

This furnariid is very rare, with a small range above 4,400 m in Huancavelica, Junín and immediately adjacent Lima department, Peru, and appears to have very specific habitat requirements, being found on only a few of the many bogs in this region. It may be in the process of becoming extinct for natural reasons, but this could be greatly accelerated if mining were to commence in these areas.

DISTRIBUTION The White-bellied Cinclodes is confined to the western Andes of central Peru, where it is found at high altitudes from western Junín and eastern Lima departments 250 km south to central Huancavelica department. It is known from c.21 specimens and a number of sightings at the following localities (north to south, with coordinates, unless otherwise stated, from Stephens and Traylor 1983):

Junín Montaña de Vítoc (untraced, but apparently not far from [south of] Hacienda Pacchapata at c.11°17'S 75°16'W), where the type-specimen was collected prior to 1844 (von Tschudi 1844-1846: see Remarks 1); Moyobamba (untraced: see Remarks 2) (Taczanowski 1884-1886); Cerro Ninarupa (c.11°23'S 76°22'W; presumably at the base at c.4,400 m), c.5 km north-west of Marcapomacocha, where three specimens were collected in c.1873 (Taczanowski 1874, 1884-1886: see Population, Remarks 3); 161 km by road from Lima on the Canta-Huarón road (11°01'-21'S 76°23'-27'W), along which at "4,000 m" five specimens (in MHNJP) were collected in May and June 1948 (T. S. Schulenberg *in litt.* 1989; see Remarks 4); Pampa Pucacocha (11°33'S 76°16'W: coordinates and elevation read from IGM 1973), at 4,400 m on the south-eastern base of Nevada Raujunte, where four birds (in LSUMZ and ZMUC) were taken in July and August 1983, with sightings in November 1983 (NK) (the specimen labels give the altitudes as 4,550 and 4,600 m and misspell the locality as "Pampa Puracocha"); Galera (11°38'S 76°12'W), at 4,800 m at the eastern end of the railroad tunnel through the peak of the western Andes, where a specimen (in BMNH) was collected in February 1899 (Chubb 1906);

Lima just west of Pampa Pucacocha (see above), near the border of Junín department, where two birds were seen in July 1985 (D. F. Stotz *in litt.* 1989); La Viuda (11°18'S 76°31'W), where at 4,480 m a specimen (in MNHN: catalogue entry in MHNJP) was taken in April 1952 (T. S. Schulenberg *in litt.* 1989: see Remarks 5);

Huancavelica near (presumably 10-15 km south-west of) Yauli (c.12°47'S 74°49'W), where at 4,940 m a bird (in BMNH) was taken in July 1947; above (presumably 1.5 km south-west of) Talahuara (at 4,875 m by the glacier on Cerro Ojuijasa), and at Talahuara itself (c.13°04'S 75°04'W), whence come three specimens (in AMNH, BMNH) taken in October and November 1937 (Morrison 1939a); Lira (13°11'S 75°13'W), where a straggling specimen (in BMNH) was taken at 4,460 m during a snowstorm in November 1937 (Morrison 1939a).

The known distribution of this species thus ranges between c.11° and 13°S; although apparently suitable habitat exists in Cordillera Blanca, Ancash department, there are no records of the species there, but it may be found to occur northwards to south-east Ancash and south-west Huánuco departments; however, south of central Huancavelica its habitat is scarce and widely scattered (NK), and a large southward range extension would seem unlikely.

POPULATION The White-bellied Cinclodes is a rare and local bird (Morrison 1939a, Parker *et al.* 1982, Fjeldså and Krabbe 1990), being absent from large areas of apparently suitable habitat (NK). Recent records are of a single individual near Marcapomacocha in August 1983 (B. P. Walker verbally 1983), with five there in July 1985 (B. M. Whitney *in litt.* 1991). Three pairs were recorded on Pampa Pucacocha in July and August 1983 (D. F. Stotz verbally 1983, NK), during which time five birds were collected; however, by November 1983 there were again two pairs on the bog (NK), suggesting recolonization. Immediately west of Pampa Pucacocha, and just inside Lima department, two birds were seen in July 1985 (D. F. Stotz *in litt.* 1989). Although there may be as much as 10,000 km² of habitat, the species appears to breed at only a few sites (NK), and the total population may be very small and declining.

ECOLOGY The White-bellied Cinclodes inhabits boggy terrain from c.4,400 m to the snowline at c.5,000 m. Pampa Pucacocha is a mineral-rich, well-watered cushion-plant bog (most cushions being of *Distichia*), situated below a glacier, with rocky outcrops and stony slopes nearby (NK). The habitat between Marcapomacocha and Ninarupa is similar, but some 5 km east of the nearest glacier (Cordillera de la Viuda). Talahuara is immediately adjacent to a glacier, but near Lira, where the species has been recorded just once and does not normally occur, there being no glacier in the vicinity (Morrison 1939a).

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While its habitat requirements may be much more specific than in other species of *Cinclodes*, it is also possible that it is in the process of becoming extinct for natural reasons (NK). It is found alone or in pairs, but occasionally three or four birds will gather while calling, in what may be a territorial dispute but which looks more like a social event (NK). The species forages on the bogs, probing into the matted vegetation in search of worms, insects and small frogs (Fjeldså and Krabbe 1990, LSUMZ label data). When alarmed it will fly to a rocky outcrop or hide under rocks (NK). It sleeps and, like most other species of *Cinclodes*, probably also nests in crevices under rocks (NK). Six birds collected in July, August, October and November had undeveloped gonads, while one collected in November had somewhat enlarged testes (specimens in BMNH, LSUMZ and ZMUC). The snow-white underparts of this species render it very conspicuous; while this may enable birds to find each other at very low densities, it probably also makes them more vulnerable to predators such as the Aplomado Falcon *Falco femoralis* (NK).

THREATS Owing to the very high altitude at which the species occurs, its habitat is little disturbed by man. If, however, it breeds at only a few mineral-rich bogs, and these sites were to become centres of mining activity, then it could be severely affected by pollution or any other disturbances.

MEASURES TAKEN None is known.

MEASURES PROPOSED A survey of the species's range should be undertaken in order to decide whether any conservation efforts are required, and a more detailed assessment of its population dynamics and ecological requirements is necessary if this bird is to be saved in the long term.

REMARKS (1) Although no locality was given with the type-description of the species (de Tschudi 1844), it was clearly stated by von Tschudi (1844-1846) that the only specimen he collected was taken at Montaña de Vítoc, where he observed Black-chested Buzzard-eagle *Geranoaetus melanoleucus* at Hacienda Pacchapata: this hacienda is not mentioned under the present species, which may have been taken elsewhere in the region.

(2) A specimen in the Raimondi collection was reported by Taczanowski (1884-1886) to have been taken at Moyobamba (an unlabelled specimen in MHNJP is presumably either this or one of Jelski's: M. A. Plenge *in litt.* 1989): this cannot be the Moyobamba in San Martín, as is often assumed (Peters 1951, Meyer de Schauensee 1966), as none of its habitat exists in that department (NK). Some bird specimens (presumably taken by Raimondi) were labelled "Moyobamba, 11-12°S. Lat." and "Mountain of Moyobamba, 11-12°S. Lat." (Vaurie 1972). J. T. Zimmer (in Vaurie 1972) suggested that the Moyobamba of Raimondi may apply to either of two localities by that name in Ayacucho department, at 13°42'S 73°57'W and 14°20'S 73°58'W respectively, and Vaurie (1972) suggested that the same seemed to be the case with the Moyobamba and Mountain of Moyobamba at "11-12°S. Lat.". It seems a distinct possibility, however, that a fourth Moyobamba exists between 11° and 12°S, as this is the region where most specimens of the White-bellied *Cinclodes* have been procured. The inclusion of Cajamarca (but not

San Martín) in its range (Vaurie 1980) is probably based on this Raimondi specimen.

(3) Jelski collected three specimens in Junín department between 1870 and 1873 (Taczanowski 1874), and Taczanowski (1884-1886) gave Ninarupa as the only locality where Jelski collected the species. One of Jelski's specimens, now in BMNH, is labelled "Central Peru" only (Sclater 1890), the other two specimens possibly being in Warsaw Museum (although they may have been destroyed during the Second World War), as most of Jelski's specimens were deposited there (Taczanowski 1874): however, some of Jelski's specimens remained in Raimondi's collection in Lima (e.g. the now lost type of Grey-bellied Comet *Taphrolesbia griseiventris*: see Taczanowski 1883 and Plenge 1979), and one or both of two unlabelled specimens of *Cinclodes palliatus* in MHNJP may be Jelski's (NK).

(4) The elevation of 4,000 m, given on the label of one of the specimens collected in Junín along the road between Canta and Huarón, is apparently erroneous, as no point in Junín along that road is below 4,400 m (according to IGM 1975).

(5) La Viuda is given as 11°18'S 76°31'W by Stephens and Traylor (1983); however, IGM (1975) places it at 11°21'S 76°26'W, adjacent to the Cordillera de la Viuda, IGM (1978) giving Paso de la Viuda (probably erroneously) as the pass on the border of Lima and Junín departments on the Santa Cruz de Andamarca–Huarón road, although this pass is at c.4,600 m, at c.11°13'S 76°29'W (IGM 1975) and not near the Cordillera de la Viuda.