

This secretive antbird haunts tangles in the lower stratum of tall, primary Atlantic Forest in south-east Brazil, where it has suffered from much habitat loss and seems to depend on a handful of protected areas (notably Sooretama) for its security.

DISTRIBUTION The Plumbeous Antvireo (see Remarks 1) is endemic to the Atlantic Forest region of south-east Brazil from Bahia south of Salvador (one record in 1928) through south-eastern Minas Gerais to Espírito Santo and northern Rio de Janeiro state.

Bahia The only record is from the rio Gongogi at Cajazeiras (14°24'S 39°51'W in Paynter and Traylor 1991), 300 m, 20 June 1928 (Naumburg 1939).

Minas Gerais Older records are from Machacalis, December 1954; rio Doce, right bank, and lower rio Piracicaba at the confluence with rio Doce, August and September 1940; rio Manhuaçu at São Benedito (near Tabaúna), 180 m, January 1930 (Naumburg 1939); rio Matipó, July 1919 (Pinto 1938); around Raul Soares, June 1949, July and August 1957; and Fazendas Barra Alegre and Nova Aurora, São Paulo de Muriaé (now Muriaé), November and December 1926 (where no source before the semi-colon, records are from specimens in FMNH, LACM, MNRJ, MZUSP). Of these, the Piracicaba confluence is close to the present-day Rio Doce State Park (see Pinto 1945), where specimens have been collected (in one case specifically at Lagoa do Aníbal) in September 1975 and August 1978 (in DZMG), and one pair was seen in March 1986 (J. F. Pacheco *in litt.* 1991). The only other locality is the Fazenda Montes Claros (Caratinga Reserve), Caratinga, where one bird was collected in April 1985 (in DZMG) and others were seen in July 1988 (S. G. D. Cook *in litt.* 1988) and in 1990 (A. Whittaker *in litt.* 1991).

Espírito Santo Older records are (north to south) from the rio Itaúnas, September 1950; rio São José, September 1942; Lagoa Juparanã (in 1925 precisely Santana), 120 m, August and October 1925, November 1929 (Snethlage 1927, Naumburg 1939; specimens in AMNH, MNRJ); Baixo Guandu, 120 m, December 1929 (Naumburg 1939); Colatina, November 1940; Pau Gigante (now Ibiracu), September and November 1940; Jatiboca (near Itarana), 900-1,000 m, December 1940 and January 1941; Porto Cachoeiro (now Santa Leopoldina), November 1905 (von Ihering and von Ihering 1907, Pinto 1938) (where no source before the semi-colon, records are from specimens in MNRJ, MZUSP, USNM). The key site for the species in the state now seems to be Sooretama Biological Reserve, with records in 1980/1981 (Scott and Brooke 1985), November 1986 (J. F. Pacheco *in litt.* 1991) and August 1988 (M. Pearman *in litt.* 1990), and the adjacent CVRD Linhares Forest Reserve, with records from December 1986 (B. M. Whitney *in litt.* 1987) to at least August 1991 (Pacheco and Fonseca 1987, B. M. Whitney *in litt.* 1990, Stotz 1991). The only other recent records are from the Fazenda Vila das Palmas, Barra de São Francisco, in July 1982 (specimen in CGTM), and Augusto Ruschi (Nova Lombardia) Biological Reserve, June 1990 (Gardner and Gardner 1990b).

Rio de Janeiro The inclusion of this state in the species's range, based on "Rio" trade skins (Cory and Hellmayr 1924), is accepted by some authorities (e.g. Pinto 1938, 1978, Sick and Teixeira 1979) but not by others (e.g. Meyer de Schauensee 1982, Sick 1985). However, its occurrence in the extreme north-west has recently been verified at Fazendas São Francisco and São Lourenço on the road between Natividade and Raposo, 140 m, in September/October 1989 and February 1990 (J. F. Pacheco *in litt.* 1991).

POPULATION This species was "not often" encountered by Wied (1831-1833), and remained known from very few specimens until the early 1920s, when it was considered an "exceedingly rare form" (Cory and Hellmayr 1924), a view that continued to be expressed (e.g. by Snethlage 1927, Pinto 1938, Naumburg 1939). Although a fair number of localities have been added to the species's range since, there seems to be little doubt that it is now seriously reduced in abundance and distribution as a result of the extensive forest destruction which has taken place in the region. Even while not including this bird in their list of rare and threatened species, Sick and Teixeira (1979) considered it prudent to "call attention" to it. Although it has been considered difficult to detect unless its voice is known (Snethlage 1927, B. M. Whitney *in litt.* 1990, J. F. Pacheco *in litt.* 1991), the species was considered "fairly common" (small numbers – under 10 – seen/heard on all or most days in appropriate habitat) at Sooretama in 1980/1981 (Scott and Brooke 1985), but this may apply to only a very limited portion of the reserve (J. F. Pacheco *in litt.* 1991); nevertheless, at least six pairs held territories along c.2 km of one forest trail in the north-west section of the reserve through the 1980s, and on one occasion at least three pairs were heard counter-

singing at once within an area of 2 ha, so that it was felt a reasonable population exists in the interior of tall forest in less disturbed parts of the reserve (TAP). It is less easily found in the CVRD Linhares Reserve, where pairs have been detected only after some effort (B. M. Whitney *in litt.* 1987, 1990), e.g. six records in 47 days' fieldwork, July/August 1987 and 1991 (D. F. Stotz *in litt.* 1991), but in the much smaller remaining tract of forest where the species has been detected in Rio de Janeiro it is found with some ease, probably precisely because of the small area where birds concentrate, although numbers cannot be high (J. F. Pacheco *in litt.* 1991).

ECOLOGY The Plumbeous Antvireo inhabits the lower stratum of tall primary or little-disturbed forest (Wied 1831-1833, Snethlage 1927, Scott and Brooke 1985, Sick 1985). Records from CVRD's Linhares Reserve have been of singles and pairs in tall, good forest, sometimes in mixed flocks, sometimes alone (D. F. Stotz *in litt.* 1991, B. M. Whitney *in litt.* 1991). At Sooretama, it is usually encountered in pairs that forage from near the ground up to c.2 m in dense tangles, especially in shaded, old treefalls overgrown with vines and small trees; they also associate with understorey mixed-species flocks, at such times ranging up to 4 m in the lower branches of small trees (TAP). Birds have been considered very secretive, usually keeping amidst tangles of fallen dry twigs on the ground; collection of a small series was only achieved after learning the species's voice (Snethlage 1927); one of these specimens was in a bird flock (in MNRJ). Members of a pair keep in contact with soft call-notes; males sing mostly in the early morning and late afternoon, rarely through the rest of the day (B. M. Whitney *in litt.* 1991).

Individuals forage (and vocalize) in the manner of typical *Dysithamnus* species, hopping along thin branches and vines, scanning and perch-gleaning live foliage, and occasionally probing in clusters of hanging or trapped dead leaves (TAP). Food consists of arthropods up to at least 10 cm in length, including katydids and stick insects taken from leaves and twigs, although birds sometimes perform lunging sally-gleans (B. M. Whitney *in litt.* 1991). Stomach contents of specimens in CGTM and MNRJ are given as "insects", "eggs of insects" and "a chrysalis". Pairs probably regularly follow flocks when they pass through their territories, at such times associating with Lesser Woodcreeper *Lepidocolaptes fuscus*, White-eyed Foliage-gleaner *Automolus leucophthalmus*, Black-capped Foliage-gleaner *Philydor atricapillus*, White-flanked Antwren *Myrmotherula axillaris*, (near-threatened) Band-tailed Antwren *M. urosticta* and Red-crowned Ant-tanager *Habia rubica* (TAP). In some montane forests of Espírito Santo, the Plumbeous Antvireo occurs alongside Plain Antvireo *Dysithamnus mentalis* and Spot-breasted Antvireo *D. stictothorax*, both of which frequent higher strata (Sick 1985).

Of specimens in AMNH, CGTM and DZMG whose gonad condition was recorded, four were dormant in June, July and December, four slightly enlarged in August, December and January, and one half enlarged in November. A nest with two eggs being incubated by a female (no male was seen) was found at the CVRD Linhares Reserve on 23 August 1987; it was 0.3 m from the ground in a 1 m high shrub in closed forest understorey (D. F. Stotz *in litt.* 1991, 1992). Territories appear to be fairly small (less than 1.5 ha) and fixed: several different pairs at Sooretama were easily located every year (for at least five years) by tape playback at the same spots along a trail, the minimum distance between pairs being about 75 m although this was unusually short (TAP).

THREATS The fragmentation of the species's range by extensive forest destruction has been and remains the one significant threat. Even though current records are from a (small) number of protected areas, the species's ecological requirements remain very poorly known and its recorded numbers at these sites are too low to be confident about the future of the populations they hold.

MEASURES TAKEN The Plumbeous Antvireo is protected under Brazilian law (Bernardes *et al.* 1990). Some of its present remnant populations should persist so long as the protected areas where they have been found (Rio Doce, Fazenda Montes Claros, Augusto Ruschi, Sooretama) continue to be preserved; but see Threats.

MEASURES PROPOSED 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. Surveys of the species in the field are also needed better to ascertain and monitor its status in the localities where it has been recorded, particularly in areas which may prove to be important for its long-term survival, such as the Rio Doce State Park in Minas Gerais and Sooretama/Linhares in Espírito Santo. Support for these existing

key sites is clearly imperative to protect this and several other threatened species that occur in the same areas.

REMARKS (1) The case for regarding this south-east Brazilian form as distinct at the specific level from the White-spotted Antwreio *D. leucostictus* (R. S. Ridgely verbally 1987; see also Sibley and Monroe 1990) is accepted here. The species has been treated in the genus *Thamnomanes* (Pinto 1978, Meyer de Schauensee 1982), but is here retained in *Dysithamnus* (Sclater 1890, von Ihering and von Ihering 1907, Cory and Hellmayr 1924, Pinto 1938, Schulenberg 1983, Sick 1985).