

This extremely rare warbling-finch is confined to western Peru, where it has been found at a few scattered localities at elevations ranging from 2,500 to 3,700 m. It remains virtually unknown.

DISTRIBUTION The Rufous-breasted Warbling-finch is known from few specimens and even less sightings at a number of localities from southern Cajamarca to Lima departments, western Peru. The localities (coordinates, unless otherwise stated, from Stephens and Traylor 1983) are:

Cajamarca Cajabamba (7°37'S 78°03'W), where two males (one immature: in BMNH) were collected at 2,750 m in January 1894 (Salvin 1895);

La Libertad Huamachuco (7°48'S 78°04'W), where the type-specimen (in BMNH) was taken at 3,170 m in February 1894 (Salvin 1895);

Ancash Quitacocha (c.8°52'S 77°55'W), above Huaylas in the río Santa valley, where an immature male (in FMNH) was collected at 3,350 m in May 1978 (P. Hocking *in litt.* 1988); Andavite (9°23'S 77°16'W: IGM 1978b), on the Quebrada Rurichinchay, río Marañón drainage, where an adult was seen at 3,700 m in October 1988 (Frimer and Møller Nielsen 1989); Bosque San Damián (c.9°51'S 77°47'W: IGM 1971), in the río Huarmey valley, Cordillera Negra, where two were seen at 2,350 and 2,400 m in October 1985 (M. Kessler *in litt.* 1988);

Lima upper Santa Eulalia valley (c.11°53'S 76°40'W), an affluent of río Rímac, where one was seen at c.2,400 m in August 1980 (J. W. Eley *in litt.* 1988), one at 3,020 m in August 1984 (R. S. Ridgely *in litt.* 1989), one at 3,650 m (P. Hocking *in litt.* 1988), with a pair at 3,000 m in July 1985 (B. M. Whitney *in litt.* 1991); Obrajillo (c.11°23'S 76°41'W), in the Chillón valley, where a male (in ANSP) was collected at c.2,500 m in November 1929 (also Bond 1951a); and in the Rímac valley (at 11°52'-53'S 76°27'-28'W) at Surco, where a male (in BMNH) was collected in February 1900 with a female (in MHNJP) taken in April 1953, at 2,500 and 2,600 m (also Hellmayr 1938, Koepcke 1958), and at Bosque Zárate, where birds were seen in March 1956 (Koepcke 1958) and an immature female (in MHNJP) was taken in October 1982, at 2,600-2,900 m.

There is a possible sight record from the upper Pisco valley on the border of Ica and Huancavelica departments (Koepcke 1958).

POPULATION This warbling-finch is very rare, occurring at low density, hence despite its wide distribution the total population must be very small. However, owing to its retiring habits, it may be commoner than the scarcity of sightings and museum specimens suggests (P. Hocking *in litt.* 1988).

ECOLOGY The Rufous-breasted Warbling-finch occurs between 2,350 and 3,700 m (see Distribution), inhabiting composite scrub (*Eupatorium*), woodland, "thick páramo sage" (possibly composite *Gynoxys*: NK), and dry scrub-forest at the edge of *Polylepis* woodland with other bushes admixed (Fjeldså and Krabbe 1990). More generally, its habitat has been described as "remnant forests and forested gorges" (P. Hocking *in litt.* 1988).

The habitat at Bosque Zárate was mixed woodland, the dominant trees being *Oreopanax* and *Escallonia*, with the warbling-finch found in bushy undergrowth at the edge of the wood (Koepcke 1958, I. Franke verbally 1987). The slopes where it was observed in the upper Santa Eulalia valley at 2,400 m had low bushes and scattered small trees (a *Polylepis* wood is situated higher up at c.3,500 m on the same slope: NK); one bird seen at 09h30 was preening low in a bush, and flew down into a canyon of dense bushy vegetation (J. W. Eley *in litt.* 1988). In the shrub zone of this same valley (at c.3,000 m), where the habitat in a steep-sided, rocky, arid ravine was described as a medium cover of low woody shrubs, with some *Puya* bromeliads and cacti, a bird perched quietly for some time, not feeding, and ignoring all the commotion of Mourning Sierra-finches *Phrygilus fruticeti*, *Catamenia* seedeaters and other finches around it (R. S. Ridgely *in litt.* 1989, B. M. Whitney *in litt.* 1991): at 3,650 m, one was seen warming itself on a rock bluff at 06h00, but quickly darted away into a nearby bush not far from the *Polylepis* woods (P. Hocking *in litt.* 1988). At Quitacocha, the bird was found at 06h30 in a ravine with dense bushes and 3-5 m tall trees: a pair was hopping about on large rocks near the bushes; they were fast and active, and seemed to hide in heavily leaved bushes near the ground, never venturing higher up into the trees (P. Hocking *in litt.* 1988). At Andavite one was seen at 11h00 low in *Gynoxys* bushes among mixed shrubs along a stream, the general vegetation being transition from shrubs to humid *Polylepis* forest, and composed of 8-15 m tall *Polylepis* trees, *Gynoxys*, *Buddleia*, *Berberis*, *Baccharis*, *Miconia*, *Brachyotum*,

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Ribes and other shrubs (O. Frimer *in litt.* 1988, Frimer and Møller Nielsen 1989). At Bosque San Damián both birds observed were young, sitting in the sun at 08h00, c.2 m up in the 4-5 m tall vegetation, and quickly darted away when approached (M. Kessler *in litt.* 1988).

“It has been found singly, but probably also occurs in pairs or family groups”, and it “forages within the vegetation”; birds will apparently on occasion follow mixed-species flocks composed other finches (Koepcke 1958). One specimen had seeds in its stomach (Koepcke 1958), although according to P. Hocking (*in litt.* 1988) the species probably feeds primarily on young leaf buds and berries.

A female in breeding condition was collected in October, and a singing male was observed in late March 1956 at Bosque Zárate (Koepcke 1958). Immatures have been collected in January in Cajamarca, April in Lima and May in Ancash (specimens in BMNH, FMNH and MHNJP). The bird collected in October 1953 had white, dark-streaked underparts and was a female in breeding condition; however, the bird collected in April 1982 was changing from streaked to rufous below and was sexed as a female, so apparently the sexes are alike and at least the female is able to breed whilst still in immature plumage (Fjeldså and Krabbe 1990).

THREATS The species may be naturally declining or rare, and according to P. Hocking (*in litt.* 1988) is threatened by habitat destruction. Further details of the plight of *Polylepis* woodland in the region are in Threats under White-cheeked Cotinga *Zaratornis stresemanni*.

MEASURES TAKEN None is known.

MEASURES PROPOSED Further research to disclose more about the habits and ecological requirements of this bird is desirable. Protective measures should be instigated in areas of remaining habitat where it is known to occur. The conservation of *Polylepis* woodland, which is an urgent priority in this region, is outlined in Measures Proposed under White-cheeked Cotinga.