

This very rare tyrant-flycatcher is confined to humid Polylepis woods in Peru and Bolivia, where two widely disjunct populations exist, one in Cordillera Blanca, Ancash department, and one in southern Peru and adjacent Bolivia. These woodlands suffer from cutting for firewood and lack of regeneration caused by widespread burning.

DISTRIBUTION The Ash-breasted Tit-tyrant is known from two forms in two widely separated upland areas in Ancash department, west-central Peru, and Apurímac and Cuzco departments, southern Peru, and La Páz department, northernmost Bolivia. Coordinates, unless otherwise stated, are from Stephens and Traylor (1983).

Peru Nominate *alpinus* has been collected only above (south of) Yánac (8°37'S 77°52'W) at the northern end of Cordillera Blanca, Ancash department, where two specimens (in ANSP) were taken between 4,000 and 4,500 m in March 1932, with three (in LSUMZ) nearby at Quebrada Tútapac (c.8°40'S 77°49'W) from 3,950 to 4,100 m during May 1976 (also Parker and O'Neill 1980). There are recent sightings at other localities in Ancash department, four on the east slope of Cordillera Blanca, one on the west slope: Quipis Munte (untraced) (TAP); Quebrada Morococha (c.9°03'S 77°34'W: read from IGM 1973) (TAP); Quebrada de Llanganuco (c.9°05'S 77°39'W: IGM 1973), where one was seen at 4,350 m in August 1987 (P. K. Donahue *in litt.* 1990); Quebrada Pucavado (c.9°41'S 77°14'W: IGM 1971), a possible sighting at 4,350 m (Fjeldså 1987); and near Cerro Huansala (c.9°51'S 76°59'W: IGM 1973), at 3,700 m, some 200 km south of Yánac (Fjeldså 1987).

The species presumably occurs throughout the *Polylepis* woods on the east slope in Cordillera Blanca (TAP), but at such low densities that it generally goes undetected (Fjeldså 1987, NK); thus this bird was not recorded during eight days of fieldwork in *Polylepis* woodland in Quebradas Rurichinchay, Rurec and Carhuascancha on the east slope, nor was it recorded on the west slope during 12 days in Quebradas Paron, Ulta, Ishinca and Shallop (Frimer and Møller Nielsen 1989).

The subspecies *bolivianus* is known from three areas, two of which are in Peru: (1) south-east of Abancay, Apurímac department, where it is found in c.40 woodlands, one of 75 ha on Cerro Balcón (13°42'S 72°42'W), the rest of 1-4 ha, 10 of them being in the Cerro Runtacocha–Cerro Morococha region at 13°40-41'S 72°46-47'W, the rest at 13°41-46'S 72°35-42'W (J. Fjeldså *in litt.* 1990; coordinates read from IGM 1978a); (2) Cordillera Vilcanota, Cuzco department, where three specimens were collected in 1974, 1985 and 1987 (in FMNH, LSUMZ and ZMUC), with additional birds sighted regularly from 1974 to 1987 (Fjeldså 1987, P. K. Donahue *in litt.* 1987, TAP) in two small groves near Abra Málaga (13°08'S 72°19'W), one above Canchaillo (13°07'S 72°22'W), at 3,960 m, c.10 km north-west of Abra Málaga, the other 1.5-3.5 km south-west of Abra Málaga at 3,950-4,300 m (Parker and O'Neill 1980, Fjeldså 1987, B. P. Walker *in litt.* 1988, NK, TAP). In 1989 this bird was found at Yanacocha lakes (13°17'S 71°59'W), head of the Huayocari valley, on the slope of Nevada Chicon, Cuzco department, in a mixed *Polylepis*–*Gynoxys* wood at 3,700-3,800 m (B. P. Walker *in litt.* 1989).

Bolivia The type-specimen (subspecies *bolivianus*) was collected at 4,100 m above km 50 on the Yungas railroad, La Páz department in 1935 (Carriker 1935b), but this region is now virtually devoid of *Polylepis* (Fjeldså 1987) – at least none could be found along the roads leading to the Yungas and Zongo valley in 1984 (NK) and 1987 (Fjeldså 1987).

The Ash-breasted Tit-tyrant was presumably once distributed along the entire Cordillera Real (NK), but in 1987 no habitat was found in the valley from Aricoma Pass to Limbaní, Puno department, nor within adjacent valleys 10 km to the south, and local inhabitants reported that no *Polylepis* remains in the entire region, save for tiny patches and planted trees (Fjeldså 1987, NK). Above Cuyocuyo in Sandia valley, Puno department, only tiny patches of *Polylepis* persisted in 1984 (NK). The species presumably occurs in the unexplored parts of the Vilcanota and Carabaya mountains, which can be seen from the air to hold much *Polylepis*, and many suitable patches may remain elsewhere between Cordillera Vilcanota and La Paz (TAP). A park ranger in Tunari National Park, a *Polylepis* reserve in Cochabamba department, Bolivia, claimed that the species occurs there (Fjeldså 1987). Habitat was found c.35 km south-east of

Abra Málaga, in the valley of Urubamba town, c.5 km east-north-east of the town, towards Nevada Chaiñapuerto at 3,800-4,500 m, but although the species was not detected during a two-day survey, 1-2 pairs may well exist (Fjeldså 1987).

POPULATION In most of its range the Ash-breasted Tit-tyrant occurs at very low densities with only one pair or family group in each *Polylepis*–*Gynoxys* grove (Carriker 1933, 1935b, Parker and O'Neill 1980, Fjeldså 1987, Fjeldså and Krabbe 1990). Until recently the largest population was thought to be in Cordillera Blanca, Ancash department, where the species was reported to be “not rare” above Yánac (TAP), the entire population in this cordillera speculatively being as high or higher than 300 individuals; however, the inventory of *Polylepis* woodlands there in 1988 (Frimer and Møller Nielsen 1989; see Distribution) suggested that it is in fact much less. In Cuzco no more than 3-5 pairs have been detected, but perhaps as many as 30 birds may be found by investigating additional *Polylepis* groves between Abra Málaga and Urubamba, with a larger population possibly existing further south, notably in the Cordillera Carabaya (NK). In Apurímac, the species was found to be common in its patchy habitat, with a population of 100 pairs estimated for the c.40 woodlands covering a total of c.2 km² (J. Fjeldså *in litt.* 1990).

ECOLOGY The Ash-breasted Tit-tyrant inhabits isolated, semi-humid, mixed *Polylepis*–*Gynoxys* woods at 3,700 to 4,500 m (Carriker 1933, 1935b, Parker and O'Neill 1980, Fjeldså 1987, Fjeldså and Krabbe 1990, TAP), and there has been one sighting of the species in 1 m tall, scrubby *Polylepis* mixed with *Buddleia* (B. P. Walker *in litt.* 1988). It appears to be common only in Apurímac, where the *Polylepis* woodlands are mature (for description of these forests see Ecology under Royal Cinclodes *Cinclodes aricomae*), and where the several strata may provide a richer supply of insects than can be found in other woods (J. Fjeldså verbally 1989 and *in litt.* 1990).

This species has been seen alone, in pairs and in family groups of two adults and one young (Carriker 1933, 1935b, Parker and O'Neill 1980, Fjeldså and Krabbe 1990; also FMNH label data): it is remarkable that it can survive the low densities in which it occurs at most sites, a *Polylepis* grove of 1 km² being inhabited by only 1-2 pairs (Carriker 1933, 1935b, Parker and O'Neill 1980, Fjeldså and Krabbe 1990). Birds, which are often well hidden, flutter restlessly after insects in the outer branches of *Polylepis* and *Gynoxys* brush and trees, where they perch-glean, and make short sallies into the air or to glean foliage and twigs: rarely, they may descend to the ground or climb trunks, and once a bird was seen feeding on thickly moss-clad branches in the subcanopy (Parker and O'Neill 1980, Fjeldså and Krabbe 1990, J. Fjeldså *in litt.* 1990).

Birds collected in Ancash in May and in Cuzco in March had small gonads (specimens in FMNH, LSMUZ and ZMUC): in Cuzco, immatures were caught or collected in March and July (specimen in FMNH; P. Arctander verbally 1987). Two adults taken and others seen in Apurímac during November 1989 were moulting wings and tail, and in early December a pair was seen feeding young, whilst a bird with a minute ovary taken there in December only showed slight body moult (J. Fjeldså *in litt.* 1990; specimens in ZMUC). Breeding thus appears to be late in the dry season, at least in Apurímac. Nesting has not been described, but in other members of the genus the nest is a finely woven, small compact open cup placed in a bush (Fjeldså and Krabbe 1990).

THREATS The major threat to this and other *Polylepis* specialists is habitat destruction, caused by cutting for firewood and a lack of regeneration due to grazing and burning of grass between the trees (for more details of specific threats to particular localities, see Threats under Royal Cinclodes, White-browed Tit-spinetail *Leptasthenura xenothorax* and White-cheeked Cotinga *Zaratornis stresemanni*).

MEASURES TAKEN In Ancash most *Polylepis* occurs within Huascarán National Park, Cordillera Blanca (340,000 ha: IUCN 1992), but is still threatened (see Threats under White-cheeked Cotinga, also Royal Cinclodes). The planting of *Eucalyptus* around the village of Yánac in Cordillera Blanca in the 1920s and 1930s has lessened the local need for *Polylepis* wood (Parker 1981) and is probably responsible for the healthy state of the *Polylepis* woods to the south of the village. In Cuzco no measures are known, but for initiatives carried out in Apurímac see under Royal Cinclodes.

MEASURES PROPOSED The Ash-breasted Tit-tyrant shares habitat with several other threatened *Polylepis*-adapted birds: in Cuzco and Apurímac it is found with White-browed Tit-spinetail and Royal Cinclodes, and in Ancash with White-cheeked Cotinga, Plain-tailed and Rufous-breasted Warbling-finches *Poospiza alticola* and *P. rubecula* (see relevant accounts), and the requirements of all of these species should, where appropriate, be taken into consideration in any conservation proposals. Although occupying a different habitat-type, this species occurs sympatrically with the threatened White-tailed Shrike-tyrant *Agriornis andicola* (at least within Huascarán National Park). Measures Proposed under Royal Cinclodes, White-browed Tit-spinetail and White-cheeked Cotinga outlines possible initiatives to conserve *Polylepis* woodland in this area, and gives a list of some other birds endemic to this specialized habitat.