

The Demoiselle Crane, *Anthropoides virgo*, in Turkey: distribution and population of a highly endangered species

by Max Kasparek

Abstract: The Demoiselle Crane is one of the rarest bird species of Turkey. 20-30 pairs breed at a few sites in Eastern Anatolia. In contrast to the major part of its ranges, it is confined to wetlands. Compared to Cyprus, the number of migrants is relatively low, which might be explained by a low observation activity during migration seasons.

Kurzfassung: Der Jungfernkranich ist eine der seltensten Vogelarten der Türkei. Er kommt in etwa 20-30 Paaren an wenigen Stellen in Ostanatolien vor. Im Gegensatz zum größten Teil seines Areals ist er in der Türkei ein Feuchtgebietsbrüter. Im Vergleich zu Zypern sind die Durchzugszahlen in der Türkei äußerst gering, was mit einer geringen Beobachtungsaktivität zu den Zugzeiten erklärt wird.

Keywords: Gruidae – conservation – Red Data Book – migration – breeding distribution

1. Introduction

Until recent times, the Demoiselle Crane has been described as a rare migrant in Turkey (e.g. HOLLON et al. 1971). However, GROH (1971) was able to confirm that this species was nesting in Eastern Turkey in 1971. Since then, new breeding sites have been discovered in that part of the country. These, together with records from the migration period, will be discussed here. As the Demoiselle Crane is considered to be threatened on a global basis, the knowledge of population size, habitat requirements and phenology is essential for any conservation policy.

2. The records

2.1. Records at breeding places or possible breeding places

The Demoiselle Crane seems to have bred on the plain of Erzurum during the last century. It was mentioned by SANDWICH (1856) as an "extremely rare" species (cf. KASPAREK 1987a) and ZOHRAB collected it there in 1880 (DRESSER 1891). There are then no records until 1967, when ERARD & ETCHÉCOPAR (1968) saw two individuals between Çobandede and Horasan to the east of Erzurum on 10.6, and TROMMER (1969) nine individuals between Pasinler and Horasan on 9.7. At Aras River near Söylemez, which is the southern continuation of that area, WARNCKE saw one pair and found its nest containing two eggs on 20.5.75 (Bird Report 1974-75). The gap in the records for almost 80 years may simply be due to insufficient surveying of the area. The lack of recent information may again be due to insufficient surveying.

Along the Murat River in the vicinity of Ağrı, two individuals were seen by MÜLLER & ROTHMANN on 21.4.68 (GROH 1971) and by MÜLLER-ZECH in May 1968 (Bird Report 1968-69). In 1970, SCOTT found four birds near Aşkale to the northwest of Ağrı on 1.5, MADGE three there (two of them dancing) on 10.6 (Bird Report

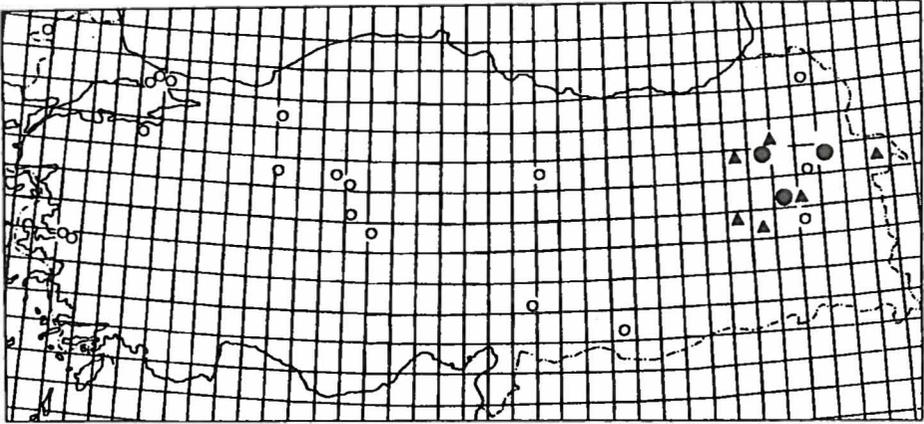


Fig. 1. Distribution of the Demoiselle Crane, *Anthropoides virgo*, in Turkey. Dots show breeding sites, triangulars former or presumed breeding sites, circles observations on migration.

1970-73), KLEE one about 20 km east of Ağrı on 10/11.5 and two about 15 km west of Ağrı on 11.5 (GROH 1971). GROH (1971) observed two individuals each at three different sites in the Ağrı area from 1-3.6.71. Again, two Demoiselle Cranes were seen there on 17.4.81 (GORIUP & PARR 1983) and on 31.5.81 (BEAMAN in: Bird Report 1976-81). In 1983, BEZZEL et al. noted one pair just west of Ağrı on 1.6, and in 1986 JÜRGENS saw one pair with two young about 10 days old some kilometres north of Ağrı on 17.6. Two weeks later, on 30.6, BRÄUNING et al. saw two birds at the same site and on the following day, they noted both birds again plus one juvenile bird. In 1987, BRÄUNING saw two pairs there on 14.6 and KASPAREK three individuals on 28.7.

At Murat River in the vicinity of Bulanık, WARNCKE observed one pair on an island on 19.5.75 (Bird Report 1974-75). MURPHY found two pairs by the Murat River west of Bulanık on 25-26.6.83 (cf. MURPHY 1984). One individual was observed there again by DAVIDSON (1985) on 21.5.85 and three individuals by FITZHARRIS & GRACE on the following day. Apparently at the same site, at Balotu village near Yoncalı, BISON, GNODDE & V. D. LAAN recorded two adults plus one young on 8.7.85. In 1986, OLESEN observed two adults near Bulanık on 11.7 and in 1987, V. D. BERG observed one individual 12 km east of Bulanık on 9 May, EAMES two individuals near Bulanık on 10 June and one pair which was breeding near Balotu village on 10, 11, and 13 June. GREEN also confirmed the pair near Balotu village. Further up the river, in the Malazgirt area, SCHMIDT & SCHUBERT saw one pair dancing on an island on 8-10.6.84.

At Karasu River 15 kilometres east of Muş, KLEE observed two birds, probably

a pair, on 6.5.80 (GROH 1971, Bird Report 1970-73). Recently, on 28.7.88, NIEHUIS observed one pair east of Yaygın to the northwest of Muş. In the marshes north of Doğubayazıt, GROH (1971) saw one pair and found its nest containing two eggs on 3-4.6.71 (cf. also Bird Report 1970-73). Although visited several times during the last few years, more recent information from this breeding site is not available.

Two records concern flocks of Demoiselle Cranes within the breeding range, but away from breeding sites: GORIUP & PARR (1983) observed a group of 21 at Murat River near Tutak on 20.4.81 (cf. Bird Report 1976-81) and GIERTZ & GOLAY about 15 on the way from Tatvan to Erciş on 26.4.86.

2.2. Records outside the breeding range

In the middle of the last century, NOE shot a Demoiselle Crane at Küçük Çekmece near İstanbul (RIGLER 1852). ALLÉON (1880) only noted that "this species is met with in the surroundings of Constantinople from time to time" and MATHEY-DUPRAZ (1923) watched five individuals at Kağıthane, nowadays a part of İstanbul, on 20.4.1893. In April 1961, SCHWEIGER (1965) observed one between Edirne and Svilengrad (on the Turkish side?) and CLUGSTONE, MULLINS & RAINES one adult at Apolyont Gölü on 20.9.68 (Bird Report 1968-69). BENSCH saw not less than 38 passing south at the Bosphorus on 25.9.1977 (Bird Report 1976-81). In the İzmir area, KRÜPER (1875) saw one at "Narlıkevi" in April 1863. The record of one individual at Bornova in April 1864 (KRÜPER & HARTLAUB 1875) might refer to the same observation.

In Inner Anatolia, VIERHAUS & BRUCH saw one near Eskişehir on 23.4.67 (KUMERLOEVE 1970) and one was recorded near Bala in the Ankara province on 21.5.67 (Bird Report 1966-67). At Sivas, one was seen by DENNERT on 5.9.63 (cf. also KUMERLOEVE 1967). MARR & PORTER saw three adults at Tuz Gölü on 21/22.5.69 (Bird Report 1968-69), TAYLOR 11 at Mogan Gölü on 6.4.74 (Bird Report 1974-75), P. DE GRISSAC, J. C. BEAUDOIN et al. one there on 6.4.85 and KOCH & SINGER saw and filmed one at Kulu Gölü on 8.5.83 (KASPAREK 1987b).

The zoo of Ankara kept Demoiselle Cranes in 1963 which were said to have been brought from the province of Urfa in South-east Anatolia (ŞEMSETTINOĞLU in: KUMERLOEVE 1967). Two or three individuals were seen (and one of them shot) at Gavur Gölü in the Kahramanmaraş area in spring 1958 (ASLAN in: KUMERLOEVE 1967). The only record from the Black Sea region is from Bolu, where ROTHMAN observed two on 28.4.65 (KUMERLOEVE 1970). One was seen by HEATHCOTE near Ardahan in the Kars province of Eastern Anatolia on 26.9.79, but was apparently a migrant. At the present time (1986) the zoo of Ankara keeps Demoiselle Cranes (KASPAREK), of unknown origin.

3. Discussion

The Demoiselle Crane has been a breeding species at the Dobrogea (Bulgaria/Romania). SINTENIS (1877) described it there as "very common in the steppes" and RADAKOFF (1879) gave the Pruth valley and Wallachia as breeding sites (cf. also

REISER 1894). Up until 1926, some breeding might have taken place (cf. CRAMP 1980). In southern Bessarabia, the Demoiselle Crane disappeared as a breeding species probably at the end of the 1920s (HEER 1971). Although there are only limited data, the population that still exists in USSR apparently shows a considerable decrease (CRAMP 1980). The size of the Soviet population is estimated to be between 45,000 and 50,000 individuals (BORODIN 1984). Breeding sites along the Dnieper River (GLUTZ, BAUER & BEZZEL 1973) seem to have been abandoned and the most western breeding area is the Crimea peninsula (IVANOV 1976). However, there was also a marked population decline from 1962 to 1964 and most of the remaining breeding sites (Kerč peninsula, Tarchan-Kutskij, bay of Karkinitzkij, Sivaš area) were abandoned in the middle of the 1970s. At present, only 50-60 pairs breed on Crimea and in the southern Ukraine (BORODIN 1984). Migrating Demoiselle Cranes nowadays appear on the Crimea only irregularly and in small numbers (KOSTIN 1983).

For Greece and Bulgaria, there are only a few records from the migration period: Apart from some old literature records without known details, the only records in Greece are one specimen collected at Attica on 5.4.1859 (REISER 1905) and one seen near Seres on 2.5.1956 (KUMERLOEVE 1957). In Bulgaria, there are three records from Burgas salt-works: 12 individuals on 20.10.1958, 8 on 19.3.1959 and 3 on 8.8.1969 (PROSTOV 1964, ROBEL et al. 1978). Furthermore, 10 individuals were observed in the Pomorie area on 7.8.1982 (BOEV & SIMEONOV 1985). The Demoiselle Crane has apparently never been recorded in Syria and only once in Lebanon (two individuals near Saida on 24.10.1958, BENSON 1970, KUMERLOEVE 1962). In Iraq, MEINERTZHAGEN (1924) saw it at Mossul on 24.12.1922 and "many flocks" on 2 and 3.12.1922. In the north-west of the Dead Sea, he saw flocks of 60 and 20 at Ramleh on 16th and 18th March (1918?) (MEINERTZHAGEN 1920). One collected near Tbilisi in Georgia on 24.3.1895 (JORDANIA 1965) was apparently a migrant.

All records from Turkey outside the breeding range are from the migration periods: in spring from the end of March (earliest 24th March) to the end of May (latest 22th May) and in autumn in September (earliest 5th September, latest 26th September). The few Bulgarian records suggest a wider period for the autumn migration: the earliest date is 7th August, latest 20th October.

Although the records from the areas adjacent to Turkey listed above may be incomplete, it becomes evident that the Demoiselle Crane is a scarce migrant not only in Turkey. The situation on Cyprus contrasts with this: In both seasons, the Demoiselle Crane is probably a fairly common passage migrant. For instance, 1,468 birds were counted within two weeks during autumn 1971 (FLINT & STEWART 1983). The migration pattern (time of migration and the relatively short-lasting autumn migration) is similar to that described for Turkey, but the numbers are up to over several hundred, sometimes several thousand. This suggests that migrating flocks are overlooked in Turkey to a great extent. The usual flight height is 70-100 m, but migrating flocks fly considerably higher. Furthermore, part of the migration takes place during the night (GLUTZ, BAUER & BEZZEL 1973). This might explain the almost total absence of observations of migrating flocks. On the other hand, it is less probable that there is a

non-stop migration from the breeding grounds to the winter quarters (some over-wintering in Iraq is indicated by the December records near Mosul mentioned above).

The high numbers on Cyprus raise not only the question of migration routes, but also the question of the breeding area and population size: Only the population of the Ukraine, including the Crimea peninsula, is expected to cross Turkey and Cyprus. And, as has been mentioned above, this population is estimated to be only 50-60 pairs at present (BORODIN 1984).

The migration pattern described for Turkey as well as for Cyprus and other areas might not reflect the true situation. A rather important part of the migration might occur in August. But this season is characterized by an almost complete absence of observers. The bird-watchers active during this period are concentrated in coastal areas and not in the dry, hot steppe areas where the Demoiselle Crane might be found. Thus, the high numbers of migrants on Cyprus should be even higher, and one would expect more records and better numbers by surveying the steppe areas in Central Anatolia during August.

The Demoiselle Crane arrives at its breeding range in Turkey in April. The first record at a breeding site is April 17th. However, a flock of 21 individuals was still seen on April 20th and one of 15 individuals on April 26th, suggesting newly-arrived birds which had not yet dispersed over their territories. Breeding adults were seen on 20.5 and on 10-13.6, young on 17.6 (about 10 days old), 30.6 and 8.7.

The size of the Turkish breeding population may be about 20-30 pairs in Ağrı Ovası and in the Upper Murat area mainly around Malazgirt - Bulank. It probably still breeds in the Upper Aras area (Horasan - Söylemez). A breeding site in the Doğu-bayazıt area was abandoned in the 1970s.

All the Turkish breeding sites are situated along rivers and creeks and are confined to wetlands. In contrast with this, the populations of the Demoiselle Crane in China and the USSR are confined to dry areas, mainly steppes ranging from grassland to unvegetated flats. The only requirement of the habitat is a ready access to drinking water (CRAMP 1980).

At present, there seems to be no special threat to the Turkish population. All the sites are situated in parts of Eastern Anatolia which are less developed from the economic point-of-view. Agricultural machines are only used to a small extent, and almost all the agricultural work is done by hand. The rivers where the Demoiselle Crane breeds are in their natural state. This situation protects the species at present, but Turkey is developing quickly and agricultural reform in Eastern Anatolia is only a question of time. Although operating very slowly, it has already started. This will change the habitats of the species considerably and emphasises the need for protected areas. It should be recognized that the conservation of habitats is much easier and it should be done now and not at a time when the destruction of habitats is underway.

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