

FAIRY PITTA

Pitta nympha

Critical —
Endangered —
Vulnerable C1



This migratory pitta qualifies as Vulnerable because it has a small, declining population as a result of deforestation in its breeding range, principally for agriculture and timber, locally compounded by trapping for the cagebird trade.

DISTRIBUTION The Fairy Pitta breeds very locally in southern Japan, South Korea, south-east mainland China (see Remarks 1) and on Taiwan, and appears to winter mainly on the island of Borneo (in East Malaysia, Brunei and Kalimantan, Indonesia) (see Mees 1977, Lambert 1996, Erritzoe and Erritzoe 1998). It has been recorded on passage within the breeding range states, and in North Korea, Hong Kong (see Remarks 2) and Vietnam.

■ **JAPAN** The species is found mainly in coastal areas of southern Japan, on both the Sea of Japan and Pacific coasts of Honshu, and on Shikoku and Kyushu, with records of vagrancy in northern Honshu and Hokkaido. Many of the records in recent years have been from Miyazaki (Kanai 1992), Kochi (Fujita *et al.* 1992b) and Hiroshima prefectures (Ueno 1999). Records (by island and prefecture) are from:

Hokkaido unspecified localities and undated (Wildlife Information Center, Hokkaido 1985), accidental visitor (OSJ 2000);

Honshu ■ **Akita** Akanuma, **Akita-shi**, May 1965 (Sawada 1984); ■ **Tochigi** Oonuma, **Shiobara-machi**, Nasu-gun, two, May 1967 (Tochigi Prefecture 1984); Shioya-machi (not mapped), Shioya-gun, May 1967 (Sawada 1984); unspecified locality, 1916 and 1917 (Sawada 1984); ■ **Gunma** **Takasaki-shi**, May 1978 (Sawada 1984); ■ **Saitama** unspecified locality, June 1973 (Sawada 1984); ■ **Kanagawa** **Hakone-machi**, one found dead, June 1991 (Tashiro and Isozaki 1992 in Erritzoe and Erritzoe 1998; also WBSJ Kanagawa Chapter 1992); ■ **Ishikawa** **Hegura-jima** island (Hegura lighthouse), Wajima-shi, May 1963 (Sawada 1984), May 1986 (Brazil 1991), one, May 1987 (WBSJ 1987); Bird Park, Fushouji-achi, **Kanazawa-shi**, ringed, June 1991 (Anon. 1992 in Erritzoe and Erritzoe 1998); ■ **Fukui** **Fukui-shi**, one collected, June 1958 (Fukui Prefecture 1982, Sawada 1984); Mount Sanri-san, **Imadate-cho**, Imadate-gun, one, June 1959, one, June 1963 (Fukui Prefecture 1982, Sawada 1984); ■ **Yamanashi** **Yamanakako-mura**, Minamitsuru-gun, one, July 1997 (WBSJ Minamifuji Chapter database); **Minobu-cho**, Minamikoma-gun, October 1964 (Sawada 1984); ■ **Nagano** Wada-cho, **Shimoina-gun**, May 1954 (Sawada 1984); watershed of **Tenryu-gawa** river, southern Nagano, one or two pairs bred, 1982–1993, breeding suspected (one singing bird) in 1995 but not proven (Uematsu 1995); ■ **Shizuoka** **Inokashira**, Fujinomiya-shi, June 1997 (WBSJ Minamifuji Chapter database); **Fuji-san** (Mount Fuji, Fujiyama), June 1899 (specimen in AMNH); Tsushima, **Tagata-gun**, early November 1909 or 1910 (specimen in YIO); **Hakko-zan** (Mount Hakko-san), Kakegawa-shi, June 1983, May 1989 (WBSJ Totomi Chapter database); **Omaezaki**, May 1938 (Austin and Kuroda 1953); ■ **Mie** **Sakauchi-cho**, Matsusaka-gun, July 1987 (WBSJ 1987); ■ **Kyoto** **Taiko-yama** (Mount Taiko-san), Tango peninsula, one heard, May 1990 (Government of Kyoto 1993); Oora peninsula, **Maizuru-shi**, one, June 1991 (Government of Kyoto 1993); **Ashu** Research Forest, one heard, June 1976 (Government of Kyoto 1993); ■ **Hyogo** **Takeno-cho**, ringed, June 1993 (N. Kataoka in Erritzoe and Erritzoe 1998); ■ **Nara** **Odaigahara** (or Oodaigahara), Kamikitayama-mura, Yoshino-gun, one, July 1996 (*Birder* 96/10); ■ **Wakayama** **Misato-cho**, Higashimuro-gun, late May 1927 (specimen in YIO); **Gobo-shi**, May 1994 (WBSJ

Wakayama Chapter database); Nakahechi-cho, **Nishimuro-gun**, June 1993 (WBSJ Wakayama Chapter database); **Shiono-misaki**, May 1924 (Austin and Kuroda 1953; also Sawada 1984); Sauri-mura (untraced), May 1927 (Austin and Kuroda 1953; also Sawada 1984); ■ **Tottori** Amedaki, Kokufu-cho, **Iwami-gun**, June 1992 (Hosotani and Okagaki *in litt.* 1998); Tono, **Ketaka-cho**, Ketaka-gun, May 1993 (Hosotani and Okagaki *in litt.* 1998); **Mitoku-yama** mountain, Misasa-cho, Tohaku-gun, June 1992 (Hosotani and Okagaki *in litt.* 1998); Daisenji Temple, **Daisen-cho**, Saihaku-gun, May 1996 (WBSJ Tottori Chapter database); Ueshijo, Togocho, **Tohaku-gun**, May 1997 (Yoshida and Kishimoto *in litt.* to WBSJ); Saji-son, **Yazu-gun**, May 1985 (Hosotani and Okagaki *in litt.* 1998); **Wakasa-cho**, Yazu-gun, June 1989 (Hosotani and Okagaki *in litt.* 1998); Toyosakae, **Nichinan-cho**, Hino-gun, May 1996 (WBSJ Tottori Chapter database); Inaba (untraced), undated (Austin and Kuroda 1953); ■ **Shimane Oki islands**, before 1922 (Austin and Kuroda 1953), 1933 (Uchida 1982), August 1960 (Sawada 1984); Mount Wanibuchiji-san, **Hirata-shi**, May 1978 (Uchida 1982); **Kyoragi-yama** (Mount Kyoragi-san), Higashiizumo-cho, Yatsuka-gun, May–July 1994 (WBSJ Tottori Chapter database); **Sambe-san** mountain, Ooda-shi, recorded in the natural forest of Kitanohara, June 1973, June 1977, May 1980 (Uchida 1982); **Muikaichi-cho**, Kanoashi-gun, one, May 1994 (WBSJ 1994); Tonbara-cho (untraced), Iishi-gun, June 1979 (Uchida 1982); ■ **Hiroshima** Mount Hibayama, **Hiba-gun**, single males, May 1986, June 1986, June 1987 (WBSJ Hiroshima Chapter database); Tawarahara-bokujo, **Kami-kojinbara** (Kojinbara), Geihoku-cho, Yamagata-gun, single birds, May 1985, May 1993, June 1996 (WBSJ Hiroshima Chapter database); **Garyuzan** mountain, Geihoku-cho, Yamagata-gun, male, June 1996, one, September 1997 (WBSJ Hiroshima Chapter database); Mount Shiro-yama, Toyohira-cho, **Yamagata-gun**, male, June 1995 (WBSJ Hiroshima Chapter database); **Shiraki-cho**, Asakita-ku, Hiroshima-shi, male at Ushiiwa, Aridome, April 1984, male at Shaji, Koya, June 1995 (WBSJ Hiroshima Chapter database), nest with five chicks at Siraki-cho, Chugoku district, July 1998 (Ueno 1999); Mount Fukuoji-yama, **Kabe-cho**, Asakita-ku, Hiroshima-shi, male, June 1986 (WBSJ Hiroshima Chapter database); Shii, **Tada**, Yuki-cho, Saeki-gun, moribund chick found, July 1991 (WBSJ Hiroshima Chapter database); **Saijo-cho**, Hiba-gun, August 1960 (Sawada 1984); Nagatsuka, Asaminami-ku, **Hiroshima-shi**, male, July 1995 (WBSJ Hiroshima Chapter database); ■ **Yamaguchi Tsuno-jima** island, Hohoku-cho, Toyoura-gun, one banded, May 1973 (WBSJ Yamaguchi Chapter 1976);

Shikoku ■ **Tokushima Anabuki-cho**, Mima-gun, June 1998 (WBSJ Tokushima Chapter database); ■ **Kagawa** Kotonami-cho and Chunan-cho, **Nakatado-gun**, bred in 1994 and 1995 (only confirmed breeding records), with many localities recorded in Nakatado-gun, southern Kagawa (on the border with Kochi prefecture) (WBSJ 1997b); ■ **Ehime** Dozangoe, **Niihamashi**, one, June 1997 (WBSJ Ehime Chapter database); **Omogo-kei**, Omogo-mura, Kamiukena-gun, one, June 1997 (T. Aoki in WBSJ); streams at Nametoko, **Matsuno-cho**, Kitauwagun and Uwajima-shi, one, May 1998 (WBSJ Ehime Chapter database); Mount Sasa-yama, **Ipponmatsu-cho**, Minamiyuwa-gun, two, May 1994, one, June 1996 (WBSJ Ehime Chapter database); ■ **Kochi Tosa-cho**, Tosa-gun, June 1978 (Sawada 1984); **Kagami** (Kagami-son), Tosa-gun, May 1929 (Austin and Kuroda 1953, Sawada 1984); **Aki-gun**, May 1954 (Sawada 1984); **Yusuharacho**, Takaoka-gun, recorded breeding (unspecified years) (Sawada 1984), one at Kubotani, May 1995 (*Birder* 95/7), single birds at Matsubara, May 1995, May 1998 (WBSJ Kochi Chapter database), May 1997 (*Birder* 97/7); **Hata-gun**, bred in 1937, the first breeding record in Japan, in the “National Forest” (Uchida 1937, Austin and Kuroda 1953, Sawada 1984); forest north of the middle reaches of the **Shimanto-gawa** river, where at least 10 birds were recorded in a 23.8 km² study site in summer 1991 (Fujita *et al.* 1992b);

Kyushu ■ **Fukuoka Eboshiwano-hana** (Eboshidai), June 1937 (Austin and Kuroda 1953); **Kitakyushu-shi**, “in the town area” at Okurakagekatsu-cho, June 1979 (Kanai 1992), “in the town area” at Showa-ike, Kusami, May 1985 (Kanai 1992), one at Kawachi, Yawatahigashiku, May 1989 (S. Yamada in WBSJ database), one at Yamada Green Belt, Yamada-cho,

Kokurakitaku, June 1997 (M. Yamaguchi in WBSJ database); Inado, **Yukuhashi-shi**, one, May 1997 (H. Furushiro in WBSJ database); Mount Abura-yama, **Fukuoka-shi**, summers of 1986, 1988, 1989 and 1990 (Kanai 1992); **Kubote-san** mountain, Buzen-shi, May 1976 (Kanai 1992); **Hiko-san** mountain, June 1900 (Austin and Kuroda 1953, Sawada 1984), summers of 1974, 1977, 1980, 1984, 1985, 1987 and 1991 (Kanai 1992); ■ **Saga** Mount Ishisani-san, **Tosu-shi**, May 1979, June 1988 (Kanai 1992, Wild Bird Society of Saga 1997); Mount Kurokami-yama, **Arita-machi**, Nishimatsuura-gun, regularly recorded, May–July 1988–1996 (Wild Bird Society of Saga 1997), one, June 1997 (*Birders* 97/9); Mount Kyogadake (untraced), May 1987 (Kanai 1992); ■ **Nagasaki Tsushima** island, June 1885 (male and female in USNM; also Sawada 1984), breeding at Mitake, undated (Kato *et al.* 1995); **Sasebo-shi**, one at Kunimi, June 1988 (WBSJ 1988), two singing at Ishidake, March 1997 (*Birders* 97/6); **Unzen-dake** mountain, Minamitakaki-gun, undated (Kiyosu 1965, Sawada 1984), June 1989 (Kanai 1992); ■ **Kumamoto** unspecified locality, breeding, July 1925 (Austin and Kuroda 1953; also Sawada 1984); Ubuyama, **Aso-gun**, May 1991, but not in June (Kanai 1992); **Kikuchi** valley, June 1982 (Kanai 1992); **Ichibusu-yama** mountain, undated (Kiyosu 1965); **Taragi-machi**, Kuma-gun, 1972 (Kanai 1992); ■ **Oita Hiko-san** mountain, undated (Kiyosu 1965), on the side of the mountain in Oita prefecture, 1978 (Kanai 1992); **Yabakei-cho**, 1979, 1980, May 1990 (Kanai 1992); **Kusu-machi**, Kusu-gun, June 1996 (*Birders* 96/9); Shonai-cho, **Oita-gun**, June 1975 (Sawada 1984); Mount Kokonoe-san (untraced), June 1975 (Kanai 1992); ■ **Miyazaki Kitagawa-cho**, Higashiusuki-gun, June 1986 (Kanai 1992); **Morotsuka-yama** (Mount Morotsuka-san), Morotsuka-son, Higashiusuki-gun, June 1975 (Kanai 1992); **Mukabaki-san** mountain, Nobeoka-shi, June 1976, June 1989, June 1990 (Kanai 1992), one heard, June 1998 (*Birders* 98/7); Mount Sanpo-san, Nango-son, **Higashiusuki-gun**, one, May 1977 (Kanai 1992); **Saigo-son**, Nishimorokata-gun, September 1968 (Sawada 1984); Sobe-deta, **Nishimera-son**, Koyu-gun, a pair and two young birds, summer 1978 (Kanai 1992); **Suki-son**, Nishimorokata-gun, September 1951 (Sawada 1984); Kawanaka, **Aya-cho**, Higashimorokata-gun, one seen carrying nesting material in 1976, three singing, 1991 (Kanai 1992); Takabusa Recreation Forest, **Takaoka-cho**, two, June 1977, heard calling, 1991 (Kanai 1992); near Mi-ike Pond, **Takaharu-cho**, Nishimorokata-gun, June 1972 (Sawada 1984), three birds heard singing, May 1991, in the 1 km² Wild Bird Forest “by the Moroshima National Forest”, breeding confirmed annually since 1980 (Kanai 1992), one, June 1993 (*Birders* 93/8), two, June 1996 (*Birders* 96/8), two, June 1997 (*Birders* 97/8), at least two singing, May 1998, three singing, June 1998 (*Birders* 98/7); ancient tombs in Saitobatru (untraced), May 1991 (Kanai 1992); ■ **Kagoshima Yoshimatsu-cho**, Aira-gun, May 1974 (Sawada 1984); **Kurino-take** mountain, Yoshomatsu-cho, Aira-gun, three to four birds annually since 1974, but only one found in 1991 (Kanai 1992); **Kagoshima-shi**, early June 1989, “in the town area” (Kanai 1992); Oominegahara, Higashiichiki-cho, **Hioki-gun**, singing, June 1989 and 1990 (Kanai 1992); Myoken Onsen (untraced), April 1991, but not in May, possibly only passing through on migration (Kanai 1992); Morishima mountains (untraced), May 1974, May 1980, one found dead in August 1983 (Kanai 1992);

Kuchinoerabu-jima island, June 1989 (Kanai 1992);

Yaku-shima island, undated (OSJ 2000);

Akuseki-jima island, Tokara Islands, 1973, June 1976, May 1977 (Kanai 1992);

Yagaji-jima island, Nago-shi, July 1986 (Okinawa Yacho Kenkyukai 1986 and McWhirter and Ikenaga in prep. in Brazil 1991).

■ **KOREA** ■ **NORTH KOREA** The species is a scarce passage migrant, but possibly breeds. Records (by province) are from: ■ **South Pyongan Anju**, one, May 1932 (Won 1932 in Austin 1948); ■ **Pyongyang Taesong-san** mountain, one, September 1993 (Rim Chu-yon *in litt.* 1997); ■ **South Hwanghae Changyon** (Choen), pair, April 1917 (N. Kuroda 1918, Austin 1948); ■ **Kaesong Pagyon** (Pakyon) waterfall, near Kaesong city, pair, June 1957, one, August 1958 (Won 1969 in Mees 1977, Fiebig 1995).

■ **SOUTH KOREA** The species is a rare passage migrant but breeds on several islands in the south, and may perhaps also breed locally on the mainland (Mees 1977). Records (by province) are from: ■ *Kyonggi and Seoul Kwangnung*, female, June 1965 (Lee Woo-shin *in litt.* 1998, Won 1969 in Mees 1977); **Yangsuri**, one, May 1983 (Lee Ki-sup *in litt.* 2000); Mount Bukhan, one reported in January 1997 (Lee Woo-shin *in litt.* 1998), but a winter record of this species is not possible (Lee Hansoo *in litt.* 2000), and this record is therefore treated here as unconfirmed (MJC); ■ *South Kyongsang* slopes near **Haktong-ni**, Tongbu-myon, Koje island, juvenile female collected on Koje island, July 1959 (Erritzoe and Erritzoe 1998), regularly breeds (Won 1969 in Mees 1977), breeds, three to five individuals present annually (Lee Woo-shin *in litt.* 1998); **Hong islet**, three, 1986, nine, 1996 (Paek *et al.* 1996), one, June 1997 (Kwon and Bae *per* Lee Ki-sup *in litt.* 2000); ■ *North Cholla Togyu-san* (Tokyu mountain, Dukyu mountain), more than ten collected in the past (unspecified years) (Lee Woo-shin *in litt.* 1998, Lee Hansoo *in litt.* 2000), one, undated (Won 1969 in Mees 1977); ■ *South Cholla Suri To* (Suro islands), one, undated (Moriyama 1929 in Austin 1948); **Bogill island** (Bokil island), several pairs reported to have bred in 1998 (Wihaeng Heo and Wanho Lee *in litt.* 2000), more than five pairs reported to have bred, summer 1999 (Park Jin-young *in litt.* 1999); ■ *Cheju* southern slopes of **Halla mountain** (Mount Kanra), Cheju island (Quelpart island), May c.1918 (Kuroda and Mori 1918), May 1929 (male and female in MCZ), May 1930 (six specimens in YIO), apparently limited to the southern side of the island (Won in Austin 1948), August 1957 (Erritzoe and Erritzoe 1998), several pairs possibly breeding, 1999 (Kim Wanbyong *per* Lee Ki-sup *in litt.* 2000); **Namwon-ni**, Cheju island, one, May 1999 (Kim Wanbyong *per* Lee Ki-sup *in litt.* 2000); **Mun islet**, near Seogwipo city, one, May 1996 (Park and Kim 1996); near Taewon temple (untraced), Cheju island, several old nests found, summer 1998 (Wihaeng Heo and Wanho Lee *in litt.* 2000); Erimok (Eorimog) (untraced), eight, 1980–1983 (Park 1984).

■ **CHINA** ■ **MAINLAND CHINA** The Fairy Pitta is known by scattered records from many provinces and regions in south and east China, where it is possibly mainly a passage migrant, but with evidence that it breeds at several provinces. A record from Beijing municipality is discussed under Remarks 3. Records (by province) are from:

■ *Gansu* Xiahe, passage migrant (Zheng Guangmei and Wang Qishan 1998), but this appears to be well outside the known range and therefore needs to be confirmed;

■ *Yunnan* **Funing county**, female, September 1983 (Wei Tianhao *per* Yang Lan *in litt.* 1997);

■ *Guizhou* **Maolan National Nature Reserve**, Libo county, two males and one female, 500 m, April–May 1984 (Wu Zhikang *et al.* 1986, Liu Donglai *et al.* 1996);

■ *Hebei* **Beidaihe**, male, June 1957 (Cheng Tso-hsin 1987, Yang Lan *in litt.* 1997); **Shijiu-tuo** (“Happy island”), one, May 1995 (P. Alström, U. Olsson and D. Zetterström *in litt.* 2000), May 1997 (Aryren 1997);

■ *Tianjin* unspecified localities, passage migrant (Zheng Guangmei and Wang Qishan 1998);

■ *Shandong* **Tuoji Dao** island, Changdao National Nature Reserve, one, September 1998, with local reports of several others being captured (Fan Qiangdong *et al.* 1999); **Yantai** (Chefoo), a cagebird reportedly captured there, although it “had evidently been caged for some time”, August 1873 (Swinhoe 1874, male in BMNH);

■ *Henan* **Xingyang county** (Sing-Yang), breeding, undated (Fu Tungsheng 1937), summer visitor (unspecified years) (Cheng Tso-hsin 1987); **Dongzhai Nature Reserve**, Luoshan county, undated (Liu Donglai *et al.* 1996);

■ *Anhui* **Huangfu Shan Nature Reserve**, Chuzhou city (Chuxian county), summer visitor (unspecified years) (Wu Xiazhong *et al.* 1984, Liu Xuyou *et al.* 1996); Changling People’s Commune, **Jinzhai county**, “very rare”, undated (Wang Qishan *et al.* 1979); **Manshuihe**

People's Commune, Huoshan county, male, July 1978 (Wang Qishan *et al.* 1979); **Huo Shan** (Liu-fang, Leoufang), two females collected (one of which was about to nest), June 1914, two pairs, July 1915, fully fledged juvenile collected, late summer 1915, nest with four young, July 1917, nest with five eggs, June 1918 (Courtois 1927 in La Touche 1925–1934, Sowerby 1943, specimen in MNHN), 1917 (three specimens in ASCN);

■ **Jiangsu** suburb of **Suzhou city**, male, September 1969 (Pang Bingzhang 1981); **Hengjing**, Wuxian county, male, June 1966 (Pang Bingzhang 1981); unspecified locality, recorded between 1982 and 1990 (Li Guozhong *et al.* 1991);

■ **Shanghai Chongming Dao** island, repeated records in September–November, 1952–1978 (Yang Lan *in litt.* 1997), also in March (Huang Zhengyi *et al.* 1991); **Shawaishan island** (see Remarks 4), one, spring 1908, two males and one female, late May 1911 (La Touche and Rickett 1912, specimens in BMNH and AMNH; also Sowerby 1943), September 1910 (female in MCZ); **Wujiaochang**, male, September 1968 (Pang Bingzhang 1981); **Shanghai**, two, including one in October 1885 (Styan 1891, Moffett and Gee 1913, specimen in BMNH), on Tungsha lightship outside Shanghai, one in “autumn migration” and one in October, year unspecified (Styan 1891), female, September 1960, one, October 1960 (Pang Bingzhang 1981); **Xujiahui** (Zi-ka-wei, Siccawei), one, May 1897 (Courtois 1907, Sowerby 1943);

■ **Zhejiang Haining**, undated (Zhuge Yang 1990); **Tianmu Shan** mountain, Lin'an county, undated (Zhuge Yang 1990); **Wenzhou city**, undated (Zhuge Yang 1990);

■ **Fujian** near **Fuzhou** (Foochow), “near Miss Lambert's schools”, April 1901, with two friends reporting “a similar bird on two occasions in spring 1903 at Sharp Peak, at the mouth of the river” (Rickett 1903, male in BMNH); **Xiamen** (Amoy), one, June 1861 (Swinhoe 1863a); unspecified locality, female, June (Martens 1910, Stresemann 1923b);

■ **Jiangxi Guan Shan Nature Reserve**, Yifeng county, specimens in the reserve headquarters at Yifeng, indicating that this species probably occurs in the reserve (Stevens *et al.* 1993);

■ **Guangxi Guilin prefecture**, 1982–1990 (Li Hanhua *et al.* 1991); **Sanpihu Nature Reserve**, Nandan and Tian'e counties, undated (Zhou Fang *in litt.* 2000); **Rongshui county**, male, April 1979 (Yang Lan *in litt.* 1997); Linduo, **Tian'e county**, undated (Zhou Fang *in litt.* 2000); **Buliuhe Nature Reserve**, Tian'e county, undated (Zhou Fang *in litt.* 2000); **Yindian Shan** to Xiling Shan mountains, Gongchang and Fuchuan counties, undated (Zhou Fang *in litt.* 2000); **Fuchuan**, undated (Institute of Forestry Survey Designs, Guangxi 1985); Linlun Nature Reserve, **Huanjiang county**, undated (Zhou Fang *in litt.* 2000); **Longlin**, Longlin, Xilin and Tianlin counties, undated (Zhou Fang *in litt.* 2000); **Jinzhong Shan**, April 1987 and May 1988 (Liu Xiaohua *et al.* 1992); **Dayao Shan Nature Reserve** (Yaoschan, Yaoshan), several collected, including six at Luoxiang (Loshiang) in April, between 1928 and 1930, and at least one male and two females (*P. n. melli*) in May 1929 and May 1931 (Stresemann 1930b, Yen 1930, 1933–1934, specimen in BMNH, specimen in ZMB; also Institute of Forestry Survey Designs, Guangxi 1985), juvenile at Shengtangshan, September 1998, 900 m (KFBG in prep. a); **Bose**, undated (Institute of Forestry Survey Designs, Guangxi 1985); **Dapeng**, Pingnan county, undated (Zhou Fang *in litt.* 2000); **Dawangling Watershed Forest Reserve**, Bose city, undated (Zhou Fang *in litt.* 2000); **Gulongshan Watershed Forest Reserve**, Jingxi and Debao counties, undated (Zhou Fang *in litt.* 2000); **Pingnan**, two, April 1937 (Yang Lan *in litt.* 1997);

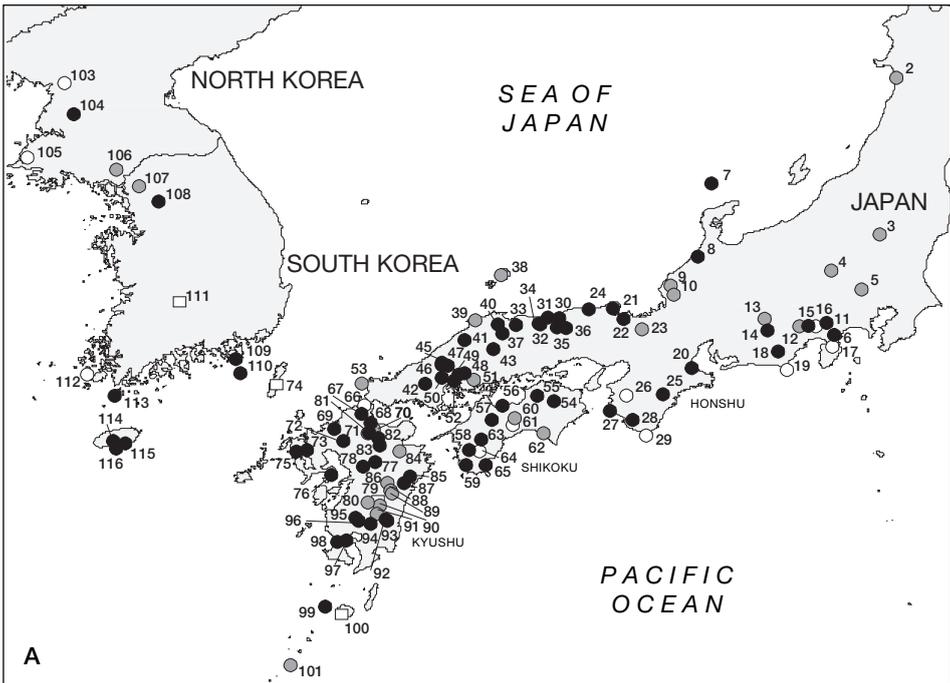
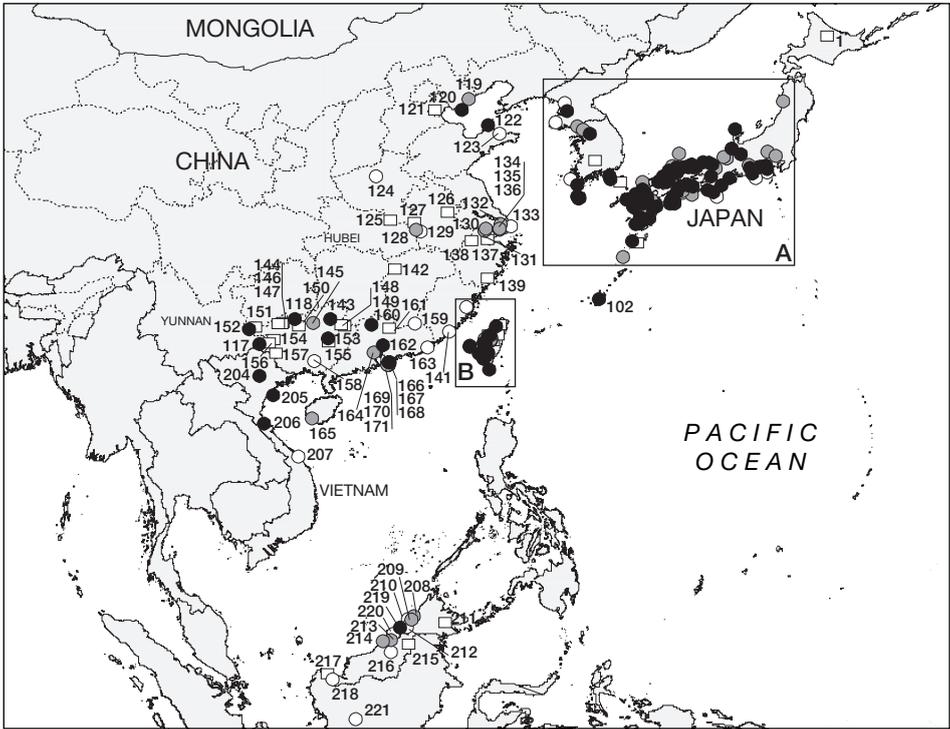
■ **Guangdong Longtoushan** (Drachenkopf, Lungtauschan), immature, October 1907 (Yen 1933–1934), female (the type of subspecies *P. n. melli*: see Remarks 1) collected with seven other specimens, May 1917 (Stresemann 1923b, male in AMNH; also Sowerby 1943), fledged juvenile, October 1917, “common” above 700 m (Mell 1922, specimen in ZMB); **Babao Shan Nature Reserve**, Ruyuan county, up to three, 1,400 m, May 1994 and 1995, with single birds on two days, July 1987 (Lewthwaite 1996), one, April 1998 (Laponder and Messemaker 1998); **Chebaling National Nature Reserve**, Shixing county, specimens reportedly collected in the reserve on display in the museum (Lewthwaite 1996), “rare summer visitor” (Chen Wancheng *et al.* 1992); **Nankun Shan Nature Reserve**, Longmen county, one, May 1990

(Lewthwaite 1996); **Shantou** (Swatow), September 1911, in the consulate garden (La Touche 1930 in Mees 1977, female in AMNH); **Guangzhou city** (Canton), two (including a male) in the market, May 1917 (Mell 1922, Stresemann 1923b; also Yen 1933–1934), with two at Zhongshan University, April 1958 (Yang Lan *in litt.* 1997); Yin Shan (untraced), May 1917 (four specimens in ZMB);

■ **Hainan Ledong county**, October 1962, female in SNHMCN (Yang Lan *in litt.* 1997); *province unknown* “Thua-liu” (untraced), April 1928 (male in MNHN).

■ **HONG KONG** The species is a scarce passage migrant, with records as follows: **Shek Kong**, one, April 1993 (HKBWS database); **Tai Po Kau**, one, September 1991 (HKBWS database); Kap Lun Trail, **Tai Mo Shan** Country Park, one, September 1994 (HKBWS database); **Zoological and Botanical Garden**, one, September 1979 (Chalmers 1986); **Pok Fu Lam**, one, April 1962 (Chalmers 1986); **Deep Water Bay**, one, July 1967 (Chalmers 1986).

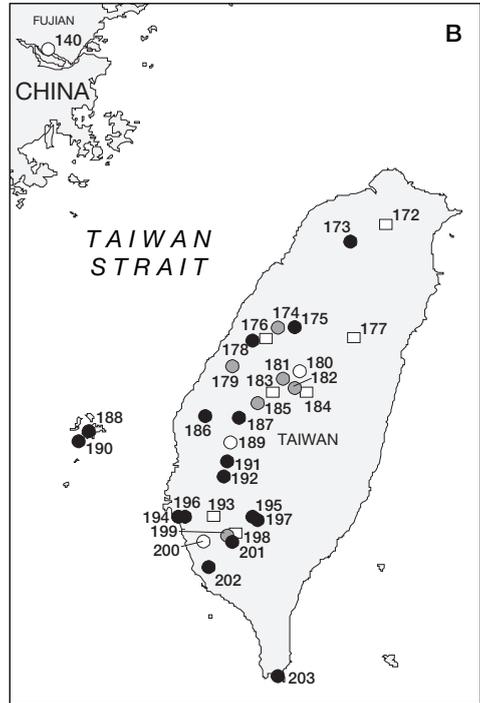
■ **TAIWAN** The species breeds in small numbers and occurs on migration, most frequently in the western hills and the central mountains. Records are from: **Hsintien**, Taipei, undated (Wang Chia-hsiong *et al.* 1991); **Shihmen reservoir**, Taoyuan county, recent records involving two in 1995, 10 in 1996, one in 1997 and one in 1998 (CWBF database), nest with five fledglings, June 1996 (L. L. Severinghaus in Erritzoe and Erritzoe 1998); **Hsinshe** (Hsin-sheh), Taichung, July 1960 (Severinghaus *et al.* 1991, three specimens in UNSM); **Taichung county**, one at Hueisun farm, 1997 (CWBF database), recorded at Te-chi, undated (Wang Chia-hsiong *et al.* 1991); **Takeng**, Taichung, undated (Wang Chia-hsiong *et al.* 1991); **Tayuling**, Hualien, undated (Wang Chia-hsiong *et al.* 1991); **Taichung city**, one, May 1998 (Fang Woei-horng *in litt.* 1998); **Changhua county**, July 1967 (Mees 1977, Severinghaus *et al.* 1991, male in RMNH); **Puli** (Horisha, Hori), Nantou, May 1911 (18), May 1927, May 1928, May 1939, May 1941, May 1944, 915 m (Kuroda 1917, Severinghaus *et al.* 1991, 23 specimens in AMNH, BMNH, FMNH, MCZ, MNHN, YIO and ZRCNUS), male collected at Shukinko, Puli, May 1929 (Erritzoe and Erritzoe 1998); **Nankang** (Nankong), Nantou, male collected, May 1968 (Mees 1977, Severinghaus *et al.* 1991); **Jihyueh Tan** (Sun and Moon lake), 294 mounted specimens for sale in shops in July 1967, and 135 specimens for sale in autumn 1971 (Chang Wanfu 1993); **Chichi**, Nantou, undated (Wang Chia-hsiong *et al.* 1991); **Nantou county** (Nauto-cho), one, March 1911 (female in NRM; erroneously given as October by Erritzoe and Erritzoe 1998), recorded at Histou and Chiayi Tapu, undated (Wang Chia-hsiong *et al.* 1991); **Chushan** (Chusan, Nantou), July 1971 (Mees 1977, Severinghaus *et al.* 1991, male in RMNH); “Pillow mountain”, Huben village, **Yünlin county**, 16–18 males and several breeding pairs, with evidence of nest-building, and a population of at least 40 birds estimated, late 1990s (Huang 2000); **Kukeng**, Yünlin county, one, 1998 (CWBF database); **Makung island**, Penghu county, single birds, 1995, 1996, 1998 (CWBF database); **Chiai county** (Kagi), central Taiwan, September 1907 (male in SMF); **Penghu islands**, one, May 1998 (Fang Woei-horng *in litt.* 1998); **Paiho reservoir**, Tainan county, breeding pair with two chicks, 1996 (CWBF database, Chang Chin-lung *in litt.* 1997); **Shuanghsi** forest, c.5 km north-east of Meinung, Kaohsiung county, recent records involving up to 12 in 1993, six in 1994, two in 1995 and 15 in 1996 (Wild Bird Society of Kaohsiung database, CWBF database), and five in 1997 (Wild Bird Society of Taipei database); **Kanglin** (Kangtzulin, Kanchiling), Tainan, undated (Wang Chia-hsiong *et al.* 1991); Anping Junior Highschool, **Anping**, Tainan, one, 1998 (CWBF database); **Liu-kuei**, Kaohsiung county, one, 1994 and 1995 (Wild Bird Society of Kaohsiung database); **Tainan**, one, April 1998 (Fang Woei-horng *in litt.* 1998); **Shanping**, Kaohsiung, one, May 1988 (Severinghaus *et al.* 1991); **Meinung**, Kaohsiung, undated (Wang Chia-hsiong *et al.* 1991); **Chishan**, Kaohsiung, May 1968 (Mees 1977, Severinghaus *et al.* 1991, 13 specimens in RMNH); **Takang Shan** (Takow mountain), 1865 (specimen in MCML); **Chu-chi**, ten, 1992 (CWBF database); **Chengching lake**, Kaohsiung city, one, October 1994 (Huang Yankuo verbally to Chang Chin-lung *in litt.* 1997); **Kenting**, Pingtung county, single birds, April 1971 and October 1989 (Severinghaus *et al.* 1991); La-ku-li (untraced), northern Taiwan, May 1894 (Mees 1977, Severinghaus *et al.* 1991, female in BMNH); Fu-shan



The distribution of Fairy Pitta *Pitta nympha*:

- (1) Hokkaido; (2) Akita-shi; (3) Shiobara-machi;
 (4) Takasaki-shi; (5) Saitama; (6) Hakone-machi;
 (7) Hegura-jima; (8) Kanazawa-shi; (9) Fukui-shi;
 (10) Imadate-cho; (11) Yamanakako-mura;
 (12) Minobu-cho; (13) Shimoina-gun; (14) Tenryu-gawa;
 (15) Inokashira; (16) Fuji-san; (17) Tagata-gun;
 (18) Hakko-zan; (19) Omaezaki; (20) Sakauchi-cho;
 (21) Taiko-yama; (22) Maizuru-shi; (23) Ashu;
 (24) Takeno-cho; (25) Odaigahara; (26) Misato-cho;
 (27) Gobo-shi; (28) Nishimuro-gun; (29) Shiono-misaki;
 (30) Iwami-gun; (31) Ketaka-cho;
 (32) Mitoku-yama; (33) Daisen-cho; (34) Tohaku-gun;
 (35) Yazu-gun; (36) Wakasa-cho; (37) Nichinan-cho;
 (38) Oki islands; (39) Hirata-shi; (40) Kyoragi-yama;
 (41) Sambe-san; (42) Muikaichi-cho;
 (43) Hiba-gun; (44) unallocated; (45) Kami-kojinbara;
 (46) Garyu-zan; (47) Yamagata-gun;
 (48) Shiraki-cho; (49) Kabe-cho; (50) Tada;
 (51) Saijo-cho; (52) Hiroshima-shi; (53) Tsuno-jima;
 (54) Anabuki-cho; (55) Nakatado-gun; (56) Niihama-shi;
 (57) Omogo-kei; (58) Matsuno-cho;
 (59) Ippommatsu-cho; (60) Tosa-cho; (61) Kagami;
 (62) Aki-gun; (63) Yusuhara-cho; (64) Hata-gun;
 (65) Shimanto-gawa; (66) Eboshiiwano-hana;
 (67) Kitakyushu-shi; (68) Yukuhashi-shi; (69) Fukuoka-shi;
 (70) Kubote-san; (71) Hiko-san;
 (72) Tosu-shi; (73) Arita-machi; (74) Tsushima;
 (75) Sasebo-shi; (76) Unzen-dake; (77) Aso-gun;
 (78) Kikuchi; (79) Ichibusu-yama; (80) Taragi-machi;
 (81) Hiko-san; (82) Yabakei-cho; (83) Kusu-machi; (84) Oita-gun;
 (85) Kitagawa-cho; (86) Morotsuka-yama;
 (87) Mukabaki-san; (88) Higashiusuki-gun; (89) Saigo-son;
 (90) Nishimera-son; (91) Suki-son; (92) Aya-cho;
 (93) Takaoka-cho; (94) Takaharu-cho; (95) Yoshimatsu-cho;
 (96) Kurino-take; (97) Kagoshima-shi; (98) Hioki-gun;
 (99) Kuchinoerabu-jima; (100) Yaku-shima; (101) Akuseki-jima;
 (102) Yagaji-jima; (103) Anju; (104) Taesong-san;
 (105) Changyong; (106) Pagyon; (107) Kwangnung;
 (108) Yangsu-ri; (109) Haktong-ni; (110) Hong Islet;
 (111) Togyu-san; (112) Suri To; (113) Bogill island;
 (114) Halla mountain; (115) Namwon-ni; (116) Mun islet;
 (117) Funing county; (118) Maolan National Nature Reserve;
 (119) Beidaihe; (120) Shijiutuo; (121) Tianjin;
 (122) Tuoji Dao; (123) Yantai; (124) Xingyang county;
 (125) Dongzhai Nature Reserve; (126) Huangfu Shan Nature Reserve;
 (127) Jinzhai county; (128) Manshuihe; (129) Huo Shan;
 (130) Suzhou city; (131) Hengjing; (132) Chongming Dao;
 (133) Shawaishan island; (134) Wujiaochang; (135) Shanghai;
 (136) Xujiahui; (137) Haining; (138) Tianmu Shan;
 (139) Wenzhou city; (140) Fuzhou; (141) Xiamen;
 (142) Guan Shan Nature Reserve; (143) Guilin prefecture;
 (144) Sanpihu Nature Reserve; (145) Rongshui county;
 (146) Tian'e county; (147) Buliuh Nature Reserve;
 (148) Yindian Shan; (149) Fuchuan; (150) Huanjiang county;
 (151) Longlin; (152) Jinzhong Shan; (153) Dayao Shan Nature Reserve;
 (154) Bose; (155) Dapeng; (156) Dawangling Watershed Forest Reserve;
 (157) Gulongshan Watershed Forest Reserve;
 (158) Pingnan; (159) Longtoushan;
 (160) Babao Shan Nature Reserve; (161) Chebaling National Nature Reserve;
 (162) Nankun Shan Nature Reserve; (163) Shantou;
 (164) Guangzhou city; (165) Ledong county;
 (166) Shek Kong; (167) Tai Po Kau; (168) Tai Mo Shan;
 (169) Zoological and Botanical Garden; (170) Pok Fu Lam;
 (171) Deep Water Bay; (172) Hsintien; (173) Shihmen Reservoir;
 (174) Hsinshu; (175) Taichung county;
 (176) Takeng; (177) Tayuling; (178) Taichung city;
 (179) Changhua county; (180) Puli; (181) Nankang;
 (182) Jihyueh Tan; (183) Chichi; (184) Nantou county;
 (185) Chushan; (186) Yünlin county;
 (187) Kukeng; (188) Makung island;
 (189) Chiai county; (190) Penghu islands;
 (191) Paiho reservoir; (192) Shuangshi;
 (193) Kanglin; (194) Anping; (195) Liu-kuai;
 (196) Tainan; (197) Shanping; (198) Meinung;
 (199) Chishan; (200) Takang Shan;
 (201) Chu-chi; (202) Chengching Lake;
 (203) Kenting; (204) Tam Dao National Park;
 (205) Xuan Thuy Nature Reserve; (206) Ha Tinh;
 (207) Hai Van; (208) Kimanis; (209) Mawau;
 (210) Lambidan; (211) Bole river;
 (212) Punang river; (213) Sungai Tutuh;
 (214) Miri; (215) Kelabit uplands;
 (216) Gunung Dulit; (217) Satang island;
 (218) Kuching; (219) Bandar Seri Begawan;
 (220) Tutong river; (221) Riam.

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



(untraced), one, 1997 (Chiang Pojen *per* Chang Chin-lung *in litt.* 1997); Pei-shan Kun (untraced), May 1968 (Mees 1977, Severinghaus *et al.* 1991, male in RMNH).

The species was also reported to have been captured in large numbers in spring at Tseng-wen reservoir by trappers in the early 1980s (Severinghaus *et al.* 1991).

■ **VIETNAM** The species is apparently a passage migrant, with records as follows: a live bird on sale in Tam Dao market had presumably been trapped in nearby **Tam Dao National Park**, Vinh Phuc, May 1997 (Nguyen Cu *in litt.* 1997, *Oriental Bird Club Bull.* 26 [1997]: 60–66); **Xuan Thuy Nature Reserve**, Nam Dinh, one, October 1999 (Eames and Tordoff *in prep.*); Xuan Thanh beach, **Ha Tinh**, April 1999 (*Oriental Bird Club Bull.* 30 [1999]: 50–58); **Hai Van** pass (Col des Nuages), Thua Thien Hue, male collected, April 1926 (Delacour and Jabouille 1927b), two collected, April 1928 (Delacour 1928, 1929b, male in MNHN), recorded four times at “Thua Luu” (presumably including the previous records at Hai Van pass) (Delacour and Jabouille 1931).

■ **MALAYSIA** The species is a non-breeding visitor to East Malaysia (northern Borneo), recorded in October–March (Smythies 1981). Records are from:

■ **Sabah** **Kimanis**, three birds entering a lighted bungalow in late October 1958, with birds staying in this area “abundantly” until the end of November (Batchelor 1959); **Mawau**, one collected, November 1959 (Sheldon *et al.* *in press*); **Lambidan** (Lumbidan), on the coast opposite Labuan, north-west Borneo, one collected, undated (Sharpe 1879 in Mees 1977); **Bole river**, one seen in riparian forest, undated (Johns 1989 in Sheldon *et al.* *in press*);

■ **Sarawak** **Punang river**, Lawas district, one, November 1897 (Blasius 1901 in Mees 1977); **Sungai Tutuh**, one, 370 m, February 1965 (Fogden 1966 in Mees 1977); near **Miri**, a “large flock” landing on a ship, October 1958 (Batchelor 1959); Pa Bangan, **Kelabit uplands**, one, 915 m, undated (Smythies 1957); **Gunung Dulit**, male collected, 300 m, October 1932 (Banks 1949); **Satang island**, one collected, October (Smythies 1957); **Kuching**, female, October 1865 (Beccari 1904 in Mees 1977).

■ **BRUNEI** The species is a non-breeding visitor, with records as follows: c.10 km from **Bandar Seri Begawan**, one, December 1999 (D. Thomas *in litt.* 2000); **Tutong river**, one, March 1878 (Mees 1977, Mann 1987).

■ **INDONESIA** There is a single record, in winter:

Kalimantan ■ **Central Kalimantan Riam**, female, December 1935 (Mayr 1938 in Mees 1977).

POPULATION No estimate of the global population of Fairy Pitta has been attempted. It appears to be highly localised within its relatively extensive breeding range, but has been found to occur at relatively high densities at some breeding localities. On the basis of the information available, its total population may not be more than a few thousand or tens of thousands of individuals (see Distribution).

Japan In Kochi prefecture, a survey in 1991 found at least 10 birds in an area of 23.8 km², at a density of 0.42 birds per km² (Fujita *et al.* 1992b). On Kyushu, there were estimates of 14 birds in a 1.5 km² area at Mi-ike and three in a 0.5 km² area in Aya-cho (Kanai 1992). Five birds were recorded in southern Nagano in 1993 and 1994, at an estimated density of 0.36 birds per km² (Uematsu 1995). Okada (1999) estimated that there were c.40 nests in the River Shimanto-gawa area in Kochi prefecture. There is evidence that nesting birds prefer woodlots over 0.2 km² in size (see Breeding), which suggests a putative five pairs per km². The total area of forest habitat suitable for this species is gradually increasing in Japan, and it is therefore believed that the numbers of Fairy Pitta are also probably slowly increasing there (Y. Kanai *in litt.* 2000).

South Korea It is a “very rare” passage migrant, which breeds locally in the south (Fiebig 1995). Every year, three to five birds breed in Koje island (Lee Woo-shin *in litt.* 1998) and on

Halla mountain on Cheju island (Lee Woo-shin *in litt.* 1998). There are probably fewer than 20 pairs in total (P. O. Won verbally 1994 in Collar *et al.* 1994).

Mainland China In the past, this species was described as “common” at Dayao Shan (Yaoshan) in Guangxi (Yen 1930, 1933–1934) and Longtoushan (Drachenkopf) in Guangdong (Mell 1923–1925). However, it is now generally considered to be “rare” (e.g. by Zheng Guangmei and Wang Qishan 1998), and the lack of recent records in some areas where it formerly occurred on passages suggests that it is declining (Yang Lan *in litt.* 1997), presumably because of the reduction of its forest habitat (see Threats). In Hong Kong, it is a scarce spring and autumn passage migrant; it is notable that there has been no significant increase in the number of records of this species in the 1990s, despite the growth in the number of observers, possibly indicating an actual decline in the number of birds passing through Hong Kong (HKBWS *in litt.* 1997). On Taiwan, collections of 294 and 135 mounted specimens were seen for sale in shops at Jih-yueh Tan (Sun and Moon lake) in 1967 and 1971 respectively (Severinghaus *et al.* 1991, Chang Wanfu 1993), and hundreds were reported to have been caught each spring in the early 1980s at Tseng-wen reservoir, including more than 200 birds in a day (Severinghaus *et al.* 1991). It is now considered to be “uncommon” there, breeding in “small numbers” and occurring on migration, and “has perhaps declined recently” (Severinghaus *et al.* 1991, Chang Chin-lung *in litt.* 1997).

Malaysia Wintering birds were found to be “not at all uncommon” in Sarawak (Fogden 1970 in Smythies 1981). A “large flock” landed on a ship near Miri in Sarawak in October 1958, and birds were reported to be present “abundantly” at Kimanis in Sabah in October and November 1958 (Batchelor 1959).

Vietnam It was obtained in April in all years that fieldwork was conducted in central Annam in the mid-1920s, but was described as “rare” (Delacour 1929c). It is currently presumed to be a “rare” migrant through the Tam Dao region (Nguyen Cu *in litt.* 1997).

ECOLOGY Habitat The Fairy Pitta is a forest bird which spends most of its time on the ground, but sings from a high branch (Austin and Kuroda 1953). It breeds in subtropical forest, where its highly localised distribution suggests that it has specialised habitat requirements. In Japan, a questionnaire survey of its distribution in 1991 found that it is mainly confined to coastal broadleaf evergreen forests, the only inland records being in north-western Yamanashi prefecture and south-western Nagano prefecture, and the only inland breeding record being in Yamanashi (Fujita *et al.* 1992a). A nest was found at 265 m in Hiroshima prefecture in 1998 (Ueno 1999). During a 1991 survey, 67% of the confirmed breeding sites found were in mixed deciduous and evergreen broadleaf forest, 20% were in broadleaf evergreen forest, 6.5% were in mixed coniferous-broadleaf forest and 6.5% were in broadleaf deciduous forest (Fujita *et al.* 1992a). The most important areas for this species on Kyushu (in the Kirishima mountains and Miyazaki prefecture), all have extensive broadleaf forests dominated by tall evergreen tree species such as *Castanopsis cuspidata*, *Quercus salicina* and *Machilus thunbergii* (Kanai 1992). Broadleaf evergreen forest is the original habitat of this species, but in recent years it has been found nesting in plantations, for example in Kochi prefecture (Fujita *et al.* 1992b). On its breeding grounds in Miyazaki prefecture, it has been found to prefer nesting in *Quercus gilva* forest (Azuma and Fujita 1995). In Kochi prefecture, at the beginning of the breeding season (in early June) it was found to favour *Pinus densiflora* forest, and all the nests found in this area were in this type of forest (Fujita *et al.* 1992b). It only nested in places where there was some scrub and grass but with good visibility under the canopy (the average height of the tree branches above the ground was 6.5 m) (Fujita *et al.* 1992b). When rearing the nestlings the adults visited forests of *Cryptomeria japonica* and *Chamaecyparis obtusa* more frequently, where the density of oligochaetes (earthworms) is relatively high, but there were no records of it nesting in this type of forest (Fujita *et al.* 1992b). All of the 12 nests found in southern Nagano between

1982 and 1993 were in forests at least 40 years old, and all but one nest were in forests of at least 0.2 km² (Uematsu 1995). It prefers forests with dense undergrowth of bushes and ferns along or near streams (Austin and Kuroda 1953, Brazil 1991). Most records in Japan are from hill slopes below 500 m, but birds have occasionally been recorded at up to 1,200 m (Brazil 1991).

In South Korea, on Cheju (Quelpart) island it breeds in broadleaf forest at c.1,200 m (Lee Woo-shin *in litt.* 1998), where it “seems strangely limited to the southern side of the island”, and on Halla mountain it was always recorded on the south side of the mountain, and never on the north side (Austin 1948). Its habitat in South Korea is dense moist forest, such as *Camellia* forest, and broadleaf forest near the coast (Won 1992). Breeding records in mainland China are from widely scattered localities in the mountains of the south-east, in evergreen and mixed forest between about 500 and 1,500 m (Mell 1922, 1923–1925, Zhuge Yang 1990, Liu Xiaohua *et al.* 1992, Lewthwaite 1996; see Distribution). As a passage migrant through Hong Kong this species appears to favour wooded sites but with no marked preference for large areas of mature woodland (HKBWS *in litt.* 1997). A nest site on Taiwan was on a slope in secondary forest at c.300 m, where c.80% of the trees were large acacias (including *Acacia confusa*, which was used for nesting) and the remainder were camphor *Cinnamomum camphora* trees (Severinghaus *et al.* 1991).

In Sarawak, wintering birds are found in mixed dipterocarp forest on hillsides up to 1,070 m (Fogden 1970 in Smythies 1981), including a record at 305 m on Mount Dulit (Banks 1949). The wintering locality at Riam in South Kalimantan is in the lowlands (Lambert 1996). Both recent records of birds on passage in Vietnam were from *Casuarina equisetifolia* plantations on the coast (Eames and Tordoff *in prep.*).

Food It feeds on the ground in dead leaves, and eats insects (and their larvae), including beetles and ants, and earthworms, centipedes and snails (Kuroda and Mori 1918, Yen 1933–1934, Fu Tungsheng 1937, Mori 1939 in Austin 1948, Mees 1977, Pang Bingzhang 1981, Zhuge Yang 1990, Liu Xuyou *et al.* 1996). Nestlings are mainly fed with earthworms, but sometimes insects and small crabs are also eaten. Shortly (four to five days) before they fledge the nestlings may consume 70–80 earthworms daily (Okada 1999).

Breeding In Japan, birds arrive in mid- to late May, and can be heard singing in late May and early June; nests are usually built on slopes (40–50°) in broadleaf trees, typically at 2–5 m above the ground, the clutch size is 4–6 eggs, and during the breeding season the birds stay very close to the nest, usually within c.100–400 m of it (Austin and Kuroda 1953, Uematsu 1995, Okada 1999). A brood of five chicks in a nest in Hiroshima prefecture fledged on 11 July (Ueno 1999), but the rearing of the nestlings continues until late July (Fujita *et al.* 1992b). On Cheju (Quelpart) island in South Korea, the species lays eggs and rears young in May–June (Mori 1939 in Austin 1948). At Huangfushan Nature Reserve in Anhui, mainland China (where the breeding ecology was studied from 1988 to 1993), this species arrived in mid-May and stayed on the breeding ground for 3.5 months; the clutch size was 5–7 eggs, the incubation period was 15 days and the chicks stayed in the nest for 13–14 days, with both sexes incubating the eggs and looking after the young (Liu Xuyou *et al.* 1996). On Huoshan (Liu-fang) in Anhui, an oven-shaped nest was found on the bare ground under large trees in July (La Touche 1925–1934, Courtois 1927, Sowerby 1943), and further details of its nest are given by Mell (1923–1925). At Xinyang (Sing-Yang) in Henan, the species was found in pairs on the ground, in damp bushes, and perching in trees; nests were found on the ground, made of leaves and moss and lined with pine needles, and contained 3–5 eggs (Fu Tungsheng 1937).

Migration The Fairy Pitta migrates further north than any other member of its genus, breeding in North-East and East Asia and wintering in South-East Asia (see Lambert 1996). Most records on the breeding grounds are from between April and September (see Distribution), but there are records in November and December in Japan, and one from Nagasaki prefecture

as early as 22 March 1997 (*Birder* 97/6). It was described as “sedentary” in Guangdong and Guangxi by Yen (1933–1934), but all records from there have been in April and May (Lewthwaite 1996), and Mell (1923–1925) reported that “it arrives very late as all my specimens are from 7 May–16 October”. Most records on passage are in April and September–October (Pang Bingzhang 1981; see Distribution), but there are also passage records near Shanghai in March (Huang Zhengyi *et al.* 1991). The species has been collected in the “winter” range on Borneo in October–March (Mees 1977). Batchelor (1959) reported a “large flock” landing on a ship approaching Miri, Sarawak, on 15 October 1958, and also reported that three birds entered a lighted bungalow at Kimanis on 31 October, with birds staying in the Kimanis area “abundantly” until the end of November. On the basis of the known records, Mees (1977) and Lambert (1996) discussed the possible migratory routes taken by this species. Birds appear to be site faithful: a female banded at Shuanghsi forest, Taiwan in 1994, returned to breed in the following year (Chang Chin-lung *in litt.* 1997). The species has been recorded on passage in Vietnam in both spring and autumn, suggesting that it may take the same migratory routes in both seasons.

THREATS *Habitat loss* The main threat to the Fairy Pitta is probably the clearance, degradation and fragmentation of its subtropical and tropical forest habitats. *Japan* The rate of deforestation was relatively high in the nineteenth century, when people were dependent on firewood as fuel, and forest has gradually regenerated in many areas during the twentieth century; forest plantations are cut in a 15–30 year cycle, and mature forests are therefore rare, but, given the gradual increase in forest cover, it is possible that the numbers of Fairy Pitta are slowly increasing in Japan (Y. Kanai *in litt.* 2000). In southern Nagano in Japan, its preferred nesting habitat—mature deciduous broadleaf forest (of at least 0.2 km² in area)—was being reduced and fragmented by logging (Uematsu 1995). *Mainland China* Habitat destruction is the main threat to this species (Zheng Guangmei and Wang Qishan 1998). Its breeding range in south-east China is in one of the most densely populated regions in the world, and most of the natural forest has been cleared or modified as a result of the demands

Habitat	Original	Remaining	%	Protected	%
deciduous/evergreen broadleaf forest	229,575	22,838	10	8,151	3.6
subtropical coniferous forest	93,137	165,323	178	16,581	17.8
subtropical evergreen broadleaf forest	682,066	45,298	7	19,839	2.9
tropical limestone forest	16,300	1,630	10	0	0
tropical semi-evergreen forest	69,698	3,707	5	240	0.3

Table 1. Changes in the extent of natural habitats within this species’s range in south-east mainland China. The data in these tables 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 (or increase) of presumed habitats, as there is no information on the time-scale over which changes have occurred, and this species does not necessarily occur throughout each habitat in the region. The increase in conifer cover in mainland China is the result of plantations, which are probably entirely unsuitable for the species.

Habitat	Original	Remaining	%	Protected	%
deciduous/evergreen broadleaf forest	7,500	3,000	40	207	2.8
lowland wet evergreen forest	3,375	1,013	30	220	6.5
subtropical coniferous forest	3,000	1,200	40	126	4.2
subtropical ewvergreen broadleaf forest	20,301	4,532	22	588	2.9
lowland wet evergreen forest	3,375	1,013	30	220	6.5

Table 2. Changes in the extent of natural habitats within this species’s range in Taiwan.

for agricultural land and timber. Rapid forest loss has taken place in most provinces in south-east China in the past 50 years, for example in Fujian, where timber reserves declined by 50% between 1949 and 1980 (Smil 1984; see Tables 1 and 2). The Dayao Shan (Yaoshan) range in Guangxi has suffered two decades of rapid deforestation due to conversion of forest to agricultural land, with large additional areas destroyed by uncontrolled fires (Smil 1984). There was widespread clear-felling there in the 1950s and 1960s, and most of the remaining natural forest is 20/30-year-old secondary regrowth, with limited areas of primary forest mainly confined to the inaccessible higher peaks (MacKinnon *et al.* 1996). The primary broadleaf evergreen forest in at least one of the current sites for the species in Guangxi is being degraded (Zhou Fang *in litt.* 2000). *Taiwan* Habitat loss linked to economic development is a threat. For example, at “Pillow mountain”, Huben village, Yünlin county (an area of forest that supports a population of at least 40 Fairy Pittas), the forest was scheduled to be cleared in summer 2000 for the extraction of gravel needed for the construction of the second trans-Taiwan highway (Huang 2000; see Measures Taken). *Borneo* The main wintering area of the Fairy Pitta appears to be in lowland and foothill forests. Deforestation in the Sundaic lowlands—biologically one of the most diverse biomes of the world—has proceeded at catastrophic speed in the past few decades, seriously compromising the future of every one of the uncountable multitude of primary-forest life-forms in the region, including that of this particular species, even inside key protected areas (for an outline of the crisis, see Threats under Crestless Fireback *Lophura erythrophthalma*, and for details specific to Borneo see Threats under Bornean Peacock-pheasant *Polyplectron schleiermacheri*).

Hunting *Mainland China* Hunting is considered to be a threat to this species in at least one site in Guangxi (Zhou Fang *in litt.* 2000). *Taiwan* The large-scale trapping of this species for sale as cagebirds and specimens may have depleted the local breeding (and perhaps also the passage migrant) population (Severinghaus *et al.* 1991). For example, hundreds of mounted specimens were seen in shops at Jih-yueh Tan (Sun and Moon lake) in 1967 and 1971 (Severinghaus *et al.* 1991, Chang Wanfu 1993). Bird-catchers were also taking chicks from nests to sell in pet shops (Severinghaus 1989). However, given the recent rapid increase in conservation awareness on the island (see, e.g., Huang 2000), trapping may no longer pose a serious threat there.

Disturbance Human disturbance in its forest habitat is considered to be a threat in Taiwan (Chang Chin-lung *in litt.* 1997), and disturbance in the breeding season by photographers, birdwatchers and researchers is thought to be a problem in South Korea (Lee Woo-shin *in litt.* 1998).

MEASURES TAKEN **Legislation** The Fairy Pitta is a Nationally Protected Species (Second Class) in mainland China (Zheng Guangmei and Wang Qishan 1998) and a protected species (Category II) in Taiwan (since December 1995). It is protected as a National Endangered Species in Japan under the “Law for the Conservation of Endangered Species of Wild Fauna and Flora” (1993), which means that its conservation importance is recognised and can be used as a reference species in environmental impact assessment for development projects (Environment Agency of Japan *in litt.* 1999). In North Korea, it is a protected species (category 1) and it is a protected species in South Korea. It is listed on Appendix II of CITES.

Protected areas *Japan* The Fairy Pitta has been recorded in or near to the following protected areas (all information taken from the Environment Agency of Japan’s list of prefectural protection areas): in Tochigi, Sanuki Kannon Protection Area (0.2 km², near Shioya-machi) and Houkigawa Protection Area (0.4 km², near Oonuma); in Gunma, Misato Protection Area (11 km², c.10 km south of Takasaki-shi); in Kanagawa, Hakone Protection Area (100 km², including a “special protection area” of 12 km²); in Fukui, Kuzuryu-gawa Dam Protection Area (11 km², for Fukui-shi); in Yamanashi, Yamanaka-ko Protection Area (14 km², including a “special protection area” of 6 km², near Yamanakako-mura); in Nagano,

Nagamine Protection Area (15 km², west of Tenryu-gawa river); in Shizuoka, Japan Southern Alps Protection Area (108 km², near Wada-cho in Nagano), Ooi-gawa Kako Protection Area (16 km², near Hakko-zan) and Asagiri-kogen Minami Protection Area (9 km², Inokashira, in or near Fujinomiya-shi); in Mie, Kumozu-gawa Kako Protection Area (4 km², c.10 km from Sakauchi-cho); in Kyoto, Miyazu-wan Protection Area (32 km², c.10 km from Taiko-san), Maizuru-wan Protection Area (25 km², south of Oora peninsula) and Kumihama-wan Protection Area (1 km², c.10 km from Takeno-cho in Hyogo); in Nara, Oodai-sankei National Protection Area (181 km², including a “special protection area” of 14 km²; Oodaigahara is in this NPA); in Tottori, Daisen National Protection Area (60 km², including a “special protection area” of 23 km²; Daisenji Temple is in or near to this NPA), Sendai-gawa Ryuiki Protection Area (6 km²; Amedaki is c.5 km east of the lower Sendai-gawa river, and Wakasa-cho is c.7 km west of the upper Sendai-gawa) and Togo-ike Protection Area (4 km², c.10 km from Mitoku-yama, and north of Ueshijo); in Shimane, Shinji-ko Protection Area (88 km², east of Mount Wanibuchiji-san) and Takatsu-gawa Protection Area (4 km²; Muikaichi-cho is on the upper Takatsu-gawa river); in Hiroshima, Hiroshima-wan Saibu Protection Area (14 km², c.10–15 km from Asaminami-ku and Shii, Tada, Yuki-cho); in Yamaguchi, Tsuno-jima Protection Area (7 km², including a “special protection area” of 0.3 km²); in Tokushima, Tsurugisan-sankei National Protection Area (101 km², in both Tokushima and Kochi prefectures, including a “special protection area” of 12 km², c.20 km south of Anabuki-cho); in Ehime, Ishizuchi-sankei National Protection Area (109 km², in both Ehime and Kochi prefectures, including a “special protection area” of 8 km²; Omogo-kei is in this NPA); in Kochi, Sukumo-wan Protection Area (16 km², c.5 km south of Mount Sasa-yama, Ehime prefecture), Kubotani-san Protection Area (1 km², established for the conservation of this species) and Takatori-san Protection Area (1 km², also established for conservation of this species, although no records of the species are known from there); in Fukuoka, Yukuhashi Protection Area (13 km², c.15 km from Yamada Green Belt, and Inado is in or near this PA); in Saga, Hokuzan Dam Protection Area (9 km², including a “special protection area” of 0.7 km², c.20 km from Mount Ishisani-san); in Nagasaki, Tara-dake Protection Area (67 km², including a “special protection area” of 2 km², c.5 km from Mount Kyogadake in Saga prefecture); in Oita, Matsubara-shimouke Dam Protection Area (7 km², c.20 km from Mount Kokonoe-san, and to the south-west of Kusu-machi) and Yaba-kei Dam Protection Area (2 km², c.15 km from Mount Hiko-san); in Miyazaki, Higashi Nobeoka Protection Area (17 km², to the east of Mukabaki-san mountain), Ooyodo-gawa Protection Area (7 km²; Takabusa Recreation Forest and Oominegahara in Kagoshima prefecture are on the middle reaches of the Ooyodo-gawa river) and Hitotsuse Protection Area (15 km²; Sobe-deta is on the upper Hitotsuse-gawa river); in Kagoshima, Kirishima National Protection Area (114 km², in both Kagoshima and Miyazaki prefectures, including a “special protection area” of 19 km², near Yoshimatsu-cho, Kurino-take and Myoken Onsen). Mitake, a breeding site of this species on Tsushima island in Nagasaki prefecture, was designated as a Natural Monument in 1972 (Kato *et al.* 1995). *South Korea* The species is protected in Tokyu Mountain National Park in North Cholla and Halla Mountain National Park on Cheju, while the southern part of Koje island in South Kyongsang is included in Hallyo-Haesang Marine National Park (IUCN 1992). Koje island has been designated as a natural monument (Lee Woo-shin *in litt.* 1998). *Mainland China* The Fairy Pitta has been recorded in or near several protected areas in mainland China: Maolan National Nature Reserve in Guizhou (200 km², karst landscape with bush and forest cover), Dongzhai Nature Reserve in Henan (100 km², forests apparently in fine condition, but fragmented by damaged valleys), Jigongshan National Nature Reserve in Henan (30 km², forests apparently in fine condition, but rather small), Huangfushan Nature Reserve in Anhui (36 km², forests apparently damaged and burned, and of low conservation value), Guangfu Nature Reserve in Jiangsu (1 km², a small site on the edge of Lake Taihu that cannot be enlarged), Tianmu Shan National Nature Reserve in Zhejiang (11 km², forests

apparently in good condition), Guanshan Nature Reserve in Jiangxi (22 km², forests apparently in good condition), Dayao Shan Nature Reserve in Guangxi (2,022 km², forests apparently in moderately good condition, covering c.58%), Jinzhong Shan Nature Reserve in Guangxi (220 km², forests apparently “scrubby”), Babao Shan Nature Reserve in Guangdong (no information), Nankun Shan Nature Reserve in Guangdong (19 km², forests apparently in quite good condition but small) and Chebaling National Nature Reserve (76 km², apparently with some very good areas of primary and mature secondary forest, and significant areas of important forest lie outside the reserve boundaries) (see Distribution; sizes and condition from MacKinnon *et al.* 1996).

Habitat protection Taiwan The habitat of a population of Fairy Pittas at “Pillow mountain”, Huben village, Yünlín county, was recently threatened by plans for gravel extraction (see Threats). Local people, with the support of the Wild Bird Federation of Taiwan, conducted a high-profile media campaign, which influenced a decision by the Council of Agriculture of Taiwan to suspend the gravel extraction pending investigations to determine how ecological conservation in the area can be balanced with industrial development, as well as overall community development (Huang 2000).

MEASURES PROPOSED The protection and appropriate management of its forest habitat is the key to the survival of this species, together with measures to control hunting and disturbance. In Japan, it overlaps in range and habitat with the Japanese Night-heron *Gorsachius goesagi*, and in China with the birds of the “South-east Chinese Mountains Endemic Bird Area”, threats and conservation measures in which are profiled by Stattersfield *et al.* (1998). Further information relevant to its conservation is given in the accounts for the other threatened species that occur in similar habitats in south-east China, White-eared Night-heron *Gorsachius magnificus*, White-necklaced Partridge *Arborophila gingica*, Cabot’s Tragopan *Tragopan caboti*, Elliot’s Pheasant *Syrnaticus ellioti* and Brown-chested Jungle-flycatcher *Rhinomyias brunneata*.

Protected areas and habitat conservation Japan Broadleaf evergreen forest is the breeding habitat for this species, and the continued conservation of this type of forest is vital for its conservation (Fujita *et al.* 1992a). **Mainland China** MacKinnon *et al.* (1996) made the following recommendations for the protected areas where this species has been recorded: at Dongzhai Nature Reserve, replant barren hills and valleys, and join to Jigongshan National Nature Reserve to form a larger conservation unit; at Jigongshan National Nature Reserve, extend northwards to include the forests south-west of the Nanwan reservoir scenic area, combine with Dongzhai, and replant barren valleys between the remaining forest blocks; at Huangfushan Nature Reserve, manage as protection forest, extend and allow natural reforestation, revegetate where possible; at Tianmu Shan National Nature Reserve, enlarge and link with Longwang Shan Nature Reserve; at Guanshan Nature Reserve, enlarge reserve; at Dayao Shan Nature Reserve, control the planting of star anis and illegal logging; at Nankun Shan Nature Reserve, enlarge to c.40 km²; and at Chebaling National Nature Reserve, redesign reserve borders to include surrounding good forest, and extend into Hunan and incorporate into Nan Shan Tiger Conservation Unit. **Borneo** Urgent concerted survey of and conservation effort for major tracts of extreme lowland primary forest in the Sundaic region is called for in the equivalent section under Crestless Fireback.

Research Surveys should be conducted throughout the range of this species to improve understanding of its population size and distribution, with the objective of reviewing the effectiveness of the existing protected-area system for its conservation, and determining whether new (or modifications to existing) reserves are required. Further ecological studies are required to clarify understanding of its breeding habitat requirements and altitudinal range, with the aim of developing appropriate forest management regimes in the nature reserves and other forests where it occurs.

REMARKS (1) Stresemann (1923b) described the subspecies *P. n. melli* from southern China, based on size, but although published information suggests that northern birds are a little larger than southern birds, it is very doubtful that the difference is sufficient to justify the separation of this subspecies (Mees 1977, Lambert 1996). (2) *Contra* Lambert (1996), there has never been any suggestion that this species might winter in Hong Kong. The winter records of Fairy Pitta attributed to Chalmers (1986) by Lambert were extracted from the section on the status of Great Spotted Woodpecker *Dendrocopos major* in error (HKBWS *in litt.* 1997). (3) A specimen brought to a taxidermist's shop in summer 1920 was said to have been captured in reedbeds near Peking, but it may have originated elsewhere; its plumage showed no signs of cage wear, but one toe was missing and the nails were long, suggesting it had lived in captivity (Wilder 1924b, Wilder and Hubbard 1924). (4) Shaweishan island was included in Jiangsu province by Cheng Tso-hsin (1987), but it is now in Shanghai municipality.