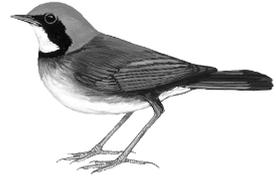


RUFOUS-HEADED ROBIN

Luscinia ruficeps

Critical —
Endangered —
Vulnerable C1

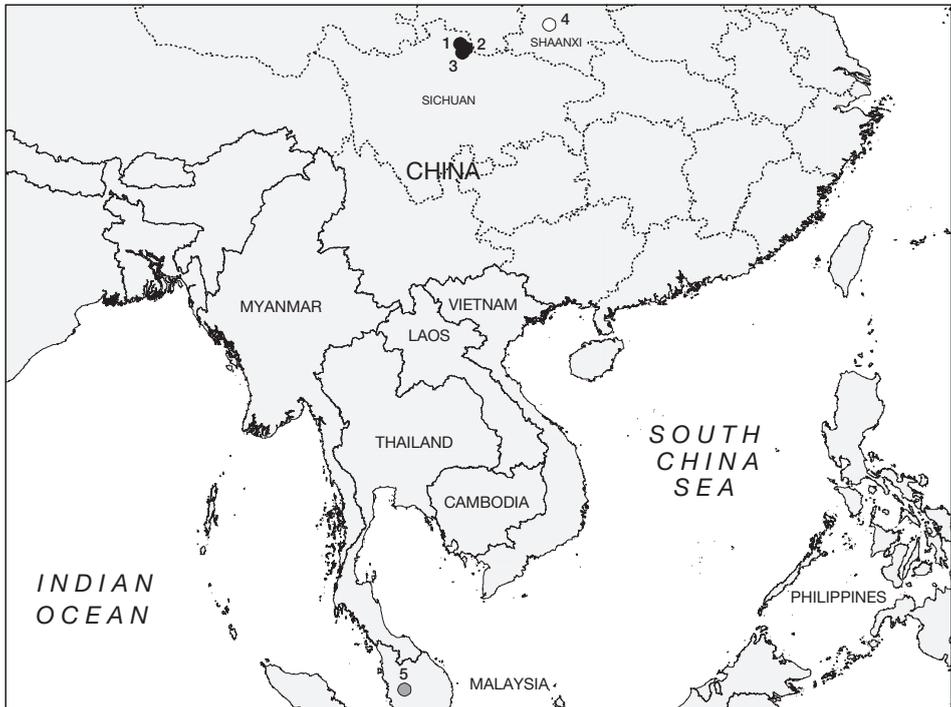


This poorly known species qualifies as Vulnerable because it is inferred to have a small, declining population as a result of forest destruction and possibly dam construction.

DISTRIBUTION The Rufous-headed Robin breeds in the mountains of south-west China, and there is a single non-breeding record from Peninsular Malaysia.

■ **CHINA** This stunning bird is recorded from only four localities in its breeding range in the Min Shan mountains in north-central Sichuan (see Remarks 1) and the Qinling Shan mountains in southern Shaanxi, with records (by province) as follows:

■ **Sichuan Jiuzhaigou Nature Reserve**, regularly recorded at two sites during the 1980s and 1990s, one near Nuorilong and the second above “Pearl Shoal waterfall”: three singing males on territory near Nuorilong, June 1985 (M. A. S. Beaman *in litt.* 1988), seen behaving territorially, c.1985 (B. F. King *in litt.* 1987), at least six territories near Nuorilong, May 1986, in bamboo in coniferous forest (Robson 1986), at least six singing males, one mist-netted and



The distribution of Rufous-headed Robin *Luscinia ruficeps*: (1) Jiuzhaigou Nature Reserve; (2) Wanglang Nature Reserve; (3) Huanglongsi Nature Reserve; (4) Taibai Shan; (5) Gunong Brinchang.

○ Historical (pre-1950) ● Fairly recent (1950–1979) ● Recent (1980–present)

photographed, May–July 1987 (F. G. Rozendaal *in litt.* 1987), at least one male singing near Nuorilong, May 1987 (Goodwin 1987), two males, May 1988 (C. G. Cederlund *in litt.* 1999), at least four singing males, May 1989 (P. Alström, U. Olsson and D. Zetterström *in litt.* 2000; also Clements 1989, P. Alind *in litt.* 1999), two males, May 1990 (P. Snetsinger *in litt.* 1999), minimum of six singing males, June 1991 (Davidson and Martins *in prep.*; also Jihmanner 1991, B. Johansson *in litt.* 1999, L. Marsh *in litt.* 1999), male, May 1992 (J. Christensen *in litt.* 1999, D. Holden *in litt.* 1999), three, May 1993 (M. Edwards *in litt.* 1999), male, June 1994 (P. Alström, U. Olsson and D. Zetterström *in litt.* 2000), pair apparently feeding young, early August 1994 (S. Cook *in litt.* 1996), male, May 1995 (M. Leven *in litt.* 1997), at least four singing males and two females above “Pearl Shoal waterfall” and a nest found, June 1995 (Davidson and Martins *in prep.*), male, May 1996 (M. van Beirs *in litt.* 1999), two males heard above “Pearl Shoal waterfall”, of which one was mist-netted, June 1997, 2,700–2,800 m (M. Leven *in litt.* 1997); **Wanglang Nature Reserve**, Pingwu county, seen behaving territorially, c.1985 (B. F. King *in litt.* 1987), May 1986, c.2,400 m, in mixed coniferous and deciduous forest (Li Guiyuan and Zhang Qingmao 1987, male in SUACN); **Huanglongsi Nature Reserve**, c.100 km south-south-west of Jiuzhaigou, singing male, May 1988 (J. Hornskov *in litt.* 1989);

■ **Shaanxi Taibei Shan** (Tai-pai-shan), Qinling Shan (Tsin-ling mountains), three males (including the type) and two females collected (see Remarks 2), July 1905 (Hartert 1907a,b).

■ **MALAYSIA Gunong Brinchang**, Cameron Highlands, Pahang, male mist-netted, photographed and released, March 1963, 2,030 m (McClure 1963, Medway and Wells 1964).

POPULATION There is very little information available on the population of this species. In Jiuzhaigou National Park, six singing males were heard along 3–4 km of the valley near Nuorilong in 1991, and four singing males and two females were seen along c.400 m of trail in the valley above “Pearl Shoal waterfall” in June 1995 (Davidson and Martins *in prep.*). This indicates that it can occur at fairly high densities in suitable habitat, but the paucity of records suggests that it is probably highly localised in distribution and could have a small total population.

ECOLOGY Habitat In its breeding range, this species has been recorded from mixed coniferous and deciduous forest and deciduous scrub in the temperate zone. It appears to be particularly associated with narrow river valleys, and it has been suggested that it may be specialised to areas of scrubland that develop in the valley bottoms following catastrophic outwash events which destroy the maturing broadleaf forest on the floor of these valleys (Davidson and Martins *in prep.*, M. Leven *in litt.* 1997). This apparent habitat specialisation to successional habitats could account for its scarcity and the small number of known localities. Its altitudinal range is poorly understood, and could prove to be narrower than the range of c.2,400–3,500 m that is suggested by Collar *et al.* (1994) and Stattersfield *et al.* (1998). All of the breeding season records for which the altitude is documented above (see Distribution) are between c.2,400 and 2,800 m.

Most of the recent records are from two small valleys in Jiuzhaigou Nature Reserve. In the valley near Nuorilong, it has been recorded along dry streambeds in mixed coniferous and broadleaf forest with dense bamboo and scrub (Robson 1986, P. Alström *in litt.* 1993). The valley above “Pearl Shoal waterfall” is narrow, with a valley bottom that varies from 50 to 100 m in width; the narrow, fast-flowing stream has numerous large and small boulders in and around the streambed, while the steep slopes of the valley support coniferous forest mixed with birch, with several stands of dead bamboo (Davidson and Martins *in prep.*). The vegetation on the valley floor is very different, with a mixture of deciduous shrubs and a ground flora consisting of a rich herb and grass layer; cattle occasionally graze the open

grassy areas, and the main trail along the valley floor is irregularly used to drive livestock, resulting in some areas of exposed mud (Davidson and Martins in prep.). Rufous-headed Robin appears to favour moss-covered vegetation in the deciduous woodland and scrub on the valley floor, where the vegetation includes stands of riparian willow *Salix*; in the valleys where it has been found, Indian Blue Robin *Luscinia brunnea* is scarce, but at slightly lower altitudes (where the trees were significantly less moss-clad) Indian Blue Robin was common and Rufous-headed Robin was not found (Davidson and Martins in prep., M. Leven *in litt.* 1997). In Wanglang Nature Reserve, the latter was found in mixed coniferous and deciduous forest at c.2,400 m (Li Guiyuan and Zhang Qingmao 1987).

The only record outside the breeding season was of a presumed migrant in the mountains of Peninsular Malaysia, where it was mist-netted in ericaceous summit scrub at 2,030 m (McClure 1963, Medway and Wells 1964).

Food The stomach of the bird collected at Wanglang contained an earthworm and some fragments of plants (Li Guiyuan and Zhang Qingmao 1987). On one occasion, a male was observed in Jiuzhaigou foraging on an area of exposed mud, caused by trampling of the valley floor by livestock (Davidson and Martins in prep.).

Breeding Males have been observed holding territories in May in Jiuzhaigou and Wanglang Nature Reserves (see Distribution). A nest containing four eggs was found in Jiuzhaigou on 28 June 1995, 0.45 m above the ground in a mossy fork in a small tree c.5 m in height (Davidson and Martins in prep.). A pair observed in Jiuzhaigou on 6 August 1994 apparently had a nest with young or fledglings, as the female persistently called and cocked its tail and the male was seen carrying food; they could not be relocated on 8 August (S. Cook *in litt.* 1996). Possibly the young had recently left the nest on 6 August, or were about to do so, and had moved to another area by 8 August.

Migration The single record of a bird which appeared to be on passage through the mountains of Peninsular Malaysia in March indicates that this species is a long-distance migrant, possibly wintering in that country or in Indonesia. It has been recorded on the breeding grounds in China between mid-May and early August (see Distribution).

THREATS The Rufous-headed Robin is one of five threatened members of the suite of 10 bird species that are entirely restricted (at least as breeding birds) to the “Central Sichuan Mountains Endemic Bird Area”, threats and conservation measures in which are profiled by Stattersfield *et al.* (1998).

Habitat loss The main threat to this species is likely to be the loss and fragmentation of its forest habitat. Forest cover has declined rapidly in Sichuan since the late 1960s, because timber quotas have consistently been set above sustainable levels, and forest has been cleared for cultivation and pasture; the province’s forest cover is estimated to have declined from

Province	Habitat	Original	Remaining	%	Protected	%
Sichuan	deciduous broadleaf forest	55,413	3,887	7	1,623	2.9
Sichuan	cold coniferous forest	100,213	57,459	57	2,319	2.3
Sichuan	deciduous/evergreen broadleaf forest	34,461	4,048	12	2,123	6.2
Sichuan	montane evergreen oak forest	9,292	6,504	70	46	0.5
Shaanxi	deciduous broadleaf forest	78,364	27,940	36	1,197	1.5
Shaanxi	temperate coniferous forest	9,139	5,713	63	92	1.0

Table 1. Changes in the extent of natural habitats within this species’s range in south-west China. The data in this table are reproduced from MacKinnon *et al.* (1996), and show the estimated areas (both original and remaining in km²) of presumably suitable habitats within this species’s known range, and the area of each habitat estimated within existing protected areas. However, it is important to note that this only gives an indication of the extent of reduction of presumed habitats, as there is no information on the time-scale over which they have been lost, and this species does not necessarily occur throughout each habitat in each province.

19% to 12.6% between the early 1950s and 1988, mature natural forest being particularly affected (Smil 1984, 1993). Substantial areas of the temperate-zone forests occupied by this species have been lost (Table 1). A limited amount of cutting and lopping of wood had occurred in one of the valleys where it has recently been seen in Jiuzhaigou Nature Reserve (Davidson and Martins in prep.).

If Rufous-headed Robin truly requires successional habitats in mountain valley that are produced by periodic flash-floods, it could be negatively affected by ongoing flood-control measures. For example, a series of flood-control dams has been constructed in both of the valleys where it has recently been recorded in Jiuzhaigou Nature Reserve, which if successful are likely to prevent suitable habitat from developing there again in the future (M. Leven *in litt.* 1997).

If the species winters in primary lowland forest in the Sundaic region it is likely to experience intense pressures from habitat loss (see Threats under Crestless Fireback *Lophura erythrophthalma*).

MEASURES TAKEN *Protected areas* The range of Rufous-headed Robin overlaps with the northern part of the current distribution of giant panda *Ailuropoda melanoleuca* (Zhao *et al.* 1990). Like this bird, the giant panda occurs in temperate-zone forests with a bamboo understorey, and several of the reserves which have been established for it, and for other large mammals, such as takin *Budorcas taxicolor* and golden monkey *Rhinopithecus roxellanae*, contain areas of potential habitat for this species. However, the distribution and abundance of Rufous-headed Robin within these reserves is poorly known, and it is only recorded from the following protected areas: in Sichuan, Jiuzhaigou Nature Reserve (200 km², forests apparently mostly in excellent condition, but under pressure from large-scale tourism) and Wanglang Nature Reserve (332 km², forests apparently in good condition); in Shaanxi, Taibai Shan National Nature Reserve (563 km², forests apparently in good condition) (sizes and conditions from MacKinnon *et al.* 1996).

MEASURES PROPOSED *Legislation* Rufous-headed Robin should be listed as is a nationally protected species in mainland China.

Protected areas MacKinnon *et al.* (1996) made the following recommendations for the protected areas where this species has been recorded: at Jiuzhaigou Nature Reserve, strengthen protection and linkage with other important protected areas in the Min Shan, and control tourism in the reserve; at Wanglang Nature Reserve, link with Jiuzhaigou and other reserves in the Min Shan; and at Taibai Shan National Nature Reserve, strengthen connections and cooperative management with Zhouzhi Jinsihou National Nature Reserve, and manage with other reserves (both existing and proposed) at part of a large single Qinling Shan conservation unit. MacKinnon *et al.* (1989) also made detailed recommendations for the extension of the protected-areas system within the range of the giant panda.

Habitat management MacKinnon *et al.* (1989) made several recommendations designed to protect and improve the quality of giant panda habitats, which could also be of benefit to the conservation of Rufous-headed Robin, including: the reduction of human activity within giant panda habitat; limitation and control of logging; control against fire; and restoration of damaged habitats.

Research Studies are required to establish the habitat requirements, altitudinal range and population status of this species (and the other threatened birds of the temperate-zone forests of Sichuan and adjacent provinces: Black-throated Blue Robin *Luscinia obscura*, Snowy-cheeked Laughingthrush *Garrulax sukatschewi* and Rusty-throated Parrotbill *Paradoxornis przewalskii*); in particular, it is necessary to determine whether it is truly confined to successional habitats, and if so at what stages it occupies and then deserts the regenerating forest (M. Leven *in litt.* 1997). It would also be valuable to investigate whether its apparent

preference for regenerating forest means that some modifications of its forest habitat (e.g. selective logging) may actually create new areas of suitable habitat for it.

Surveys are required to establish whether it occurs in any of the other protected areas in or near to its known range, including: in Sichuan, Baihe Nature Reserve (200 km², forests apparently in good condition except in the valleys and northern face of the reserve), Huanglongsi Nature Reserve (400 km², “important forests” in the reserve), Tangjiahe Nature Reserve (400 km², forests apparently “somewhat damaged but valuable”), Tiebu Nature Reserve (200 km²) and Xiaozhaizigou Nature Reserve (67 km², forests apparently in good condition but rather small); in southern Gansu (in the Min Shan mountains immediately to the north of Jiuzhaigou Nature Reserve), Baishuijiang National Nature Reserve (2,137 km², forests apparently in very good condition), Jianshan Nature Reserve (100 km², forests apparently in good condition) and Touersantan Nature Reserve (319 km², forests apparently in very good condition); in Shaanxi, Foping Nature Reserve (292 km², forests apparently in quite good condition), Niubeiliang Nature Reserve (165 km², forests apparently in good condition) and Zhouzhi Jinsihou National Nature Reserve (Zhouzhi Golden Snub-nosed Monkey Nature Reserve) (529 km², forests apparently in good condition) (size and condition from MacKinnon *et al.* 1996).

REMARKS (1) The record of this species at Baihe attributed to B. F. King in Collar and Andrew (1988) was in error, possibly resulting from confusion with a record of Black-throated Blue Robin *Luscinia obscura* from Baihe Nature Reserve (B. F. King *in litt.* 1987). (2) Kleinschmidt (1910) examined the specimen listed as a female Firethroat *L. pectardens* (= *Larvivora davidi*) by Hartert (1907b), and re-identified it as an immature female *L. ruficeps*.