

## Noteworthy records for the avifauna of the Cordillera de Mérida, Venezuela

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Presentamos registros de 50 especies de aves efectuados en más de 51 localidades en la cordillera de Mérida, Andes venezolanos, algunos de los cuales se localizaron significativamente distantes o fuera de los rangos de elevación previamente conocidos para estas especies en Venezuela, al norte del Orinoco. Las especies incluyen al Cóndor de los Andes *Vultur gryphus*, conocida previamente en los Andes de Venezuela por unos pocos ejemplares observados en la cuenca media del río Chama, y al Azulillo *Passerina cyanea*, reportado previamente en el país por un ejemplar colectado en la sierra de Perijá.

Venezuela is among the top 20 megadiverse countries<sup>17</sup>, with the seventh richest avifauna in the world<sup>38</sup> (almost 1,400 species<sup>11</sup>). Knowledge of taxonomy and distribution of Venezuela's birds can be considered good, as reflected in the standard works of Meyer de Schauensee & Phelps<sup>16</sup> and Hilty<sup>11</sup>. Knowledge is particularly comprehensive for the Cordillera de Mérida, an Endemic Bird Area<sup>31</sup>; additional field efforts have focused on

particular environments such as páramos<sup>25,32</sup>, cloud forests<sup>25,26,32</sup>, deciduous forests<sup>26</sup>, agroecosystems<sup>13</sup>, and thorn scrub<sup>25</sup> as well as on scattered localities or particular species<sup>29,36</sup>.

The Venezuelan Andes are c.400 km in length and 100 km wide, and traverse (from south-west to north-east) the states of Táchira, Mérida, Trujillo and Lara. They are divided longitudinally by the Boconó Fault<sup>2</sup> and transversely by the Táchira

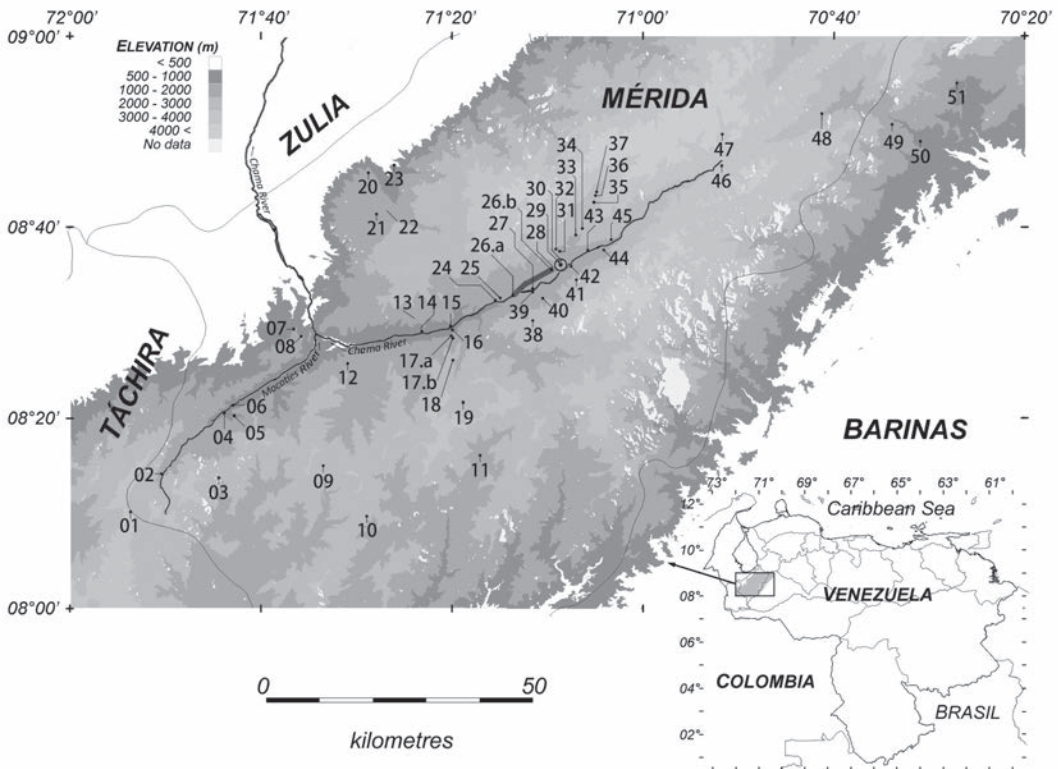


Figure 1. Elevation model of the central portion of the Cordillera de Mérida, according to Shuttle Radar Topography Mission (SRTM), files n07w072, n08w071, n08w072, n09w071, n09w072, 90 m resolution (© NASA), showing the position of the localities visited. ⊙ = Mérida (state capital).

depression into two: (1) the Tamá Massif in the south-west, shared with Colombia, and (2) the Cordillera de Mérida, our study area.

Some have considered the Venezuelan Andes a uniform bioregion<sup>5,14,22</sup>, while others<sup>21,30</sup> have subdivided the region based on ecological affinities associated with elevational divides. In addition, the distribution of the avifauna suggests that the ecological communities can also be divided using longitudinal divisions. Firstly, the Llanos and south-east Andean slope differ from the rest of the Cordillera, as indicated by the presence of species such as Red-headed Barbet *Eubucco bourcierii*, Lineated Foliage-gleaner *Syndactyla subalaris*, Streak-capped Treehunter *Thripadectes virgaticeps*, Northern White-crowned Tapaculo *Scytalopus atratus*, Rufous-crowned Tody-Tyrant *Poecilotriccus ruficeps*, Chestnut-crowned Becard *Pachyramphus castaneus*, Andean Cock-of-the-Rock *Rupicola peruvianus* and Silver-beaked Tanager *Ramphocelus carbo*. Secondly, the Maracaibo basin or north-west slope appears distinct, as indicated by the presence of Ruddy Quail-Dove *Geotrygon montana*, Military Macaw *Ara militaris*, Grey-throated Warbler *Myiothlypis cinereicollis* and Dull-coloured Grassquit *Tiaris obscurus*. Thirdly, the Chama–Mocotíes longitudinal valley system, especially towards the Chama Valley, whose uniqueness is supported by (a) endemics or near-endemics such as Crested Bobwhite *Colinus cristatus horvathi*, Green-fronted Lancebill *Doryfera l. ludovicae*, Gorgeted Woodstar *Chaetocercus h. heliodor* and Black-backed Grosbeak *Pheucticus aureoventris meridensis*; (b) the absence of several species recorded in the north-west and / or south-west slopes; and (c) particular biotic interactions<sup>24</sup>.

Field observations by the authors were made at 51 localities in the Cordillera de Mérida (Fig. 1, Appendix 1). Species were recorded visually using binoculars, acoustically or by mist-netting (all birds were released post-examination). Localities were geo-referenced using a Garmin GPS.

We postulate that five factors may have contributed to the amount of information presented here. First, species richness tends to increase with sampling effort<sup>19,35,37</sup>; the extended sampling effort represented by our collective work covers a wide geographic area, allowing for a higher probability of detecting secretive or rare species as well as accessing geographically restricted populations. Second, birds may perform long-range dispersion that leads to vagrancy<sup>9</sup>, especially in the families Ardeidae, Threskiornithidae<sup>20</sup>, Cathartidae<sup>3</sup> and Alcedinidae<sup>11</sup>. Moreover, factors such as genetic abnormalities, disorientation, inexperience, weather, climate and reduced food availability have been invoked to explain the

presence of long-distance migrants outside their normal routes<sup>8,33</sup>. Third, to date most field work in the Venezuelan Andes has focused on pristine habitats, whereas our survey efforts included a broad range of human-modified habitats (e.g., shade-coffee plantations). Fourth, the presence of cagebirds<sup>7,11</sup> and the possibility of their escaping could explain the presence of some unexpected species. Fifth, habitat alteration, particularly the extensive substitution of the original forests that originally covered most of the Chama–Mocotíes Valleys with pastures and crops, has created open habitats suitable for non-forest species. Moreover, the relatively recent construction and operation of the Rafael Caldera highway, and the consequent invasion and degradation of the forests that occupied the narrow valley at the confluence of Chama and Mocotíes Rivers, has permitted the most recent wave of non-forest invaders. This sequence of events (deforestation followed by colonisation by open-country species from the lowlands) has been documented elsewhere in the northern Andes<sup>27</sup>.

## Species accounts

### Capped Heron *Ptilerodius pileatus*

Singles observed on the Chama River at El Chamita, 24 November 1991, and La Ceibita, 15 April 2009, at San Javier del Valle between 16 April and 22 June 2011, and on the Mocotíes River at Cucuchica, 8 October 2004. Occurs spottily to 500 m north of the Orinoco, with one record at 2,300 m on the north-west slope of the Cordillera de Mérida<sup>11</sup>. Our records confirm presence above 500 m and are the first for the Chama Valley.

### Roseate Spoonbill *Platalea ajaja*

One at San Javier del Valle on 15 June 2008. Mainly below 500 m, but vagrants observed at Mucubají at 3,600 m<sup>11</sup>.

### Andean Condor *Vultur gryphus*

A primary feather, length 43 cm, found on 1 February 2009, in roadside vegetation near the carcass of a Crab-eating Fox *Cerdocyon thous* at Parque Nacional Juan Pablo Peñaloza, near the Táchira–Mérida border, is now deposited at Colección Ornitológica Phelps, Caracas (COP 83911). Its brown colour indicates an immature. Generally a visitor from the easternmost Colombian highlands<sup>12</sup>, with records restricted to middle elevations of the Chama basin<sup>4,16</sup>, and two groups of captive-bred birds released in the Sierra La Culata in the early 1990s<sup>6</sup>. This is the first record outside the Chama Valley in Venezuela, and represents an upper-elevation range extension for the fox, which was considered to be restricted to below 2,000 m<sup>16</sup>.

**King Vulture** *Sarcoramphus papa*

Two adults in a tall tree near Aldea Limones on 15 November 2003 is the first report for Mérida state.

**Savanna Hawk** *Buteogallus meridionalis*

Singles soaring over the Mocotíes River at Cucuchica, 5 October, and at El Peñón, 28 November 2009. Recorded to 500 m but suspected to range higher<sup>11</sup>. Our records are also the first in the Mocotíes Valley.

**Black-chested Buzzard-eagle** *Geranoaetus melanoleucus*

Singles observed over El Trompillo, 27 August 2007, and between Chichuy and Tierra Negra at 1,440 m on 30 January 2010, and at 1,245 m on 16 October 2011. A páramo specialist mainly occurring at 3,300–4,500 m<sup>11,34</sup>, but recently reported at El Morro<sup>23</sup> (1,900 m), and Lagunillas<sup>11</sup> (1,600 m). Our records represent new low-elevation records. In the Nuestra Señora basin, the dry-evergreen forests that formerly separated the páramo and thorn scrub zones<sup>1</sup> had been largely (>70%) cleared by the early 1970s and completely removed by the beginning of the 21st century<sup>10</sup>, expanding the available habitat for this open-country raptor at lower elevations.

**Northern Caracara** *Caracara cheriway*

Two foraging in a ploughed field (8 October 2004), one over the Cucuchica Valley entrance (22 October 2011), singles over La Ceibita (21 April and 28 September 2009, and 15 March 2010) and one with Black Vultures *Coragyps atratus* attending a carcass at San Javier del Valle (13 July 2011). Recorded to 850 m throughout Venezuela, except in Perijá, the Andes and southern Amazonas state<sup>11</sup>. The observation at San Javier del Valle represents a new high-elevation record, and these are first reports in the Chama Valley.

**Yellow-headed Caracara** *Milvago chimachima*

Observed at several localities in the middle Chama Valley: (1) El Chamita on 16 and 24 November 1991, and 1 March 1992; (2) Jardín Botánico de Mérida regularly from 30 January 2001 to 20 April 2002; (3) San Javier del Valle, 28 July and 23 September 2007, and 17 February 2008; (4) Hotel Páramo La Culata, 12 May 2007; (5) Quebrada Ovalles, 15 June 2008; (6) Estación la Montaña, 26 April 2007; (7) San José del Sur, 27 August 2007. Occurs throughout Venezuela, except southern Amazonas, to 900 m (occasionally to 3,600 m<sup>11</sup>); recently, adults and fledglings have been observed more frequently at higher elevations throughout the year, suggesting a considerable extension of its elevational range.

**Laughing Falcon** *Herpetotheres cachinnans*

Recorded for the first time at Cucuchica on 15 March 1997<sup>13</sup>. Subsequent visits on 21 November 1997 and 12–13 November 2003 suggested that the species is resident there. Previously recorded below 500 m<sup>11</sup>. Our observations represent an upper-elevation range extension and the first records for the Mocotíes Valley.

**Paint-billed Crane** *Neocrex erythrops*

Two adults, probably vagrants, found dead at: (1) La Hechicera (no date); (2) in downtown Mérida at Milla, 17 January 2012. Thought restricted to below 1,400 m<sup>11</sup>, these represent new upper-elevation records.

**Purple Gallinule** *Porphyrio martinicus*

Observations over several years at Laguna de Urao suggest the presence of a stable population. Also regularly captured in January–March in downtown Mérida, especially at Las Heroínas; probably vagrants. These are high-elevation records.

**Black-necked Stilt** *Himantopus mexicanus*

One, probably a vagrant, at San Javier del Valle, 7–15 March 2009. In some areas, the species has been expanding its geographic range<sup>23</sup>. In Venezuela, it has been recorded north of the Orinoco to 1,050 m, mostly below 400 m throughout, but ours is the first record in the Chama Valley and a new highest elevation record.

**Chestnut-fronted Macaw** *Ara severus*

Flocks up to 20 at the lower Albarregas River. Previously thought to be present only on the north-west and south-east slopes of the Cordillera de Mérida to 1,000 m. This is the first report in the Chama Valley and an upper-elevation range extension.

**Andean Pygmy Owl** *Glaucidium jardiini*

One singing at Sector Doña Rosa, 7 July 2011. Altitudinal range usually reported as 2,000–4,000 m<sup>11</sup>, making ours a new low-elevation record.

**Striped Owl** *Pseudoscops clamator*

Probably the second-commonest owl (after Tropical Screech Owl *Megascops choliba*) in the metropolitan area of Mérida. Frequently observed year-round at: (1) El Carrizal; (2) Núcleo La Liria; (3) La Hechicera. Elsewhere, often found at El Guamal since January 2002 and a dead bird at La Otra Banda, 3 May 2009. Reported to 1,000 m in Venezuela<sup>11</sup>, thus our observations extend the species' range upslope.

**Stygian Owl** *Asio stygius*

Adult male found dead at La Hechicera, 3 December 2002. The post-cranial skeleton, dry skin, stomach

contents and ectoparasites (five Hippoboscidae, Diptera) are deposited in the Vertebrate Collection of the Universidad de Los Andes (CVULA 0661). The stomach contained a bat (*Eptesicus fuscus*, Vespertilionidae) and a male Lesser Goldfinch *Sporagra psaltria*. In south-east Brazil *A. stygius* preys heavily on birds, especially finches, and bats<sup>18</sup>. Previously known from a few scattered localities in Venezuela, none of them in Mérida state<sup>11,16</sup>.

#### **Buff-fronted Owl** *Aegolius harrisii*

One between Finca los Marañoses and Parque del Motor, 4 April 1997, showed intense response to imitation of its vocalisation (the fast trill reported elsewhere in the Andes)<sup>11</sup>. In Venezuela, previously known from four scattered localities<sup>11</sup>: Páramo La Culata in Mérida, at 3,800 m, the Coastal Cordillera in Distrito Federal, Auyán-tepui in Bolívar state, and Cerro Neblina in Amazonas state. This is the second report in the Venezuelan Andes and the first on the *llanos* slope.

#### **Little Nightjar** *Setopagis parvula*

A male found stunned at La Hechicera, 29 April 2002, was photographed and released. The lack of a white neck collar suggested that it was an immature. In Venezuela, known below 1,000 m<sup>11</sup>, making this an upper-elevation range extension.

#### **Sword-billed Hummingbird** *Ensifera ensifera*

Incubating female at Quebrada La Astillera, 7 April 1993, on a cup-shaped nest of green moss, lichen, plant fibres, spider silk and other fine material saddled on a root 1.2 m above the river in a waterfall amphitheatre c.20 m high. The



Figure 2. Male Ringed Kingfisher *Megaceryle torquata*, Quebrada La Mucuchache, 29 September 2012 (Ingrit Correa)

nest contained two whitish eggs. Recorded at 2,200–3,000 m, and presumed to descend to lower elevations during the dry season<sup>11</sup>. This represents a low-elevation range extension. At least two other bird species were nesting in the same area: Oilbirds *Steatornis caripensis* high in the driest portions of the cliffs and White-collared Swifts *Streptoprocne zonaris* in cracks in the wettest parts of the cliffs.

#### **Ringed Kingfisher** *Megaceryle torquata*

One at Quebrada Ovalles, 31 March 2008; frequently observed at La Liria, and occasionally at El Guamal; and a male photographed at Quebrada La Mucuchache, 29 September 2012 (Fig. 2). In Venezuela, recorded to 1,400 m, mostly below 500 m, with no reports for Mérida<sup>11</sup>. These represent new high-elevation records and the first in Mérida.

#### **Amazon Green Kingfishers** *Chloroceryle amazona* and *C. americana*

Frequently observed and mist-netted at El Chamita between 9 August 1991 and 7 April 1993, on the Chama River, where neither species had previously been reported.

#### **Black-backed Antshrike** *Thamnophilus melanonotus*

Previously reported for Caparú<sup>23</sup> on the basis of observations between 26 January 1993 and 16 November 1997, including a pair carrying nest material on 7 March 1993. Additional observations on 30 December 1998 and 6 November 2007. Not reported by Hilty<sup>11</sup> for Mérida but the available evidence suggests a population at Caparú.

#### **White-bellied Antbird** *Myrmeciza longipes*

One between Guaraque and San Francisco, 5 February 2004. Hilty<sup>11</sup> indicated that in Venezuela this species occurs to 1,300 m (once to 2,300 m?). Our record confirms that the species can reach higher elevations.

#### **Slaty-capped Flycatcher** *Leptopogon superciliaris*

One at Quebrada La Gavidia, 24 March 2002. Occurs on both slopes of the Andes, at 400–2,000 m<sup>11</sup>. Ours is a new upper-elevation record and the first in the Chama Valley.

#### **Bran-coloured Flycatcher** *Myiophobus fasciatus*

Singles at Quebrada La Gavidia, 20 April and 24 March 2002, and at Jardín Botánico de Mérida, 19 April 2002. Recorded on both slopes of the Andes to 1,700 m<sup>11</sup>. Our observations represent an upper-elevation range extension and the first reports in the Chama Valley.

#### **Eastern Wood Pewee** *Contopus virens*

One at Jardín Botánico de Mérida, 17 November 2001. Occurs on both slopes of the Andes to 1,300

m<sup>11</sup>. Ours is a new high-elevation record and the first in the Chama Valley.

**Vermilion Flycatcher** *Pyrocephalus rubinus*

Single males at: Llano La Alegría, 4 August 2011; Caparú, 30 December 1998 (female on 16 October 2011); Jardín Botánico de Mérida from December 2005 to March 2006, with pairs at El Carrizal, 3 January 1999; Núcleo La Liria, January–March 2006, and Finca El Crucetal, 15 December 2010. According to Hilty<sup>11</sup> this flycatcher is recorded throughout Venezuela north of the Orinoco to 800 m, but it had not previously been recorded at Caparú, El Carrizal or Jardín Botánico de Mérida, despite intensive surveys of these areas. Our observations represent new upper-elevation records for a species thought to be expanding its range.

**Cattle Tyrant** *Machetornis rixosa*

Birds, including begging juveniles, observed at: El Carrizal; Jardín Botánico de Mérida, 30 January 2001 to 19 April 2002; Sector La Carbonera, 28 July 2007; and Hotel Páramo La Culata, 6 September 2011. Hilty<sup>11</sup> noted that it is found mostly below 300 m, occasionally to 1,000 m, with vagrants occurring even higher, but the presence of this flycatcher year-round in the study area, and the presence of juveniles, suggests a broader elevational range.

**Dusky-capped Flycatcher** *Myiarchus tuberculifer*

Singles at Caparú, 30 December 1998, and Jardín Botánico de Mérida, 3 and 17 November 2001. Hilty<sup>11</sup> indicated that it occurs over most of Venezuela to 2,000 m, but there were no previous records for the Chama Valley.

**Great Kiskadee** *Pitangus sulphuratus*

Pairs observed at El Guamal throughout the year. Hilty<sup>11</sup> noted that the species occurs to 1,600 m (occasionally higher) north of Orinoco, and there was only one previous report for the Chama Valley<sup>23</sup>.

**Boat-billed Flycatcher** *Megarynchus pitangua*

Observed at El Guamal year-round, since 5 July 2002, and repeatedly observed at La Liria in September. Previously reported for the lower Chama Valley at Estánquez<sup>23</sup>. The El Guamal observations provide further evidence of the species' presence in the area.

**Piratic Flycatcher** *Legatus leucophaius*

One on the road to San Luis, Ciudad Fresa–El Fénix, 15 November 2003. Reported to 1,000 m<sup>11</sup>, this observation represents a new high-elevation record.

**Fork-tailed Flycatcher** *Tyrannus savana*

One at Quebrada Ovalles, 31 March 2008, with two at La Liria in March 2010 and a lone bird there in March 2011. Seasonally common at El Carrizal in the late 1970s and early 1980s, but now a rare visitor. Hilty<sup>11</sup> noted that it is distributed virtually throughout Venezuela to 1,600 m, but this is the first report for Mérida and a new high-elevation record.

**White-winged Becard** *Pachyramphus polychopterus*

Several observed and a pair mist-netted at El Chamita, 10 November 1991. According to Hilty<sup>11</sup> the species occurs on both slopes of the Andes, but not in the Chama Valley.

**Green-and-black Fruiteater** *Pipreola riefferii*

A male heard vocalising and then observed in the midstorey of an abandoned shade-coffee plantation between Altamira de Cáceres and the main road to Barinitas, 20 January 2004. Range 1,450–3,050 m in the Venezuelan Andes<sup>11</sup>, making this a new low-elevation record.

**White-capped Dipper** *Cinclus leucocephalus*

One in the fastest-flowing part of the Calderas River at Piedra del Patio, 14 December 2004. The species typically occurs at 1,600–3,000 m<sup>11</sup>, making this observation a low-elevation range extension.

**Masked Yellowthroat** *Geothlypis aequinoctialis*

One at La Azulita, 15 November 2003. Previously reported to 900 m<sup>11</sup>, this is a new upper-elevation record.

**Golden-crowned Warbler** *Basileuterus culicivorus*

Flocks in second-growth vegetation at Jardín Botánico de Mérida (3 and 17 November 2001, and 20 April 2002), El Molino (2 November 2007) and El Guamal (no date). Reported to 2,100 m north of the Orinoco<sup>11</sup>. Our observations represent an upper-elevation range extension and the first reports in the Chama Valley.

**Blue-backed Conebill** *Conirostrum sitticolor*

A pair feeding on *Palicoorea* sp. inflorescences between Hacienda La Montaña and Tusta, 28 October 2007. Previously reported at 2,300–3,500 m<sup>11</sup>, our observation is a new low-elevation record. Typically a canopy-level, mixed-species flock specialist<sup>11,15</sup>, but this pair was low (c.1.5 m) and alone.

**White-lined Tanager** *Tachyphonus rufus*

Observed at Jardín Botánico de Mérida, 20 June 2001 to 20 April 2002. Previously reported to 1,600 m<sup>11</sup>, this observation represents a new upper-elevation record.

**Crimson-backed Tanager** *Ramphocelus dimidiatus*

Frequently mist-netted or observed at El Chamita from 9 August 1991 to 7 April 1993, once at Santa Ana Norte (no date), and occasionally since January 2002 at El Guamal. These are the first reports in the Chama Valley and upper-elevation range extensions.

**Beryl-spangled Tanager** *Tangara nigroviridis*

One at Quebrada Ovalles (15 September 2007). Previously reported at 1,250–2,500 m<sup>11</sup>, this is a new high-elevation record.

**Blue-and-black Tanager** *Tangara vassorii*

One at San Isidro (18 November 2003). Typically occurs at 1,800–3,200 m, mostly above 2,000 m<sup>11</sup>, making our observation a new low-elevation record.

**Southern Greyish Saltator** *Saltator coerulescens*

Observed at: Jardín Botánico de Mérida, 1, 8 and 15 July 2001; an adult with a fledgling between Mesa Bolívar and El Bordo, 14 March 2006; and Valle Verde entrance, 14 March 2006. Typically reported below 850 m north of Orinoco<sup>11</sup>, our observations represent upper-elevation range extensions.

**Dull-coloured Grassquit** *Tiaris obscurus*

One at El Guamal from January 2002 to April 2005, feeding on weeds and in the canopy of *Inga vera* (Mimosaceae) trees. It disappeared shortly after these trees were chopped down. Typically found on the north-west slope of the Andes at 400–2,000 m<sup>11</sup>. First report for the Chama Valley.

**Carib Grackle** *Quiscalus lugubris*

Observed as follows (first records in parentheses): a female at Santo Domingo town (25 March 2004); a male at Pozo Hondo (6 April 2004); a flock at La Plazuela (22 March 2005); two males at Puerto Nuevo (15 December 2005); Mesa Bolívar (14 March 2006); El Bordo (14 March 2006); a flock at Olinda (11 October 2006); and a flock at La Caña (28 July 2007). Previously reported to 850 m, in the Orinoco basin<sup>11</sup>. First reported by Rengifo *et al.*<sup>26</sup> at La Azulita, it is now widespread and common over much of the Venezuelan Andes.

**Venezuelan Troupial** *Icterus icterus*

Several between Chichuy and Tierra Negra, 16 January 2010 and 16 October 2011. Hilty<sup>11</sup> mentioned no records in the Venezuelan Andes, although the species was previously reported from the arid part of the Chama Valley near populated areas (i.e. probably escapees<sup>23</sup>). Our observations were far from habitation, suggesting that the species is colonising habitats similar to those it usually occupies.

**Indigo Bunting** *Passerina cyanea*

One at El Guamal, 16 April 2009, feeding close to the ground with a flock of *Carduelis psaltria*. Previously known in Venezuela solely on the basis of a specimen from the Sierra de Perijá<sup>11</sup>.

**Chestnut-breasted Chlorophonia** *Chlorophonia pyrrhophrys*

A pair between La Veguilla and Mucutuy, 15 February 2008. Typically reported at 1,800–3,000 m<sup>11</sup>, making this a lower-elevation range extension.

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Appendix I. Localities included in this report, arranged alphabetically. Vegetation nomenclature follows Ataroff & Sarmiento<sup>1</sup>.

No.	Locality	State	Coordinates	Elevation (m)	Habitat	Dates visited
26	Albarregas River (lower basin)	Mérida	from 08°32'45"N 71°13'34"W to 08°35'29"N 71°09'33"W	1,070 1,540	Tall second-growth vegetation	No precise date
30	Albarregas River (Santa Ana)	Mérida	08°36'31"N 71°08'30"W	1,670	Gardens and second growth	No precise date
23	Aldea Limones (near to)	Mérida	08°46'28"N 71°26'04"W	540	Humid submontane forest	15 November 2003
50	Altamira de Cáceres and the main road to Barinitas (between)	Barinas	08°48'56"N 70°30'57"W	690	Shade-coffee plantations	20 January 2004
15	Caparú	Mérida	08°29'34"N 71°20'07"W	810	Thorn scrub	Monthly from 26 January 1993 to 16 November 1997 30 December 1998 6 November 2007 16 October 2011
16	Chichuy	Mérida	08°29'14"N 71°19'58"W	760	Thorn scrub	16 January 2010 16 October 2011
17	Chichuy and Tierra Negra (between)	Mérida	08°28'31"N 71°20'05"W and 08°28'23"N 71°19'56"W	1,245 1,440	Thorn scrub	30 January 2010 16 October 2011
4	Cucuchica (entrance to the valley)	Mérida	08°20'32"N 71°43'47"W	840	Pasture	8 October 2004 22 October 2011
5	Cucuchica (within the valley)	Mérida	08°20'12"N 71°42'48"W	870	Shade-coffee plantations and pastures	15 March 1997 21 November 1997 12–13 November 2003
27	El Carrizal	Mérida	08°33'27"N 71°11'29"W	1,270	Gardens	24 November 1991 3 January 1999
39	El Chamita	Mérida	08°33'11"N 71°11'33"W	1,120	Second-growth vegetation	Monthly from 9 August 1991 to 7 April 1993
24	El Crucetal	Mérida	08°32'15"N 71°15'28"W	1,060	Gardens, croplands and second-growth vegetation	15 December 2010
44	El Guamal	Mérida	08°37'34"N 71°04'06"W	1,760	Pastures and second-growth vegetation	since December 2002
9	El Molino (near)	Mérida	08°15'01"N 71°33'29"W	2,270	Croplands and pastures, with second-growth vegetation	2 November 2007
6	El Peñón	Mérida	08°21'19"N 71°42'58"W	770	Pastures	5 October 2009 28 November 2009



No.	Locality	State	Coordinates	Elevation (m)	Habitat	Dates visited
18	El Trompillo	Mérida	08°25'59"N 71°19'56"W	2,380	Short-stature second-growth vegetation	27 August 2007
41	Estación La Montaña (Sierra Nevada National Park)	Mérida	08°34'26"N 71°06'58"W	2,445	High-montane cloud forest	26 April 2007
10	Finca los Maraños and Parque del Motor (between)	Mérida	08°09'42"N 71°28'56"W	2,369	Tall second-growth vegetation, cloud forest and pastures	4 April 1997
12	Hacienda La Montaña and Tusta (between)	Mérida	08°25'39"N 71°30'55"W	1,750	Low-montane dry evergreen forest	28 October 2007
37	Hotel Páramo La Culata	Mérida	08°43'32"N 71°04' 50"W	2,700	Gardens, pastures, second-growth vegetation	12 May 2007 6 September 2011
31	Jardín Botánico de Mérida	Mérida	08°37'25"N 71°08'43"W	1,800	Shade-coffee and pine plantations, second-growth vegetation and pastures	Monthly from 30 January 2001 to 20 April 2002 occasionally from December 2005 to March 2006
1	Juan Pablo Peñalosa National Park	Táchira	08°10'11"N 71°53'38"W	2,850	Cloud forest	1 February 2009
22	La Azulita	Mérida	08°42'01"N 71°27'08"W	1,160	Pastures with scattered trees	15 November 2003
35	La Caña	Mérida	08°42'30"N 71°05'09"W	2,505	Pastures and second-growth vegetation	28 July 2007
34	La Carbonera	Mérida	08°39'50"N 71°06'17"W	2,060	Gardens, pastures and second-growth vegetation	28 July 2007
43	La Ceibita	Mérida	08°37'24"N 71°05'39"W	1,630	Pastures and second-growth vegetation	15 April 2009 21 April 2009 28 September 2009 15 March 2010
32	La Hechicera	Mérida	08°37'37"N 71°09'05"W	1,870	Gardens and second-growth vegetation	29 April 2002 3 December 2002
2	La Otra Banda	Mérida	08°14'06"N 71°50'24"W	1,880	Croplands	3 May 2009
45	La Plazuela	Mérida	08°38'33"N 71°03'18"W	1,920	Gardens, pastures and second growth	22 March 2005
11	La Veguilla and Mucutuy (between)	Mérida	08°16'02"N 71°17'01"W	1,490	Pastures and short second growth	15 February 2008
13	Laguna de Urao Natural Monument	Mérida	08°30'13"N 71°23'43"W	1,025	Brackish lagoon, second growth and thorn scrub	No precise date
14	Llano La Alegría	Mérida	08°29'00"N 71°23'12"W	860	Gardens	4 August 2011
25	Makro (Pozo Hondo)	Mérida	08°31'58"N 71°14'59"W	1,020	Grasslands and second growth	6 April 2004
28	Mérida downtown	Mérida	08°35'29"N 71°08'38"W	1,600	Buildings, gardens	17 January 2012
7	Mesa Bolívar to El Bordo (between)	Mérida	08°29'15"N 71°36'33"W	990	Shade-coffee plantations and clearings	14 March 2006
29	Núcleo La Liria	Mérida	08°36'19"N 71°08'44"W	1,740	Gardens, pastures, scattered trees	from January 2006 to March 2006 March 2010 March 2011
20	Oliinda	Mérida	08°45'39"N 71°28'44"W	1,170	Pastures	11 October 2006
51	Piedra del Patio	Barinas	08°55'01"N 70°27'04"W	890	Shade-coffee plantations	14 December 2004
47	Puerto Nuevo	Mérida	08°49'34"N 70°51'29"W	3,550	Páramo	15 December 2005
40	Quebrada La Astillera	Mérida	08°32'27"N 71°10'29"W	1,600	Low-montane cloud forest	7 April 1993
38	Quebrada La Gavidia	Mérida	08°30'09"N 71°11'31"W	2,200	Low-montane cloud forest	20 April 2002 24 March 2002
46	Quebrada La Mucuchache	Mérida	08°46'31"N 70°51'30"W	3,300	Páramo	29 September 2012
36	Quebrada Ovalles	Mérida	08°43'15"N 71°04'59"W	2,640	Pastures and cloud forest	15 September 2007 31 March 2008 15 June 2008

No.	Locality	State	Coordinates	Elevation (m)	Habitat	Dates visited
30	Albarregas River at Santa Ana	Mérida	08°36'31"N 71°08'30"W	1,670	Gardens and second growth	No precise date
3	San Francisco and Guaraque (between)	Mérida	08°13'44"N 71°44'27"W	2,050	Pastures with scattered trees	5 February 2004
49	San Isidro	Barinas	08°50'40"N 70°33'55"W	1,385	Montane semi-deciduous forest	18 November 2003
33	San Javier del Valle	Mérida	08°39'12"N 71°07'00"W	1,935	Man-made lagoon, pine plantations and second growth	28 July 2007 23 September 2007 17 February 2008 15 June 2008 from 7 March 2009 to 15 March 2009 16 April 2001 22 June 2011 13 July 2011
19	San José del Sur	Mérida	08°21'37"N 71°18'50"W	2,200	Pastures, croplands and short second-growth vegetation	27 August 2007
21	San Luis	Mérida	08°41'17"N 71°27'50"W	1,300	Montane semi-deciduous forest and clearings	15 November 2003
48	Santo Domingo	Mérida	08°51'52"N 70°41'20"W	2,070	Buildings and croplands	25 March 2004
42	Sector Doña Rosa	Mérida	08°35'51"N 71°07'47"W	1,500	Second growth	7 July 2011
8	Valle Verde (entrance)	Mérida	08°28'29"N 71°35'46"W	1,070	Shade-coffee plantations	14 March 2006