

The rare Golden-tailed Parrotlet has been recorded from four states in north-east Brazil and from Bahia south to São Paulo, all in the Atlantic Forest region of the country; it appears to be migratory in some degree, and has evidently suffered from habitat destruction, although many recent records are from protected areas.

DISTRIBUTION The Golden-tailed Parrotlet is endemic to eastern Brazil in four adjacent north-eastern states (*T. s. "ruficauda"*: see Remarks 1) and from southern Bahia south to S_o Paulo (*T. s. surda*). The evidence is that this is a species of Atlantic Forest and, while the record below from Ceará is accepted here, a record from Pará (Wied 1831-1833, Burmeister 1856; see also von Ihering and von Ihering 1907) and one from the rio Claro, Goiás (specimen in BMNH; see also Ribeiro 1920, Pinto 1935), are not admitted (although Goiás was accepted by Meyer de Schauensee 1966 and Sick 1985); nor does there appear to be any evidence of its occurrence in Minas Gerais (*contra* King 1978-1979).

Ceará There is a remarkable record of three perched birds seen in the municipality of Camocim, in the north of the state, in 1984 (R. Otoch *in litt.* 1987).

Paraíba A female was collected at Mamanguape, Uruba, 12 July 1957 (Pinto and de Camargo 1961).

Pernambuco The species was recorded by Swainson (1820-1823) "in the vicinity of Pernambuco", i.e. near present-day Recife. Two birds collected at Dois Irmãos, Recife, 2 December 1944, formed the basis of the subspecies *ruficauda* (Berla 1954), although of course these were not the first records for the state (*contra* Berla 1946). There is an undated skin from the state in MCML (Fisher 1981).

Alagoas A bird was collected at São Miguel dos Campos, 26 September 1951 (Pinto 1954a), and three were taken at Usina Sinimbu, February 1957 (in LACM and MZUSP) (see Threats). Four males (one from a flock of four, another from a flock of about six, and two together) were collected at Pedra Branca ("Serra Branca"), Murici, 500-550 m, 11-12 May 1984 and 22 January 1986 (specimens in MNRJ). A solitary pair was observed briefly at Pedra Talhada Biological Reserve at c.700 m on 22 October 1990 (B. M. Whitney *in litt.* 1991).

Bahia At least nine nineteenth-century skins, in AMNH, BMNH, MCML (Fisher 1981), MCZ and USNM, are merely labelled "Bahia". Wied (1831-1833) collected a pair in March at the Mucuri estuary, i.e. in the very far south of the state. In this century records of the species are (north to south) from Jequié, Serra do Palhão (on the rio de Contas), December 1932 (Pinto 1935); Fazenda Santa Maria, rio Gongogi, December 1932 (Pinto 1935); Itabuna, June and July 1919 (specimens in MZUSP: see Remarks 2); Ilhéus, July 1944 (two in MZUSP); CEPLAC Lemos Maia Experimental Station, Una, October 1987 (minimum of three seen perched: LPG); Monte Pascoal National Park, September 1977 (a pair) (Ridgely 1981a). Ridgely (1981a) considered that if the species has a stronghold it is in southern Bahia.

Espírito Santo Wied (1831-1833) found the species as far as 19°S, i.e. the northern reaches of the state, noting that numbers were caught with lime, notably around São Mateus. All but one twentieth-century records are from further south, the exception being Fazenda Klabin (now Córrego Grande Biological Reserve), three in September 1979 (A. Greensmith *per* D. Willis *in litt.* 1988); then Sooretama Biological Reserve (flock of eight) and adjacent CVRD Linhares Reserve, December 1986, January 1987 and July/August 1988 (Pacheco and Fonseca 1987, C. E. Carvalho *in litt.* 1987, B. M. Whitney *in litt.* 1987, D. F. Stotz *in litt.* 1988); Pau Gigante (now Ibráçu), September 1940 (specimen each in MZUSP and USNM); Augusto Ruschi (Nova Lombardia) Biological Reserve, small flocks recorded on repeated visits in October/November, 1980-1986 (TAP), at 800 m, January 1987 (flock of eight) (B. M. Whitney *in litt.* 1987), and a flock of 14 on successive days, September/October 1989 (M. Kessler *in litt.* 1989).

Rio de Janeiro A male was collected near Rio de Janeiro before 1848 (Fisher 1981), and a specimen was taken at Nova Friburgo before 1891 (in BMNH; also von Ihering 1900a). Twentieth-century records are from Cabo Frio, sporadically from June to September since 1970 (Sick and Teixeira 1979); Majé, March 1984 (flock of about eight) and probably also 1982 (Gonzaga 1986); Desengano State Park, 830 m, August 1987 (three birds) and at São Julião, rio Mocotó (lowlands near Desengano), July 1988 (J. F. Pacheco *in litt.* 1987, verbally 1988); Tinguá, August 1939 (female in MNRJ); Serrinha, near Itatiaia National Park, 1988 (Pineschi 1990). Specimens with which the type-material of *ruficauda* were compared were from Teresópolis (Berla 1954), a locality mentioned, along with Serra dos Órgãos, by Ribeiro (1920).

São Paulo An old specimen purportedly from the state required confirmation (Pinto 1935), provided by a single perched bird seen at Boracéia Biological Station, 800 m, January 1987 (D. F. Stotz *in litt.* 1988), and by its presence on Ilha do Cardoso State Park (P. Martuscelli *in litt.* 1991). Unidentified parrotlets *Touit* were recorded in Ubatuba Reserve in the late 1970s (Willis and Oniki 1981a), Forshaw (1989) inclining to believe that they were Brown-backed Parrotlets *T. melanonota*, for unstated reasons; in fact they could have been *surda* or indeed even both species. The species was reportedly common on the lower rio Tietê (i.e. in the west of the state) at the end of the nineteenth century (von Ihering 1898).

POPULATION Throughout the last century (apart from the last remark under Distribution) this species was regarded as rare (Swainson 1820-1823, Wied 1831-1833, Burmeister 1856, Finsch 1867-1868), and its continuing evasion of observation has perpetuated this view (“apparently now very rare”: Scott and Brooke 1985). Whatever the relative degrees of rarity over the past two hundred years, Ridgely (1981a) is clearly safe in assuming that a great decline in numbers has taken place in that period owing to habitat destruction, but also that the species is often overlooked; indeed, records from Rio de Janeiro and Espírito Santo states made after he lamented their absence (notably in a reserve – Sooretama – that he thought “seemingly suitable”) indicate this problem. Several small flocks (of four, five, seven and eight individuals, plus a singleton, i.e. minimum of eight, maximum of 25) were observed from a tower in the CVRD Linhares Reserve (contiguous with Sooretama), 19-20 December 1986; they clearly covered a large area of forest, and these numbers therefore possibly represent a high proportion of the reserve's total population (B. M. Whitney *in litt.* 1987). On Ilha do Cardoso there have been a few recent records of flocks up to 12 (P. Martuscelli *in litt.* 1991). No other data on numbers exist other than the records given under Distribution.

ECOLOGY From the evidence of the records above, this species inhabits lowland and adjacent mountain forest (Sick 1985). However, the view that it is a lowland bird reaching up to c.500 m, after which it is probably replaced by the Brown-backed Parrotlet, and indeed that the two species may never be locally sympatric (Ridgely 1981a), appears to be confounded by records at 800 m or more from Augusto Ruschi, Desengano State Park and Boracéia, especially when combined with evidence that *T. melanonota* itself may be found at lower levels (see relevant account). On the Ilha do Cardoso the Golden-tailed Parrotlet inhabits “sand-plain forest” (P. Martuscelli *in litt.* 1991). That it also inhabits forest edge (Sick 1985) seems mistaken, given the general evidence above, although the flock at Majé was in the canopy at the edge of a small second-growth woodlot almost completely surrounded by open country (Gonzaga 1986).

This flock fed on the unripe fruits of an anacardiaceous tree, *Spondias lutea* (Gonzaga 1986). In the Itatiaia massif birds fed on ripe fruits of *Rapanea schwackeana* (Pineschi 1990). In the forest along the rio Gongogi, Bahia, a fruiting myrtaceous tree was frequently visited by birds in December (Pinto 1935).

There are no data on breeding, except that the gonads of the MZUSP female collected in Alagoas, September, were undeveloped. The species may undertake seasonal movements: in the state of Rio de Janeiro it has been found occasionally in two lowland localities near the foothills of the Serra do Mar, appearing from June to September in one of them, Cabo Frio (Sick and Teixeira 1979), and during some weeks of March in the other, Majé (Gonzaga 1986). Small flocks, believed of this species, occurred seasonally at fruiting trees in areas that had been mostly deforested (Ridgely 1981a).

THREATS The massive deforestation which has taken place within its range has been regarded as the main cause of its decline (Ridgely 1981a, Forshaw 1989). The population of the species in the north-east must be at most serious risk from this phenomenon, with for example the localities Usina Sinimbu and São Miguel dos Campos now entirely cleared of forest (LPG). The Ilha do Cardoso is suffering from deforestation (P. Martuscelli *in litt.* 1991). Ridgely (1981a) thought it might occur in cacao plantations in southern Bahia, and that if so there should still be some suitable habitat left for its survival; but these plantations offer little security (see Threats under Blue-chested Parakeet *Pyrrhura cruentata*).

The relative tameness of this bird, which allows it to be easily captured (Sick 1985, LPG), may be an additional factor of risk wherever it still occurs. However, trade in the species appears to be extremely light.

MEASURES TAKEN The Golden-tailed Parrotlet is protected under Brazilian law (Bernardes *et al.* 1990). The species's occurrence in various protected areas, e.g. Lemos Maia Experimental Station, Monte

Pascoal National Park, Sooretama Biological Reserve and adjacent CVRD Linhares Reserve, Augusto Ruschi Biological Reserve, Desengano State Park, Boracéia Biological Station (which has no legal protection or definition of boundaries: H. F. de A. Camargo verbally 1991) and Ilha do Cardoso State Park, is only partially reassuring, since the numbers observed remain so small and the species's needs (including its possible seasonal displacements) are so poorly understood.

MEASURES PROPOSED Surveys of the species in the field are needed, particularly now that its calls have been identified during recent fieldwork (e.g. by B. M. Whitney *in litt.* 1987, LPG). Better protection for existing reserves such as Ilha do Cardoso is obviously essential. The conservation of the Pedra Branca forests at Murici is a self-evident imperative, this being apparently the largest remaining continuous forest area in extreme north-east Brazil (Teixeira 1987) and holding several other threatened birds (see Remarks under Alagoas Foliage-gleaner *Philydor novaesi*).

REMARKS (1) The subspecies *ruficauda* seems unlikely to be valid; if it is, it must take the name given to the species by Swainson (1820-1823), *chryseura*, which itself was evidently close to preceding *surda*. (2) Pinto's (1935) dates of January and April for these specimens are in error, as confirmed by Pinto (1938, 1945).