

This hummingbird is endemic to the Sierra Madre del Sur in Guerrero and western Oaxaca, south-western Mexico, where it is a locally common inhabitant of cloud-forest that is rapidly being destroyed.

DISTRIBUTION The White-tailed Hummingbird is found on the Pacific slope of the Sierra Madre del Sur, in Guerrero and westernmost Oaxaca states, Mexico. A record of the species from Chinantla (Boucard 1895), which AOU (1983) indicated as in Puebla state, is not accepted here (see Remarks 1). Coordinates for Guerrero come from OG (1956a) and for Oaxaca from Binford (1989).



Guerrero Most records for this species in the state are of specimens labelled from the vicinity of Chilpancingo¹ (17°33'N 99°30'W), with eight collected in October (year unknown) (two males in MNHN; six specimens, apparently three males and three females in AMNH; see Remarks 2), plus a male and two females in February 1940 (in MVZ). As Chilpancingo is in an arid valley it seems more likely that these specimens actually

came from nearer Omiltemi. At and near Omiltemi², in the mountains above and west of Chilpancingo (Salvin and Godman 1888-1904: 17°30'N 99°40'W), specimens were taken in 1936 and 1964 (see Population and Ecology), and more recently (1985) specimens have been taken specifically at Captación Agua Fría, Captación Potrerillos and Hortiguillas (Navarro *et al.* 1991). Acahuizotla³ is also in this general area with seven specimens (all in DMNH) taken 15 km to the east (17°22'N 99°22'W), between 1964 and 1971. Other localities (along the Atoyac de Alvarez–Teotepec road) are “Atoyac de Alvarez”, where five specimens (in MZFC) were apparently collected 22-23 January 1986, between 1,200 and 2,500 m along the road (A. G. Navarro and A. T. Peterson *in litt.* 1991); a number of localities between (and north of) Paraíso and Nueva Delhi⁴ (Howell 1992), including (often represented by specimens) El Faisanal (7.5 km north-north-east of Paraíso), Nueva Delhi (8.5 km north-north-east of Paraíso), Retrocesos (5.5 km south of Puerto el Gallo), La Golondrina (13 km north-north-east of Paraíso), El Descanso (2 km south-west of Puerto el Gallo), and El Iris (3 km north-east of Puerto El Gallo) (Navarro *et al.* 1991, Navarro 1992), Arroyo Grande, 13 km north-east of Paraíso (Ornelas 1987), and Chimicotitlan (untraced) where a female and two males were collected December 1978 (in CMN). This species has also been recorded further west along the sierra, inland from Zihuatanejo⁵ (A. G. Navarro and A. T. Peterson *in litt.* 1991).

Oaxaca The species was first described from two specimens taken at (or near) Putla de Guerrero⁶ in the Sierra Yucuyacua, westernmost Oaxaca (Elliot 1871, Salvin and Godman 1888-1904). Subsequent records are from the road just north of Putla de Guerrero (c.5 km north-east; 9-10 km by road) at km 135, c.17°04'N 97°56'W, in June and July 1965 (specimens in AMNH and WFVZ); Binford (1989) noted the species as present from c.6-18 km (by road) north of Putla de Guerrero⁷, and records one from 10 km north (at 915 m) during February 1974 (L. C. Binford *in litt.* 1991); and most recently, S. N. G. Howell (*in litt.* 1991) saw a female (presumably this species) 8 km (by road) north on 5 January 1987 (see Threats). This stretch of road represents the only undisputed locality for the species in Oaxaca (see Remarks 3).

POPULATION Not long after the discovery of the White-tailed Hummingbird, Montes de Oca (1875) regarded it as “rare”, a conclusion upheld by subsequent authors (e.g. Friedmann *et al.* 1950, Rowley and Orr 1964). Most recently, Binford (1989) described the species in Oaxaca as a “very uncommon, permanent resident”. These assessments appear to be based on distributional rarity, since the specimen data reveal that eight were collected from a breeding population in the mountains around Chilpancingo (five males, three females, a nest and two eggs in AMNH, MNHN: Hartert and Hartert 1894, Rowley and Orr 1964; see Remarks 2), eight were taken at Omiltemi during 1936 (in ANSP, MCZ and MNHN), and three from close by, 22-23 October 1964 (in DMNH), all of which tends to suggest that its local status cannot be judged rare. Indeed recently, in one particular area of the Sierra Madre del Sur of Guerrero, five birds (in MZFC) were taken in two days during January 1986, and observations (and specimens: Navarro *et al.* 1991) there at various times during the 1980s (including April 1988, March and May 1990) revealed this species to be the commonest hummingbird, and it is now generally considered to be fairly common to common, but extremely local (Ceballos-Lascurain 1989, S. N. G. Howell *in litt.* 1989, 1991, A. G. Navarro and A. T. Peterson *in litt.* 1991). Good numbers of this species survive in the Omiltemi State Ecological Park (A. G. Navarro *in litt.* 1991).

ECOLOGY The White-tailed Hummingbird is a permanent resident in cloud-forest, evergreen subtropical and semi-humid forest and forest edge, although it is probably marginal or seasonal at the lower altitudes (c.1,200 m) in tropical semi-deciduous forest and cloud-forest ecotone (Ornelas 1987, Binford 1989, S. N. G. Howell *in litt.* 1989, 1991, A. G. Navarro and A. T. Peterson *in litt.* 1991, Navarro 1992). At Omiltemi, the species is most commonly found in heavily vegetated humid canyons (A. G. Navarro and A. T. Peterson *in litt.* 1991). The AOU (1983) view of it as an inhabitant of open woodland, forest edge and clearings, in semi-arid situations of the subtropical zone, is evidently in error. From March to May (1988 and 1990) birds were common in cloud-forest and adjacent coffee fincas, but notably absent from fincas not close to forest (despite abundant flowers attended by many hummingbirds): while often seen at the edge of forest where flowers may be more concentrated, this species seems to require virgin forest – coffee fincas with shade-trees are not adequate (S. N. G. Howell *in litt.* 1991). It is primarily a cloud-forest or humid montane forest bird that may engage in (little known) seasonal altitudinal movements (S. N. G. Howell *in litt.* 1991): altitudes of 915-1,465 m have been recorded in Oaxaca (Binford 1989) and 1,000-2,440 m in Guerrero (Hartert and Hartert 1894, Ornelas 1987, S. N. G. Howell *in litt.* 1991). Breeding data have only been recorded a small number of times: a nest and two eggs was found in October at Chilpancingo (1,525-2,135 m; Hartert and Hartert 1894); specimens in breeding condition were collected in February 1985 and April 1983 (in MZFC); two young males were taken at Omiltemi (2,440 m) in October 1936 (in MNHN), with a young female there in October 1985 (in MZFC) and another young male there in June 1985 (in MZFC); and young males were collected at Atoyac de Alvarez in March and April 1983 and 1984 (in MZFC). Many males were “singing strongly” near Arroyo Grande in mid-April 1988 (S. N. G. Howell *in litt.* 1991), and the closely related Oaxaca Hummingbird *Eupherusa cyanophrys* has been recorded breeding in May, October and November (see Remarks 3, and relevant account), suggesting that the breeding season peaks in February–May and again in September–October.

THREATS Despite inhabiting areas within one of the largest tracts of virgin cloud-forest left in Mexico, the White-tailed Hummingbird is threatened by forest destruction, which is causing the steady removal of its habitat, to the point where it has been totally removed in parts of the species's range (S. N. G. Howell *in litt.* 1987, 1989). North of Putla de Guerrero, apart from a remnant arroyo of semi-humid woodland (where a female was seen in January 1987), the whole area (at least near the road) has been deforested and now comprises rocky grassland (S. N. G. Howell *in litt.* 1991). On the slope of the Sierra de Atoyac (from Paraíso to Teotepec), the semi-deciduous forest at the base of the range is being rapidly cleared for cultivation, the cloud-forest zone below 1,800 m is almost completely under cultivation of coffee, and the higher altitude forest (at the upper limit of the range of this species) is being logged at an alarming rate (Navarro 1992: see Threats under White-throated Jay *Cyanolyca mirabilis*).

MEASURES TAKEN None is known, although the Guerrero National Park (Anon. 1989) may harbour the species but is itself poorly protected and suffers from extensive habitat degradation (S. N. G. Howell *in litt.* 1991). The White-tailed Hummingbird is apparently common within the Omiltemi State Ecological Park which covers 9,600 ha of the area to the west of Chilpancingo (Navarro and Muñoz 1990, A. G. Navarro *in litt.* 1991: see equivalent section under White-throated Jay).

MEASURES PROPOSED Any remaining cloud-forest habitat in the Paraíso–Chilpancingo–Putla de Guerrero region (and west of Paraíso) needs to be given some form of protection from indiscriminate cutting and burning, priority being given to the areas where the species is currently known to occur, such as Arroyo Grande where it is common (and where the Short-crested Coquette *Lophornis brachylopha* also occurs at lower elevations; see relevant account): for more comprehensive actions to preserve forest in this region, see the equivalent section under White-throated Jay. Combined with this protection, surveys need to be undertaken in all suitable habitat west of Paraíso, and between there and Putla de Guerrero, in order to determine the actual distribution of the species and the extent of remaining habitat, which is also important for a number of other threatened birds (see under White-throated Jay, which ranges to higher altitudes, and Short-crested Coquette).

REMARKS (1) Boucard (1895) mentioned Chinantla as a locality for *Eupherusa poliocerca*. AOU (1983) regarded this locality as in Puebla state but suspected the record referred to Stripe-tailed Hummingbird *E. eximia*. Binford (1989) located the only traceable Chinantla in southern Puebla in an arid habitat unsuitable for any species of *Eupherusa*. Either, therefore, this record is somehow in error or an untraced Chinantla exists or existed in Oaxaca or Guerrero. (2) There is some confusion as to the number of specimens collected by Baron near Chilpancingo: with two males in MNHN, we must assume that Baron collected five males and three females, presumably three of each sex presently held at the AMNH. (3) Two female *Eupherusa* hummingbirds (in AMNH) were collected at río Jalatengo, Oaxaca, in May 1962 and were identified as *E. poliocerca*. At this time (1962) *E. cyanophrys* had not been described although it is now known that a population of *cyanophrys* exists at this location. As Binford (1989) considered females of these two species inseparable and suggested that the two forms should be regarded as allopatric until adult males are found together or the characters of females are better defined, the two 1962 specimens almost definitely refer to *cyanophrys*. Four *Eupherusa* specimens collected 3-4 July 1985 (in MZFC) at San Pedro Yosotato, Oaxaca, were also identified as *poliocerca* but probably refer to *cyanophrys* (the sex of these specimens is unknown, and the locality untraced).