

GREEN AVADAVAT

Amandava formosa



Critical —

Endangered —

Vulnerable A1a,c,d; A2b,c,d

This colourful finch qualifies for Vulnerable because it has a rapidly declining population owing to widespread trapping for the cagebird trade, compounded by habitat loss and degradation through agricultural intensification.

DISTRIBUTION The Green Avadavat (see Remarks 1) is endemic to India where it is distributed locally from southern Rajasthan, central Uttar Pradesh and southern Bihar to northern Andhra Pradesh and (possibly) northern Kerala (Grimmett *et al.* 1998; also Sharma and Tehsin 1994). There are also recent records from north and east Rajasthan. Early records from around Lahore, Pakistan (4–5 nests in ornamental trees in a municipal garden, now known as Bagh-I-Jinnah), suggested that it was “one of those species which is only found there during the monsoon” (Currie 1916a,c); it has not been found again and the birds in question were probably escaped cagebirds (Whistler ms, Roberts 1991–1992, Grimmett *et al.* 1998). Although West Bengal is sometimes mentioned as part of the range of this species (e.g. Goodwin 1982), there are no confirmed records from this state (see Grimmett *et al.* 1998). Records are from:

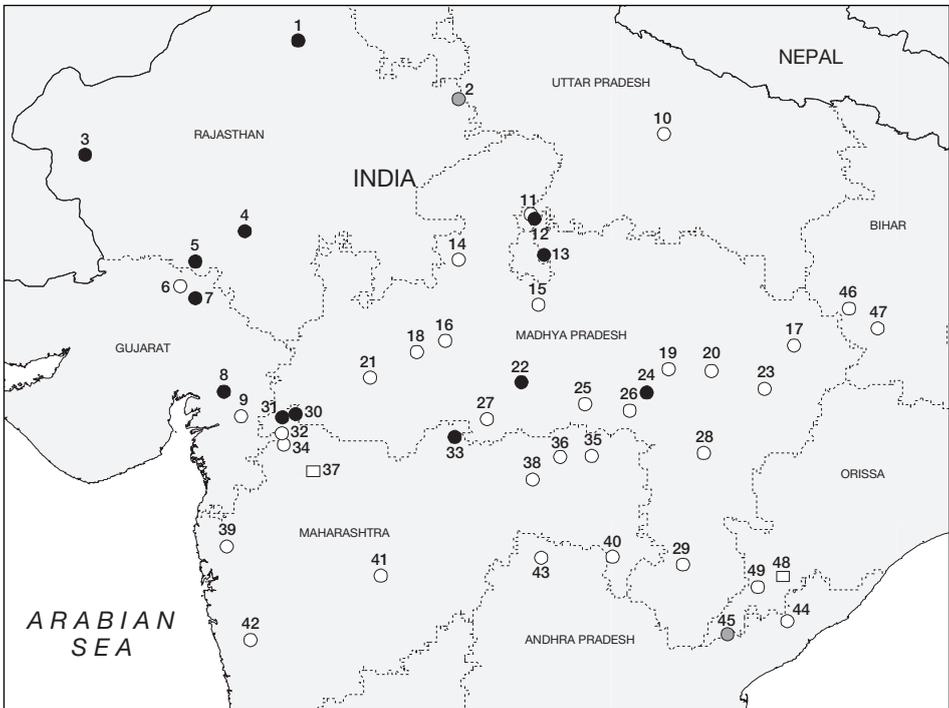
■ **INDIA** ■ **Rajasthan** Taal Chappar Wildlife Sanctuary, **Churu district**, March 1991 (Rahmani 1996c); between Sultanpur jheel, Haryana, and Keoladeo National Park, Bharatpur, closer to the latter and thus probably in the region of **Deeg**, one amongst a flock of Red Avadavat *Amandava amandava*, February 1978 (B. F. King verbally 1998; although see Remarks 2); **Desert National Park**, in Sudasari enclosure, one, July 1993 (Rahmani 1996c); **Kumbhalgarh**, undated (R. Singh *per* K. Kazmierczak *in litt.* 1999), 10–15, January 1999 (A. Prasad *in litt.* 1999); **Mount Abu**, Sirohi district, listed by Devarshi and Trigunayat (1989), with records in March and July 1868, and May 1875 (three specimens in BMNH, Butler 1875–1877), at Oriya (Oriya) in January 1949 (specimen in FMNH), and two there in 1993–1994 (Prakash and Singh 1995), with several flocks of 3–6 including in the Salgaon area, Adhar Devi temple forest and at Kanyakumari temple, October 1996 (Tiwari and Varu 1999), one, November 1997, and at least two, October 1998 (Lodhiya 1999);

■ **Gujarat** **Gangasagar**, Palanpur, January 1946 (Ali 1954–1955); **Taranga hill**, Mehsana district, nine, May 1996 (Tiwari and Varu 1999); **Vadodara** (Baroda), undated (Littledale 1886), and again in June 1999 when a pair were seen near the Mayo Hospital (Mukherjee and Borad 2000); found at **Rajpipla**, Bharuch district, along the Mozda river, Samot road, and once near Moti-Singloti, several kilometres from Mozda towards Dediapada, March 1946 (four specimens in USNM, Ali 1954–1955, Monga and Naoroji 1984);

■ **Uttar Pradesh** around **Lucknow**, undated (Blyth 1866–1867, Reid 1881), these records leading to the mention of “Oudh” (Avadh) as part of the species’s range (A. O. Hume in Butler 1875–1876); **Jhansi**, September 1860, August 1868 and undated (10 specimens in BMNH and USNM, A. O. Hume in Butler 1875–1876);

■ **Madhya Pradesh** unspecified localities in the Satpura hills (not mapped), undated (Ball 1874), and “Satpur, Khandesh” (presumably the Satpura hills), April 1884 (specimen in BMNH); **Orchha**, east of the Betwa river, 12, August 1993, seven, September 1997, but none in January 1999 (Saxena 1999); **Tikamgarh**, 60–70, June 1994 (Ahmed 1998, Bhargava 1996); **Guna** (Goon), undated (King 1868); **Sagar** (Saugor), July 1869 (specimen in BMNH), a

nest with two eggs in June 1903 (BMNH egg data), undated (Moss King 1911); **Sehore**, resident (Whitehead 1911); **Surguja** (Sirguja), undated (Ball 1874, 1878; also Ali and Ripley 1968–1998); **Dodi**, Malwa plateau, 500 m, January 1938 (Ali and Whistler 1939–1940, specimen in BMNH); **Mandla district** (Mundlah), April 1869 (two specimens in BMNH); **Amarkantak** (Omerkantak), near the source of the Narbada river, where “it occurs very abundantly”, undated (Blyth 1866–1867), with records from unspecified localities in the upper Narbada valley (Ball 1874); **Mhow**, particularly in the Vindhya range nearby, undated (Jerdon 1862–1864), with specimens later purchased at Mhow, undated (Swinhoe and Barnes 1885), and “a few” seen south of Mhow, near Killod, June 1928 (Briggs 1931); **Pachmarhi**, undated (Jerdon 1862–1864, Whistler ms), and one, early 1995 (A. K. Nagar *per K. Kazmierczak in litt.* 1999); **Korba**, Bilaspur district, undated (Jerdon 1862–1864), April 1870 (two specimens in BMNH), and thus listed for Bilaspur district by Ball (1878); **Kanha National Park**, 600 m, one male at Chuhari nala (Churi nullah), September 1972 (Güntert and Homberger 1973; also Newton *et al.* 1987), and “a flock” in December 1995 in the meadows of Bitli, Piparwada, Chilpura and Supkhar (Kanoje 1996b); **Seoni**, where seen on “high land” nearby, undated (Jerdon 1862–1864); **Balaghat district**, January 1912 (D’Abreu 1912); **Betul district**, seen only



The distribution of Green Avadavat *Amandava formosa*: (1) Churu district; (2) Deeg; (3) Desert National Park; (4) Kumbhalgarh; (5) Mount Abu; (6) Gangasagar; (7) Taranga hill; (8) Vadodara; (9) Rajpipla; (10) Lucknow; (11) Jhansi; (12) Orchha; (13) Tikamgarh; (14) Guna; (15) Sagar; (16) Sehore; (17) Surguja; (18) Dodi; (19) Mandla district; (20) Amarkantak; (21) Mhow; (22) Pachmarhi; (23) Korba; (24) Kanha National Park; (25) Seoni; (26) Balaghat district; (27) Betul district; (28) Raipur; (29) Bastar district; (30) Toranmal; (31) Dhadgaon; (32) Taloda; (33) Melghat Sanctuary; (34) Nandurbar; (35) Bhandara; (36) Nagpur; (37) Dhule; (38) Wardha; (39) Tansa lake; (40) Ahiri; (41) Pimpalner; (42) Mahabaleshwar; (43) Utnur; (44) Sankrametta; (45) Sileru; (46) Palamau National Park; (47) Lohardaga; (48) Koraput district; (49) Jaypur.

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

once in the Satpura range near the Nimar border, undated but presumably 1930s (Hewetson 1940); **Raipur**, January 1871 (Ball 1878, five specimens in BMNH); Bhanpur (Bhanpuri), **Bastar district** (Old Bastar), undated (Whistler and Kinnear 1931–1937);

■ **Maharashtra** “Konkan”, undated (E. A. Butler 1881), a region too vague to map, but with records apparently “on the one border and on the other border” (Ali and Whistler 1933–1934); **Toranmal**, June 1988–June 1990 (Vyawahare 1991); **Dhadgaon**, June 1988–June 1990 (Vyawahare 1991); by the Tapti river, north-west of **Taloda**, “considerable flocks of what I have no doubt was this species”, April, 1879–1881 (E. A. Butler 1881), and an unspecified locality in the “Tapti valley”, May 1874 (one in BMNH); **Melghat Sanctuary**, Kolkaz, Amravati district, 570 m, February 1976 (specimen in USNM, Sawarkar 1987), specifically at Semadoh on the road to Chikhaldara, undated, and at Chikhaldara (Chikalda), groups of seven and 10, March 1995 (K. Kazmierczak *in litt.* 1999); west of **Nandurbar**, a small flock of “what I have no doubt was this bird”, May 1881 (Davidson 1882); **Bhandara**, a nest in July 1874 (Hume and Oates 1889–1890, BMNH egg data); **Nagpur**, undated (D’Abreu 1935, Whistler ms); **Dhule**, undated (Vyawahare 1991); east of **Wardha** in the Wardha valley, undated (Blanford 1871); **Tansa lake**, Bombay area, party of four, September 1943 (Ali and Abdulali 1945b); on the Pranhita river, near **Ahiri**, April 1867, April 1874 (Blanford 1869, Ali and Whistler 1933–1934, two specimens in BMNH), and in the Chanda forest, presumably near Chandrapur (Chanda) (not mapped, but between Wardha and Ahiri), undated (Blanford 1869); “Khanapur Sarai”, **Pimpalner**, March 1884 (three specimens in BMNH); near **Mahabaleshwar**, undated (Fairbank 1876);

■ **Andhra Pradesh** **Utnur** (Utnoor), Adilabad district, on the basis of a reliable local report, undated (Ali and Whistler 1933–1934); **Sankrametta**, Vizagapatam (Vishakhapatnam) district, 900 m, six collected, March 1930 (Whistler and Kinnear 1931–1937), also in Vizagapatam district at Lamasinghi, 1944 (Abdulali 1945); Sapparla, 32 km east of **Sileru**, Vizagapatam district, female, March 1975 (Ripley *et al.* 1988; also Ali and Ripley 1968–1998);

■ **Bihar** Palamau district, presumably in what is now **Palamau National Park**, April 1878 (one in BMNH); unspecified locality, pre-1845 (two specimens in BMNH); **Lohardaga** (Lohardugga), undated (Ball 1878);

■ **Orissa** **Koraput district**, “not very common”, undated (Majumdar 1988); **Jaypur** (Jeypore Agency), 900 m, two collected, April 1930 (Whistler and Kinnear 1931–1937).

The following are unconfirmed records. A bird at Sunder Nagar, beside Delhi Zoo, in October 1978 (Gaston and Mackrell 1980) is thought likely to have been an escape from captivity (T. P. Inskipp *in litt.* 1999). A possible flock was seen at Badarwas, March 1938 (Ali and Whistler 1939–1940, Ali ms). Claims of “small parties” of 3–6 on footpaths and open hillsides in October, November and early December 1990 in northern Kerala (Neelakantan *et al.* 1993), and of a “flock” seen in northern Karnataka (at Anshi National Park) in 1994 (Uttangi 1994b), would represent previously undiscovered populations or perhaps post-breeding dispersal if they are confirmed (T. P. Inskipp *in litt.* 1999). Further sightings of around seven individuals at Thattakad Bird Sanctuary in the 1990s again suggest that a small and local population exists in Kerala, perhaps consisting of escapees from captivity (Sugathan and Vargese 1996; but see Santharam 2000).

POPULATION The global population of the Green Avadavat appears to be centred on Madhya Pradesh, where early reports gave it variously as “uncommon and sporadic” (Ali and Whistler 1939–1940), “fairly common in some parts” (Baker 1932–1935), “by no means rare” in the Satpura hills and the Narbada valley (Ball 1874), “common” in various places (Barnes 1885, Whitehead 1911), and apparently “rather abundant” in the Pachmarhi area (Jerdon 1862–1864). More recently, flocks of up to 60–70 individuals were seen in 1994 in the Tikamgarh area (Bhargava 1996), with unspecified numbers in Kanha National Park in 1995 (Kanoje 1996b). Blyth (1866–1867) reported that it “occurs very abundantly” at

Amkantak, around the source of the Narbada river, while Ball (1874) stated that it occurred in Surguja, "if not in other parts of Chota Nagpur". The general impression is that it has a "very erratic distribution but where it occurs it is abundant" (Hewetson 1956).

In surrounding states it is usually found to be less common, although it occasionally occurs in large numbers. For example, in Andhra Pradesh it was thought "common" at Sankrametta (Whistler and Kinnear 1931–1937), and "small parties" of 4–8 were seen by Price (1980). None was recorded, however, during the Hyderabad State Survey apart from local reports at Utnur (Ali and Whistler 1933–1934). In Gujarat it is scarce; Ali (1954–1955) thought it "locally and capriciously distributed ... in flocks of 20 or so", while Monga and Naoroji (1984) encountered small groups on three occasions. In Maharashtra it has been described as "rather scarce" in general (Blanford 1869), "very local" in the Wardha valley (Blanford 1871), "not common" in the "Konkan" region (E. A. Butler 1881), "rare" near Mahabaleshwar (Fairbank 1876), occurring in "considerable flocks" in the Tapti valley (Davidson 1882), and more recently "common" at Melghat Sanctuary (Sawarkar 1987). In Orissa it was thought "not very common" (Majumdar 1988). On and around Mount Abu, Rajasthan, however, it has apparently always been relatively "common" (Butler 1875–1876), and this also seems to be the case in Udaipur district (Banerjee 1996). In Uttar Pradesh it was uncommon around Lucknow (Reid 1881, Jesse 1902–1903), occurring "much less plentifully" than the Red Avadavat (Blyth 1866–1867). The recent records of 2,000 for sale at Ranchi, Bihar, does not imply a large population in this region as trapping activities are focused on Orissa and Madhya Pradesh (Ahmed 1997, 1998).

Although recent observations have tended to imply small numbers of individuals, erratically distributed and widely scattered, the occurrence in trade of a minimum of several thousand birds in the early 1990s (Ahmed 1998) indicates that sizeable populations must still occur locally. They must be presumed to be declining owing to the pressure of trade, and indeed trappers report that it is becoming more difficult to catch in many areas (Ahmed 1997). It has been suggested that populations in "many areas of Madhya Pradesh have already disappeared" (Ahmed 1998). However, direct evidence that the species is declining is lacking (T. P. Inskipp *in litt.* 2000) and further investigation is urgently needed to establish some quantified and comparable baseline population data.

ECOLOGY Habitat The species has been found in low grass and bushes, tall grassland, sugarcane fields, mango orchards, high trees and boulder-strewn scrub (Reid 1881, Whistler and Kinnear 1931–1937, Ali and Ripley 1968–1998, Bhargava 1996). On Mount Abu and at Melghat Sanctuary it has been observed in introduced lantana *Lantana camara* scrub (Lodhiya 1999, K. Kazmierczak *in litt.* 1999). One individual was seen in stony arid wasteland on a tall *Capparis* bush in Desert National Park (Rahmani 1996c), and a small population in the Tikamgarh area inhabited "stony, arid waste land" (Ahmed 1998). Reid (1881) found the species in a mango orchard and high trees near Lucknow. Tiwari (in prep.) observed it in a *nulla* (small stream or valley) near a forest clearing in Rajasthan, and in Andhra Pradesh it frequented tall grass (Ali and Whistler 1933–1934). Birds tend to spend much time in small flocks (usually fewer than 10) on the ground or in low bushes (Monga and Naoroji 1984, Bhargava 1996, Ahmed 1997). A small population of 60–70 birds, observed over three days, restricted itself to an area of 1 km² (Bhargava 1996, Ahmed 1998).

Food It presumably feeds on a variety of small seeds, although the only documented food plants are grasses (Ali and Ripley 1968–1998). In captivity, however, insects make up the main food during the chick-rearing stage (Immelmann *et al.* 1965), and this is possibly the case in the wild.

Breeding Breeding records are from May to January (Hume and Oates 1889–1890, Ali and Ripley 1968–1998). The only documented nests have been found in sugarcane plantations (although birds presumably also breed in rough grassland), one of which near Bhandara contained seven unfinished and completed nests, prompting the suggestion that breeding is

semi-colonial (Hume and Oates 1889–1890). These were globular structures with a short neck made up of coarse grass, lined with finer grass and situated c.2 m above the ground; clutches apparently contain 5–6 eggs, usually the former (Hume and Oates 1889–1890, Baker 1932–1935, Ali and Ripley 1968–1998). Both sexes build the nest and incubate the eggs (Hume and Oates 1889–1890). For further details of breeding behaviour in captivity, see Teschemaker (1905) and Kunkel (1962).

Migration Its movements are minor and poorly understood, with apparent local influxes or absences potentially related to rainfall or some other environmental variable (Ali and Whistler 1933–1934, 1939–1940). In many areas the species appears to be present all year round: E. A. D'Abreu (in Whistler ms), for example, stated that at Nagpur birds are “always to be found” in “a patch of long grass growing in a perennial stream”.

THREATS Trade Even in the nineteenth century, the Green Avadavat was popular as a cagebird, sometimes being brought to market in “considerable numbers” (Jerdon 1862–1864, Reid 1881). It remains a highly sought-after cagebird in both domestic and international markets, being sold to aviaries, zoos and private individuals (Ahmed 1997, 1998). It is captured, usually in nets or funnel traps, in substantial numbers, and up to 2,000–3,000 were estimated to be illegally traded annually for the pet trade in the 1990s (Ahmed 1997). Nearly 1,000 individuals were observed during market surveys in 1992–1994 (Ahmed 1997). Before international trade was banned, numbers of this species recorded passing through Heathrow Airport, UK, fluctuated widely, with none in 1970–1972, but 3,244 in 1975 and 8,520 in 1976 (Inskipp 1975, 1983). Up to a decade after trade was outlawed, around 500 individuals were still arriving at the same airport illegally (T. P. Inskipp *in litt.* 1999). Moreover, its occurrence in the markets of Lucknow (25–50 birds on three counts in 1992–1996), Meerut (750 birds in September 1993), Patna (30–40 birds in September 1993), Tikamgarh (60 birds in June 1994), Ambala (30 birds in June 1994), Delhi (150–200 birds in two counts in 1994–1995) and Ranchi (2,000 birds in June 1995) (Ahmed 1998) suggests that huge numbers are still being taken from the wild for sale within India. Most trapping is at present conducted by trappers from Lucknow, Bihar and Calcutta, who sell the birds on to regional dealers, who in turn send them to major markets (Ahmed 1998). The favoured areas for trapping are apparently around Raigarh, Bhopal, Indore and Katni in Madhya Pradesh (Ahmed 1998). It apparently took trappers only two days to “wipe out” a small population (60–70 birds) in the Tikamgarh area (Ahmed 1998).

Most birds in trade presumably derive from wild populations, as the species breeds poorly in captivity and is only bred in very small numbers by aviculturists in India (Ahmed 1998, T. P. Inskipp *in litt.* 1999). As a further consideration, the species has been found to be susceptible to stress, with a high mortality among trapped birds observed within the first few days after capture (Ahmed 1997), and thus the number of individuals trapped must far exceed those identified in trade. Owing to its relative fearlessness it can be trapped very easily (Ahmed 1997), and as a result of continued trapping, its populations appear to have been wiped out in certain areas (Bhargava 1996). In general, smuggling of birds from India is still common (generally through Nepal and Pakistan) (*Oriental Bird Club Bull.* 27 [1998]: 16–20). Indeed, the species has been seen on sale recently (1999) in Nepal (A. Prasad *in litt.* 1999), showing that international trade laws are still flouted.

Habitat loss Given the broad range of regenerating and open habitats utilised, the species is not thought to suffer unduly from habitat loss or modification (T. P. Inskipp *in litt.* 1998). However, in some areas cultivation is so intensive (i.e. mustard fields in parts of Rajasthan) that populations of most passerines have declined significantly (B. F. King verbally 1998). Given the predominance of agriculture in the Indian landscape it is conceivable that associated pollution is a threat to the species; the widespread deployment of pesticides in India is outlined in Threats under White-rumped Vulture *Gyps bengalensis*.

MEASURES TAKEN *Control of trade* The species appears on CITES Appendix II and is protected under a 1991 amendment of the Wildlife (Protection) Act of India (1972); national trade is therefore illegal. Trapping and trade has been banned since around 1981. A countrywide study on the live bird trade in India was taken up by TRAFFIC-India between 1992 and 1994 (Ahmed 1997) and the impact of trade on the species was assessed.

Protected areas The species has been recorded in Kanha National Park, Desert National Park, Melghat Sanctuary and Taal Chappar Wildlife Sanctuary, and is reported from Palamau National Park, Anshi National Park, and the Gurukulam Botanical Sanctuary.

MEASURES PROPOSED As very little is known about this species, a detailed study of its ecology and the impact of trapping and live bird trade on local populations is required. Extensive status surveys with the help of trappers with prior knowledge of the area are needed, but also involving rigorous, repeatable censuses in a wide range of areas so as to build a baseline dataset from which to gauge future population trends. These censuses should be repeated at regular intervals and at comparable seasons over a long period into the future. The species should be put in Schedule I of the Wildlife Protection Act (1972), and, depending on the first indications from repeat censuses, there may well be a case for it to be moved to Appendix I of CITES.

The control of trapping itself is one of the primary objectives of any conservation programme for this species. Stricter enforcement and training of authorities would help curb this illegal trade (*Oriental Bird Club Bull.* 27 [1998]: 16–20). However, a sensitive approach should be taken towards the traditional bird-trappers, many of whom are severely impoverished: a rehabilitation programme is perhaps required for them, including wherever possible the provision of alternative livelihoods (*Oriental Bird Club Bull.* 27 [1998]: 16–20). As the species's habitat requirements are rather broad, there is little cause for specific recommendations until its ecology is better understood. The proposal by Tiwari and Varu (1999) that lantana scrub clearance should be “carried out on a large scale” is perhaps unduly hasty considering that the species has been recorded frequenting this very habitat (Lodhiya 1999, K. Kazmierczak *in litt.* 1999).

REMARKS (1) Although treated as *Stictospiza formosa* by early authors (e.g. Sharpe 1890, Baker 1922–1930), then *Estrilda formosa* by others (e.g. Ripley 1982), Whistler and Kinnear (1931–1937) noted that it “seems hardly worth separation from *Amandava*” and it is now generally placed in this latter genus (Inskipp *et al.* 1996). In common with its congener the Red Avadavat *A. amandava*, this species should therefore be called “avadavat” rather than “munia” (e.g. Grimmett *et al.* 1998). (2) Traders often sell female Red Avadavats as this species by dyeing them green (Ahmed 1997) and green-dyed Scaly-breasted Munias *Lonchura punctulata* have been seen free-flying in Delhi (K. Kazmierczak *in litt.* 1999). These present potential identification pitfalls, although genuine Green Avadavats can be distinguished by the presence of barring on the underparts and the lack of white dotting in the plumage (see, e.g., Grimmett *et al.* 1998). In addition, damaged individuals are sometimes sold by traders as “release birds”, to be freed during ceremonies or at temples, and these possibly sometimes result in some of the sightings of odd individuals in the Delhi region (Ahmed 1998).