

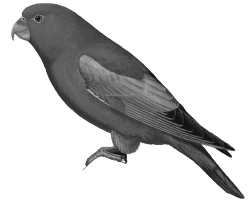
## CHATTERING LORY

### *Lorius garrulus*

Critical  —

Endangered  A1c,d; A2c,d

Vulnerable  —

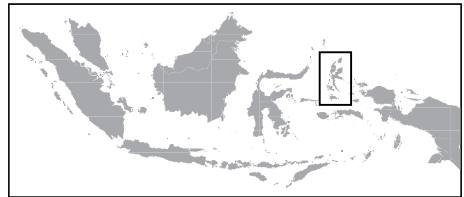
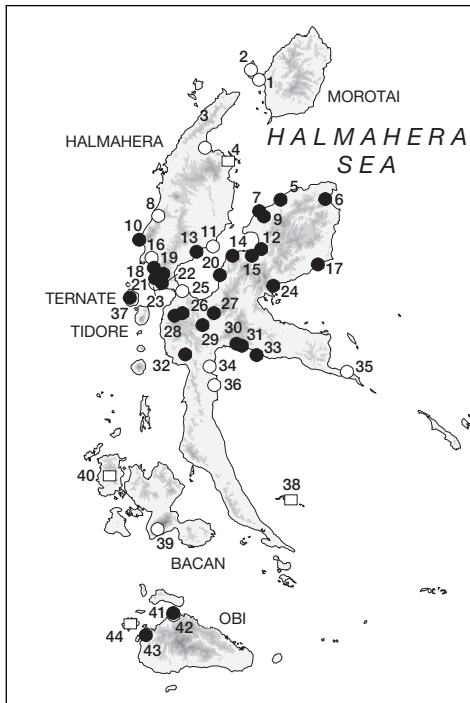


*This rainforest parrot is undergoing an observed very rapid population decline that is projected to continue as a direct result of habitat loss and human exploitation. It thus qualifies for Endangered.*

**DISTRIBUTION** The Chattering Lory is confined to the north Moluccan islands, Indonesia. Smiet (1985) listed it for Halmahera, Bacan, Ternate, Morotai and the smaller islands, and saw it on the first four, 1979–1981. White and Bruce (1986) gave its range by subspecies as Morotai and Rau (race *morotaianus*), Halmahera, Widi and perhaps Ternate (nominate *garrulus*) and Bacan and Obi (race *flavopalliatus*). Coates and Bishop (1997) regarded Ternate as confirmed (at least as a former site) for nominate *garrulus* and added Kasiruta and Obilatau to the range of *flavopalliatus*. The species has been released on Sangihe, north of Sulawesi (Lambert 1997). Records are from:

■ **INDONESIA** Morotai unspecified localities, August and September 1861 (Schlegel 1862–1873), and evidently widespread, May–November 1945 (Lendon 1946); Wayabula, March 1938 (van Bemmell 1940);

Rau unspecified localities, October 1861 (Schlegel 1862–1873) and in 1945 (Lendon 1946);



#### The distribution of Chattering Lory *Lorius*

***garrulus***: (1) Wayabula; (2) Rau; (3) Galela; (4) Tobelo; (5) Labilabi; (6) Akelamo; (7) Hilaitetor; (8) Gunung Gamkonora; (9) Sungai Ifis; (10) Peot; (11) Kao; (12) Sungai Dodaga; (13) Ngaima Dodera; (14) Sungai Oketai; (15) Gunung Subaim; (16) Jailolo; (17) Miaf; (18) Matui; (19) Gunung Tomoria; (20) Sungai Tolawi; (21) Telepeh; (22) Kali Batu Putih; (23) Sidangoli; (24) Buli; (25) Dodinga; (26) Air Toniku; (27) Fongli; (28) Air Oba; (29) Kulo; (30) Danau Sagea; (31) Sagea; (32) Hijrah; (33) Waleh; (34) Weda; (35) Patani; (36) Tilope; (37) Ternate; (38) Widi; (39) Gunung Sibela; (40) Kasiruta; (41) Jikotamo; (42) Laiwu; (43) Danau Manis; (44) Obilatau.

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

*Halmahera Galela*, July 1861 (Schlegel 1862–1873), February 1907 (two specimens in MCZ), unknown date (van Bemmell 1940); **Tobelo**, undated (three specimens in RMNH); **Labilabi**, mid-1990s (MKP), July 1998 (I. Mauro *in litt.* 1999); ); 20 km south of **Akelamo**, 100 m, August 1989 (K. D. Bishop *in litt.* 2000); **Hilaitetor**, August–September 1994 (Fuller undated); **Gunung Gamkonora** (see Remarks 1), 1,000 m, April 1931 (two specimens in AMNH), April 1894 (male in SMF); **Sungai Ifis**, August–September 1994 (Fuller undated); **Peot**, just to the south of Gunung Gamkonora, September 1983 (K. D. Bishop *in litt.* 2000); **Kao**, December 1909 (male in ZMA), including Teluk Kao road, August 1999 (K. D. Bishop *in litt.* 2000); **Sungai Dodaga**, August–September 1994 (Fuller undated); **Ngaima Dodera**, Malifat, October 1988 (female in MZB); **Sungai Oketai**, August–September 1994 (Fuller undated); **Gunung Subaim** (up to 1,040 m), August–September 1994 (Fuller undated); **Jailolo** (“Gilolo”), July 1841 (Schlegel 1862–1873) and April 1931 (three specimens in AMNH); **Miaf**, during BirdLife fieldwork, 1995 (MKP); **Matui**, August 1996 (J. O. Gjershaug and N. Rov *in litt.* 1999); **Gunung Tomoria**, October 1996 (J. O. Gjershaug and N. Rov *in litt.* 1999); **Sungai Tolawi**, August–September 1994 (Fuller undated); **Telepeh**, 40–50 birds, December 1995 (C. Donald *in litt.* 1999); **Kali Batu Putih**, in small numbers throughout the 1990s (Hornskov 1992, many observers *in litt.* 1999); **Sidangoli**, February 1875 (male and female in ZMA); **Buli**, during BirdLife fieldwork, 1995 (MKP); **Dodinga**, January 1874 (male in ZMA), October 1894 (specimen in SMF); **Air Toniku** during BirdLife fieldwork, 1995 (MKP); **Fongli**, during BirdLife fieldwork, 1995 (MKP); **Air Oba**, during BirdLife fieldwork, 1995 (MKP); **Kulo**, during BirdLife fieldwork, 1995 (MKP); west of **Danau Sagea** (Lake Sagea) at Weda Bay, July 1999 (F. R. Lambert *in litt.* 1999); **Sagea**, May 1999 (D. Agista *in litt.* 1999); **Hijrah**, May 1999 (D. Agista *in litt.* 1999); **Waleh**, May 1999 (D. Agista *in litt.* 1999); **Weda**, February 1907 (two specimens in MCZ), May 1938 (van Bemmell 1940, three specimens in MZB), including at “Nucifera”, 1 m, March–June, September and November 1949 (22 specimens in MCZ, MZB and ZMA); **Patani**, January 1894 (specimen in SMF), August 1897 (male in AMNH); **Tilope**, April 1938 (van Bemmell 1940, female in MZB); Sane (untraced), February 1907 (specimen in MCZ); Moke (untraced), May 1938 (van Bemmell 1940, male in MZB);

*Ternate* unspecified localities, 1875, November 1909 and c.1980 (van Bemmell and Voous 1953, Smiet 1985);

*Widi* (“Weda isl”) undated (van Bemmell 1948);

*Bacan* unspecified locality, December 1860 to March 1861 (Schlegel 1862–1873); **Gunung Sibela** (nature reserve), 1,200–1,500 m, June–July 1931 (five specimens in AMNH);

*Kasiruta* unspecified site and date (Coates and Bishop 1997);

*Obi* near **Jikotamo**, December 1989 (Linsley 1995); **Laiwui**, June–July 1914 (van Bemmell 1940, six specimens in MZB), December 1989 (Manchester Polytechnic observers *per* P. Andrew *in litt.* 1990); east of **Danau Manis**, December 1989 (Linsley 1995);

*Obilatu* unspecified site and date (Coates and Bishop 1997).

**POPULATION** In general the species was “locally quite common”, 1979–1981 and July–August 1985, but rare near settlements and plantations owing to trapping pressures (Smiet 1985, Milton and Marhadi 1987). Lambert (1993a,b) estimated the total world population in 1991–1992 at 46,360–295,540 birds.

*Morotai* The species was the commonest parrot on Morotai and Rau in 1945 (Lendon 1946) and was still quite common there around 1980 (Smiet 1985). Its population on the island in 1991–1992 was estimated to be 3,848–27,120 birds (Lambert 1993a,b), and it is still considered “locally common” (Coates and Bishop 1997).

*Halmahera* The species is considered “generally common” on the island (Coates and Bishop 1997). There have been two population estimates made, but these are not comparable. The first involved the entire “Halmahera Island Group”, based on survey work in 1991–1992, and resulted in the very considerable range 31,220–220,009 (Lambert 1993a,b). The

second involved the 1,060 km<sup>2</sup> of protection forest targeted for conversion to the Lolobata Wildlife Reserve on the north-east peninsula of Halmahera, where the population in late 1994 was estimated at 52,500 (range 39,600–69,900) individuals (Fuller undated). In the mid-1990s a BirdLife research programme recorded the species from c.250 of the 864 point-count stations on the island, and judged it common (MKP). Both this fieldwork and that of Fuller (undated) found high densities at high elevations in some places (MKP); primary rainforest at Miaf yielded an estimate of as many as 149.0 (116.6–190.4) birds per km<sup>2</sup> based on 144 records from 172 points (Poulsen *et al.* 1999). Around Sidangoli and Kali Batu Putih there has been a population crash as a result of trapping and forest cutting, so that where the species occurred in moderate numbers (4–10 birds daily), 1983–1994, it was subsequently very hard to find and none was seen in August 1999 (K. D. Bishop *in litt.* 2000).

**Ternate** The species appears to have become extinct on the island (“absent on Ternate”) (Coates and Bishop 1997). Recolonisation through escapes may, however, occur, since the number of birds kept as pets on the island is very high (K. D. Bishop *in litt.* 2000).

**Bacan** The species was judged uncommon on the island in 1985 and expected soon to become rare owing to trapping (Milton and Marhadi 1987); a decade later it was considered “locally common” (Coates and Bishop 1997). A population estimate for the Bacan Island Group (including Kasiruta and Mandiole) in 1991–1992 was 4,546–32,267 birds (Lambert 1993a,b).

**Obi** The species was locally the commonest *captive* parrot, and 4–6 birds were seen daily east of Danau Manis (Linsley 1995). A population estimate for the “Obi Island Group” in 1991–1992 was 6,746–16,144 birds (Lambert 1993a,b). The species is now considered “common” on the island (Coates and Bishop 1997).

**ECOLOGY Habitat** The Chattering Lory is a rainforest canopy species, although occasionally descending to the lower canopy to feed (Lambert 1993a,b). It has been characterised as chiefly coastal, although also seen in primary forest (Smiet 1985), and as a species that is “common in coastal lowlands with coconuts” (White and Bruce 1986); it is not, however, a bird of mangroves (Poulsen and Lambert 2000). The key findings of recent years indicate that, although it is tolerant of logging (Lambert 1993a,b), it is encountered significantly less often in modified forest than in primary forest (Poulsen and Lambert 2000), and that forest on ultrabasic rock produces significantly fewer records of both this and the White Cockatoo *Cacatua alba* (Poulsen *et al.* 1999, Poulsen and Lambert 2000), as previously suggested (Lambert 1993a,b, Fuller undated). Studies on Halmahera in 1994 revealed that montane forest was the most important habitat for the species, with records extending to 1,040 m, while gardens and coconut groves produced few records; but it could not be judged whether this was genuine habitat selection or a bias created by trapping pressure in the latter habitats (Fuller undated; similar findings and uncertainty on Bacan in Milton and Marhadi 1987). The latter explanation is supported by 22 specimens from “Nucifera”, Weda district, Halmahera, 20 of which are described as from a coconut plantation and most of them as common or very common (MCZ, MZB and ZMA label data). Elevation maxima are 1,300 m on Bacan and 730 m on Obi, but higher levels are possible (Coates and Bishop 1997).

**Food** The Chattering Lory is nectarivorous, feeding on nectar and/or pollen, with local reports of feeding on coconut flowers along the coast (Lambert 1993a,b; also Lendon 1946). However, a stomach contained forest fruits and maize (Vorderman 1898b), and birds have been seen eating small fruits of various species (Mangold 1999).

**Breeding** On Morotai the species seemed to be showing breeding activity from May to November, with a young bird caught in July and dependent fledglings seen in October and November (Lendon 1946). Other observers have seen young birds in December–March (Mangold 1999). Birds investigating potential nest sites were observed in logged forest at 140–370 m on several occasions on Bacan in November 1991 (Lambert 1993a), one site being in the

top of a broken palm trunk, although typical sites were swellings in main trunks 20–25 m up in trees 30–35 m tall (Lambert 1993a,b). A fully fledged immature was observed in mid-February, Obi, suggesting eggs were laid in September–October (Lambert 1993a,b). Specimens with fairly large testes were collected in March, April and November, Halmahera (ZMA label data). A pair was closely attending a nest hole c.20 m up in a tall forest tree inside recently logged forest, 150 m, near Sidangoli, October 1987 (K. D. Bishop *in litt.* 2000).

**THREATS** The Chattering Lory is one of (now) eight threatened members of the suite of 26 bird species that are entirely restricted to the “Northern Maluku Endemic Bird Area”, threats and conservation measures in which are profiled by Sujatnika *et al.* (1995) and Stattersfield *et al.* (1998). The threats to this species are from habitat loss combined with human exploitation pressures.

**Habitat loss** Most forest in the North Moluccas is still intact; at the start of the 1990s it was reported that 88.5% of the total area of Morotai, Halmahera and Bacan remained forested (Lambert 1993a,b). However, the forests in question “are rich in economically valuable timbers and exploitation by logging companies is now intensive”, with trees important for nesting purposes also being targeted for extraction, and with logging roads greatly facilitating access for trappers to new parrot-rich areas (Lambert 1993a,b); and indeed the situation is rapidly changing, such that “The noise of chainsaws was almost constant throughout the daylight hours during our stay on Halmahera” (C. Donald *in litt.* 1999). The area around Kali Batu Putih (Sidangoli) has been almost entirely cleared in the past 10 years (K. D. Bishop *in litt.* 1999). The one protected area in North Maluku is at risk (see Measures taken).

**Trade** This is the most popular bird to have been exported from the Moluccas (Lambert 1993a,b), largely owing to its strong imitative abilities (Smiet 1985), and it is now recognised that a significant domestic and local trade exists in the species (Jepson 1996). The relative resilience of this and other Moluccan species under trade pressure has been attributed to combinations of factors which include (a) considerable reproductive capacity, (b) adaptability to habitat alteration (which tends to produce superabundant fruiting and flowering plants), (c) persistence of patches of original habitat on most islands, and (d) lack of predators and competitive species (Smiet 1985). Nevertheless, based on field experiences in the mid-1980s, a serious reason for concern was felt, especially since the most commonly traded subspecies was that from the smallest islands in the North Moluccas (F. G. Rozendaal *in litt.* 1987 to T. P. Inskipp). A total of 5,122 birds were recorded as traded internationally out of the Moluccas in 1983, accounting for 12% of the islands’ psittacine exports (Smiet 1985), although subsequently the figures for this year proved to be rather worse, with official CITES reports for imports from Indonesia, 1981–1985, yielding the following totals: 1,813 in 1981, 1,866 in 1982, 7,842 in 1983, 4,735 in 1984, and 2,739 in 1985 (Inskipp *et al.* 1988). The basis for the quotas set in the 1980s was not known, but there appeared to have been no surveys to relate harvest levels to total numbers (Inskipp *et al.* 1988).

In 1990 the total number taken from the wild was officially recorded as 6,135 (4,727 for export, 1,408 as pets), but such records (incidentally, different from those in Table 1) are considered to represent only one quarter to one half of the actual trade at any given period, and anecdotal evidence suggested that some 15–20% of birds die prior to export (Lambert 1993a,b). The catch quota for Bacan in 1991 was only 250 birds, yet during the period from October 1991 to February 1992 2,088 birds were seen in holding cages on the island and between 4,450 and 6,760 birds were estimated to have been exported (Lambert 1993a,b). Consequently it was judged that at that time trappers might be removing in the order of 10% of the world population annually (Lambert 1993a,b). Fieldwork in 1994 produced a relatively high population estimate (52,500) for a major proposed protected area (Lolobata), yet even there the absence of the species around settlements led to the assertion that “capture of wild birds may represent a serious threat to this species in the areas visited”, with every village

**Table 1. Numbers of Chattering Lorries officially reported to CITES as exported from Indonesia, Singapore and all other countries combined (CITES annual report data, CITES Secretariat/UNEP-WCMC per J. Caldwell *in litt.* 2000).**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Indonesia	4,204	6,295	7,621	4,331	26	0	0	708	0	0
Singapore	8	0	0	0	619	95	40	44	148	12
All others	10	10	105	0	1	4	0	1	25	1
Total	4,491	6,305	7,726	4,331	646	99	40	753	173	13

containing many birds, and villagers keeping them for extended periods to train them to speak prior to export (Fuller undated).

It appears that, in spite of legal protection through quotas, thousands of birds are caught every year, and the species is one of the main birds smuggled to Mindanao in the Philippines on fishing boats (F. R. Lambert *in litt.* 1999). On both of two boat journeys between Ternate and Bitung in 1998 about 50 individuals, each packed in a plastic bottle, were being exported, and the impression from a visit to Halmahera was that the species is being trapped to extinction (I. Mauro *in litt.* 1999). Despite a recent ruling on *oleh-oleh* (the export of birds as gifts; see below), *oleh-oleh* permits are still being issued in Ternate (Y. Cahyadin verbally 1999). Nevertheless, at least in official records, the species has certainly undergone a decline in numbers in trade over the past decade; by far the largest consumers of these birds in this period were Taiwan (5,220), Singapore (3,947), Japan (3,160), Hong Kong (2,486), USA (2,440) and South Africa (1,782) (CITES annual report data, CITES Secretariat/UNEP-WCMC per J. Caldwell *in litt.* 2000).

**MEASURES TAKEN** The species was placed on CITES Appendix II in 1981 (Inskipp *et al.* 1988). It was, in 1988, unprotected by Indonesian law, but legislation had then recently come into force to require government permits for catching, owning, breeding or transporting all unprotected wildlife species (Inskipp *et al.* 1988). There was, however, such concern about the low abundance of the Chattering Lory on Bacan in the mid-1980s that a temporary ban on *all* trade in the species appeared to be most appropriate measure (Milton and Marhadi 1987), although it is not clear if such a ban was imposed. The species remains unprotected under Indonesian law, but the fact that there has been no quota issued by the authorities since 1999 (Y. Cahyadin verbally 2000) means that trapping and trading, as well as issuing *oleh oleh* permits, are illegal (see the equivalent section under White Cockatoo *Cacatua alba*).

Milton and Marhadi (1987) referred to “the recent establishment of the Gunung Sibela reserve with its almost undisturbed tracts of forest” on Bacan as a probable sanctuary for the endemic race of this species. Gunung Sibela Strict Nature Reserve embraces just over 100 km<sup>2</sup> of lowland forest, but is under pressure from agricultural encroachment and goldmining interests (see equivalent section under White Cockatoo).

**MEASURES PROPOSED** There is a detailed recommendation for a national park embracing a total of 2,130 km<sup>2</sup>, including the Dodaga mangrove area, on Halmahera (see equivalent section under White Cockatoo). Gunung Gamkonora, also on Halmahera, has been recommended for wildlife sanctuary or recreation forest status (Purmiasa 1997).

To achieve greater confidence in setting quotas on trapping this species, high-quality data are needed on population size and age structure, population dynamics, ranging behaviour and the effects of factors like logging and fires; this needs scientific investment of many years (Lambert 1993a,b), and, among other things, Smiet’s (1985) explanation of the species’s resilience in the face of trapping (see Threats: Trade) requires careful testing. Meanwhile, given the almost total lack of trade management, the zero quota arrangement of the past few

years should remain in place (R. F. A. Grimmett *in litt.* 2000). At any time when quotas are reinstated, reduced levels (1,160 was proposed in the early 1990s) would need to be strictly enforced, coupled with a long-term campaign to promote the taking of eggs and young rather than adults, and an experiment to introduce trapping concessions, allowing bidders to obtain monopolies on parrot harvesting in certain areas and thus increasing the incentives for the trade to regulate itself more stringently (Lambert 1993a,b), none of which was implemented before the 1999 zero quota imposition (F. R. Lambert verbally 1999). A ban on the transport of the species on ASDP inter-island ferries might be a helpful way of restricting illegal trade (I. Mauro *in litt.* 1999).

There is a need for a range-wide education programme to create the awareness among local people that the supply of Chattering Lorries is not infinite, and that the populations of the islands need to be cherished as much in the wild as in the home.

**REMARKS** (1) The labels in AMNH read like “Janumkaorrana” and in SMF like “Soa Konorra” (NJC), but clearly make best sense interpreted as the highest mountain on Halmahera (MKP).