

# Threatened Birds of Asia:

## The BirdLife International Red Data Book

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## STRAW-HEADED BULBUL

### *Pycnonotus zeylanicus*



Critical  —

Endangered  —

Vulnerable  A1c,d; A2c,d

*This species continues to decline as a result of high levels of trapping for the cagebird trade, compounded by habitat loss. It therefore qualifies as Vulnerable.*

**DISTRIBUTION** The Straw-headed Bulbul has a classic Sundaic range, extending from southernmost Myanmar and Thailand through Peninsular Malaysia and Singapore onto Sumatra and Java (Indonesia) and Borneo (Malaysia, Indonesia and Brunei). The general historical evidence suggests that the species was once widespread in all lowland areas holding the appropriate habitat inside this large range; and on the basis of considerable exploration effort in the 1890s it was reported to be “spread over the whole island” of Borneo (Büttikofer 1899). However, although stated as recorded from all parts of Java (Kuroda 1933–1936), only records from West Java could be tracked down (see map). In any case, the truly significant matter is that the species’s global range has become fragmented, with the great majority of areas in Indonesia being lost, and extinction appearing to be imminent in Sumatra and apparently having already taken place on Java, as well as in Thailand and Myanmar. Indeed the map of available records reveals an extraordinary pattern of population loss from (and presumably range contraction in) the species’s southern and north-western reaches, with the preponderance of post-1980 records coming from Peninsular Malaysia, Sabah and Brunei; it is also of some interest that the species appears never to have been found in the south-eastern sector of Borneo. Records are from:

■ **MYANMAR** Mergui (Myeik), November 1874, July 1875, January 1879 (seven specimens in BMNH; also Hume and Davison 1878); **Ngawun Chaung** (Little Tenasserim river), December 1918 (female in FMNH); **Bokpyin** (Bopyin), December 1874 (two females in BMNH), this presumably the Bok Pyin, Tenasserim (Taninthayi), where a bird was collected in February 1900 (Riley 1938); **Pakchan river**, December 1874 to February 1875 (five specimens in AMNH, BMNH; also Hume and Davison 1878); Nalansine (= Naleinsan, near **Maliwun**: see under White-shouldered Ibis *Pseudibis davisoni*), 1870s (Hume and Davison 1878); **Victoria point**, Tenasserim, March 1904 (Riley 1938).

■ **THAILAND** Ban Noi Chong, Krabi, December 1987 (B. McCarthy *per* P. D. Round *in litt.* 1998), with one in February 1990 (P. Carty, D. Wheeler *per* P. D. Round *in litt.* 1998), although these may all refer to escapes (P. D. Round *in litt.* 1998); **Tapli river**, probably the Mae Nam Tapi river, listed by Storer (1978), including records from Tapli (“Klong Wem” and “Klong-wang”), “Pakchan river”, March 1919 (two specimens in BMNH, ZRCNUS; also Robinson and Kloss 1921–1924), and Surat Thani (Ban Dohn, Bandon), June 1929 (two specimens in FMNH), September–October 1930 (two specimens in ZRCNUS); **Klong Wang Hip** (Klong Wahip), Tung Song, September and October 1915 (four specimens in BMNH); **Nong Kok**, Krabi, a January before 1936 (female in BMNH), and January 1918 (male in ZRCNUS); Nong Tao, near **Ban Kapang**, January 1935 (Meyer de Schauensee 1946); **Ban Lamphu La** (Lam-ra), Trang, January 1910 (two specimens in AMNH, ZRCNUS); Prahmon, **Trang**, April 1896 (Riley 1938); **Trang waterfall**, October 1936 (Meyer de Schauensee 1946), and at nearby Khao Kachong (“Chong”), Trang, December 1909 (male in AMNH); **Kantang** (Kantany), Trang, January 1897 (four specimens in BMNH, USNM; also Riley 1938); **Bang Nara**, July 1916 (two specimens in BMNH); Ban Kiriwong (untraced), July

1928 (two males in BMNH, USNM; also Riley 1938); Kanthuli (untraced), August 1918 (two males in BMNH);

■ **MALAYSIA** ■ *Peninsular Malaysia* a few km from the **Pedang Terap river**, North Kedah, April 1941 (Madoc ms); **Pulau Perhentian Kecil**, Kelantan, c.1950 (Berwick 1952); **Penang**, before 1860 (specimen in BMNH), and apparently into the twentieth century, given its mention in Robinson (1927); **Temengor** (“Temengoh”), presumably in what is now Temengor Forest Reserve, upper Perak, July 1909 (two specimens in ZRCNUS) and Sungai Halong, Temengor Forest Reserve, Hulu Perak, August 1993–March 1994 (Davison 1995); **Puala Kapas**, June 1994 (D. J. Hope *in litt.* 1997); **Belum Forest Reserve** (Belum Scientific Exploration Area), Temengor, Perak, October–November 1993 (Bosman and van den Berg 1993); **Aring**, Kelantan, September 1899 (Bonhote 1901); **Gunung Hijau** (Ijau), Perak, 1,400 m, March 1908 (male in AMNH); **Taiping**, Perak, September 1913 (male in AMNH); **Dungun river**, Terengganu, September 1900 (Riley 1938); **Tanjung Rambutan**, Perak, September 2000 (*Suara Enggang* 5, September–October 2000: 27); **Taman Negara National Park**, small numbers mostly recorded close to the park headquarters and along Kuala Tahan, 1980s and 1990s (Wartmann 1993, many observers *in litt.* 1999) and junction and adjacent stretches of Tembeling and Terengganu rivers, September 1995 (D. Rogers *in litt.* 1999), thus at Kuala Tembeling (presumably within the park), September–October 1893 (two specimens in ZRCNUS), and more recently in January 1983 (P. Alström and U. Olsson *in litt.* 2000), February 1987 (P. J. Hines *in litt.* 1999); **Ipoh**, Perak, at a golf club, September 2000 (Lim Kim Chye *in litt.* 2000); **Parit**, Perak, September 1911 (female in ZRCNUS); **Pulau Raia**, Perak River, Perak, 1992–1993 (K. H. Phon *in litt.* 1999); Sungai Kinta, **Malim Nawar pools**, Perak, June 1999 (*Suara Enggang* September–October 1999: 43); **Batang Padang**, Perak, before 1888 (male in BMNH; see Remarks 1); **Sungkai**, Perak, February 1902 (male in BMNH); **Bernam river**, Selangor, July 1879 (female in BMNH); **Fraser’s Hill**, October 1994 (M. Rodgers *in litt.* 1999); **Kuala Lompat**, border of Kerau Wildlife Reserve, between March 1984 and October 1986 (Lambert 1989a); Kerau river, western Pahang, November 1913 (two specimens in ZRCNUS), and thus presumably within what is now the **Kerau (Krau) Wildlife Reserve**, March 1990 (A. C. Sebastian *in litt.* 1999); **Tanjong Malim**, Perak–Selangor boundary, April 1908 (female in ZRCNUS); **Ulu Lepar**, Pahang, April 1992 (Sebastian 1994); **Kuala Kubu–Gap road** on the Selangor river, Selangor, June 2000 (Lim Kim Chye *in litt.* 2000); **Bentong** (Bendong), Pahang, February 1891 (specimen in ZRCNUS), June 1910 (female in AMNH); **Tasik Chini**, February 1996 (A. C. Sebastian *in litt.* 1999); **Ulu Gombak**, Selangor, April 1973 (male in IRSNB); **Batu caves**, Selangor, September 1907 (male in BMNH); **Kenny estate** (Bukit Tunku), May 1989 (*Enggang* 2,6: 5), December 1994 (D. J. Hope *in litt.* 1997); **Triang**, Pahang, September 1912 (specimens in AMNH, BMNH, ZRCNUS); **Bukit Cherakah Forest Reserve**, 1992 (A. C. Sebastian *in litt.* 1999) and Bk Cherakah, August 1989 (*Enggang* September 1989); **Kuala Lumpur**, Selangor, January 1904 and March 1905 (two specimens in ZRCNUS), sitting on (and deconstructing) a nest in a garden, December 1955 (Madoc ms), Kuala Lumpur hills, January 1995 (D. J. Hope *in litt.* 1997), and Damansara Heights, 1996–1997 (Godfrey and Godfrey 1998) and Kempong, 15 km north-west of Kuala Lumpur, recently (Zitzmann and Wiens 1998); **Dusun Tua**, Selangor, July 1916 (male in BMNH); **Klang river**, Selangor, May of an unspecified year, 1920s or 1930s (Chasen 1939a), May 1937 (Madoc ms), and at the Beverlac estate, 3 km further inland, January 1942 (Madoc ms); **University of Malaya**, November–December 1988 (*Enggang* January 1989); near **Langat**, Selangor, April 1879 (female in BMNH); **Kopah**, January 1879 (male in BMNH); **Sungai Kinchin**, Pahang, in long-term census up to July 1989 (Wells 1990d); Sungai Endau, here presumed within **Endau-Rompin Conservation Area**, September 1998 (*Suara Enggang* September–October 1998); **Melaka** (“Malacca”), 1850s–1880s (10 specimens in BMNH, NMS) and Pulo Seban, “22 miles” (35 km) from Melaka, October–November 1875 (six specimens in AMNH, BMNH);

also Robinson 1927) and Kuroo, “26 miles” (42 km) from Melaka, November 1875 (female in BMNH), including Tanjong Taun, Cape Rachado, Negri Sembilan, March–April 1920 (female in ZRCNUS); **Hutan Rekreasi Air Keroh**, September 1989 (*Enggang* October 1989); **Sibu island**, at the apex of the Rejang delta, mid-1870s (Sharpe 1876–1879); **Tebrau**, south Jahore, March 1907 (male in NHMW); Mabek (untraced), Patani, 1901 (specimen in BMNH); Kenoboi Forest Reserve (Forest Research Institute of Malaysia’s 1,528 ha lands; untraced), September 1997 (A. C. Sebastian *in litt.* 1999); Kossoon (untraced), April–July 1879 (17 specimens in BMNH; also Robinson 1927); Nirus river (or Nurus) (untraced), Terengganu, September 1910 (male in BMNH); Blembing (untraced), Legeh, July 1899 (Bonhote 1901); Tasek Perdana (untraced), July and October 1998, and Old Gombak Road, undated (*Enggang* September–October 1998, November–December 1998); Jalan Girdle (untraced), July 1989 (*Enggang* August 1989);

■ **Sabah** Tanumpok, **Kota Belud**, June 1925 (female in ZRCNUS); **Tempasuk** plain, north-west of Kota Belud, late 1984, very few (Beadle and Whittaker 1985), with two specimens from “Tampassuk”, February 1886 (in AMNH), and records from Kota Belud, December 1990 and August 1992 (T. Carlberg *in litt.* 1999) and undated (J. Hornskov in Mann *in prep.*); **Tuaran**, on north-west coast, September 1960 (two specimens in USNM), 1962 (Thompson 1966); **Poring hot springs**, March 1984 (Smith 1984), May 1987 (Lomosse and Lomosse 1987), and each visit, 1989–1996 (T. Carlberg *in litt.* 1999); **Kiau**, Kinabalu, March 1939 (Gibson-Hill in Smythies 1981, Sheldon *et al.* *in press*), also August 1937, when taken at 1,000 m (eight specimens in MCZ, ZRCNUS); Gunung Kinabalu, in what is presumably today **Kinabalu Park** (evidently somewhere at the base), undated (Sharpe 1879a), and at about 300 m, with a specific locality being Tampussak river, February 1886 (Sharpe and Whitehead 1889–1890), 1937 (Peters 1940), to 1,220 m, undated (Jenkins and de Silva 1978) and to 1,500 m January 1900 (male in SNMB); **Kota Kinabalu** suburbs, undated (Sheldon *et al.* *in press*); **Kundassan** (Kundasang), undated (Sheldon *et al.* *in press*); **Bukit Padang**, September 1960 (specimen in USNM); **Kasigui**, August–September 1960 (three specimens in USNM); **Ranau**, September 1960 (four specimens in USNM); **Tenompok**, undated (Sheldon *et al.* *in press*); **Maang**, February and March 1983 (Sheldon *et al.* *in press*); **Kabili-Sepilok Forest Reserve**, 1970s (when common) (de Silva 1981); **Sinsuran**, undated (Sheldon *et al.* *in press*); **Tambunan**, undated (Sheldon *et al.* *in press*); **Papar**, 1880s (Everett 1889); **Kaingaran**, undated (Sheldon *et al.* *in press*); **Megatai**, undated (Sheldon *et al.* *in press*); **Gunung Trus Madi**, 750 m, undated (Sheldon and Francis 1985), May 1993 (Mann *in prep.*); **Sukau**, by the Kinabatangan river, 1990s (many observers *in litt.* 1999); **Uncle Tan’s Jungle Camp**, June 1999 (I. Mauro *in litt.* 1999); **Membakut** at Taising Bin Matanggal, Bandau, February 1977 (female in DMNH); **Batu Putih**, undated (Sheldon *et al.* *in press*); **Padas Damit**, 1984, frequently heard (Beadle and Whittaker 1985); **Saliwangan**, March 1941 (male in ZRCNUS), March 1983 (Sheldon *et al.* *in press*); **Keningau** (Kenningau), December 1976 (two females in DMNH); **Rayoh**, Padas River, below 300 m, July 1928 (Chasen and Kloss 1930, three specimens in ZRCNUS); **Makaniton**, undated (Sheldon *et al.* *in press*); **Lahad Datu** ferry on the Segama river, August 1983 (Sheldon *et al.* *in press*); **Danum Valley Conservation Area**, Ulu Segama Forest Reserve, between May 1989 and October 1990 (Lambert 1992) and subsequently (many observers *in litt.* 1999), with 5–10 pairs regularly encountered along the Danum river for c.1 km downstream from the Borneo Rainforest Lodge, 1–2 pairs surrounding the lodge, and several pairs along the river upstream, 1994–2000 (K. D. Bishop *in litt.* 2000), including the Bole river, Ulu Segama Forest Reserve, between May 1989 and October 1990 (Lambert 1992); **Batu Punggul**, August 1992 and/or May 1993 (Heath 1994, Sheldon *et al.* *in press*); **Kalabakan Forest Reserve** (Sabah Softwoods), May–July 1982 (Mitra and Sheldon 1993); **Merutai**, 38 km north-west of Tawau, 15 m, June 1956 (two specimens in BMNH); Petergas (untraced), September 1960 (specimen in USNM);

■ **Sarawak** **Lawas river**, undated (Sharpe 1876–1879); **Marabok river**, March 1898 (specimen in ZMB); **Baram river** and its tributaries, August 1894 (female in SMF), common, 1981–1984 (Duckett 1985), February 1988 (B. Briggs *in litt.* 1999); **Tutoh**, northern Sarawak, February

1965 (Fogden 1976); **Guneng Mulu National Park** on the Melinau river, 1974 (Kemp and Kemp 1976), February 1989, January 1991, January 1993 (T. Carlberg *in litt.* 1999), undated (B. L. Sage in Mann in prep.); **Batu Niah estate**, c.25 km east of Batu Niah village, common, 1981–1984 (Duckett 1985); **Kelabit uplands** up to 1,000 m, no date (Smythies 1981), including Ba'rio, 1,100 m, and Pa Mien, 900 m, December 1947 (three specimens in AMNH); **Pa Umor**, Bario, October 1993–November 1994 (Sreedharan 1995); **Baram**, 1880s (Everett 1889), September 1920 (male in ZRCNUS); lowlands around **Gunung Dulit**, Baram, last century (Hose 1893) and 1932 (Harrisson 1933), including Tinjar river, August 1932 (female in BMNH); **Belaga**, August 1927 (male in MCZ); **Rajang river**, November 1961 (Smythies 1981), and specifically between Kapit and Belaga, May 1987 (Lomosse and Lomosse 1987); **Samunsam Wildlife Sanctuary**, 1986 (A. C. Sebastian *in litt.* 1999); **Bako National Park**, undated (Pope 1994); **Lingit**, Seribas, March 1917 (male in BMNH); **Anyut**, Seribas, January 1917 (specimen in ZRCNUS); **Sadong river**, May 1912 (Williams 1914); **Batu Kawa**, Kuching, March 1961 (Smythies 1981); **Lingga river**, 1993–1998 (S. J. M. Blaber *in litt.* 2000); **Sungai Klauh**, 1986 (Bennett 1986); **Sungai Strap**, 1986 (Bennett 1986); **Batang Ai National Park**, 1992 (Meredith 1995); **Bukar**, Samarahan, November 1919 (male in ZRCNUS); **Sungai Kayan** (“S. Kayan New Bridge”), July 1986 (Duckworth and Kelsh 1988); **Paku**, Seribas, Samarahan, March 1917 (two specimens in BMNH, one undated in ZRCNUS); Olu Kuadalam (untraced), 60 m, February 1915 (specimen in MCZ); Long Balai (untraced), Baram, September 1920 (male in ZRCNUS); Bawang Takun (untraced), Baram, September 1920 (female in ZRCNUS);

■ **SINGAPORE** Sungei Sembawang from Senoko through **Mandai** to Seletar Reservoir and Nee Soon swamp forest, since at least the mid-1980s (Wells 1990b, Lim 1992; also Briffett 1993); **Pulau Ubin**, July 1921, January 1923 (three specimens in ZRCNUS; also Gibson-Hill 1950), and into the 1990s (Lim 1992, Briffett 1993, Lim and Gardner 1997, D. R. Dann *in litt.* 1999); **Bukit Timah Nature Reserve**, November 2000 (Lim Kim Seng *in litt.* 2000); **Central Catchment Nature Reserve** in the north catchment and south catchment, November 2000 (Lim Kim Seng *in litt.* 2000); **Bukit Batok Nature Park**, first mainland breeding recorded in February 2000 (Lim Kim Seng *in litt.* 2000; see Ong 2000); Changi and Upper Peirce Reservoir Park, recently, but probably escapes (Briffett 1993); unspecified site on the west coast, November 2000 (Lim Kim Seng *in litt.* 2000);

■ **BRUNEI** **Jerudong**, undated (Mann 1987); **Bandar Seri Begawan** (“Brunei Town”), mid-1960s (Deakin 1969); **Kilanas**, undated (Mann 1987); **Wasan**, undated (Mann 1987), 1986–1988 (Mann 1988); **Bangar**, July 1988–June 1990 (Mann 1991); **Layong**, undated (Mann 1987); **Ukong**, undated (Mann 1987); **Badas pumping station**, 1990–1993 (M. J. Seal Coon *in litt.* 1999; also Mann 1991); **Bukit**, 1986–1988 (Mann 1988); **Sungai Batu Apoi**, June 1984 (Counsell 1986); **Seria**, July 1988 (Sparks undated); **Sungai Benutan**, undated (Mann 1987); **Batang Duri**, July 1988–June 1990 (Mann 1991); Sungai Belalong, near Temburong, July or August 1989 (Knight *et al.* undated), this presumably being in the **Belalong Forest Reserve**, 1991 (Mann 1996); **Ulu Temburong National Park** (see Measures Taken), undated (Mann 1987), with records of up to 14 per day, July 1988 (Sparks undated); **Belait Forest Reserve**, 1996 (A. C. Sebastian *in litt.* 1999); Lokutan River (untraced; possibly in Sabah), July 1899 (Blasius 1901); Mengalung (untraced; possibly in Sabah), May 1899 (male in SNMB);

■ **INDONESIA** **Kalimantan** ■ **East Kalimantan** “**Northern Boundary**” (with what is now Sabah), 1912 (Kloss 1930a); **Bangau**, April 1957 (Pfeffer 1960–1961); upper Sungai Bahau (here taken to be near **Lemutan**), 1956–1957 (four specimens in MNHN; Pfeffer 1960–1961), still rather common in 1992 (SvB); **Salimbatu**, October 1935 (male in ZMB; Stresemann 1938a); **Long Kemuat**, 440 m, March 1957 (Pfeffer 1960–1961); **Bulungan**, March 1914 (Voous 1961); lower Sungai Kayan (here taken to be the vicinity of **Tanjungselor**, September 1956 (female in MNHN; Pfeffer 1960–1961); above **Long Bia** on the Kayan, March 1996 (Holmes

1997); **Long Peleben**, October 1935 (male in ZMB; Stresemann 1938a); Long Peso (close to present-day **Muarapangean**), September 1956 (Pfeffer 1960–1961); **Kayan Mentarang National Park** at Lalut Birai, 350 m, 1993 (SvB), 1996 (Nurwatha 1996), at Long Tee, April 1996 (Nurwatha 1996), at Long Apan, 276 m, June 1996 (Nurwatha 1996), at Gunung Lunjut, 550 m, Long Puak, August 1993 and March 1996 (SvB), and at Long Alango, 400 m, February 1992 and April 1996 (SvB); **Badang** (=Long Peliran), undated (female in ZMB; Stresemann 1938a); **Sungai Berau** (“Tandjong Redel” or “Tandjong Redab” on original label), January/February 1925 (two specimens in MCZ), including (presumably near here) “Kampung Rinding Berau” (untraced), October 1963 (male in MZB); **Long Nawang**, November 1925 (female in MCZ); upper Sungai Kayan (here taken to be **Longuro**), 600 m, source of the Bulungan river, October 1900 (Finsch 1905); **Muarawahau**, Telen river, tributary of Kedangkapala river at Muara Ancalong, November 1912 (male in MZB; Kloss 1930a); Sungai Topei at **Long Tepai**, upper Mahakam, April–May 1900 (female in RMNH; Finsch 1900, 1905); **Long Kai**, Mahakam river, April–May 1916 (Voous 1961); confluence of the Blu and Bluve rivers (therefore near **Batukelau**), 200 m, upper Mahakam, October–December 1899 (Finsch 1900, 1905), and locally still common there in 1996 (Holmes 1997); **Long Cehan**, May–June 1916 (Voous 1961); “Lo Bon Bon” (untraced and improbable, but perhaps Longbangun), Mahakam river, June 1912 (male in USNM); **Tabang**, September–October 1956 (three specimens in MZB); **Laham**, April 1914 (male in USNM); **Kutai National Park** at Mentoko, Senggata river, mid-1974 (Pearson 1975), July–August 1990 (SvB, Holmes 1997), with a record presumably from near there (“Koetey”) around 1890 (Vorderman 1891a); **Sungei Karang Mumus**, February 1914 (male in USNM); lower **Sungai Mahakam**, May 1897 (Büttikofer 1899, Finsch 1905), July 1916 (specimen in ZMA), and April–May 1916 (Voous 1961); ■ **Central Kalimantan Penda Sirun**, Sungai Maruwei, upper Barito river, May 1932 (Dupond 1942); above **Muara Joloi** at the confluence of the Busang and Murung rivers, 120–200 m, Barito Ulu (Barito river headwaters), July–September 1989 (Wilkinson *et al.* 1991a,b); **Busang-Kasau** watershed, March–April 1916 (Voous 1961); **Tumbang Kunyi**, upper Barito, September 1968 (female in MZB); **Tumbang Maruwei**, Laung river, northern Barito, September–November 1915 (Voous 1961); **Muarateweh**, on the Tewe river, central Borneo, mid-1870s (Brüggemann 1877); **Riam**, on the Kotawaringin river, November–December 1935 (Mayr 1938); ■ **West Kalimantan Labanghara**, Serawai river, December 1924–January 1925 (three specimens in MZB); **Bukit Baka Nature Reserve**, Schwaner Range, February–March 1988 (Rice 1989); **Danau Sentarum National Park** at Batang, Ketam river, August 1993 (Sebastian 1994, van Balen 1996; also Giesen 1987, Holmes 1997), and at Kenasau, November 1994 (van Balen 1996); **Semitau**, December 1893 (Büttikofer 1899); **Sungai Melawi**, north-easternmost part of province, 1924–1925 (Kloss 1930a); **Sungai Nipah**, Muara Kendawangan, Ketapang, January 1994 (Rusila and Enis 1995, also Holmes 1997); **Sungai Pawan** area, 1981 (Holmes 1982); **Gunung Niut Nature Reserve**, 1986 (Simons 1986); **Kubu**, lower Kapuas, Pontianak, January 1931 (Coomans de Ruiter 1931); **Ngara**, Pontianak, June 1931 (male in MZB); **Singkawang**, April 1939 (specimen in MZB);

*Maratua* (assuming this is what was intended by a handwriting which appears to read “Morutai Besar”, i.e. Great Maratua), June 1937 (two females in USNM);

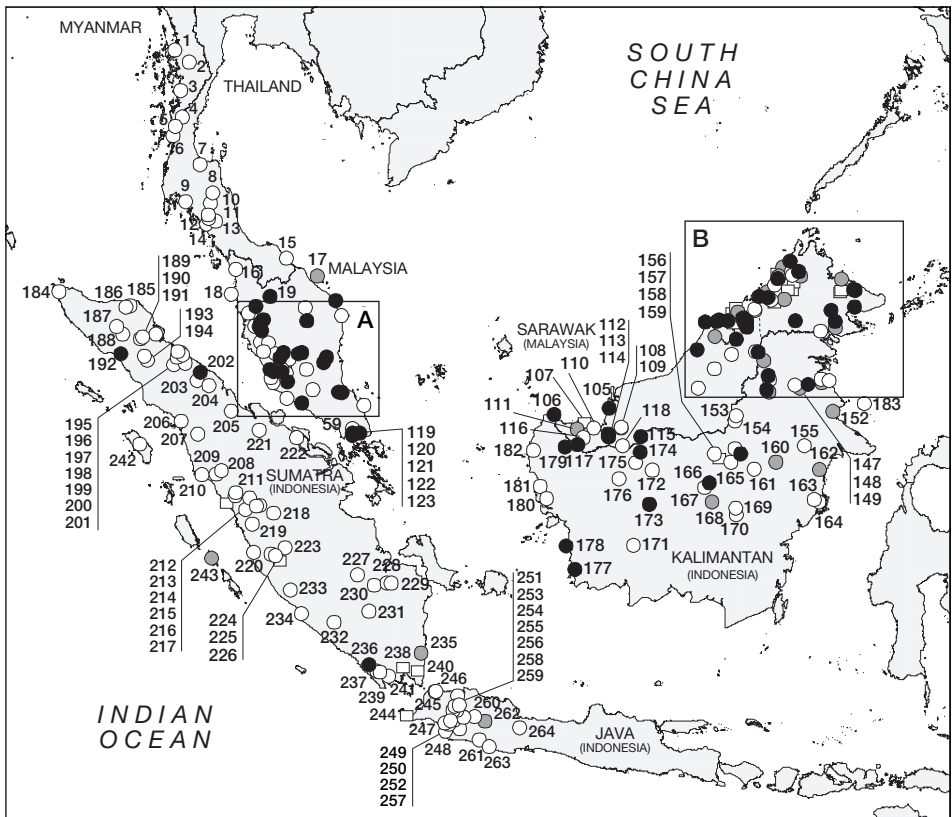
*Sumatra* ■ **Aceh** Loh Sidoh bay, south of “Acheen Head”, thus here taken to be **Lhoknga**, November 1901 (Richmond 1903); **Blangkolam**, June 1930 (four specimens in RMNH, MZB; also Kloss 1931); **Alas Peurba**, 200 m, 18 km south of Lhokseumawe, north-east coast, September 1920 (male in RMNH; van Heurn 1922); **Isaq** (Isak), 1,000 m, Gayo highlands, August 1930 (two specimens in RMNH, MZB; also Kloss 1931); **Gayo highlands**, March 1939 (Meyer de Schauensee and Ripley 1940); **Simpang**, Serdang, January to August 1935 (seven specimens in ZRCNUS); **Lesten** to Pendeng, 700 m, March 1937 (Chasen and Hoogerwerf 1941); **Pendeng valley** towards Lesten, 550 m, February 1937 (Chasen and Hoogerwerf 1941); **Ketambe** research station, Alas highlands, up to 1980 but not since (Wind

in press); **Gunung Setan-Meluwak**, 325–520 m, Gayu, Leuser, January 1937 (male in MZB; Chasen and Hoogerwerf 1941), and at 600 m, March 1939 (Meyer de Schauensee and Ripley 1940); **Kotacane** (“Koetatjane”) to Blang Kejeren, 200 m, Alas, April 1937 (male in MZB; Chasen and Hoogerwerf 1941), May 1939 (Meyer de Schauensee and Ripley 1940); ■ **North Sumatra Deli**, 1880s (Hartert 1889, Hagen 1890, Hartert 1902a), present into twentieth century (Hellebrekers and Hoogerwerf 1967); **Saentis**, Sungai Percut, Deli, June 1912 (de Beaufort and de Bussy 1919); **Batangkuis** (Batang Kwis), egg from March 1915, with birds generally common but in apparent gradual decline (de Beaufort and de Bussy 1919); **Medan**, Deli, May 1906 (female in MZB; also Kloss 1931), July–October 1912 (de Beaufort and de Bussy 1919) and 1916 (specimen in RMNH); **Deli-Serdang**, March 1884 (two specimens in RMNH; de Beaufort and de Bussy 1919, van Heyst 1919); **Galang**, October 1938 (male in ZRCNUS); **Tuntungan**, November–December 1917 (Robinson and Kloss 1919b), December 1918 (Robinson and Kloss 1920); **Perdagangan**, north of Pematangsiantar, August 1984 (R. Eve and A.-M. Guigue in Holmes 1996); **Tanjungkassau**, Deli, May 1939 (male in MZB);

**The distribution of Straw-headed Bulbul *Pycnonotus zeylanicus* (map opposite):** (1) Mergui; (2) Ngawun Chaung; (3) Bokpyin; (4) Pakchan river; (5) Maliwun; (6) Victoria point; (7) Tapli river; (8) Klong Wang Hip; (9) Nong Kok; (10) Ban Kapang; (11) Ban Lamphu La; (12) Trang; (13) Trang waterfall; (14) Kantang; (15) Bang Nara; (16) Padang Terap river; (17) Pulau Perhentian Kecil; (18) Penang; (19) Temengor; (20) Puala Kapas; (21) Belum Forest Reserve; (22) Aring; (23) Gunung Hijau; (24) Taiping; (25) Dungun river; (26) Tanjung Rambutan; (27) Taman Negara National Park; (28) Ipoh; (29) Parit; (30) Pulau Raia; (31) Malim Nawar pools; (32) Batang Padang; (33) Sungai; (34) Bernam river; (35) Fraser’s Hill; (36) Kuala Lompat; (37) Kerau Wildlife Reserve; (38) Tanjung Malim; (39) Ulu Lepar; (40) Kuala Kubu-Gap road; (41) Bentong; (42) Tasik Chini; (43) Ulu Gombak; (44) Batu caves; (45) Kenny estate; (46) Triang; (47) Bukit Cherakah Forest Reserve; (48) Kuala Lumpur; (49) Dusun Tua; (50) Klang river; (51) University of Malaya; (52) Langat; (53) Kopah; (54) Sungai Kinchin; (55) Endau-Rompin Conservation Area; (56) Melaka; (57) Hutan Rekreasi Air Keroh; (58) Sibul island; (59) Tebrau; (60) Kota Belud; (61) Tempasuk; (62) Tuaran; (63) Poring hot springs; (64) Kiau; (65) Kinabalu Park; (66) Kota Kinabalu; (67) Kundassan; (68) Bukit Padang; (69) Kasigui; (70) Ranau; (71) Tenompok; (72) Maang; (73) Kabili-Sepilok Forest Reserve; (74) Sinsuran; (75) Tambunan; (76) Papar; (77) Kaingaran; (78) Megatai; (79) Gunung Trus Madi; (80) Sukau; (81) Uncle Tan’s Jungle Camp; (82) Membakut; (83) Batu Putih; (84) Padas Damit; (85) Saliwangan; (86) Keningau; (87) Rayoh; (88) Makaniton; (89) Lahad Datu; (90) Danum Valley Conservation Area; (91) Batu Punggul; (92) Kalabakan Forest Reserve; (93) Merutai; (94) Lawas river; (95) Marabok river; (96) Baram river; (97) Tutoh; (98) Gunung Mulu National Park; (99) Batu Niah estate; (100) Kelabit uplands; (101) Pa Umor; (102) Baram; (103) Gunung Dulit; (104) Belaga; (105) Rajang river; (106) Samunsam Wildlife Sanctuary; (107) Bako National Park; (108) Lingit; (109) Anut; (110) Sadong river; (111) Batu Kawa; (112) Lingga river; (113) Sungai Klauh; (114) Sungai Strap; (115) Batang Ai National Park; (116) Bukar; (117) Sungai Kayan; (118) Paku; (119) Mandai; (120) Pulau Ubin; (121) Bukit Timah Nature Reserve; (122) Central Catchment Nature Reserve; (123) Bukit Batok Nature Park; (124) Jerudong; (125) Bandar Seri Begawan; (126) Kilanas; (127) Wasan; (128) Bangar; (129) Layong; (130) Ukong; (131) Badas pumping station; (132) Bukit; (133) Sungai Batu Apoi; (134) Seria; (135) Sungai Benutan; (136) Batang Duri; (137) Belalong Forest Reserve; (138) Ulu Temburong National Park; (139) Belait Forest Reserve; (140) Northern Boundary; (141) Bangau; (142) Lemutan; (143) Salimbatu; (144) Long Kemuat; (145) Bulungan; (146) Tanjungselor; (147) Long Bia; (148) Long Peleben; (149) Muarapangean; (150) Kayan Mentarang National Park; (151) Badang; (152) Sungai Berau; (153) Long Nawang; (154) Longuro; (155) Muarawahau; (156) Long Tepai; (157) Long Kai; (158) Batukelau; (159) Long Cehan; (160) Tabang; (161) Laham; (162) Kutai National Park; (163) Sungai Karang Mumus; (164) lower Sungai Mahakam; (165) Penda Sirun; (166) Muara Joloi; (167) Busang-Kasau; (168) Tumbang Kunyi; (169) Tumbang Maruwei; (170) Muarateweh; (171) Riam; (172) Labanghara; (173) Bukit Baka Nature Reserve; (174) Danau Sentarum National Park; (175) Semitau; (176) Sungai Melawi; (177) Sungai Nipah; (178) Sungai Pawan; (179) Gunung Niut Nature Reserve; (180) Kubu; (181) Ngara; (182) Singkawang; (183) Maratua Island; (184) Lhoknga; (185) Blangkolam; (186) Alas Peurba; (187) Isaq; (188) Gayo highlands; (189) Simpang; (190) Lesten; (191) Pendeng valley; (192) Ketambe; (193) Gunung Setan-Meluwak; (194) Kotacane; (195) Deli; (196) Saentis; (197) Batangkuis; (198) Medan; (199) Deli-Serdang; (200) Galang; (201) Tuntungan; (202) Perdagangan; (203) Tanjungkassau; (204) Simpangtoba; (205) Telukpanji; (206) Sibolga; (207) Padangsidempuan; (208) Lubukaur; (209) Muara Kiawai; (210) Airbangis; (211) Bukittinggi; (212) Gunung Singgalang; (213) Buo; (214) Pariaman; (215) Airangat; (216) Sijunjung; (217) Solok; (218) Surau Gadang; (219) Lolo; (220) Pasir Ganting; (221) Balun; (222) Sungai Siak Kecil; (223) Siolakderas; (224) Sungai Penuh; (225) Sandaran Agung; (226) Rantaupandan; (227) Keluang; (228) Palembang; (229) Panjang Sebar; (230) Lebong; (231) Aur; (232)

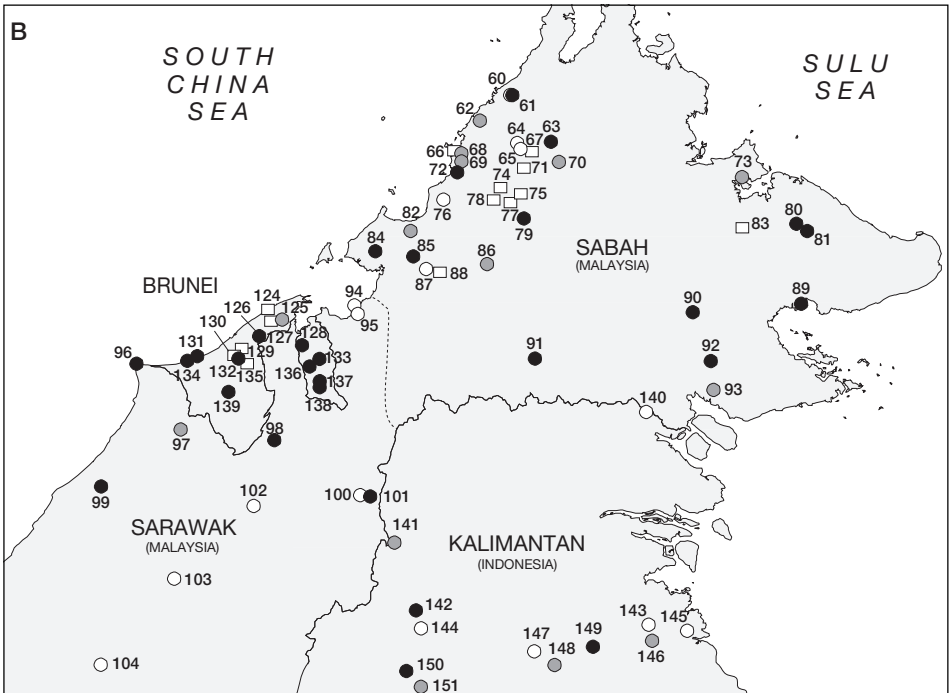
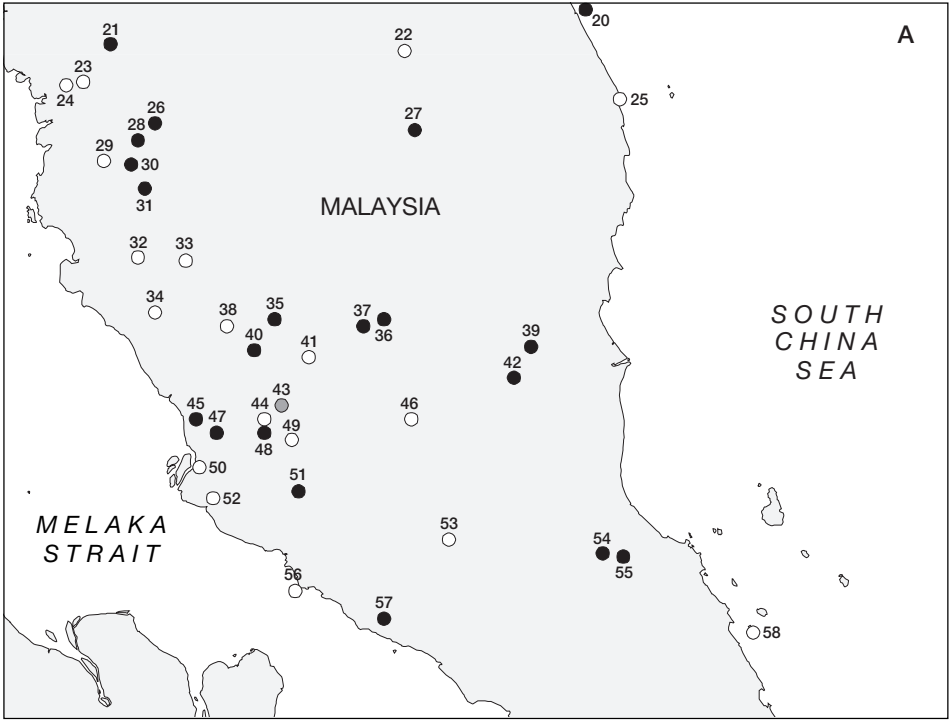


**Simpangtoba**, Asahan, May 1920 (female in RMNH); **Telukpanji**, Kota Pinang, north-east Sumatra, June–July 1937 (three specimens in BMNH, ZRCNUS); **Sibolga** (Siboga), April 1886 (Salvadori 1887); Panobasan (near **Padangsidempuan**), Tapanuli, February 1939 (two specimens in MZB); **Lubukaur** (Aur), Kumanis, 200 m, Padang highlands, March 1915 (Robinson and Kloss 1924a; see Remarks 2); **Muara Kiawai**, 40 m, Ophir Districts, May 1915 (Robinson and Kloss 1924a); **Airbangis** (Ajer Bangis), June 1897 (two females in SMNS), November 1913 (female in RMNH); **Bukittinggi** (= Fort de Kock), Padang highlands, December 1908 (specimen in ZMB), December 1914 (male in RMNH); **Gunung Singgalang**, Padang highlands, 1,600 m, June 1878 (Salvadori 1879), along with Air Mancur (untraced), Padang highlands, August 1878 (Salvadori 1879), and Lubuk Tampir, Padang highlands, December 1885 (two males in RMNH; Büttikofer 1887); **Buo**, Padang highlands, February 1914 (Robinson and Kloss 1924a); “Priaman” (presumably **Pariaman**), undated (specimen in ZMA); **Airangat** (“Ayer angkat”), before 1888 (specimen in BMNH); **Sijunjung** (Siedjungong), September 1878 (three specimens in BMNH); **Solok**, Padang highlands, 1880s



Pasumah; (233) Gunung Sago; (234) Bengkulu; (235) Way Kambas National Park; (236) Bukit Barisan Selatan National Park; (237) Way Semangken; (238) Telukbetung; (239) Wonosobo; (240) Ketibung; (241) Way Lima; (242) Nias; (243) Sipura; (244) Ujung Kulon National Park; (245) Banten; (246) Genteng Lebak; (247) Cisolok; (248) Balekambang; (249) Pelabuhanratu; (250) Cikiray; (251) Pasir Cibuntu; (252) Cipetir; (253) Jampang; (254) Bogor; (255) Jakarta; (256) Cilodang; (257) Cibening; (258) Cimungkat; (259) Gunung Gede-Pangrango National Park; (260) Cibungur; (261) Cikarang; (262) Bandung; (263) Pameungpeuk; (264) Ciwaru.

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



(Hartert 1889); **Surau Gadang**, Kamang, Padang highlands, December 1913 (male in RMNH); **Lolo**, before 1888 (two specimens in BMNH); **Pasir Ganting**, June 1914 (Robinson and Kloss 1918a); ■ **Riau Balun**, 480 m, Muara Labu, Padang highlands, July 1914 (Robinson and Kloss 1924a), with specimen simply labeled Muara Labu, January 1885 (male in SMF); mouth of **Sungai Siak Kecil**, October 1906 (male in USNM); ■ **Jambi Siolakderas** (Siulak Daras), 900 m, Kerinci valley, March 1914 (Robinson and Kloss 1918a); **Sungai Penuh**, 800 m, Kerinci Valley, March 1914 (Robinson and Kloss 1918a), but now extirpated by trapping (Holden 1997); **Sandaran Agung**, 750 m, Kerinci valley, May 1914 (Robinson and Kloss 1918a); **Rantaupandan**, undated (Thiollay 1995, Holmes 1996); ■ **South Sumatra Keluang**, Palembang, October 1933 (male in MZB); **Palembang**, undated (specimen in ZMH), 1883 (two specimens in RMNH), April 1911, October 1918 and May 1919 (five specimens in MZB, UMB; also Kloss 1931); **Panjang Sebar**, “P. Alam” (presumably Pageralam), Palembang, July–October 1918, May 1919 (10 specimens in RMNH); **Lebong**, Tandai or Tundai, February 1925 (female in BMNH); **Aur**, Lahat, Palembang, March 1915 (two males in MZB; also Kloss 1931; see Remarks 2); **Pasumah** coffee estate, 900 m, north-east slope of Gunung Dempu, September 1916 (Robinson and Kloss 1924a); ■ **Bengkulu Gunung Sago**, September 1878 (male in BMNH); **Bengkulu**, June 1916 (Robinson and Kloss 1924a); ■ **Lampung Way Kambas National Park**, 1976–1979 but not subsequently (Parrott and Andrew 1996); **Bukit Barisan Selatan National Park**, at some time since 1980 (O’Brien and Kinnaird 1996b); **Way Semangken** (near Banding), July 1935 (female in MZB); **Telukbetung**, (“Telog Betong”), undated (specimen in RMNH); **Wonosobo**, 1924 (male in RMNH); “Katimbang” (presumably **Ketibung**), undated (specimen in RMNH); **Way Lima**, December 1921 (two specimens in MZB; also Kloss 1931); *Nias* unspecified locality, 1854 (von Rosenberg 1863) but not subsequently (Ripley 1944, Dymond 1994);

*Sipura* Mentawai Islands, May 1974 or June 1979, but may have been an escaped/introduced cagebird (Holmes 1994);

*Java* ■ **West Java Ujung Kulon National Park**, mostly in the Cigenter area and edge of the monsoon marshes in the Niur region, undated (Hoogerwerf 1948a, 1969–1971); **Banten** (“Bantam”) at Bijah, September 1909 (male in USNM); **Genteng Lebak**, Banten, April 1879 (Nicholson 1881); **Cisolok**, undated (Vorderman 1887); **Balekambang**, Ciletu, undated

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**The distribution of Straw-headed Bulbul *Pycnonotus zeylanicus* (map A opposite):** (20) Puala Kapas; (21) Belum Forest Reserve; (22) Aring; (23) Gunung Hijau; (24) Taiping; (25) Dungun river; (26) Tanjung Rambutan; (27) Taman Negara National Park; (28) Ipoh; (29) Parit; (30) Pulau Raia; (31) Malim Nawar pools; (32) Batang Padang; (33) Sungkai; (34) Bernam river; (35) Fraser’s Hill; (36) Kuala Lompat; (37) Kerau Wildlife Reserve; (38) Tanjong Malim; (39) Ulu Lepar; (40) Kuala Kubu–Gap road; (41) Bentong; (42) Tasik Chini; (43) Ulu Gombak; (44) Batu caves; (45) Kenny estate; (46) Triang; (47) Bukit Cherakah Forest Reserve; (48) Kuala Lumpur; (49) Dusun Tua; (50) Klang river; (51) University of Malaya; (52) Langat; (53) Kopah; (54) Sungai Kinchin; (55) Endau–Rompin Conservation Area; (56) Melaka; (57) Hutan Rekreasi Air Keroh; (58) Sibul island.

**(map B opposite):** (60) Kota Belud; (61) Tempasuk; (62) Tuaran; (63) Poring hot springs; (64) Kiau; (65) Kinabalu Park; (66) Kota Kinabalu; (67) Kundassan; (68) Bukit Padang; (69) Kasigui; (70) Ranau; (71) Tenompok; (72) Maang; (73) Kabili–Sepilok Forest Reserve; (74) Sinsuran; (75) Tambunan; (76) Papar; (77) Kaingaran; (78) Megatai; (79) Gunung Trus Madi; (80) Sukau; (81) Uncle Tan’s Jungle Camp; (82) Membakut; (83) Batu Putih; (84) Padas Damit; (85) Saliwangan; (86) Keningau; (87) Rayoh; (88) Makaniton; (89) Lahad Datu; (90) Danum Valley Conservation Area; (91) Batu Punggul; (92) Kalabakan Forest Reserve; (93) Merutai; (94) Lawas river; (95) Marabok river; (96) Baram river; (97) Tutoh; (98) Gunung Mulu National Park; (99) Batu Niah estate; (100) Kelabit uplands; (101) Pa Umor; (102) Baram; (103) Gunung Dulit; (104) Belaga; (124) Jerudong; (125) Bandar Seri Begawan; (126) Kilanas; (127) Wasan; (128) Bangar; (129) Layong; (130) Ukong; (131) Badas pumping station; (132) Bukit; (133) Sungai Batu Apoi; (134) Seria; (135) Sungai Benutan; (136) Batang Duri; (137) Belalong Forest Reserve; (138) Ulu Temburong National Park; (139) Belait Forest Reserve; (140) Northern Boundary; (141) Bangau; (142) Lemutan; (143) Salimbatu; (144) Long Kemuat; (145) Bulungan; (146) Tanjungselor; (147) Long Bia; (148) Long Peleben; (149) Muarapangan; (150) Kayan Mentarang National Park; (151) Badang.

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

(Vorderman 1887); **Pelabuhanratu**, up to 550 m, regularly down to 1908 (four specimens in RMNH; also Vorderman 1887, Bartels 1902, 1906, van Oort 1910, Hoogerwerf 1948a); **Cikiray**, October 1906 (female in RMNH); **Pasir Cibuntu**, Gunung Salak, undated (Vorderman 1886, Hoogerwerf 1948a); **Cipetir**, November 1910 (female in RMNH); **Jampang**, up to 550 m, regularly (Bartels 1906); **Bogor**, 1903 and 1914 (two males in RMNH, ZMA); **Jakarta**, 1896 (seven specimens in RMNH; also Hoogerwerf 1948a), and in mangroves on the road to Tanjung Priok, February 1946 (Hoogerwerf 1948c); **Cilodong**, May 1916 (male in RMNH), February 1920 (female chick in RMNH); **Cibening**, February 1913 (female in RMNH); **Cimungkat**, undated (Hoogerwerf 1948a); **Gunung Gede-Pangrango National Park** at Gede, October 1898 (male in AMNH), and at Pangrango, up to 800 m, 1900–1906 (specimens in RMNH; Bartels 1906); **Cibungur**, October 1897 (male in RMNH); **Cikarang**, February 1920 (female in RMNH); **Bandung**, April 1951 (female in RMNH); **Pameungpeuk**, February 1916 (female in RMNH); **Ciwaru**, Kuningan, undated (Vorderman 1892b);

*Bali* Bali Barat National Park, May–December 1991, one (SvB), September 1992, two doubtless escapes (K. D. Bishop *in litt.* 2000).

**POPULATION** Although still reported widespread but much less common than formerly in Sumatra (van Marle and Voous 1988), the Straw-headed Bulbul has decreased dramatically throughout Sumatra and Kalimantan, and is almost certainly extirpated in Java (SvB). Indeed, despite being described as an “abundant resident” in the lowlands of Borneo (Smythies 1957, 1981), it “has been virtually exterminated as a wild bird” in Indonesia (Holmes 1995). The evidence under Ecology, although very slight, that one pair occupied a linear territory of some 400 m along a riverbank, suggests that the total numbers of the species may never have been as great as subjective comments may have implied: allowing for 200 m of unsuitable habitat along 1 km of river (both banks), this yields only four pairs per km of river, and explorers travelling by river and commonly hearing the species’s far-carrying song may easily have assumed that the birds were far more ubiquitous and abundant than was the case.

*Myanmar* There is no recent information, but the species was only ever known from few localities. Nevertheless, in the past it was “very common throughout the southern extremity of the province” of Tenasserim (Hume 1875b; also Hume and Davison 1878).

*Thailand* All certain dated records derive from 1930 or earlier, so it seems that a major decline has occurred. Although it was listed for Surat Thani, Nakhon Si Thammarat, Krabi, Phattalung, Trang and Yala provinces, it has apparently vanished from these areas, and the last records were of birds “not seen but song heard occasionally, usually near rivers, Yala and Narathiwat provinces” (Holmes 1973). It was still assumed to be extant but extremely scarce in the 1980s (Round 1988a), but it is now thought to be extinct in the wild, with no confirmed recent records of unequivocally wild birds (P. D. Round *in litt.* 1998).

*Singapore* At the start of the 1990s the birds on Pulau Ubin numbered around 50, and those along the Sungei Sembawang around 10, these being the only populations then known, with the expectation that the species would decline sharply towards extinction in the ensuing decade without intervention (Lim 1992). In fact the Ubin population declined to 30 by November 2000, while the Sungei Sembawang population disappeared entirely in 1997 following housing and industrial development (Lim Kim Seng *in litt.* 2000). However, in November 2000 the island’s north catchment held six, south catchment two, Bukit Batok Nature Reserve 12, Bukit Timah Nature Reserve six and west coast area four, so that the total number of birds was 60 in six sites and, overall, the prospects for the species appeared better than a decade before (Lim Kim Seng *in litt.* 2000).

*Peninsular Malaysia* There are few data. It was treated in a major work on the Peninsula whose subtitle was “the commoner birds” (Robinson 1927), and into the 1930s it remained “a common bird in the... lowlands”, and common in the mangrove belt in the south of Johor (Chasen 1939a). It was regarded as still widespread and quite common in the early 1990s (D.

R. Wells in Collar *et al.* 1994), and appears to remain moderately common along rivers within Taman Negara National Park (see Distribution) and in certain other areas (Lim Kim Chye *in litt.* 2000). However, in many places it seems to have been reduced to small, isolated pockets from which it may disappear naturally if it is not soon trapped out. Thus in a survey of rivers and mangroves in Johor, during 1998, it was notably rare in habitats which normally should have contained good numbers, and local fishermen, confirming that it was once common and widespread but is now hardly ever seen, put the blame on “foreigners... catching them and selling them in Singapore” (G. Noramly *in litt.* 2000).

**Sabah** In the 1960s it was considered a common resident, reaching to (but becoming scarcer at) 1,200 m, and being most numerous along rivers and streams (Gore 1968). It was common at Tuaran, 1962 (Thompson 1966), and fairly common in June 1998 at Uncle Tan’s and in Danum Valley (I. Mauro *in litt.* 1999).

**Sarawak** It was common along rivers around Gunung Dulit in the nineteenth century (Hose 1893), it was present in “great numbers” along the Sadong river in May 1912 (Williams 1914), and it was generalised in the early 1930s as “a very common bird along the river banks” (Banks 1935a). In 1965 it was very common along the Tutoh river (Fogden 1976), and common at two sites, 1981–1984 (Duckett 1985). However, it was not encountered in Similajau National Park, Sarawak, in 1986, and only once elsewhere (Duckworth and Kelsh 1988).

**Brunei** Although previously described as an abundant resident in Brunei (Smythies 1981), the species appears to be scarce in most of the country (Vowles and Vowles 1997). Nonetheless, the number of post-1980 records from the country (see map) tends to suggest that a moderately stable and relatively important population of the species may find sanctuary there.

**Kalimantan** It was “very abundant along all watercourses in Borneo, except in areas of rapids, from coastal areas up to 1,500 m in the interior” (Pfeffer 1960–1961). It was uncommon in Kutai National Park, 1974 (Pearson 1975). In the Sungei Pawan area of West Kalimantan it was common in “swamp secondary” [*sic*], 1981 (Holmes 1982), and commonly recorded in Barito Ulu, 1989, where (as a broad indication of abundance) 15 birds were encountered in one 4 km walk beside a river (Wilkinson *et al.* 1991a). However, around the mid-1990s Holmes (1997) received “very few records of this increasingly rare and perhaps now critically endangered species, which was so common two decades ago”. Nowadays it is almost exclusively found in the remotest parts, such as Kayan Mentarang National Park and Barito Ulu (SvB).

**Sumatra** Around Deli in the 1880s the species was “nowhere rare” (Hagen 1890). In North Sumatra in 1937 it was “observed almost everywhere between 200 and 1000 m” (Chasen and Hoogerwerf 1941). It was still widespread in the 1970s (see Remarks 3), but there was not a single record in Riau and Bengkulu provinces after 1978 (Holmes 1996), nor any from Way Kambas National Park after 1979 (Parrott and Andrew 1996). In Jambi and Riau the “Spirit of Sumatra” expedition, consisting of two separate teams, covered extensive areas of swamp forest in three months in 1992 (Burn and Brickle 1992), and two months of 1991 was spent in the same region (Danielsen and Heegaard 1995a,b), but Straw-headed Bulbul was not observed by either survey (it is not, however, clear whether this habitat, at least on Sumatra, is used). At any rate, “it would appear that the cage bird trade has now excelled itself in successfully exterminating this bird from most of Sumatra, if not all Indonesia” (Holmes 1996).

**Java** Apparently the species has been rare for the past hundred years, as attested by the relatively few records. It had already experienced local extirpations at the start of the twentieth century (Koningsberger 1911–1915), and by the 1960s it was uncommon or rare throughout: “This very lovely singing bird may be considered a fairly rare species in today’s Java” (Hellebrekers and Hoogerwerf 1967; also Hoogerwerf 1969–1971).

**ECOLOGY Habitat** The Straw-headed Bulbul occupies successional (secondary, disturbed) vegetation, and is thus commonly but not exclusively associated with waterside growth (“bank vegetation” is frequently used) in places where seasonal flooding prevents climax, e.g. along

larger, lower watercourses, around swampy areas and in marshes, although birds also occupy mosaic areas of low woods, dense brush, secondary shrubbery (“*belukar*”), beach scrub (near fresh water) and jungle thickets within partially open country as well as adjacent overgrown gardens (sometimes singing from TV aerials), edges of rice-fields, plantations (including *Albizia*) and other cultivation, locally in reedbeds and mangroves, and in disturbed growth along paths through primary forest (Hume and Davison 1878, Finsch 1905, Chasen and Hoogerwerf 1941, Hoogerwerf 1948a, 1969–1971, Gore 1968, Medway and Wells 1976, Smythies 1981, Holmes 1982, van Marle and Voous 1988, Mitra and Sheldon 1993, Godfrey and Godfrey 1998, Madoc ms, Sheldon *et al.* in press). The association with riverine vegetation can be so strong as to appear exclusive in central Sarawak (Harrisson 1933), and is reinforced by its local name of *maki boyah*, meaning “alligator bird”, from its supposed habit of annoying “alligators” (Hose 1893), and from the local lore that says it extends up rivers as far as the crocodiles do (Banks 1935a). Although it tends to avoid stretches of rapids (Pfeffer 1960–1961), it has been found by small streams covered over with jungle, and even in ravines on the lower slopes of Kinabalu (Smythies 1981). Elevations are generally under 1,000 m (but occasionally up to 1,600 m) on Borneo and Sumatra (Robinson and Kloss 1924a, Smythies 1957, Pfeffer 1960–1961, Smythies 1981, van Marle and Voous 1988), and under 800 m (but apparently up to 2,800 m on Pangrango) on Java (Finsch 1905, Sody 1956, Hoogerwerf 1969–1971). In Barito Ulu it is generally recorded within 20 m of riverbanks, in one case the length of an area occupied by a pair being measured as 400 m (Wilkinson *et al.* 1991a). In Sarawak it has been characterised as a nypa swamp and peatswamp forest specialist, avoiding mixed dipterocarp forest (Gregory-Smith 1998), although such an association has certainly not been identified elsewhere in its range.

**Food** The diet is mixed and very varied. Unlike true forest bulbuls the species frequently forages on the ground (Hume and Davison 1878). Among animal food recorded are small riverine snails (taken at the margin of brooks), small and large beetles (sometimes in flight, when possibly *Apogonia*), large carpenter bees, caddisflies (caught in mid-air low over the river surface), dragonflies, mantises and grasshoppers (Chasen and Hoogerwerf 1941, Smythies 1981, Duckett 1985, Sody 1989). Among vegetable food recorded are bananas, green berries, figs *Ficus* (four independent reports), wild cherry, Loranthaceae including *Dendrophthoë* and other fruits (including berries, “yellow pips” and “small blue fruits”), small seeds and rush heads (Robinson and Kloss 1924a, Chasen and Hoogerwerf 1941, Smythies 1981, Duckett 1985, Lambert 1989a, Sody 1989, Sheldon *et al.* in press, AMNH label data). Berlioz (1935) noted that in captivity the appetite for fruit is “insatiable”. Young birds at Bukit Batok, Singapore, were fed on berries, spiders, forest cockroaches, stick insects and beetles (Ong 2000).

**Breeding** Singing appears to be maintained through large parts of the year, since Harrisson (1951) referred to “months (e.g. March 1951) when it is almost silent”; but whether it is silent when breeding, or moulting, or at some other stage is not known. In Borneo, Pfeffer (1960–1961) was unable to determine a breeding season, encountering young in September, November, March and April (these latter two months conforming with evidence in Gibson-Hill 1952a, Smythies 1981); Kemp and Kemp (1976) recorded a nest fledging young in September and a nest with eggs in an adjacent tree in November–December of the same year; Coomans de Ruiter (1931) found eggs in January; and half-grown birds were collected in August (in MCZ) and September (in AMNH, USNM). Active nests have been found in East Kalimantan in July and December (SvB). It is possible therefore that breeding is commonly year-round, and that occasional month-long silences are haphazard moments when non-breeding activity in adjacent pairs happens to coincide. On Sumatra a set of two eggs was collected in March (de Beaufort and de Bussy 1919, van Heyst 1919, Hellebrekers and Hoogerwerf 1967) and testes of males collected were enlarged in May, when a half-feathered nestling was also procured (Meyer de Schauensee and Ripley 1940). There are no breeding

data from Java except a female chick from February (in RMNH). A nest with two eggs was found in May, Selangor, Peninsular Malaysia (Chasen 1939a); another, with eggs hatching, was found in April (Madoc ms); nests were found in the north of the Peninsula in July (Robinson 1927); a bird was found sitting on a nest in December, but two days later one or both members of the pair entirely removed the materials (Madoc ms). The February nesting in Singapore (see Distribution) was interesting because it appeared to be cooperative: three adults were seen queuing to feed the chicks (Ong 2000).

Nests are constructed from rootlets, dead leaves, aren palm fibres, rough grass and weeds, and placed in thick brushwood 1–5 m above ground, often on boughs overhanging water (sometimes perilously close as floodwater rises), with a clutch-size of two (Robinson and Kloss 1924a, Hoogerwerf 1969–1971, Kemp and Kemp 1976, Smythies 1981, Madoc ms); one Malay Peninsula nest was in a solitary thorn tree in the middle of a rice-field surrounded by low forested hills, and another was in tembusu tree in a city garden (Madoc ms). Both adults incubate the eggs and feed the young (Kemp and Kemp 1976). In one nest (in a fig tree, Singapore) the first young in a brood of two fledged at 16 days, the second at 17 days (Ong 2000). Family groups of three to five birds have been recorded (van Heurn 1919, Medway and Wells 1976). The species generally keeps in groups of 5–8 birds (Hume and Davison 1878). Ages in nature of at least 91 months have been recorded (McClure 1974, 1984).

**THREATS** *Trade* This species's celebrated song, “a prolonged series of magnificently warbled notes, richer and more powerful by far than the songs of such celebrated performers as the Nightingale [*Luscinia megarhynchos*] and Blackbird [*Turdus merula*]” (Smythies 1981), has resulted in excessive chronic trade pressure throughout its range (e.g. “a very popular cagebird in Borneo”: Duckworth and Kelsh 1988), although it is particularly within Indonesia that consumption has been greatest. Its lack of shyness, and its habits of roosting and nesting in easily accessible places, have compounded its vulnerability to trapping (SvB). *Thailand* High levels of trapping, compounded by habitat loss, caused the crash of this species (P. D. Round *in litt.* 1998). Relatively high numbers continue to be traded through the Bangkok weekend market (McClure and Chaiyaphun 1971, Round 1990) although the provenance of these birds is not known (P. D. Round *in litt.* 1998). *Singapore* Poaching is rampant on the island and directly threatens the survival of the small population there (Lim 1992). *Peninsular Malaysia* The species was, in the early twentieth century, highly prized and a common cagebird throughout (Robinson 1927). By around 1990, the virtual extirpation of the species in Indonesia required constant imports of illegally captured Malaysian birds re-exported via Singapore to meet demand (Nash 1993a), and the decline of the species in the Peninsula was described as “one of the tragedies of the past ten years” (*Suara Enggang* July–August 1998: 13). *Sarawak* “Major trade in live birds [of this species] for export has caused dramatic declines and many local extirpations throughout Sarawak” (Bennett *et al.* 1997). *Sumatra* Over 80 years ago Robinson and Kloss (1924a) reported large-scale capture in Sumatra (many of the birds going to Java: see below). Heavy trapping has eliminated the species from the Kerinci area, with a price of 1 million to 1.5 million rupiah being quoted for a bird in March 1997 (Holden 1997). Indeed, “it would appear that the cage bird trade has now excelled itself in successfully exterminating this bird from most of Sumatra, if not all Indonesia” (Holmes 1996). *Java* Siccama (1938) long since warned that trade had made the species so scarce that most birds on sale in Jakarta markets had been imported in lots of 40–60 from Lampung (Sumatra); although the export of major consignments had been banned, large numbers were still being caught for the domestic trade. Around the same time Berlioz (1935) was struck—above all things he witnessed in Javanese bird markets—by the frequency of this species in captivity. Nothing changed, except for the worse; the fact that Javan birds are considered the best songsters meant that they were always in heaviest demand and the population doubtless suffered accordingly (Hoogerwerf 1969–1971). Twenty years ago

Oesman (1979) reported that prices had been “soaring” since the mid-1970s, “due to the growing popularity of birdkeeping”. Birds were being sold for an average US\$20 a head in 1987 (Basuni and Setiyani 1989), but now prices have greatly increased (SvB).

**Habitat loss** Owing to the species’s use of successional habitat it is not clear how serious the massive destruction of forest in the Sundaic region has affected it; however, it seems very likely that in many areas successional vegetation will have suffered as badly as climax forest (details of such forest loss are given in the equivalent section under Crestless Fireback *Lophura erythrophthalma*). Moreover, where the species makes use of mangroves, as in one diminishing area in Singapore (Lim 1992), it is clearly likely to have declined with habitat conversion to (e.g.) shrimp ponds. Loss of lowland forest habitat is judged to have compounded trade in eliminating the species from Thailand (P. D. Round *in litt.* 1998).

**MEASURES TAKEN** The Straw-headed Bulbul is listed on Appendix II of CITES. Siccama (1938) mentioned a ban on the export of large consignments of this species by the Director of Economic Affairs (in the future Indonesia), and it is today protected in both Sabah and Sarawak (Smythies and Davison 1999); it is also protected from capture, keeping or sale in Peninsular Malaysia (*Suara Enggang* July–August 1998: 13). Nevertheless, its capture and trade is still permitted at least within Sarawak under licence (Sebastian ms). In Indonesia it is not protected, but there are currently no quotas for its capture (R. Saryanthi *in litt.* 2000). Some aviculturists in Indonesia are now successfully breeding the species, but these birds are not sold through the bird markets and their breeding is not recorded with PKA (R. Saryanthi *in litt.* 2000). Meanwhile, perhaps the only real conservation the species has experienced has been through its presence in certain protected areas: (*Peninsular Malaysia*) Kenoboi and Bukit Cheraka Forest Reserves, Kerau Wildlife Reserve and Taman Negara National Park; (*Sabah*) Danum Valley Conservation Area, and presumably in the new conservation area on the lower Kinabatangan river (for new status of this last, see Measures Taken under Storm’s Stork *Ciconia stormi*); (*Sarawak*) Bako and Batang Ai National Parks; (*Brunei*) Batu Apoi National Park, which embraces Ulu Temburong (see Dawn 1993); (*Kalimantan*) Kutai National Park (2,000 km<sup>2</sup> area comprising mangrove, riverine forest, lowland evergreen forest, etc., now largely logged and burnt: SvB) and Kayan Mentarang National Park (c.13,000 km<sup>2</sup> of forest from c.200 to more than 2,500 m: SvB), Danau Sentarum Nature Reserve (800 km<sup>2</sup> of lakes surrounded by swamp forests with a proposed extension of 1,250 km<sup>2</sup> including dry upland forest: SvB), Bukit Baka and Gunung Niut Nature Reserves; (*Sumatra*) Bukit Barisan Selatan and Way Kambas National Parks; (*Java*) Ujung Kulon and Gunung Gede-Pangrango National Park (see Distribution).

**MEASURES PROPOSED** Immediate protection of the species by law and strict law enforcement may help recover depleted populations; this is certainly viewed as essential to save the species in Sarawak (Bennett *et al.* 1997).

The captive breeding of the species (to supply local markets, but also with re-introduction into the wild as an ultimate goal) would appear to be appropriate, but ideally *only using birds already in captivity* and carefully selected aviculturists. Any such schemes should be planned and undertaken by groups of such people in consultation with local and national conservation NGOs, with the advice of other responsible and distinguished avicultural experts. However, given the vulnerability of captive-breeding facilities to theft (see Threats under Bali Starling *Leucopsar rothschildi*), considerable investment in security may be necessary.

In Indonesia, remote areas of Borneo such as Barito Ulu and Kayan Mentarang National Park are likely to be of major importance in the conservation of the species (Wilkinson *et al.* 1991a) as they may serve as sources of recolonisation, but they require improvement of the guarding system, supported by law enforcement outside the reserves. The situation on Sumatra needs careful evaluation; any remote areas which retain populations should, ideally, be



zealously guarded in order to prevent extinction on the island, and to provide a source of birds for translocation and re-introduction, if and when conditions ameliorate sufficiently for such exercises to be worth attempting. On Singapore a permanent reserve is needed on Pulau Ubin to protect the population there, while Senoko and parts of Ulu Sembawang were, in the early 1990s, intended to be set aside as natural areas (but see Population); but in any case constant monitoring will be needed to ensure that poaching is eliminated (Lim 1992). In Thailand searches are needed along the banks of the Mae Nam Kolok, which forms the border with Malaysia, in Hala-Bala Wildlife Sanctuary, Waeng district, Narathiwat (P. D. Round *in litt.* 1998).

The ecology of the Straw-headed Bulbul needs to be clarified through studies of population density, breeding success, feeding patterns, dispersal and survival in a number of carefully evaluated habitats. The results of this work will allow for improved reserve design and habitat management in all future efforts to secure viable populations of the species.

In Peninsular Malaysia, which must now be regarded as the species's stronghold, a systematic mapping and monitoring programme is now required, so as to determine current status and track the fate of existing populations, with a view to identifying key areas and the pressures they are under, and hence appropriate management responses. Such information should be held confidentially to prevent it falling into the hands of dealers attempting to supply the market in cagebirds elsewhere in the region. Exactly the same exercise is urged for Sabah and Brunei, which also possess globally important populations of the species.

**REMARKS** (1) Robinson (1928) had a report from the Batang Padang mountains which he believed to refer to the Batang Padang river, as otherwise the species is not known as montane. The specimen merely confirms the general locality but there seems little doubt that it must have come from the lowlands. (2) Despite the identical month and year of the records in question, the two localities called Aur, in West and South Sumatra, do not represent an accidental duplication. (3) This statement, made by Holmes (1996), may well have been true, but if so the records to support it have not been published or otherwise traced: by contrast, the map reveals the remarkable circumstance that the vast majority of Sumatran records were made before 1950, implying that the species disappeared from many parts of the island in the first half of the twentieth century.