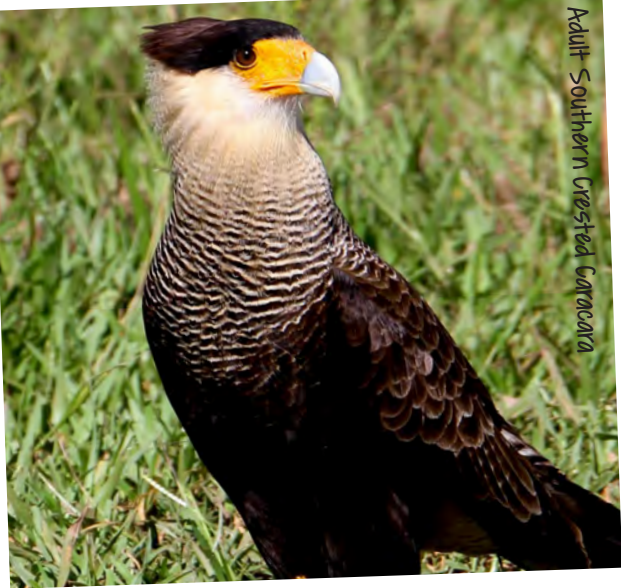


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Adult Southern Crested Caracara



nanday conures



Yellow-billed Cardinal



Hyacinth Macaw



Harpy Eagle



Female Amazon Kingfisher



Rufous Horned



Toco Toucan



Plush-crested Jay



Scaly-headed Parrot





Brazilian Anhinga



Plush-crested Jay

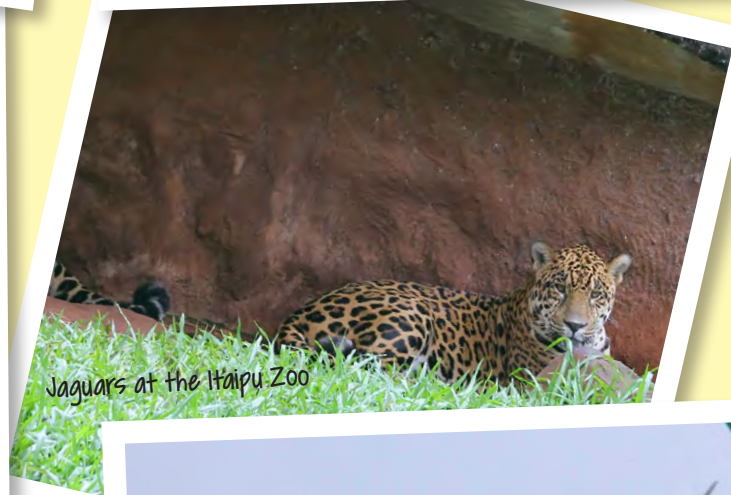


Southern Crested Caracara

from Brazil



Caution - Hyacinth Macaws on road



Jaguars at the Itaipu Zoo



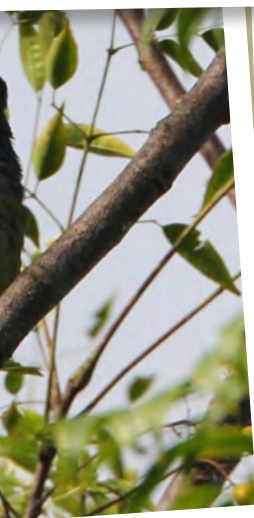
Yellow-bellied Sapsucker nesting in an abandoned  
Hairy Woodpecker nest



Female Ringed Kingfisher



Canary-winged Parakeet



Hyacinth Macaws



Harpy Eagle eaglet  
at the Itaipu Zoo  
breeding centre





side of the tree to a couple of the big blue guys – what a thrill to see both these amazing species sitting in the same tree. Two more Tocos soon came into view, along with yet more Hyacinths. To say that I was in my element would have been an understatement; I truly was living a dream!

Another species that we observed that afternoon, which was common around the area, was the Southern Crested Caracara *Caracara plancus*. They were not at all shy and were present around the lodge throughout the day.

Night fell and it was time for

a delicious dinner of Brazilian style roasted meats, followed by a night safari on the back of an old army type jeep. Although we didn't see too many animals out that night, it was wonderful to see a big family group of Capybaras *Hydrochaeris hydrochaeris* and a small number of Common Potoos *Nyctibius griseus*, a nocturnal bird similar to our Tawny Frogmouth.

The next morning I awoke to the calls of many birds, including the Hyacinths and quickly grabbed my camera and headed to breakfast. I was delighted to see a large flock of Nanday Conures *Aratinga nenday* feeding on seed that had been thrown across

the ground for them, adjacent to where breakfast was being served. It was amazing to see them in such a number and up so close, their plumage was vivid and more than made up for their loud chatter.

I soon also noticed a number of cardinals, both Yellow-billed *Paroaria capitata* and Red-crested *Paroaria coronata*, with the former being the more common of the two, along with a couple of Saffron Finches *Sicalis flaveola*, Plush-crested Jays *Cyanocorax chrysops* and Rufous Horneros *Furnarius rufus*. To cap it off, just prior to finishing my breaky, three Toco Toucans landed in a tree no more than 10 metres from where I was sitting, making their arrival known with their loud and unusual croak-like call. They were very obliging, hanging around long enough for me to fully appreciate their breathtaking beauty and of course take numerous snaps of them – boy oh boy what a way to enjoy a delicious breakfast!

Next on the agenda was a boat trip on the river. We set off and soon saw our first new bird species, the Ringed kingfisher







*Megaceryle torquata*; they were quite plentiful, generally perched along the clear parts of the banks of the river. During our trip we also saw Amazon Kingfishers *Chloroceryle amazona*, Coccoi Herons *Ardea cocoi*, a Rufescent Tiger-Heron *Tigrisoma lineatum marmoratum* (at nest), a Brazilian Anhinga (Darter) *Anhinga anhinga*, numerous small birds and some more macaws, which although I only

observed briefly from a distance, I am confident that they were Blue and Golds *Ara ararauna*. A curious otter even made an appearance at one point.

Upon returning to the lodge, I wandered off to spend some more time observing and photographing the Hyacinths and was also thrilled to see a number of Swallow-tailed Hummingbirds *Eupetomena*

*macroura* and Canary-winged Parakeets *Brotogeris chiriri*. I was even treated to the sight of a pair of Scaly-headed Parrots *Pionus maximiliani*, that I heard calling from the top of a tall tree just prior to our departure.

Unfortunately we had a tight schedule to keep if we were to get back to São Paulo in time to catch our flight back to Berlin and so we had to bid the Pantanal farewell only 22 hours after our arrival. As we again set off in the little Cessna I was still buzzing with excitement from everything I had seen in the short time since our arrival the previous day, but at the same time I was somewhat saddened at having to leave so soon. This had been one of the most incredible and moving experiences of my life and is one I surely hope to repeat one day – I will be back!

#### References:

<sup>1</sup><http://www.brazil.org.za/iguazu-falls.html>

Wikipedia, the free encyclopedia





# SPECIES SELECTION

An excerpt from Tony Silva's upcoming new release - *Psittaculture* - fully revised

Photographs by Aviarylif



## Part 2

For the person intent on breeding, my recommendation is to enter aviculture by acquiring a pair of Cockatiels *Nymphicus hollandicus* or Budgerigars *Melopsittacus undulatus*. Once experience has been gained and one starts enjoying being in the ranks of aviculture, other species can be acquired. I always try to discourage a beginner from purchasing a pair of macaws or cockatoos, even the smaller species in these groups, as their first pair of birds, given that these species are noisy, destructive, sufficiently intelligent to train their owners (such as by calling incessantly, throwing the cage contents about, or shredding newspaper used to line the cage bottom, to which their owners respond by rushing to the cage) and have peculiar idiosyncrasies that combined may prove overwhelming for a beginner. Proper care, breeding and hand rearing can be learned less painstakingly with the

smaller Cockatiel *Nymphicus hollandicus*, Budgerigar *Melopsittacus undulatus* or Agapornis species. Look no further until you have amassed experience.



**Yellow-collared Macaw**

Once preliminary experience has been gained and you are ready to expand your collection, be just as choosy as when purchasing your next pet bird.

Some parrots can be nigh impossible to breed; some of the common amazons (e.g., the Mealy *Amazona farinosa*) and even some of

the lories (e.g., the Purple-naped *Lorius domicella*) can test the patience of the most competent aviculturist. Other species - like the three species recommended as your first pair of birds - can prove outright prolific. Green-cheeked

Conures *Pyrrhura molinae* breed and rear their young readily and do not require special diets.

However, the ease in which a species breeds does not necessarily correlate with the ease of keeping them.

A case in point is the fig parrots (*Cyclopsitta* and *Psittaculirostris* ssp.), which are about the size of a lovebird and breed readily but almost invariably the young perish before fledging, usually as a result of some dietary deficiency. A breeder trying to rear fig parrots can become frustrated beyond reason by this type of failure. Imagine a person with no experience but with the financial means to acquire a pair of these birds and having clutch after clutch perish?





**Male Red-browed  
Fig Parrot**



**Umbrella Cockatoo**

They would soon become discouraged and in the worst scenario may commence neglecting the birds. Some cockatoos, including the Ducorps's *Cacatua ducorpsii*, Moluccan *Cacatua moluccensis* and Red-vented *Cacatua haematuropygia*, may not prove to be particularly difficult to breed, but aggression on the part of the male, even in successful pairs that have produced young on countless occasions, may result in the female being maimed or killed.

The reason for such behaviour is not precisely known, but it is a problem that will be faced sooner or later by a cockatoo breeder. Experience will allow the recognition of subtle signs that may prevent the hen from being injured or murdered. Green-cheeked Conures *Pyrrhura molinae* never cause this type of problem. Their young are easily hand-reared after they are a few weeks of age, allowing the novice to learn this technique. The pair will require only a cage and

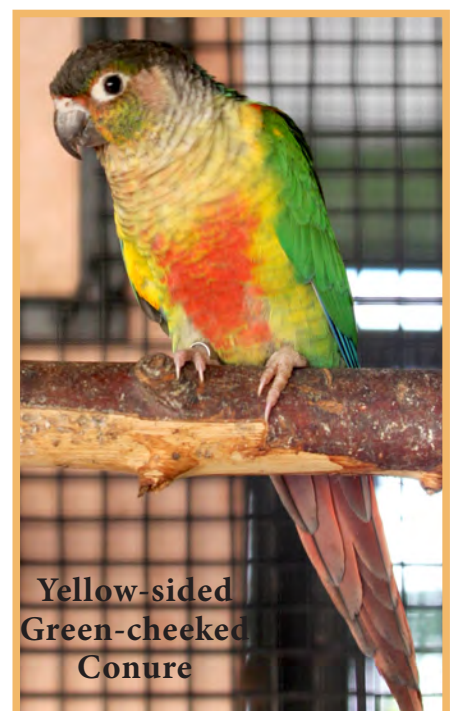
nest - not a large flight that takes up considerable space and a special nesting box as in the cockatoos to permit the hen to escape through one entrance when a bellicose male enters through the other. Sun Conures *Aratinga solstitialis solstitialis* and Senegal Parrots *Poicephalus senegalus* will also breed readily and can be incredible teachers of bird behaviour, breeding and rearing of young. These birds also mature quickly - the larger parrots can take many years



**Senegal Parrots are hardy  
and make little noise**



**Cuban Amazon**



**Yellow-sided  
Green-cheeked  
Conure**



and this long spell can prove frustrating to the beginner anxious to see results.

When looking for a pet bird or future breeders, try to obtain the youngest individuals possible; if acquiring wild caught birds, age may not be discernible and then one has to rely on the observations of a clinician during laparoscopy, an invasive method used to distinguish gender in monomorphic birds (i.e., those species that exhibit no outward differences between the sexes), or the seller, if he or she has experience; with captive bred birds of known provenance, genetic sexing can be used to determine gender.

Young birds are preferred because they adapt readily to changes. They are not as likely to stress from the care routine you will provide (which may be considerably different from that which they are accustomed to), diet you will feed, or the environment they will be housed in. They will mature under your husbandry routine. If the family has a dog, its bark

**Purple-bellied Lory**



will not cause the female to emerge from the nest when she is incubating. A mature pair reared in a home without a dog may be so stressed by the unusual sounds that the hen will abandon the nest on hearing the first bark. The same applies to the presence of children, music from the radio, or even a doorbell. In the case of a pet bird, undesirable actions may be entrenched and part of the daily behavioural routine. Imagine bringing a screamer into an apartment complex? Or acquiring a bird that swears continuously for a household with small children? Or even purchasing a bird that is accustomed to being let out of its cage the minute it hears someone? Once forged, to erase these behaviours will require special training, patience and some degree of luck; sometimes the bird just cannot be changed. In contrast,

a young bird probably has not learned such behaviours and can be properly trained from the onset.

There is a trend, which fortunately is disappearing, whereby young, unweaned birds are sold for pets. A professional breeder with experience would know what to expect, but imagine a beginner with no experience looking into an incubator holding a nestling macaw that is laying on its back (a normal posture when startled), or having a baby with crop stasis because of bacterial problems caused by inadequate hygiene, or the baby dehydrating from throwing up because the formula it was fed was too cold or contained the wrong solids-to-water ratio, or even worse, having the chick die because it was forced to eat formula that was the wrong temperature and which in the



**Budgies are both easy to keep and breed**





**Cinnamon Green-cheeked  
Conure**

struggle entered the lungs, causing it to asphyxiate? I have received countless calls from emotionally distressed individuals that were experiencing one of the innumerable problems that can arise with a nestling parrot being hand-reared. All invariably regretted having purchased the bird.

Young birds need to be reared and weaned by an experienced person; the seller may well allow a buyer to visit and watch or when the baby is older to become part of its daily life, but taking it home before it is fully weaned is a different matter.

Young also need some interaction and expert care vital to their future well-being. A young bird removed from the nest and sold to someone with only a bag of dry formula, syringes for feeding and some written instructions not

only stands a great chance of perishing from inadvertent mistakes, but if it survives may be traumatised to such an extent that it will become an inferior pet.

Carefully consider all options, *age and traits typical of the species and even its needs*, before making a purchase. Haste should never give way to

well researched consideration. Remember: Once you purchase the bird, it may not be accepted back by the seller should you change your mind or decide that it was not the correct choice. The bird, if well cared for and depending on the species, may well be in your home for the rest of your life. Make the correct choice and you will receive unqualified love and much pleasure for decades to come.

*Footnote: The intention behind Psittaculture is to help you make the correct decisions and to provide the guidance necessary for success. I have called on some 40+ year's of experience as a basis and then have, whenever possible, referenced the opinions and experiences of others; there is more than one way to skin a cat, as the proverbial saying goes, and my goal is to describe all of the possible methods. Use this book as a reference manual and it will aid you in finding success in keeping one or many pet birds or in breeding a broad array of species.~*



**A baby Moluccan and two  
baby Blue-eyed Cockatoos  
being hand raised**



# The Black-capped Lory

## *Lorius lory* and its subspecies

Text by Andrey Naves



Photos by Andrey Naves, Iggino Van Bael, Mehd Halouate,  
Sheau Torng Lim [www.flickr.com/photos/90764954@N07/](http://www.flickr.com/photos/90764954@N07/).

Greetings from Brazil, in this article I will be discussing the Black-capped Lory *Lorius lory* and its subspecies. Whilst information on the maintenance and breeding of this species is provided, the primary objective of this article is to inform the reader that there are multiple races, each with their own distinctive characteristics with the aim of preventing hybridisation amongst the subspecies in aviculture, something that I see occurring too often and which I attribute mainly to a lack of knowledge.

This will be the first article in a series that focus on identifying the subspecies of lories to allow the breeder to properly pair their birds and prevent accidental hybridisation.

I decided to start this series of articles with the Black-capped Lory because I believe that they

are the worst affected in the group defined as the brush-tongued parrots. This predominantly accidental hybridisation has made it more and more difficult to locate purebred individuals in captivity. By reviewing the material presented here, it is my hope that the breeder will then be armed with the necessary knowledge to enable them to maintain the subspecies pure and thus increase the value of their breeding stock.

Before discussing the maintenance of these lories in captivity, I will describe the characteristics that define this species. For this task I am largely relying on the photographic material and information provided by my friend Mehd Halouate, a photographer and researcher of Indonesian birds (see [www.birdinindonesia.com.br](http://www.birdinindonesia.com.br)), who also collaborates with the project Save Lories and is a





member of the World Parrot Trust. I will also rely on photographic material and/or information supplied by my friends Iggino van Bael and Idalgo Plak, both of whom are great lory breeders in Europe with vast knowledge, and maintain the birds being discussed in their aviaries.

Herein I would like to thank those mentioned above for their assistance and for the knowledge they have so freely shared.

## What is a *Lorius lory*?

The Black-capped Lory forms a part of the large and distinctive group collectively known as the lorries or Loridae. The genus *Lorius* also contains other species like the Chattering Lory *Lorius garrulus*, Purple-naped Lory *Lorius domicella*, Yellow-bibbed Lory *Lorius chlorocercus* and others. They reach a size of approximately 28 cm (11 inches) in length, though this size can vary between the subspecies.

## Distribution:

***L.l. lory*:** Waigeu, Batanta, Salawaiti and Misool, western Papuan islands and the Vogelkop in West Papua (formally Irian Jaya).

***L.l. erythrothorax*:** southern Papua New Guinea and the southern mountain chain that borders Geelvink Bay, West Papua (formally Irian Jaya), then north to the Huon Peninsula in Papua New Guinea.

***L.l. somu*:** Papua New Guinea and the southern side of the central mountains that empty into Karimui bay and Lake Kutubu, extending through to Purari River.

***L.l. salvadorii*:** Papua New Guinea from Astrolabe Bay to Aitape.

***L.l. viridicrissalis*:** West Papua (formally Irian



Jaya), from Humboldt Bay to Mamberamo River.

***L.l. jobiensis*:** Yapen and northern Mios Num islands in Geelvink Bay.

***L.l. cyanuchen*:** The island of Biak in Geelvink Bay, West Papua (formally Irian Jaya).







*L. l. jobiensis* - This photo was taken in a market in Biaki Island after it arrived by a boat from Serui, Yapen Island



*L. l. lory* from Waigeo Island - this is captive bird

### **Habitat:**

They are found at up to 1,000m (3,280 feet) in altitude in various types of forest, including partial clearings and swamps.

### **Ecology and behaviour:**

Black-capped Lories are typically found in pairs or small groups as well as larger congregations of 10 or more individuals when they come together to feed in flowering trees. They tend to be quiet and

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*L. l. cyanauchen* from Biak island. This subspecies is very uncommon now due to trapping to supply the local bird markets



*L. l. viridicrissalis*

discreet when foraging.

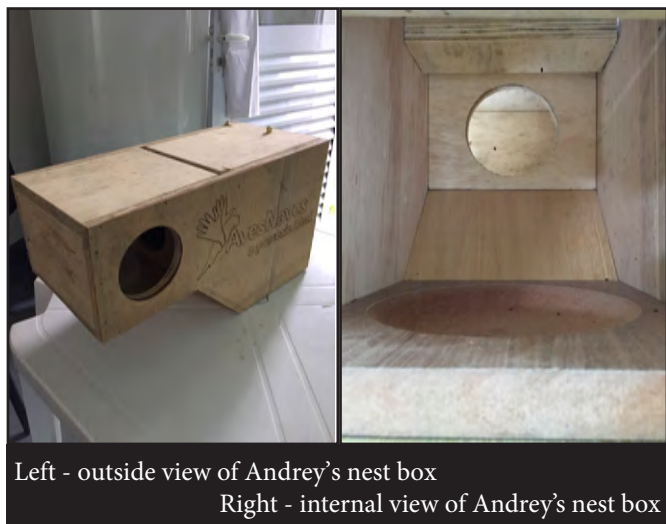
They breed year round in the wild, with rests during periods when food is scarce (typically winter). They are monogamous and pairs remain together for life. They lay 2 eggs, which are



incubated for between 26 and 29 days. The chicks remain in the nest for approximately two months before fledging.

In captivity they are willing breeders capable of producing 4-5 clutches per year. I know of a case where a pair produced 18 young during a 12-month period. In this case, incubators and brooders were used and the chicks were hand-reared.

Lories are notorious egg breakers, this is often a result of their hyper activity, entering and leaving



Left - outside view of Andrey's nest box

Right - internal view of Andrey's nest box

the nest, often dropping to the bottom of the nest without the use of a ladder. Because of this and with the aid of friends, I developed a horizontal type nest box specifically for lories. Many breeders are now using this type of nest box with great success worldwide. The nest box features a horizontal angled ramp that runs from the entrance to the base, which has stopped all egg breakage. I have included photos of these nest boxes to give you a better understanding of the design.

When it comes to aviary size, my overall belief is the larger the better. However, in my opinion an enclosure of 1.2m x 0.6m x 0.6m (4 x 2 x 2 feet) should be regarded as the minimum size for a pair.

In captivity, I feel that reproductive success is directly linked to diet. Lory diets are somewhat of a mystery worldwide. There are considerable doubts as to which form of sweetening agent is best, the need for vitamins and minerals and their quantity and more. In the last few years, with the help of experts and researchers that are studying lories, some Brazilian companies that manufacture animal feeds have launched or adapted products specifically for lories. The most popular lory diets are provided in a wet form to facilitate easy digestion, given that their alimentary tract is adapted for this diet type. They utilize their tongue that is covered with papillae to collect nectar and pollen when feeding.

All nectivorous birds possess a digestive system that is limited and rather fragile, where an excess of vitamins (primarily vitamin A derived from retinol) causes morbidity and possibly death and which we feel is the greatest management flaw for these birds in captivity in Brazil. The homemade diets composed primarily of baby cereal containing milk, such as Neston, Mucilon, Sustagen and others, are good for the owner but not the lories. In spite of this, they are still utilized in Brazil. In these homemade nectar substitutes we find large quantities of minerals that affect the liver, especially iron in the aforementioned cereal products, which must contain these elevated levels based on government recommendations for human infants. This increases the risk of death from iron storage disease. In addition to this, lactose, which is omnipresent in all of the cereals mentioned above, is difficult for lories to digest; about 3% is absorbed, and this is insufficient in terms of providing their daily source of energy.

In the book authored by my friend, Angel Nuevo entitled Manual Tecnico de Dietologia de Papagayos (Technical Dietary Manual for Parrots), it is acknowledged that the natural diet of these birds is still largely an enigma. What we do know suggests that in the wild they eat flowers, nectar and pollen from various trees and smaller plants including the following:



*L.l. erythrothorax* chicks



*Syzygium sp.* (Lilly Pilly)

*Freycinetia arborea* (A densely branched, brittle, woody climber)

*Schefflera actinophylla* (Umbrella tree)

There are also reports of the birds eating fruit that is parasitised by insects, though the specific insect species involved have not been identified.

Based on the above, the recommended diet for lorries in captivity should contain:

- Insects
- Seeds
- Flowers
- Pollen
- Nectar
- Germinating grains
- Fruits

The proportion of nectar/wet mix fed daily should be approx. 15% of their body weight.

Items recommended to form part of the dry diet (totaling approx. 10% of their body weight daily) are:

- Pollen
- Ground cereals
- Legumes
- Insects

Recommended extra dietary items (forming 12.5% of the body weight daily) are:

Fruits - primarily juicy fruits like apple, papaya, pear, grapes, plums, guava, plus figs and banana etc.

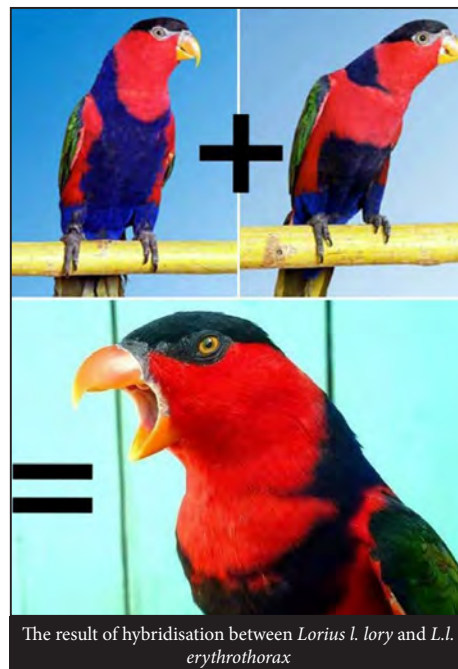
In general the rejection of lorries by breeders



*L. l. lory* from Waigeo Island, Papua. The birds in this photo have just been released by the forestry department



The result of hybridisation between *Lorius l. lory* and *L.l. erythrothorax*



The result of hybridisation between *Lorius l. lory* and *L.l. erythrothorax*

is based on the difficulty of their management in captivity, which requires considerable time and devotion. Because the diet contains a liquid element, their droppings are aqueous, and are often ejected some distance from their cage and tend to cause an unhygienic appearance in their enclosure. By adapting management practices to suit them, with the use of suspended cages for example, hygiene can be improved significantly.

Now back to main focus of this article, the accompanying photographs depict different subspecies, highlighting the primary characteristics of each.

The result of hybridisation between *Lorius l. lory* and *L.l. erythrothorax*, which is the most common hybrid due to these races being the most readily available in aviculture, is illustrated in the photos above.

Through this article I hope to have provided valuable information to current and future breeders regarding the maintenance and breeding of the Black-capped Lory and more significantly the differences in the subspecies and the importance of preserving the genetic purity of each form, so that these subspecies can be successfully maintained in aviculture for generations to come.

## References:

Birds International, WPT (World Parrot Trust), Save Lorries, Google, Wikipedia, Birds Indonesia and Wikimedia Commons.

Parrots of the World, J.M. Forshaw and W.T. Cooper

Manueal Tecnico de Deitologia de Papagayos, Angel Nuevo.~



# Toco Toucan *Ramphastos toco*

Photo by Simon Degenhard



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They are licensed rehabilitators with the Department of Parks and Wildlife (DPAW). The birds are mostly injured by CAR STRIKES or as a result of the TIMBER INDUSTRY felling TREES with chicks in the hollows.

Birds that can be rehabilitated are returned to the wild. The rest that cannot be released as a result of their injuries being too debilitating, are kept in captivity for breeding.

David and Dee get absolutely NO financial assistance from the DPAW for the running of the facility. As a result it is always a struggle finding the finances for the facility's upkeep, which amounts to \$1000 or more per month.

Whilst David and Dee do all that they can to cover these costs, the stark reality is that in order to keep things going they must rely on public donations as well, this can be in the way of cash or donations of seed, both of which are greatly appreciated.

If you are able to help in any way please get in touch with David and Dee:

Home phone: 08 9756 1119

Mobile: 0427 120 341

Email: david.deepatterson@hotmail.com

Alternative contact: Craig Livingstone of  
Craig Critters, Wangaratta, Victoria.

Mobile: 0403 552 071

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Account name: David and Deidre Patterson

Account number: 387 806 083

BSB: 016 580





A photograph of two White-browed Woodswallows perched on a thick, textured tree branch. The bird in the foreground is shown in profile, facing right, with its head tilted slightly upwards. It has a pale grey head and back, a white forehead, and a reddish-brown breast. Its beak is long and pointed. The second bird is positioned behind and to the right of the first, also facing right but with its head tilted more sharply upwards, showing its open beak. The background is filled with lush green foliage, including broad leaves and thin branches, creating a natural, forest-like setting. The lighting is bright, highlighting the textures of the birds' feathers and the bark of the tree.

Text & Photographs  
**John Kearney**

# **The White-browed Woodswallow**

*A perfect choice for the novice softbill enthusiast*



## OTHER NAMES

The White-browed Woodswallow *Artamus leucorhynchus* is also known as the Blue Martin, Summer Bird and Skimmer. Many of the woodswallow species are referred to as skimmers.

## SIMILAR SPECIES

There are six species of woodswallow found throughout Australia. These are separated into three groupings based on colour differences.

### **The first group consists of multi-coloured birds:**

Masked Woodswallow *Artamus personatus*  
White-browed Woodswallow *Artamus leucorhynchus*

### **The second group contains birds with grey and brown colouration:**

Black-faced Woodswallow *Artamus cinereus*  
Dusky Woodswallow *Artamus cyanopterus*  
Little Woodswallow *Artamus minor*

### **The third consists of a single species of black and white colouring:**

White-breasted Woodswallow *Artamus leucorhynchus*

## DESCRIPTION

The White-browed Woodswallow falls into the Passeriformes category. This means it is a perching bird; passerines have three toes that point forward and one toe that points backwards, this allows them to grab onto branches.

The White browed woodswallow is a dark bird with a distinguishing white eyebrow, and measures roughly 17-19cm in length. The face and chin are black, the upperparts are deep blue grey and the lower breast down to the undertail are a rich chestnut brown. The underwings and undertail are pale whitish-grey; the tail feathers have white tips. Its wings are long, pointed and appear triangular when in soaring flight, the tail is often twisted and fanned. The bill is blue-grey with a black tip.

Females are duller than males, with a browner body and pink to fawn underparts. Young birds are mainly brown, mottled and streaked buff to cream, and lack the white brow.

## COMMUNICATION

The voice in flight is a musical chap chap, they also have a song consisting of soft chattering's, and have another harsh, scolding call as well. My woodswallows also mimic my Yellow-throated Scrub Wrens, Crimson Chats and some honeyeater species. Mimicry has also been recorded in field studies.

## SOCIAL BEHAVIOUR

The White-browed Woodswallow is a socially active species, they are often found in large groups that number over a hundred birds. These flocks may also contain Masked Woodswallows. They call amongst themselves while flying and feeding. They have been observed feeding in communal groups taking insects at high altitudes as well as around low-lying shrubs. Woodswallows roost together in tight clusters at night, as well as during cold weather and storms.

## SEASONAL MOVEMENTS

This species is nomadic/a partial migrant, with flocks moving southward to breed during the Spring and Summer periods. They have a more northerly distribution during Autumn and Winter.

## DISTRIBUTION

The White-browed Woodswallow can be found throughout eastern Australia. It also inhabits the northern parts of Tasmania but is not common there. However, it is not found on the Cape York Peninsula and there have only ever been sporadic sightings in Western Australia.

## HABITAT

This species inhabits inland eucalypt forests, woodlands, dry heath and spinifex. They also frequent farmlands, orchards and residential areas in search of food.

## STATUS IN THE WILD

The species is considered secure in the areas that it inhabits. However, the loss of flowering trees, which this species relies on for nectar and insects, will put greater pressure on its survival.

## STATUS IN AVICULTURE

This species is being kept by a large number of





**Woodswallow pair at their nesting hollow**



**Woodswallow nest and eggs**



**Woodswallow chick and unhatched egg in the nest**



**Woodswallow chick in the nest**



**Newly fledged chick**



**Woodswallow 1 week after fledging**





White-browed Woodswallow at the termite dish

Australian zoos. And being easy to breed and hardy, the White-browed Woodswallow has also found its way into a large number of private aviculturists collections.

### DIET IN THE WILD

The White-browed Woodswallow feeds mainly on invertebrates, some of these include crickets, cicadas, grasshoppers, locusts, beetles, moths, weevils, earthworms, dragonflies, caterpillars, flies, mosquitoes and some spiders are also taken. Their diet also contains nectar, small native fruits, psyllids and lerp. This species has a divided, brush-tipped tongue which enables it to feed on nectar from flowers. They forage on the wing in the air, among shrubs, trees, open paddocks, along roads and on the ground. They have also been observed feeding on insects retreating from fires. This species feeds in small to large flocks, sometimes with other species of woodswallows and honeyeaters.



Adult male Woodswallow

Foraging methods include: hawking, screening, pouncing from a perch and striking from vegetation.

### DIET IN AVICULTURE

In captivity this species is fed on invertebrates such as:

- Earthworms
- Cockroaches
- Mealworms
- Maggots
- Thawed crickets
- Flies
- Fly pupae
- Cicadas (when available)
- Termites

They also take a meat mix which is made up of lean mince, hard boiled eggs, crushed dog kibble, turkey starter crumble, calcium supplement, wholemeal bread and insectivore mix. They are also provided with flowers from eucalypts, callistemon, grevillea and honeysuckle, which they readily consume. Fruits such as oranges, apples, pear and banana are available and also consumed by this species. Banana and orange seem to be their preferred fruit. A lorikeet dry mix and egg and biscuit are also available, but not regularly consumed. White-browed Woodswallows are always keen to take the liquid nectar mix that is available for the honeyeaters in the aviary. Once per week all of the insects offered are coated with insectivore mix, this helps the birds with their vitamin and mineral requirements.



## BREEDING

In my experience White-browed Woodswallows breed better in a colony situation. The birds seem to stimulate each other and once one pair goes to nest the others soon follow. During the breeding season, which is from August-December, this species becomes extremely vocal, with cock birds scolding other cocks that get too close to their hen. Commonly in September pairs can be seen preening each other and inspecting nest hollows. There are hollow logs placed at different heights in the aviary. Once a pair has chosen a nest site construction begins, nesting materials used are fine tea tree twigs, pine needles, paper bark and fine grasses. The female then displays by lowering and fanning her tail while wagging it from side to side, this entices the male to copulate. Copulation usually takes place near or on the nest site. Up to 3, but more commonly 2 eggs are then laid and both birds share the incubation process. Roughly fourteen days later the chicks hatch and are fed by both parents, then after approximately fifteen days in the nest they will fledge. My birds seem to prefer tight log hollows to nest in. They are happy to have their head and tail hanging over the edge of the log hollow, while their body is inside the log. Following fledging the parents will feed their young for a further three weeks, after which they will wean them.

## HOUSING

Housing White-browed Woodswallows is quiet easy. They are nimble flyers that require a large amount of space so they can fly unhindered. They do not need heavily planted aviaries. Native grasses and small shrubs are adequate for this species. Various sized perch options should be available for them. This will help avoid feet problems. The floor is covered with sugar cane mulch, which this species enjoys scratching through whilst looking for insects. Feed stations consist of dishes placed on elevated platforms. Water is provided in earthenware dishes. I have not observed them bathing. However, they do enjoy the mist spray that is delivered via the irrigation system in the aviary. The aviary should have a sheltered area where the birds can seek refuge from the elements. It also provides

an area to hang hollow logs and tea tree for breeding purposes. They will happily co-exist with various finches and other softbills without any problems.

## INTERESTING FACTS

They are not true swallows, but were so-named because of their ability to gather insects on the wing like their smaller agile namesakes.

## CONCLUSION

The White-browed Woodswallow is very easy to keep and breed. If conditions are right this species will live for ten plus years. It has been recorded that one individual reached seventeen years in captivity. This coupled with the fact that they are not prone to any particular disease makes it an ideal species for the novice softbill enthusiast. This species will bring daily pleasure with its social interaction, acrobatic flight and entertaining courtship display!

## References:

*Handbook of Australian, New Zealand and Antarctic Birds (HANZAB)*, Oxford University Press, Melbourne - p431.~

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# *A Gem of a Finch*



*“The Red Avadavat  
Amandava amandava,  
or Red Strawberry Finch  
as I’ve always known it, is  
an absolute gem of a finch.”*

Text by Graham Bull

Photos by Sheau Torng Lim [www.flickr.com/photos/90764954@N07/](http://www.flickr.com/photos/90764954@N07/), Henry Koh [www.flickr.com/photos/henrykoh/](http://www.flickr.com/photos/henrykoh/) and Graham Bull

Wild male Red Strawberry  
Finch in eclipse plumage



Although of Asian origin they physically exhibit typical waxbill-like features, so much so that if they were from Africa I'm sure they would be widely regarded as one of the classic waxbills. Strawberry Finches have proven themselves to be a very adaptable species broadly occupying much of tropical Asia as well as several successful intentionally introduced populations outside of their natural range. Their secure status in Australian aviaries many decades beyond wild-sourced stock is further evidence of the adaptability of the species. Red Strawberry Finches are the only Estrildid finch species in which the male has a dramatically enhanced nuptial or breeding plumage and a non-breeding or eclipse plumage very similar to the female's typical colouration.

Many years ago both the nominate Indian *A.a.amandava* and "Chinese" *A.a.punicea* (actually mainly from Indo-China) pure forms of the species were present in Australian aviaries. The Indian subspecies has a more burnt orange tinge to the male's breeding plumage hence the past use of the name Tiger Finch. Some Australian authors claim that the more common subspecies here was *A.a.flavidiventris*, which also has a characteristically golden-orange tint to the male's breeding plumage. In this subspecies males also exhibit a pale golden belly area contrary to the unambiguously dark belly very obviously displayed on every mature captive male Red Strawberry Finch that I have ever seen in Australia, so I believe our orange traits originated from *A.a.amandava* rather than *A.a. flavidiventris*. The "Chinese" subspecies is a slightly smaller and darker red form with smaller and less prominent white spotting on the male's flanks whilst in breeding plumage and has mostly red rather than black on the lores (between the eye and beak). This form was always slightly rarer and the more sought-after of the two subspecies. Today's specimens in Australian aviaries are largely a combination of the two forms with some specimens exhibiting stronger characteristics resembling either of the two subspecies. This variation of natural subspecies characteristics should not be confused with environmental effects, which can be significant. The brightness and underlying base colour of the male's nuptial plumage is also

largely affected by temperature and sunlight. A male moulting into his breeding coat in a warm sunlit aviary will result in a brighter red colour than if he had coloured in a cooler enclosure devoid of direct sunlight. Such cooler climate birds usually develop a more rusty colour. As stated earlier, towards the end of the breeding season the male moults out of his nuptial plumage into the eclipse plumage, which resembles the female. At this time the males can still be identified by pronounced spotting on the rump, which the hens generally lack.

Red Strawberry Finches share a genetic relationship with the much rarer Green Strawberry Finch (or Green Avadavat) *Amandava formosa* from India and the more common Orange-Breasted Waxbill *Amandava subflava* from a large range within Africa. In captivity, I have seen many hybrids between Red Strawberry Finches and Orange-Breasts, but I have never seen a hybrid of either species with the Green Strawberry Finch. Perhaps this indicates a closer genetic relationship between



Sheau Torng Lim

Wild Red Strawberry Finch pair, male at top in eclipse plumage



# Wild Red Strawberry Finches

Henry Koh



Sheau Torng Lim



Sheau Torng Lim



Sheau Torng Lim

Male Red Strawberry at a waterhole alongside Scaly-breasted Munias *Lonchura punctulata*



the former two despite their distantly separate natural distributions. This highlights the need to avoid housing the two species in the same breeding aviary to prevent production of fertile hybrids, which could tarnish the genetic integrity of both species.

Avadavats are the only Estrildid finch species of widespread Asian origin that are neither munias (*Lonchura*) nor parrotfinches (*Erythrura*). By virtue of their predominantly lush tropical natural range they share certain *Lonchura*-like habits such as their preference for rank grassy or reedy habitat. This includes the ability to construct relatively large robust nest structures for such a small species and to proficiently incorporate the structure into growing grasses. This is an obvious adaptation to climates influenced heavily by tropical monsoonal activity. The begging posture of dependent young Avadavats (and Orange-Breasts) whereby the young raise one or both wings vertically is also shared by a couple of African *Lonchura* species (Rufous-backed and Bronze-winged Mannikins), but no other Estrildid finches that I am aware of. When the aviary does not adequately provide sufficient planted habitat or varied perching diameters to exercise their feet, which regularly wears down their toenails, they can tend to become overgrown, as with many tropical munias. Perhaps it was such traits that led to their early common name of Red Munia (and Green Munia for the Green Strawberry Finch).

Despite a lengthy period of domestication in Australia, our aviary stocks remain fairly strictly seasonal Autumn, Winter and early Spring breeders. My male Strawberry Finches moult into their breeding plumage in January, which signifies their readiness to commence breeding activities shortly thereafter. The hormonal trigger of the breeding season is very obvious at this time. Both sexes become noticeably more active and the melodious delight of the Strawberry Finch song is a regular sound around the aviaries at this time.

The descending trill of the male's courtship call is one of the best musical performances of all the Estrildid finch species. I generally don't allow mine to breed until late February, when most of the hot Summer days have passed. By providing them with nesting sites and materials coinciding with the commencement of regular feeds of live food a breeding response at this time of year is virtually immediate. By about July most breeding males will be losing their nuptial colours, but they generally continue breeding until at least October.

In aviaries Strawberry Finches will readily nest in bunches of dry branches, growing shrubs or grasses. Other man-made nesting receptacles are only used as a last resort in the absence of appropriate vegetation. I find that they distinctly prefer growing grasses as nest sites - every bit as much as my Masked Finches or Pictorellas. My breeding aviaries are planted with perennial seeding grasses and bunches of prickly tea-tree (*melaleuca* & *leptospermum* sp.) are placed at various heights for nesting. Other nest receptacles are also present but these are not used by my Strawberry Finches. Given a choice of numerous possible nesting sites in growing grasses and in the dry brush my birds choose to nest in the grasses approximately



**Sparse planting combined with the use of fine gravel or coarse sand as the substrate help to maintain a dry aviary floor, thus creating a perfect environment for Red Strawberry's**





Graham Bull

**Fully roofed aviaries such as these are perfect for housing Red Strawberry Finches**

a small white gape fluorescence. Upon fledging the young have dark sooty brown plumage with a couple of distinctive rows of paler brown spots across the wing. They appear very similar to Orange-Breast fledglings but are slightly larger, darker and have the pale brown stripes on the wing which young Orange-Breasts lack. During the late February to November breeding period my pairs will rear up to 4 clutches of young. Under suitable aviary conditions and diet they can be just as prolific

90% of the time. Usually when they do nest in the brush it is in the aviaries with less vigorous grass plantings or after I have heavily pruned the grasses. So growing grasses are a clear nest site preference for the species when available to them.

As indicated earlier, the Strawberry Finch nest is a very large and solid construction for such a small finch. The nest itself is also quite distinctive in shape generally exhibiting a flowing beard of additional grasses below the entrance when adequate nesting materials are provided. The nest chamber is heavily lined with soft pale feathers. Emu feathers and stripped Pampas Grass fronds are also highly favoured nest lining materials for them. The male is the main nest builder.

Clutch size varies from 4 to 7 eggs, most often 5. As with other Estrildid species both sexes share the tasks of incubating eggs and brooding the freshly hatched young. The hatchlings have thin white down, dark skin and

breeders as Orange-breasts. For as long as I can remember it has been accepted that more males than females are produced, hence spare females generally command a premium price compared to spare males.

A suitable aviary environment, as for all finches, is a warm and dry aviary. Given their instinctive habitat and nesting preferences, the ideal planting choice for Strawberry Finch aviaries should include some perennial grasses. I always recommend planting aviaries quite sparsely so that plenty of open well-lit floor area remains after the plants reach mature size. This helps to keep aviaries warm and dry especially if they receive plenty of direct sunlight in the planted area. I prefer coarse sand or fine gravel as floor substrate rather than concrete or loamy soil. The sandy or gravelly floor usually offers better drainage and still allows for healthy aviary plants. Concrete floors are very cold overnight, which is not safe for recently fledged young or immobile adult finches. Most non-



Sheau Tong Lim



Sheau Tong Lim



Sheau Tong Lim





**Wild Red Strawberry Finch pair, male at rear starting to attain his breeding plumage**

sandy soils contain too much moisture as well as an enormous range of living organisms from visible invertebrates down to microscopic bacteria and fungi, etc. many of which are potentially harmful sources of infection to finches. So most topsoils are not a good choice for aviary floor substrate.

Dietary needs of Strawberry Finches are identical to those of the African waxbills. The dry seed component of the diet should ideally include a higher proportion of Red Pannicum than the other millets and canary seed. I also provide a small amount of mixed pasture seeds daily which my Strawbs readily enjoy. Especially whilst rearing young they keenly partake of half-ripe grass seed heads and sprouted seed, live termites and Lebanese cucumber. I know of other breeders who are achieving excellent regular breeding results with live bushfly maggots as the primary live food. They will also readily consume mealworms but breeding results are generally not as impressive when mealworms are the main source of insect protein. Natural grit and mineral items such as fine shell grit, cuttlebone and lightly baked eggshells should be always available to breeding aviaries. I also provide canunda shell, charcoal and other commercially available grit and mineral supplements for additional variety.

As with any other partly insectivorous finch species, regular drenching for intestinal worms is recommended. I preventatively treat my finches via drinking water for worms every 3 months and for coccidiosis after each prolonged period of wet weather. I also use apple cider vinegar in the drinking water at 5ml/litre during and immediately following any rainy and humid weather as a crude preventative against

bacterial and other infections. Under this basic preventative health routine Strawberry Finches have consistently proven to be a very hardy species. Their hardiness is further highlighted by the fact that despite their predominantly Winter breeding season many colder climate finch breeders still achieve consistent breeding success with the species.

There are no established colour mutations in Australian aviaries, which is notable given the very large number of generations the species has been established in aviculture. Some juveniles emerge from the nest with white flight feathers, which is a result of dietary deficiency, usually when little or no livefood was available to the parents, not a pied gene. Such birds invariably moult into normal plumage without white feathers by the time they reach adult plumage. Similarly, induced melanism, where dark plumage transposes over normal colour under adverse captive conditions, is sometimes also evident in the species. This condition also moults out when diet and environmental conditions improve for the affected bird.

The consistent popularity of the species over many years has seen the aviary status of the Red Strawberry Finch remain totally unaffected by various market fads and whims, which at times have significantly jeopardised the status of many less popular species. The combination of attractive plumage and song, active yet placid temperament, hardiness and prolific breeding capabilities has obviously contributed to its secure position in Australian aviculture. These traits should continue to ensure the sound future of this beautiful bird in our aviaries for many years to come.~





By Steve Duncan, San Dimas, California

# Return to the International *Long Overdue, but Well Worth the Wait!*

## ***Crane Husbandry***

Cranes are well known for their dances and loud trumpeting calls. Despite the fact that Cranes congregate in huge flocks during the non-breeding season, they remain monogamous. Cranes have developed an extensive ritualised body language to communicate with each other and maintain the pair bond amid these large flocks. It is this body language that ICF founder, George Archibald, did his PhD studies on. There are stereotypical threat displays that are common among all species of cranes but with unique attributes to each species. Most of these displays could be disregarded as normal preening behaviours and

postures to the casual observer, but with experience, it becomes very easy to spot the communication that is actually constantly happening.

The most impressive displays are the unison calls. The bonded pairs of cranes perform a unison call that is unique to each species. Just like any good duet, each partner has his or her own specific role. The males perform one part of the call while the females fill in their part. The result is a cohesive call that sounds like a single bird calling. Each sex has specific postures during the unison call as well; usually the males have the more exaggerated positions with wings tilted up or heads thrown

back farther. (For a video of Siberian Cranes performing a unison call, and more photos of ICF, please go to [www.asabirds.org/cranes](http://www.asabirds.org/cranes))

During my time at ICF, the diet was very simple - a proprietary pellet made for cranes. The breeding pellet had a bit over 20% protein, and the maintenance pellet is slightly less at just under 19% protein. During the winter months, the pellet diet was sometimes supplemented with corn. Unlike similar-looking fish-eating birds such as herons and egrets, Cranes feed primarily on vegetable matter including roots, tubers and grains. Chicks will eat more animal protein, mostly





**Flock of Sandhill Cranes arriving  
at wintering grounds at Bosque del  
Apache, New Mexico**

# Crane Foundation

## PART II

in the form of insects and other invertebrates, and adults will take live food opportunistically, but the bulk of the diet is vegetable-based. The only time live food (waxworms) was offered when I was there was when a pair of White-naped Cranes was rearing their own baby.

Today, the diet is more varied. Commercially available Zeigler Bros Crane Pellets is the base of the diet with breeder pellets (22% protein) and maintenance pellets (15% protein) and for the chicks - starter pellets (24% protein), but a huge variety of additional items are offered including fruits and vegetables, berries, nuts, corn, seeds, mealworms, waxworms, smelt, crawfish, pinkie mice and more. Chicks get live food in the form of

mealworms and waxworms regularly in addition to live minnows, worms, snails, clams, and such when they are being encouraged to forage on their own in wetlands for eventual release.

Cranes are fiercely monogamous so they are typically kept one compatible pair per enclosure. Occasionally, there can be some aggression between mates and the pairs may be split up into adjacent enclosures.

In the non-breeding season in the wild, cranes are highly gregarious and will congregate in huge flocks for migration and overwintering. Pairs remain close and display in spectacular dances, leaping into the air, often while tossing twigs into the air at the same time. This behaviour helps maintain the pair bond among so many other birds.

These dances have inspired many traditional human cultures around the world in art, folklore, and dance. Red-crowned Cranes, for example, are highly revered in Japan where they represent long-life and fidelity and are very common in traditional textiles, paintings and origami.

In the wild, these migratory and over-wintering flocks are often of mixed species. Prior to my time at ICF, the cranes were sometimes kept in mixed-species flocks during the non-breeding season to simulate this natural seasonal cycle, but an outbreak of deadly herpes virus that spread among the communal flock stopped that practice. The breeding cranes are now kept in single-pair enclosures year-round.

Most of the crane species can





Siberian Crane, *Leucogeranus leucogeranus*, Performing Unison Call



Japanese Red-crowned Cranes, *Grus japonensis*



Black Crowned Crane, *Belearica pavonina*<sup>1</sup>

handle the year-round weather in Wisconsin and are allowed the freedom to enter or exit their shelters except during extreme winter storms. A few of the tropical African species, such as Crowned Cranes and Wattled Cranes, must be kept inside and heated during freezing temperatures.

One of ICF's early successes was with the critically endangered Siberian Crane. Successful breeding of these cranes was very challenging. They nest at very high latitudes in Siberia, close to the Arctic Circle, where it can be daylight for all 24 hours of the day. High-powered artificial lighting was installed over the breeding compound to simulate this very long photoperiod. ICF's founding breeding stock mostly came from various zoos and most of the Siberian Cranes in captivity at the time had been pinioned for display in typical open-topped waterfowl enclosures. Pinioning involves amputating the distal portion of one wing to prevent flight and is a permanent alteration. Many times, pinioned male cranes cannot successfully mate since they need their full wings for balance during copulation. Some of the Siberian Cranes had also been kept singly for some time so there was some concern about aggression if they were to be kept together as pairs. The solution to both the pinioning issue and the aggression issue was to house the birds in adjacent enclosures and use artificial insemination. The birds could still see each other and perform the pair-specific behaviours without risk of over-aggressive birds causing injury to

their mates. Artificial insemination also allowed more genetic combinations because a female could be inseminated with semen from different males without having to form new pair-bonds, something that would normally be impossible during a single breeding season.

### Artificial Insemination

Artificial insemination (AI) is an oddly straightforward process that I will summarise. The cranes do not typically volunteer for the process, but with regular attempts, about 3 or 4 times per week, they can be conditioned to respond more favourably. Tame or imprinted cranes are generally better candidates for AI, but even wild, un-tamed birds can be used successfully once they

become accustomed to the routine.

To collect the semen, the male is restrained in a natural standing position with the handler and crane facing each other, but the crane's head and neck will go through the legs of the handler so the head is behind the handler. The handler massages the inner thighs for a few seconds or minutes depending on the cooperation level of the crane. A second person massages the abdomen and dorsal area near the tail by applying gentle pressure and moving toward the vent. The crane should respond with grunting noises and will lift the tail and sometimes voluntarily evert the cloaca. The semen is stripped from the vent by milking the cloaca gently after the bird responds to the stroking. In



Siberian Crane  
*Leucogeranus leucogeranus*





On Site Lab for Semen  
Evaluation and Microbiology

very cooperative birds, the semen will ejaculate just from stroking the thighs and does not need to be stripped from the cloaca. The semen is collected in a small glass container or in a pipette.

To inseminate the female, a similar process is used but the handler will stroke the back just in front of the tail and the outer sides of the thighs where the male would normally make contact when mounted during copulation. The female will respond by raising her tail and opening the cloaca. The opening to the oviduct will appear inside the cloaca toward the left side. The semen can be inserted gently inside this opening by use of a smooth-tipped syringe.

If semen samples are very small, a semen extender made for turkeys can be used. The semen extender is simply a fluid to increase volume, but it also contains some sugars to help maintain sperm vitality. ICF has also successfully used frozen semen samples that were collected then stored in liquid nitrogen coolers for later use. The use of cryogenically collected semen is a valuable tool to manage the genetics of such critically endangered birds.

## Egg Management

Cranes will only lay 2 eggs per year if allowed to hatch and rear their chicks, but they will lay replacement eggs if the eggs are removed. Since many of the cranes are endangered, the goal is sometimes to rear as many as possible so pulling eggs as soon as they are laid was the standard protocol. In this way, cranes can lay a dozen or more eggs in a breeding season, greatly increasing the population much quicker than allowing them to rear their own offspring. Today, most crane species are allowed to incubate and rear

their own offspring since breeding is controlled by the Species Survival Plans, but Whooping Crane eggs are still artificially incubated to increase production and provide young birds for release.

The eggs are still incubated in Petersime and Humidaire incubators that were in use during my time, and some newer

model GQF incubators have been added to the mix. Historically, eggs were fumigated with formaldehyde gas initially before going into the incubators. Today, formaldehyde gas is no longer used, as it is highly dangerous. The eggs are now sanitised with ozone gas when they are brought in for incubation. Part of my internship at ICF was to collect data on the weight loss of the eggs and to record the angle at which they floated when placed in water. Crane eggs are heavily pigmented and are difficult to candle, especially for biologists studying nests in the wild. It was hoped that fertile eggs or developing eggs could be quickly identified compared to dead or infertile eggs by observing the angle at which they floated in the water. Sadly, the experiment did not identify a difference except for eggs that are quite far along in development. In these eggs, the movements of the chick inside the egg could be observed as it caused the egg to jiggle and bob while floating. Floating eggs in water for a few minutes does no harm provided the water temperature is close to the same temperature as the eggs. The crane eggs I studied were floated in an aquarium filled with water at about 98 degrees F so it wouldn't cool the eggs causing the contents to contract thus drawing in any contaminants

on the outside of the shell.

## Chick Rearing – Then Versus Now

For artificially incubated eggs, a few hours after hatching, the chicks are placed individually in brooders and must be encouraged to eat. Crane chicks are precocial and can eat on their own, but the parent cranes will pick up titbits to offer to their offspring encouraging them to eat. Baby cranes instinctively peck at anything that looks somewhat like a crane beak so one of the handiest items to simulate this was a long-handled red plastic spoon that we often acquired at the local Dairy Queen. I did my part to consume as many sundaes as possible in the name of crane conservation!

Once the chicks were a few days old and eating well, they were brought outside to a very large exercise pen where they were closely supervised because chick-to-chick aggression was common if left unattended. The chicks were encouraged to swim in pools of water to provide impact-free exercise to their long legs. Without proper exercise, baby cranes can develop bowed legs and other developmental deformities of the legs and feet so it was very important to get the chicks out in the exercise yard regularly. Walking and running about on grass also helped keep the toes straight. If kept on a hard surface or if not enough exercise is provided, baby crane toes tend to bend to the side resulting in permanent deformation. If a toe began to bend to the side, it was often taped to a splint for a day or so to keep it in the correct position.

The crane chick exercise yard is



Incubator Room at ICF





A juvenile Hooded Crane, *Grus monacha*, with its foster parent of the same species

will ultimately lead them on their journey south. To accomplish this, the surrogate human parent in a crane suit will encourage the chicks to follow him/her in a model of an ultra-light. Later, a motor is added to accustom the birds to the loud sound it makes. Eventually, the birds will follow a full-size ultra-light on the ground. As the birds mature, short flights are taken until they are strong enough to begin the journey. Due to the limitations of flying ultra-lights for long-distances and the planning involved to have landing places and crane pens set up each night during the migration, this is a very difficult and arduous process, but it has been very successful at establishing new migratory routes. This trip can take several weeks to complete. An experienced wild crane can actually cover the same distance in just a few days.

The other method is to release the cranes at just the right moment when wild adults and their wild chicks are beginning to congregate before migrating south. The released birds are monitored to make sure they join a wild flock. This method obviously requires an established wild population with the desired migratory route, but it is certainly more natural and much easier to accomplish. This method is called Direct Autumn Release.

Regardless of which method is used, once the chicks have completed one Autumn migration south, they are capable of returning in the Spring without any additional assistance although they do migrate in flocks. Most cranes do not breed until they are about 3-6 years of age so they

a thing of the past though. Today, chicks that are being reared to stay in captivity are parent-reared so they get all the exercise they need following their parents around their spacious enclosures. Whooping Crane chicks that are candidates for release are raised at a separate compound in visual and audible isolation from humans. Caretakers don crane costumes and act as crane parents to provide the proper socialisation skills

for the growing chicks that follow the costumed caretakers about large enclosures for foraging and exercise.

Since cranes are migratory, the young cranes must learn the migration route in their first fall. There are two basic methods to accomplish this.

One method is to train the baby cranes from a very young age to follow an ultra-light aircraft that



## Eurasian Crane *Grus grus*





Height: 4 ft (1.2 m)  
Weight: 12 lbs (5.5 kg)  
Wingspan: 7 ft (2.1 m)



Also called the Common Crane, the Eurasian Crane makes its home in over 80 countries throughout much of Europe, Asia, and Africa. These highly adaptable cranes have found a way to cope with the pressures of an expanding human population. Many of them use small wetlands on human-altered landscapes and depend on croplands for food. This species' population has rapidly increased in Europe, and in some areas the crop damage they cause creates conflict between farmers and cranes.



ICF works with colleagues around the world to explore new conservation programs that will alleviate these tensions and promote cohabitation between people and cranes.



Energy development and natural resource extraction threatens the safety of crane species and their habitats around the world. Even renewable energy projects, like wind turbine farms, may disrupt migratory flyways.

By protecting cranes and the habitats on which they depend, ICF's conservation projects benefit countless other species that live in the same region. Species shown are not to scale.



Educational signage showing the species that share and depend on the same habitat as each species of crane





Wild Sandhill Crane, *Grus canadensis*, at wintering grounds in Bosque del Apache, New Mexico. The cranes roost in shallow water every night. The water sometimes actually freezes around their legs as evidenced by the small ice anklet on its left leg after taking off in the early morning light.

will have made the migratory round-trip several times before they are old enough to rear their own offspring.

### 30 years is much too long

When I finished my internship at ICF 30 years ago, I was certain I would return in the next few years to see the progress they had made. There was so much construction planned that had yet to be started when I was there. It was very exciting. It turned out, that I didn't get back there soon at all, but I certainly was not disappointed when I finally did return last summer.

ICF has always been unique for their all-encompassing approach to conservation of cranes. It is amazingly inspiring to see something so successful that was started on a horse farm in Baraboo by two people with a passion for cranes. ICF's efforts are truly global and have been that way from the start although the influence has grown over the years. The effort involves habitat conservation, captive breeding, working with foreign governments, education of the people who share their native habitats abroad, as well as educating the general public in the United States. ICF is successful on all these fronts, which means not only good news for cranes but also good news for other species that share their diminishing habitats. Cranes are a highly revered symbol in many cultures around the world so it is a more successful strategy to focus on their survival, which depends on

protecting their remaining habitat. All the other species that share that habitat also win as a result.

The people of ICF, the lessons I learned, and the cranes themselves never left my mind. Even the small town of Baraboo was a delightful first home away from home for me. The experience I had there truly made an incredibly positive impact on my life. It's good to know that the International Crane Foundation has only grown better at their important work of preserving these very special birds.

If you would like to learn more about the International Crane Foundation or about the internship program, please visit their website – [www.savingcranes.org](http://www.savingcranes.org) or visit them in Baraboo, Wisconsin, USA. If you love birds, it's well worth the trip and may just be the trip of a lifetime!

<sup>1</sup> Of the two species of Crowned Cranes the Black Crowned Crane was once more critically endangered. Unfortunately, the Grey Crowned Crane has suffered dramatic population declines and is now as rare as the Black Crowned Crane in the wild. 🐦

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# The Red-breasted Goose

## *A Species Under Threat!*

By Dustin Foote - Assistant Curator, Sylvan Heights Bird Park

The Red-breasted Goose *Branta ruficollis* is arguably one of the most impressively plumaged waterfowl species, but currently is under serious and misunderstood threats in the wild. Listed as endangered on the IUCN Red List, they are in the genus *Branta* or true geese and are very similar to the Atlantic Brant (*Branta bernicla*). Sylvan Heights Bird Park (SHBP) has a long history with this species going back to our Director, Mike Lubbock's younger years. For those who have read Mike's new book, *The Waterfowl Man of Sylvan Heights*, you

will recall Mike's experience counselling the Queen of England into successfully raising Red-breasted Geese at Buckingham Palace!

The majority of the wild Red-breasted Goose population nests in June in Russia's northern most latitudes, specifically the Taimyr, Yamal, and Gydan Peninsulas. Red-breasted Geese are uniquely known for nesting near raptor eyries, aka raptor nests. These geese have been recorded nesting near Peregrine Falcon (*Falco peregrines*), Snowy Owl (*Bubo scandiaca*), and Rough-legged

Buzzard (*Buteo lagopus*) nests. Raptors are very territorial and drive off larger mammalian predators that would wipe out the goose and its nest. Although conflicts between the raptor and goose do arise, the geese still have higher reproductive success when nesting near the raptors. Around 90% of the wintering population is concentrated at five major sites around the Black Sea coast. Current threats to Red-breasted Geese include legal and illegal hunting, agricultural pesticides, wind farms, loss of habitat, and poisoning.





Red-breasted Geese have irregular population fluctuations. In 1960, the wild population dropped to an estimated ten thousand birds before climbing to fifty thousand in 1970, and then dropping back down to ten thousand in 1975. In 1990, the population began to climb to a high of eighty thousand individuals at the start of the

21st century. Since then we have seen a large decline to a current population of thirty thousand birds. Conservationists are concerned about the lack of knowledge surrounding this recent massive population decline. Even if these shifts are part of natural fluctuations, the past 100 years of human activities put Red-breasted Geese at great risk of falling below an

effective population during low population periods. In a broad sense, falling below effective population size is the first step towards extinction.

SHBP is one of the southernmost latitudes where you will find breeding Red-breasted Geese. Breeding in the Siberian arctic during May, these geese are accustomed to over 19 hours of day light and mild temperatures. Sylvan Heights Breeding Center went to great lengths to breed Red-breasted Geese initially, and all progeny were kept back for the first generation. The goslings that were raised in North Carolina seemed more accustomed to our photoperiod and temperatures, and thus went onto reproduce in midsummer as adults. SHBP has recently begun construction on a large walk through aviary dedicated to breeding and displaying Red-breasted Geese. As part of the new aviary, SHBP plans on installing flood lights that will allow us to increase the day length during the breeding season and move our Red-breasted Geese reproduction to NC's cooler

spring months. It is our hope that longer day length during our milder spring will allow us greater success in breeding Red-breasted Geese.

When a population declines, there is a cause. Whether habitat loss, introduced predators, hunting, or some combination, there are reasons species disappear. Our job as aviculturists is to become confident stewards of these birds, so that when the habitat becomes available or the pressures are relieved we can help to increase the declining wild populations of these species or bring a species back from extinction by the release of captive bred birds back into the wild. As aviculturists, we are often in ideal positions to consult conservationists, ecologists, and governments on reversing population declines. Additionally, here at SHBP it is our mission to educate people on this magnificent species and the pressures it faces using captive birds as ambassadors for their wild counterparts.

In the words of the acclaimed ecologist Rachel Carson, "One way to open your eyes is to ask yourself, what if I had never seen this before? What if I knew I would never see it again?" This is one of the reasons Sylvan Heights is engaged in the plight of the Red-breasted Goose, so that future generations can observe its beauty. ~

