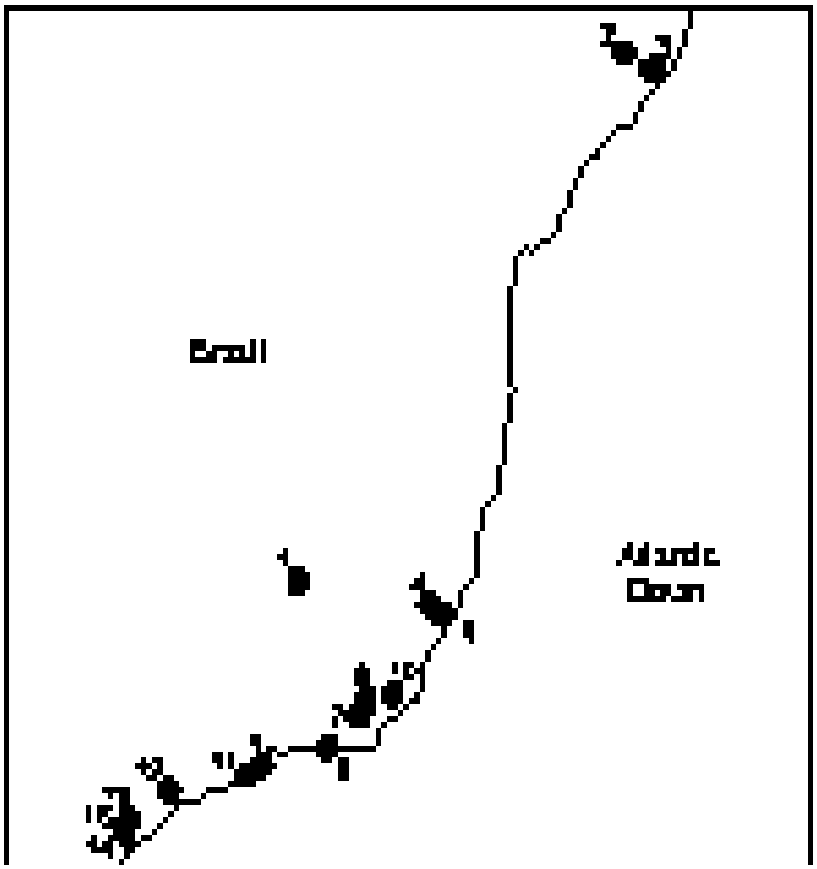
BUFF-THROATED PURPLETUFT *Iodopleura pipra* **V/R**[10]

It is only in very recent years that this tiny canopy-dwelling frugivore has proved to be surviving in certain areas of north-east and south-east Brazil, but loss of its Atlantic Forest habitat clearly threatens it in both areas, and it requires more detailed study and some rapid intervention to secure key sites, notably around Ubatuba in São Paulo and Pedra Branca in Alagoas.

DISTRIBUTION The Buff-throated Purpletuft is known with certainty only from coastal eastern Brazil in the states of Paraíba, Pernambuco, Alagoas, Espírito Santo (no recent records), Rio de Janeiro and São Paulo; a single inland record from Lagoa Santa[1], Minas Gerais (Burmeister 1856), accepted by several authorities (von Ihering 1898, von Ihering and von Ihering 1907, Hellmayr 1915, Camargo and de Camargo 1964, Meyer de Schauensee 1966, 1982, Snow 1982), doubted by others (Hellmayr 1929b, Pinto 1944, Traylor 1979), and omitted from an ornithological review of the state (Pinto 1952), is treated with suspicion here. Its occurrence in Guyana seems entirely improbable (see Snow 1982, Remarks 1). In the following account, records are given from north to south with coordinates from Paynter and Traylor (1991).



Paraíba Two birds were collected in the vicinity of Mamanguape, May 1989 (Teixeira *et al.* 1990).

Pernambuco A bird was collected at Garanhuns[2], July 1957 (specimen in USNM; see Remarks 1), and the species was recorded again there recently (Teixeira *et al.* 1990). The only other record is from Usina Cruangi, Timbaúba, March 1990 (P. S. M. da Fonseca *per* A. G. M. Coelho *in litt*. 1991).

Alagoas The species was located near Murici in May 1984 (Teixeira *et al.* 1987, 1990; see Remarks 2) and four birds were seen at Pedra Branca[3] ("Serra Branca"), 500 m, near Murici, on 20 and 21 October 1990 (J. F. Pacheco and B. M. Whitney *in litt*. 1991; see Remarks 2 under Alagoas Foliage-gleaner *Philydor novaesi*), with a further record there in January 1991 (J. F. Pacheco verbally 1992).

Espírito Santo Records are from two localities: Jatiboca[4], 20°05'S 40°55'W, 900 m, November 1940 (Camargo and de Camargo 1964; see also Schubart *et al.* 1965: 97) and December 1940 (H. Sick verbally 1988; see Ecology); and "Braço do Sul"[5] (rio Jucu Braço Sul), 500 m, April 1897 (Hellmayr 1915, Camargo and de Camargo 1964; see Remarks 3).

Rio de Janeiro Older specimens are known to have been collected at Cantagalo[6] (Cabanis 1874, von Ihering 1900a), Nova Friburgo[7] (Sclater 1888), the "region of Rio de Janeiro"[8] (presumably the city rather than the state) (Hellmayr 1915), and near Parati[9] in the far south-west on the lower slopes (under 500 m) of the Serra do Mar, June 1941 (Berla 1944). Modern records (east to west) are from Desengano State Park[10], 890 m, October 1986 (J. F. Pacheco verbally 1988), 670 m, October 1989 (B. M. Whitney *in*

litt. 1991); Fazenda União, near Casimiro de Abreu, July and November 1990; Macaé de Cima (rio Macaé headwaters, south of Nova Friburgo), 1,000 m, May 1986; Serra dos Órgãos National Park, March and July 1991; Hotel Santa Mônica, rio Bonito, Itatiaia (town), 800 m, August 1988 (all four preceding records from J. F. Pacheco verbally 1992); and near São Roque and Parati around the base of the Serra da Bocaina, several times since October 1989 (B. M. Whitney *in litt*. 1991, J. F. Pacheco verbally 1992).

São Paulo Records are from near Ubatuba[11] (the key site for the species in the state: H. Sick verbally 1988), where it has been found since July 1979 (Willis and Oniki 1981a, 1985, 1988a, B. M. Whitney *in litt*. 1991; see Ecology); near Itapecerica da Serra[12] (the south-western outskirts of São Paulo city), where one specimen was collected at km 60 (now km 314) of highway BR-116 (Willis and Oniki 1985); Ribeirão Fundo[13], c.24°15'S 47°45'W, July and September 1961, and nearby at Boa Vista, 24°35'S 47°38'W, July 1960 (specimen in FMNH), Bela Vista, untraced but like Boa Vista near the rio Ipiranga[14], August 1960, and along the rio Ipiranga, September 1962 (specimens in MZUSP; also Camargo and de Camargo 1964); near Registro[15], at forest edge by highway BR-116, c.110 km from São Paulo city, August 1969 (H. Sick verbally 1988); and Iguape, undated (specimen in MHNG).

POPULATION Numbers are not known, but the relatively sparse records from an area which has been well explored by ornithologists is an indication that it is generally rare and perhaps patchy in abundance. However, its call is similar to those of other purpletufts *Iodopleura* and, once learnt, can be picked out confidently, so that the species has now been seen "numerous times" since 1989 in the Serra da Bocaina lowlands of Rio de Janeiro state (B. M. Whitney *in litt*. 1991). At Ubatuba in August 1986 two pairs nested within 70 m of each other, and a third pair was noted at one stage "wandering together" 500 m away (Willis and Oniki 1988a), suggesting a reasonable local density.

ECOLOGY The Buff-throated Purpletuft is apparently largely a coastal forest species, keeping much to the canopy but also frequenting secondary and disturbed growth, as witness the nesting records from forest underplanted with cocoa (see below). One specimen collected in the mountains in Espírito Santo was 5 m high in a tree in young secondary growth (H. Sick verbally 1988); another, from the south coast of Rio de Janeiro, was sitting on a dead twig of an orange tree in an open area with plantations and young second growth (*capoeira*) near old secondary forest (Berla 1944, Camargo and de Camargo 1964). Two specimens collected in Sao Paulo were perched quietly in branches of leafless trees 8 m in height at the edge of primary forest rich in palms *Euterpe edulis*, nearly at sea level (Camargo and de Camargo 1964). Recent experience in Alagoas, Rio de Janeiro and São Paulo suggests that this purpletuft associates with a single species of tall, fine-leaved leguminous tree, widespread and locally fairly common in eastern Brazilian forests and often holding clumps of mistletoe (B. M. Whitney *in litt*. 1991). Birds are described as resting on the highest branches of trees, favouring dead limbs (mainly those of giant, fine-leaved mimosas), and living in groups of 4-10, feeding on tender berries, especially those of mistletoes (Loranthaceae) growing high in the trees, never chasing insects (but see below) nor descending to the ground (Descourtilz 1854-1856; also Berla 1944).

The stomach of one specimen from Espírito Santo contained a small quantity of vegetable remains (H. Sick verbally 1988), and two others from São Paulo contained several seeds of the mistletoe *Struthantus concinnus* (Camargo and de Camargo 1964). Food of adults is certainly predominantly mistletoe berries (Willis and Oniki 1988a, B. M. Whitney *in litt*. 1991), but birds have also been seen hover-plucking at the leaves of the unidentified leguminous tree with which it seems associated, as if picking off tiny arthropods (B. M. Whitney *in litt*. 1991). Food brought to nestlings consisted of mistletoe berries, but also small insects caught in the air or off a twig or trunk near the nest; early in the morning, one adult regurgitated 14 fruits for a single feed, with feeding peaks occurring from 06h33 to 09h24, 10h12 to 11h13, and 15h08 to 15h48 (Willis and Oniki 1988a). An aggressive interaction with a Sharpbill *Oxyruncus cristatus* over fruit has been witnessed at the Ubatuba site (M. Pearman *in litt*. 1992).

Two (tiny cup) nests of the species, placed on high branches of 20-25 m tall leafless leguminous trees (both "farinha seca", apparently planted to shade cocoa) were found near Ubatuba with one young each on 10 August 1986, and it was judged from the size of the young in relation to the adults and to the nests that the eggs had been laid in early to mid-July (the coldest time of the year in southern Brazil) and that the clutch-size must always be one (Willis and Oniki 1988a). A further nest with a three-quarters grown chick was found near Ubatuba, this time on 11 October 1991, although again on a thin bare limb in the canopy of a nearly bare tree amidst second growth over an extensive patch of "small-leaved" bamboo,

some 12 m above ground and fully exposed to the elements (J. L. Rowlett and B. M. Whitney *in litt.* 1991). In the mountains of Espírito Santo the species was only noticed from late October to early December: three birds seen in November were believed newly arrived on migration, one being an adult male in complete moult with slightly enlarged testes; an individual seen in December was in full song (H. Sick verbally 1988). The statement that in Espírito Santo the species "breeds in the mountains, afterwards emigrating and undergoing a complete moult" (Sick 1985) was based on these observations (H. Sick verbally 1988), but is challenged by the discovery of birds nesting on the coast during winter (Willis and Oniki 1988a; see above). However, Willis and Oniki's (1988a) counter-suggestion, that the species nests in winter in coastal forests and occurs in the highlands as a postbreeding summer wanderer, does not seem to fit Sick's observation of a male in full song in December, unless birds are territorial at that time, nor does it entirely square with the recent breeding record from October, nor the records near Casimiro de Abreu in both July and November.

THREATS Accepting that purpletufts appear to require bare trees in which to nest, midwinter breeding may be advantageous because (a) more such trees are available and hence less likely to attract perching avian predators, (b) the midday sun and diurnal temperatures are both lower at that time, and (c) mistletoes may be in greater abundance; against this, such use of relatively unprotected lowland coastal forests renders the species much more at risk than previously thought, since this habitat is rapidly being removed for farms and beach homes (Willis and Oniki 1988a). Destruction of forest at Pedra Branca in Alagoas is also a major problem (see Threats under Alagoas Foliage-gleaner).

MEASURES TAKEN The Buff-throated Purpletuft is protected under Brazilian law (Bernardes *et al.* 1990). It has been recorded from Desengano State Park. There are several forest reserves in mountain localities along the Serra do Mar where the species might occur, perhaps most notably the Bocaina National Park in Rio de Janeiro and São Paulo.

MEASURES PROPOSED This bird requires urgent study to determine its status, distribution (including seasonal displacements) and ecology, something that ought to be achievable given the new insights concerning its voice and ecology. Such work should include forest around Ribeirão Fundo and Registro in the south of São Paulo, forest in the Serra do Mar at Ubatuba and Parati on the São Paulo–Rio de Janeiro border, and the Desengano State Park. Forest in the Ubatuba area needs to be secured from elimination for farms and houses. An initiative to preserve forest at Pedra Branca in Alagoas needs urgent impetus (see Measures Proposed and Remarks under Alagoas Foliage-gleaner). It is not known what forest might remain at Garanhuns in Pernambuco, but it is worth noting that Garanhuns is one of several extensive mountain humid forest refuges surrounded by dry caatinga in the north-east (see de Andrade-Lima 1982).

REMARKS (1) Claims for a distinct subspecies *leucopygia* in British Guyana are based on two specimens obtained in 1877 from a London dealer (Salvin 1885) and described as "trade skins of the characteristic `Demerara' preparation" (Hellmayr 1929b). However, the provenance of these specimens is problematic, and they may have come, despite their manner of preparation, from the east Brazilian coast somewhere north of the known range of nominate *pipra* (Snow 1982). This view is now greatly supported by the previously undocumented specimen in USNM from Pernambuco (labelled "*leucopygia*" but seemingly identical to nominate *pipra* except for an indistinct off-white line across the rump), and by the recent records of birds in Alagoas (which had conspicuous white rumps: B. M. Whitney *in litt.* 1991) and Pernambuco (see Distribution). However, it seems that the white rump is not a character unique to north-eastern birds, as some south-eastern birds show it (B. M. Whitney *in litt.* 1991), including one museum specimen (see Camargo and de Camargo 1964). (2) The sight record (and nest find) near Murici attributed to the Amazonian White-browed Purpletuft *Iodopleura isabellae* (Teixeira *et al.* 1987) was very surprising, implying that *I. pipra* and *I. isabellae* are sympatric in the north-east Brazilian mountains, but is now assumed to have been a misidentification involving *pipra* (Teixeira *et al.* 1990). (3) Paynter and Traylor (1991) could not trace Braço do Sul precisely, but Camargo and de Camargo (1964) cited a source that indicates its junction with the rio Jucú c.8 km above Viana, i.e. 20°25'S 40°30'W as read from GQR (1991).