

REEVES'S PHEASANT

Syrmaticus reevesii



Critical —

Endangered —

Vulnerable A1c,d; A2c,d; C1; C2a

This species is listed as Vulnerable because its unprotected and severely fragmented small population is declining rapidly in the face of continuing habitat loss and overhunting.

DISTRIBUTION Reeves's Pheasant is endemic to China, where it is recorded from south-eastern Gansu, eastern Sichuan, north-eastern Yunnan, northern Guizhou, southern Shaanxi, Shanxi, Hebei, Henan, western and north-eastern Hubei, south-western Anhui, western Hunan, and possibly Jiangsu. It has been successfully introduced to Hawaii (USA) and several European countries (Cramp and Simmons 1980, Lever 1987). Its range is now highly fragmented and the two remaining centres of its distribution are the mountains of central China (the Qinling Shan, Daba Shan, Wu Shan, Wuling Shan and Dalou Shan ranges), and the Dabie Shan mountains of Henan and Anhui. It may have become extinct in Hebei and Shanxi within the past 10–20 years, as there have been no records there since the 1980s. Records (by province; see Remarks 1) are from:

■ **CHINA** ■ **Gansu Longshengou Nature Reserve**, Kang Xian county, October 1974 (male in LAUCN; also MacKinnon *et al.* 1996), surveys in the early 1980s estimating a population of 110 birds in Kang Xian county (Wang Xiangting 1981, Liu Naifa 1992, 1992);

■ **Sichuan Nanjiang county**, c.15–16 recorded in two townships during a survey in 1981 (Lu Taichun 1991, Yu Zhiwei *in litt.* 1997); **Wanyuan county**, undated (Xu Weishu *et al.* 1991); **Chengkou county**, six recorded at Shuiping township in an area of c.10 km² during a survey in 1996 (Xu Weishu *et al.* 1991, Liu Naifa *in litt.* 1997); **Wuxi county**, “rare” (Zhang Jiaju 1994); **Fengjie county**, “rare” (Zhang Jiaju 1994); **Wushan county**, undated (Xu Weishu *et al.* 1991); near **Wanxian** (Wanhshien or Wan), male purchased in winter (undated) and where “one can find skins being used here by Chinese actors from the surrounding hills” (Jacobi 1924), “rare” in Wanxian city (Zhang Jiaju 1994); **Zhong Xian county**, “rare” (Zhang Jiaju 1994); **Fengdu county**, “rare” (Zhang Jiaju 1994); **Fuling city**, undated (Xu Weishu *et al.* 1991); **Chongqing municipality**, “rare” (Zhang Jiaju 1994); **Qianjiang county**, May–June 1990 (He Fenqi 1990); **Wulong county**, ten estimated at Jiangkou township in an area of 17 km² during a survey in 1981, two collected (Yu Zhiwei *per* Liu Naifa *in litt.* 1997); **Jiangjin county**, undated (Li Xiangtao 1996); **Pengshui county**, May–June 1990 (He Fenqi 1990); **Yen Tien Pa**, December 1931 (Traylor 1967, male in FMNH); **Nanchuan county**, “rare” (Zhang Jiaju 1994), including in Jinfo Shan Nature Reserve (Liu Donglai *et al.* 1996); **Cangling**, Youyang county, September 1988 (male in KIZCN), recorded in Youyang county, May–June 1990 (He Fenqi 1990); **Xiushan county**, May–June 1990 (He Fenqi 1990; also Xu Weishu *et al.* 1991); **Xuyong county**, undated (Xu Weishu *et al.* 1991); **Gulin county**, undated (Xu Weishu *et al.* 1991);

■ **Yunnan Weixin county**, “rare” (Yang Lan 1995); **Zhenxiang county**, “rare” (Yang Lan 1995); **Zhaotong county**, 1,400 m, December 1963 (two males in KIZCN), “rare” (Yang Lan 1995);

■ **Guizhou Zheng'an county**, one collected at Wenquan, undated (Wu Zhikang and Xu Weishu 1987); **Chishui county**, undated (Xu Weishu *et al.* 1991); **Songtao county**, 400–500 m, 40–50 birds estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987, Wu Zhikang 1987); **Yinjiang county**, present in mid-1980s (Wu Zhikang and Xu Weishu

1986, 1987); **Suiyang county**, 65 birds estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987, Wu Zhikang 1987), including Kuankuoshui Nature Reserve (Liang Wei *in litt.* 1999); **Fanjing Shan National Nature Reserve**, Jiangkou, Yinjiang and Songtao counties, September–October 1963, April 1964 and March–April 1978 (Wu Zhikang 1982); **Sinan county**, 20–30 reported to be present by local hunters, mid-1980s (Wu Zhikang and Xu Weishu 1987); **Jiangkou county**, 46 birds estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987, Wu Zhikang 1987); **Tongren county**, November 1988 (male in KIZCN); **Zunyi county**, c.50 recorded at Mucuntai, Shanwan, in an area of 3 km² during a survey in 1975 (and 65–66 birds estimated in the county), but a survey in the same area in May 1983 located only eight birds in 6 km² following the conversion of most of the forest to farmland (Wu Zhikang and Xu Weishu 1987; also Zheng Guangmei and Wang Qishan 1998); **Jinsha county**, “rare”, only 5–6 birds estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987, Wu Zhikang 1987); **Bijie county**, November 1963 (male in KIZCN), 20 estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987, Wu Zhikang 1987); **Dafang county**, two, with 10 estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1987); **Hezhang county**, 2,300–2,600 m, 50–60 estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987, Wu Zhikang 1987); **Qingxi**, present in mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987); **Kaiyang county**, 10, May 1980 (Wu Zhikang and Xu Weishu 1987); **Tuoda** forest, Weining county, an important site for this species, with surveys completed in 1991 and 1992 (Wu Zhikang *et al.* 1992a,b, 1993b; also Wu Zhikang and Xu Weishu 1986, 1987), occurring at an unusually high altitude (2,000–2,600 m) (Li Zhumei and Wu Zhikang 1993), several, November 1987 (King 1992), 10, December 1990 (Lewthwaite 1992), at least 10, December 1991 (Edge *et al.* 1991), two, November 1993 (I. Lewis *in litt.* 1999), four, April 1997 (Liang Wei 1998), one, December 1997 (Lewthwaite 1997); **Weining county**, 35 birds estimated in the county, mid-1980s (Wu Zhikang 1987, Wu Zhikang and Xu Weishu 1987), including in Cao Hai Nature Reserve (Liu Donglai *et al.* 1996); **Xiuwen county**, undated (Xu Weishu *et al.* 1991); **Guiyang city**, one collected and two seen, with 8–9 birds estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987); **Guiding county**, 18 recorded at Baiha, April 1974 (Wu Zhikang and Xu Weishu 1987); **Longli county**, four estimated in the county, mid-1980s (Wu Zhikang 1987); **Huishui county**, 5–6 estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987, Wu Zhikang 1987); **Pingtang county**, 73–83 estimated in the county, mid-1980s (Wu Zhikang and Xu Weishu 1986, 1987, Wu Zhikang 1987);

■ **Shaanxi Niubeiliang National Nature Reserve**, Zuomu, Changan and Ningshan counties, “rare”, with fewer than 30 birds recorded during a 120-day survey, undated (Liu Naifa *in litt.* 1997); **Huangbaiyuan** and **Erlangba**, Taibai county, in or near to Taibai Shan National Nature Reserve, 1983–1986 (Xu Weishu *et al.* 1991; also Zheng Guangmei and Wang Qishan 1998); **Foping county**, “not numerous” (Cheng Tso-hsin *et al.* 1973, Yu Yuqun 1990), reported from Longtanzi and Yueban in Foping Nature Reserve, 800–1,000 m, where one was seen in June 1996 (Liang Wei *in litt.* 1999); **Shanyang county**, undated (Xu Weishu *et al.* 1991); **Ningshan county**, one collected, June 1965 (Cheng Tso-hsin *et al.* 1973); **Yang Xian county**, undated (Cheng Tso-hsin *et al.* 1973); **Shiquan county**, undated (Xu Weishu *et al.* 1991); **Xixiang**, September 1958 (specimen in ASCN); **Hanyin county**, undated (Xu Weishu *et al.* 1991); **Ningqiang county**, “rare”, 1993 (Liu Naifa *in litt.* 1997); **Xunyang county**, undated (Xu Weishu *et al.* 1991); **Baihe county**, undated (Xu Weishu *et al.* 1991); **Ankang**, undated (Li Xiangtao 1996); **Zhenba county**, undated (Xu Weishu *et al.* 1991); **Ziyang county**, undated (Li Xiangtao 1996); **Pingli county**, undated (Xu Weishu *et al.* 1991); **Zhenping county**, undated (Xu Weishu *et al.* 1991); Zuoshui (untraced), undated (Li Xiangtao 1996);

■ **Shanxi Taihang Shan**, formerly occurred but probably extinct (Wang Fulin 1980, Liu Zuomo 1982, Wu Zhikang and Xu Weishu 1987, Xu Weishu *et al.* 1991); **Zhongtiao Shan**, formerly occurred but probably extinct (Wang Fulin 1980, Liu Zuomo 1982, Wu Zhikang and Xu Weishu 1987, Xu Weishu *et al.* 1991);

■ **Hebei Dongling** (Eastern Tombs, Tung-lin; see Remarks 2), Xinglong county, c.20 captured alive by local people, winter 1865–1866, with some specimens obtained at Tientsing assumed also to be from this locality (Saurin 1866), two or three flocks of males in January 1903, “the most common pheasant”, in 1908, “fairly common” before the “magnificent forested mountains” in the game preserves connected with the Eastern Tombs were opened up for farming and lumbering in 1915, but “they are nearly exterminated now”, with “a few” males collected in 1923–1924 (Wilder and Hubbard 1924, Wilder 1925b, 1930, Riley 1930a, male in FMNH; also Cheng Tso-hsin 1976, Xu Yangong 1996), at “Hung Mei Ssu”, March 1922 and January 1930 (five specimens in NRM), the last record apparently stemming from October 1953 (specimen in ASCN);

■ **Henan** counties and cities in the Dabie Shan mountains, where at least 11 (six males and five females) were collected during a survey in 1987–1989 (Qu Wenyuan *et al.* 1996) and where it was found in eleven townships, 300–600 m, in mixed forests (Zhang Taisong *et al.* 1991), including **Tongbai county**, undated (Li Xiangtao 1996), including Taibaiding Nature Reserve (Liu Donglai *et al.* 1996); **Luoshan county**, undated (Xu Weishu *et al.* 1991, Zhang Taisong *et al.* 1991), including Dongzhai Nature Reserve where it is resident (Li Zhumei 1993); **Xinyang county**, undated (Qu Wenyuan *et al.* 1996), including Jigongshan Nature Reserve (Liu Donglai *et al.* 1996); **Shangcheng county**, undated (Xu Weishu *et al.* 1991, Zhang Taisong *et al.* 1991), including Jingangtai Nature Reserve (Liu Donglai *et al.* 1996); **Xin Xian county**, undated (Xu Weishu *et al.* 1991), including Liankang Shan Nature Reserve (Liu Donglai *et al.* 1996);

■ **Hubei Shiyan city**, undated (Li Xiangtao 1996); **Shennongjia Nature Reserve**, undated (Xu Weishu *et al.* 1991); **Macheng city**, undated (Xu Weishu *et al.* 1991); **Xingshan county**, “rare” (Zhang Jiaju 1994); **Badong county**, “rare” (Zhang Jiaju 1994); **Luotian county**, undated (Xu Weishu *et al.* 1991); **Yingshan county**, undated (Xu Weishu *et al.* 1991); **Yichang city** (Ichang, Itschang or Tchang), January c.1886, October 1887, November 1893, September 1895, November 1895, November 1905 (Creagh 1886, 10 specimens in BMNH), and where “near here one can find skins being used by Chinese actors from the surrounding hills” (Jacobi 1924), collected in Changyang county (Chang-yang Hsien), January 1904 (11), January 1909 (four), September–December 1918 (five) (Thayer and Bangs 1912, La Touche 1922b, 20 specimens in BMNH and MCZ), collected at Kwangpow, Tawan and Putze, March–April 1907, January 1909 (Thayer and Bangs 1912, five specimens in MCZ); **Hankou** (Hankow), 1867 (male and female in BMNH); **Huangzhou**, undated (Li Xiangtao 1996); **Lichuan county**, undated (Xu Weishu *et al.* 1991); **Xianfeng county**, undated (Li Xiangtao 1996); **Laifeng county**, undated (Xu Weishu *et al.* 1991);

■ **Anhui Lu’an city** (Liu’an city), undated (Xu Weishu *et al.* 1991); **Jinzhai county**, “rare” (Wang Qishan 1981), including in Mazongling Nature Reserve (Liu Donglai *et al.* 1996); **Shucheng county**, undated (Xu Weishu *et al.* 1991); **Huoshan county**, undated (Xu Weishu *et al.* 1991, two specimens in ASCN); **Yuexi county**, undated (Xu Weishu *et al.* 1991); **Qianshan county**, undated (Xu Weishu *et al.* 1991); Wan Shan range, behind **Anqing** (Ngankin), lower Yangtze valley, well known locally although fieldwork over four days only produced a cast tail feather (Styan 1891); **Taihu county**, undated (Xu Weishu *et al.* 1991); **Jiujiang** (Kiukiang), lower Yangtze valley, Jiangxi, several purchased alive, including a male in May, possibly from the hill ranges c.20 miles north of the river (Styan 1891, specimen in BMNH);

■ **Jiangsu Donghai county**, listed by Wang Ziyu (1986), but, following surveys, rejected by Xu Yangong (1996), this record possibly referring to birds traded from Anhui to Jiangsu (Wu Zhikang *per* Liang Wei *in litt.* 1999);

■ **Hunan Shimen county**, recorded during a survey, May–June 1990 (He Fenqi 1990); **Longshan county**, undated (Xu Weishu *et al.* 1991); **Sangzhi county**, recorded during a survey, May–June 1990 (He Fenqi 1990), including in Badagong Shan National Nature Reserve (Liu Donglai *et al.* 1996); **Dayong county**, at Zhangjiajie, undated (Xu Weishu *et al.* 1991),

including in Tianmen Shan Nature Reserve (Liu Donglai *et al.* 1996); **Yongshun county**, recorded during a survey, May–June 1990 (He Fenqi 1990); **Jishou county**, undated (Xu Weishu *et al.* 1991); **Fenghuang county**, undated (Xu Weishu *et al.* 1991).

Non-native range Reeves's Pheasant has been introduced to Hawaii (USA) and various parts of Europe (Cramp and Simmons 1980, Lever 1987), and apparently self-sustaining populations are established in the Czech Republic (Pokorný and Pikula 1987) and France (see, e.g., Yeatman-Bertelot 1991).



The distribution of Reeves's Pheasant *Symaticus reevesii*: (1) Longshengou Nature Reserve; (2) Nanjiang county; (3) Wanyuan county; (4) Chengkou county; (5) Wuxi county; (6) Fengjie county; (7) Wushan county; (8) Wanxian; (9) Zhong Xian county; (10) Fengdu county; (11) Fuling city; (12) Chongqing municipality; (13) Qianjiang county; (14) Wulong county; (15) Jiangjin county; (16) Pengshui county; (17) Yen Tien Pa; (18) Nanchuan county; (19) Cangling; (20) Xiushan county; (21) Xuyong county; (22) Gulin county; (23) Weixin county; (24) Zhenxiong county; (25) Zhaotong county; (26) Zheng'an county; (27) Chishui county; (28) Songtao county; (29) Yinjiang county; (30) Suiyang county; (31) Fanjing Shan National Nature Reserve; (32) Sinan county; (33) Jiangkou county; (34) Tongren county; (35) Zunyi county; (36) Jinsha county; (37) Bijie county; (38) Dafang county; (39) Hezhang county; (40) Qingxi; (41) Kaiyang county; (42) Tuoda; (43) Weining county; (44) Xiuwen county; (45) Guiyang city; (46) Guiding county; (47) Longli county; (48) Huishui county; (49) Pingtang county; (50) Niubeiliang National Nature Reserve; (51) Huangbaiyuan; (52) Erlangba; (53) Foping county; (54) Shanyang county; (55) Ningshan county; (56) Yang Xian county; (57) Shiquan county; (58) Xixiang county; (59) Hanyin county; (60) Ningqiang county; (61) Xunyang county; (62) Baihe county; (63) Ankang; (64) Zhenba county; (65) Ziyang county; (66) Pingli county; (67) Zhenping county; (68) Taihang Shan; (69) Zhongtiao Shan; (70) Dongling; (71) Tongbai county; (72) Luoshan county; (73) Xinyang county; (74) Shangcheng county; (75) Xin Xian county; (76) Shiyan city; (77) Shennongjia Nature Reserve; (78) Macheng city; (79) Xingshan county; (80) Badong county; (81) Luotian county; (82) Yingshan county; (83) Yichang city; (84) Hankou; (85) Huangzhou; (86) Lichuan county; (87) Xianfeng county; (88) Laifeng county; (89) Lu'an city; (90) Jinzhai county; (91) Shucheng county; (92) Huoshan county; (93) Yuexi county; (94) Qianshan county; (95) Anqing; (96) Taihu county; (97) Shimen county; (98) Longshan county; (99) Sangzhi county; (100) Dayong county; (101) Yongshun county; (102) Jishou county; (103) Fenghuang county.

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

POPULATION Reeves's Pheasant was formerly reported to be very common over a wide range in central China, for example in the hills around the Yangtze valley west of Yichang (Styan 1891), but it is now greatly reduced in many parts of its range (Wu Zhikang and Xu Weishu 1986). It was described as "quite common" in Anhui and Hubei, and probably also in the "inter-provincial ranges" of Henan and Shaanxi (La Touche 1925–1934). Its total population has been estimated at c.3,000 (Xu Weishu *et al.* 1990) and c.5,000 (Wu Zhikang *et al.* 1995, McGowan and Garson 1995), but recent evidence suggests that it must be more numerous (Liang Wei *in litt.* 1999, Zhang Zhengwang verbally 1999). Whatever its total population, there is general consensus that its range is now highly fragmented and that its population must be declining (e.g. McGowan and Garson 1995). It is believed to be extinct in the northern part of its range, in Shanxi and Hebei provinces (Wu Zhikang *et al.* 1995), and none was found in Hebei during extensive surveys in the 1980s, covering about 20 counties in the Wenchang, Funing, Taihangshan (to Zhuolu) and Wu'an areas (Xu Weishu *et al.* 1991).

Some detailed information is available on numbers and population densities from several parts of its range. A survey in the 1980s covered about 60% of Guizhou province using direct count and quadrat methods, and found populations of over 50 birds at six sites, c.20 birds at five sites and below 10 birds at nine sites; the total population in the province was estimated at 476–519 birds, but it had a fragmented distribution in many small, isolated patches of forest (Wu Zhikang and Xu Weishu 1986, 1987, Xu Weishu *et al.* 1990, 1991). At Tuoda forest in Guizhou, surveys in September–November 1991 and April–July 1992 resulted in a population estimate of 230+ birds in 25 km², an overall density of 9.2 birds per km², with c.15 birds per km² in the core area of the forest (Wu Zhikang *et al.* 1992a,b, 1993b). At Zunyi in Guizhou a density of 16.7 birds per km² (50 birds in a 3 km² area) was found in 1975, but only 1.33 birds per km² (eight in a 6 km² area) in 1983 (Wu Zhikang and Xu Weishu 1987, Xu Weishu *et al.* 1991). In the Dabie Shan mountains in Henan, a survey in September 1988–September 1989 used quadrat methods in three counties, Xinxian, Luoshan and Xinyang, and estimated population densities of 0.103, 0.04 and 0.015 birds per km² respectively; line-transects in the same three areas resulted in density estimates of 0.098, 0.03 and 0.011 birds per km² respectively; an extrapolation of the quadrat results for the entire 691 km² of the Dabie Shan mountains resulted in an estimate of 3,404 birds, and an extrapolation of the line-transect results yielded an estimate of 3,832 birds, and the total population in this mountain range was therefore estimated at 3,400–3,800 birds (Zhang Taisong *et al.* 1991, Qu Wenyuan *et al.* 1996). A transect survey in Anhui in March–May 1976 recorded 1.1 birds per km (in Li Xiangtao 1996). At Taibai county in Shaanxi, population densities of 10.76 (1983), 16.31 (1984), 6.82 (1985) and 7.61 (1986) birds per km² were found during surveys of a 3.3 km² site in 1983–1986 (Xu Weishu *et al.* 1991).

ECOLOGY Habitat Reeves's Pheasant is found in a variety of forest types in the zone where the temperate forests of north-east China intergrade with the subtropical forests of south-east and south-central China. Its range overlaps with that of the closely related Elliot's Pheasant *Syrmaticus ellioti* (which is confined to the subtropical forests of south-east China) in north-eastern Guizhou province (see Distribution), but it is unclear whether (and how) they are ecologically separated in this region. Reeves's Pheasant is mainly found between 400 and 2,600 m, highest in the west of its range in the Wumeng mountain in Guizhou, and the optimum elevation is thought to be c.1,000 m (Wu Zhikang *et al.* 1995). It has been reported at down to c.200 m in Jiangsu, but the records there are unconfirmed (see Distribution). It is found in broadleaf forests dominated by oaks, either evergreen or mixed evergreen and deciduous and usually with a dense canopy and sparse undergrowth, and in coniferous forest and scrub (Cheng Tso-hsin 1987, Xu Weishu *et al.* 1990, 1991, Wu Zhikang *et al.* 1992a, 1995).

In Guizhou, it occurs in two forest types, both very dense and with a high canopy density, in relatively mountainous regions from 400 to 2,600 m (following descriptions from Wu Zhikang and Xu Weishu 1986, 1987). The first type is mixed coniferous and broadleaf forest, the most common coniferous trees being *Pinus massoniana*, *Cupressus funebris* and *Cunninghamia lanceolata*, the typical broadleaf being *Cyclobalanopsis glauca*, *Fagus lucida*, *Betula luminifera*, *Populus adenopoda* and *Quercus acutissima*, with bushes like *Rhododendron simsii*, while at the edge of the forest cultivation is typically of wheat, corn, pea, rape and soybean; the second type is the evergreen forest common over most of western Guizhou, dominated by *Quercus rehderiana*, *Q. senescens*, *Pinus yunnanensis*, *Pseudotsuga sinensis*, and other species commonly present as low shrubs are *Elaeagnus pungeus*, *Rhododendron*, *Corylus heterophylla* and *Sinarundinana fungiarum*, while the main crops around these forests are corn, potato, buckwheat and rye. In winter, birds usually show no altitudinal movement, except when heavy snow covers the land and food is difficult to find, forcing them down from the high mountains to cultivated land as low as c.300 m (Wu Zhikang and Xu Weishu 1986, 1987). In the Dabie Shan in Henan this species appears to prefer secondary forest with some bushes, and it can be found in coniferous forest at relatively low altitudes (Liu Naifa *in litt.* 1997).

Food Reeves's Pheasant is omnivorous, but mainly eats fruits and seeds, especially acorns and those of *Pyracantha fortuneana*, *Rosa maisei* var. *plurijaga*, *Cotoneaster dammeri*, *Myrica nana*, etc.; it also eats buds, fresh leaves, flowers and rhizomes, and some insects, snails and earthworms, and moves into farmland adjacent to the forest edge to feed on cultivated beans, cereals and root crops (Beebe 1936, Xu Weishu *et al.* 1990, Wu Zhikang *et al.* 1992a, 1995, Zheng Guangmei and Wang Qishan 1998).

Breeding It is found in flocks of 10 or more in autumn and winter, 4–8 in spring, and in smaller groups during the breeding season, which is from mid-March to mid-July; it is usually silent, but the males advertise their territories by a combination of wing-whirring and calling in March to early June (Xu Weishu *et al.* 1990, 1991, Wu Zhikang *et al.* 1992a). It is judged to be usually monogamous, but occasionally polygamous; the nest is placed on the ground, usually under bushes or in grass, and is made of dead pine needles, leaves and herbs (Wu Zhikang *et al.* 1992a, 1995). In Guizhou, clutch sizes varied from six to 10 eggs (average 7.7) (a high number for the genus *Syrnaticus*: Liu Naifa *in litt.* 1997); incubation is only by the female which, in the early incubation period, often abandons the nest if excessively alarmed, but vigorously defends it from the middle to the end of the incubation period (Xu Weishu *et al.* 1990, 1991, Wu Zhikang *et al.* 1992a, 1995).

THREATS *Habitat loss* The main threat to this species is the continuing deforestation within its range, which is reducing and fragmenting its habitat (McGowan and Garson 1995; see Table 1). Much suitable low- to mid-altitude forest has been logged or cleared for agricultural

Region	Habitat	Original	Remaining	%	Protected	%
"Central China"	deciduous/evergreen broadleaf forest	229,575	22,838	10	8151	3.6
"Central China"	subtropical coniferous forest	93,137	165,323	178	16581	17.8
"Central China"	subtropical evergreen broadleaf forest	682,066	45,298	7	19839	2.9
"North China"	deciduous broadleaf forest	735,436	101,923	14	6326	0.9
"North China"	subtropical coniferous forest	94,792	45,117	48	2,587	2.7
"North China"	deciduous/evergreen broadleaf forest	48,459	1,609	3	618	1.3

Table 1. Changes in the extent of natural habitats within this species's range in central and north 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 region of China.

land; the remaining forests are highly fragmented, and populations of this sedentary species are being progressively subdivided into ever smaller and more isolated groups of birds (Wu Zhikang and Xu Weishu 1986). Local people intensively use many of the remaining forests to supply timber for building and particularly for fuel (Xu Weishu *et al.* 1990, 1991). For example, in Zunyi county in Guizhou, 50 birds were found in 3 km² during a 1975 survey, but, following the conversion of much of the forest there to farmland, a survey in the same area found only eight in a 6 km² area in 1983 (Wu Zhikang and Xu Weishu 1987; also Zheng Guangmei and Wang Qishan 1998). Before the game preserves near the Eastern Tombs in Hebei were opened up for farming and logging in 1915, Reeves's Pheasant was fairly common in these magnificent forested mountains, but they were virtually extinct there by the 1920s, a result of the wholesale clearance of this forest (Wilder and Hubbard 1924; also Riley 1930a). The reasons for its apparent extinction in central-southern Shanxi province are less clear, as there are still some areas of suitable habitat in that region, and its decline there was perhaps caused by hunting or disease rather than habitat loss (Lu Xin *in litt.* 1999).

Hunting Hunting is believed to be an important threat to this species (McGowan and Garson 1995), and its eggs are collected for food (Wu Zhikang *et al.* 1995). It is killed in some areas because it is regarded as an agricultural pest, and some are poisoned by baits put out to control rodents in farmland (Liu Naifa *in litt.* 1997, Liang Wei *in litt.* 1999). This species was hunted in the past for its long tail feathers (which resulted in many pheasants being hunted and killed wantonly), which were used as a decoration in Peking opera costumes (Wu Zhikang and Xu Weishu 1986, Xu Weishu *et al.* 1990, Wu Zhikang *et al.* 1995), but plastic feathers are increasingly being used for this purpose (McGowan and Garson 1995).

MEASURES TAKEN **Legislation** Reeves's Pheasant is a Nationally Protected Species (Second Class) in China (McGowan and Garson 1995, Zheng Guangmei and Wang Qishan 1998), and in some of the provinces where it occurs it is listed as a protected species by the provincial governments (Liu Naifa *in litt.* 1997). In the mid-1990s, a new national law was declared in China, forbidding the keeping of guns in private homes, including shotguns used for hunting, with permits being required to keep firearms, which must be stored in a local public security bureau; this has led to a significant reduction in hunting with guns of Chinese wildlife (Lu Xin *in litt.* 1999), although other forms of hunting are still widespread (e.g. the use of poison baits and nets).

Protected areas Reeves's Pheasant has a relatively large range, and is recorded from many protected areas, including the following: in Gansu, Longshengou Nature Reserve (67 km², forests in good condition); in Sichuan, Jinpo Shan Nature Reserve (9 km², forests apparently in fine condition, but tiny); in Guizhou, Fanjingshan National Nature Reserve (419 km², higher-altitude forests in good condition, lower slopes rather degraded); in Shaanxi, Foping Nature Reserve (292 km², forests in quite good condition), Niubeiliang National Nature Reserve (165 km², forests in good condition), Taibai Shan National Nature Reserve (563 km², forests in good condition); in Henan, Dongzhai Nature Reserve (which was established especially for the conservation of this species and its habitats: Liu Donglai *et al.* 1996) (100 km², forests apparently in fine condition but segregated by damaged valleys), Jigongshan Nature Reserve (30 km², forests apparently in fine condition, but small), Jingangtai Nature Reserve (29 km², forests apparently in fine condition, but rather small), Taibaiding Nature Reserve (49 km², forests apparently in good condition, but rather small), Liankang Shan Nature Reserve (20 km², forests apparently in fine condition, but very small); in Hubei, Shennongjia Nature Reserve (705 km², forests in very good condition); in Anhui, Mazongling Nature Reserve (48 km², forests apparently in fine condition, but with some damage); in Hunan, Badagong Shan National Nature Reserve (200 km², forests in good condition), Tianmen Shan Nature Reserve (12 km², forests tiny) (protected areas size and condition from MacKinnon *et al.* 1996).

Tuoda forest in Guizhou was established as a nature reserve by the local government in 1992 specifically for the conservation of Reeves's Pheasant and its habitat; it has an area of 20.33 km², including a core area of 5.33 km² in the centre of the reserve, where the forest is in relatively good condition, and a surrounding buffer area of 15 km² (Wu Zhikang *et al.* 1992a, 1993b). The buffer area has been logged, and currently supports few pheasants, and the main task there is to limit access and allow secondary forest to regenerate and provide more habitat; much education work has been done around the reserve, and conservation programmes have been developed (Wu Zhikang *et al.* 1992a, 1993b). Unfortunately, some deforestation took place in Tuoda forest in 1995, and more than 10 of the people responsible were arrested; however, the oak forest there remained in good condition, although some of the largest and oldest trees in the buffer area were felled (Liang Wei 1998).

Captive breeding There are estimated to be c.3,000 Reeves's Pheasant in captivity worldwide (McGowan and Garson 1995), including many in Chinese zoos (Zheng Guangmei and Wang Qishan 1998). Dongzhai Nature Reserve and Henan Normal University have established a breeding centre at the reserve where 50 birds had been reared by the end of 1992 (Li Zhumei 1993). Where the causes of the decline of the species are habitat loss, this conservation measure is unimportant, but there may be situations in which the use of captive stock may prove valuable.

MEASURES PROPOSED Legislation Zheng Guangmei and Wang Qishan (1998) suggested that this species should be listed as a First Class Nationally Protected Species.

Protected areas MacKinnon *et al.* (1996) made the following recommendations for the protected areas where this species has been recorded: at Longshengou Nature Reserve, link with Meiyuanhe; at Jinfo Shan Nature Reserve, extend, and consider linkage with Baima Shan proposed reserve; at Fanjingshan National Nature Reserve, carefully develop buffer zones; at Foping Nature Reserve, manage as part of Qinling Mountain conservation unit, extend eastwards to include Longcaoping panda corridor and reach target area of 350 km² and strengthen connections with Zhouzhi reserve—a substantial part of the population of this species occurs just outside the reserve boundary (Ding Changqing verbally 1998), so extensions to this reserve should aim to include more of the forests where it occurs; at Niubeiliang National Nature Reserve, manage as part of Qinling Mountain conservation unit and strengthen connections with Zhouzhi reserve; at Taibai Shan National Nature Reserve, manage as part of Qinling Mountain conservation unit and strengthen connections and cooperative management with Zhouzhi reserve; at Dongzhai Nature Reserve, replant barren hills and valleys, and form larger conservation unit with Jigongshan National Nature Reserve; at Jigongshan Nature Reserve, extend northwards to include forests south-west of Nanwan Reservoir scenic area, combine with Dongzhai Nature Reserve, and replant barren valleys between the remaining forest blocks; at Taibaiding Nature Reserve, consider extending south-eastwards to form a trans-province reserve with Hubei; at Liankang Shan Nature Reserve, re-evaluate protected-area status; at Shennongjia Nature Reserve, develop carefully integrated management and control tourism; at Mazongling Nature Reserve, extend to the south-east; at Badagong Shan National Nature Reserve, consider an extension. Tuoda forest in Guizhou is currently designated as a reserve at the county level, but it should be upgraded to a provincial or national reserve to enable the development and management work which needs to be done there to take place (Liang Wei 1998).

Habitat management Reeves's Pheasant needs to be surveyed and monitored outside protected areas, to determine where new nature reserves should be established for its protection, but also to help develop sustainable land-use systems outside reserves which will benefit its conservation. A balanced forest management programme is required, with logging prohibited in parts of its range and artificial plantations promoted where they can provide additional habitat (Xu Weishu *et al.* 1990, 1991, Liu Naifa *in litt.* 1997).

Research As detailed above, a number of protected areas have populations of Reeves's Pheasant, but in many cases the sizes of the populations inside these reserves are unknown (see Remarks 1). Baseline surveys are required to investigate their population status inside existing reserves, and hence to determine whether extensions to existing reserves or additional reserves are required, and systems need to be established to monitor the populations inside reserves in the future. Further studies of their ecological requirements are also needed (using radio-tracking: Zhang Zhengwang *in litt.* 1999), to provide the data required to help ensure that the management of the protected areas is appropriate (McGowan and Garson 1995). For four years from 1999 to 2002, this species and its conservation are being intensively studied during a project entitled "Studies on the mechanism of ecological adaptations and conservation strategy of the rare and endangered pheasants in China", funded by the National Natural Science Foundation of China (Zhang Zhengwang 1999). The reasons for the apparent extinction of the species in central-southern Shanxi province need to be investigated, and it is important to conduct research to establish its precise habitat requirements, and to help guide any attempts to re-introduce it into apparently suitable habitat in its former range (Lu Xin *in litt.* 1999).

Education It has been proposed that an education programme concerned with forest conservation could adopt this species as a flagship (McGowan and Garson 1995). Better control of illegal hunting is required, and the use of poison baits should be forbidden within its range (Liu Naifa *in litt.* 1997). Captive farming could be used to meet any demand for Reeves's Pheasant tail feathers, and to reduce the illegal hunting pressure on this species (Xu Weishu *et al.* 1990, 1991).

REMARKS (1) Many of the published records of this species (and of other galliforms in mainland China) are given by county, and they often do not include the actual localities where birds were found, the type of records (specimens collected, sight records, reports by local people, etc.), the number of individuals recorded and the dates of the records. Such records are very important for the understanding of the overall distribution of a species, but are of limited value for assessing its conservation status and in helping to decide where to target conservation actions. The collection and publication of more detailed information is necessary to improve understanding of the conservation status of this and other Chinese birds. (2) The following records presumably relate to Dongling in Hebei: "Jingschujingsze [=prohibited forest]", two males and two pullus collected and others seen, May–June 1916, in oak forest (Jacobi 1924), "Forêt au S. de Jehol [=forests in the south of Jehol]" (the old region of Jehol included part of what is now Hebei province), one collected, September 1917 (Seys and Licent 1933), Xinglong county, probably extinct (Xu Yangong 1996; also Cheng Tso-hsin 1976).