

# The Sociable Lapwing in Europe

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**Abstract** Records of the Sociable Lapwing *Vanellus gregarius* in western and central Europe were analysed. Sightings in these areas reached 20–21 per year in 2003–05, the most recent years for which complete data were available, with records from France, Spain and Portugal amounting to one-third of the European total during the decade 1996–2005. While most occurred in spring or autumn, records in the Iberian Peninsula were concentrated in the winter months. Spring movements appeared to be, on average, faster and to follow a more southerly route than those in autumn. Numbers reported were only slightly lower in spring than in autumn, suggesting that winter mortality rates may be low. In autumn, about 60% of birds that were aged were in juvenile/first-year plumage. The observed patterns, taking into account the numbers and distribution of observers and the species' habitat preferences, support the hypothesis that small numbers of Sociable Lapwings may winter regularly in Iberia.

The formerly abundant Sociable Lapwing *Vanellus gregarius* is now a Critically Endangered wader, its world population estimated to be around 5,600 breeding pairs. It breeds in Kazakhstan and adjacent parts of south-central Russia, and winters primarily in Israel, Eritrea, Sudan and northwest India (Tomkovich & Lebedeva 2004; [www.birdlife.org](http://www.birdlife.org)). In western and central Europe, records are erratic and its status is that of a presumed vagrant, with most records being of single birds in spring or autumn (Glutz von Blotzheim *et al.* 1975; Snow & Perrins 1998). There is, however, an emerging pattern of occurrence in the Iberian Peninsula in winter, suggesting the possibility that these birds may be part of a regular (though very small) wintering population, rather than vagrants (de Juana 1991, 2006). A similar theory has been suggested with regard to records in France (Dubois *et al.* 2008). Given the global status of the species and the threats it faces, which include large-scale changes to its breeding habitat in the steppes of central Asia, together with hunting pressure on migration (notably in Syria and Iraq), it seems important to examine these ideas further. This paper

presents the results of an analysis of records in western and central Europe.

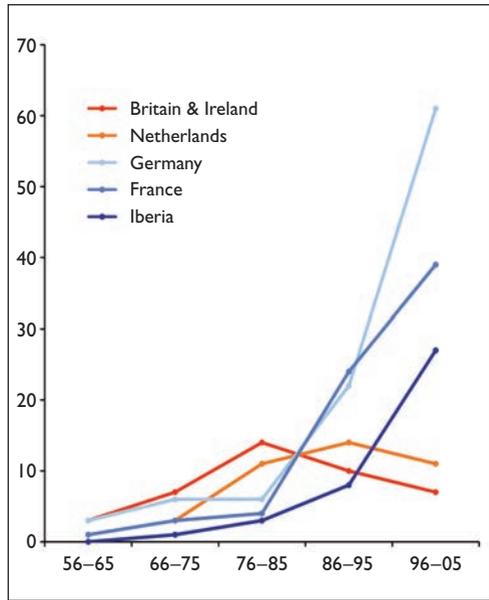
## Trends across Europe

Records of Sociable Lapwings were sought from as many countries as possible in western and central Europe. Most data were extracted from the annual reports of national rarities committees, although for Italy a variety of other sources were used (e.g. Moltoni 1968, 1978, Brichetti & Fracasso 2004, *Rivista Italiana di Ornitologia*, *Rivista Italiana di Birdwatching*). The number of dated records available for analysis was 466, much higher than in previous compilations; for example, 2.6 times the figure quoted by Mitchell & Young (1997), and 7.4 times that by van den Berg (1984). The annual total for western and central Europe reached 21 in 2003, 20 in 2004 and 21 in 2005 (information for subsequent years was not available for all countries in the region).

The recent increase in sightings across western and central Europe as a whole has been rather uneven, however; numbers in some countries have increased, while those in others have changed little or declined (fig. 1). For example, comparing the period

1976–1985 with 1996–2005, it is clear that while records from Germany, France and the Iberian Peninsula have increased by roughly an order of magnitude, those in the Netherlands have remained fairly constant while those in Britain declined by c. 50%.

The occurrence patterns of vagrants in a given area may be strongly biased by the presence and distribution of potential observers (Alerstam 1990; Fraser 1997). To what extent does this affect the apparently changing patterns of Sociable Lapwing occurrence in Europe? Records from the Iberian Peninsula, which have shown a particularly marked increase, may be linked to the increasing number of observers, at least in part. Taking membership of the Spanish Ornithological Society (SEO/BirdLife, [www.seo.org](http://www.seo.org)) as an index of the numbers of active birdwatchers in that country, and grouping the data in ten-year periods, a significant correlation ( $P < 0.05$ ) is apparent between the mean number of members (which have increased from 31 in 1956–65 to 6,464 in 1996–2005) and the number of Sociable Lapwing records in each period (rising from 0 in 1956–65 to 19 in 1996–2005). Comparable data for other countries is lacking, but it seems that the rapid increase in number of birdwatchers in Spain has not been matched in other European countries



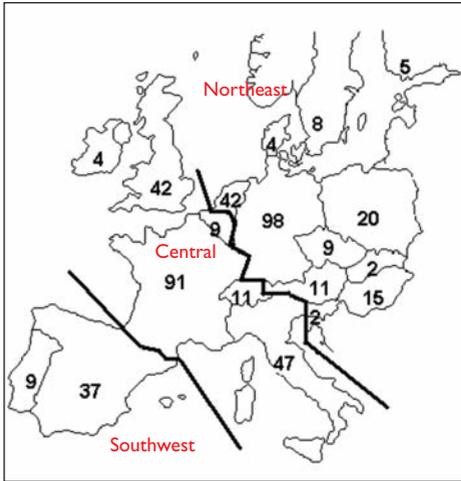
**Fig. 1.** Sociable Lapwing *Vanellus gregarius* records in key parts of western and central Europe between 1956 and 2005 (graph shows the ten-year total for each country/area). The differences are highly significant ( $\chi^2 = 63$ ,  $P < 0.001$ ).

with longer traditions of field ornithology, such as Britain and Ireland. If that is the case, then the declining trend shown by the British and Irish data fits better with the overall decline in the breeding population of the Sociable Lapwing (see [www.birdlife.org](http://www.birdlife.org)).



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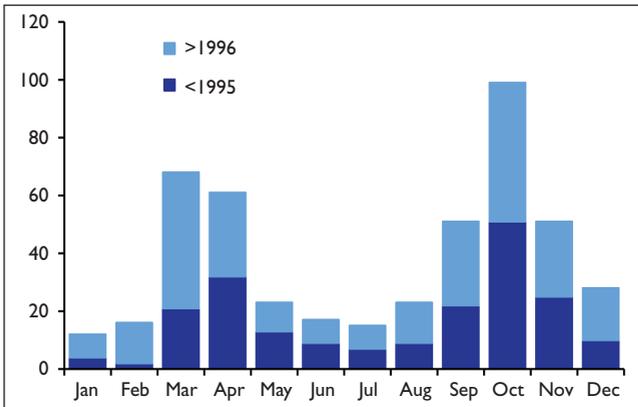
**39.** Sociable Lapwing *Vanellus gregarius*, Boecillo, Valladolid, Spain, April 2010.



**Fig. 2.** Distribution of records of the Sociable Lapwing *Vanellus gregarius* included in this analysis, by country and region (Northeast, Central and Southwest).

**Geographical patterns**

Fig. 2 shows the distribution of Sociable Lapwing records across western and central Europe, and the three geographical regions adopted in this analysis (Northeast, Central and Southwest). In addition, records from the Canary Islands (1), Morocco (1) and Malta (3), although not shown in fig. 2, were included in the analyses (Giraud-Audine & Pineau 1973; Trujillo 1994; Sultana & Gauci 1982). The majority of records are concentrated in middle latitudes (France and Germany together account for c. 40% of the total), while records become rarer in the southwest and, especially, in the north.



**Fig. 3.** Temporal distribution of Sociable Lapwings *Vanellus gregarius* in western and central Europe (1956–2005) by month; dated records prior to the end of 1995 are separated from those from 1996 onwards.

**Temporal patterns**

There are European records in every month of the year, although most are in autumn (mainly September to November with a marked peak in October) and spring, mostly March and April (fig. 3). Records from September to November amount to 47.8% of the total in the period prior to 1996 and 39.8% of the total during 1996–2005 (differences not significant,  $\chi^2 = 3.02$ ,  $P = 0.06$ ). The decrease in the proportion of autumn records may reflect the influence of the British records, which predominated before 1970 and were mostly in autumn (Vinicombe & Cottridge 1996). When (all) the records are separated by season, winter (December to February) accounts for 12.1% of the total, spring (March to May) 32.8%, summer (June to August) 11.8% and autumn (September to November) 43.3%.

When the three regions (as defined above) are considered separately, however, it is clear that spring and autumn records predominate in the Northeast and Central regions, while in the Southwest there is a higher percentage of winter records (55.3% of the total, compared with 29.8% in autumn, 14.9% in spring and none in summer). In summer, sightings are almost entirely in the Northeast (21.9% of the overall total, with 40.9% in autumn, 36.3% in spring and 0.9% in winter). These differences in the seasonal distribution of records among sectors are highly significant ( $\chi^2 = 139$ ;  $P < 0.001$ ; fig. 4).

Predictably, as birds move to and from their breeding grounds in Russia and Kazakhstan, records from the Northeast peak earlier in autumn and later in spring than elsewhere. In autumn, the average discovery date in the Northeast is 7th October, while in the Central region it is 28th October. In spring, average discovery date is 31st March in the Central region and 13th April in the Northeast. These differences are statistically significant, both in autumn (ANOVA:  $F = 18.47$ ,  $P < 0.0001$ ) and in spring ( $F = 12.45$ ,  $P < 0.0001$ ).

Winter records

Winter records tended to be concentrated in the Southwest region, and there appears to be a clear difference between the proportion of winter records in France (12.4% of the total in winter) and the Iberian Peninsula (53.3%). Fig. 5 reveals that, even within the Iberian Peninsula, winter records tend to be concentrated in the southwest, where they amount to 72% of the total, compared with 30% in the northeast ( $\chi^2 = 6.278, P = 0.012$ ). The southwestern part of the Iberian Peninsula (including Extremadura and Andalusia in Spain, and southern Portugal) is also the area where the highest concentrations of Northern Lapwings *V. vanellus* overwinter (Díaz *et al.* 1996). Indeed, it appears that the southwest parts of the Iberian Peninsula may represent a regular wintering area for very small numbers of Sociable Lapwings (de Juana 2006). The smaller numbers reported in the northeast of the Iberian Peninsula suggest that fewer winter there and that a higher proportion are

still on passage, en route to wintering areas farther south. An unknown proportion of Sociable Lapwings may actually spend the winter in northwest Africa.

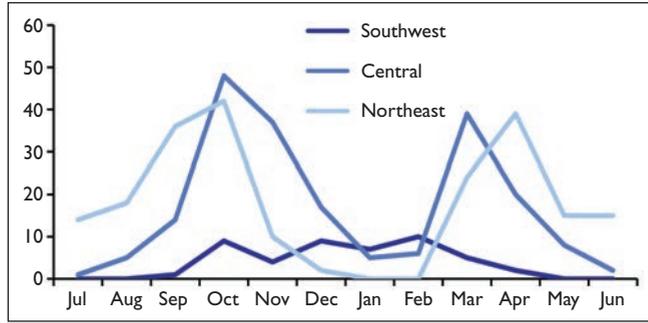


Fig. 4. Monthly distribution of Sociable Lapwing *Vanellus gregarius* records in the three geographical regions of Europe considered: Southwest, Central and Northeast (see fig. 2).

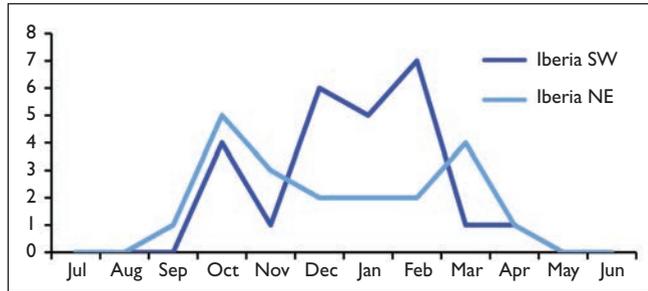
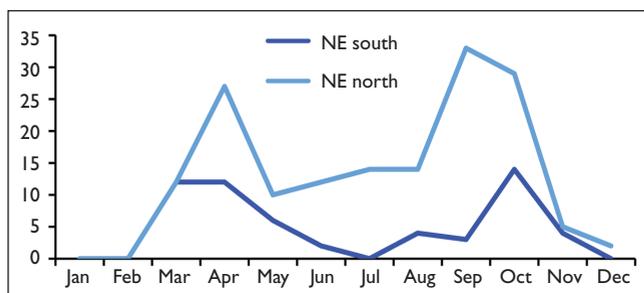


Fig. 5. Monthly distribution of the Sociable Lapwing *Vanellus gregarius* in the southwest and northeast parts of the Iberian Peninsula. These regions are separated by a line running northwest to southeast across Spain and passing approximately through Madrid.



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40. Sociable Lapwing *Vanellus gregarius*, Boecillo, Valladolid, Spain, April 2010.



**Fig. 6.** Monthly distribution of the Sociable Lapwing *Vanellus gregarius* in the Northeast sector; records separated into north (Finland, Sweden, Denmark, Poland, the Netherlands and northern/central Germany) and south (southern Germany, Czech Republic, Slovakia, Austria, Hungary and Slovenia).

### Summer records

Summer records are mostly in the Northeast region but there is again an important within-region difference in the proportion (but not the timing) of summer sightings between the northern countries (Finland, Sweden, Denmark, Poland, the Netherlands, and northern and central Germany) and those farther south (the German states of Bayern and Baden-Württemberg, the Czech Republic, Slovakia, Austria, Hungary and Slovenia; fig. 6). Summer records comprise 25.3% of the total in the north, 10.5% in the south ( $\chi^2 = 5.448$ ,  $P < 0.02$ ). These records may relate to summering individuals (young birds or non-breeders), or to early autumn migrants, perhaps joining the post-breeding movements of Northern Lapwings into western Europe (Van de Weghe 1962; Imboden 1974; van den Berg 1984). There is just one recorded case of a Sociable Lapwing attempting to breed in Europe outside Russia: an individual, probably paired with a Northern Lapwing, brooding eggs that failed to hatch at Pori, Finland, in May and June 1990 (Snow & Perrins 1998).

### Spring and autumn migration

Differences in the average arrival dates between the Central and the Northeast regions (three weeks in autumn, two weeks in spring) may indicate a more rapid migration in spring than autumn. This is also apparent if stopover duration in localities where each individual was first reported is measured. Following discovery, birds remained at a given locality for, on average, 7.35 days (1–126 days,  $n = 444$ ,  $SD = 14.03$ ). Stays

were, on average, longer in summer and winter (10.4 and 10.3 days respectively) and shorter in autumn (7.6 days) and spring (4.8 days); these differences are statistically significant (ANOVA:  $F = 3.1387$ ,  $P = 0.025$ ). Birds that remained for longer than the average stay comprised 33.3% of the total in winter, 32.0% in summer, 22.5% in autumn and 17.6% in spring.

As well as being faster, there is some evidence that spring

migrants follow a more southerly route than in autumn (a similar strategy is also adopted by Northern Lapwings; Imboden 1974). In the Northeast region (fig. 6), there is a higher proportion of autumn records in the north (42.4% of the total, cf. 31.0% in spring), whereas in the south spring records comprise 52.6% of the total (cf. 36.8% in autumn); these differences are not significant ( $\chi^2 = 3.27$ ,  $P = 0.07$ ). In the Central sector, there are significant differences ( $\chi^2 = 4.92$ ,  $P = 0.027$ ) when comparing the spring and autumn records from Britain (62.3% of records in autumn, 14.6% in spring) and France (47.2% in autumn, 33.7% in spring). In Italy, 37.2% of all records are of spring birds (compared with 48.8% in autumn) but these figures may be affected by the predominance of old records in the available data (Moltoni 1968, 1978). Many of these older records were birds shot by hunters and there is consequently a bias relating to dates of the hunting season (of 18 dated records up to 1976, 14 were in autumn and two in spring, while of 12 records after 1985, six were in spring).

### Age classes and flock size

In all, the age of the bird was established in 44.8% of the records. In autumn, 62.2% of birds that were aged were juvenile or first-winter birds ( $n = 130$ ), while in spring 93.6% of those aged were recorded as adults ( $n = 78$ ). However, it seems possible that many first-summer birds in spring were mistakenly recorded as adults, even though full breeding plumage is not normally attained during the first year of life (Hayman *et al.* 1986).

Most records refer to single birds, and only four relate to two birds (one autumn record from Hungary and three spring/summer records from Austria, Poland and Sweden). There was one record of three together (Czech Republic, April 1985). Two Italian records mentioned birds in flocks: one of 10–12 birds in Lazio province in early October 1964 (Di Carlo 1969) and another of 12 birds on the island of Pantelleria on 16th September 1990 (La Mantia *et al.* 1992). Many Sociable Lapwing records refer to an association with Northern Lapwings, although not all records acknowledge associated species.

## Discussion

The fact that most west/central European records of Sociable Lapwing relate to single birds, with a predominance of first-years in autumn, gives the initial impression of a vagrant species, rather than a regular migrant coming to the region in small numbers in winter. However, since almost 40% of autumn migrants are adults (at least of those that were aged), it is clear that many sightings cannot be simply explained by post-juvenile vagrancy/dispersal. Instead, it suggests that many individuals could be repeating the journey. Donald *et al.* (2010) described how the results of satellite tracking have revealed that most Sociable Lapwings breeding in Kazakhstan appear to head due west in the early stages of their autumn migration, around the northern coast of the Caspian Sea. Then, after a 90° turn to the south, they pass through southern Russia and cross the mountains of the Caucasus. Donald *et al.* suggested that the relatively high rate of vagrancy to western Europe reflects birds that simply ‘miss’ that turn off to the south and ‘keep going’, to western Europe. Perhaps these birds, having successfully overwintered, return in subsequent years. Indeed, over-winter survival among those that travel to Europe for the winter is probably high, since the records in spring amount to a substantial proportion of the total in autumn (83.9% in the data after 1991).

Just how many individuals travel each winter to southwest Europe remains unknown. In 2003–05 there were 20–21 records per year in western and central

Europe, which represents a rather high figure for a vagrant, especially taking into account the Sociable Lapwing’s small global population. Moreover, the habitat preferences of the species in winter (mainly farmland, which is such an extensive and widespread habitat) reduce the likelihood of discovery compared with other waders more dependent on wetlands. That bias may be exaggerated further by the behaviour of birdwatchers, who tend to congregate at wetlands (especially during the migration seasons) but for whom dry, arable fields during the winter months are not fertile hunting grounds. Moreover, birdwatchers are still relatively thin on the ground in parts of southwest Europe where Sociable Lapwings may be wintering in small numbers.

The issue of observer bias should also be considered in a temporal perspective. Is the present pattern of occurrence a recent development, as suggested by Baeta (2004), or is it a long-established one? This species’ increasing rarity in Britain, for example, might suggest that it occurred more frequently elsewhere in Europe in the past (and there is a relatively large number of old European records, including c. 20 during the nineteenth century) yet went unrecorded. Given the species’ declining breeding population, it is perhaps unlikely that the patterns shown are new. Perhaps numbers wintering in Spain and Portugal prior to 1965 were higher than at present but went unnoticed?

## Acknowledgments

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41. Sociable Lapwing *Vanellus gregarius*, Boecillo, Valladolid, Spain, April 2010.