On the size of the Common Crane *Grus grus* population migrating through western Europe

Javier A. Alonso, Juan C. Alonso & Francisco J. Cantos

The data available in the literature on the size of the European Common Crane *Grus grus* population migrating along the southwestern route are diverse and confused: sometimes they are estimates of the number of breeding pairs in definite areas (Merikallio 1958, Makatsch 1981, Swanberg 1981), and sometimes they are partial censuses or, in most cases, estimates of the numbers of migrants seen along the migratory route (e.g. Alerstam & Bauer 1973, Rinne 1974, Vergoossen 1981, Karlsson & Swanberg 1984; see revisions in Makatsch 1970, Glutz et al. 1973, Cramp & Simmons 1980). Some of these studies report high concentrations at the traditional stopover areas in the GDR: 10 000 birds at Müritz in October 1955 (Deppe 1965), 17 400 at Bock on 17.10.82 (Zöllick 1984), 15 000 at Bock on 16.10.83 (Prange *in litt.*), but nothing is said about the total number of cranes migrating through these areas. Other authors give some figures for the total numbers of birds seen flying past: Keil (1970) estimated that "some 20 000–30 000 cranes" migrated through Germany; his maximum was "more than 26 000" during autumn 1966, recorded in a combined field-enquiry study, but he did not exclude the possibility of some duplication. Alerstam & Bauer (1973) detected 1190 radar echoes, and counting 41 flocks which averaged 23 birds per flock, they estimatd that "no less than 24 000, but hardly twice as many cranes" passed the Southern Baltic region in spring. From literature data and personal observations, Prange (1984) estimated that approximately 30 000 cranes migrated southwest through Central Europe. The sparse data available from more southern regions are also contradictory: after censuses of migrating flocks made at several localities in France on different dates in autumn 1983, it was estimated that around 30 000 cranes migrated southwards (Riols, pers. comm.), although other authors hold that the Western European population does not exceed 15 000–20 000 individuals (Scott 1980, Petit 1982, Prévost, in Yessou 1983). Bernis (1960, 1966) estimated that 10 000–15 000 cranes wintered in the Iberian Peninsula. Later, in 1979–80, six general censuses were carried out in Spain, and the maximum number, obtained in November 1979, was 14 721 cranes in 44 localities (Fernández-Cruz 1981).

During a study of the prenuptial migration at Lake Gallocanta (NE Spain), in 1983–85, we censused the migrating population. The prenuptial migratory period is a suitable time to count crane populations, because the migratory corridor is narrower than in autumn (Glutz et al. 1973), and the migrating birds tend to concentrate in time and space. Over the last few years, the canalization of migrating cranes through our study area has been increasing progressively (Fernández-Cruz 1981, Alonso et al. in press). We believe that today nearly all the cranes wintering in Iberia and Morocco stop at Lake Gallocanta during their migrations. Between 18 February and 18 March 1985, two to six observers counted all the cranes leaving the lake basin, at four observation points located on the mountains north of the lake and covering a zone of 15–20 km. The total number of cranes counted was 31 945. The first flocks left the area on 27 February, and the study was concluded when no significant numbers of birds had entered the zone from the south for four days. Other data showing the magnitude of the population are the peak numbers recorded by us on 19 and 20 November 1983: 14 815 and 14 550, respectively, and on 7 and 8 March 1985: 18 454 and 20 878 respectively. The differences between these numbers and previous data for the wintering areas indicate that either the previous figures are underestimates, or the relative importance of the population of Common Cranes wintering in NW Africa is higher than believed by most authors (Heim de Balsac & Mayaud 1962, Blondel & Blondel 1964, Bernis 1966, Karlsson 1974, Pineau & Giraud-Audine 1976, 1979, Dubois & Dumautois 1977, Fernández-Cruz 1981, Thévenot 1984). Although we cannot exclude the possibility that an abnormal meteorological situation in North Africa could have affected the migration pattern in spring 1985, we believe that the numbers of cranes using this route must be approximately the same every year. In conclusion, we think that the migratory and wintering patterns of the Common Crane in the W Mediterranean region, especially the importance of the population wintering in the Maghreb, are still poorly understood and need further study.

Acknowledgements. We acknowledge the field assistance of L. M. Bautista, R. Muñoz, I. Vega, R. Urrialde, G. Castro, E. Segovia, A. Alvarez, A. Barroso and J. Castro. Financial support was partly provided by CAICYT-CSIC Project No. 22107-01, while J. C. A. benefitted from a postdoctoral fellowship, and by the Dirección General de Medio Ambiente (MOPU).

Selostus: **Länsi-Euroopan kautta muuttavan kurkipopulaation koko**

Kirjallisuudessa esitetyt tiedot länsireittiä pitkin muuttavan kurkipopulaation koosta ovat hyvin vaihtelevia. Useimmiten on esitetty arvioita tietyllä alueella havaittujen muuttavien tai levähdyspaikoille kerääntyneiden kurkien määristä, mutta kokonaiskannan suuruutta ei ole yleensä arvioitu.

Kurkea on tutkittu Koillis-Espanjassa, Gallocanta-järvellä vuosina 1983–85. Kevätmuuton aikana kurjet muuttavat tällä alueella varsin kapealla vyöhykkeellä, ja kirjoittajat uskovatkin, että nykyisin lähes kaikki Iberian niemimaalla ja Marokossa talvehtivat kurjet pysähtyvät levähtämään Gallocanta-järvelle. 18.2.–18.3.1985 laskettiin kaikki muutolle lähteneet kurjet. Kurkien yhteismääräksi saatiin 31 945. Luku on selvästi suurempi kuin aikaisemmat talvehtivan kannan suuruusarviot.

References

Alerstam, T. & Bauer, C. A. 1973: A radar study of the spring migration of the Crane (Grus grus) over the Southern Baltic area. — Vogelwarte 27:1–16.

Alonso, J. C., Alonso, J. A. & Veiga, J. P. (in press): The influence of recent agricultural development on the wintering and migratory pattern of Grus grus in Iberia: a study of winter ecology in a suitable locality. — Proc. III Int. Crane Workshop, Bharatpur (India), 1983.

Bernis, F. 1960: About wintering and migration of the Common crane (Grus grus) in Spain. — Proc. 12th Int. Orn. Congr., Helsinki: 110–117.

Bernis, F. 1966: Aves Migradoras Ibéricas, Vol. I. — Soc. Esp. Ornit., Madrid.

Blondel, J. & Blondel, C. 1964: Remarques sur l'hivernage des limicoles et d'autres oiseaux aquatiques au Maroc. — Alauda 32:250–279.

Cramp, S. & Simmons, K. E. L. (eds.) 1980: The birds of the Western Palearctic. Vol. II. — Oxford Univ. Press, Oxford.

Deppe, H. J. 1965: Vogelzug im Gebiet des Müritzsees in Mecklenburg. — Vogelwarte 23:128–140.
Dubois, P. & Dumautois, L. 1977: Notes sur l'ornitologie marocaine. — Alauda 45:285–291.
Fernández-Cruz, M. (ed.) 1981: La migración e invernada de la grulla Común (Grus grus) en España. Resultados del proyecto Grus (Crane Project). — Ardeola 26–27:1–164.
Glutz, U., Bauer, K. M. & Bezzel, E. 1973: Handbuch der Vögel Mitteleuropas. Band 5. — Akademische Verlagsgesellschaft, Wiesbaden.
Heim de Balsac, H. & Mayaud, N. 1962: Les oiseaux du Nord-Ouest de l'Afrique. – Paul Lechevalier, Paris.
Karlsson, A. 1974: Den stora tranresan. — Naturfotoförlaget, Mariestad.
Karlsson, A. & Swanberg, P. O. 1984: Hornborgasjöns Tranor 1983. — Länsstyrelsen 5/1984, Mariestad.
Keil, W. 1970: Untersuchungen über den Zug des Kranichs von Herbst 1966 bis Frühjahr 1970. — Emberiza 2:49–60.
Makatsch, W. 1970: Der Kranich (Grus grus). — Neue Brehm Bücherei. A. Ziemsen Verlag, Wittenberg, Lutherstadt.
Makatsch, W. 1981: The status of Common Crane in upper Lusatia. — *In:* Lewis, J. C. & Masatomi, H. (eds.): Crane research around the world, pp. 186–187. Proc. Int. Crane Symp. Sapporo, Japan, 1980.
Merikallio, E. 1958: Finnish birds, their distribution and numbers. — Fauna Fennica 5:1–181.
Petit, P. 1982: Rapport sur l'intérêt écologique de la région du Camp des Captieux (Gironde-Landes). — Manuscript.
Pineau, J. & Giraud-Audine, M. 1976: Notes sur les oiseaux hivernants dans l'extrême nord-ouest du Maroc: reproduction et mouvements. — Alauda 45:75–103.
Pineau, J. & Giraud-Audine, M. 1979: Les oiseaux de la Peninsule Tingitane. — Inst. Scient., Rabat.
Prange, H. 1984: Der Kranichzug in Thüringen und seine Einordnung in die mitteleuropäische Flugroute. — Thür. Orn. Mitt. 32:1–16.
Rinne, J. 1974: Der Frühjahrzug des Kranichs Grus grus in der Umgebung von Helsinki in den Jahren 1950–69. — Ornis Fennica 51:155–182.
Scott, D. A. 1980: A preliminary inventory of wetlands of international importance for waterfowl in West Europe and North Africa. — I.W.R.B. Slimbridge.
Swanberg, P. O. 1981: Notes on the population of Common Cranes in Scandinavia and Finland. A preliminary survey. — *In:* Lewis, J. C. & Masatomi, H. (eds.): Crane research around the world, pp. 184–185. Proc. Int. Crane Symp. Sapporo, Japan, 1980.
Thévenot, M. 1984: Statut et répartition des grues au Maroc. — 6th Pan-African Ornith. Congr., Francistown, Botswana.
Vergoossen, W. G. 1981: De trek van Kraanvogels (Grus grus) in Belgie. — Veldornitologisch Tidjschrift 4:11–26.
Yessou, P. 1983: La migration d'automne des Grus Cendrées. Cas particulier du passage de Novembre 1982. — Bull. Serv. Tech. O.N.C. 66:24–28.
Zöllick, H. 1984: Beobachtungen an Stand- und Nahrungsplätzen des Kranichs (Grus grus) im Herbst 1982. — Orn. Rundbrief Mecklenburgs Neue Folge 27:3–8.

Authors' addresses: Javier A. Alonso & Franscisco J. Cantos, Cátedra de Vertebrados, Facultad de Biología, Universidad Complutense, 28040 Madrid, Spain, and Juan C. Alonso, Museo Nacional de Ciencias Naturales, CSIC, José Gutiérrez Abascal 2, 28006 Madrid, Spain.