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# The current status of the Pink-headed Warbler *Ergaticus versicolor* in Chiapas, Mexico

Jared Wilson and Tom Will

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*Ergaticus versicolor* es un endemismo del bosque nublado del sur de México (norte y sudeste de Chiapas) y oeste de Guatemala. Está clasificada como casi amenazada en el Libro Rojo de ICBP/IUCN<sup>2</sup>. Historicamente, *E. versicolor* parece haber sido común en el sector guatemalteco de su distribución, y los reportes recientes de observadores que visitaran este área sugieren que aún existe allí. Howell y Webb<sup>7</sup> mencionan que *E. versicolor* es “común a bastante común” a lo largo de su distribución, pero mientras ésto es tal vez verdadero para las poblaciones en Guatemala, no es del todo correcto en lo que respecta a Chiapas. Durante un estudio sobre la presencia de *Dendroica chrysoparia* en las alturas de Chiapas, Vidal et al. hallaron que las observaciones de *E. versicolor* eran menos numerosas que aquellas de este especie globalmente amenazada.

Hacemos una revisión del estatus y distribución de *E. versicolor* y damos un reporte sobre el trabajo de campo en Chiapas, México, principalmente en Cerro Huitepec y Rancho Nuevo cerca de San Cristobal de Las Casas, en el Cerro Tzontehuitx cerca de Chamula, y en Volcán Tacana en la frontera con Guatemala, al noreste de Tapachula. Nuestro trabajo sugiere que *E. versicolor* es de hecho bastante poco común en Chiapas fuera del Volcán Tacana, tiene una distribución altamente restringida y se encuentra bajo una considerable amenaza de extinción local.

## Introduction

Pink-headed Warbler *Ergaticus versicolor* is endemic to the cloud forests of north and south-east Chiapas, Mexico and western Guatemala, and is classified as near-threatened in Collar *et al.*<sup>2</sup>. Historically, *E. versicolor* appears to have been very common in the Guatemalan part of its range<sup>6,9</sup>, and recent reports from birders visiting this area suggest its continued presence. Howell & Webb<sup>7</sup> describe *E. versicolor* as “common to fairly common” throughout its range, but while this statement is perhaps true for the Guatemalan population, it is somewhat misleading in the context of Chiapas. In a study of Golden-cheeked Warbler *Dendroica chrysoparia* occurrence in the Chiapas highlands, Vidal *et al.*<sup>11</sup> found that sightings of *E. versicolor* were less numerous than those of the globally threatened *Dendroica*.

Here, we review the distributional status of *E. versicolor* and report on field work in Chiapas, Mexico, principally at Cerro Huitepec and Rancho Nuevo near San Cristóbal de Las Casas, at Cerro Tzontehuitz in nearby Chamula, and at Volcán Tacaná on the Guatemalan border north-east of Tapachula. Our work suggests that *E. versicolor* in Chiapas is in fact very uncommon away from Volcán Tacaná, has a highly restricted distribution and is under considerable threat of local extinction.

## Ecology

*Ergaticus versicolor* requires oak or pine-oak cloud forest with a dense understorey, a habitat it shares with a number of other highland endemics such as Bearded Screech-owl *Otus barbarus*, Blue-throated Motmot *Aspatha gularis*, and Black-throated Jay *Cyanolyca pumilo*. In Chiapas, this habitat occurs along the forest edge where secondary vegetation is allowed to develop over a substantial period of time (e.g. at Cerro Huitepec); it is also found on steep forested slopes where shallow soils and frequent tree-falls produce lower tree densities, a more open canopy and a denser understorey than might otherwise be the case. Examples of open cloud forest with a well-developed understorey (and significant populations of *E. versicolor*) were found on the steep slopes of both Rancho Nuevo and Volcán Tacaná. Pure pine forest appears to be unsuitable for breeding *E. versicolor*, possibly because the often poorer understorey is unsuitable for concealing the species' ground nests<sup>4</sup>.

*E. versicolor* has an altitudinal range of 1800–3500 meters<sup>7</sup>; according to Curson *et al.*<sup>3</sup>, the species is most abundant at 2800 m and above. In the Central Highlands of Chiapas, *E. versicolor* occurs above 2200 m; it is not found at the lower altitude cloud forest sites of northern and eastern Chiapas. This suggests that temperature as well as moisture and habitat structure may be an important determinant of *E. versicolor* occurrence. Skutch<sup>9,10</sup>, for example, mentions winter frosts as a key climatic requirement for the species.

*E. versicolor* makes aerial sallies and gleans insects from vegetation, concentrating its foraging in understorey vegetation between 2–5 m in height and only occasionally working above 7 m, but we observed males singing and foraging at the tops of 15 m trees on several occasions during March and April. At Huitepec, males with attendant females were easily observed from late February; at this time the birds appeared in second-growth on forest edge, and even foraged and sang conspicuously as much as 80 m from the cloud forest edge in patches of advanced second-growth in open, overgrown fields. By late March, however, the females became very secretive, and males became equally difficult to locate by mid-April. This cryptic behavior in

breeding birds at Huitepec was perhaps due to very low population densities, as it was not apparent in birds observed at Volcán Tacaná during a visit in June 1995 nor during a study in western Guatemala<sup>9,10</sup>.

The authors believe *E. versicolor* to be sedentary, with pairs (or at least males) holding territories throughout the year. Some post-fledging and winter dispersal may occur, and could explain non-breeding reports of *E. versicolor* in apparently uncharacteristic habitat.

There is little evidence to suggest that the decline in *E. versicolor* numbers is part of a short term fluctuation, similar to those shown in the cogenetic Red Warbler *Ergaticus ruber*<sup>5</sup> of Mexico's central highlands. The eruption of Volcán Chichonál in 1982 and the subsequent carpeting of large areas of Chiapas with volcanic ash may have initially reduced the Northern Highlands population of *E. versicolor*, as suggested by some authors<sup>3,7</sup>. However, work carried out by the authors and consultation with researchers living and working in the area, indicate no sign of a recovery in numbers over recent years. The fall in numbers during the early 1980s (whatever the cause) appears to be have been compounded by a rapid acceleration in habitat modification and destruction since then.

## Distribution

*E. versicolor* occurs in two distinct regions (see Figure 1): the highlands of western Guatemala, which harbour the species' core population, and southernmost Chiapas on Volcán Tacaná and its immediate surroundings (see Figure 2); and the Central Highlands (Altos) of Chiapas, with most records from the surroundings of San Cristóbal de Las Casas. This population is probably genetically isolated from the Guatemalan population, due to both the species' highly sedentary nature and the presence of two low-lying, physical barriers: the Central Depression and the Central Plateau. Despite this, no geographical variation has been described in the species<sup>3</sup>.

The dependence of *E. versicolor* on well-preserved pine-oak cloud forest with a dense understorey (or well-developed secondary vegetation adjacent to cloud forest) coupled with its apparent need for altitudes high enough to produce winter frosts results in a restricted potential distribution for the species in the Central Highlands of Chiapas. Within this region, there are two known areas in which *E. versicolor* occurs, both in the vicinity of San Cristóbal (Figure 3): Cerro Huitepec and Rancho Nuevo.

**Cerro Huitepec**, an old volcanic peak ranging in altitude from 2200–2720 m, is situated 3 km west of the city. On the eastern flank of the mountain, 135 ha of oak forest are protected by PRONATURA Chiapas as the Estación Biológica Cerro Huitepec. In spring 1995, 6–8 singing *E. versicolor* males defended territories along the forest edge on the north-west border of the reserve, concentrating their activities in well-developed secondary growth immediately adjacent to intact cloud forest. In March–April 1996, only four singing males were present, appearing to defend clusters of small trees and advanced secondary growth in fields and openings 30–80 m from the forest edge. Birds have also been observed near the radio towers at the summit of Huitepec and in the pine-oak woodland near the Instituto de Historia Natural offices south-west of the mountain. It is unclear whether breeding occurs at these last two sites, but the habitat appears suitable.

Forest cutting on Cerro Huitepec, outside the reserve, has been particularly intense in the last few years, as has habitat destruction in the surrounding region. For example, none of the original 8604 ha of the Larrainzar cloud forest remains<sup>1</sup>. Some areas of seemingly suitable habitat still occur on the hills surrounding Zinacantan, and it is perhaps difficulty of access which explains the lack of recent records from this area.

**Zona de Protección Ecológica Rancho Nuevo**, the second major site for *E. versicolor* in the Altos, has a more extensive area of suitable habitat than Cerro Huitepec and is likely to harbour a larger population. This steep forested ridge to the south-west of San Cristóbal, running from Los Corralitos alongside highway MEX 190 to beyond the settlement of Rancho Nuevo proper, has an altitude similar to that of Huitepec. Here, suitable habitat comprises steep slopes with a relatively open canopy that permits dense understorey development—a configuration very different from the secondary edge habitat found on Cerro Huitepec.

Since the Zapatista guerrilla uprising of

January 1994, access to Rancho Nuevo has unfortunately been increasingly difficult due to the heavy military presence of the Mexican government in the area, and it is currently impossible to visit either the cloud forest sites or the pine and pine-oak slopes leading to the ridge crest. Thus a thorough census during March–April 1995 was not possible, but on a brief visit in January 1995 we found two pairs of *E. versicolor* along a 3 km track ascending the ridge, and there appeared to be a substantial amount of suitable habitat. Technically, Rancho Nuevo is a protected state park—the public is permitted only in a small developed area surrounding the entrance to a limestone cave (Las Grutas)—but the continued military presence may have detrimental effects on the area. From the highway, one can see much road construction, and the more heavily forested areas are reportedly used for manoeuvres and artillery practice. It remains to be seen if the restriction of public access will outweigh the heavy military use as an inadvertent conservation strategy. Records of *E. versicolor* from the open, pine-forested slopes and valleys north of the Rancho Nuevo ridge may prove to be of dispersing Rancho Nuevo birds, as there does not appear to be any suitable breeding habitat here.

**Cerro Tzontehuitz**, 6 km north of San Cristóbal in the municipality of Chamula, is the highest peak in the Central Highlands (2800 m) and has a substantial area of forest supporting a number of cloud forest species like Highland Guan *Penelopina nigra*, Green-throated Mountain-gem *Lampornis viridipallens* and Mountain Robin *Turdus plebejus*. However, there are no records of *E. versicolor* from this area, nor were we able to locate any birds in three widely spaced trips to the mountain. The disappearance of 95% of the original 10,200 ha of forest may be a factor, but since a smaller area on Cerro Huitepec still supports a population of *E. versicolor*, it is more likely that the absence can be attributed to the heavy disturbance of the understorey resulting from cutting and local charcoal production.

The area of forest along the ridge north of Teopisca which extends north towards Chanal (Figure 3) would appear to be suitable for *E. versicolor* (P. Bubb pers. comm.) and a census during March would be invaluable in establishing the species' status there. Of the other cloud forest sites in the Central Highlands identified by Bubb1, only Cerro Cavahlna (Figure 2) appears to be a potential site for *E. versicolor*. Cerro Saybal, Cerro Blanco, and Jotolchen (Figure 2), although altitudinally within the range of *E. versicolor*, lack suitable habitat (P. Bubb pers. comm.).

There are no records of *E. versicolor* from the peaks of El Triunfo Biosphere Reserve in the Sierra Madre of Chiapas, no doubt due to habitat differences. The only other area in Chiapas where *E. versicolor* is known to occur is Volcán Tacaná on the Guatemala/Mexico border and the area immediately surrounding it (Figure 2). Here the larger and apparently more resilient Guatemalan population encroaches into Chiapas, but even here it is facing an uncertain future.

During a visit to Volcán Tacaná in 7–9 June 1995, we found an apparently healthy population of *E. versicolor* above 2400m on the steep forested slopes above the village of Talquian—e.g. we found 15 individuals, including 8 singing males, along a 2-km section of trail. However, the whole of the volcano was heavily cleared for agriculture, and these birds were confined to the more inaccessible gullies and ravines where the forest was still relatively intact. The unprotected status of the volcano, its geographic position on the border between Guatemala and Mexico and the presence of a large and growing human population make the continued survival of the remaining forest and the species it supports (including the highly threatened Horned Guan *Oreophasis derbianus*) uncertain at best.

## Conservation

Bubb1 suggested that only 39% of the original 102,500 ha of cloud forest in northern Chiapas remains and that 50% of the remaining forest may vanish within the next 20 years. The extant 40,000 ha of cloud forest in northern Chiapas is fragmented into 18 widely scattered areas. Many of these are situated at elevations unsuitable for *E. versicolor*. Much of the remaining high altitude cloud forest is altered by intense human use—coppicing for charcoal production, timber extraction, farming, flower production, animal grazing and subsistence wood-cutting. Although this modified habitat may be utilized by non-breeding or dispersing individuals, it is doubtful that it is of value to a breeding population due to degradation of the understorey vegetation. The majority of the forest surrounding San Cristóbal is utilized by one or more of these activities and prospects for the remaining forest appear poor. Forest conservation is difficult in the Central Highlands because several different land disputes have resulted in the immigration of large numbers of displaced indigenous people to San Cristóbal, the economic centre of the region. This places greater pressure on land in the San Cristóbal area than Chiapas' current 3% growth rate might suggest.

The two situations where habitat suitable for *E. versicolor* occurs (cloud forest edge and cloud forest on steep slopes) face slightly different threats. Forest edge habitat is under greater threat, because it is the cloud forest edge which bears the effects of encroaching agriculture. This threat is compounded by the fact that *E. versicolor* requires secondary edge vegetation which has been allowed considerable time to develop—five years at the very least. This level of growth is very unlikely to occur in most situations due to the constant clearing of vegetation for agriculture right up to the forest edge, the continuous advance of forest clearance and grazing of the forest edge by livestock. Steep forested slopes have historically been more secure due to their relative inaccessibility and unsuitability for agriculture or wood extraction. However, the ever greater demand for land is increasing the pressure on these formerly undisturbed areas.

Within Chiapas, only two sites known to support *E. versicolor* benefit from official protection: Rancho Nuevo and Cerro Huitepec. Despite this, the lower slopes of the Zona de Protección Ecológica Rancho Nuevo has been heavily grazed and usurped recently by the military as a training ground. Thus the future of the park's intact cloud forest is uncertain. In comparison, Estación Biológica Cerro Huitepec's survival appears more assured. However, the 115 ha of forest surrounding the reserve is disappearing rapidly and it is unclear that a viable population of *E. versicolor* can be sustained in a reserve of only 135 ha. Volcán Tacaná and its surroundings, while supporting the largest population of *E. versicolor* in Mexico, has no official protection and is in danger of imminent habitat destruction.

Difficulties in gaining access to many areas of potentially suitable habitat due to land disputes and the

understandably cautious nature of the local indigenous people toward outsiders make accurate assessment of the status of *E. versicolor* very difficult. However, it seems clear that *Ergaticus versicolor* faces an uncertain future in Chiapas. It is already restricted to a small number of isolated sites in the state, all of which face serious threat of human encroachment. The populations in Guatemala will undoubtedly face similar problems due to a faster rate of cloud forest clearance (less than 3% of the country's original 30,000 km<sup>2</sup> of cloud forest remain). We strongly recommend that *E. versicolor* be classified as threatened by BirdLife International.

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### Jared Wilson

3 Hunters Close, Husbands Bosworth, Leics, LE17 6LG, UK

### Tom Will

El Colegio de la Frontera Sur (ECOSUR), Departamento de Ecología y Sistemática Terrestre, Carretera Panamericana y Periférico Sur s/n, Apartado Postal 63, 29290 San Cristóbal de Las Casas, Chiapas, Mexico