

Natural history of the little-known Speckled Antshrike *Xenornis setifrons*

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Xenornis setifrons es sólo conocido de las selvas húmedas en el pedemonte hasta la divisoria continental en el este de Panamá, con un registro en la Serranía de Baudó en la costa del Pacífico colombiano. En su distribución, ha sido registrado en sólo 12 localidades, seis de ellas en los 90 (todas en la parte occidental de su distribución), el resto en el sector oriental de su distribución, y ninguna de éstas desde los 60. La densidad de individuos es desconocida, y entre estas localidades parece estar verdaderamente ausente de hábitat aparentemente apropiado. Tampoco se conoce si la especie desarrolla movimientos altitudinales. *Xenornis setifrons* se alimenta (solo o en parejas) a través de vuelos cortos, a menudo en bandos mixtos, en el sotobosque, especialmente donde hay abundantes palmeras. La especie nidifica aproximadamente entre abril y junio, y el nido (recientemente descrito) es suspendido a c.3 m en una horqueta.

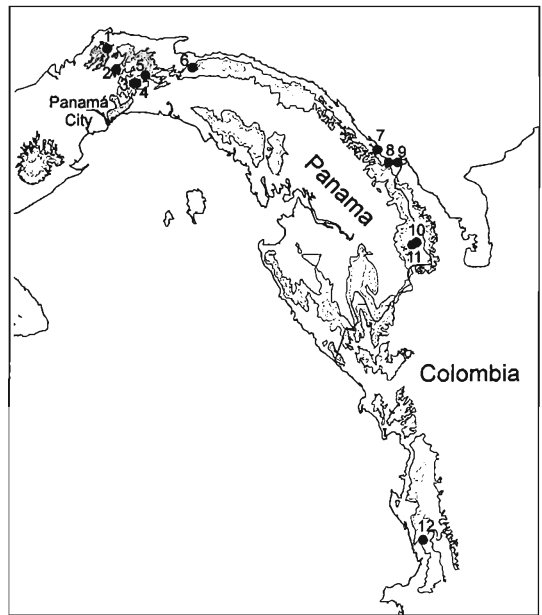
Introduction

Speckled Antshrike *Xenornis setifrons* is the only member of its genus, and its taxonomic affinities remain poorly defined. The species is little-known in many respects and for many reasons. It occurs in the wet foothill forests of east Panama and north-west Colombia and, although a limited understanding of the species' habitat requirements has been reached, its distribution is patchy and it appears to be absent from apparently suitable intervening areas. *X. setifrons* can be so difficult to find that unless specifically looked for, the species is likely to go unrecorded. In addition, the forested lower foothills on the Atlantic slope of eastern Panama (above 100 m) are largely inaccessible (only one road crosses the Isthmus throughout the species' Panamanian range), so few opportunities exist to penetrate suitable habitat. In presenting all that is currently known about this species, we hope to encourage birders to try and explore areas between known localities, or re-explore old locations.

Distribution

Xenornis setifrons occurs only inside humid and very humid forest in east Panama (east of the Panama canal) and north-west Colombia. However, within this area the species' distribution is inexplicably patchy and poorly understood, and indeed the full extent of its range is still a matter for conjecture. Specific, referenced details of all locality records are presented in Appendix 1, and their locations shown on Map 1.

In Panama, it has been recorded from the upper Río Chagres watershed, north of Panama City, with specific localities all within the Chagres National Park as follows: Cerro Bruja on the northern edge, and Río Chico in the centre of the park, both



Map 1. The known distribution of Speckled Antshrike *Xenornis setifrons*. Numbered points refer to known localities as detailed in the Appendix.

in Colon Province; Cerro Jefe and its western consort Cerro Vistamares on the southern edge, and Cerro Guagaral at the easternmost point, all in Panamá Province. Cerro Jefe, Vistamares and Guagaral are all on the Continental Divide. However, despite a continuity of apparently suitable habitat, *X. setifrons* has not been found between Cerro Jefe and Cerro Guagaral, nor on the contiguous Cerro Brewster, westernmost San Blas Province (within the Kuna Yala indigenous re-

serve).

Continuing east in Panama, *X. setifrons* is perhaps most easily (and certainly most frequently) seen at Nusagandi, on the Continental Divide at the west end of the Serranía de San Blas, in the PEMASKY forest reserve (part of Kuna Yala), western San Blas Province. Other records from San Blas (all prior to 1963) are confined to the easternmost portion in the foothills of the Serranía del Darién (at Permé, Armila and Obaldía). The type-specimen and a number of subsequent records (up to 1964) of *X. setifrons* come from the lower slopes of Cerro Tacarcuna in eastern Darién Province.

In Colombia, *X. setifrons* is still known only from two birds collected in 1940 on the upper Río Baudó, at the south end of the Serranía de Baudó, Chocó Department. It should be noted that records from Cerro Tacarcuna, and easternmost San Blas (Armila and Obaldía) are within c.10 km of the Panama–Colombia border.

Field notes

Altitude

Xenornis setifrons is primarily found in wet forest in foothills and to the crest of the Continental Divide. However, its precise altitudinal range is unclear, and the possibility that it undertakes seasonal altitudinal movements needs attention from fieldworkers. Although Ridgely & Gwynne⁸ state the altitudinal range to be 150–600 m, the current known range is c.120–800 m. However, the species is most often observed above 350 m, at or below the Continental Divide. Birds are seen from at least 180–390 m at Nusagandi¹⁰, where they breed and are present from at least January–late May. On Cerro Tacarcuna, *X. setifrons* has been found at 575–625 m (in March and June), the birds in Colombia (Río Baudó) being collected at 548 m in July. A family group of four birds on the Río Chico was found below the previous known altitudinal range at c.120 m, and represents one of the few records of *X. setifrons* from the latter half of the year (see Appendix). The species is definitely absent from the flatter lowlands, which have been comparatively well studied by the ornithological and birding community (and are, lamentably, increasingly deforested).

Interestingly, tape playback of *X. setifrons* in places where it is known to occur can attract other species (Thrush-like Mourner *Schiffornis turdinus*, Spotted Antbird *Hylophylax naevoides* and Song Wren *Cyphorhinus phaeocephalus*) but often no *X. setifrons* (it is no foregone conclusion that the bird will always respond to tape playback)! Why the Thrush-like Mourner should be attracted is a mys-

tery, as it is normally a solitary species. However, in other apparently suitable habitat where *X. setifrons* has not been found, playback attracts nothing, reinforcing the suspicion that distribution is patchy and local.

Habitat and station

X. setifrons inhabits the lower growth of humid foothill forest. At Nusagandi, such forest was described by Whitney & Rosenberg¹⁰ as largely undisturbed, with an irregular canopy ranging in height from 15–25 m. The canopy is rather open (crowns of taller trees often not interlocking), allowing sunlight to penetrate to the forest floor, although it is denser locally. The larger trees carry a heavy epiphytic load; large lianas are common, and vines form a network through the mid- and understorey, although rarely forming dense tangles. The forest understorey is dense up to a height of c.2.5 m, above which it opens significantly. One of the most conspicuous elements of the vegetation is the abundance and variety of palms in the understorey, with some species reaching the canopy¹⁰.

Within this humid forest, *X. setifrons* has been described as: “ranging along the narrow, steeply sloping side valleys leading down to a small stream”⁹, and “found mostly on the sides of steep slopes below ridges, but also ranging into the damp bottoms of ravines below ridges”¹⁰, where it “favours dense viny tangled growth”⁸ or “heavy undergrowth”⁹. Recent observations (WJA) have found that *X. setifrons* also utilises more open undergrowth and the few flatter areas where these exist in its range (though this does not necessarily make this secretive bird any easier to find!).

Social and feeding ecology

Previous descriptions of *Xenornis setifrons* have suggested that the species forages in pairs^{8–10}. However, in no less than eight of 17 encounters with the species (WJA), the bird (male or female, foraging or not) was alone.

Feeding often occurs with mixed-species foraging flocks, although there may be a seasonal shift in this flocking behaviour, especially during the breeding season^{8,10}. Within such flocks they appear to be followers rather than leaders. In dense undergrowth *X. setifrons* can be found at the same level as the other birds; but if the understorey is more open, they have been observed (WJA) perching a couple of metres above low feeding birds, e.g. Song Wren.

Whitney & Rosenberg¹⁰ recorded three core species (Checker-throated Antwren *Myrmotherula fulviventris*, White-flanked Antwren *M. axillaris*

and Tawny-faced Gnatwren *Microbates cinereiventris*) present in all feeding flocks containing *X. setifrons*. Other species noted in most flocks were Buff-throated Foliage-gleaner *Automolus ochrolaemus*, Plain Xenops *Xenops minutus*, Wedge-billed Woodcreeper *Glyphorhynchus spirurus*, Slaty Antshrike *Thamnophilus punctatus*, Spot-crowned Antvireo *Dysithamnus puncticeps* and Olivaceous Flatbill *Rhynchocyclus olivaceus*¹⁰. Two other species we would add are Spotted Antbird *Hylophylax naevoides* and Song Wren.

X. setifrons forages at c.0.5–2.5 m above the ground, although individuals range from practically on the ground to as high as c.5 m¹⁰. Birds perch on thin vertical stems and vines as well as more horizontal perches, often in situations where surrounding vegetation is relatively open¹⁰. While scanning for prey, birds may be nearly motionless for long periods (up to 60 seconds), during which time the typical posture (on a horizontal perch) resembles the upright attitude of *Thamnomanes* antshrikes¹⁰.

Foraging moves of *X. setifrons* include (in order of most-common to least-commonly observed) rapid sally-strikes, sally-stalls and sally-pounces, all of which are to live foliage¹⁰. These sallies can be in any direction (but most often laterally or upward-directed), and are usually less than 1 m in range¹⁰. Prey is taken from the surfaces of leaves (often palm leaves), perhaps most often from the tips and upper surfaces¹⁰. When insects are put to flight by other birds in the flock, *X. setifrons* will swoop from its perch, grab the insect and swoop up again to another suitable viewpoint on a different sapling. It emits a low twittering call during the process. Sally-strikes often involve violent contact of the bird's head with leafy foliage¹⁰, which may give *X. setifrons* the need for the spine-like feathers concentrated in the loreal region of the face (which gave the species its earlier name of Spiny-faced Antshrike). The spines may serve to protect the eye during such strikes, perhaps allowing them to remain open fractionally longer¹⁰.

Vocalisation

Xenornis setifrons is often quiet and inconspicuous, although birds (both sexes) do give a relatively loud, fast *chak-chak-chak* call (sometimes only one or up to five or more syllables: see Fig. 1) while foraging, especially if the flock is moving quickly or the birds are alarmed (in which case, members of the pair call frequently)¹⁰. The female's call is noticeably weaker than the male's. The male's song is a series of 3–9 (most often five) high-pitched and evenly spaced notes which rise steadily in pitch (see

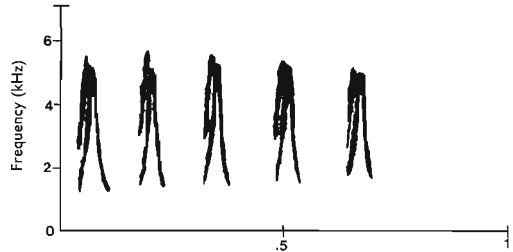


Figure 1. The *chak-chak-chak* call of Speckled Antshrike *Xenornis setifrons* (reproduced from Whitney & Rosenberg¹⁰).

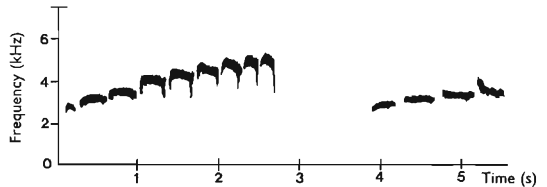


Figure 2. The male (left) and female songs of Speckled Antshrike *Xenornis setifrons* (reproduced from Whitney & Rosenberg¹⁰).

Fig. 2). The female produces a very similar song which, however, rises less rapidly (especially initially) and is slightly lower pitched and shorter¹⁰ (see Fig. 2). The song appears to be given most often in the latter part of the dry season, i.e. March–May (or June), which approximates with the breeding season as indicated by the nesting records (see below).

Nesting

The nest of *Xenornis setifrons* has only recently been described², but it is worth summarising some of the key features here. On 2 May 1996, an active nest was found c.2.8 m up in a small tree, close to a stream along the Ibe Igar trail at Nusagandi. The nest lay against the trunk of the tree, and was suspended from a fork in a branch. It solely comprised fine, dark rootlets woven into a cup measuring 12 cm long, 14 cm across, with walls 3 cm thick, and the cup 9 cm deep. By 9 May, this nest contained two small dark nestlings which were attended by the female (the male came to the nest only once in over 3 hours). On 16 May the two nestlings were larger, grey, and had developed feather shafts. Both parents brought food to the young, making equal numbers of visits over the course of three hours (although the male was noted as the more wary bird). This nest was found empty, and partly pulled away from the tree, on 23 May. However, a second nest, empty but fresh and ready for eggs, was found close by on the same day. This was 3 m up in the fork of a larger tree, and slightly smaller than the first nest (11 cm long, 14 cm across, 7 cm deep). On

30 May, this second nest contained egg shells, and had presumably just been predated (the male was still in attendance, and giving alarm calls). The egg shells were heavily marked with purple scrawls, enough such that the underlying colour of the egg was obscured.

Threats and conservation

Xenornis setifrons is considered Vulnerable due to its relatively small, fragmented population⁴. Habitat destruction in its limited range through transmigration of agricultural settlers is the main threat to this species. Fortunately, this has been arrested for the time being through establishment of the Chagres and Darién National Parks, the demarcation of indigenous reserves such as San Blas (Kuna Yala), and the intention of indigenous peoples to maintain forest reserves along the Continental Divide. However, the current (underpublicised) paramilitary disturbances spilling over into Darién from Colombia, encroaching deforestation (particularly on the Colombian side around Cerro Tacarcuna) and the ever-present threat of the completion of the Pan-American Highway give cause for concern for the future integrity of the Darién National Park. Mining is also a potential threat: much of the range of *X. setifrons* is covered by mining concessions, and although few, if any, may eventually be exploited, the inaccessible nature of a substantial part of the species' range could be altered forever.

Glimpsing the enigma

The best chances for finding *X. setifrons* are on the first 2 km of the Ibe Igar trail at Nusagandi, in the dry season (late January–late April or early May). A 4-wheel drive vehicle is necessary even then, but most car rental firms in Panama City have them available. Basic lodging or camping facilities and other likely trails are available at the PEMASKY field station. Nusagandi is a 2.5 hour drive from Panama City.

Panama Audubon Society (PAS) can help make arrangements, and their contact details are as follows: PAS, PO Box 3065, Balboa, Ancon, Panama. Fax: +507 224 4740; Tel: +507 224 9371; E-mail: audupan@pananet.com. PAS also maintains a "rare sightings" page, aptly called The Xenornis at <http://www.geocities.com/rainforest/3627/xenornis.html> and a home page at <http://www.pananet.com/audubon/>.

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Appendix

Distributional records: numbered localities refer to numbered points on the map.

PANAMA**Colon**

1. Cerro Bruja (c.09°29'N 79°34'W), where birds were found below the summit (to c.800 m) on 24–27 May 1996, during a field trip for the Panama Audubon Society's Important Bird Areas project.

2. Río Chico headwaters (c.09°20'N 79°30'W; a tributary of the upper Río Chagres above Madden Lake), where one male and three female-type birds were seen together on 15 October 1997, at c.120 m (K. Aparicio *in litt.* 1997).

Panama

3. Cerro Vistamares (just c.2 km to the west of Cerro Jefe), where birds were recorded several times until December 1995 along "Xenornis trail" (which heads towards the Río Chagres) on the western end of the cerro at 750–800 m. This includes the record incorrectly referred to as "Altos de Cerro Azul" (see *El Tucán* 18, 1992) where a bird was seen (with Song Wrens) in late January and 2 February 1992. One record (a pair on 26 December 1992) comes from the Cerros Vistamares trail on the northern side of the cerro.

4. Cerro Jefe (09°14'N 79°21'W), where a bird, possibly this species, was seen in c.1987 (*El Tucán* 18, 1992). A continuously forested ridge, no more than 100 m below the summits, runs for 2 km between Cerros Jefe and Vistamares.

5. Cerro Guagará (at c.09°17'N 79°17'W, on the continental divide, and contiguous with Cerro Brewster, western San Blas), where a pair was seen 28 February–2 March 1992; pair (see photos) on 7 February 1994; and a pair and female between 29 April and 2 May 1995 (*El Tucán* 18–21, 1992–1995).

Western San Blas

6. Nusagandi, in the Comarca de Kuna Yala reserve.

Regularly seen, especially along the Ibe Igar trail, with documented records including: a female (mist-netted) and a few others seen during April and May 1985⁸, 7–9 individuals seen in February 1989 and January 1992 at 180–390 m¹⁰, 18 March 1995; 15–16 April 1995; 10 February 1996; on five days 2–30 May 1996 (when nest was discovered)²; 31 January 1997; 1 February 1997²; and 25 January 1998 (see also *El Tucán* 21–24, 1995–1998).

Eastern San Blas

7. Permé (c.08°46'N 77°31'W; a small banana plantation about 8 km west of Anachucuna, and no more than 40 km from the Colombian border), where a male was collected about 1.5 km inland, below 457 m (1,500 feet) in 1929–1930^{5,6,7}. This locality has been overlooked by some previous authors (e.g. Ridgely & Gwynne⁸, Wetmore⁹).

8. Quebrada Venado, in the foothills inland from Armila (a Kuña Indian village at c.08°40'N 77°27'W). A pair (in United States National Museum, USNM) was collected on 3 March 1963, with two additional pairs (in USNM and American Museum of Natural History, AMNH) collected on 6 March 1963⁹.

9. Obaldía (c.08°40'N 77°26'W; the site, in 1930, of a US naval radio station) where a male was collected below 457 m (1,500 feet) in 1930–1931^{5,6,7}. This locality has been overlooked by some previous authors (e.g. Ridgely & Gwynne⁸, Wetmore⁹).

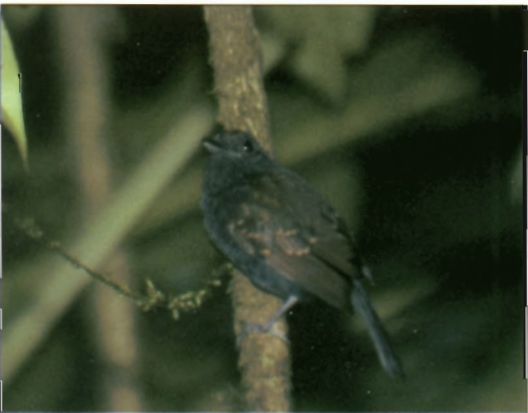
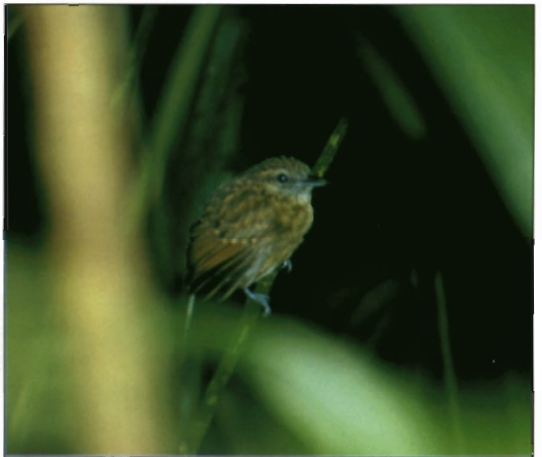
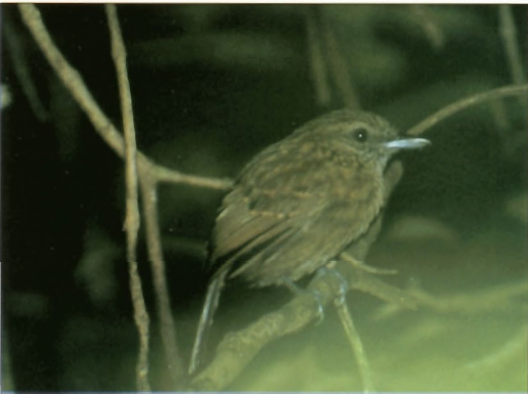
Eastern Darién

10. The "old village site" on the upper Río Tacarcuna (08°05'N 77°17'W), where the type-specimen, a male (in AMNH) was collected on 27 March 1915 at 625 m (2,050 feet)¹ (mistakenly given as 580 m in Wetmore⁹), with a female (in USNM) collected on 8 March 1964 at 579 m (1,900 feet)⁹.

11. La Laguna (08°04'N 77°19'W), the crater lake at 575 m on a ridge leading up to Cerro Tacarcuna, where a female (in USNM) was collected on 14 June 1963⁹.

COLOMBIA**Chocó**

12. Río Baudó (c.06°00'N 76°48'W), on the lower slopes of the Serranía de Baudó, where two females (specimens in Academy of Natural Sciences, Philadelphia) were collected on 26 July 1940 at 548 m (1,800 feet), representing the first known females of the species, and only records from Colombia^{6,7,9} (also P. Salaman *in litt.* 1998).



Speckled Antshrike *Xenornis setifrons* (Bill Adsett)