

*This hummingbird is confined to the edge of the páramo zone above both slopes of the interandean plateau west of Cuenca, Azuay province, southern Ecuador. Until recently it was threatened by habitat destruction, but it may now be safe in some areas.*

**DISTRIBUTION** Only three of the existing 17 museum specimens of the Violet-throated Metaltail (see Remarks 1) are properly labelled with locality, with an additional 12 individuals having been netted and most of them photographed at a different locality. Fourteen specimens collected in Ecuador at the end of last century (Salvin 1893; specimens in AMNH, BMNH and MNHN) were labelled “Cuenca, 12,000” (3,650 m). There were no subsequent records until 1981, when one was collected and two more seen at 3,400-3,600 m near Miguir, Pacific drainage of Cajas mountains, c.35 km (erroneously given as 25 km) west of Cuenca, at 2°47'S 79°18'W (Ortiz-Crespo 1984; coordinates from OG 1957b). In 1986 an additional specimen (in ANSP) was collected nearby at 3,700 m, and 12 individuals were netted and subsequently released, six of them after having been photographed, at 3,150-3,650 m at Río Mazan, oriental drainage of Cajas mountains, c.14 km west of Cuenca, at 2°52'S 79°08'W (read from LANDSAT 1987 and IGM 1982) (Gretton 1986). A single male (now in MECN) was taken at Paredones, south-west of Molleturo, at 3,250 m, at 2°46'S 79°25'W in March 1991. The type-series may have been collected near Río Mazan, but suitable habitat on isolated páramos apparently also occurs 10 km south-east and 15 km east of Cuenca respectively (from evidence on LANDSAT 1987).

**POPULATION** Gretton (1986) estimated the population at Río Mazan (the area in question being unspecified, but evidently small) to be between 50 and 100 individuals. In spite of its fairly restricted known range, extrapolation of these numbers to adjacent areas with apparently similar habitat (according to LANDSAT 1987) suggests the total population may number well over 2,000 birds (NK).

**ECOLOGY** The Violet-throated Metaltail has been recorded at altitudes varying from 3,150 to 3,700 m (Salvin 1983, Ortiz-Crespo 1984, Gretton 1986; specimens in AMNH, ANSP and MECN), where it inhabits elfin forest and treeline shrubbery on humid páramo (Ortiz-Crespo 1984, Gretton 1986, King 1989) and also occurs in open páramo, though generally within 3 km of a *Polylepis* patch (M. Hancock *in litt.* 1989). Ortiz-Crespo (1984) reportedly collected a specimen at the edge of a boggy meadow in a *Polylepis* forest where shrubs and small trees of *Podocarpus*, *Gaiadendron*, *Weinmannia*, *Escallonia* and *Durantha* also grow. He only observed *baroni* feeding on one occasion, from a parasitic loranthacean *Tristerix longebracteatus* (this being chiefly parasitic on *Durantha*), but noted the main nectar sources for hummingbirds in the area to be *Durantha* itself, *Macleania* and other ericaceous shrubs, (Ortiz-Crespo 1984). The specimen collected nearby in 1986 was taken at edge of stunted forest at the treeline (ANSP label data). At Río Mazan the species was reported to be the commonest hummingbird at 3,400 m, where it was seen and netted in shrubs at the edge of a boggy glade near a *Polylepis*-fringed stream; two were also caught in a *Polylepis* patch on the páramo at 3,650 m, and once a bird was netted in shrubby forest at 3,150 m (Gretton 1986). On two occasions it was seen feeding from red flowers of a *Castilleja* shrub (Gretton 1986), although a report based on the same fieldwork referred to it appearing to feed exclusively on the nectar of *Castilleja fissifolia* (King 1989). In 1987, what was possibly this species was seen feeding from a *Puya* sp. (King 1988). At Paredones it was found in disturbed treeline habitat dominated by the proteacean *Oreocallis*, and was seen feeding from flowers of a melastomatacean (NK). The habitat thus apparently closely resembles that reported of Neblina Metaltail *M. odomae* (see relevant account), Coppery Metaltail *M. theresiae*, Fire-throated Metaltail *M. eupogon* and Scaled Metaltail *M. aeneocauda* (Graves 1980, Parker *et al.* 1985), and also that used by Viridian Metaltail *M. williami* in eastern Ecuador (NK). *M. williami atrigularis* occurs sympatrically with *baroni* at Río Mazan (Gretton 1986), but it is generally found at lower elevations than *baroni* in that valley (A. Gretton verbally 1988; also King 1989; see Remarks 2). Apart from two males with undeveloped gonads in March and August (specimens in ANSP and MECN) there is no indication of breeding season.

**THREATS** The Violet-throated Metaltail may be threatened by habitat destruction, as the remnant patches of forest in Las Cajas National Recreation Area are (or were) being constantly whittled away (Ridgely 1981a; but see Measures Taken).

**MEASURES TAKEN** The species is known to occur in Las Cajas National Recreation Area (Ortiz-Crespo 1984; specimen in ANSP) and at Río Mazan, a small reserve at the edge of Cajas National Recreation Area (where it is sympatric with the Golden-plumed Parakeet *Leptosittaca branickii*, Red-faced Parrot *Hapalopsittaca pyrrhops* and probably Bearded Guan *Penelope barbata*: see relevant accounts). The Río Mazan reserve was started as a local initiative by the Cuenca chapter of the national organization Fundación Natura (the local chapter is now called Tierra Viva), which bought the area in 1981 with money donated by Cuenca town council and the civil defence fund, and the forest was thus saved from total felling for furniture manufacture (Robinson 1986). Although some felling continued for a few years, the area is now well protected (A. Gretton and M. Hancock verbally 1988; also M. Hancock *in litt.* 1989).

**MEASURES PROPOSED** Effective protection of Cajas National Recreation Area should be ensured. Páramos east and south of Cuenca should be surveyed for the possible occurrence of the species.

**REMARKS** (1) Although described as a species (Salvin 1893), *baroni* was treated as a subspecies of *M. eupogon* by Peters (1945). Zimmer (1952) retained *baroni* as a species, but suggested that *williami*, *baroni*, *theresia*, *eupogon* and *aeneocauda* should be treated as separate species, an arrangement followed by Graves (1980), who added *odoniae* to the assemblage. The discovery in 1986 of sympatry between *williami* (subspecies *atrigrularis*) and *baroni* (Gretton 1986), with no apparent hybridization and with some altitudinal segregation (see Ecology), may suggest that *williami* does not belong in this group, or at least that *baroni* and *atrigrularis* are not members of the same superspecies in the narrow sense (NK), a view further supported by their possible sympatry east of the central valley (see Distribution). (2) The reported sightings of a single *baroni* in low, shrubby, riparian growth dominated by alders at 1,900 m in the arid Oña valley (Ridgely 1980) may be based on a misidentification or a wandering individual (NK); if reliable and representing a regular phenomenon, this observation would suggest less significance than hitherto thought of dry, interandean valleys as dispersal barriers to members of the *Metallura aeneocauda* superspecies, and might also suggest the presence of *baroni* in Cordillera Cordoncillo immediately east and south-south-east of Oña (NK).