

**Avian Models for 3D Applications**  
Characters and Procedural Maps by Ken Gilliland

# Songbird ReMix Amazon

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# Songbird ReMix Amazon

## Manual & Field Guide

### Introduction

Songbird ReMix Amazon journeys into the deep rainforests amongst the lost empires of the Olmecs, Mayans, and Toltecs. Although this collection is a small sampling of the over 2,000 different bird species found in the Amazon Basin, the 17 species were carefully selected to provide a broad range of birds and were chosen for uniqueness and visual interest. From hermits to jacamars, macaws to parrots and trogons to the spectacular Umbrellabird; each of these birds are worthy centerpieces in any form of imagery.

### Overview and Use

The set is located within the **Animals : Songbird ReMix** folder. Here is where you will find a number of folders, such as **Bird Library**, **Manuals** and **Resources**. Let's look at what is contained in these folders:

- **Bird Library:** This folder holds the actual species and poses for the "premade" birds. Birds are placed into a "type" folder (such as "Birds of Prey (Order Falconiformes)" which for example would hold falcons, hawks and eagles). The birds for this set can be found in the following folder(s):
  - **Hummingbirds and Swifts (Order Apodiformes)**
  - **Kingfishers (Order Coraciiformes)**
  - **Perching Birds (Order Passeriformes)**
  - **Parrots and Cockatoos (Order Psittaciformes)**
  - **Pigeons and Doves (Order Columbiformes)**
  - **Trogons and Quetzals (Order Trogoniformes)**
  - **Woodpeckers and Toucans (Order Piciformes)**
- **Manuals:** Contains a link to the online manual for the set.
- **Props:** Contains any props that might be included in the set
- **Resources:** Items in this folder are for creating and customizing your birds
  - **Bird Base Models:** This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species of bird. When using physical renderers such as Iray and Superfly, SubD should be turned to at least "3". For DAZ Studios 3Delight renders, the SubD must be turned from the "High Resolution" setting to the "Base" setting (otherwise some areas will render incorrectly transparent).



## Poser Use

Select **Figures** in the **Runtime** Folder and go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer *Firefly or Superfly*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**.

## DAZ Studio Use

Go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer (*3Delight* or *Iray*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**. **Note:** Using the "Apply this Character to the currently selected Figure(s)" option **will not** properly apply the correct scaling to the bird selected. It is better to delete the existing character first and load the one you want to use.

# One Folder to Rule Them All

When I reworked the entire Songbird ReMix library starting in 2018, I decided to abandon the way the birds were sorted (by product name) and choose an Ornithological approach. All birds are found in the Bird Library folder and are arranged by type of bird. This approach is hopefully easier for most to find what bird they are looking for. Admittedly, it will take some getting use to for some longtime users, but I've always approached the Songbird ReMix series as a learning tool as well as a graphics tool, so hopefully some knowledge will rub off by seeing how birds are grouped.

Probably the most deceiving subfolder in the **Bird Library** is “**Perching Birds (Order Passeriformes)**”. This is folder you probably will end up “favoriting” because this one folder (Passeriformes) **holds more than 50% of all birds**. Perching birds range from cardinals and jays to chickadees, crow and swallows.



Finding the bird you want within the “**Perching Birds (Order Passeriformes)**” folder can be daunting, even for an experienced birder (such as myself), so I’ve included an online reference tool within this folder that helps to make your search easier. Click the “**Perching Birds Finder**” icon and when loaded, look at the first column and search for the type of bird you want. For example, I want a “manakin” (a bird common to Central and South America). Scroll down

the first column alphabetically and stop on “manakin”. Looking across to the second column, you will now know that manakins can be found in the “Tyrant Flycatchers & their Allies” subfolder.

## Physical-based Rendering

**Iray** and **Superfly** requires more CPU and memory horsepower than the legacy renderers because of ray-trace bounces and higher resolution meshes needed for displacement. Poser’s **Superfly** renderer will require that the “Min Transparent Bounces” be set to **at least 16** and that the “Max Transparent Bounces” be set to **at least 32** in render settings. Superfly renders may show artifacts in the head area. This is a known Poser issue and may be addressed in the future. Increasing the SubD may minimize this issue.

## Posing & Shaping Considerations

This volume has various species, so when using generic poses not every pose will work perfectly with every bird. You may find that some minor alteration on the stock poses may be warranted.

Here are some of the most common alterations you may need to make:

- Birds will not be flat on the zero plane due to leg size and overall scale.
- Because of the numerous beak shapes, closing the beak may range from 0.5 to 1. Usually 0.8 is about right.
- **Raise Upper Beak (in Action Controls):** This morph is a “one size fits all” control. Because of the variety of beak shapes. It may not work with all birds.

### IK Concerns

Some poses may go askew when IK is turned on. By default, Poser’s IK feature is turned off when loading a bird. To turn it on, select the “Figure” category from the main tool bar and “Use Inverse Kinematics” from the submenu.

By default, DAZ Studio’s IK feature is turned on when loading a bird. This will cause the thigh and shin rotations change when the character is moved. The **CTRL K** keypress will turn IK on and off in DAZ Studio. IK doesn’t work that well in Studio, so I suggest selecting the character in the **Scene tab** and simply deleting the two IK body parts to remove IK.

## Complex Birds (with conformers added)

There are a few birds which load with one or more conformers added to them. These conformers are usually add-on crests for the head of the bird or add-on tail sections. In the case of tail conformers, usually the birds TailFeathers section is hidden and the conforming TailFeathers part takes its place. When posing the

TailFeathers part on XYZ rotations, click on the Bird Model hidden part for the best results.

For initial posing always select the main bird model, then select the conformers BODY section to see what additional morph and posing controls are available. Here is a detailed list of the Birds that use conforming parts and what additional options are available:

- **Chestnut-capped Puffbird.** The attached “Conforming Crest 7 for Chin Fluff” has numerous additional shaping controls in the BODY section of the part.
  - **PositionY-** Moves the whole conformer on the Y axis for positioning
  - **PositionZ-** Moves the whole conformer on the Z axis for positioning
  - **Fluff Rotate-** Pivots the whole conformer on the X axis for positioning
  - **Fluff Width-** Controls the width of the fluff
  - **Reduce Fluff-** Controls the length of the fluff
- **Amazon Umbrella-bird.** The attached “Conforming Crest 12 for Umbrella Birds” has numerous additional shaping controls in the BODY section of the part.
  - **Flop Forward-** Pulls the whole crest forward toward the bill
  - **Umbrella Crest-** Creates the umbrella display around the head
  - **Sides Out-** Flares out the sides of the crest
  - **Top Tamp Down-** Tamps down the back of the crest (e.g. for flight poses)
  - **Top Up-** Pulls the front part of the crest up (or down a little)
  - **Wattle Forward-** Pulls the wattle out from the breast
  - **Wattle Forward2-** Pulls the wattle out from the breast in a more curved way
  - **Wattle Forward-1st layer-** Pulls the top wattle feathers out from the breast
  - **Wattle Spread-** Spreads the wattle
  - **Wattle Curl-** Curls the wattle outward
  - **Wattle Sway-** Sways the wattle left (-1) or right (+1)
  - **Crest/Wattle Hide-** Hides the selected area of the conforming part
  - **Crest/Wattle RotateX-** Pivots the selected area on the X axis for positioning
  - **Crest/Wattle PositionY-** Moves the selected area on the Y axis for positioning
  - **Crest/Wattle PositionZ-** Moves the selected area on the Z axis for positioning
  - **Crest Top Width-** Expands the width of the crest feathers
  - **Wattle Length-** Lengthens the Wattle feathers
  - **Wattle Width-** Widens the Wattle feathers

**\*Poser 11-12 known issue-** There is a bug in Poser 11-12 that affects the Left Eye Wink Control on all and only Superfly birds that have Conforming Parts attached to them. This control vanishes for unknown reasons on these pre-built birds. Since this is a very obscure issue, it may never be corrected for Poser. A work-around has been employed in this version. The “EyeLidWinkL1 and R1” parameters have been removed in the SF version, allowing the usually hidden Eyelid Wink CTRL” parameter to do the job instead. **Applying poses, for no apparent reason, will shut the right eye.** A Poser 12 eyelid FIX pose has been included to fix this. You can alternately set the right Eyelid Wink CTRL to “1” to correct this. Another work-around is to load the Firefly version, set the Skinning method to “Unimesh” with the render subdivision at “3” and use the **unsaved version** in your render. Saving it will create the SF issues.

## Where to find your poses

Type Folder	For what species?
<b>Hummingbirds and Swifts (Order Apodiformes)</b>	All Hummingbirds
<b>Kingfishers (Order Coraciiformes)</b>	All Kingfishers
<b>Perching Birds (Order Passeriformes)</b> Poses can be found in "Universal Poses" & "type" folders	All Songbirds
<b>Perching Birds (Order Passeriformes)</b> Tyrant Flycatchers & their Allies	All Flycatchers
<b>Pigeons and Doves (Order Columbiformes)</b>	All Pigeons and Doves
<b>Parrots and Cockatoos (Order Psittaciformes)</b>	All Parrots
<b>Trogon and Quetzals (Order Trogoniformes)</b>	All Trogons
<b>Woodpeckers and Toucans (Order Piciformes)</b>	All Woodpeckers and Barbets

## Where to find your birds

Type Folder	Bird Species
<b>Hummingbirds and Swifts (Order Apodiformes)</b>	Reddish Hermit
<b>Kingfishers (Order Coraciiformes)</b>	Amazon Kingfisher
<b>Perching Birds (Order Passeriformes)</b> Antbirds, Antpittas & their Allies	Amazonian Antshrike
<b>Perching Birds (Order Passeriformes)</b> Cardinals, Tanagers & their Allies	Paradise Tanager Bananaquit
<b>Perching Birds (Order Passeriformes)</b> Tyrant Flycatchers & their Allies	Blue-backed Manakin Amazonian Black Tyrant Amazonian Umbrellabird
<b>Pigeons and Doves (Order Columbiformes)</b>	Rudy Ground-Dove
<b>Parrots and Cockatoos (Order Psittaciformes)</b>	Red-and-green Macaw Blue-headed Parrot
<b>Trogon and Quetzals (Order Trogoniformes)</b>	Amazonian Trogon
<b>Woodpeckers and Toucans (Order Piciformes)</b>	Rufous-headed Woodpecker Amazonian Barred Woodcreeper Gilded Barbet Paradise Jacamar Chestnut-capped Puffbird



# **Songbird ReMix Amazon**

## Field Guide

### **Ground-Doves, Doves and Quail-Doves**

Rudy Ground-Dove

### **Parrots & their Allies**

Red-and-green Macaw

Blue-headed Parrot

### **Hermits, Sabrewings, Starthroats, Hummingbirds and Allies**

Reddish Hermit

### **Kingfishers**

Amazon Kingfisher

### **Trogons**

Amazonian Trogon

### **Woodpeckers & Woodcreepers**

Rufous-headed Woodpecker

Amazonian Barred Woodcreeper

### **New World Barbets**

Gilded Barbet

### **Jacamars & Puffbirds**

Paradise Jacamar

Chestnut-capped Puffbird

### **Ovenbirds, Antbirds, Gnatwrens**

Amazonian Antshrike

### **Manakins & Vireos**

Blue-backed Manakin

### **Tropical Flycatchers**

Amazonian Black Tyrant

### **Umbrellabirds, Fruitcrows & Cotingas**

Amazonian Umbrellabird

### **Honeycreepers**

Bananaquit

### **Tropical Tanagers**

Paradise Tanager

## Amazonia, the Largest Rainforest in the World

*Portions from Wikipedia*

The Amazon Basin is the part of South America drained by the Amazon River and its tributaries. The Amazon drainage basin covers an area of about 6,300,000 km<sup>2</sup>, or about 35.5 percent of the South American continent. It is located in the countries of Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, and Venezuela.

Most of the basin is covered by the Amazon rainforest, also known as Amazonia. With a 5.5 million km<sup>2</sup> area of dense tropical forest, this is the largest rainforest in the world.

About 1,500 bird species inhabit the Amazon Basin. The biodiversity of the Amazon and the sheer number of diverse bird species is given by the number of



different bird families that reside in these humid forests. An example of such would be the cotinga family, to which the Guianan cock-of-the-rock belong. Birds such as toucans, and hummingbirds are also found here. Macaws are famous for gathering by the hundreds along the clay cliffs of the Amazon River. In the western Amazon hundreds of macaws and other parrots descend to exposed river banks to consume clay on an almost daily basis (that the exception being rainy days).

Plant growth is dense and its variety of animal inhabitants is comparatively high due to the heavy rainfall and the dense and extensive evergreen and coniferous forests. Little sunlight reaches the ground due to the dense roof canopy by plants. The ground remains dark and damp and only shade-tolerant vegetation will grow here. Orchids and bromeliads exploit trees and other plants to get closer to the sunlight. They grow hanging onto the branches or tree trunks with aerial roots, not as parasites but as epiphytes. Species of tropical trees native to the Amazon include Brazil nut, rubber tree and Assai palm.

The Amazon Basin is also home to more than 1,400 species of mammals. The the majority of which are species of bats and rodents. Its larger mammals include the jaguar, ocelot, capybara, puma and South American tapir.

There are over 1,500 amphibians found in the Amazon. Unlike temperate frogs which are mostly limited to habitats near the water, tropical frogs are most abundant in the trees and relatively few are found near bodies of water on the forest floor thanks to the rainforest environment.

About 2,500 fish species are known from the Amazon basin and it is estimated that more than 1,000 additional undescribed species exist. But more than 90% of the animal species in the Amazon are insects, of which about 40% are beetles (Beetles constituting almost 25% of all known types of animal life-forms.)

Whereas all of Europe has some 321 butterfly species, the Manú National Park in Peru (4000 hectare-survey) has 2300 species, while Tambopata National Reserve (5500 hectare-survey) has at least 1231 species.

The Amazon is a critical absorber of carbon of carbon dioxide, a greenhouse gas produced by burning fossil fuels, like oil and coal. The Amazon's role is as a sink, draining heat-trapping carbon dioxide from the atmosphere. Currently, the world is emitting around 40 billion tons of CO<sub>2</sub> into the atmosphere every year. The Amazon absorbs 2 billion tons of CO<sub>2</sub> per year (or 5% of annual emissions), making it a vital part of preventing climate change.

In addition, the Amazon biodiversity also plays a critical role as part of global systems, influencing the global carbon cycle and thus climate change, as well as hemispheric hydrological systems, serving as an important anchor for South American climate and rainfall.

**Common Name:** Ruddy Ground Dove  
**Scientific Name:** *Columbina talpacoti*

**Size:** 5.5-7 inches (14–18 cm)

**Habitat:** North and South America; it is a resident breeder from Mexico south to Peru, Brazil and Paraguay, and northern Argentina, and on Trinidad and Tobago. Individual birds can sometimes be seen in the southwestern United States, from southern Texas to southern California, primarily during winter.



The ruddy ground dove is very common in scrub and other open country, including cultivated land and urban centers, where it can be seen feeding on grain alongside feral pigeons. It prefers humid area. In Brazil, and elsewhere, it is well adapted to habitats altered by man and is generally found in all places where land is cultivated, roads, fields, parks and backyards. It avoids interior of woods but may invade clearings. In Costa Rica, it occurs up to 1400 m near Cartago,

locally to 1200 m on Pacific slope and occasionally as high as 2600 m in Colombia.

**Status:** Least Concern. **Global Population:** 24,100,000 mature individuals with a slightly rising population. It is common to abundant in Colombia, but local in Amazonia, where probably expanding range as result of forest destruction. It is common to fairly common in Mexico and Central America. It appears to adapt reasonably well to a series of man-altered habitats, and has probably benefited locally from human activities and has successfully expanded into cities, notably in Southeastern Brazil.

**Diet:** Seeds, spilled grain, bread crumbs and other human food. It feeds on an occasional on small insect and snail.

It feeds on ground in open areas; usually in pairs or flocks of 10–20. It has been seen in flocks of over 200 individuals mixed flocks with *C. inca* and *C. passerina*.

**Breeding:** Males are slightly larger than females. A small dove; the forehead, crown and nape are gray. The face and throat are pinkish with the rest of plumage being pinkish chestnut. There are black spots on wings; primaries are black, with some rufous on inner webs. The under tail-coverts are dark rufous and the central tail feathers are brown with the outer ones black with pinkish chestnut tips. The iris is dark brown with outer ring of red. The bill is brown to black. The legs and feet are pink. Females are duller and paler.

In Trinidad, and probably El Salvador and Brazil, it breeds in all months; January through September in Costa Rica; April through November in Colombia. Nests are found from ground level up to 7.5 m up in a tree. The nest is a flat, elliptical shell of grasses or, more rarely, roots, lined with finer materials. They may use old nests of other bird species. It has been reported to nest in cities, on beams under tiles and on porches. The clutch is usually 2 white eggs. Incubation takes 11–13 days. Chicks have yellowish down, fledging usually 11–13 days after hatching. Adults may use same nest for a second or third brood; interval between broods varies at 2–33 days.

**Cool Facts:** Ruddy Ground-Doves are appropriately named after the bright ruddy-colored plumage of the male, which makes them distinctive from males of other ground-doves. There are four subspecies ranging from northern Mexico south to eastern Peru and northern Argentina. Some geographic variation in plumage occurs with individuals in drier western areas being paler than those in wetter eastern areas.

Males frequently threaten each other by jumping and raising a wing, and brief confrontations may ensue.



Subspecies and Distribution:

- *C. t. eluta*. First reported by Bangs in 1901. It is found on the Pacific coast of Mexico from North Sinaloa southward to Chiapas. Race *eluta* is the most pale of the subspecies.
- *C. t. rufipennis*. southward through Central America to Colombia and Northern Venezuela (including Margarita Island), and Trinidad and Tobago. Race *rufipennis* is paler and has more chestnut-colored primaries and secondaries than the nominate.
- *C. t. caucae*. First reported by Chapman in 1915. It is found in the Cauca Valley of western Colombia.
- *C. t. talpacoti*. First reported by Temminck in 1810. The nominate species is found on the Eastern Ecuador and Northern and Eastern Peru eastward to the Guianas, and southward through Bolivia, Paraguay and Brazil (southward to Rio Grande do Sul) to Uruguay and Northern Argentina (southward to Buenos Aires); occasional non-breeding visitor to central Chile, including the Lake District.

**Common Name:** Red & Green Macaw  
**Scientific Name:** *Ara chloropterus*

**Size:** 35-37.4 inches (90-95 cm)

**Habitat:** South America; Orinoco and Amazon Basins.

Its natural habitat is the tropical lowlands and jungle borders.

**Status:** Least Concern. **Global population:** 10,500,000 mature individuals with a declining population trend. It is vulnerable in the wild. In recent years there has been a marked decline in its numbers due to habitat loss and illegal capture for the pet trade.

**Diet:** Fruit and nuts. It prefers the seeds of *Jacaranda*, *Tetragastris*, *Sclerolobium*, *Hymenaea*, *Copaifera*, *Caryocar*, *Hevea*, *Eschweilera*, *Guarea*, *Abuta*, *Euterpe*, *Maximiliana*, *Micropholis*, *Sterculia*, *Spondias*, *Terminalia*, *Sapium*, *Croton*, and *Parkia*; the pulp of *Inga*, *Quararibea*, *Rheedia*, *Eperua*, *Dipteryx*, *Schwartzia*, *Borismene*, *Sorocea*, and *Mauritia*; the fruits of *Endopleura* and *Bertholletia*; the endosperm of *Scheelea*; the arils of *Virola*; and the leaves of *Erythrina*.

**Nesting:** Sexes are alike. It is very similar to the scarlet macaw (*A. macao*) but it has green in the wings instead of yellow. The flight-feathers above are mostly pale blue, and larger. There are red feathered lines on the bare face with the bill proportionately larger as well. The immature has a shorter tail and replaces the black on the bill with gray.



Macaws are cavity nesters; either creating or taking over abandoned nests in trees or cliff faces. Breeding season varies within the range from late November in the South to February/March in the North. Clutch consists of up to three eggs. Incubation lasts 28 days. The young may leave the nest after 90 to 100 days.

**Cool Facts:** This Macaw is also called the “Green-winged Macaw” and is often mistaken for the Scarlet Macaw because of its predominantly red feathering. In Brazil, this macaw is called “*arara-vermelha-grande*”

It has a very powerful beak which can generate a pressure of 2000 psi and can snap a broomstick in half with a single bite. It is known for its calm and sweet disposition, earning the title of the “Gentle Giant” and is one of the most popular macaws within the pet trade. It lives 65-70 years.

**Common Name:** Blue-headed Parrot  
**Scientific Name:** *Pionus menstruus*

**Size:** 10½ inches (27 cm)

**Habitat:** Central and South America; Costa Rica, Venezuela and Trinidad south to Bolivia and Brazil. Race *reichenowi* is found only in Eastern Brazil.

It's natural habitat is woodlands and subtropical forests. Race *reichenowi* prefers humid and wet lowland forests, mature second growth and gallery forests, plantations, clearings and semi-open areas.

**Status:** Least Concern.

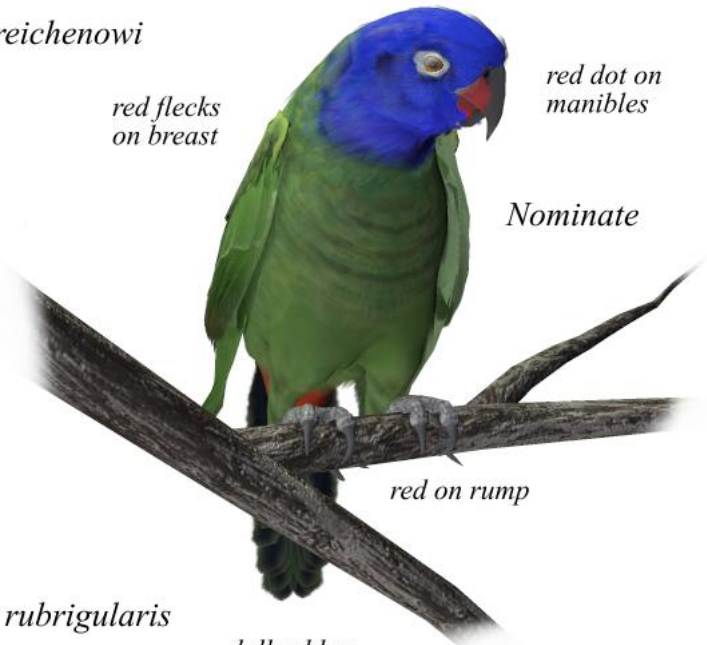
**Global population:** 10,100,000 mature individuals with a declining population trend. It is vulnerable in the wild due to habitat loss, illegal capture for the pet trade and poisoning as crop pests.

**Diet:** Fruit, seeds and sometimes grain (making them crop pests).

**Nesting:** Sexes are alike. It has a blue head and breast with blackish ear-coverts and some slight red flecking on throat. The under parts are green with some blue edging to feathers. The under tail-coverts and bases of tail feathers are red, with



*Race reichenowi*



*Nominate*

*Race rubrigularis*



the remainder being largely green. Immatures are usually without blue on head, and the under tail-coverts are a yellowish-green.

Parrots are cavity nesters; either creating or taking over abandoned nests in trees and laying three to four white eggs in a tree cavity.

**Cool Facts:** This parrot also known as the “Blue-headed Pionus” They roost communally in palm and other trees, and large numbers can be seen at the roost sites at dawn and dusk. They are noisy and gregarious.

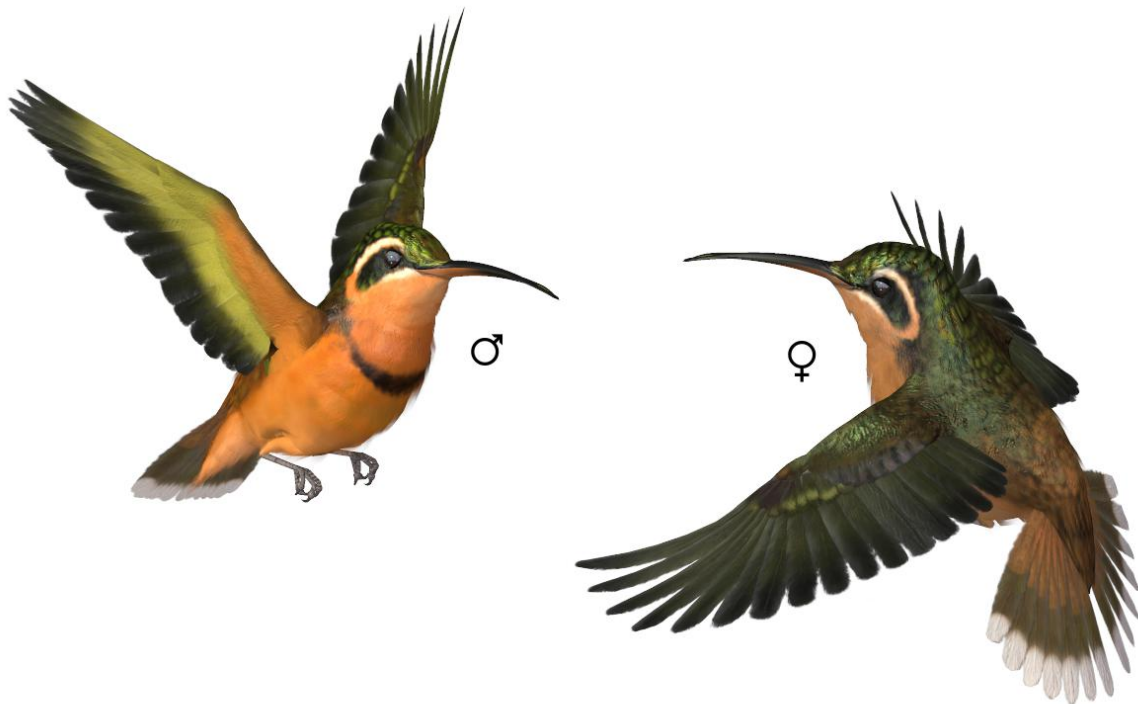
- *P. m. rubrigularis*. This race is found in eastern Costa Rica to northern and western Colombia, northwestern Venezuela and western Ecuador. It has also been seen in Nicaragua. Race *rubrigularis* has a duller blue head and more obvious red on the throat.
- *P. m. menstruus*. The nominate race is found in eastern Colombia, eastern Ecuador, eastern Peru and central Bolivia eastward to eastern and southern Venezuela, Trinidad and the Guianas, and through Amazonia to west-central and northeastern Brazil (Northern Mato Grosso do Sul, Maranhão).
- *P. m. reichenowi*. This race is found in eastern Brazil from Alagoas to Espírito Santo and is now possibly extinct in Rio de Janeiro. It differs from the nominate in its darker blue head and neck with a bluish belly. It has a fairly large yellow-pink mark on the upper mandible (Vs. the smaller bright red one on the nominate). There is no pink or hint of pink in the breast and the wing-coverts are much more extensively and brightly golden-bronze.



**Common Name:** Reddish Hermit  
**Scientific Name:** *Phaethornis ruber*

**Size:** 3.2-3.5 inches (8-9 cm)

**Habitat:** South America; endemic to northern and central South America, in the entire Amazon Basin to the foothill drainages of the eastern Andes slope. The Caribbean and Atlantic coasts of the entire Guianas are included in the northeast. In the southeast, the limit is the eastern banks of the Tocantins River in the Araguaia-Tocantins River system, usually included as part of the Amazon Basin.



It is found in subtropical or tropical moist lowland forests, subtropical or tropical swamps, and heavily degraded former forest. It is restricted to the edge and undergrowth of forests, woodlands and second growth forests.

**Status:** Least Concern. **Global population:** 11,300,000 mature individuals with a decreasing population trend. It is locally common to abundant. Deforestation of the Amazon Basin appears to be causing population declines.

**Diet:** Nectar from flower and some insects. The flowering plants visited include *Trichanthera*, *Petraea*, *Costus*, *Dahlstedtia*, *Nematanthus*, *Psychotria* and many others.

In nectar collection, hermits feed by piercing the flower base from the outside.

**Nesting:** It is a smaller hummingbird with dark green upper parts and cinnamon-rufous underparts. The male regularly has some dark feathers forming a part band across the breast, and a shorter tail with rounded rectrices showing narrow white or reddish tips. The female has a paler breast and belly coloration, with longer wings and tail. The rectrices having broader margins than in male. Juveniles resembles the adult female; male juveniles have shorter wings.

Hermits usually form leks and congregate on traditional display grounds, where females visit to choose a mate. However, male hermits are less aggressively territorial than other male hummingbirds.

Breeding season goes from May to October in northeastern Brazil and the Guianas and October to February in southeastern Brazil. In southern Peru, November is the height of the season and in northern Peru; June through August. The nest is a cone-shaped cup of plant fibers, leaves, mosses, lichens, seed plumes and cobwebs. Incubation is performed by the female and lasts 14-17 days, with another 15-25 days of fledging. The female cares for the offspring.

**Cool Facts:** It is the smallest of the hermits. Hermits do not show the strong sexual dimorphism usually associated with hummingbirds.

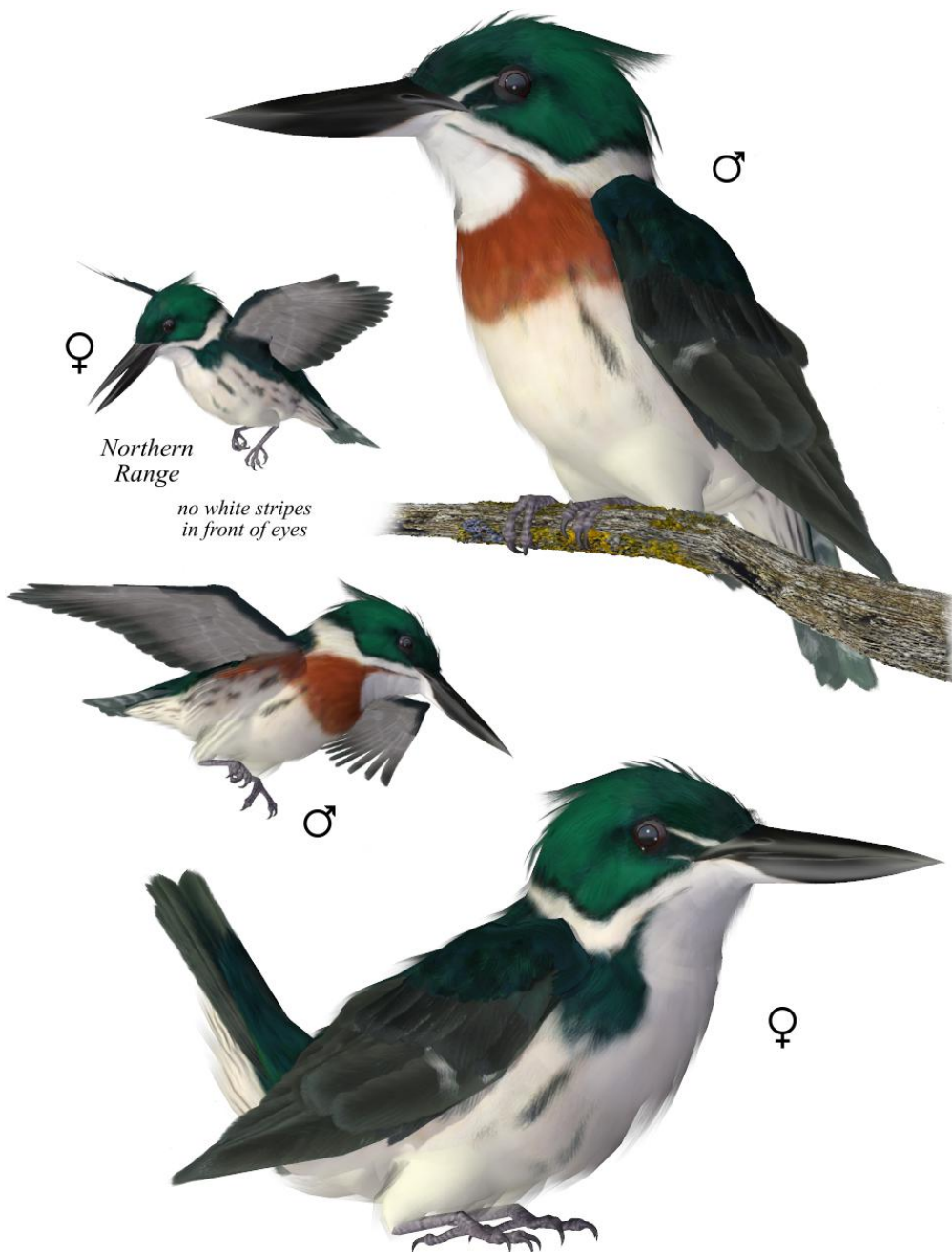
- *P. r. episcopus*. It is endemic to central and eastern Venezuela, Guyana and adjacent northern Brazil in Roraima. The adult male of this race has white margins to the rectrices. It is same size as the nominate (wing 22 mm, tail 28 mm). Its coloration of the under parts tends more to orange-rufous than cinnamon-rufous that the nominate has.
- *P. r. ruber*. The nominate race is found in Suriname and French Guiana through Brazil to southeastern Peru and northern Bolivia.
- *P. r. nigricinctus*. It is found in extreme southwestern Venezuela and eastern and southern Colombia southward to eastern Ecuador, northeastern Peru and northwestern Brazil. This race is the smallest (wing 28 mm, tail 24 mm) with the adult male having the most intense rufous under parts and white instead of rufous tail feather margins. The female only differs in size from nominate race.
- *P. r. longipennis*. This race is found in the foothills in southeastern Peru (Pasco to northern Cuzco). This race is the largest and closest to the white-browed hermit (*P. stuarti*) in having a whitish chin, while the prominent tips to the central rectrices are rufous and thus same color as light margins of all tail feathers in this race as well as in nominate.

**Common Name:** Amazon Kingfisher  
**Scientific Name:** *Chloroceryle amazona*

**Size:** 11½ -11¾ inches (29-30 cm)

**Habitat:** North and South America; from southern Mexico south through Central America to northern Argentina.

It is found in the lowlands of the American tropics by water sources.



**Status:** Least Concern. **Global Population:** 500,000 - 4,999,999 Mature individuals. Common and widespread throughout its range.

**Diet:** Fish (characids) and crustaceans (brown shrimp); some insects and invertebrates.

It usually perches on a branch or rock close to water before plunging in head first after fish prey. The the perch there is occasional head bobbing or tail jerking. Most hunting activity in morning and late afternoon, but may continue after sunset.

**Nesting:** Both sexes are a dark bronzy-green on the upper parts except for a white collar. There are small white marks in front of and below eye, however there is no white spots before eye in the northern populations of this species. The adult males have white under parts apart from a broad chestnut breast band and some green streaks on the flanks. Females have white underparts with green patches on the side of the chest and green flank streaks. Males tend to have a longer crest than females do. Young birds resemble the adult female, but have white spots on the wings.

It breeds by streams. The unlined nest is in a horizontal tunnel made in a river bank, and up to 1.6 m long and 10 cm wide. The female lays 3 to 4 white eggs. Incubation is by female at night, and mainly by the male during day. The eggs hatch after about 22 days. The chicks are well-feathered and crests are visible at 20 days. The young are fed by both parents. The young fledge at 29–30 days.

**Cool Facts:** The Amazon Kingfisher resembles the Green Kingfisher which shares its range, but it is much larger than its relative, and three to four times as heavy.

The Amazon Kingfisher gives a harsh “teck” call and the rarely heard song, given from a tree top, a whistled “see see see see”.

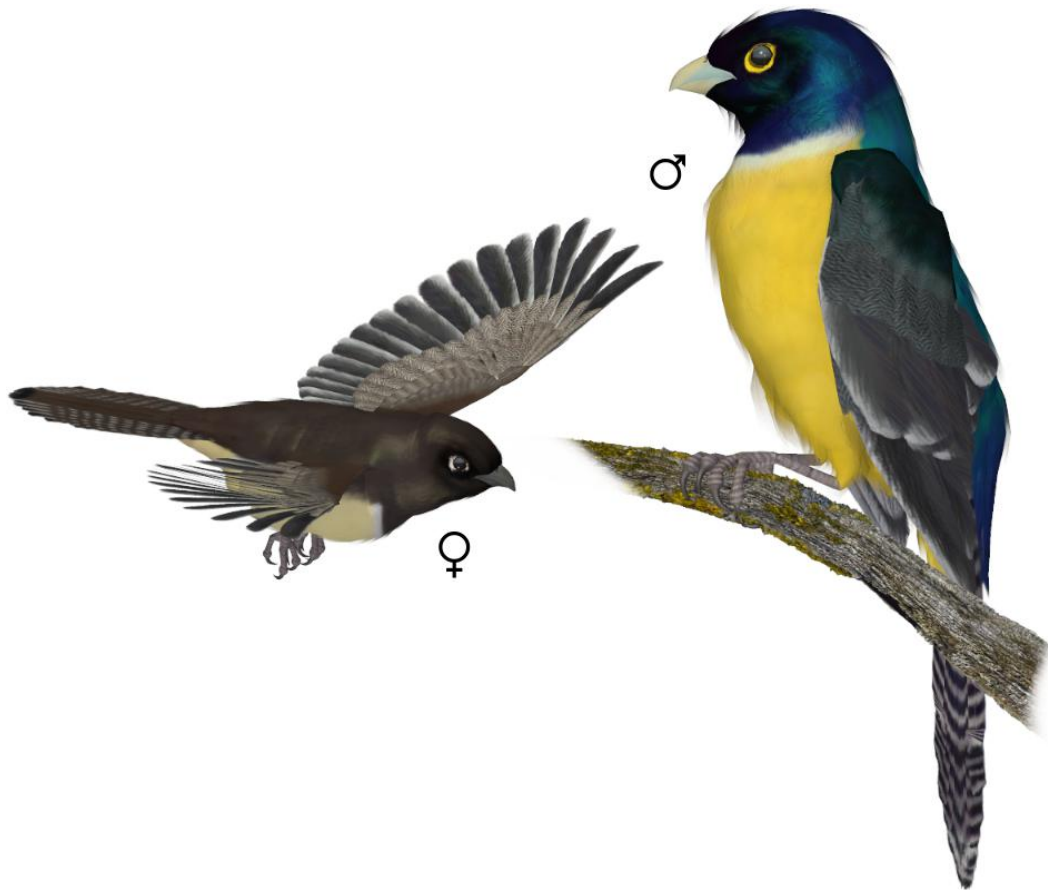
**Common Name:** Amazonian Trogon  
**Scientific Name:** *Trogon ramonianus*

**Size:** 9-9.8 inches (23-25 cm)

**Habitat:** South America. It is found in southeastern Colombia, Bolivia, Venezuela, the Amazon basin, the Guianas and Trinidad.

It is often found in lower levels of semi-arid open woodlands and forests

**Status:** Least Concern. **Global population:** 12,100,000 adult individuals with a suspected increasing population trend. Although the Amazonian Trogon has not been officially evaluated since its split from Violaceous Trogon, it has a broad range and can be common to fairly common in some areas.



**Diet:** Fruit and small animals (e.g., insects, frogs, etc).

Foraging occurs by sallying and hovering to pluck fruits and insects from vegetation. It is sometimes seen with mixed-species flocks and it may occasionally join flocks following army ants.



Although a Trogon is a fast flier, they are reluctant to fly any distance. They typically perch upright and motionless.

**Breeding:** Trogons are dimorphic. The adult males head and neck, down to mid-breast, are a dark metallic blue-black, and a deeper blue (less black) on the crown. The facial area and throat are black, but do not strongly contrast with blue hood, resulting in less of a "mask" than in other members of the "Violaceous group." Below their blue hood is a narrow white breast band that crosses the chest, shading into bright yellow on the remainder of the under side. The upper parts metallic green to blue-green. The wing panels are very faintly vermiculated black and white (often lacking white vermiculations). The flight-feathers are dark, nearly black, with the primaries whitish on outer webs. The tail is relatively short, deep blue and tipped black above, while finely barred black and white below with broader white tips forming 3 bands. When compared to the Guianan Trogon, the Amazonians culmen are more strongly keeled. The bill is pale blue-gray.

Adult females have the metallic blues and greens of the males replaced with dark gray, and nearly concolor with their gray face, throat, and wings. The wing panels are slightly more densely barred, and it has a duller yellow belly with gray-washed flanks. The under tail has black inner webs creating pied and barred effect. The bill is grayish-horn colored with the mandible darker than the male.

In immature males the wing panels are washed brownish and are more strongly vermiculated with white. The under tail has less extensive white and the upper parts are much greener, lacking the bluish sheen of adult males. Fledglings of both sexes are similar in coloration to adult females.

Nests are built 2-6 m high in an unlined shallow cavity, usually selecting an old woodpecker hole, with a typical clutch of 2-3 eggs.

**Cool Facts:** This species was long considered a subspecies of Violaceous Trogon. Its genetic and vocal data have led to its recognition as a full species, as well as other former subspecies; the Guianan Trogon (*Trogon violaceus*) and Gartered Trogon (*Trogon caligatus*). The shade of the blue on the head differs between the Guianan and the Amazonian, but the call is the main distinction. The former has a slurred whistled "cuh-cuh-cuh", and Amazonian has a soft "cow cow, cow".

This species was first named in memory of "Brother Ramon Busquet, who died in crossing a cataract."

This species superficially resembles the White-tailed Trogon, but the latter is larger and has a whiter tail.

Trogon is Heterodactyl, which is like zygodactyl, except that foot digits 3 and 4 point forward and digits 1 and 2 point back.

- *T. r. ramonianus*. First reported by Deville & Des Murs in 1849. The nominate subspecies inhabits the Amazonian areas of Colombia, Ecuador, Peru, Bolivia, and western Brazil, also ranging northward into southeastern Venezuela in the upper Orinoco watershed.
- *T. r. crissalis*. First reported by Cabanis & Heine in 1863. This subspecies is found in northeastern Brazil, south of the Rio Amazonas and east of the Rio Tapajós. The plumage characters that separate this race from nominate are neither great nor clearly defined. In general described differences involve the amount of white in feathers of the wingpanel and subtle variation in the color of the males' head. The head of male appears almost entirely black, only weakly differentiated from the truly black face and throat by a slight metallic blue sheen, with the hind crown most noticeably glossed purple-blue. The wing coverts have no white markings (or very few) making the wing panel mostly or entirely black. Females are even less differentiated from females of the nominate race.

**Common Name:** Rufous-headed Woodpecker  
**Scientific Name:** *Celeus spectabilis*

**Size:** 11½ inches (29 cm)

**Habitat:** South America; western Amazon in northern Bolivia, far south-western Brazil (Acre only), eastern Ecuador, and eastern Peru.

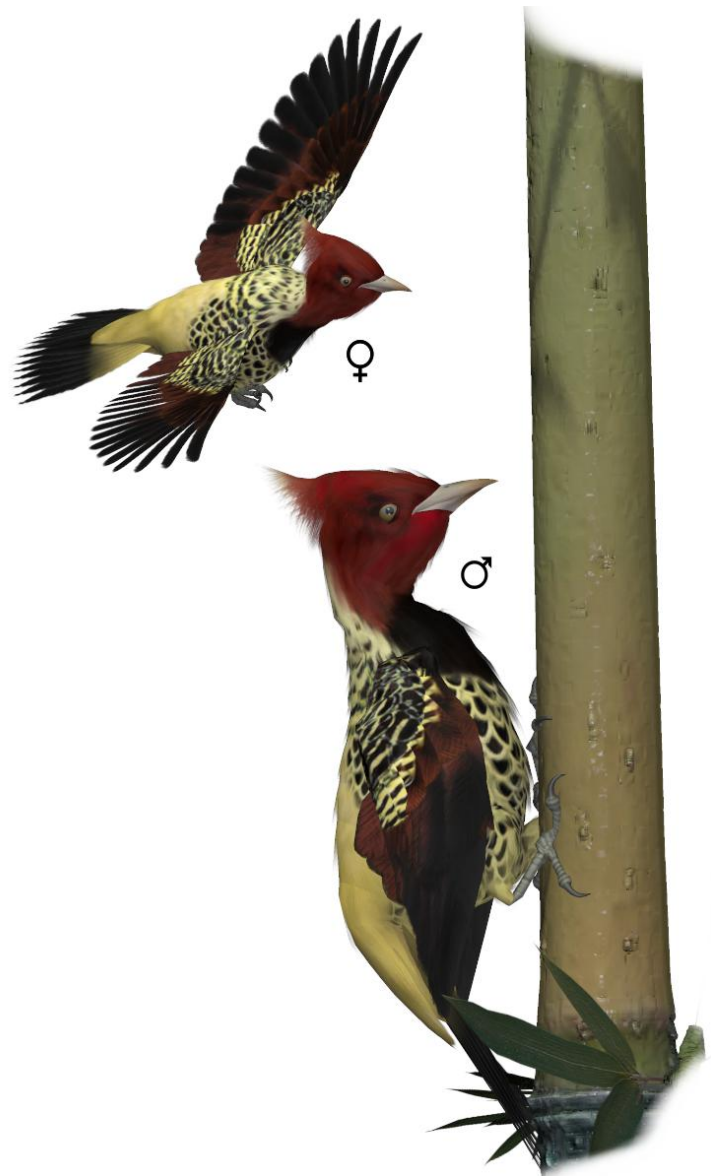
It inhabits humid tropical forest, especially along rivers and on river islands, in lowland areas up to 300 meters. It is regularly found in bamboo (*Chusquea*, *Guadua*) thickets in Peru and western Brazil.

**Status:** Least Concern. **Global population:** 897,000 mature individuals with an unknown population trend. Although this woodpeckers population status is not known, it is thought not to be decreasing at a rate which would put it at serious risk. In view of its apparently strict habitat requirements and its low density and general scarcity, however, it may perhaps merit the conservation status of Near Threatened. It is generally considered to be a “rare” sighting.

**Diet:** It feeds primarily on bamboo ants.

It forages singly or in pairs, from dense undergrowth up to middle and upper levels of the forest. It may descend to the ground to work over fallen logs. It probes on trunks and branches, pecking forcefully, and more frequently than most of its congeners, except possibly the Ringed Woodpecker (*C. torquatus*).

**Nesting:** The male has rufous-chestnut head and bushy crest, a deep red malar patch, a yellow to cream-buff patch on lower neck side and down side of breast, a large area of dull red from above ear-coverts into crest. The lower throat to



breast is black. The hind neck to upper back and scapulars are a creamy-buff to pale cinnamon-yellow with very broad black bars. The lower back to upper tail-coverts are yellow-buff to cinnamon-buff, occasionally with a few black streaks. The black wing-coverts are edged and narrowly barred cream-buff. The brownish-black primaries with rufous at the base, while the inner primaries become more rufous, and the secondaries and tertials are wholly rufous-chestnut with black tips. The shorter tertials are usually barred black. The upper tail is black, concealed outer feather sometimes pale-barred. The breast sides and rest of the under parts are cream-buff to pale cinnamon-buff. The black of the breast breaks up into heavy bars, and more as chevrons on flanks and lower underparts. The under wing are rufous-cinnamon, while the coverts are black-barred cinnamon-buff. The bill has a chisel-tipped shape with the culmen slightly curved. It is relatively broad across nostrils, and the bill is pale yellowish or grayish-ivory. The iris is a deep red-brown with the legs being olive-green to gray.

Female lacks red on head, but may show a trace in the crest. Juveniles are as the adult, but much blackish color around the front of the head, more red in the crown area. The bill is darker.

The rufous-headed woodpecker is a bamboo specialist. The nest of the woodpecker, a hole placed 2 - 4 m high in a soft-wooded dead tree, preferably in an area of almost pure bamboo.

**Cool Facts:** Rufous-headed Woodpecker was formerly included Kaempfer's Woodpecker as a subspecies. There is still some scientific debate on whether it is a true departure from the *Celeus obrieni* species.

It is arguably one of the more spectacular and specialized woodpeckers in South America. It is a member of the genus *Celeus* that is found in western Amazonia from eastern Ecuador and northeastern Peru south through western Brazil to northern Bolivia. Throughout much of its range, it is highly specialized on, and found in stands of *Guadua* bamboo that grows along the edge of the larger rivers. Elsewhere, such as in eastern Ecuador, where *Guadua* bamboo is less common, the Rufous-headed Woodpecker is present in riverine habitats, in particular stands of dense cane (*Gynerium* sp.).

Its call is a muffled, mewing chuckle “*wwr HEE hrr-hrr-hrr-hr*”

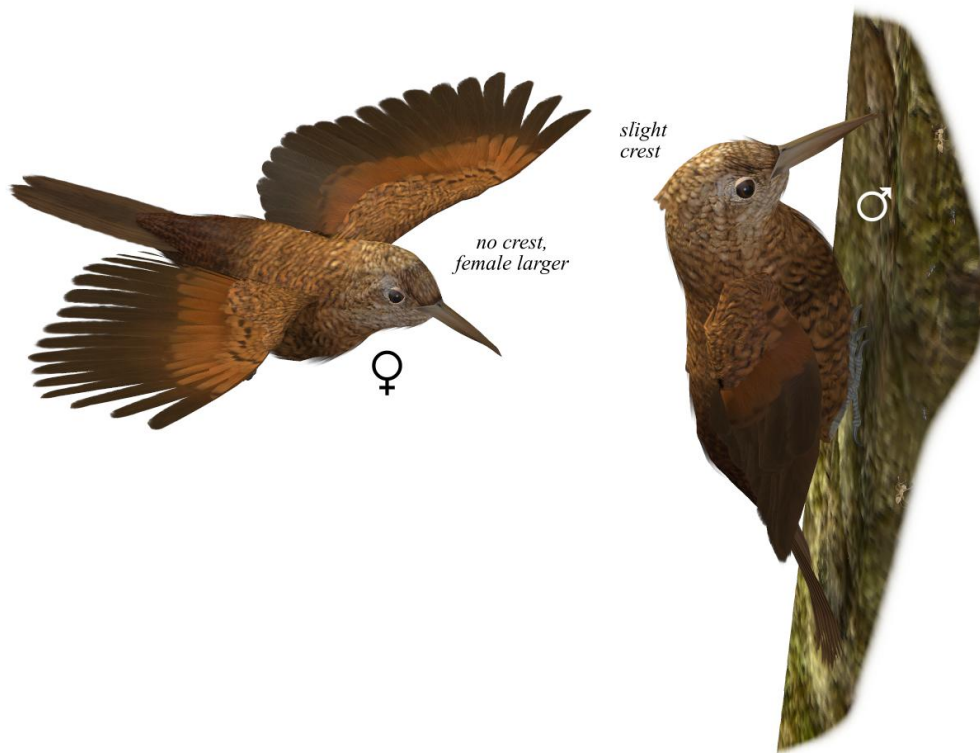
- *C. s. spectabilis*. The nominate race is found in eastern Ecuador and northeastern Peru.
- *C. s. exsul*. This race is found in southeastern Peru, extreme western Brazil (western Acre) and northern Bolivia (Beni, northern Cochabamba). It resembles the nominate, but the under part barring is very variable with individual; it most commonly has less barred below than the nominate, with heart-shaped or chevron markings below the black breast patch. There are usually a few spots on the belly and bars on the flanks.

**Common Name:** Amazonian Barred Woodcreeper

**Scientific Name:** *Dendrocolaptes certhia*

**Size:** 10.2-11 inches (26-28 cm)

**Habitat:** South America; entire Amazon Basin of Brazil and the Guianas in the northeast, (Guyana, Suriname, and French Guiana). The countries surrounding the basin at the Andes are southern Colombia and Venezuela, also Ecuador, Peru, and Bolivia. A disjunct population exists 1800 km east of the Amazon Basin in eastern coastal Brazil in the states of Paraíba, Pernambuco, Alagoas, and Sergipe in a 600 km coastal strip.



Its natural habitat is humid evergreen forest. It prefers largely tall terra firme forests, as well as both flooded forests and floodplain-forests. It is seen less frequently in campinarana, savanna forest, mangrove swamps, deciduous and gallery forests along the southern fringe of Amazonia. It is most common in interior of mature forests with relatively open understory, as well as older second growth and at forest edge. An isolated population in northeastern Brazil occurred in both tall forests and more scrubby second growth.

**Status:** Least Concern. **Global population:** 8,970,000 mature individuals with a suspected stable population trend. Uncommon to fairly common in lowland forest almost throughout range. Unlike truly “professional” ant-followers, this species



can exist in, or colonize, both small forest fragments and selectively logged forest, at least for several years, provided that continuous forest is nearby. It is considered an indicator of tropical lowland evergreen forest health in northeastern Brazil and in northern and southern Amazonia.

**Diet:** Primarily insectivorous, but small vertebrates also taken. Apart from ants, it preys mostly on grasshoppers and cockroaches, beetles, scorpions, spiders, centipedes, caterpillars, and, to lesser degree, many other invertebrates (including moths and even crabs). Small lizards appear to be most common vertebrate prey, but frogs also taken.

It is considered a “professional” ant-follower, foraging alone or with mixed-species flocks. It forages mostly in understory when associated with ants, but frequently up into mid-levels or subcanopy when away from them. Activity concentrated 2–6 m above ground, in association with columns of ants ascending trunks.

**Nesting:** It is a relatively large, slim woodcreeper with long tail. It has a medium-length bill that is straight and flattens with a wide base and a slightly hooked tip. The head feathers of male are frequently erected into somewhat shaggy crest. The nominate race has a brownish face with fine barring, a weak supercilium, pale lores and auriculars. It is olive-brown above, with the forehead to the nape darker and the crown feathers with golden-buff shaft streaks and black tips. It is slightly paler and more rufescent on its back and the wing-coverts are weakly barred with black. The remiges, rump and tail are a cinnamon-rufous to rufous-chestnut with the primary tips dusky. It has a pale gray to dirty white chin and throat that contrast conspicuously with the deep buff to fulvous from breast down through the under tail-coverts. It has a fine dusky barring almost throughout the under parts. The under wing is a cinnamon-rufous to ochre-yellow. The iris is reddish to dark brown. The bill is dark red to brownish, usually paler on the cutting edges and at base of lower mandible. The legs and feet are brown, greenish, gray, olive or black. The female is slightly larger than male. The juvenile is similar to the adult, but the barring is less pronounced both above and below, the lighter regions of plumage are somewhat paler, and it lacks the pale streaks on crown. Also, the bill is often shorter and darker.

Breeding season occurs from February to April and mid-August to late October in the northern part of its range (Southern Venezuela, the Guianas, and Northern Brazil), in early December to late June on Marajó Island (Brazil), and in early October in southern Amazonia. They appear to remain paired throughout the year.

Nests are in holes in tree-trunks, often ones abandoned by woodpeckers. Nests are lined with small pieces of plant material. It lays two or three white eggs and they hatch in fifteen to twenty-one days. Fledging occurs in nineteen to twenty-three days. Both parents participate in all phases of raising their young.

**Cool Facts:** Some ornithologists have suggested that the Amazonian Barred-Woodcreeper, as currently constituted, might comprise as many as three species groups, although much more detailed work will be needed to satisfactorily prove this hypothesis.

It's song is a musical, relatively evenly paced descending series of mewing whistles, sometimes ending with a short acceleration of more liquid chirping notes "whi- whi- whi- whe- whe- wha- wha- wu tir 'u 'u".

#### SUBSPECIES:

- *D. c. radiolatus*. It is found in western Amazonia north of the Amazon river, in southeastern Colombia, northwestern Brazil (west of the Negro river), eastern Ecuador and northern and central Peru (largely west of the Ucayali River, southward to Junín). It has coloration similar to Race *polyzonus*, but much more strongly and broadly barred with black on back, greater coverts and underparts
- *D. c. certhia*. The nominate race is found in northern and northeastern Amazonia, from extreme eastern Colombia (eastern Guainía), southern and eastern Venezuela and the Guianas southward to the Amazon River in northern Brazil (from the Negro River eastern to Amapá).
- *D. c. juruanus*. It is found in southwestern Amazonia south of the Amazon River, in southeastern Peru, western Brazil (east to the Madeira River, south to northwestern Mato Grosso) and northern Bolivia (Pando, Beni). It is closely similar to nominate, but lacks the golden streaks on crown.
- *D. c. polyzonus*. This race is found in the southwestern edge of Amazonia in central Bolivia (La Paz, Cochabamba, Santa Cruz), possibly extending into adjacent southeastern Peru. It is much more richly coloured than Race *juruanus*, more cinnamon-brown above, and ochraceous-brown below.
- *D. c. concolor*. This race is found in south central Amazonia, in Brazil between the Madeira and Tapajós rivers, and in northeastern Bolivia (Santa Cruz). This race is barred inconspicuously or not at all. It has a redder bill, a darker throat and a plumage coloration that is variable geographically, grayer in the southwest, more ochraceous to the north, with fine barring weak or absent west of the Tapajós River, but often visible (especially below) in population east of there (Race *ridgwayi*)
- *D. c. ridgwayi*. It is endemic to eastern Amazonian Brazil, between the rios Tapajós and Xingu–Tocantins.
- *D. c. retentus*. It is endemic to Xingu–Tocantins interfluvium in Pará, Brazil.
- *D. c. medius*. It is found in southeastern Amazonia from the Tocantins River east to northwestern Maranhão. There was an isolated population in northeastern Brazil (Pernambuco, Alagoas) that may no longer exist. It is the most similar to nominate but the crown is duller, the face is a pale gray and scaly in appearance, and the under parts are paler and more weakly marked.

**Common Name:** Gilded Barbet  
**Scientific Name:** *Capito auratus*

**Size:** 6.5-8 inches (16-19 cm)

**Habitat:** South America; Bolivia, Brazil, Colombia, Ecuador, Peru, and Venezuela, in the Orinoco River Basin and western Amazon Basin.

It is found in tropical moist lowland forests (especially Terra Firme) and woodland. It mainly occurs in lowlands, but also ranges into the lower foothills of the east Andes range.

**Status:** Least Concern. **Global population:** 3,830,000 adult individuals with a decreasing population trend. It is the most common Neotropical barbet.



**Diet:** Primarily fruits; figs, those of Cecropia, Ocotea, Pagama plicata, Guarea guara, mangoes, form up to 80% of diet. They will drink nectar at times and feed on various insects such as grasshoppers, locusts, and spiders.

It feeds on insects in dead-leaf clusters from a nearby perch, goes over limbs and trunks where lichens growing and may tap at the bark. It is usually solitary, sometimes seen in pairs. Up to 10–15 can gather at a large fruiting tree. It will

occasionally join mixed-species foraging flocks (flycatchers, woodcreepers and tanagers), working canopy to middle or lower levels. It will sometimes follow the Red-throated Caracaras (*Ibycter americanus*) as they hunt for wasp nests.

**Nesting:** This species is dimorphic. The male nominate race has brownish-gold crown, black head-sides and upper parts. It has a yellow rear supercilium (continuing as scapular stripe and forming broad “V”-like markings on back). there is a yellow-spotted wingbar and yellow-tipped tertials. There are olive-yellow streaks on lower back and rump. There is bright orange on the throat while the rest of the underparts are yellow with black-spotted breast-sides and flanks. The bill is heavy and blackish on maxilla, with the mandible being a silvery-blue to horn or combinations of green, gray and blue. The legs and feet vary from a gray to slate, or olive to greenish. The eyes are red-brown to crimson red, but can also be purple-white with blue-slate orbital ring.

The female nominate is more heavily marked with pale flecking and edging above and very heavily spotted or streaked below. Immatures are duller than adults females, with spots generally more streak-like, pale markings more buffy and head colors more orange. The bill is also grayer and the eyes are gray to brown.

Breeding starts September through May to July in the North of its range. In March through November in Colombia and Ecuador; June or July to as late as February in Peru to Bolivia. Nests are created in tree holes dug by breeding pairs, laying 2-4 eggs.

**Cool Facts:** Barbets are close relatives to toucans and woodpeckers. The Gilded Barbet was formerly considered a subspecies of the Black-spotted Barbet from north-eastern South America.

Barbets are thought to be important agents in seed dispersal in tropical forests.

Races differ mainly in head colours and amount of markings below, falling into three groups:

### **Red-throated Group**

- *C. a. nitidior*. It is found in extreme eastern Colombia and southwestern Venezuela south to near Peru–Brazil border (north of the Amazon river) and to lower Japurá river. It is very much like nominate race (with males probably being indistinguishable, though orange colors perhaps slightly redder, with more orange-red on flanks), but female is redder on the crown and throat, with fewer markings below.
- *C. a. auratus*. The nominate race is found in northeastern Peru from mouth of the Napo river south along the Amazon and Ucayali rivers.

- *C. a. amazonicus*. It is endemic to western Brazil south of the Solimões river from the upper Juruá river and Tefé eastward to the Purus river. This race intergrades with *orosae* to west and *insperatus* to south, differs from *nitidior* and nominate in its yellower (rather than red) crown markings, and more yellow-orange (less reddish) flanks.

### Orange-throated Group

- *C. a. aurantiicinctus*. This race is found in Venezuela in the upper Orinoco region, western Bolívar and Amazonas. It is somewhat variable in appearance, being either orange-gold or gold-throated, with gold-yellow flanks, dusky gold-yellow in the crown, and not particularly heavily marked in the female. It clearly intergrades with race *nitidior* in Duida region and the uppermost Orinoco river.
- *C. a. hypochondriacus*. It is found in northern Brazil from Roraima (Maraca) southward along the Branco River to angle between lower Negro river and Solimões river. It is relatively similar to race *aurantiicinctus*, but has gold or yellow-gold crown and throat, with a black rear crown and gold-washed crown.
- *C. a. insperatus*. It is found in southeastern Peru, northwestern and central Bolivia and western Brazil (the Purus river to the Madeira river). It has orange-gold to gold-yellow markings, with yellow in the crown and gold edging on the flanks (yellower to southwestern & northwestern, more orange-gold to northeast). It intergrades with race *amazonicus* and is similar to race *aurantiicinctus*.

### Spot-throated Group

- *C. a. punctatus*. It is found in south-central Colombia (from Meta) along lower the eastern Andes range to central Peru (Junín area). It is generally yellow or gold-yellow on throat, yellow on crown and whiter above in males, while females have variably-sized streaking below, but heavy spotting pervades throat, and this race intergrades probably with *nitidior*, *auratus* and *orosae* to east, and *insperatus* to south.
- *C. a. orosae*. It is endemic to eastern Peru from the Orosa river eastward to the Javari river, south to extreme western Brazil (Cruzeiro do Sol region of Acre). Race *orosae* is an intermediate between *auratus* and *insperatus*, having gold-washed under parts, a yellow (occasionally orange) crown, and moderately marked under parts in female (it intergrades with *punctatus* to west and *insperatus* to south).

**Common Name:** Paradise Jacamar  
**Scientific Name:** *Galbula dea*

**Size:** 9.8-12.8 inches (25-32.5 cm)

**Habitat:** South America; Venezuela, Brazil, Colombia, Bolivia, Peru and the Guyanas.

The bird's range encompasses nearly the entire Amazon Basin, except the northwest basin in parts of Colombia and Venezuela. Found in tropical rain forests and savannas.



**Status:** Least Concern. **Global population:** 6,560,000 mature adults with a declining population trend. Widespread and common throughout its range.

**Diet:** Butterflies and other flying insects.

Jacamars are dramatic acrobats, swooping down from perches to capture colorful butterflies in mid-air. They spend most of their time on a branch, scanning alertly for prey.

**Nesting:** Both sexes are similar. It is slender and appears elongated with plumage appearing all black at a distance. The crown is dark brown, while the rest of the upper parts (including the tail) are a glossy black with slight bluish sheen. The wings are a metallic bluish black, with a bronze-green sheen on the coverts and inner remiges. The rectrices are very long and narrow (particularly central pair which measure 14–18 cm). The chin is blackish with a brown spot, a



conspicuous white throat and upper breast to the sides of the neck. The rest of the under parts are blackish. The under wing-coverts are white. The black bill measures 4.9–6.8 cm long and is needle-like. The iris is dark brown and the feet black with the soles being a yellowish brown.

During breeding season, male Jacamars engage in lively vocal performances, with a series of explosive, sharp calls. Two rival males use this display of courtship and verbal bravado to impress a potential mate. Jacamars form monogamous pairs.

Jacamars dig holes for nests in steep river banks. They use the bill to break up the soil, then remove it by kicking backwards with their feet as they burrow. These tunnels also can be found some distance from the water, on soil banks or roots of fallen trees. The nest sits at the end of the tunnel in a horizontal, oval-shaped terminal chamber. Tunnels are 12–36 in (30–91 cm) long and about 2 in (5 cm) in diameter. The nest chamber is used repeatedly and does not contain nest material, although eggs often are covered with a layer of regurgitated insect parts. In some species, male and female participate in building the nest hole; in other species only the female does this work.

Jacamars lay one to four round, glossy, white eggs. Both parents incubate the eggs during the day for one to three hours at a time. At night, the female incubates alone while the male stays nearby to defend the nest. Jacamars rarely leave eggs unattended. During incubation, the male feeds his partner several times each day. The incubation period is 20–23 days.

Both parents feed the young with insects. Chicks remain in the nest 21–26 days.

**Cool Facts:** With their energetic behavior and iridescent feathers, you would think a jacamar is part of the hummingbird family, but it isn't. Its family line is closer to Puffbirds, Toucans, and Woodpeckers. Like all members of the order Piciformes, Jacamars and their relatives have zygodactyl feet, with two toes pointing forward and two facing back. Jacamars evolved with this toe arrangement, which helps them grasp branches while hunting in trees.

Scientists believe Jacamars are closely related to Old World Bee-eaters, which also prey on flying insects, have similar plumage, and raise their young in the same manner.

There are 4 sub-species (races) which differ slightly in length of wing, bill and tail and in the color of the crown.

- *G. d. dea*. The nominate race is found in southern Venezuela (upper Orinoco river), the Guianas, and Brazil north of the Amazon river (east of the Negro river).

- *G. d. amazonum*. It is endemic to north-central Brazil (west to the Tapajós river, south to northern Mato Grosso) and northern Bolivia (Pando, Beni, north La Paz). It is larger, has slightly longer wings, a longer bill, a shorter tail, and the crown is light brown with feathers tipped brownish white. The upper tail-coverts, tail and tertials are bronzy to green. The black on the chin is less extensive, and the white throat is more extensive.
- *G. d. brunneiceps*. This race is found in southeastern Colombia (eastern Vichada, eastern Guainía, Vaupés, southward to Amazonas), eastern Ecuador, eastern Peru, and western Brazil (west of the Negro river and, south of the Amazon river, between the Madeira and Tapajós rivers). It has longer wings, a shorter tail, a longer bill, the crown slightly paler brown, and the upper parts with a more bronzy greenish sheen (less bluish). The wing-coverts are glossed bronzy green and the brown spot on the chin is smaller.
- *G. d. phainopepla*. It is endemic to western Brazil south of the Amazon river (west of the Madeira river). It is similar to *amazonum* but generally smaller and brighter, upper tail-coverts and tail more greenish, the wing-coverts and tertials are washed more bronzy in color.

**Common Name:** Chestnut-capped Puffbird

**Scientific Name:** *Bucco macrodactylus*

**Size:** 6 inches (15 cm)

**Habitat:** South America; western Amazon Basin of Brazil, and Amazonian Venezuela, Colombia, Ecuador, Peru, and northern Bolivia; also the eastern Orinoco River Basin of Venezuela. Found in subtropical or tropical moist lowland forests and subtropical or tropical swamps.



**Status:** Least Concern. **Global population:** 3,720,000 mature adults with a decreasing population trend. They are considered uncommon throughout their range.

**Diet:** Insects and small vertebrates caught by a watch and wait technique.

They forage most always alone and even paired individuals will not forage together.

**Nesting:** Sexes are alike in appearance. It has a chestnut crown with a long narrow whitish supercilium. There is a broader white stripe just below cheek bisecting the black patch on side of face and a broad collar across lower throat. The chin and upper throat are rufescent-white, varying in extent with elongated shafts of chin feathers recurving over bill. It has a narrow bright orange-rufous

nuchal collar and the rest of the upper parts are dark brown. There is a few lighter bars on the back, more on the rump. There is light buffy-rufous scalloping on the lower mantle, scapulars and wing-coverts. The remiges are dark brown and the dark warm brown tail rather long, narrow and graduated about a third of its length. The upper breast is white with the remaining under parts a buffy white with fine dusky barring extending to the legs. The lower belly is unbarred. The bill is and the iris varies from red to brown. There is a bare eye-ring which is dark grey. The feet are brown gray. Immatures are similar, differing by having a shorter bill.

Puffbirds are cavity nesters, laying 2-3 glossy white eggs in a hole in the ground or a termite mound.

**Cool Facts:** Puffbirds are related to the Jacamars, but lack the iridescent colors of that family.

They usually perch alone, concealed or partially concealed on a limb 3 to 30 feet above or near water. It will sit quietly for long periods of time. Its song is quiet, an abrupt ascending string of notes ending in a twitter... *"pup pup pep pep peep peep pip pip pip piz"*

**Common Name:** Amazonian Antshrike  
**Scientific Name:** *Thamnophilus amazonicus*

**Size:** 5.5 inches (14 cm)

**Habitat:** South America; in the Amazon Basin of Brazil, and east to Maranhão state; also Amazonian Colombia, Peru, and Bolivia. Also found in the Guianas in Guyana, Suriname and French Guiana, and two regions of Venezuela.

It is usually found in forest edges, riverine forest, around light openings in these forests. In the north, Race *cinereiceps* occurs in sandy-soil habitats, both in stunted savanna woodland growing on white-sand soil and in shrubby borders of taller terra firme and igapó forests, while Race *divaricatus* inhabits liana-rich parts of terra firme forest, locally in open forest near tepui summits and at river edges. The nominate race is almost entirely confined to riverine viny borders and light-gaps in seasonally flooded várzea and igapó. Race *obscurus* is more widely distributed in forest edges and openings, inside viny forest, dense secondary growth, and found in stands of Guadua bamboo within terra firme and transitional forests. Race *paraensis* is found primarily in second growth, less often in light-gaps in terra firme and igapó forests, and rarely in várzea.

**Status:** Least Concern.

**Global population:**  
7,120,000 mature individuals



with a stable population trend.

**Diet:** Ants and a variety of insects (lepidopteran larvae, katydids, mantids, stick-insects, spiders and beetles) gleaned from tree surfaces.

Pairs or individuals forage mostly 5–17 m above ground, particularly in clusters of hanging vines along major tree trunks, and on fairly open large branches in interior portions of trees.

**Nesting:** This species is dimorphic. The male of the nominate race has the center of its forehead and crown black with gray sides. The back is mostly black, the rump gray with an interscapular patch that is white. The outer scapulars and wings are black; boldly spotted and edged white. The tail is black with the tips and median spots on outer rectrices white. The males under parts are unpatterned gray. The female of the nominate race has a crown that is bright rufous with the rest of head and under parts being more a bright yellowish red-brown. The upper parts are a deep olive with the wings and tail patterned like male but browner. The flight-feathers are edged pale olive.

Breeding season occurs May through January in Brazil. The nest is a small cup of 10 centimeter diameter and 5 centimeter depth, neatly woven from several plant fibers and ornamented with moss. Nests are located in a tree fork 1-3 meters above ground. Clutch size is normally 2 eggs.

**Cool Facts:** Calls include a long, downslurred, complaining "caw", also an emphatic note with quality of a bark, and long raspy growl resembling a short rattle.

#### Subspecies

- *T. a. cinereiceps*. It is found in southwestern Venezuela (western Amazonas), east-central Colombia (Vichada and Meta southward to Caquetá and Vaupés) and northwestern Brazil (both banks of the upper Negro river and along the western lower bank southward to the Solimões river). It is smaller and paler than the nominate race. The male crown is gray with the upper-parts being gray with a few black feathers on upper back. The female has its anterior under parts mixed with gray. The belly and crissum are buff-tinged smoky white and the flanks are olive-gray.
- *T. a. divaricatus*. This race occurs in extreme eastern Venezuela (east Bolívar), the Guianas, and northeastern Brazil north of the Amazon river (east of the Branco and Negro rivers, eastward to northern Pará and Amapá). The male of this race has the sides of head blackish-gray and the back mixed black and gray. The female under parts are paler and grayer than the nominate.
- *T. a. amazonicus*. The nominate eastern Ecuador (east Orellana), eastern Peru, western Brazil south of the Amazon river and west of the Tapajós river (southern Amazonas and extreme western Pará south to Acre, Rondônia and



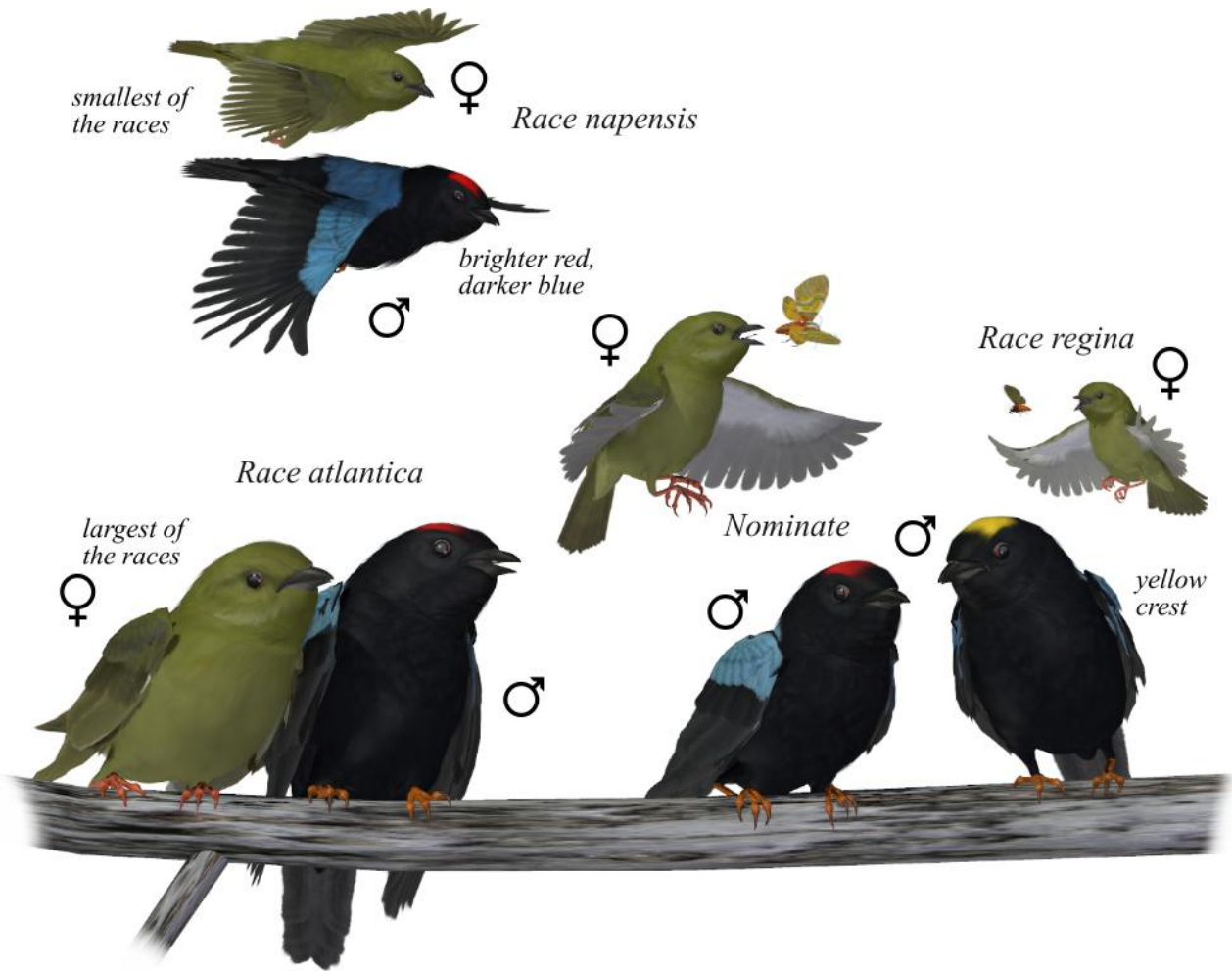
western Mato Grosso) and northern Bolivia (Pando, north La Paz, northern Beni, northeastern Santa Cruz).

- *T. a. obscurus*. It is endemic to south-central Amazonian Brazil (southern Pará between the Tapajós and Tocantins river). It is darkest of the races with the male being mostly or entirely black above and dark gray below. The female is also darker and often lacking the pale tips of the central rectrices.
- *T. a. paraensis*. It is found east of the Tocantins river in eastern Pará, western Maranhão and northern Tocantins. The male is paler below, often with faint white bars on the belly. The female has its tail tinged reddish and the lower under parts are a pale cinnamon-buff.

**Common Name:** Blue-backed Manakin  
**Scientific Name:** *Chiroxiphia pareola*

**Size:** 4.7 -5 inches (12-12.5 cm)

**Habitat:** South America; southern Colombia, eastern Venezuela, the Guyanas, Brazil in the northeast and the Amazon Basin, and in Tobago. A disjunct population exists on the coastal strip of southeast Brazil, about 3000 km long. The Blue-backed Manakin is absent in the northwest Amazon Basin, a region from central Venezuela to the southern border of Colombia.



Manikins are common in dry and moist deciduous forests, but not the rainforest.

**Status:** Least Concern. **Global population:** Unknown. It is common in parts of Tobago and the Guianas; fairly common but very local in Venezuela; apparently much less common in some western parts of its range (Colombia), but

uncommon to locally fairly common in Ecuador and Peru. Its wide habitat tolerance should ensure its long-term survival.

**Diet:** Fruit nectar and some insects.

Items plucked or snatched from vegetation in sallying flights.

**Nesting:** The male of the nominate subspecies has a small black frontal crest, red crown patch, light blue back and scapulars. The rest of the plumage is black and the outer three primaries are pointed, with shafts thickened and barbs reduced. The iris is a dark reddish brown and the bill black. The legs are orange-red. The nominate female is olive-green which is paler and yellower on the throat, with yellowish-white belly and under tail-coverts. Its legs are pinkish. Juveniles resembles females and immature males pass through a sequence of intermediate plumages. In the first stage, they acquiring the red cap and sometimes some of the blue on the back.

Breeding season occurs March through July in Tobago, September to April in northern Brazil (Belém area) and in November in eastern Brazil (Bahia). The female builds a twig nest in a tree; two brown-mottled white eggs are laid, and incubated entirely by the female for about 20 days.

**Cool Facts:**

It differs from almost identical Lance-tailed Manakin (*C. lanceolata*) and Long-tailed Manakin (*C. linearis*) in lack of elongated central rectrices.

The male Blue-backed Manakin has a fascinating breeding display, unusual in that it is a cooperative display rather than competitive. Two males perch next to each other on a bare stick and jump up and down alternately, giving a buzzing call. When a female approaches, the perched bird moves backwards under the jumping bird, so the two perform a vertical circling movement. Groups of up to eight birds may perform together, with a different stick for each pair of displaying males.

Apart from the buzzing display song, Blue-backed Manakin has a number of other calls, including a “*whee-whee-CHUP*”, sometimes given by two males in synchrony.

Subspecies differ in size and, mostly slightly, in male coloration.

- *C. p. atlantica*. It is endemic to Tobago. It look like the nominate but is much larger.
- *C. p. pareola*. The nominate subspecies is found in eastern Venezuela (northeastern Bolívar), the Guianas, and northeastern and eastern Brazil (Roraima, Óbidos and right bank of theTapajós river east to Maranhão and south to Mato Grosso and southeastern Pará, also isolated coastal population from Rio Grande do Norte south to Rio de Janeiro).

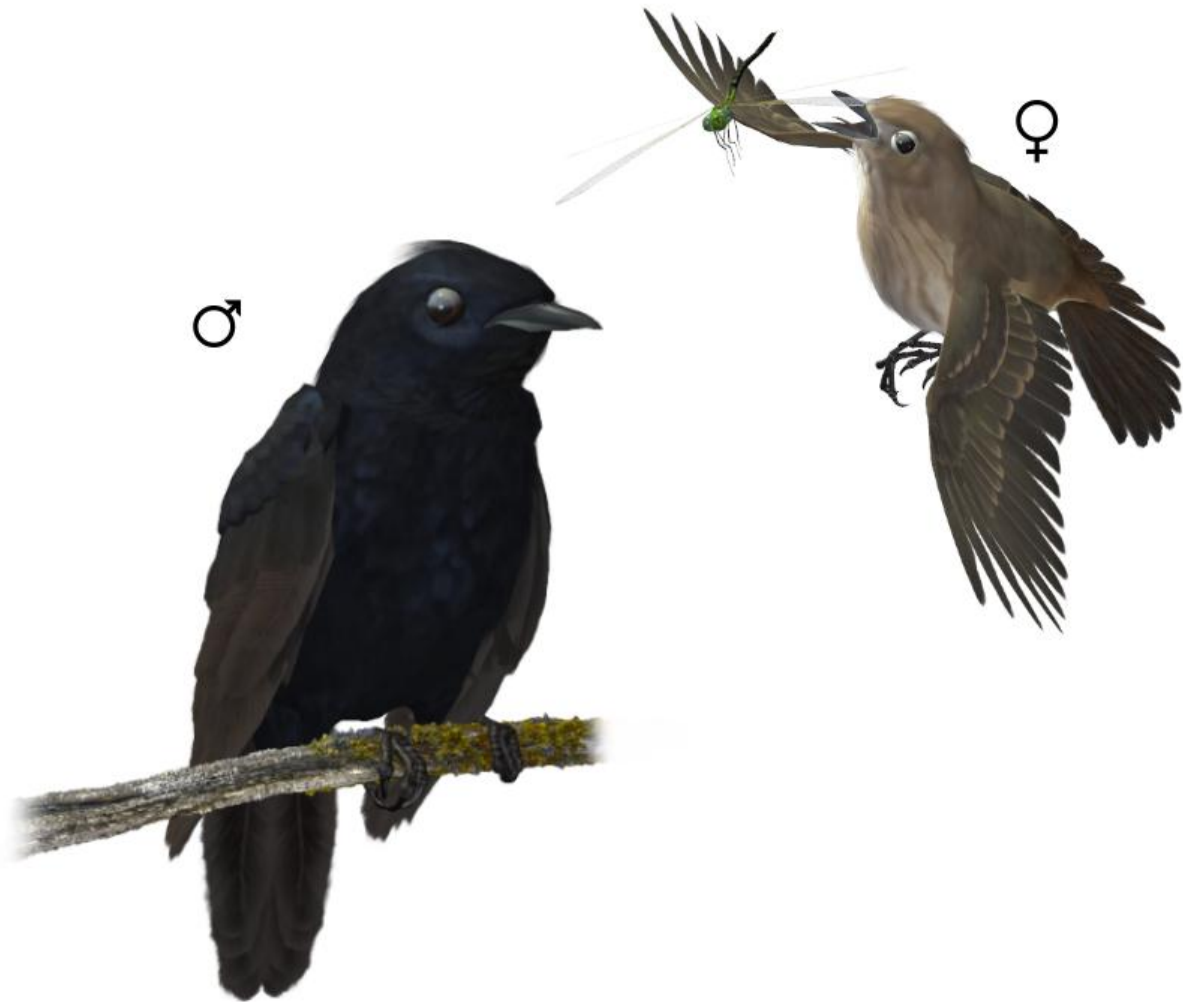
- *C. p. napensis*. This race is found in southern and southeastern Colombia (east of the Andes), eastern Ecuador and northern Peru (mainly north of the Marañón river and west of the Ucayali river). It is smaller than the nominate, and the red on the crown is brighter. The blue on the back is somewhat darker.
- *C. p. regina*. It is found in eastern Peru (south of the Marañón river and east of the Ucayali river), in western Brazil, mostly south of the Amazon river (east to the lower Tapajós river). It has been recorded also north of the Amazon river at two sites west of the Negro river) and extreme northern Bolivia. It has crown patch that is golden-yellow, not red.

**Common Name:** Amazonian Black Tyrant  
**Scientific Name:** *Knipolegus poecilocercus*

**Size:** 5-5.25 inches (12.7-13.5 cm)

**Habitat:** South America; Brazil, Colombia, Ecuador, Guyana, Peru, and Venezuela.

It is found in the undergrowth of flooded forests and black-water streams and lakes.



**Status:** Least Concern. **Global population:** 4,960,000 mature individuals with a declining population trend. It is considered rare or uncommon to locally common. This is probably because it is often overlooked. It is found at the Alto Orinoco-Casiquiare Biosphere Reserve, in Venezuela, and Anavilhanas Ecological Station and Jaú and Tapajós National Parks in Brazil.

**Diet:** Flying Insects.

It usually hunts solitary or in pairs, and is inconspicuous unless displaying. Female sometimes are associated loosely with mixed-species flocks. It often perches at or below eye level and does aerial sallies to foliage. It sallies occasionally to surface of shallow water or to the ground. Its movements are often sudden and reminiscent of those of a manakin.

**Nesting:** Sexes are dimorphic. This flycatcher has large eyes and long rectal bristles. The male is glossy black with a slight bluish sheen. The primaries are tinged with brown. The iris is dark brown and the bill a stout bluish-gray, tipped with black. The legs are black. The female is olive-brown above, with the lores and eye ring being a grayish-white. The upper tail-coverts are rufous, the wings a dusky gray-brown with two cinnamon-buff wing bars and buff edgings. It has a short gray-brown tail, edged with cinnamon. It is pale buff below with the lower throat, breast and flanks streaked brownish-olive forming a chest band. The under wing-coverts are white. The eyes are dark brown and the bill is dusky brown.

Nest building occurs in July. The nest is an untidy ball of moss and grass with a side entrance placed at the fork on a branch, about 3 feet up from a heavy-forested stream.

**Cool Facts:** Amazonian Black-Tyrants are typically found low in flooded woodland within their range, sallying abruptly for insects near the ground or water. The species is distributed locally along the Amazon and Orinoco River corridors. Amazonian Black-Tyrant is confusable with the similar Riverside Tyrant, though that species is larger and typically more conspicuous in open riverine habitats. It makes a distinctive low-creaking call that sounds like a frog. It is a solitary bird.



**Common Name:** Amazonian Umbrellabird  
**Scientific Name:** *Cephalopterus ornatus*

**Size:** Males: 19-20 inches (48-51 cm); Females: 16-16.7 inches (41-43 cm)

**Habitat:** South America; they inhabit almost the entire Amazon Basin, from the Andean foothills in Colombia, Ecuador, Peru and Bolivia, eastward to southern Venezuela (in the drainage of the upper and middle Orinoco river), southwestern Guyana, and Brazil (east to the Negro and Xingu river drainages, and southward to southern Mato Grosso, just extending to the headwaters of Paraguai river).

This species has two distinct habitats. In Amazonia and the Orinoco river region, it lives in the forests along the riverbanks and on the river islands, and adjacent seasonally flooded forests (várzea), mainly below 300 m. The second habitat is humid forests, mainly at 900–1300 m, along base of the Andes.

**Status:** Least Concern. **Global population:** 6,150,000

mature individuals with a decreasing population trend. It is scarce or rare in much of its range, and considered locally uncommon to

fairly common. Its numbers have been reduced in most areas. This presumably a result mainly of human persecution and exploitation for food, as in the riverine



habitat has been little modified. The destruction of forests in the Andean foothills has led to declines in the west of its range.

It does occur in several protected areas (Amacayacu National Park in Colombia, Podocarpus National Park in Ecuador, Anavilhanas Ecological Station and Rio Cristalino Forest Reserve in Brazil, and Noel Kempff Mercado National Park in Bolivia).

**Diet:** Fruits, large insects and occasionally lizards (*Anolis*). Fruits eaten include those of palms, *Byrsonima* and *Cecropia*. Insects include orthopterans and beetles (*Coleoptera*).

Insect and lizard prey is snatched from the foliage and branches of trees, usually in flight. They are beaten against a perch before swallowing.

**Nesting:** It is a very distinctive coid-like bird with huge crest. The sexes are slightly dimorphic. The male is black with bluish gloss on its head, neck, back and breast and a duller black on the abdomen. It has an umbrella/pompadour-like crest with the feathers outwardly curling and terminating in brush of hair-like barbs. The shafts are white and somewhat conspicuous when the crest is upright. The crest may be lowered so as to cover almost whole of bill (laid back in flight. It has a densely feathered wattle, that can be up to up to 15 cm long, hanging from lower throat. It usually stays very close to the body. The iris is very pale light gray. The upper mandible is black and the lower mandible is lead gray. The legs are lead gray to black. Females are much smaller than the males. The crest and wattle are much reduced. (the wattle is almost half the size of its male counterpart). The crest feathers do not have white shafts. Immatures have at least one sub-adult stage before the males acquires full adult plumage.

Breeding season occurs in July in Brazil and October in Ecuador. Nest-building starts in October in southeastern Peru and Ecuador. Males form leks with 4-5 other males. They display from tree perches, leaning forward to call with their crests spread and wattles expanded. The female builds a loose nest of twigs high in a tree and raises a single chick.

**Cool Facts:** These birds get their name obviously from their impressive tall crest of feathers that stands up over its head like an umbrella. Its Latin name roughly translates to "fancy head." Umbrellabirds, much like wild turkeys have a long wattle of feathers that hangs down from its throat to its belly. It is the largest bird in the neotropical passerine family.

Amazonian umbrellabirds are known for their loud, carrying voice. Their song is preformed with a bowing display and a deep, hollow booming "oooooooooooo" similar to the sound of blowing across the top of a bottle. These birds are heard more often than they are seen.

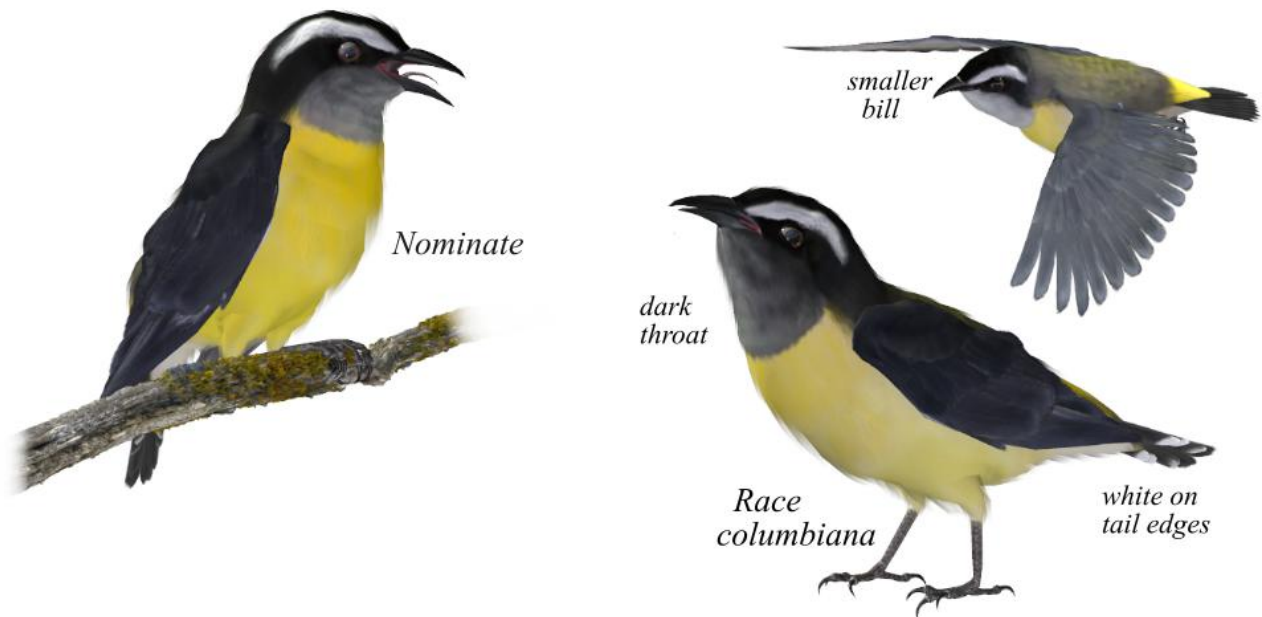
**Common Name:** Bananaquit  
**Scientific Name:** *Coereba flaveola*

**Size:** 3.9-4.3 inches (10-11 cm)

**Habitat:** Southern Mexico to South America. Found in tropical areas.

**Status:** Least Concern. **Global population:** 22,400,000 mature individuals with a stable population trend.

**Diet:** Nectar from flowers; also fruits (including ripe bananas) and insects. It gleans small insects from the undersides of leaves and eats flies, beetles, caterpillars, ants, bees, and spiders



**Nesting:** Sexes are alike. It is distinctive for its bill shape, which is short, sharply pointed and decurved. Generally, it is dark gray to dusky olive above, much brighter on rump, with prominent pale white supercilium. There is a white patch at base of flight feathers. The throat is grayish white and the under parts bright yellow. Immature is similar to adult, but paler and dingier, with supercilium dull, often yellowish, or with anterior portion yellow and posterior portion is white. The immatures of sooty races are similar to adults, but duller and browner.

Bananaquits build a spherical lined nest with a side entrance hole, laying up to three eggs.

**Cool Facts:** The bananaquit pierces flowers from the side, taking the nectar without pollinating the plant. It cannot hover like a hummingbird, and must always perch while feeding.

It often visits gardens and may become very tame. Its nickname, the sugar bird, comes from its affinity for bowls or bird feeders stocked with granular sugar, a common method of attracting these birds.

Where's my family? Since the bananaquit was discovered in 1758 it's been reclassified several times. Starting with genus *Certhia*, in 1809, it was placed in genus *Coereba*, it was then moved to genus *Coerebidae* and then back to genus *Coereba* in 2005. The Bananaquit is possibly close to some American "sparrows" and "finches" but the precise phylogeny remains unresolved.

## Subspecies

### The Bahamas Group

- *C. f. bahamensis*. The "Bahamas Bananaquit" is endemic to the Bahamas (from Grand Bahama and Little Abaco southeast to Great Inagua and Grand Turk). It has a crown that is dark gray, the rest of the upper parts are plain gray, the long white supercilium and a small white spot at the base of primaries. The bill is black with a red gape. The entire side of the head, throat, and chest are white. There is a broad yellow band across mid-breast, with the lower breast to under tail-coverts being white.

### The Cozumel Group

- *C. f. caboti*. The Cozumel Island Bananaquit is found in southeastern Mexico (Quintana Roo) and islands off the northeastern Yucatán Peninsula (Holbox, Cancún, Cozumel, and Cayo Culebra). It is similar to race *bahamensis*, but slightly larger, blacker above, with its bill broader at base and slightly less curved.

### The Greater Antillean Group

- *C. f. sharpei*. This race is found on Grand Cayman, Little Cayman, and Cayman Brac. It most closely resembles race *caboti*, from which it differs in having a larger bill, a smaller and duller yellow rump, smoke-gray (not pale gray) throat and chest, larger white tail tips, and lores and ear-coverts with the black being more restricted.
- *C. f. tricolor*. It is endemic to Providencia Island off eastern Nicaragua. It is similar in appearance to race *sharpei*, but both have a pale gray throat spreading well down onto the chest (as in races *caboti* and *bahamensis*). Its throat and chest (not just throat) are smoke-gray, and also differs from race *sharpei* in shorter bill and brighter yellow rump.

- *C. f. oblita*. It is endemic to San Andrés Island off eastern Nicaragua. It is similar in appearance to race *sharpei*, but both have a pale gray throat spreading well down onto the chest (as in races *caboti* and *bahamensis*). It is extremely similar to race *tricolor*, but with the gray area of the throat and chest being slightly darker and even more extensive, spreading to upper breast, also yellow of breast paler, more greenish-yellow, flanks slightly more gray-olive, and the bill shorter.
- *C. f. flaveola*. The nominate race is found in Jamaica. It has deep black upper parts with white supercilium, a large and prominent white spot at base of primaries, a small dull yellow rump patch, a slaty-black throat, and dark wax-yellow under parts.
- *C. f. bananivora*. This race is found on Hispaniola, Gonâve Island, Petite Cayemite Island and Î-à-Vache. It differs from the nominate in being slightly lighter in color overall, with back blackish-slate (not deep black), the throat is dark gray (less slaty), the under parts are not so deep yellow, and the white wing spot smaller.
- *C. f. nectarea*. This race is found on Tortue Island, off Haiti. It is very similar to the nominate, but the throat and foreneck slightly darker gray.

#### The Puerto Rican Group

- *C. f. portoricensis*. It is endemic to Puerto Rico.

#### The Lesser Antillean Group

- *C. f. sanctithomae*. It is found on Vieques and Culebra islands (off eastern Puerto Rico) and Virgin Islands. It is very similar to race *portoricensis*, but the under parts are brighter, a cleaner yellow and the flanks are paler. A few southern Caribbean races found on small islands are mainly black or dark olive, and utterly unlike any of the Antillean groups.
- *C. f. newtoni*. It is found on St Croix (southern Virgin Islands). It resembles races *portoricensis* and *sanctithomae*, but it has much darker slaty throat, and duller. It has a more olive-yellow rump.
- *C. f. bartholemica*. It is found on the northern and central Lesser Antilles (Anguilla, St Martin, Saba, St Bartholomew southward to Guadeloupe, Marie Galante and Dominica). It is much like races *barbadensis* and *martinicana* (including no white wing spot), but differs most obviously in having an uniformly slate-colored throat.
- *C. f. martinicana*. It is endemic to Martinique and St Lucia (south-central Lesser Antilles). It differs in having long bill with a red gape, a broad white supercilium, black on the sides of the head, the sides of the throat and chin, with the central throat being whitish. There is little or no white wing spot and no white tail tips (in general closest to race *uropygialis*, and the throat is similar, but differs in the blacker upper parts, much shorter supercilium, and duller yellow under parts with olive-tinged sides).
- *C. f. barbadensis*. It is endemic to Barbados. It is much like race *martinicana*, differing mainly in having smaller amount of white on the throat.

- *C. f. uropygialis*. It is endemic to Aruba and Curaçao, in Leeward Antilles. It is close to race *ferryi* (and has pale gray wing edgings), but differs in having a black chin and sides of the throat. The rest of the throat is white (not gray), also there is no white wing spot, the upper parts are less sooty, the rump patch is reduced and more green-yellow, and a well-developed red gape.

#### The St. Vincent Group

- *C. f. atrata*. The St. Vincent Banaquit is endemic to St. Vincent, in the southern Lesser Antilles. It is exceedingly close to race *aterrima*, but differs in a larger size and a longer, heavier bill.

#### The Grenada Group

- *C. f. aterrima*. It is found on Grenada Island and the Grenadines. It is nearest to race *lowii*. It is mainly sooty black but with a slight greenish-yellow wash on the upper tail-coverts, breast and lower under parts. It also has a light morph, similar to race *luteola* but with blacker upper parts and duller under parts. The dark morph predominates in Grenada and the light morph in Grenadines.

#### The Los Roques Group

- *C. f. lowii*. It is endemic to the Los Roques Islands, off northern Venezuela. It is similar in size to race *melanornis*, but with a red gape and olive-tinged lower under parts.

#### The Auae/Melanornis) Group

- *C. f. melanornis*. It is found on Cayo Sal, off northern Venezuela. It is all black like race *laurae*, but smaller and with a much shorter bill.
- *C. f. laurae*. It is found on Los Testigos Islands, off northern Venezuela. It is similar in size and color to race *atrata*, but differs in lacking the red gape and also in a decidedly stronger, longer and less decurved bill.

#### The Continental Group

- *C. f. mexicana*. It is found in southeastern Mexico (from central Veracruz and Oaxaca) south on the Caribbean slope (and the Pacific slope in Costa Rica) to western Panama (Veraguas, including Coiba Island). It differs from race *columbiana* in having the rump patch duller, it is more greenish-yellow and smaller, and the back is not so dark gray.
- *C. f. cerinoclunis*. It is found on the Pearl Islands, in the Bay of Panama. It differs little from race *columbiana*, but the upper parts are black (little contrast with the head), instead of the deep gray to dark grayish-olive. It also has a paler gray throat, a darker yellow below, a smaller white wing spot, and the smaller white tail tips.
- *C. f. columbiana*. It is found in Panama (from Canal Zone) eastward through central and southwestern Colombia (the Andes from Antioquia to Huila) to southern Venezuela (extreme northwestern Amazonas). It differs in having darker gray throat and red gape (additionally, it is generally similar to race



*bananivora*, but differs in black upper parts, a clearer slate-gray throat, and much larger, longer, white tail tips.

- *C. f. bonairensis*. It is found on Bonaire Island, in Leeward Antilles. It has a red gape, a wider white supercilium rearwards, a white (not yellow) throat, the back is olive-brown, the wing-coverts have two white wingbars, the flight-feathers are extensively edged white and a rump pale yellow (not bright yellow).
- *C. f. ferryi*. It is found on Tortuga Island, off northern Venezuela. It is nearest race *luteola*, but has its forehead with a varying amount of white, pale grayish edging on the flight-feathers, sometimes the extreme base of gape is red.
- *C. f. frailensis*. It is found on Los Frailes (Puerto Real) and Los Hermanos, off northern Venezuela. It has a large white wing spot, and gray flanks and thighs.
- *C. f. luteola*. It is found in Colombia (Caribbean coast of Bolívar and Magdalena) and northern Venezuela (Zulia east to Monagas, south to Apure and northern Bolívar); Trinidad and Tobago. It is nearest race *guianensis*, but is blackish above with a conspicuous wing spot. It differs from race *columbiana* in the entire upper parts are blackish (no olive tinge), the rump is brighter, and the lower under parts are white.
- *C. f. obscura*. It is found in western Venezuela (the eastern side of Lake Maracaibo, southeastern Zulia and below 1200 m in the Andean foothills of Mérida and Táchira) and adjacent Colombia (Norte de Santander). It differs in having the lower under parts a creamy color with the back, wing-coverts and flight-feathers being paler and more dusky.
- *C. f. minima*. It is found in eastern Colombia (the Guainía river) and southern Venezuela (the southern half of Amazonas) east to French Guiana and north-central Brazil (to Pará, north of the Amazon river). It is nearest to race *chloropyga*, but slightly darker above. The rump is brighter (differs from race *columbiana* in slightly smaller size, back slate-gray).
- *C. f. montana*. It is found in the Venezuelan Andes (above 1200 m in Mérida and Táchira). It is nearest race *columbiana*, but the upper parts darker, a dark black (instead of deep gray to dark grayish-olive), the yellow of rump is brighter, the throat is a darker gray (more like race *luteola*) and the bill is longer and stronger. It is intermediate between races *luteola* and *columbiana*.
- *C. f. caucae*. It is found in Colombia in upper Cauca Valley and on the slopes of the central and western Andes (from Caldas south to Cauca). It is much like race *columbiana*, but the supercilium is much narrower and somewhat variegated with dusky edges.
- *C. f. gorgonae*. It is found on Gorgona Island, off western Colombia. It is nearest race *intermedia*, but the side of the throat and malar area are finely barred dusky, back sooty, and a white wing spot and the tail tips are very small.
- *C. f. intermedia*. It is found in southwestern Colombia (Nariño), western Ecuador and northern Peru (from San Martín, and Loreto) east to western Brazil and southern Venezuela (southwestern Amazonas). It differs from race

*chloropyga* mainly in a conspicuous white wing spot, its darker back and darker throat.

- *C. f. bolivari*. It is found in eastern Venezuela (lower Orinoco Valley of Delta Amacuro, and north and eastern Bolívar from the Cuchivero river south to the lower Paragua river). It differs in having its back and wings distinctly grayish and rump whitish.
- *C. f. guianensis*. It is found in central Venezuela (lower Caura Valley) south and east across Guyana. It differs in having its back and wings paler, more brownish-black (not olive), the wing spot is vestigial or absent, and no white tail tips.
- *C. f. roraimae*. It is found in southern Venezuela (northern and eastern Amazonas, southern Bolívar) and region of Cerros Roraima and Uei-tepui in Guyana and southeastern Venezuela. It is extremely similar to race *guianensis*, but is slightly larger, its back a little darker and contrasting less with the crown, and the throat being a little darker.
- *C. f. pacifica*. It is found in western Peru (northwestern Lambayeque, western La Libertad and Ancash). It is very like race *intermedia*, but has a shorter bill, the back is less sooty, the throat is a paler gray (in color, it is nearly identical to race *magnirostris*, but with a much shorter bill and smaller size).
- *C. f. magnirostris*. It is found in Peru in upper Marañón Valley (in Piura, Cajamarca and eastern La Libertad). It differs in large size, notably a long tail and an unusually long bill.
- *C. f. dispar*. It is found in central and southeastern Peru (from southern San Martín) southward to Bolivia (La Paz). It resembles races *pacifica* and *intermedia*, but is slighter larger and essentially lacks white wing spot.
- *C. f. chloropyga*. It is found in central Peru (from Huánuco and Junín) south to central Bolivia (to Santa Cruz), then eastward across south-central and eastern Brazil (to Ceará and Pernambuco, then south to Rio Grande do Sul) and south to eastern Paraguay, northeastern Argentina (Misiones) and extreme northern Uruguay. It is very close to race *dispar* but is quite grayish above and pale yellow below, with pale sandy-buff tinge on the flanks.
- *C. f. alleni*. It is found in eastern Bolivia (Santa Cruz) east to central Brazil (Mato Grosso). It is indistinguishable from race *chloropyga*, although may average slightly paler.

**Common Name:** Paradise Tanager  
**Scientific Name:** *Tangara chilensis*

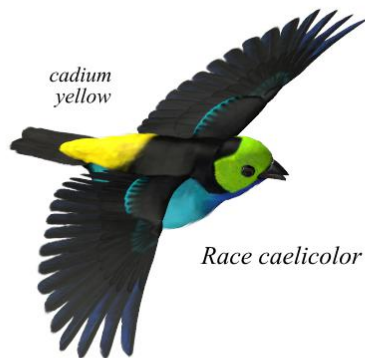
**Size:** 5 ½ – 6 inches (13.5 -15 cm)

**Habitat:** South America; distributed in a broad arc round the north and west of the Amazon Basin. It appears to be absent from much of central Amazonia and south of the Amazon.

*Race paradisea*



*Race chlorocorys*



*Race caelicolor*



*Nominate*

It is often found in the canopy and edges of humid forest where it is often in mixed canopy flocks.

**Status:** Least Concern. **Global population:** 6,380,000 mature individuals with a decreasing population trend. *Race chlorocorys* is restricted to north-central Peru in the upper Huallaga Valley and could soon be in peril due to its limited range.

**Diet:** Mostly fruit, some insects and spiders.

Paradise Tanagers glean fruits and insects in the upper canopy of trees, and

tend to nest in the outer edge of the tree canopy. Paradise Tanagers often are seen in multi-species flocks of 5 to 20 individuals, and rarely stay in the same spot for an extended period of time when feeding.

**Nesting:** Sexes are alike. The head is a bright light green with a black eye-ring. Its nape, upper back, wings, upper tail, under tail coverts, tail, and central belly are all black. The lower back is a bright red while its rump can be yellow or red

(depending upon subspecies). Its chin and throat are a dark blue, The greater primary coverts are also dark blue while the breast and flanks are a lighter blue. Depending upon subspecies, the upper wing coverts may be light sea-blue or dark blue.

Juveniles are similar to the adult. The lower back and rump are yellow or orange. The lesser wing-coverts are black instead of sea-blue. The head is green speckled with black, the chin is turquoise, and the blue of breast and flanks is more turquoise in color with some black speckling. Legs and feet are gray rather than black.

The breeding season occurs from June through late August in Peru. Nests are placed in the canopy and are cup-shaped. Female are predominantly responsible for nest building. The males accompanies the female when she is gathering nesting materials, or perches nearby singing or calling as she works. The clutch size varies from two to four eggs in number. Typically the incubation range of Paradise Tanagers is between 13-17 days and females typically do the majority of the incubating.

**Cool Facts:** All of the most striking Tanagers in the world come from the tropical genus, *Tangara*. There are about 50 species which are sometimes called callistes. The Paradise Tanager (*Tangara chilensis*), called “siete colores” (Spanish) from its seven hues, including green, scarlet, and purple.

Subspecies:

- *T. c. caelicolor*. First reported by Sclater 185. This race is found in eastern Colombia (Meta, Guainía and Vaupés), southern Venezuela (Amazonas) and northwestern Brazil (the Uaupés and upper Negro Rivers). It differs from the nominate in that its rump is cadmium yellow.
- *T. c. chilensis*. First reported by Vigors 1832. The nominate race is found in southern and southeastern Colombia (the western slope of the east Andes in upper Magdalena Valley, in Huila; and Caquetá, Putumayo and Amazonas) southward to eastern Ecuador, eastern Peru and Bolivia (south to Santa Cruz), and eastward through western Brazil (east to Rondônia, southeastern Amazonas, east Mato Grosso and southwestern Pará). The nominate race has a scarlet rump.
- *T. c. paradisea*. First reported by Swainson in 1837. This race is found in southeastern Venezuela, the Guianas and northern Brazil (south to the northern bank of the Amazon River). It differs from the nominate in that the top margin of the rump is red blending quickly into a light yellow for the majority of the rump.
- *T. c. chlorocorys*. First reported by Zimmer in 1929. It is endemic to northern Peru (upper Huallaga Valley). It differs from the nominate in that its rump is yellow.

Special Thanks to...

...my beta teams

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**2021 re-release:** Alisa, FlintHawk and Tparo

## Species Accuracy and Reference Materials

Many birds of the same species do vary considerably in color. This package tries to emulate the colors and markings in the most commonly found variants.

The author-artist has tried to make these species as accurate to their real life counterparts as possible. With the use of one generic model to create dozens of unique bird species, some give and take is bound to occur. The texture maps were created in Painter with as much accuracy as possible. Photographic references from photographs from various Internet searches and several field guides were used.

## Field Guide Sources:

- **"Behavioral Ecology of the Yucatán Jay"** by Ralph J. Raitt and John William Hardy
- **"The Sibley Guide to Birds"** by David Allen Sibley.
- **"A Guide to the Birds of Mexico and Northern Central America"** by Steve N. G. Howell and Sophie Webb
- **"Birds of Peru"** by Thomas S. Schulenberg, Douglas F. Stotz, Antonio Brack Egg, Daniel F. Lane, John P O'Neill, Theodore A. Parker, III
- **"A Guide to the Birds of Colombia"** by Steven L. Hilty & William L. Brown
- **Wikipedia** (<http://www.wikipedia.com>)
- **Birdlife International** (<http://www.birdlife.org> )
- **Handbook of the Birds of the World Alive** (<https://www.hbw.com>)
- **Neotropical Birds** (<https://neotropical.birds.cornell.edu>)

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