

As a species of primary lowland and adjacent foothill Atlantic Forest in eastern Brazil, this frugivore has suffered serious habitat loss and depends on a few key sites for its survival, notably Una, Sooretama, Desengano and those owned by CVRD.

DISTRIBUTION The White-winged Cotinga (see Remarks 1) is endemic to the Atlantic forest region of eastern Brazil in three adjacent north-eastern states, from Paraíba (no records since 1957) to Alagoas, and from southern Bahia south to Rio de Janeiro.

Paraíba The only record is from Mamanguape, where five birds were collected on 11, 14 and 22 July 1957 (Pinto and de Camargo 1961).

Pernambuco Two specimens in BMNH (also Sclater 1888) are merely labelled “Pernambuco” and were collected by Craven and Forbes (although the species is not mentioned by Forbes 1881). Another specimen (in AMNH) is from São Lourenço, 28-60 m (probably São Lourenço da Mata, hence close to the present-day Tapacurá Ecological Station), July 1903. The species was not found by Pinto (1940), who believed that it might have disappeared from the state (Pinto 1944), but one specimen was collected at Goiana in December 1943 (in USNM; also Lamm 1948). The only recent record is from Água Preta (A. G. M. Coelho *in litt.* 1986).

Alagoas One specimen was collected in Usina Sinimbu (near present-day Sinimbu – not Ginimbu as in GQR 1991), in March 1957 (in LACM; also Pinto and de Camargo 1961). Modern records are from the Grota do Azevedo, São Miguel dos Campos, November 1983, and Pedra (“Serra”) Branca, Murici, 500 m, January 1986 (specimens in MNRJ).

Bahia Records (north to south) are from Santo Amaro, October 1913 (specimens in FMNH; also Hellmayr 1929b); Ilhéus, May 1919, June 1944 (specimens in MZUSP; also Pinto 1944); Una Biological Reserve, October 1986 (Gonzaga *et al.* 1987); Belmonte, August 1919 (Vieira 1935, Pinto 1944; this presumably the record of a pair reported by Lima 1920); CEPLAC “Gregório Bondar” experimental station on the rio Jequitinhonha at Barrolândia (birds seen in October 1987: LPG); CVRD Forest Reserve at Porto Seguro, October 1986, January and July 1988, June 1990 and July 1991 (Gonzaga *et al.* 1987, B. M. Whitney *in litt.* 1988, Gardner and Gardner 1990b, M. Pearman *in litt.* 1990, Stotz 1991); Monte Pascoal National Park, 1977 (King 1978-1979, Sick and Teixeira 1979) and June 1990 (Gardner and Gardner 1990b); Fazenda do Morro da Arara (see Remarks 2) and Mucuri (Wied 1820-1821). At least 22 specimens, in AMNH, BMNH, FMNH, LSUMZ, MCZ, MHNG, MNHN, NHMW and USNM, are merely labelled “Bahia”.

Espírito Santo Older records are from the Lagoa da Arara (untraced, but not far from the Mucuri) in the nineteenth century (Wied 1831-1833, Hellmayr 1929b); rio Doce, March 1906 (Pinto 1944); and Pau Gigante (now Ibirapu), August 1940 (specimen in MZUSP). The key site for the species in the state is Sooretama Biological Reserve (two specimens are from Córrego Joeirana – adjacent to present-day Sooretama – August and September 1939; Aguirre and Aldrighi 1987), with recent records since 1977 (Sick and Teixeira 1979, Scott and Brooke 1985, C. E. Carvalho *in litt.* 1987) and the adjacent CVRD Linhares Reserve (see Population), with records since 1984 (Scott 1984, Collar and Gonzaga 1985, Gonzaga 1986, Pacheco and Fonseca 1987, D. F. Stotz *in litt.* 1988, 1991, B. M. Whitney *in litt.* 1987, 1989, Stotz 1991). The only other fairly recent record was from the Fazenda Klabin forest (now much reduced and converted to the Córrego Grande Biological Reserve) in June 1970 (Sick 1972, who did not then disclose the identity of the site, although this is clear from context).

Rio de Janeiro A recent observation of an immature bird in the Morro da Rifa, 700 m, at Desengano State Park, on 31 August 1986 (J. F. Pacheco *in litt.* 1986, C. E. Carvalho verbally 1986) confirms a nineteenth-century record of the species's occurrence in the state, at Nova Friburgo (Burmeister 1856).

POPULATION Over half a century ago the species was considered to be still common in the forests of Espírito Santo and eastern Bahia, although its persistence in Rio de Janeiro and Pernambuco, the limits of its known range, was doubted (O. M. O. Pinto in Wied 1940). The view that the White-winged Cotinga was frequent in south-eastern Bahian forest, as around Mucuri, where it was commoner than the Banded Cotinga *Cotinga maculata* (see relevant account), had been expressed long before (Wied 1820-1821), and persists in modern records, although the species has certainly suffered an overall decline in numbers and a fragmentation of populations owing to forest destruction, which has fully justified its inclusion in lists of

threatened species (King 1978-1979, Sick 1969, Sick and Teixeira 1979, Scott and Brooke 1985, Sick 1985). Although the species has proved to be much less restricted than was previously believed, as in a recent statement that it was “apparently confined to a few areas in Espírito Santo and southern Bahia” (Scott and Brooke 1985), and it is now clear that it has not become extinct at the extremes of its range, the species's stronghold is probably still the Sooretama Reserve and the adjacent CVRD Linhares Reserve in northern Espírito Santo. In Linhares, 22-25 November 1984, at least nine birds were involved in 12 records (Scott 1984), with a slightly larger value of 18 sightings, involving possibly a minimum of 12 birds on 10 different days, in August 1988 (D. F. Stotz *in litt.* 1988). Smaller numbers have been recorded on several occasions (Collar and Gonzaga 1985, Gonzaga 1986, B. M. Whitney *in litt.* 1987, 1989). Even though numbers in the much smaller reserves listed under Distribution might be expected to be low, the species appeared to be quite common in the CVRD Porto Seguro Reserve during a short visit in October 1986 when, apart from an isolated female, at least three adult males, one immature male and four females were watched feeding (see Ecology under Banded Cotinga), and during an equally brief stay in Una Biological Reserve in October 1986 at least two adult males, one immature male and two females were seen (Gonzaga *et al.* 1987); eight birds were seen at the former site on one day in June 1990 (Gardner and Gardner 1990b). However, it has been suggested that this is probably a more conspicuous species than the Banded Cotinga, and the conservation status of both is much the same (B. M. Whitney *in litt.* 1987).

ECOLOGY From the evidence of the records above, the White-winged Cotinga inhabits the canopy of lowland and adjacent foothill Atlantic Forest (e.g. also Sick 1970). Wied (1831-1833) made the interesting observation that it was only to be found in forests near to the coast.

Food has been recorded as fruits, taken in tall forest canopy and around clearings (Gonzaga *et al.* 1987, B. M. Whitney *in litt.* 1987; see Ecology under Banded Cotinga). Snow (1982) reported Sick (1970) as saying that the species was fond of the fruits of caruru *Phytolacca decandra* that grows at forest edges, but this remark appears to apply to the White-tailed Cotinga *Xipholena lamellipennis*. Wied (1831-1833) found red seed stones in stomachs, probably from *Bixa orellana*, and red cherry-like fruit, and noted that these had stained the birds' flesh orange or red. Birds seen in Una in October 1986 were seemingly part of a mixed flock in which Red-legged Honeycreepers *Cyanerpes cyaneus* and Green Honeycreepers *Chlorophanes spiza* were present (Gonzaga *et al.* 1987).

The only two records of (presumably post-breeding) moult available were from March and April (Snow 1982), but a possible (perhaps nuptial) display flight performed by an adult male was observed in Linhares in September 1989 (B. M. Whitney *in litt.* 1989), and a probable nest (not seen), hidden in a huge bromeliad clump about 18 m up in a tree at the forest edge in Sooretama, was visited twice by a female on 26 September 1977 (Sick 1979a, 1985; Snow 1982).

THREATS The massive deforestation which has taken place throughout the species's range has been regarded as the main cause of its decline (Sick and Teixeira 1979, Sick 1985, C. E. Carvalho *in litt.* 1987).

The population of the species in the north-east must be at most serious risk from this phenomenon, with almost all lowland forest localities now probably entirely cleared (e.g. Teixeira 1986) and birds restricted to a few remaining but largely still unprotected forest reserves. The situation is now much different in the south, where for example the privately owned forest at Fazenda Klabin, although now the IBAMA-run Córrego Grande Biological Reserve, has been reduced over the past two decades from 4,000 ha to only 1,200 ha (Gonzaga *et al.* 1987), and the formerly 22,500 ha Monte Pascoal National Park is also under severe pressure (Redford 1989). The species has been kept in captivity (Sick 1970, King 1978-1979), and capture for the cagebird trade, where it has appeared sporadically (Sick and Teixeira 1979), is also mentioned as a factor of risk (Sick 1985). However, trade in the species appears to be extremely light, but this fact might merely be a consequence of its increasing rarity.

MEASURES TAKEN The species is protected under Brazilian law (Bernardes *et al.* 1990), and listed in the Appendix I of CITES. Some of its present remaining populations should persist so long as the protected areas where they occur continue to be preserved; but see Threats. On the basis of evidence under Distribution and Population, critical areas for the species seem to be the Pedra Branca areas in Alagoas (see Measures Proposed), Una and Porto Seguro reserves in Bahia, the Sooretama and adjacent Linhares reserves in Espírito Santo, and Desengano State Park in Rio de Janeiro.

MEASURES PROPOSED The conservation of the Pedra Branca forests at Murici is a self-evident imperative, this apparently being the largest remaining continuous forest area in extreme north-eastern Brazil (Teixeira 1987) and holding several other threatened birds (see Remarks under Alagoas Foliage-gleaner *Philydor novaesi*). Effective protection of already created reserves is clearly an equally urgent need. More specifically, it is important that CVRD continue recognizing the importance of their reserve at Porto Seguro and give it total protection, as they have done for their excellent reserve at Linhares. The few remaining patches of forest within the species's range could still harbour small and so far undetected populations, and merit being identified and searched.

REMARKS (1) The White-winged Cotinga is the only member of its genus in eastern Brazil, where it represents the closely related Amazonian allospecies Pompadour Cotinga *Xipholena punicea* and White-tailed Cotinga (Snow 1982, Sick 1985). (2) This is an untraced locality along the rio Mucuri, about 30 km from its estuary in Bahia (not Espírito Santo as in Hellmayr 1929b) according to the text in Bokermann (1957); but on Bokermann's map it is plotted on the rio Peruípe (for Peruíbe), corresponding to rio do Meio in GQR (1991).