

Threatened Birds of Asia:

The BirdLife International Red Data Book

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FLORES CROW
Corvus florensis

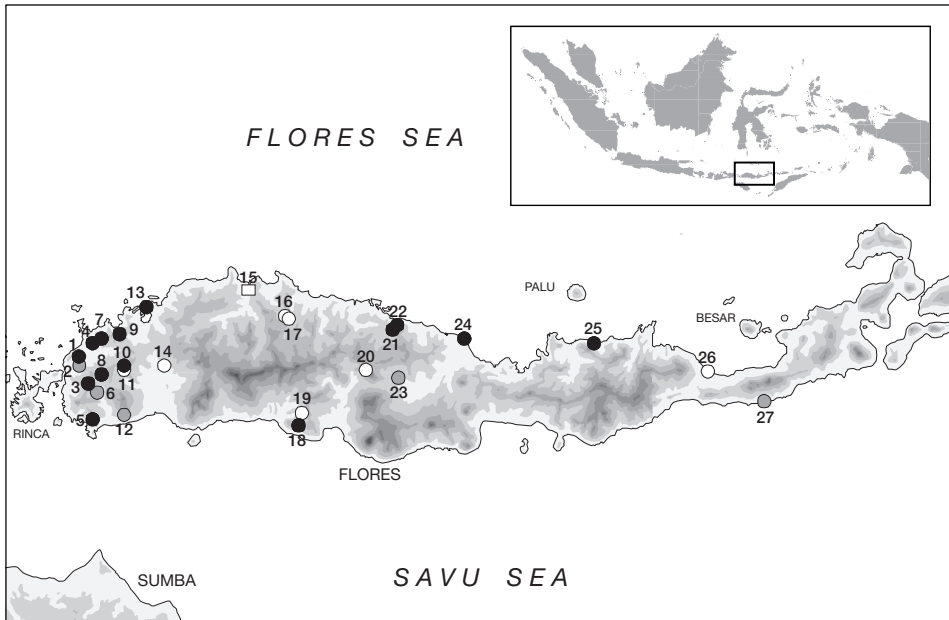


Critical —
Endangered C2b
Vulnerable C1

This rather diminutive crow has a small population which is subject to a continuing decline in the face of rampant deforestation on its island home. It thus qualifies for Endangered.

DISTRIBUTION The Flores Crow is endemic to the island of Flores, Nusa Tenggara, Indonesia (see Remarks 1–3). Records, arranged from west to east, are from:

■ **INDONESIA** *Flores Mburu*, October 1929 (Rensch 1931a,b) and at *Wae Wuul* (see Measures Taken), 1998 (C. Trainor *in litt.* 1999); **Sokruntung**, “W. Manggai”, July 1969 (specimen in RMNH); **Cereng** (Mbeliling), frequent, August 1998 (R. Drijvers, C. Trainor *in litt.* 1999); **Wangkung**, September 1997 (Pilgrim *et al.* 1997, 2000); **Tanjung Kerita Mese** at Mata Wae Ndeo and Kampung Langka, August/September 1993 (Butchart *et al.* 1996); **Naga**, April 1976 (Schmutz 1977); **Golo Bilas** (Nggorang Bowosie), September 1997 (Pilgrim *et al.* 1997, 2000), 1998 (C. Trainor *in litt.* 1999); **Paku** (Mbeliling), frequent and breeding, October 1998 (R. Drijvers, C. Trainor *in litt.* 1999); **Wae Bobok** (Nggorang Bowosie), 1998 (C. Trainor *in litt.* 1999); **Puarlolo** (Mbeliling), east of Labuhanbajo, August 1997 (Chartier and Chartier 1997) and other dates (C. Trainor *in litt.* 1999), this evidently the site also



The distribution of Flores Crow *Corvus florensis*: (1) Mburu; (2) Sokruntung; (3) Cereng; (4) Wangkung; (5) Tanjung Kerita Mese; (6) Naga; (7) Golo Bilas; (8) Paku; (9) Wae Bobok; (10) Puarlolo; (11) Rekas; (12) Sesok; (13) Serempe; (14) Waso; (15) Reo; (16) Benteng Jawa; (17) Wainenda; (18) Nanga Rawa; (19) Kisol; (20) Rembong; (21) Wolo Tado; (22) Lengkosambi; (23) Soa; (24) Mbai; (25) Mausambi; (26) Maumere; (27) Heret.
○ Historical (pre-1950) ◐ Fairly recent (1950–1979) ● Recent (1980–present) □ Undated

known as Wairici Forest, where 12 were seen in August 1995 and five in August 1997 (B. F. King verbally 1998); **Rekas**, December 1946 and September 1955 (two three-egg clutches in RMNH); **Sesok**, September 1971 (male in RMNH), 700 m, September 1972 (Schmutz 1977); **Serempe** (Nggorang Bowosie), 1998 (C. Trainor *in litt.* 1999); **Waso**, West Flores, February 1956 (juvenile in MCZ); **Reo**, undated (Verhoeve and Holmes 1998); **Benteng Jawa**, December 1955 (two eggs in RMNH); **Wainenda**, November 1956 (three eggs in RMNH); **Nanga Rawa** and adjacent Poco Ndeki (“Gunung Pacandeki” in Gibbs 1990), 1980s (Collar and Andrew 1988), December 1989–January 1990 (Gibbs 1990), October and November 1992 (N. Bostock *in litt.* 1999), 1991 and September 1993 (Butchart *et al.* 1996); **Kisol**, September 1956 (male in MCZ, qualified with “Rongga Koe”), undated (Verhoeve undated), and in the 1980s (Collar and Andrew 1988) and 1990s (see Population); **Rembong**, January 1953 (three eggs in RMNH); **Wolo Tado** (Nature Reserve), Riung, August 1997 (Pilgrim *et al.* 1997, 2000), 1998 (C. Trainor *in litt.* 1999); **Lengkosambi**, August 1997 (Pilgrim *et al.* 1997, 2000); **Soa**, January 1962 (clutch of two eggs in RMNH); **Mbai**, September 1993 (Holmes 1993, Verhoeve and Holmes 1998); **Mausambi**, north coast, July 1996 (Jepson and Bowe 1997), uncommon there in August 1998 (R. Drijvers, C. Trainor *in litt.* 1999); **Maumere**, type locality, 1888 (Büttikofer 1894); **Heret**, December 1958 (two eggs in RMNH).

There are two specimens in MNHN whose labels are difficult to read, although one of them almost certainly is for Mbara. There are also clutches of two and one eggs in RMNH from “Djinggor”, which cannot be traced.

POPULATION It seems likely that this has always been a relatively uncommon and certainly a retiring species: Hartert (1897b) referred to it as “this rare little crow”, Rensch (1931a) did not encounter it in several months of intensive fieldwork in 1927, and White and Bruce (1986) noted that there are very few specimens. Nevertheless it may be locally common in undisturbed forest (Verhoeve and Holmes 1998). In 1993 it was recorded as “uncommon” at just three sites, and overall it was considered “rare”, living at low densities; most records were of single birds but with groups of up to five (Butchart *et al.* 1996). This team reported that in 1988 an observer had recorded up to 15 birds on Poco Ndeki, “so a real decline may have occurred” (Butchart *et al.* 1996). In similar vein, records kept by one bird tour leader suggest evidence of a downward trend at Kisol in the past 15 years, with maximum numbers as follows: 15 on 19–21 August 1987; 6 on 16–18 August 1989; 8 on 8–10 August 1991; 4 on 18–20 August 1993; 5 on 21–23 August 1995; 2 on 13–14 August 1997 (B. F. King verbally 1998). Nevertheless, the species was considered “fairly common and easily seen” at this site in March 1999 (I. Mauro *in litt.* 1999). Moreover, in 1997 it was “frequent” at both Wolo Tado and Golo Bilas, although altogether its low population density was acknowledged (Pilgrim *et al.* 1997). Fieldwork in 1998 throughout Flores revealed that it is widespread in wooded lowland areas in the west of the island, but in the east it appears to be very rare and perhaps absent altogether, despite extensive ostensibly suitable habitat in several areas (C. Trainor *in litt.* 1999).

ECOLOGY Habitat The Flores Crow has been judged a bird of the lowlands (Rensch 1931a,b), and it certainly appears to be forest-dependent (K. D. Bishop *in litt.* 1999). In 1993 the species was found in the canopy or subcanopy of semi-evergreen rainforest and degraded moist deciduous monsoon forest (latter especially along watercourses) from sea-level to 950 m (Butchart *et al.* 1996), sometimes in small relict patches but not adapting well to degradation (Verhoeve undated). On the north coast of Flores it was found in “open monsoon woodland or scrub” which constituted “very dry, lightly wooded terrain” (Holmes 1993), and elsewhere on the coast it has been found in open bamboo stands (Schmutz 1977). Research in 1998 confirmed the species’s strong link with closed-canopy forest but with records from degraded woodland (Paku) and teak plantation (Serempe) (C. Trainor *in litt.* 1999).

Food There appears to be no information.

Breeding A nest (made of sticks) was found 12 m up in an isolated tree amidst wooded cultivation at forest edge in October (R. Drijvers *in litt.* 1999, C. Trainor verbally 2000). Nine nests were distributed through September (one), November (one), December (five) and January (two) (Verheijen 1964). Copulation has been witnessed in late August (Butchart *et al.* 1996), a male with large gonads was collected in September (Schmutz 1977), and behaviour consistent with courtship and territorialism was witnessed from various birds in September (Pilgrim *et al.* 2000). This information is supported by records of eggs from September to January, and of a juvenile in February, given under Distribution.

THREATS The Flores Crow is one of (now) five threatened members of the suite of 17 bird species that are entirely restricted to the “Northern Nusa Tenggara Endemic Bird Area”, threats and conservation measures in which are profiled by Sujatnika *et al.* (1995) and Stattersfield *et al.* (1998). The species is susceptible to forest loss (Collar and Andrew 1988), but is fairly tolerant of forest degradation and of drier formations (Butchart *et al.* 1996). There has been chronic deforestation on Flores, and for example the type locality at Maumere is now entirely clear of wooded terrain (Verhoeve undated, Verhoeve and Holmes 1998); presumably the crow has experienced a concomitant contraction of range and hence decline in numbers. The extensive area of lowland moist deciduous forest at Golo Bilas, also important for Flores Hanging-parrot *Loriculus flosculus* and Flores Monarch *Monarcha sacerdotum* (see relevant accounts), is currently being cleared for firewood and light construction (Pilgrim *et al.* 1997) and for agriculture (R. F. A. Grimmett *in litt.* 2001). The forest near Labuhanbajo is also now being heavily cut-over: in one 5 km stretch of road through what was, in the mid-1990s, primary forest, 24 chainsaws were seen or heard in operation on one day in August 1999 (K. D. Bishop *in litt.* 1999).

Because it sometimes steals (or is reputed to steal) chicken eggs, some villagers regard the Flores Crow as a pest and reported dosing such eggs with DDT (Pilgrim *et al.* 2000).

The Flores Crow is a host for the Channel-billed Cuckoo *Scythrops novaehollandiae* and possibly the Asian Koel *Eudynamis scolopacea*, although the former is very rare in western Flores (Ottow and Verheijen 1969).

MEASURES TAKEN The targeting of this species for study in the project by Butchart *et al.* (1996) was an important first step. Fieldwork to establish whether the species’s apparent restriction to western Flores merely reflects the paucity of studies in the east of the island (a possibility raised by Butchart *et al.* 1996) was duly conducted in 1998 (C. Trainor *in litt.* 1999); recommended searches (Butchart *et al.* 1996) in northern Ende (central Flores), where moist deciduous monsoon forest is reported to be extensive (Verhoeve and Holmes 1998), have at least in part been undertaken, resulting in the record from Mausambi (Jepson and Bowe 1997). In 1997 the species was recorded in Wolo Tadho Nature Reserve (cagar alam), which was set up in 1990 and covers 4,016 ha (Pilgrim *et al.* 1997). It is also recorded from Wae Wuul Nature Reserve (3,000 ha) at Mburu (Trainor 2000).

MEASURES PROPOSED Three main steps are needed.

Protected areas There are four important areas for the species, Wolo Tadho, Mbeliling, Nggorang Bowosie and Sano Nggoang. Its presence in and near Wolo Tadho (which also holds Flores Green-pigeon *Treron floris*, a group of Yellow-crested Cockatoos *Cacatua sulphurea* and a good population of Komodo Dragons *Varanus komodoensis*: J. Pilgrim *in litt.* 1997, Trainor 2000) strengthens the case for extending the existing nature reserve there (C. Trainor *in litt.* 1999). The other three sites hold other threatened birds, and all require protected-area status; in addition, formal protection for forests at Mausambi (100 km²) and Ndeki-Komba (25 km²) is highly desirable (Trainor 2000; for Tanjung Kerita Mese at Mbeliling, see Measures Proposed under Flores Hanging-parrot).

Research A study is needed on the ecological requirements of the species, looking particularly at breeding success in different areas and identifying the greatest constraints on the population. The impact of cuckoo parasitism on the Flores Crow is also important to assess (Butchart *et al.* 1996). Investigation of forests in eastern Flores is particularly needed, as forest cover at the east end of the island is marginally greater than the island average of 15% (Trainor and Lesmana 2000), and “significant areas of lowland tropical dry forest” remain, and remain unsurveyed (C. Trainor *in litt.* 2001); at the easternmost site known for Flores Crow (Heret, near Gunung Egon), some of the most extensive forest in eastern Flores is found, so the species may well persist there (C. Trainor *in litt.* 2001).

Advocacy and awareness The local people know the species by the onomatopoeic name “lea”, distinguish it from the larger Large-billed Crow *Corvus macrorhynchus*, and do not generally eat or disturb it (C. Trainor *in litt.* 1999). However, local reports of its being persecuted as a pest (see Threats) suggest that greater publicity concerning its plight would be helpful. As an island endemic, it could be made the symbol of conservation on the island, and used in conjunction with campaigns to improve the way forests—especially lowland forests—are managed on Flores.

REMARKS (1) Although it has been said that recent evidence only comes from the west of the island (Verhoeve undated, Butchart *et al.* 1996; see Remarks 2) or that the species is “mainly known from the south coast” (Coates and Bishop 1997), there are now ancient and modern records from both halves of the island and from the north as much as or indeed more than the south; however, the great majority are concentrated in the west, and this bears out the last sentence under Population. (2) Butchart *et al.* (1996) were mistaken in suggesting that the only *reliable* records of the species have come from the west of the island, since, as Verhoeve (undated) remarked, the type locality is Maumere. (3) Holmes (1993) mentioned a puzzling encounter with at least six, and perhaps 10, crows that appeared to be this species rather than the Large-billed Crow *C. macrorhynchus* in a coconut grove with understorey trees at Tanjung Bunga, 8°11'S 122°49'E, on the road to Danau Asmara in the far east of the island; however, this record is not discussed by Butchart *et al.* (1996) or Verhoeve and Holmes (1998), and the latter repeated the suggestion that the species is now confined to the western half of Flores.