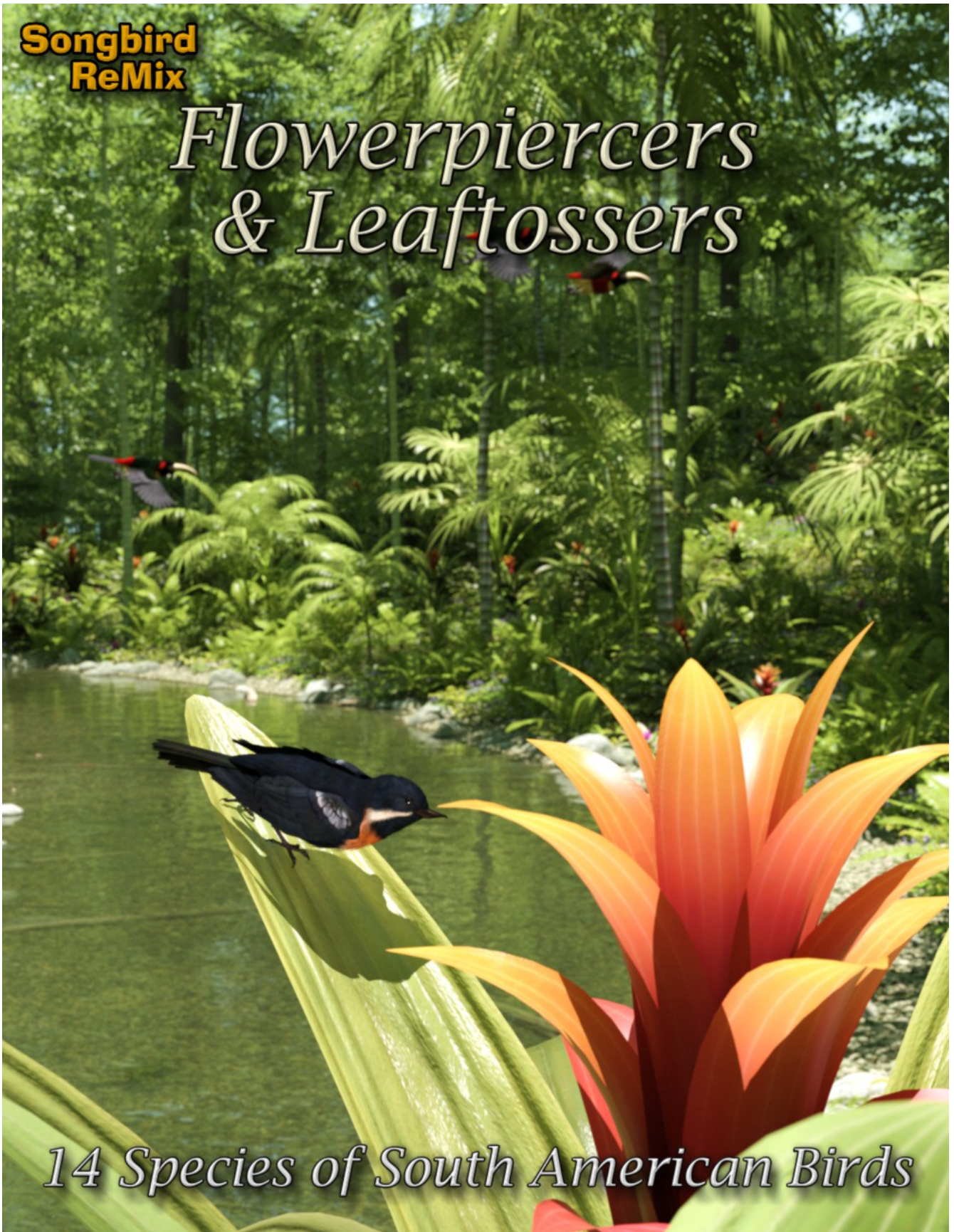


**Songbird
ReMix**

Flowerpiercers & Leaftossers



14 Species of South American Birds

Avian Models for 3D Applications

Characters and Texture Mapping by Ken Gilliland

Songbird ReMix

Flowerpiercers & Leaf tossers

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Songbird ReMix

Flowerpiercers & Leaf-tossers

Introduction

This set includes two distinct types of South American birds whose names are associated with their unusual behaviors, flowerpiercers and leaf-tossers.

Flowerpiercers are from the Thraupidae family. There are eighteen known species distributed through Central and South America (Seven have been selected for this set). They are commonly known as flowerpiercers because of their habit of piercing the base of flowers to access nectar that otherwise would be out of reach. This is done with their highly modified bill, which is typically upswept, with a hook at the tip.

Leaf-tossers are from the Furnariidae (oven-bird) family. Seven species are found in Mexico, Central America and South America. They are known for their foraging mostly on the ground, flipping aside leaves and pecking at leaf litter and rotting logs, hopping rather than walking.

There are two versions of this set for native support in Poser and DAZ Studio. Materials have been tuned to support Iray, 3Delight, Superfly and Firefly renderers.

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):
 - **Perching Birds (Order Passeriformes)**
 - **Antbirds, Antpittas & their Allies**
 - **Thrushes, Oxpeckers & their Allies**
- **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".

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*)

- **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.
- **Tongue poke-through** (especially when the beak is open). This can be easily solved by using the **Throat-Fuller1 & 2** morphs (*found in Creation Control/Head Shapes*).

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. I usually just remove IK when working in DAZ Studio by selecting the character in the **Scene tab** and simply deleting the two IK body parts.

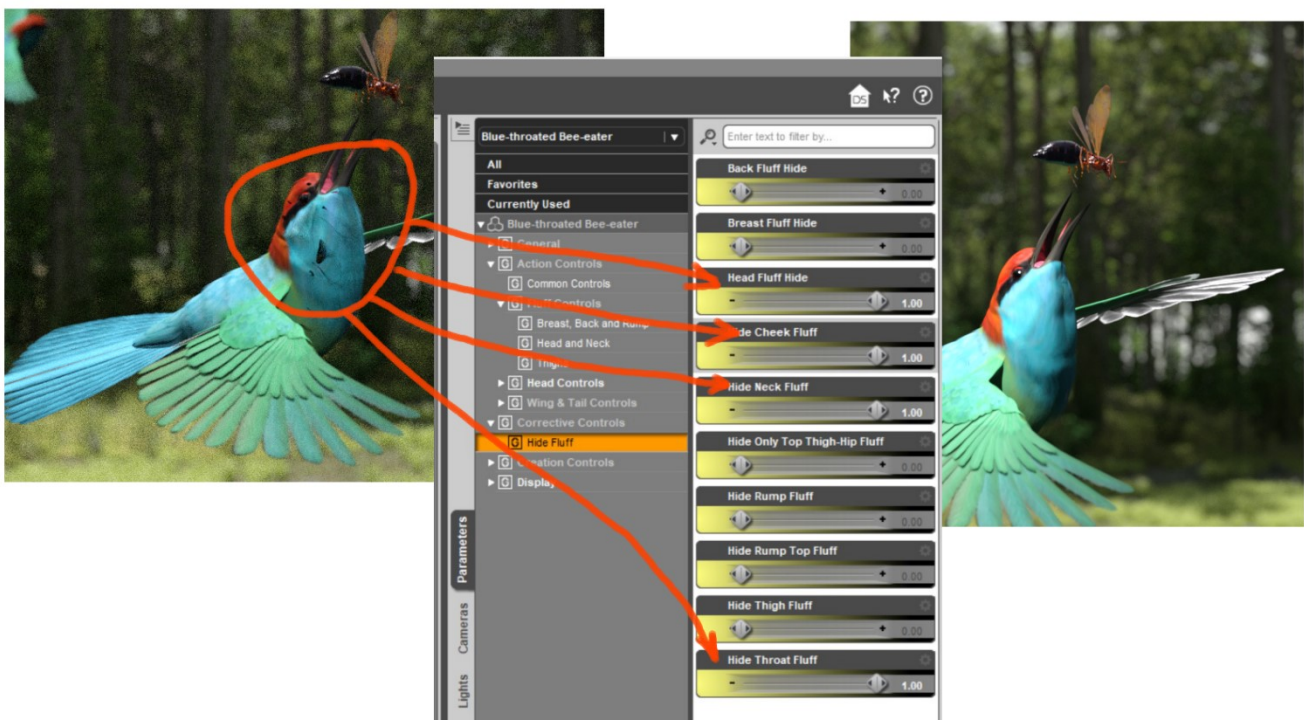
If you want to use IK in DAZ Studio, here’s how it works...

1. First, go to the Scene Tab, and select the “**IK-...: Left (or Right) Leg**”.
2. On the “Parameters” Tab, select “Inverse Kinematics”.
3. Turn off “Pin Translation” and “Pin Rotation” to pose the feet to a perch and then “ON” when posing the rest of the bird.

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. The higher the bounce settings, less chance those will be apparent. This is a known Poser issue and may be addressed in the future. Increasing the SubD may minimize this issue.

A good work around solution for Iray or Superfly artifacts is to **HIDE Fluff areas (Correction Controls)**.



Where to find your birds

Type Folder	Bird Species
<input type="checkbox"/> Perching Birds (Order Passeriformes) <input type="checkbox"/> Cardinals, Tanagers & their Allies	Chestnut-bellied Flowerpiercer Moustached Flowerpiercer Gray-bellied Flowerpiercer Venezuelan Flowerpiercer Greater Flowerpiercer Indigo Flowerpiercer Masked Flowerpiercer
<input type="checkbox"/> Perching Birds (Order Passeriformes) <input type="checkbox"/> Antbirds, Antpittas & their Allies	Tawny-throated Leaf Tosser South American Leaf Tosser Short-billed Leaf Tosser Scaly-throated Leaf Tosser Black-tailed Leaf Tosser Gray-throated Leaf Tosser Rufous-breasted Leaf Tosser

Where to find your poses

Type Folder	For what species?
<input type="checkbox"/> Perching Birds (Order Passeriformes) <input type="checkbox"/> ! Universal Poses	All Flowerpiercers All Leaf tossers
<input type="checkbox"/> Perching Birds (Order Passeriformes) <input type="checkbox"/> Cardinals, Tanagers & their Allies	All Flowerpiercers
<input type="checkbox"/> Perching Birds (Order Passeriformes) <input type="checkbox"/> Antbirds, Antpittas & their Allies	All Leaf tossers

Songbird ReMix

Flowerpiercers & Leaftossers

FIELD GUIDE

Flowerpiercers

Chestnut-bellied Flowerpiercer
Moustached Flowerpiercer
Gray-bellied Flowerpiercer
Venezuelan Flowerpiercer
Greater Flowerpiercer
Indigo Flowerpiercer
Masked Flowerpiercer

Leaftossers

Tawny-throated Leaftosser
South American Leaftosser
Short-billed Leaftosser
Scaly-throated Leaftosser
Black-tailed Leaftosser
Gray-throated Leaftosser
Rufous-breasted Leaftosser

Common Name: Chestnut-bellied Flowerpiercer
Scientific Name: *Diglossa gloriosissima*

Size: 5.5-5.9 inches (14-15 cm)

Habitat: South America; found in a very restricted distribution, found only on a few páramos in the Western Andes of Colombia.

It is restricted to the near tree-line in humid and wet montane scrub and elfin forest. It ranges only a short distance above or below this tree-line ecotone and probably tolerates some amount of habitat degradation. It generally occurs at 3000–3750 m elevations.

Status: Near Threatened. **Global population:** 1,800-9,999 mature individuals with an decreasing population trend.



Diet: Omnivorous; presumably nectar and insects.

Breeding: It is a medium-sized, chestnut-bellied flowerpiercer with bill somewhat upturned and strongly hooked at tip. The adult is lustrous black above and below, with the lesser and median upper-wing coverts silvery blue (forming small, triangular-shaped shoulder patches). The upper-tail coverts are lustrous black, suffused with slate gray (usually concealed and barely discernible). The middle of the breast, belly, and under-tail coverts are a rich rufous chestnut; the sides indistinctly mottled with black. The sexes are similar.

Evidence of breeding, such as females in breeding condition and nests, have been reported in February and in August, but no further details

Cool Facts: There are two subspecies:

- *D. g. gloriosissima*. First reported by Chapman in 1912. The nominate species occurs with certainty at the southern end of the Western Andes of Colombia, west of Popayán, Cauca.
- *D. g. boylei*. First reported by Graves in 1990. It is endemic from Páramo Frontino and Cerro Paramillo, in the northern portion of the Western Andes of Colombia, in Antioquia; subspecific identification of populations farther south, to Risaralda and southeastern Chocó, has not been evaluated. Its appearance is similar to the nominate, but the rump and upper-tail coverts are slightly more contrasting dark gray to bluish gray, and the sides are cleaner rufous chestnut.

Common Name: Moustached Flowerpiercer
Scientific Name: *Diglossa mystacalis*

Size: 5.7 inches (14.5 cm)

Habitat: South America; It ranges over the east slope of the Andes from northern Peru to northwest Bolivia.

It prefers stunted, humid montane woodland, low cloudforest, elfin forest, and patches of woody shrubs and *Polylepis* in lower páramo. It can also be found in drier scrubby woodland in the southern part of its range. At elevations of 2400–3700 m it can be found in Peru), and is most numerous near tree-line.

Status: Least Concern. **Global population:** Unknown mature individuals with a stable population trend. It is considered uncommon to fairly common. It occurs in a few protected areas, among them the Machu Picchu Historical Sanctuary, Manu National Park and probably Huascarán National Park (Peru) and Madidi National Park (Bolivia). This species' range includes extensive unprotected, tree-line habitat that is under constant pressure from firewood-cutting and burning, and is at risk locally.



Diet: Omnivorous; nectar from a wide variety of flowers and insects.

Usually seen singly and often with mixed-species flocks containing small tyrant-flycatchers, other tanagers and New World warblers. It forages at middle levels or higher by moving in and out of dense foliage, disappearing and then reappearing.

Breeding: A fairly large flowerpiercer with distinctive throat pattern. Its bill is proportionately longer, straighter and less clearly hooked than that of smaller members of genus. The nominate species is mainly glossy black, with rufous moustache. It has a small pale blue shoulder patch and rufous-tinged under-tail coverts. The upper-wing coverts are slightly glossed and its flight-feathers and tail are dull black to blackish. Its iris is dark brown and the bill black. The legs are dark gray. The sexes are similar. The juvenile is mainly dark brown above, with its fore-crown, side of the head and upper-wing coverts a dusky brown. The throat is dusky, with irregular white moustache. The center of the chest and breast are streaked dark brown, the sides and flanks dark brown, the central lower under-parts and under-tail coverts are a buffy rufous. The basal half of the lower mandible is a dull pinkish-yellow. With the immature (all races) are similar to adult, but duller while the sub-adult is somewhat streaky, with white on breast.

Fledglings in August in northern Peru (Amazonas) and juveniles and immatures seen throughout year in both Peru and Bolivia.

Cool Facts: There are four subspecies; the races differ mainly in pattern of markings on throat and chest.

- *D. m. mystacalis*. First reported by Lafresnaye in 1846. It is endemic to Bolivia (La Paz, Cochabamba and western Santa Cruz).
- *D. m. albilinea*. It is endemic to southeastern Peru (Ayacucho, Cuzco and Puno). It is similar to nominate, but with its moustache white (sometimes stained buff distally) and having a rufous vent and under-tail coverts.
- *D. m. uncinata*. It is endemic to northern Peru on the eastern Andean slope from southern Amazonas and La Libertad southward to Huánuco (west and north of the Huallaga River), also locally on western slope of eastern cordillera in Marañón Valley. It has prominent white moustache extending as a broad rufous arc across the chest, has its vent and under-tail coverts colored strongly rufous
- *D. m. pectoralis*. It is endemic to central Peru on the eastern Andean slope from central Huánuco (east of the Huallaga River) south to Pasco and Junín. It is similar to Race *uncinata*, but the lower part of the pectoral band is white, and it lacks the pale shoulder patch.

Common Name: Gray-bellied Flowerpiercer
Scientific Name: *Diglossa carbonaria*

Size: 5.1 inches (13 cm)

Habitat: South America; it is endemic to western Bolivia.

It is found in dry montane scrub, patches of scrubby woodland at tree-line, and settled areas with hedgerows, gardens and brush; less often in light woodland in semi-humid and humid regions.

Status: Least Concern. **Global population:** Unknown mature individuals with a stable population trend. It occurs in a few protected areas, including Tunari National Park and probably also in Madidi, Carrasco and Amboró National Parks. Within its range extensive habitat alteration has resulted from firewood-cutting, burning, grazing and agriculture, but the species adapts well to these altered environments and is unlikely to face any serious threats in the short term.



Diet: Omnivorous; nectar from a wide variety of flowers and insects.

It occurs in pairs when breeding, mainly singly at other times. Territorial and aggressive in defending small patches of flowers. Highly active and nervous in behavior, and may remain largely hidden, or appear only momentarily, as it works quickly through denser vegetation.

Breeding: It is a medium-sized flowerpiercer with gray, black and rufous plumage, slender and somewhat upturned bill with prominent hook at tip. Its head, throat and most of upper-parts are black. Its dark gray rump contrasts only slightly with rest of the upper-parts (and is often hidden). The marginal

and lesser upper-wing coverts are light gray (forming small triangular patch on the shoulder), a variable number of scapulars sometimes pale gray, while the rest of upper-wing is black. The tail is also black. The breast, belly, sides and flanks are gray, and the upper breast somewhat mottled and streaked with black. The under-tail coverts are rufous. The iris is dark brown, the bill is black, with the basal half of lower mandible being pale gray. The legs are a dusky gray. The sexes are similar. The juvenile is somewhat streaked, with the upper-parts being a dark greyish-brown. The under-parts are similar but paler and with obscure dusky to buff streaking. The sides are grayish-brown and somewhat streaked brown, the belly is buff, and the under-tail coverts are a dull rufous. The immature is dark brown above with hint of dark olive streaking, two faint wingbars, edges of inner flight-feathers and tertials buffy brown, gray below, becoming buff on belly, most of underside from the throat to belly variably streaked dusk.

Fledglings appear in December–July and juveniles and immatures in March–July and December.

Cool Facts: The Gray-bellied Flowerpiercer has a song which is a rapid, complex jumble of high-pitched notes, lasting about 3 seconds and repeated every few seconds during peak bouts. It sounds like “*peeza-peeza-seetza’sizza-peeza’teez-teez’za-te-za-te-t-t*”, trailing off and ending inconclusively in a series of perceptibly slower, single notes.

Common Name: Venezuelan Flowerpiercer
Scientific Name: *Diglossa venezuelensis*

Size: 5 inches (12.7 cm)

Habitat: South America; endemic to northeastern Venezuela: Cordillera de Caripe, in northern Sucre (from the eastern slope of Cerro Peonía eastward to Cerro Turumiquire, on Monagas border); also on the slopes of Cerro Negro (on Sucre–Monagas border), and Cerro Humo (Paria Peninsula).

It prefers the borders of humid montane forest, also young to older second growth and shrubby and bushy areas adjacent to forests.

Status: **Endangered.** **Global population:** 670-11,000 mature individuals with a declining population trend. It is known only from a small number of localities in Turimiquire Massif and Paria Peninsula in extreme northeastern Venezuela. A fairly large number of specimens were taken from Cerro Turimiquire as recently as 1963, but the number of sightings since that time is small. Recent sightings (post-2000), involving only a handful of birds, come from only three localities: Quiriquire ("Piedra 'e Mole") in Serranía de Turimiquire, Cerro Negro in Cordillera de Caripe and Cerro Humo in Paria Peninsula. Known to occur in Paria Peninsula and El Guácharo National Parks. However, legal



enforcement and management are lacking in both parks; for example, in Paria Peninsula, there are only two or three park guards, no vehicles or boats, a minimal budget and little political support. Widespread deforestation for agriculture and cattle pastures evident in Cordillera de Caripe, and extensive forest damage taking place even in El Guácharo National Park. Most of Cerro Negro (within park boundaries) now completely denuded or devoted to shade coffee plantations. In Serranía de Turimiquire, deforestation for coffee, bananas, mango and citrus is occurring, although considerable intact forest

still present; largest remaining forest block (Piedra 'e Mole') measures 80 km². Cerro Humo faces similar forest degradation and uncontrolled burning. Use of home-made shotguns by adult hunters and catapults by children is widespread and common in Paria Peninsula. Extent to which this species is able to survive in areas of regrowth vegetation or in coffee plantations, which increasingly threaten to overwhelm almost all of the native forest remaining in its range, is not known. Other members of its genus tend to thrive, or at least survive, in cultivated areas and gardens with flowers, even in settled areas, but that seems not to be the case with present species and an assessment of its habitat requirements is needed urgently. A recent paved road from Güiria to tip of Paria Peninsula (at Macuro) will almost certainly lead to loss of habitat as human settlement follows. A proposed gas pipeline over Paria Peninsula, running from gas fields on N shore to cryogenics facilities on S shore, represents an additional serious threat. Considered Endangered at the national level in Venezuela

Diet: Omnivorous; nectar from a wide variety of flowers and insects.

It is found singly and in pairs that forage mostly independently of mixed-species flocks.

Breeding: This species is sexually dimorphic. A small flowerpiercer with slender and slightly recurved bill, lower mandible more obviously upturned than upper mandible, upper mandible with sharp hook at tip. The male has plumage is entirely dull black, except for white pectoral tuft and white wing-linings (pectoral tuft almost always visible when bird flicks wings; white on under-wing best seen as bird flies). Its iris is dark brown, its bill dark and its legs gray. The female has its head a dark yellowish-olive, the upper-parts dark brownish-olive, and its throat and upper chest dull yellowish-olive (paler than crown). This shading to plain dull grayish-olive to brownish-olive on rest of its under-parts, as well as the white pectoral tuft and white wing-linings as on male. The juvenile and sub-adult male look much like female.

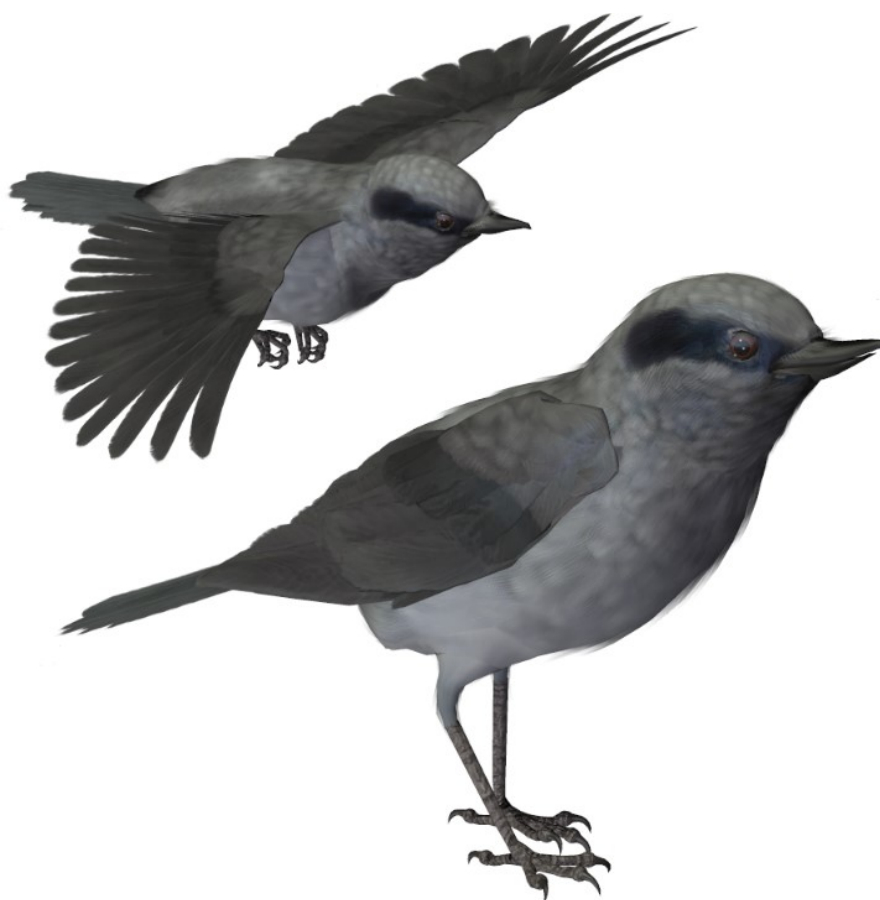
Cool Facts: Its song is a complex but somewhat repetitive series of soft, low-pitched notes uttered rapidly, the entire series lasting up to 25 seconds, chattery and rising and falling in pitch several times.

Common Name: Greater Flowerpiercer
Scientific Name: *Diglossa major*

Size: 6.7 inches (17 cm)

Habitat: South America; endemic to the Pantepui region of southeastern Venezuela, adjacent Guyana, and northernmost Brazil.

Its natural habitat is montane forests, scrub, and low woodland in open areas in the tepuis.



Status: Least Concern. **Global population:** Unknown mature individuals with a decreasing population trend. The Greater Flowerpiercer to have a "high" degree of sensitivity to human disturbance relative to other Neotropical birds. Currently, there are not many human settlements within its distribution. Although human activities such as grassland burning, unregulated gold and diamond mining, long distance power lines, and road building occur in the region, they have not yet directly affected the Greater Flowerpiercer populations.

Diet: Omnivorous; nectar from a wide variety of flowers and insects.

The species can be found alone, in pairs, or occasionally in small, mixed species flocks of tanagers, thrushes, and warblers.

Breeding: It has a thick, hooked bill and is mainly a dark blue gray with bright blue streaks. This thin, long-tailed bird also has a distinctive black mask, silver submoustachial stripe, and chestnut under-tail coverts. Both male and female Greater Flowerpiercers are similar in appearance. Juveniles are generally duller and more brown in color.

Nests are open cups made of sticks and grasses, placed 18-36 cm (6-12 ft) above the ground, "among rocks, usually under an overhanging shelf".

Cool Facts: The Greater Flowerpiercer is the largest of all known flowerpiercers.

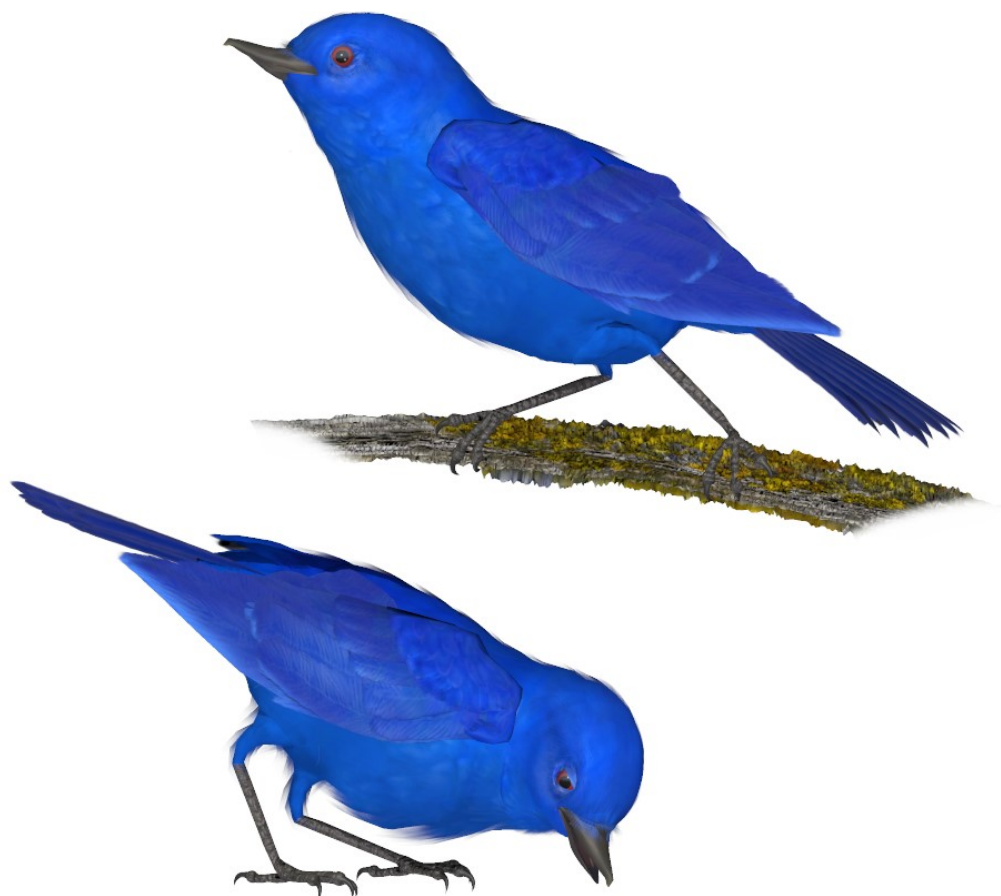
There are four subspecies and races differ in plumage pattern on the head and nape.

- *D. m. major*. First reported by Cabanis in 1849. The nominate race is found in the mountains of south eastern Venezuela and northern Brazil, specifically, the Uei-tepui in Roraima.
- *D. m. gilliardi*. First reported by Chapman in 1939. This race is found in Auyán-tepui (southeastern Bolívar), in southeastern Venezuela. It is darker and more glossed than the nominate, with a weakly defined submoustachial stripe, extensively black ear coverts, pale blue edged flight feathers, bluer below, and with more obvious blue streaks.
- *D. m. disjuncta*. First reported by Zimmer and Phelps in 1940. This race is found in tepuis on the western side of Gran Sabana (including Ptari-tepui, Sororopán-tepui, Uaipán-tepui, Aprada-tepui, and Acopán-tepui), in southeastern Venezuela. It is similar to race *gilliardi* but with less streaking, paler and less blue under-parts, and deep chestnut under-tail coverts.
- *D. m. chimantae*. First reported by Phelps and Phelps in 1947. This race is restricted to Chimantá-tepui in Bolívar, and southeastern Venezuela. It is a bit darker than the nominate, with deep chestnut under-tail coverts, and is gray below.

Common Name: Indigo Flowerpiercer
Scientific Name: *Diglossa indigotica*

Size: 4.3 inches (11 cm)

Habitat: South America; it has a relatively small range in western Colombia and northwest Ecuador. This range is from the northern end of the central Andes and Pacific slope of the western Andes from Risaralda (Cerro Tatamá), in Colombia, southward to northwestern Ecuador (Pichincha).



Status: Least Concern. **Global population:** Unknown mature individuals with a declining population trend. It is fairly common in Colombia, but rare in Ecuador. It occurs in Farallones de Cali and Munchique National Parks, the protected watershed of upper Anchicayá River hydropower dam, Tambito Nature Reserve and probably also Tatamá National Park (in Colombia) and may occur also in one or more private reserves in extreme southwestern Colombia (Pangan Reserve and Río Nambí Community Nature Reserve). Much of the species' small range is rapidly being deforested or damaged through a combination of agriculture, mining, logging and increased human settlement. Reasons for its extreme scarcity in Ecuador, despite some apparently suitable habitat, are unknown. It is being considered for relisting as Near-threatened or even Vulnerable.

Diet: Omnivorous; nectar from a wide variety of flowers and insects. It has been observed to puncture small tubular flower corollas for nectar, but more often seen as it peers and gleans for small arthropod prey and berries on branches covered with epiphytes and moss.

It occurs singly or in pairs, and persistently with mixed-species flocks containing Tangara and Chlorochrysa tanagers. It appears hyperactive, constantly fidgeting, wing-flicking and flitting along mossy branches and among tangles of vines, bromeliads and other epiphytes. Its behavior is more of that of a new world warbler than a flowerpiercer.

Breeding: Sexes are alike in plumage. It is a very small, short-tailed flowerpiercer with short bill upturned (especially lower mandible), upper mandible hooked at tip. Its lores, narrow ocular area and chin black, otherwise bright shining indigo-blue above and below; tail dusky, feathers edged bright blue; lesser upper-wing-coverts are indigo-blue, median and greater coverts dusky, heavily edged indigo-blue, flight-feathers blackish, narrowly edged bright blue, tertials more broadly edged turquoise-blue. Its iris is fire-red and the bill and legs black.

Cool Facts: As befits its name, the Indigo Flowerpiercer has a brilliant ultramarine plumage, relieved only by the blackish flight feathers and a narrow black eye-ring and lores, whilst the irides are deep red, and brighter than those of any other *Diglossa* species.

Common Name: Masked Flowerpiercer
Scientific Name: *Diglossa cyanea*

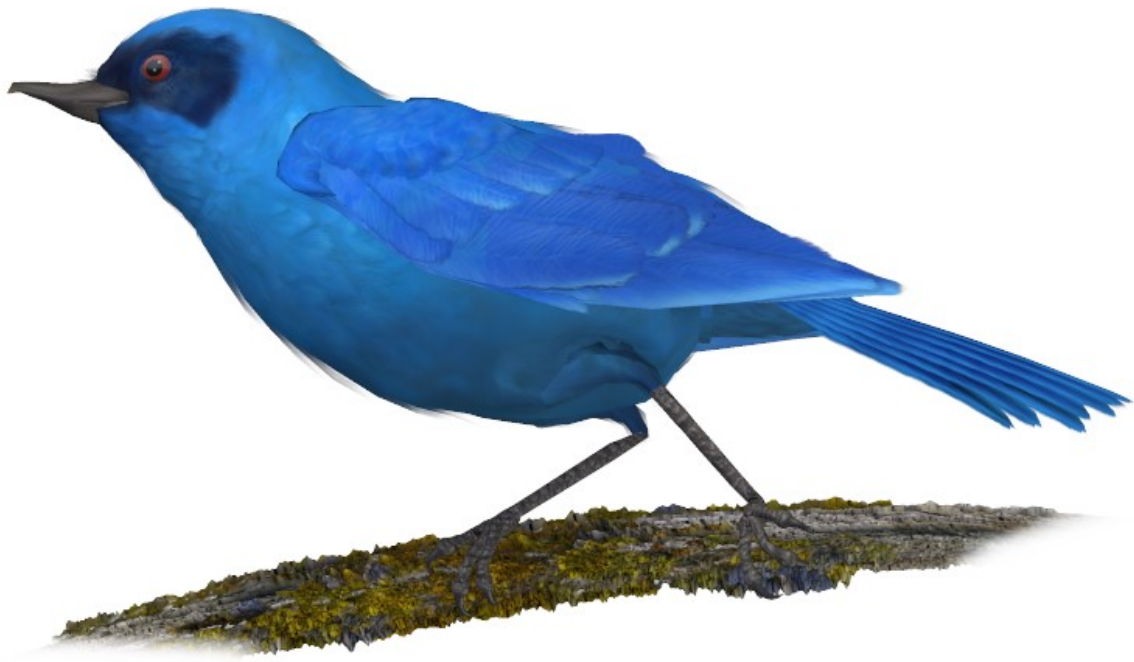
Size: 5.3-5.9 inches (13.5-15 cm)

Habitat: South America; It ranges from the coastal mountains of northern Venezuela south to northern Bolivia, principally at elevations above 2000 m.

Status: Least Concern. **Global population:** Unknown mature individuals with a stable population trend. The Masked Flowerpiercer is reported as having medium sensitivity to human disturbance compared to other Neotropical birds.

Diet: Omnivorous; nectar from a wide variety of flowers and insects.

It is a sociable species, often being found in monospecific groups, sometimes up to 30 strong, but also within mixed-species flocks, such as with other flowerpiercers, tanagers, warblers, and others.



Breeding: It is known for its distinctive black "mask" covering the forecrown, lores, chin, and ear coverts. The bill is upturned and hooked. The body plumage is mostly dark blue, while the wing (coverts, remiges, tertials) and tail are black with dark blue edges. Adult females are similar in appearance to males but generally duller in plumage, with paler blue plumage above and slightly grayer plumage below. Juveniles are a dull grayish blue.

The nest is an open cup of moss, grass, and plant fibers, lined with feathers. The eggs are pale greenish blue, densely spotted with brown. Fledglings have been recorded in Venezuela and Colombia in the months of December, March, and April, and in Peru and Bolivia in the months of March, May, July, and December.

Cool Facts: There are four subspecies; These subspecies differ mainly in plumage color intensity.

- *D. c. cyanea*. First reported by Lafresnaye in 1840. The nominate is endemic to the Andes of Venezuela (South from Trujillo) and all three ranges in Colombia and Andes of Ecuador (except far southwest).
- *D. c. towarensis*. First reported by Zimmer and Phelps in 1952. It is endemic to the coastal cordillera of northern Venezuela (in Aragua and Distrito Federal). Its plumage is less violaceous than the nominate race. . It appears more similar to race *dispar*, but with a more restricted mask around the chin and forehead
- *D. c. obscura*. First reported by Phelps and Phelps in 1952. It is endemic to Sierra de Perijá, in western Venezuela. It is darker blue than the nominate.
- *D. c. dispar*. First reported by Zimmer in 1941. It is endemic to the Andes of southwestern Ecuador and northwestern Peru. It has a more greenish tinge to its plumage compared to the nominate race.

Common Name: Tawny-throated Leaf Tosser
Scientific Name: *Sclerurus mexicanus*

Size: 5.9-6.7 inches (15–17cm)

Habitat: Central America; found from northeastern Hidalgo, Mexico to Honduras. There is a subspecies which is endemic to Costa Rica. Populations are largely restricted to montane tropical forest and to lowland rainforest. Montane populations range throughout the Central American cordillera. The species is considered a resident throughout its range.



Status: Least Concern. **Global population:** 500,000-4,999,999 mature individuals with a declining population trend. They are generally scarce and patchily distributed throughout their range. Initial studies show that forest fragmentation and selective logging can be detrimental to Tawny-throated Leaf Tosser populations and can result in their local extinction. Degradation of habitat has also been suggested as being detrimental to Tawny-throated Leaf Tosser populations, as the species is often less abundant in disturbed or secondary habitats.

Diet: Mainly invertebrates; including beetles, ants, roaches, other insects, and arachnids.

It is a relatively secretive terrestrial bird that spends most of its time on the ground pecking at organic matter, leaf litter, and rotting logs. They do not walk, instead hopping as they keep their tails pressed to their foraging substrate. They forage alone or in pairs by walking on the forest floor and searching the leaf litter for invertebrates. It has also been noted to peck into decaying wood

for grubs in addition to tossing and pulling on leaves to reveal invertebrate prey.

Breeding: A medium-sized, slightly round, short-tailed, and mainly brown bird. Its rufous-colored throat, breast, and rump contrast with its overall brownish body. It has a long, slender, slightly decurved bill. Juveniles are duller than adults with paler streaks on breast feathers. Sexes look alike, although females are slightly smaller.

The breeding season occurs between December and April in Costa Rica. They nest in a burrow in the ground. The burrow is about 50 cm long, and ends in a nest chamber with a diameter of ca 10 cm. The nest itself is a loose cup of dry twigs. The egg clutch is usually two white and unmarked eggs.

Cool Facts: This bird is also referred to as the “Middle American Leaf Tosser”. The English name for genus, "leaf tosser", derives from their habit of picking up leaf litter from the forest floor and 'tossing' it aside to reveal hidden invertebrates. There are two recognized subspecies:

- *S. m. mexicanus*. First reported by Sclater in 1856. The nominate subspecies, also known as the Mexican Leaf Tosser, occurs from southeast Mexico (Veracruz and Chiapas) to Honduras. It is a generally rufous or chestnut brown funariidae with a distinctively tawny throat
- *S. m. pullus*. First reported by Bangs in 1902. The Costa Rican Leaf Tosser is restricted to Costa Rica and western Panama to Tacarcuna mountain. It differs from the nominate in being browner overall with a redder rump and paler throat.

Common Name: South American Leaf-tosser

Scientific Name: *Sclerurus obscurior*

Size: 5.9-6.7 inches (15–17cm)

Habitat: South America; it is found in Venezuela south through São Paulo, Brazil. Populations are largely restricted to montane tropical forest and to lowland rainforest. Montane populations range throughout the Venezuela south to the northern Andes as well as on the slopes of tepuis in the Guianan Shield. Lowland populations inhabit the Chocó forests of Ecuador and Colombia, the western and northern Amazonian basin in Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, and Venezuela, and the Atlantic forest of eastern Brazil.

Throughout its latitudinal and elevational distribution, the South American Leaf-tosser prefers moist, tropical evergreen forests.



Status: Least Concern. **Global population:** 500,000-4,999,999 mature individuals with a declining population trend. The isolation and fragmentation of Río Palenque in western Ecuador led to the apparent extinction of the South American Leaf-tossers within the preserve despite the preservation of intact lowland forest.

Diet: Mainly invertebrates; including beetles, ants, roaches, other insects, and arachnids.

It is a relatively secretive terrestrial bird that spends most of its time on the ground pecking at organic matter, leaf litter, and rotting logs. They do not walk, instead hopping as they keep their tails pressed to their foraging substrate. They forage alone or in pairs by walking on the forest floor and searching the leaf litter for invertebrates. It has also been noted to peck into decaying wood

for grubs in addition to tossing and pulling on leaves to reveal invertebrate prey.

Breeding: A medium-sized, slightly round, short-tailed, and mainly brown bird. Its rufous-colored throat, breast, and rump contrast with its overall brownish body. It has a long, slender, slightly decurved bill. The mandible usually is bicolored, with a paler base and a darker tip; the base varies in paleness from dark gray to light horn, and the tip is usually comparable to the color of the maxilla. Juveniles are duller than adults with paler streaks on breast feathers. Sexes look alike, although females are slightly smaller.

The breeding season occurs between December and April in Costa Rica. They nest in a burrow in the ground. The burrow is about 50 cm long, and ends in a nest chamber with a diameter of 10 cm; the nest itself is a loose cup of dry twigs. The egg clutch is usually two white and unmarked eggs.

Cool Facts: This bird was originally considered a subspecies of the Tawny-throated Leaf-tosser (*Sclerurus mexicanus*) but have since then been split by location with all Central American birds being part of the Tawny-throated Leaf-tosser family and all southern subspecies moved to the “South American Leaf-tosser family”. There are five subspecies:

- *S. o. andinus*. First reported by Chapman in 1914. It occurs from eastern Panama and northern Colombia to west Guyana. The Andean Leaf-tosser is pale brown overall but is brighter (i.e., more rufous-brown) towards the rump.
- *S. o. obscurior*. First reported by Hartert in 1901. The nominate subspecies occurs in the western Andes of Colombia and west Ecuador. It is aptly named, being duskier and darker overall than other subspecies. It lacks the contrast often observed in other populations and gives the impression of a darker version of them all.
- *S. o. peruvianus*. First reported by Chubb in 1919. It occurs in the west Amazon basin. It lacks the bright rump present in other populations, the upper-parts are generally monochromatic.
- *S. o. macconnelli*. First reported by Chubb in 1919. It occurs in the Guianas and northern Brazil. It is similar to race *peruvianus*, but with a much more intensely tawny throat and a more olivaceous color throughout.
- *S. o. bahiae*. First reported by Chubb in 1919. It occurs in east Brazil. It differs in possessing a much brighter rump that contrasts with the back, and more dark brown tones in the back and body with a darker throat than race *macconnelli*.

Common Name: Short-billed Leaf-tosser
Scientific Name: *Sclerurus rufularis*

Size: 5.9-6.2 inches (15-16 cm)

Habitat: South America; endemic to the Amazon Basin.

It prefers open woodland with a grassy under-storey. It apparently avoids closed forests.

Status: Least Concern. **Global population:** Unknown amount of mature individuals with a declining population trend. It is considered rare to locally uncommon. It is fairly common in southern Venezuela though its distribution is patchy. It occurs in numerous protected areas. It isn't found in fragmented or selectively logged forests.



Diet: Invertebrates; mostly alate termites.

It is usually solitary. It is terrestrial; hops on ground, does not walk. It gleans items from ground and leaf litter, tossing up litter to expose prey.

Breeding: Sexes are alike in plumage but the male is slightly larger. The nominate race has its face dark brownish and faintly grizzled. Its crown is dark brown with reddish tones, very faint darker feather margins. The back is dark reddish-brown, blending to dark chestnut-brown rump and even darker upper-tail coverts. The wings are nearly uniform dark reddish-brown and the tail is rounded, broad, shafts of rectrices stiffened, tips sometimes lacking barbs for distal 1–2 mm, sooty blackish with faint reddish-brown margins. The throat and malar area are dull orange-rufous, blending to more richly and deeply colored upper breast with faint, narrow paler shaft streaking. The breast becomes darker, less chestnut posteriorly, blending to rich reddish-brown belly and flanks, slightly darker under-tail coverts. The iris is a dark gray-

brown and the upper mandible is black to gray with the lower mandible usually bicolored, distal half black or gray, basal half pinkish or gray. The tarsus and toes are black to brownish to gray. It is distinguished from very similar Tawny-throated Leaf-tosser (*S. mexicanus*) mainly by a much shorter bill (shortest in genus). The juvenile has a duller, browner rump and upper-tail coverts.

They nest in a burrow in the ground. The burrow is about 50 cm long, and ends in a nest chamber with a diameter of about 10 cm; the nest itself is a loose cup of dry twigs. The egg clutch is usually two white and unmarked eggs.

Cool Facts: There are three subspecies:

- *S. r. fulvicularis*. Found in Southern Venezuela (Amazonas, Bolívar), the Guianas and Northern Brazil (probably in Roraima). Race *fulvicularis* differs from nominate in having brown areas more olivaceous (less reddish), paler throat, darker upper breast with broad, blurry rufous shaft streaks
- *S. r. brunnescens*. Found in southeastern Colombia (south from Meta and Vaupés), western Brazil north of the Amazon River (east to possibly right bank of the Negro River), eastern Ecuador and northeastern Peru (north of the Amazon River in Amazonas, Loreto, San Martín and recently recorded in southwestern Ucayali). It is like previous but generally darker, less rufescent, especially on underparts.
- *S. r. ruficularis*. The nominate subspecies is found south of the Amazon River in northeastern Peru (northern Loreto), Brazil (Amazonas eastward to Maranhão, southward to northern Mato Grosso) and eastern Bolivia (eastern Beni, northeastern Santa Cruz). It is generally paler in coloration, both above and below.

Common Name: Scaly-throated Leaf-tosser
Scientific Name: *Sclerurus guatemalensis*

Size: 6.5-7 inches (16.5-18 cm)

Habitat: Central and South America; occurs from southern Mexico south to northwestern Colombia and western Ecuador. The distribution is continuous along the Caribbean slope, from Mexico (north to southeastern Veracruz and northern Oaxaca) south through Belize, Guatemala, Honduras, Nicaragua, and Costa Rica to eastern Panama. There also is a disjunct population on the Pacific slope in Costa Rica and Panama.

It inhabits lowland humid evergreen forest, preferring primary forest with fairly open (sparse undergrowth) but having a shady forest floor.



Status: Least Concern. **Global population:** 20,000-49,999 mature individuals with a declining population trend. It is considered Threatened, however, under Mexican law (NOM-059 Semarnat 2010). This species also is a species of high concern to has resulted in 50% or more of its population has been lost in Mexico during the last century.

Diet: Insects and other small invertebrates found in the litter on forest floors.

It forages noisily in the leaf litter, flicking leaves aside with its bill.

Breeding: Sexes are alike in plumage. They are short tailed, terrestrial birds with a long, thin bill, relatively short legs, and a short, dark, rounded tail. The shafts of the rectrices also are stiff, with sharp tips. The plumage is drab, with little pattern. The upper-parts are a rich, dark brown. The underparts also are primarily dark brown, but the chin and throat scaled or checkered with whitish marks.

It nests in tunnels or burrows near a stream bank, or occasionally in dirt bound into the root-mass of a fallen tree. The nest is located at the end of the tunnel, which is 0.3-1 m in length, and is composed of a thin platform or shallow cup of plant stems from compound leaves, usually of a single plant species, located in an enlarged chamber at the end of the excavated tunnel. This nest type is found in all *Sclerurus* species. Both male and female construct the nest. They removed excavated mud from the tunnel by carrying it out in their bills. Four broods were reared in a single tunnel over a period of 15 months.

Cool Facts: In western Ecuador, Scaly-throated Leaf-tosser is considered an indicator species for mature garúa forest, a low elevation tropical cloud forest, where they forage in the moist litter of mature forest floor, which is thicker, softer, and contains more arthropod food resources than second growth forest,

There are three recognized subspecies:

- *S. g. guatemalensis*. First reported by Hartlaub in 1844. The nominate race is found in southern Mexico (from Veracruz) south to central Panama (Colón).
- *S. g. salvini*. First reported by Salvadori and Festa in 1899. This race occurs in eastern Panama (Panamá to Darien), northwestern Colombia (northern Chocó), and in western Ecuador. It is similar to the nominate but darker, more sooty brown, above and below. The plumage is more sooty, less reddish, with narrower and less conspicuous breast markings.
- *S. g. ennosiphyllus*. First reported by Wetmore in 1951. This race is found in northern Colombia (Antioquia east to Bolívar). It is similar to Race *salvini*, but paler and grayer above; paler below; and outer webs of the primaries are more olive.

Common Name: Black-tailed Leaf-tosser
Scientific Name: *Sclerurus caudacutus*

Size: 6.3-7 inches (16-18 cm)

Habitat: South America; distributed throughout much of Amazonia. An isolated population is found in the coastal forest of southeastern Brazil.

Status: Least Concern. **Global population:** Unknown amount of individuals with a declining population trend. It occurs in a number of protected areas, e.g. Imataca Forest Reserve and El Dorado, in Venezuela, Cuyabeno Reserve, in Ecuador, and Cristalino State Park, in Brazil. Disappears from fragmented or selectively logged forests.

Diet: Invertebrates; cockroaches, also *Coleoptera*, annelid worms and ants reported.

It is usually observed singly. It is mostly terrestrial and hops on ground (it does not walk). It gleans and probes ground and leaf litter; tossing litter to expose prey.



Breeding: Sexes are alike in plumage. The darkest and dullest Leaf-tosser. It has a face that is dark rufescent brownish with faint scalloping in the malar area. Its crown is dark brown with slightly darker feather margins producing faintly scalloped look. There are faint rufescent tones on the forehead. Its back to its upper-tail coverts are very dark reddish-brown. The wings are nearly an uniform dark reddish-brown and the tail is rounded, broad, shafts of rectrices stiffened, tips sometimes lacking barbs for distal 1–2 mm, sooty blackish, hints of dark reddish-brown in some outer webs. The throat is whitish with faint dark lower margins, blending into mainly dark rufescent breast (some continuation of throat pattern on uppermost breast), and to almost blackish-brown rest of its under-parts. The iris is dark brown. The

upper mandible is black to blackish-brown with the lower mandible usually bicolored, with pale gray, creamy or pinkish base and gray to black tip. The tarsus and toes are black to dark brown. The juvenile is slightly darker throughout, has smaller, duller throat patch with darker feather margins.

It is monogamous. The nest is a shallow cup, made of leaf petioles, placed in enlarged chamber at end of straight tunnel 50 cm long, excavated by the birds themselves, in dirt bank. estimated territory size 18 ha. The clutch is usually 2 eggs with both parents feed nestlings. Nestlings appear in June in southern Peru.

Cool Facts: There are six subspecies:

- *S. c. caudacutus*. The nominate is found in the Guianas and north-central Brazil (Amapá).
- *S. c. insignis*. It is found in northwestern Pará and more widespread in northern Brazil north of the Amazon River. It is described as like nominate, but its upper parts are duller and less rufous-brown.
- *S. c. brunneus*. It is found in tropical southeastern Colombia to Peru and western Amazonian Brazil. It is slightly paler, more olivaceous throughout, throat duller with broader, more brownish (less blackish) margins, variable, more reddish in north of its range, the legs sometimes dull reddish-tinged.
- *S. c. olivascens*. It is found in eastern Peru (Ayacucho) to extreme northern Bolivia (Pando).
- *S. c. pallidus*. It is found in central Brazil south of the Amazon River (east from at least the Madeira river to western Maranhão). It is paler in general coloration, the throat is white with dusky tips, the breast and face are ochraceous brown (not dark brown).
- *S. c. umbretta*. It is found in Coastal eastern Brazil (Alagoas to Espírito Santo). It is like nominate but its throat feathers are pure white, each feather with a dusky tip. The chest is duller, less rufescent, the lower breast and belly are browner (much darker overall than nearest Amazonian races).

Common Name: Gray-throated Leaf-tosser
Scientific Name: *Sclerurus albigularis*

Size: 6.3-7 inches (16-18 cm)

Habitat: South America; although it is widespread, this Leaf-tosser is uncommon throughout its range in the eastern Andean foothills. This species also occurs, locally, in adjacent Amazonia.

It is found in montane and tropical lowland evergreen forests and mainly foothill and lower montane forest, often in shady ravines.

Status: Least Concern. **Global population:** Unknown mature individuals with a declining population trend. It is considered rare to locally uncommon. It is fairly common locally in Venezuela. It occurs in numerous protected areas (Henri Pittier National Park, in Venezuela, and Asa Wright Nature Centre, in Trinidad).



Diet: Mainly terrestrial invertebrates, fruits and nectar, and will also take seeds and flower parts.

Exclusively ground foragers, they flip over leaves with their bill in search of insects and other invertebrates. They do not join mixed species flocks, but occasionally are seen in family groups.

Breeding: Sexes are alike in plumage. A large leaf-tosser with pale throat contrasting with a rufescent breast. Nominant race has a grayish-brown face with hints of scaling and some faint pale feather shafts. The crown and back are a dark rich chestnut-brown with faint darker scaling on crown and more chestnut on the scapulars, rump and upper-tail coverts. The wing-coverts are deep brownish-chestnut. There is a dull dark brown on the primary coverts and the remiges are a rich brown. The tail is rounded, broad, with the shafts stiffened. The tail tips sometimes lacking barbs for distal 1–2 mm. The throat

is gray-white, becoming darker at the lower margin, and blending to a dark rufous breast with some paler shaft streaking. The belly is dull brown, while the flanks and under-tail coverts are a richer brown. The iris is dark brown, the upper mandible black to dark gray, and the lower mandible usually all pale, grayish-white to pinkish to dull yellowish. Sometimes, the bill is bicolored, with black or gray tip. The tarsus and toes are black to brown in color. The juvenile is duller throughout, with its throat faintly scaled dusky.

Breeding takes place from October to May, with its peak December to February. The nest is at the end of typically curving tunnel 0.3–0.5 m long in a dirt bank, with an enlarged chamber about 20 cm in diameter lined with a few loose leaf rachides. The clutch is 2 eggs.

Cool Facts: There are numerous subspecies:

- *S. a. propinquus*. It is found in the Santa Marta Mountains, in northern Colombia. It is like the nominate, but the upper-parts are much darker, the breast and belly darker, and the throat grayer.
- *S. a. albigularis*. The nominate race is found in tropical eastern Colombia to Venezuela, Trinidad and Tobago.
- *S. a. kunanensis*. It is found in northeastern Venezuela (Paría Peninsula)
- *S. a. zamorae*. It is found in the foothills of the Andes from eastern Ecuador (south from western Napo) south to central Peru (Cajamarca south to Pasco). It is generally darker than nominate, rump and uppertail-coverts duller chestnut, contrasting less with back, chin less whitish, upper breast brighter, belly darker.
- *S. a. kempffi*. It is found in Serranía de Huanchaca, in eastern Bolivia (extreme northeastern Santa Cruz). It is palest, having a grayer breast and belly, and a less rufescent upper breast and back. The rump is concolorous with the back.
- *S. a. albicollis*. It is found in southeastern Peru (Ucayali), southwestern Brazil (Acre, Rondônia, Mato Grosso) and the Andean foothills in Bolivia (from La Paz and Beni south to northwestern Santa Cruz, also sighting records from Tarija). It differs from the nominates in having a brighter and more rufescent upper-parts. The upper-tail-coverts are rich rufous, contrasting strongly with back, paler under parts, throat white.

Common Name: Rufous-breasted Leaf-tosser

Scientific Name: *Sclerurus scanso*

Size: 7.3-7.6 inches (18.4-19.3 cm)

Habitat: South America; there are two populations (and subspecies) of the Rufous-breasted Leaf-tosser; one in the northeast of Brazil, the other across central and southeast Brazil south to eastern Paraguay and northeast Argentina.

Race *cearensis* inhabits the understory in the interior of humid relictual forests (known locally as “brejos de altitude”) associated with mountain ridges and plateaux, amid the semi-arid Caatinga, mainly at 550–1050 m elevations.

The nominate race is found in tropical lowland and montane evergreen forests, occasionally extending into mature secondary woodland; from near sea-level to 1600 m.



Status: Vulnerable. **Global population:** Unknown mature individuals with a declining population trend. Race *cearensis* in northeastern Brazil, has a declining and seriously fragmented population has an overall range of about 658,000 km², but an area of Area of Occupancy estimated at < 2000 km². Threatened by extensive forest loss throughout its range, and thought to be very intolerant of any habitat alteration, with even selective logging affecting local abundance. The vast majority of recent records are from Ceará, with others from Piauí, Pernambuco and Bahia (where range recently extended as far south as Brejinho das Ametistas); known from a small number of protected areas, among them Serra das Confusões National Park (Piauí), Ubajara National Park and Chapada do Araripe National Forest (Ceará), and Chapada Diamantina National Park (Bahia).

The nominate race is considered rare to locally fairly common. In Brazil, it is fairly common in Serra dos Órgãos National Park; but rare in Augusto Ruschi Biological Reserve and Iguazu National Park, and known from many other protected areas. In Paraguay, rare in Ybicuí National Park and present in Caaguazú and San Rafael National Parks; in Argentina, recorded in just three protected areas, Iguazú National Park, Cruce Caballero Provincial Park and San Antonio Strict Nature Reserve. Extensive deforestation within this species' relatively small range has dramatically reduced area of available habitat; even selective logging leads to a marked reduction in its abundance..

Diet: Mainly invertebrates, including spiders, beetles and hemipterans.

Exclusively ground foragers, they flip over leaves with their bill in search of insects and other invertebrates. They do not join mixed species flocks, but occasionally are seen in family groups.

Breeding: Sexes are alike in plumage. A large leaf-tosser having pale throat and contrasting breast. The face is mainly dark brownish and grizzled. The malar area and sides of the neck are brown, faint darker feather margins producing vaguely scaly look. The crown is very dark brown with blackish feather margins, appearing faintly scalloped. The back is a rich dark brown and the rump is bright chestnut. The upper-tail coverts are chestnut with reddish-brown tips. The wings are nearly uniform dark reddish brown. The tail is rounded, broad, with shafts stiffened. The tips sometimes are lacking barbs for distal 1–2 mm. They are sooty blackish, with faint reddish-brown margins on some outer webs. The chin is white with faint dark lower margins, blending to the pale greyish-white throat with increasingly conspicuous brown margins that produce scaly look, which continues slightly onto dull rufescent brown on the upper breast. There is a broad band across middle of the breast which is a dark ochraceous-chestnut. The lower breast to the belly and flanks are dark olivaceous-tinged brown with chestnut tones (especially at rear). The under-tail coverts more strongly tinged chestnut. The iris is a dark brown. The maxilla is black, the mandible is black with whitish base and the tarsus and toes are blackish brown. The juvenile is slightly darker throughout.

Presumably monogamous. Breeding season is during austral spring-summer with eggs appearing in August, and birds in breeding condition in September and December. The nest-chamber is 20 cm in diameter, padded with lightly woven mat of dry leaf rachides, excavated at end of tunnel or pre-existing hole in dirt bank, or nest placed in dirt caught among roots of fallen tree. The clutch is 2–3 white eggs.

Cool Facts: There are two subspecies:

- *S. s. cearensis*. It is found in northeastern Brazil (Ceará south to northern Bahia).
- *S. s. scansor*. The nominate race is found in central, central-east and southeastern Brazil (Mato Grosso, Goiás and Minas Gerais south to Rio Grande do Sul), E Paraguay and NE Argentina (Misiones).

Special Thanks to my Beta-Testing Team...

Alisa & FlintHawk

Species Accuracy and Reference Materials

The author 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.

Field Guide Sources:

- **Handbook of the Birds of the World** <https://www.hbw.com/>
- **Wikipedia** https://en.wikipedia.org/wiki/Main_Page
- **BirdLife International** <https://www.birdlife.org/>

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