Status of the Magdalena Tinamou *Crypturellus saltuarius* in the type locality and adjacent lower Magdalena Valley

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Durante enero de 2002 se realizó un relevamiento de campo en busca del Tinamú del Magdalena *Crypturellus saltuarius* en Ayacucho, localidad tipo, y en otros pueblos de los dptos. Cesar y Norte de Santander, en el norte colombiano. No se ha encontrado ningún registro de *C. saltuarius* desde su descubrimiento en el año 1943, y no se ha buscado a la especie desde esta fecha, en razón de la situación de orden público de la zona. El trabajo de campo se desarrolló en etapas: (i) examen de mapas satélites, para valorar el grado de deforestación en la región; (ii) entrevistas con cazadores y otras personas de la zona; y (iii) observación de aves en áreas donde aún existen bosques. La información obtenida a través de las entrevistas sugiere fuertemente que la especie no se había extinguido, por lo menos hasta los años 80s, pues se encontró un individuo de esta especie, en cautiverio, hacia principios de los 90s. Casi todos los reportes recientes vienen del piedemonte de la Cordillera Oriental y de la Serranía de San Lucas. La deforestación en la región es significativa, con solamente 1–2% de cobertura de bosque en el piedemonte de la Cordillera Oriental. No se encontró a la especie durante el trabajo de campo, pero no se pudieron estudiar estas dos regiones debido a la situación de orden público actual.

Previously known status

Magdalena Tinamou *Crypturellus saltuarius* was assigned Endangered/Extinct status by Collar *et al.*[2], and Critical status by BirdLife International[1], with speculation of its extinction appearing in several popular publications. It was described from a single specimen—probably an immature—collected in the western foothills of Colombia's East Andes in Ayacucho, southern dpto. Cesar, on 9 June 1943[2]. A male tinamou taken during Expedición Botánica on 11 August 1786 by Fray Diego García from Chiminá Feligresia, Mariquita[5] on the eastern slope of the Central Andes in dpto. Neiva (05°12'N 74°53'W, 500 m: coordinates from J. D. Amaya *in litt.* 2001), not in dpto. Huila as stated by BirdLife International[1], also refers to this species. Although the location of the 1786 specimen is unknown, detailed notes on plumage, measurements and sexing taken by García have been published[5]. With only two records over 150 years apart, and no records in almost 60 years, conservationists crucially lack information on the status, ecology, vocalisations and distribution of, and threats to, *C. saltuarius*.

The war that has deterred field work in Colombia commenced in 1947, just four years after the species' discovery. The period known as *La violencia* was soon followed by over 40 years of guerrilla–government conflict, and, in the last decade, the rise of paramilitary groups. Throughout this period, the region of the type locality has been regarded as a 'no-go area'. Despite the complex political situation, the first ornithological surveys of the middle Magdalena Valley in decades were undertaken during the mid-1990s to early 2000s[9,11]. However, the lower Magdalena Valley from Aguachica north has barely been surveyed since the discovery of *C. saltuarius* in the 1940s.

Nomenclature and taxonomy

Taxonomic relationships among medium-sized red-legged *Crypturellus* throughout the Americas are subject to some controversy (summarised in Hilty & Brown[4]). *C. saltuarius* has been treated as distinct from *C. erythropus* and other taxa by most recent authors[1,2,7,10]. We follow this nomenclature, but express no comment on the taxonomy of the group.

Proyecto Tinamú: brief overview of methods

Field work was conducted on 5–25 January 2002 with the objective of assessing the status of Magdalena Tinamou in the region of the type locality, using the following methods:

1. examination of satellite land-use maps to assess the extent of remaining forest in the region—three maps dated 1995 and covering c.63,000 km² at 08°15–09°00'N 73°00–74°00W (excluding the south-eastern quadrant);
2. interviewing hunters and other local people to obtain recent reports of the species and pinpoint potential sites for future field work; and
3. conducting bird observations in remaining forests in the region.

Status of habitat around the type locality

The foothills of the eastern slope of the Cordillera Oriental, in which the type locality of Ayacucho (200 m) is situated, have largely been deforested between 100 and 1,000 m elevation. We estimate

that old secondary or primary forest covers c.1–2% at foothill elevations (mostly along river valleys [see Fig. 3] and on some isolated hilltops), with c.3–4% young secondary and older scrub growth. In the vicinity of the río Magdalena and adjacent *ciénagas* (large natural lakes), some forest patches are still evident, but mostly mangroves or riverine forest (c.5% of this region). There is some evidence of more sizeable forest patches at higher elevations on the western slope of the cordillera, although cloud coverage on satellite maps and our distance from the cordillera during surveys made this difficult to assess.

The largest forest patch in the vicinity of the type locality is a c.5,600 km^2 expanse of c.95% intact forest at 600–2,400 m around Catatumbo National Park (08°34–09°00'N 73°00–73°25W). However, most (c.80–90%) of the park is on the eastern slope of the cordillera where *C. saltuarius* is expected to be replaced by *C. erythropus spencei* in suitable habitat, and much of this land is too high (assuming that *saltuarius* has a similar elevational range to other members of the *C. erythropus* superspecies in northern Colombia). CORPONOR (Corporación Autónoma Regional de la Frontera Nororiental) staff reported that Catatumbo National Park has been significantly deforested for timber and coca farming since the 1995 maps were produced.

We made repeated detailed observations of the state of the forest along a c.75 km length of the cordillera from the Magdalena Troncal, a road that parallels the Eastern Cordillera between Aguachica and Pelaya. We also made observations of the cordillera south to Bucaramanga and into the cordillera at Ocaña. Throughout the study area, we noted extremely low forest cover levels, with further deforestation since 1995 evident.

Interviews: area studied and protocol

We conducted interviews in the following settlements (see Fig. 1): in dpto. Cesar, Aguachica, Ayacucho, Besote, La Gloria, La Mata, Pelaya, Río de Oro, San Bernado and San Martín; in dpto. Norte de Santander, Agua de la Vírgen, Ocaña and La Playa. TMD also conducted a small number of interviews in dpto. Bolívar, in the San Pablo and Santa Rosa del Sur region, in April 2001.

A poster was produced (Fig. 2) which was shown during each interview, and a copy was left with each interviewee. In the early part of the conversation, we initiated a general discussion concerning *gallinetas* and *tinamues* to evaluate whether they could recognise or describe the species unprompted. We then showed the interviewee the poster depicting Magdalena Tinamou or used plates in Hilty & Brown[4] to differentiate between species. Interviews were unstructured. Notes were taken where interesting information was forthcoming.

Results and discussion of interviews

General

We distributed c.200 posters in the region. Of the c.150 people we spoke to, who included c.20 interviewees recommended to us as former hunters or bird or nature 'experts' and with whom detailed interviews were conducted, only five reliably reported the Magdalena Tinamou, and perhaps only another 20 were aware of *gallinetas del monte* in general (i.e. Little Tinamou *C. soui* and, rarely, Great Tinamou *Tinamus major*). The lack of awareness was such that many more people identified the farmyard Helmeted Guineafowl *Numida meleagris* as a *gallineta* than identified a tinamou sp. Many more people were aware of the Critically endangered *Paujíl* Blue-billed Curassow *Crax alberti* than any tinamou.

Notes and discussions of specific interviews

Although we interviewed several people in Ayacucho, the type locality, only one interviewee recognised the bird on our poster. David Barranco, a 63-year-old former hunter who had lived in Ayacucho for 34 years, knew of three *gallinetas* in the region: one small, one medium-sized and one large species (i.e. *C. soui*, *C. saltuarius* and *Tinamus major*). Having provided a strong description of *C. saltuarius*, including its red legs, he immediately recognised the bird on our poster. He described *C. saltuarius*' local name as *soy sola* ('I am alone'). The name is onomatopoeic as the bird sings a trisyllabic refrain. Sr. Barranco formerly heard and saw the species regularly from c.05h00–0h600 and 16h00–18h00 in the mountains above Pelaya, near Quebrada La Vírgen and in the Cerros de Bobalí, although he reported that it was less numerous than the smaller *gallineta* (i.e. *C. soui*). These localities are on the western slope of the Eastern Cordillera and up to c.1,200 m elevation. Sr. Barranco stopped hunting 25 years ago, and had not seen the species since. He reported that it was not as widely hunted as *Crax alberti* or *Penelope* spp., although it was taken opportunistically.

The name, song and certain aspects of the ecology of the species were corroborated by two other interviewees in La Mata, who claimed to have seen the species around San Calixto and in the Serranía de San Lucas until c.12–15 years ago (the late 1980s).

The evidence from these interviews is compelling of the species' continued existence at least into the 1980s. The dawn and dusk calling is behaviour very characteristic of tinamous, and the described call does not resemble *C. soui*, *T. major*, any of the highland tinamous or other large ground birds (e.g. *Odontophorus*, *Geotrygon*, *Penelope*, *Colinus* or *Crax*) in northern Colombia. The

described call is also remarkably similar to other medium-sized red-legged *Crypturellus*. The voice of *C. erythropus* is described as *whooo-hooa*[4] and what is apparently the Santa Marta Tinamou *Crypturellus idoneus* has the local name *siuri* (T. Gutiérrez *in litt.* 2001), also suggesting a trisyllabic call.

In Río de Oro, a man nicknamed *El Curioso* owns a large private zoo that remarkably included a Little Tinamou *C. soui*, a highly unusual species in captivity. He immediately recognised the picture of *C. saltuarius* on our poster due to its more red-brown plumage and red legs, and claimed to have held an individual of this species in his collection, until it died ten years previously when aged c.8–10 years. It had been purchased from a hunter who captured it in Serranía de San Lucas. It is probable that this bird was captured on the eastern flank of San Lucas, as the western flank was inaccessible in the early 1980s, without a c.250 km river and road journey via Nechí.

Reliability of reports from Serranía de San Lucas

It should be noted that the Serranía de San Lucas is close to a zone where Colombian Tinamou *C. columbianus* may replace *C. saltuarius*. *C. columbianus* is known from the Nechí lowlands west of Serranía de San Lucas. However, neither *saltuarius* nor *columbianus* has been recorded on the drier eastern flank of the Serranía de San Lucas where recent interviews and surveys, albeit only in disturbed habitats below 1,000 m, failed to locate either taxon[8]. We consider it more likely that *columbianus* and *saltuarius* are (were) separated by the Central Andes, with *saltuarius* inhabiting the dryer Magdalena Valley and *columbianus* restricted to more humid forest of the Nechí lowlands. This view is partially supported by the Expedición Botánica *saltuarius* skin, which was collected on the eastern slope of the Central Andes. The possibility that the range of *columbianus* extends into the río Magdalena Valley cannot be discounted entirely, although we consider this to be less plausible.

Limitations on interview data and the need for additional data

The region from where most of the reliable recent reports of *C. saltuarius* originate is the western slope of the Eastern Cordillera in or near Catatumbo National Park. Interviews from settlements in the region of Convención, San Calixto and Teorama and above Pailitas were not possible due to the security situation but would make our assessment of the status of Magdalena Tinamou more complete. The security situation in the lowlands of Serranía de San Lucas is also extremely complicated[8]. The highlands were recently subject to bird surveys[9], but further interviews and field work in foothill forest (200–1,000 m) are urgently required.

Bird surveys

We conducted bird observations at the following sites:

- **La Tapia** (adjacent to Ciénaga Sahaya, west of San Bernardo, municipio Pelaya, dpto. Cesar, c. 08°42'N 73°47'W, 80 m; 11–14 January 2002)—a small patch of highly disturbed and selectively logged riparian border forest.
- **Aguachica** (c.3 km north-east of town, municipio Aguachica, dpto. Cesar, c.08°19'N 73°38'W, 350 m, 10–11 and 15 January 2002)—a typically narrow belt of second-growth forest within a dry stream valley.
- **Agua de la Vírgen** (municipio Ocaña, dpto. Norte de Santander, c.08°13'N 73°24'W, 1,600–1,750 m, 17–20 January 2002)—a patch of primary forest where hunting and tree felling have been prohibited by religious authorities since 1711.

We sound-recorded *C. soui* at Agua de la Vírgen, but did not encounter *C. saltuarius* at any of our study sites, which included most of the accessible habitats located in the study region. However, we were unable to study any sizeable patch of primary or old secondary forest at elevations below 1,600 m due to the security situation.

Is the Magdalena Tinamou extinct?

Our interviews present reasonable evidence that *C. saltuarius* was still extant in the 1970s and 1980s in the foothills of the Eastern Cordillera, with one individual in captivity until the early 1990s. Though very few sightings were reported by local people, including none for at least ten years, the lack of recent information does not mean that *C. saltuarius* is now extinct. There are two main reasons for the general lack of good information from local people. Firstly, deforestation in the region has been so severe and long established that the forest avifauna (including tinamous) has long been extirpated. Secondly, almost no one in the towns in which we were able to conduct interviews presently hunts. People are deterred from hunting due to (a) the distance of remaining forest patches, (b) a fear of encountering guerrilla groups and (c) prohibitions by both guerrilla and paramilitaries on the carriage of weapons. These factors cumulatively mean that the best information relating to the species was obtained from older hunters, who operated when more forest existed and before the paramilitary conflict developed in the region during the early 1990s.

Magdalena Tinamou is locally extinct in the region of the type locality and the lowland region of the Magdalena Valley from San Martín to Pelaya.

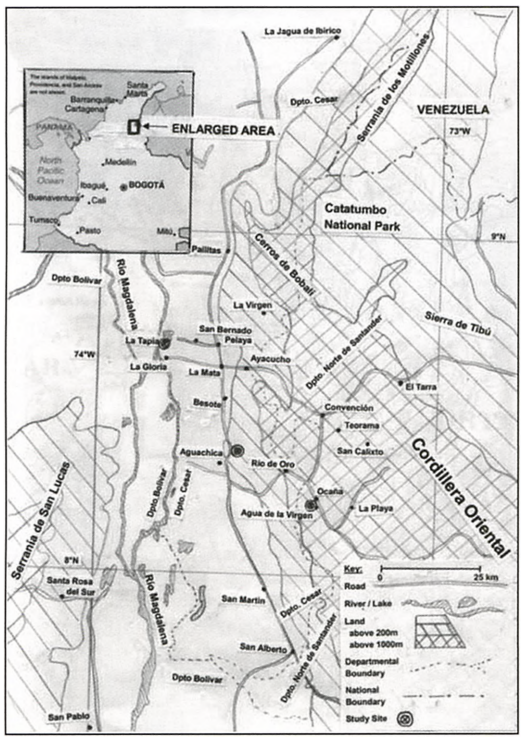

Figure 1. Map showing study area.

Figure 3. River valley.

Figure 2. Poster used during interviews.

However, based on forest cover maps and our interviews, we consider it probable that the species is still extant in the few remnant foothill forests on the western slope of the Eastern Cordillera and probably on the eastern slope of Serranía de San Lucas. Unfortunately, the security situation in both regions limits possibilities for field work, and both regions are currently subject to high levels of deforestation.

BirdLife International[1] estimated the population of *C. saltuarius* to be 50 and decreasing. Based on the few data that exist, this would appear as strong a valuation as any. The population would be more amenable to precise determination if and when populations can be located and studied.

Threats

Deforestation is the greatest threat to *C. saltuarius*, both presently and historically. Other members of the *C. erythropus* superspecies do not require large or high-quality forests to subsist[4]. However, in this part of Colombia, development continues apace with no consideration of biodiversity conservation. Where settlements approach forested areas, literally not a single tree is left standing. The nature of human settlement in this region, which results in complete and unsustainable habitat destruction, is such that the Magdalena Tinamou will probably only rarely be found in disturbed or secondary areas, and most likely subsists almost exclusively in undisturbed forest patches—which are rare.

While hunting was perhaps historically a threat to the Magdalena Tinamou, it is currently minimal in the vicinity of the type locality because of unofficial hunting prohibitions, which can be extremely effective[3]. The Magdalena Tinamou is therefore expected to survive where suitable habitat exists.

Habitat

Collar *et al.*[2] (quoting Paynter & Traylor[6]) suggest that the species' habitat is 'dry deciduous forest and savannahs'. Deforestation has undoubtedly led to increasingly dry conditions in the Magdalena Valley, but reference to 'savannah' suggests deforested farmland habitat where the species is certainly not present. Our interviews confirmed the habitat of *C. saltuarius* to be foothill forest on the western slope of the Eastern Cordillera, while these and the Expedición Botánica skin strongly suggest that the species also inhabits foothill forest on the eastern slope of Central Andes, including the Serranía de San Lucas. Information from interviewees, fairly regular rainfall during field work, cloud coverage on satellite maps and the nature of those forests we studied suggest that the 'dry' nature of the habitat of the region has been somewhat overstated in the literature.

Conservation priorities

1. Conducting ornithological surveys and further interviews in the following regions: (i) San Calixto/Convención and foothills on the western slope of the East Andes above Pailitas in or around Catatumbo National Park; (ii) the eastern foothills of the Serranía de San Lucas; and (iii) between Pailitas and La Jagua de Ibirico (to determine the species' status in the Serranía de los Motillones and southern Serranía de Perijá);
2. Recording vocalisations of *C. columbianus* and *C. idoneus* (which apparently have never been sound-recorded and are also subject to high threat levels) to help determine the taxonomic status of *C. saltuarius* and other closely related taxa; and
3. Most importantly, to take effective practical conservation action when *C. saltuarius* populations are eventually found.

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