

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

Songbird ReMix

TOUCANS

Manual & Field Guide

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Songbird ReMix

TOUCANS

Manual & Field Guide

Introduction

Toucans are highly recognizable birds with their oversized beaks and bright colorations and are often associated with the parrot family, Africa and a cereal box. While a toucan does grace a cereal box, they're not parrots; they're actually closer relatives to the American Barbets and their homes are found in Central and South America. "Songbird ReMix Toucans" journeys into the deep rainforests and ancient empires of Mesoamerica to bring to life many of the most interesting toucanets, aracaris and toucans found in the region.


Overview and Use

Select **Figures** in Runtime Folder and go to the **Songbird ReMix** folder. Here you'll find an assortment of files that are easily broken into 2 groups: **Conforming Parts** and **Bird Base models**. Let's look at what they are and how you use them:

- **Bird Base Models**
 - **SBRM Toucan Model** - This model is used with all birds in this package.
- **Conforming Parts**
 - **No conforming parts are needed for this volume.** It is possible that with future add-on volumes and/or future free download Birds that they *may* be needed. (All Conforming Crests have alphanumeric icons in the lower right corners such as "C09", "C22" or "T03". This corresponds with characters in the Pose folders. All MAT/MOR files with the same icon use that particular Conforming Part. ***Be sure to read this:*** Most conforming parts are Crests, which cover the head part. When posing the Base Model, the Conforming Part will follow any Bend, Twist or Rotate Commands. It will not obey any **SCALE** or **MORPH** commands you give the Base Model. You must manually scale the Conforming Part and,

with morphs such as “OpenBeak” or “Stretch”, you must also set its counterpart in the head part of the Conforming Crest.

Conforming Crest Quick Reference

Load Model(s)	To Create... (apply MAT/MOR files)
	<ul style="list-style-type: none">• All Aracaris, Toucans and Toucanets included in this package



Creating a Songbird ReMix Bird with Poser

Here's a step by step to create a bird in POSER:

1. Choose what you want to load. For this example, we'll create an "American Robin".
2. Load Poser and select **FIGURES** and the Songbird ReMix folder. Because the "American Robin" uses the basic "Songbird" base model we'll load that.
3. Go to the **POSES** folder and select the appropriate Songbird Remix library. In this case, we'll select the "American Robin" pose and apply it to our loaded Songbird ReMix base model. This pose contains morph and texture settings to turn the generic model into an "American Robin". As explained earlier in the Character Base Section, the Alphabet letter appearing on the base of a bird's Icon refers to what model it expects to adhere to. Thus the "Parrot" character is going to want the <P> Parrot Base Songbird ReMix Model. Birds with no icon usually want the Songbird Base.

Scaling and Square Shadows in Poser

All the birds in this package have to scaled proportionally to DAZ 3D's Victoria and Michael models. The smallest of the included birds (such as the Robins) **MAY** render with a Square shadow or improper lighting. This is a bug in Poser. Poser can't figure out how to render a shadow for something really small, so it creates a square shadow. The solution is to put a larger item that casts a normal Poser shadow in the scene (even if it is off camera) and the square shadows will be fixed or BODY scale the bird to a larger size.

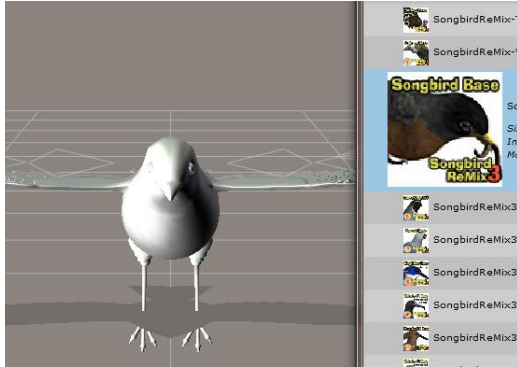


without prop off screen



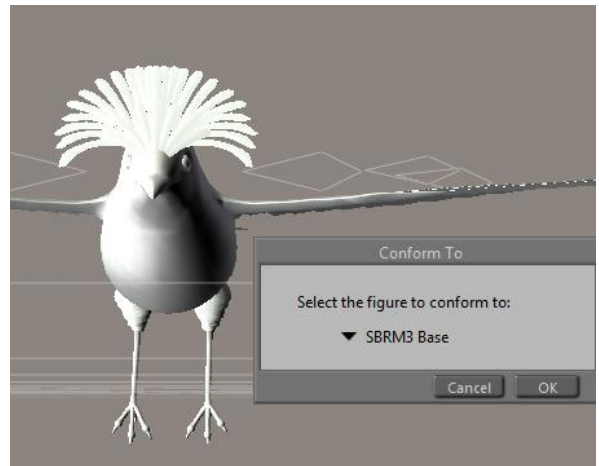
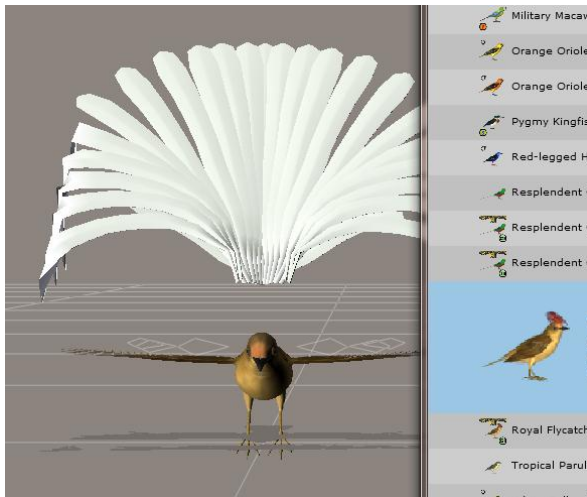
with prop off screen, lights/shadows will properly render

How to build a Songbird ReMix Character with a Conforming Crest in Poser



1. In the Figures section, load a Bird base Model. Then load the appropriate conforming part for the bird you're trying to create.
2. **Conform it** to the bird base model.

3. Select the Base Model and go to **POSES**. Select and apply the appropriate Character/Material pose setting for the bird you're creating.



4. The Conforming part will look wrong. That's okay—we're going to fix that now. Select the conforming part and apply appropriate Character/Material pose for the part.

5. Voila! Your bird is done. Just remember to select the bird base when posing and often there are additional morphs in the conforming part you can use.



Creating a Songbird ReMix Bird with Studio

Here's a step by step to create a bird in DAZ Studio:

1. Choose what you want to load. For this example, we'll create an "American Robin".
2. Load DAZ Studio and in Studio's **Runtime** Folder, select **FIGURES** and the Songbird ReMix folder. Because the "American Robin" uses the basic "Songbird" base model we'll load that.
3. Now, select the Studio **Content** Folder and go to the **Animals : SBRM : !CreateYour Own : Characters** folder and select the appropriate Songbird Remix library. In this case, we'll select the "American Robin" pose and apply it to our loaded Songbird ReMix base model. This pose contains morph and texture settings to turn the generic model into an "American Robin". As explained earlier in the Character Base Section, the Alphabet letter appearing on the base of a bird's Icon refers to what model it expects to adhere to. Thus the "Parrot" character is going to want the **<P>** Parrot Base Songbird ReMix Model. Birds with no icon usually want the Songbird Base,

Known Issues with DAZ|Studio

Propagating Scale Issues

Some versions of DAZ|Studio have problems with the Propagating Scale of the Feet in Songbird ReMix. Unfortunately, the only current solution is to manually scale all the digits on each foot. To determine if manual scaling is needed, look at the SCALE settings on rFoot or lFoot parts in DAZ|Studio. If the amount is more than 100%, then all the digits (rPinky1, rPinky2, rMid1, etc.) will need to be scaled accordingly. The " ! Scale Feet" folder will automatically correct this for you.

All the characters in this product have already been corrected.

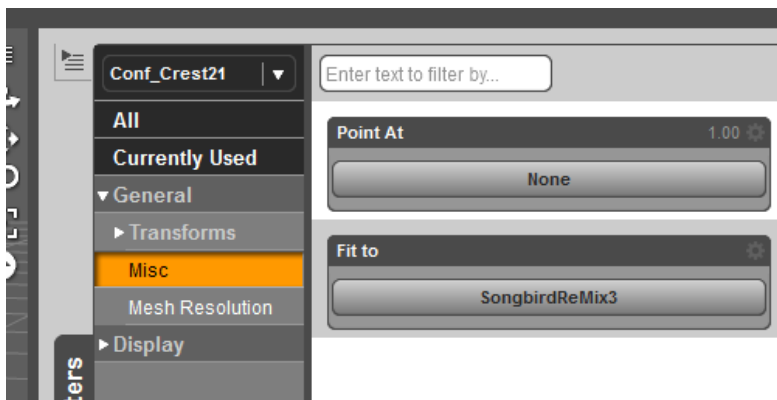
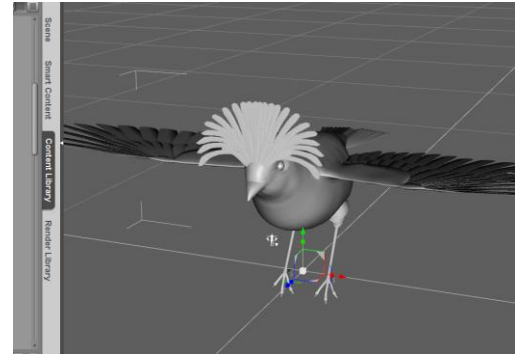
Earlier DAZ Studio versions of this product used Studio's scene files (.daz) to create pre-built birds. Unfortunately the programmers of Studio decided not to support "backwards compatibility" so older pre-built birds saved in .daz may no longer work. It is best to delete the older version of this product.

For more troubleshooting, visit the [Songbird ReMix FAQ](#)

How to build a Songbird ReMix Character with a Conforming Crest in DAZ Studio

In the **Runtime** folder, select **Figures** and load the Songbird ReMix Model and the appropriate Conforming Crest in Studio. Select the Conforming Crest by selecting on the screen or in the **Scene** Tab.

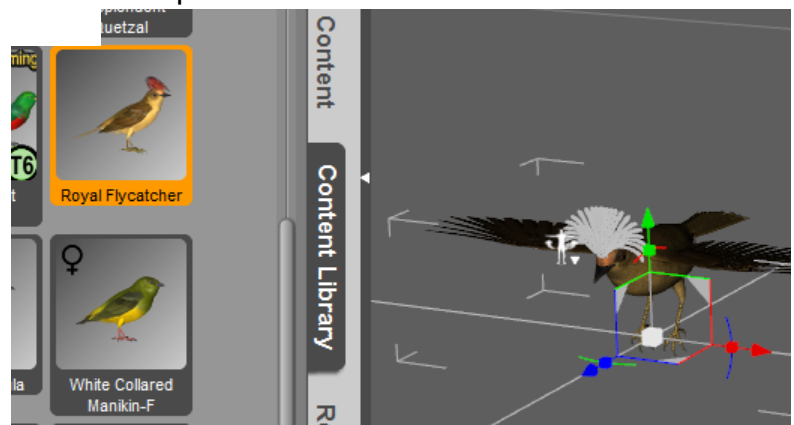
Now, using the "FIT TO" command in the Parameters Tab, Select the Songbird ReMix Model. Go back to the **Scene** Tab and select the Songbird ReMix Model.



Select the Studio **Content** Folder and go to the **Animals : SBRM : !CreateYour Own : Characters** folder and select the appropriate Songbird Remix library. Apply the Character setting to the bird base. It will probably reduce the size significantly and change the shape of the bird.

Now that the bird is sized, select the conforming part and apply the conforming part character settings.

Voila! Your bird is done. Just remember to select the bird base when posing and often there are additional morphs in the conforming part you can use.



Songbird ReMix

TOUCANS

Field Guide

Toucanets

Emerald Toucanet
Guianan Toucanet

Aracaris

Collared Aracari
Fiery-billed Aracari

Toucans

Channel-billed Toucan
Keel-billed Toucan
Plate-billed Mountain Toucan
Toco Toucan

General Information about Toucans

From Wikipedia, the free encyclopedia (edited by Ken Gilliland)

Toucans are *near passerine birds* from the neotropics (Central and northern South America) and are most closely related to American barbets. They are brightly marked and have large, colorful bills. The family includes five genera and about forty different species. The name of this bird group is derived from the French "Tupi tucana".

Species

There are three types of toucan. The largest toucans generally have black feathers, with touches of white, yellow, and scarlet. Aracaris (smaller toucans) under parts are yellow, crossed by one or more black or red bands. The toucanets (smallest of the toucans) have mostly green plumage with blue markings.

Toucans range in size from the 130g Lettered Aracari (*Pteroglossus incriptus*) to the 680g Toco Toucan (*Ramphastos toco*). Their bodies are short and compact and comparable to the size and shape of a crow. The tail is rounded and varies in length, from half the length to the whole length of the body. The neck is very short and thick. The legs of a toucan are short and thick. Their toes are arranged in pairs with the first and fourth toes turned backward (Zygodactyl feet). The majority of toucans do not show any sexual dimorphism (male/female) in their coloration, the genus *Selenidera* being the most notable exception to this rule (hence their common name, "dichromatic toucanets"). The most noticeable difference in the sexes is the bills of female toucans are usually shorter, deeper and sometimes straighter than male bills.

The huge and usually colorful bill of the toucan, in some large species, measures more than half the length of the body. Despite its size, the bill is very light, being composed of bone struts with little solid material between them. The bill has forward-facing serrations resembling teeth, which historically led naturalists to believe that toucans captured fish and were primarily carnivorous. However, today we know that Toucans eat mostly fruit. Why the bill is so large and brightly colored is still unknown. As there is no sexual dimorphism in coloration, it is unlikely to be a sexual signal, and their diet does not require a bill that size. It has been theorized that the bill may intimidate smaller birds, so that the toucan may plunder nests undisturbed. Also, the beak allows the bird to reach deep into tree holes to access food unavailable to other birds, and also to demolish suspended nests built by smaller birds.

A toucan's tongue is long (up to 14-15 cm), narrow, grey, and singularly frayed on each side, adding to its sensitivity as an organ of taste. A structural complexity probably unique to toucans involves the modification of several tail vertebrae. The rear three vertebrae are fused and attached to the spine by a ball-

and-socket joint. Because of this, toucans may snap their tail forwards until it touches the head. This is the posture in which they sleep, often appearing simply as a ball of feathers, with the tip of the tail sticking out over the head.

Behavior

Toucans are primarily frugivorous (fruit-eating), but are will take prey such as insects and small lizards. Captive toucans have been reported to actively hunt insects in their cages, and it is possible to keep toucans on an insect-only diet. They also plunder nests of smaller birds, taking eggs and nestlings. This probably provides a crucial addition of protein to their diet. However, in their range, toucans are the dominant frugivores, and as such play an extremely important ecological role as vectors for seed dispersal of fruiting trees.

Toucans are arboreal and nest in natural cavities or holes excavated by woodpeckers in trees. The toucan bill has very limited use as an excavation tool. Toucans are resident breeders and do not migrate. Toucans are usually found in pairs or small flocks, within which bill fencing and wrestling may occur, probably to establish dominance hierarchies.

Systematic list

- **Genus Aulacorhynchus** - green toucanets (6-13 species, depending on taxonomy)
- **Genus Selenidera** - dichromatic toucanets (6 species)
- **Genus Andigena** - mountain toucans (4 species)
- **Genus Pteroglossus** - aracarís (14 species, incl. Saffron Toucanet)
- **Genus Ramphastos** - typical toucans (about 10 species)

Toucans in Fiction

- Toucan Sam, mascot of “Froot Loops” cereal.
- Tookie Tookie, George's pet Toucan from “George of the Jungle”.
- A humorous derivation of the name of the bird features in David McKee's children's book "Two Can Toucan".
- Señor Tucán, the Spanish-speaking toucan from the American cartoon Dora the Explorer.
- Wulffmorgenthaler comic strip features a character named 'Toucan kid', who is an offspring of a human and a toucan.
- The character Lupe Toucan from “My Gym Partner's a Monkey”.
- The character Poco from the American cartoon Maya and Miguel.
- In The Legend of Zelda: The Wind Waker, the Wizzrobe, a magician-like monster that dates back to the first game for the NES, highly resembles a slightly anthropomorphic toucan, possessing the brightly colored beak, and wing-like sleeves on its robe.

Common Name: Emerald Toucanet
Scientific Name: *Aulacorhynchus prasinus*

Size: 12-14 inches (30-35cm)

Habitat: Central and South America. Found primarily in cloud forests but will venture into adjacent rainforests.



Status: Least Concern. **Global Population:** 50,000 - 499,999 mature individuals.

Diet: Fruits and insects but will also eat lizards, eggs and nestlings of small birds.

Nesting: Sexes alike but males are slightly larger. Mating season is typically March through July. A pair will 'bill-fence' as a courtship ritual; usually after nest preparations have finished. The nest is usually 2-30m above ground in an old woodpecker hole or crevice of tree. Three

to four white eggs are laid. Incubation lasts about 16 days. Both parents incubate the eggs. Chicks hatch naked and blind. Chicks fledge after about 40 days. Parents will still feed them if the young return to the nest to roost, but by day 43 none will return.

Cool Facts: Seen in pairs or small flocks of eight or so. They are very active birds that cover great spans of territory while searching for food in the canopy to mid level of the forest.

Common Name: Guianan Toucanet
Scientific Name: *Selenidera culik*

Size: 12-14 inches (30-35cm)

Habitat: South America. Found in north-western Brazil, French Guiana, Guyana, Suriname, and Venezuela in tropical humid lowland forests.



Status: Least Concern. **Global Population:** Unknown.

Diet: Primarily fruits but also insects and small vertebrates such as frogs and lizards.

Breeding: Sexes alike but female has gray breast as opposed to the male's black breast. Mating season spans from March-June. Nests are generally renovated natural cavities and abandoned woodpecker nests. 2-4 white eggs are laid. Parents share

in incubation tasks which lasts about 16 days. Chicks are fed fruits and insects and fledging occurs around day 40.

Cool Facts: Guianan Toucanets live in small flocks in the tree tops where they eat fruits. Flock size is no more than ten individuals. Toucanets are most commonly seen as a pair. They make a rattling sound and a yelling call.

Common Name: Collared Aracari

Scientific Name: *Pteroglossus torquatus torquatus*

Size: 16 ¾ inches (41 cm)

Habitat: Central and Northern South America. Found in tropical forest and moist forest in lowlands to lower cloud forests; also in second growth areas, riverine areas of dry woodland, coffee and fruit plantations and swamp forests.

Status: Least Concern.

Global Population:
500,000 - 4,999,999
mature individuals.

Diet: Fruits such as pawpaws, guavas, fruits of nutmeg and palm nuts but also takes eggs, nestlings, lizards and insects.

Nesting: Sexes alike but female has darker nape band and shorter bill. Mating season spans from January to August and nests are built in a natural cavities or old woodpecker holes 6-30m from the ground. After renovating the nest cavity, 2-5 eggs are laid. Colony nest helpers may share incubation duties as well as roost in nest. Incubation lasts 16 days. Helpers will assist in feeding and brooding. Insects, fruits and regurgitated foods are fed to the young the first month. Fledging occurs at 44 days but juveniles are led back to the nest at night for a while.



Cool Facts: Frequently seen around forest edges mainly in canopies and mid-levels. Aracarais are usually seen in pairs or small family groups (2-5) or larger flocks (12-15). They are seen busily hopping and maneuvering on branches to reach food items. They will roost together in a woodpecker hole.

Common Name: Fiery-billed Aracari
Scientific Name: *Pteroglossus frantzii*

Size: 17 inches (43 cm)

Habitat: Central America. Found in lowland forests and clearings.

Status: Least Concern. **Global Population:** unknown.

Diet: Primarily fruits but also insects and small vertebrates such as frogs and lizards.

Nesting: Sexes are alike although males are generally larger. The two white eggs are laid in an old woodpecker nest,

6-30 m high in a tree. Both sexes incubate the eggs for about 16 days, and the toucan chicks remain in the nest after hatching. They are blind and naked at birth, and have short bills and specialized pads on their heels to protect them from the rough floor of the nest. They are fed by both parents, assisted by up to three other adults, probably from a previous brood, and fledge after about 6 weeks, with feeding by the adults continuing for several weeks after leaving the nest.

Cool Facts: This species is similar to the closely-related Collared Aracari. It differs from Collared in the orange upper mandible, red belly band, and larger dark breast spot.

The call of the Fiery-billed Aracari is a loud, sharp “pseek” or “keeseek”; similar to that of Collared, but more often two-noted.

Aracaris are unusual for toucans in that they roost socially throughout the year, up to five adults and fledged young of this species sleeping in the same hole with their tails folded over their backs.



Common Name: Channel-billed Toucan

Scientific Name: *Ramphastos vitellinus culminatus*

Size: 19 inches (48.3 cm)

Habitat: South America. Found in lowland forests, often near bodies of water, successional forest, transitional forest and terra firme forest; also in forest openings. In Guiana and Venezuela; gallery forest and tropical wet forests and subtropical forests

Status: Least Concern. **Global**

Population: unknown.

Diet: Fruit as well as insects, small vertebrates and eggs.

Nesting: Sexes alike but female has shorter bill. Immature birds are overall duller, teeth absent. It should be noted that there are several 'subspecies' with slight coloration differences.

Courtship feeding occurs in the beginning of the nesting season which is from March-July. Nest cavities are usually high in a tree in a rotten or hollowed knot-hole, or an abandoned woodpecker hole, and are usually used the next year if successful. Entrance holes are roughly 6x5cm but can be up to 10cm, with a depth of 30-45cm deep and lined with regurgitated seeds by the adults. Both parents roost in the cavity.

2-4 white, elliptical eggs are laid, and incubated for 16-18 days by both parents. Hatchlings eyes won't open for about 15-20 days. Young are fed animal food such as insects and small vertebrates by both parents. At week three, pin feathers appear on young and, after six more weeks, they are well feathered. Fledging generally occurs around day 40.

Cool Facts: Found singly, in pairs, or small flocks of up to 15, visiting fruiting trees. Stays mainly in the canopy and sub canopy but will descend all the way to the ground on occasion for fallen fruits or insects. They stalk vertebrates such as lizards, small birds and their eggs or nestlings and also mob monkeys or predators.



Common Name: Keel-billed Toucan

Scientific Name: *Ramphastos sulfuratus sulfuratus*

Size: 17 - 22 inches (42-55 cm)

Habitat: Central and South America. Found in the lowland forest, rainforest and forest edges.

Status: Least Concern.

Global Population: 50,000 - 499,999 mature individuals.

Diet: Fruits, insects, tree frogs and lizards.

Nesting: Males slightly larger than females. Nesting occurs in tree holes to suit their needs. It is believed that pairs are monogamous and courtship may entail 'bill-fencing'. Two to four eggs are laid and both parents will incubate. Eggs hatch in 16-20 days with both parents also feeding the chicks which fledge after 5-6 weeks. A second or third clutch is possible.



The clutch size is 2-3 white eggs. Incubation lasts about 16 days and fledging occurs at 46-60 days. The young will not return to nest afterwards. Parents may produce a second clutch as early as 20 days after the first clutch fledges.

Cool Facts: The Keel-billed Toucan is the inspiration for Froot Loops' "Toucan Sam".

One of the largest toucans, it can be seen in pairs or small flocks usually at dawn and dusk feeding on fruits, insects, tree frogs and lizards in the canopy or mid-level range. The flocks are very boisterous while feeding and some sparring may occur. They roost in holes in trees created naturally or by woodpeckers; they have been noted to crowd in the same hole. The keel-billed toucan is the national bird of Belize.

Common Name: Plate-billed Mountain Toucan
Scientific Name: *Andigena laminirostris*

Size: 19 ½ - 20 ½ inches (49-52 cm)

Habitat: South America. Found in moss and bromeliad shrouded, humid montane forests, forest edges and shrub edges. This areas average rainfall is 14 feet a year and the average temperatures are 52-77 F.

Status: Near Threatened.
Global Population: unknown.
Habitat loss is a key factor in this Toucan's decline in population.

Diet: Fruits, berries, drupes and dehiscent. This species will hold fruit in place and break it apart to consume. Diet is almost exclusively fruits but some insects and eggs.

Nesting: Sexes alike but female has shorter bill; immature birds have overall duller plumage. Season may last from March-October but generally is from May-August. Nesting occurs in tree cavities. This toucan generally excavates nest holes in palm logs, but has also been known to usurp barbet nests and renovate them to their liking. Nests are built 6-30m from ground. Courtship feeding occurs at the nest. After the cavity is completed, the entrance hole is widened. The clutch is 2-3 white eggs. Incubation lasts about 16 days and fledging occurs at 46-60 days. The young will not return to nest afterwards. Parents may produce a second clutch as early as 20 days after the first clutch fledges.

Cool Facts: Plate-billed Mountain Toucans move about in small groups (3-6 birds) within an established territory. They forage in fruit rich trees and will vigorously defend their area. Seasonal movement occurs in some areas.



Common Name: Toco Toucan
Scientific Name: *Ramphastos toco*

Size: 22 - 26 inches (55-65 cm)

Habitat: South America; the Amazon. Found in the canopy level of forest and also in open forest areas, including plantations and palm groves. Is common around human dwellings.

Status: Least Concern. **Global Population:** unknown.

Diet: Fruits, insects, frogs, lizards and bird eggs.

Nesting: Males slightly larger than females. It nests in tree cavities; high in the canopy. The entrance hole is preferred to be only large enough for a bird to fit through. This cavity may also be used for several years. Bill fencing is thought to be a courtship ritual. Two to four, white eggs are laid. Both parents share in the incubation which lasts 16-20 days. The chicks hatch blind and naked and have specialized heel pads that protect the chicks against the rough texture of the cavity floor. The young are cared for by both parents and fledge at around 6-10 weeks. Additional clutches may follow.

Cool Facts: The Toco is the largest of the Toucans. Found in pairs or small flocks that are quite boisterous as they maneuver through wooded areas searching for trees and other plant materials that bear fruit.



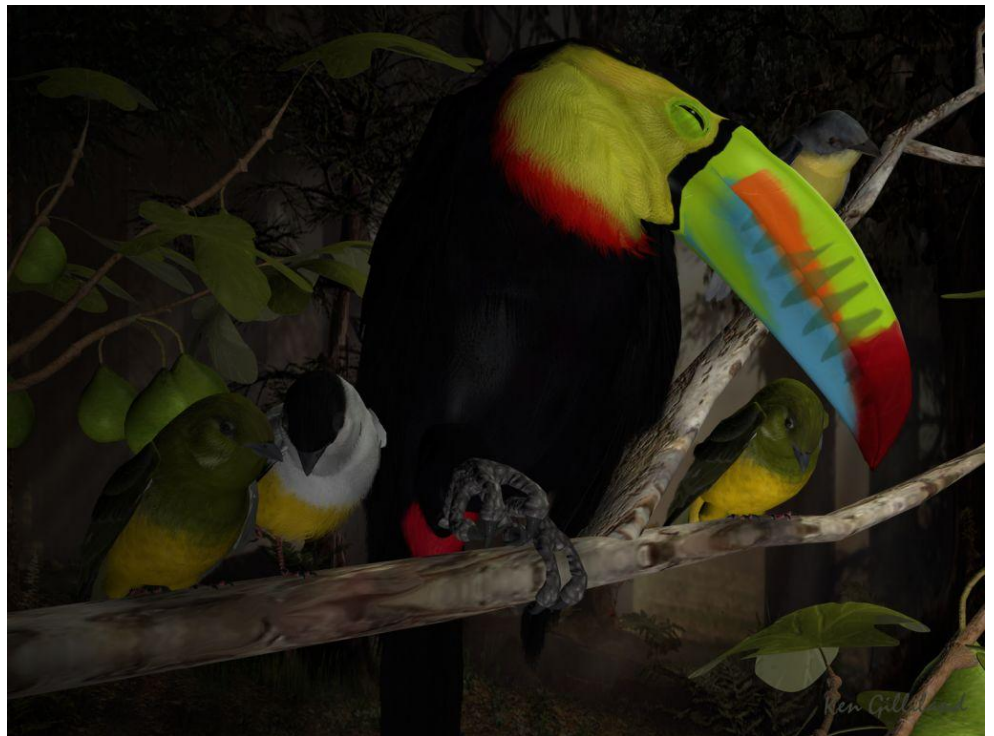
Special Thanks to...

....my beta testers (Bea, Gary, Jan, Kelvin, Nancy, Rhonda and Sandra)

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:

- "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 South America. Non-Passerines: Rheas to Woodpeckers" by Francisco Erize, Jorge R. Rodriguez Mata and Maurice Rumboll

Wikipedia (<http://www.wikipedia.com>)

BirdGuides.com (<http://www.birdguides.com>)

The Nashville Zoo (<http://www.nashvillezoo.org>)

**Shirts, jerseys, sweatshirts,
prints, cards, posters, pillows,
coffee cups, calendars & more**

