

A new subspecies of Three-striped Warbler *Basileuterus tristriatus* in the Serranía de San Lucas, Colombia

by Paul Salaman

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A population of Three-striped Warbler *B. tristriatus* in the Serranía de San Lucas, dpto. Bolívar, northern Colombia, was discovered in 2001 (Salaman *et al.* 2001, 2002). It was immediately evident from their bright yellow coloration that these birds represented a new taxon, and the expedition reports considered that they 'may relate to an undescribed subspecies' (Salaman *et al.* 2001) and subsequently were considered 'to represent an undescribed subspecies' (Salaman *et al.* 2002). Two independent taxonomic studies (Gutiérrez-Pinto *et al.* 2012, Donegan 2014) have confirmed that this population differs in its molecular biology and voice. Gutiérrez-Pinto *et al.* (2012) concluded that Three-striped Warblers in San Lucas represent an 'undescribed subsp.' while Donegan (2014) also referred to the population as 'undescribed', but noted that Gutiérrez-Pinto *et al.* (2012) had declared an intent to do so. Following communication with all of the above-mentioned authors, confirming their lack of intention to proceed with a description of their own and their consent to this publication, I now propose that the San Lucas population be named:

Basileuterus tristriatus sanlucasensis subsp. nov.

Holotype.—Adult male, Instituto de Ciencias Naturales, Universidad Nacional, Bogotá, Colombia (ICN) no. 34167. Extracted from a mist-net by P. Salaman and prepared as a specimen by T. M. Donegan, at El Retén, near La Punta, Santa Rosa del Sur, Serranía de San Lucas, Bolívar (08°08'47"N, 74°12'48"W; 1,400 m) on 18 March 2001. The specimen is illustrated in Donegan (2012: Fig. 2).

Paratype.—Adult female, ICN 34178, mist-netted and prepared by P. Salaman on 19 March 2001 at the same locality as the holotype. Also illustrated in Donegan (2012: Fig. 2).

Diagnosis.—Available sound-recordings of *sanlucasensis* differ from those of other populations of *B. tristriatus* in having a shorter introduction to the rising song and in not attaining such low minimum acoustic frequencies in rising or slow songs (Donegan 2014: cf. Appendix 2 and sonograms in Figs. 3A and 4E thereof, alongside data pertaining to, and sonograms of, vocalisations of other *B. tristriatus* subspecies). Considered phenotypically distinct from other populations of *B. tristriatus* (Salaman *et al.* 2002, Gutiérrez-Pinto *et al.* 2012), except those in the northernmost Central Andes (part of *B. t. daedalus*: Donegan 2014). The new subspecies has yellower underparts and fore crown-stripe than adjacent populations of *B. tristriatus* (Salaman *et al.* 2002, Curson 2010), being closer in plumage to geographically distant and vocally differentiated populations on the east slope of the Andes in Ecuador and Peru (referred to *B. t. baezae* or *B. t. tristriatus*) in this character (Gutiérrez-Pinto *et al.* 2012). Gutiérrez-Pinto *et al.* (2012: 5) sampled mtDNA of the holotype and paratype, finding the San Lucas population to be 'significantly divergent from the adjacent populations of the Central ($\Phi_{ST} = 0.801$, $p < 0.005$; mean uncorrected distance = 0.046) and Eastern cordillera ($\Phi_{ST} = 0.816$, $p < 0.005$; mean pairwise difference = 0.039)', whose populations are ascribed to *B. t. daedalus* and *B. t. auricularis*, respectively; and found San Lucas specimens to form a phylogenetically basal group with respect to these two Andean populations (Fig. 3, clade D).

Description of holotype.—Colour descriptions follow Munsell Color (1977, 2000) and were taken by TMD from the holotype at ICN in January 2010. Sides of crown, lores and ear-coverts black (not coded). Crown-stripe yellow (5Y 7/8), paler (5Y 7/3) on nape and forecrown. Supercilium and lower eye-ring cream (5Y 7/2), moustachial off-white (5Y 8/1) with narrow darker moustachial stripe. Whitish (5Y 7/2) mark behind ear-coverts. Upperparts, fringes to tail and wing-coverts, and thighs and flanks olive (2.5GY 5/6 but darker). Wing-coverts, flight feathers and tail otherwise dusky (5Y 3/2), with leading edge of first primary paler (5Y 8/12). Chin cream (5Y 8.2), throat light yellow (5Y 8/2) and breast somewhat more fulvous (5Y 7.5/8) with very pale olive speckles. Belly yellow (5Y 8/8). Upper breast-sides olive (as back). Emarginations on second, third and fourth primaries (from the outermost), with slight emargination on fifth primary. Wingtip formed by third and fourth primaries. The specimen label bears the following data: iris dark brown, bill greyish horn, legs pale yellow-brown. Mass 12.4 g. Left testis 7.0 × 6.7 mm. Trace of fat. Skull ossified, stomach empty. Forest edge. 1,400 m. Colombian EBA Project EBA 01 #4.

Variation.—The paratype is marginally paler on its upper breast, has a paler olive mantle and is smaller bodied. The iris of an individual captured at Santa Cecilia, San Lucas, in 2010 was coded in the field as brown (2.5Y 2.5/2). Six individuals trapped by T. M. Donegan at the latter locality also had bright yellow underparts and crown (e.g. Donegan 2014: Figs. 1E–F). A photograph of the new subspecies in life appeared in Salaman *et al.* (2002: Fig. 3). Variation in biometrics is detailed in Appendix 1 of Donegan (2014) and in voice in Appendix 2 of Donegan (2014).

Distribution.—Occurs only in the Serranía de San Lucas (Salaman *et al.* 2001: Fig. 1; Salaman *et al.* 2002: Fig. 1) where known from two highland localities: La Punta (details above: see Salaman *et al.* 2001, 2002) and Santa Cecilia (*cf.* Donegan 2012, 2014). Recorded at 1,400–1,600 m, but doubtless ranges higher. Unrecorded at various low-elevation sites in San Lucas (Salaman *et al.* 2001), so unlikely to occur below 1,350 m, at least on the east slope of the massif.

Vocalisations.—See the diagnosis, discussion and sonograms in Donegan (2014: Figs. 3A, 5E and 7E–F).

Etymology.—Named for the Serranía de San Lucas. The name is based on the Spanish word for Saint (San) and the personal noun (Lucas), the beatified gospel author who gives his name to the range. The adjectival Latin suffix ‘-ensis’ (pertaining to or originating from) is invariable. The recommended English name is ‘San Lucas Warbler’ or in Spanish ‘Arañero de San Lucas’.

Taxonomic rank.—Treated as a subspecies following Gutiérrez-Pinto *et al.* (2012) and Donegan (2014). Clearly a phylogenetic species, with apparently deep molecular differentiation and some vocal differentiation from other populations. However, under the Biological Species Concept, the requirements of ‘species scoring’ tests for allopatric populations (Tobias *et al.* 2010) are not met, with estimated scores of 0 for plumage or biometrics (*vs.* the northernmost populations of *B. t. daedalus*), 2–3 for acoustic frequency differences and 1–2 for length of trill in male songs, giving a score of 3–5, i.e. fewer than the seven required for species status under the Tobias *et al.* system.

Conservation.—There is no protected area within the range of this population. It is of utmost urgency that conservation measures be designed to protect the Serranía de San Lucas. A discussion of the region’s conservation issues is set out in Salaman *et al.* (2001, 2002) and Donegan (2012).

ICZN Code of Ethics.—Although Gutiérrez-Pinto *et al.* (2012) stated an intention to describe this population, communications with all of these authors confirmed that none of them now intends to publish a description or wished to co-author this description. T. M.

Donegan declined to be an author because he did not want to participate in a description without any of Gutiérrez-Pinto *et al.* (2012). It is an important outcome that this population be described because taxonomic recognition of a first San Lucas endemic could help motivate long-outstanding conservation plans for the region. All of the persons mentioned in this paragraph fully support this description being published.

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References:

- Curson, J. 2010. Family Parulidae (New World warblers). Pp. 666–800 in del Hoyo, J., Elliott, A. & Christie, D. A. (eds.) *Handbook of the birds of the world*, vol. 15. Lynx Edicions, Barcelona.
- Donegan, T. M. 2012. Range extensions and other bird notes from Serranía de San Lucas, a little-known, isolated mountain range in northern Colombia. *Bull. Brit. Orn. Cl.* 132: 140–161.
- Donegan, T. M. 2014. Geographical variation in morphology and voice of Three-striped Warbler *Basileuterus tristriatus*. *Bull. Brit. Orn. Cl.* 134: 79–109.
- Gutiérrez-Pinto, N., Cuervo, A. M., Miranda, J., Pérez-Emán, J. L., Brumfield, R. T. & Cadena, C. D. 2012. Non-monophyly and deep genetic differentiation across low-elevation barriers in a Neotropical montane bird (*Basileuterus tristriatus*; Aves: Parulidae). *Mol. Phyl. & Evol.* 64: 156–165.
- Munsell Color. 1977. *Munsell color charts for plant tissues*. GretagMacbeth LLC, New York.
- Munsell Color. 2000. *Munsell soil color charts*. GretagMacbeth LLC, New York.
- Salaman P., Donegan T. M., González, C., Bustos, X. & Cuervo, A. 2001. Presenting the first biological assessment of Serranía de San Lucas. *Colombian EBA Project Rep. Ser.* 3.
- Salaman, P., Donegan, T. M. & Cuervo, A. M. 2002. New distributional bird records from Serranía de San Lucas and adjacent Central Cordillera of Colombia. *Bull. Brit. Orn. Cl.* 122: 285–304.

Address: Rainforest Trust, 25 Horner Street, Warrenton, VA 20187, USA, e-mail: paul@RainforestTrust.org