

Distribution, numbers and some aspects of the biology of the Kentish Plover *Charadrius alexandrinus* in southern Ukraine

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The nominate subspecies of the Kentish Plover *Charadrius alexandrinus* nests in the southern Ukraine. In this region, the distribution of Kentish Plovers is mainly confined to the Black Sea coast and to the banks and estuaries of rivers. The species has been found both in small groups and in colonies of up to 300 pairs. According to published data (Chernichko 1988), there are 8,000-10,000 pairs of Kentish Plovers within the Azov-Black Sea region. Our evidence suggests that these numbers have greatly decreased during the last few years and at present there are not more than 4,000-5,000 breeding pairs. Kentish Plovers arrive early in the southern Ukraine; in the middle or end of March, or in early April (Kuyal'nitskiy Liman: 19 March 1981 and 1 April 1985). In the Kuyal'nitskiy Liman, the first clutches were found on the following dates: 1984 - 11 April; 1982 - 26 April. The first clutch in the lower reaches of the Tiligul Liman was discovered on 8 April 1986. The birds stayed on their breeding territories until late August or early September. Migrating birds were often seen throughout September and October. Reasons for the apparent decline are discussed.

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Номинальный подвид морского зуйка *Charadrius alexandrinus alexandrinus* гнездится на юге Украины. В этом регионе морской зук распространен главным образом на черноморском побережье и на берегах и устьях рек и лиманов. Вид обнаружен как в небольших поселениях, так и в колониях, насчитывающих до 300 пар. По литературным данным (Черничко, 1988) общая численность морских зуйков в Азово-Черноморском регионе составляет 8-10 тыс. пар. По нашим же данным отмечается значительное снижение численности за последние годы, так что нынешняя популяция не превышает 4-5 тысяч гнездящихся пар. На юге Украины морские зуйки появляются рано: в середине - конце марта или в начале апреля (Куяльницкий лиман: 19 марта 1984г., 1 апреля 1985г.). В Куяльницком лимане первые кладки были найдены в 1984 г. - 11 апреля и в 1982 г. - 26 апреля. В низовье Тилигульского лимана первое гнездо с кладкой было отмечено 8 апреля 1986г. Зуйки оставались на своих гнездовых территориях до конца августа - начала сентября. Пролетные особи часто наблюдались в течение всего сентября - октября. В статье обсуждаются причины отмеченного спада численности.

Introduction

Information on the nominate subspecies of Kentish Plover *Charadrius alexandrinus* in the Azov-Black Sea region is rather fragmentary in the publications of the first half of the 20th century. More recently, a review by Kistyakovsky (1957) showed that there were few data on this species for the breeding

period. More information on the natural history of the Kentish Plover appeared in the 1970s and 1980s (Ardamatskaya 1973, 1984; Kostin 1973, 1983; Filonov *et al.* 1974; Zubakin & Kostin 1977; Petrovich 1981; Karavayev 1982; Lysenko, 1983; Korzyukov 1986, 1988, 1990; Chernichko 1988) and recently, ornithologists from southern Ukraine have joined

the International Wader Study Group's Kentish Plover Project. In this paper, data on the current distribution and numbers of Kentish Plover in the region are presented together with an analysis of some features of the species' population biology.

Results and Discussion

The Kentish Plover in southern Ukraine is distributed mostly along the Black and the Azov Sea coasts, on the nearby river banks and the shores of limans (coastal lagoons), (Figure 1), where it is found either in small aggregations or in colonies of up to 300-400 pairs (Kostin 1983; Chernichko 1988). Counts were carried out between 1984 and 1991, in the area between the Danube and the Dniestr rivers, where numbers varied from 150 to 300 pairs: 20-100 pairs in the Danube delta and nearby areas, 30-50 pairs on the Sasyk liman and 100-150 pairs on the Tuzlovskaya group of limans (M.E. Zhmud, pers. comm.).

Repeat counts on several control plots in the upper parts of Kuyal'nitskiy liman, close to Odessa, were made annually with the help of students and all the

nests found were marked. The numbers of Kentish Plovers there ranged from 18-58 pairs (Figure 2). On the shores of the Tiligul liman there were 100-150 breeding pairs; on the lower part of this liman, where 45-80 pairs breed annually, data on changes in numbers were collected (Stoylovski & Kivganov 1991, 1998). Further east, Kentish Plover were recorded on the coasts of the Berezansky and the Dnieper-Bug limans, and the Yagorlitskiy, the Tendrovskiy and the Dzharylgachsky Bays of the Black Sea. Numbers there exceeded 200 pairs (Chernichko 1988). The largest known concentrations of Kentish Plovers are in the Northern Crimea, where numbers have been estimated at 1,500-1,600 pairs (Chernichko 1988). In the Azov Sea region, Kentish Plover concentrate mainly on islands and coastal spits in the mouths of the Molochnaya, Korsak, Tashenak, Bol'shoi and Maly Utlyug rivers as well as in a few other places.

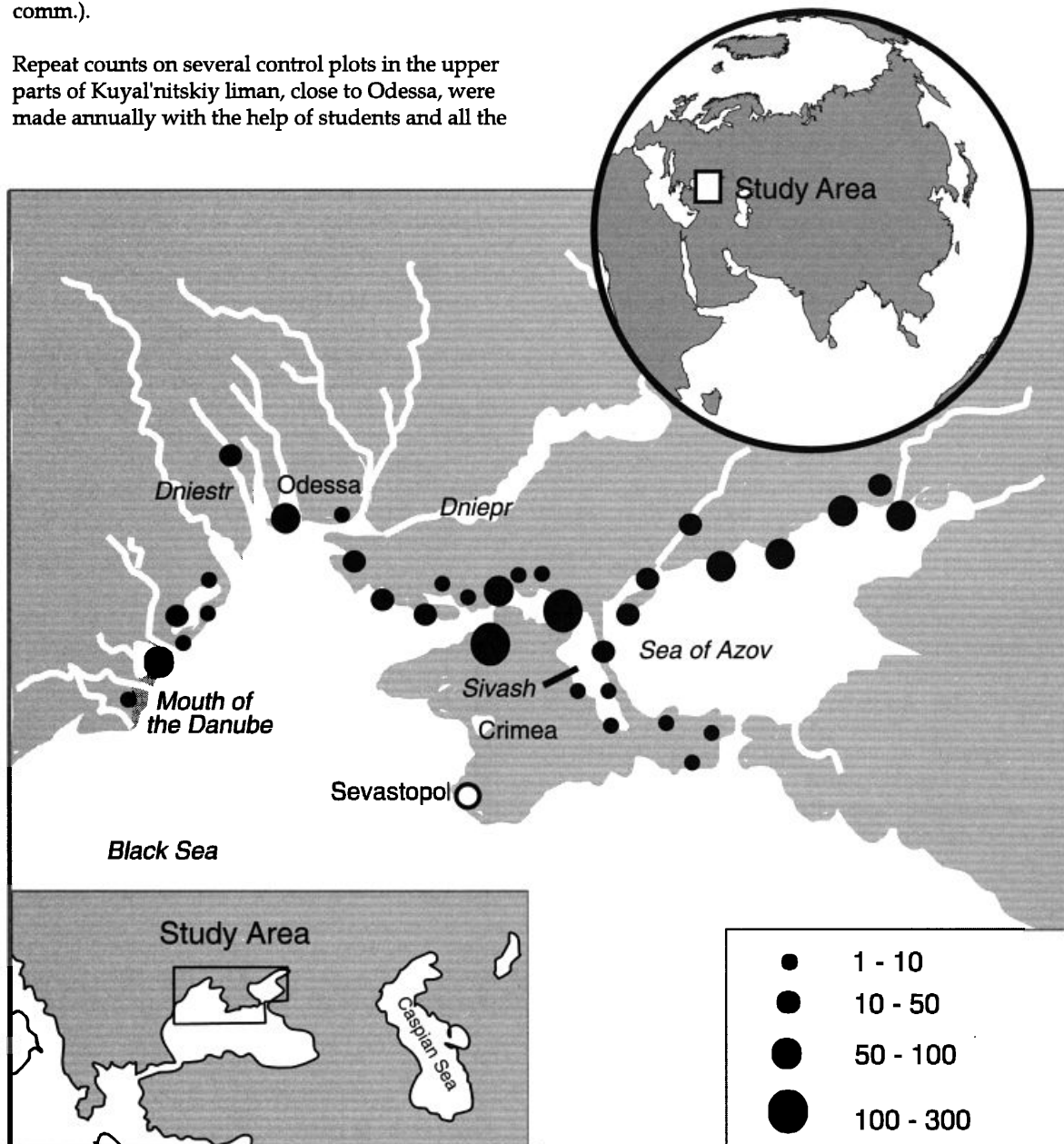


Figure 1. Distribution and numbers (breeding pairs) of the Kentish Plover in southern Ukraine.

Table 1. Egg measurements (mm) in the Kentish Plover on the Kuyal'notskiy liman, Odessa region, Ukraine in 1987-1988.

Measurement	n	range	mean	SD
Length	118	29.5-34.0	31.7	0.07
Width	118	21.5-24.7	23.0	0.04

Lysenko (1983) found that their numbers reached 1,500-2,000 pairs in some years. Chernichko (1988) estimated that the number of Kentish Plovers in the whole Azov-Black Sea region before 1985 was 8,000-10,000 individuals (both breeding and non-breeding). Large annual fluctuations were observed in some parts of the region (see Figure 2) which appeared to be connected to, amongst other things, changes in the hydrological regime. According to our data, numbers of Kentish Plovers in southern Ukraine in recent years have not exceeded 5,000-6,000 individuals (Figure 1). Whether this is a real population decline or a difference in estimation methods, only future monitoring studies will clarify.

The most complete data on the biology of Kentish Plover for the Black Sea coastal lowland and the Crimea were published by Chernichko (1988). Our data provide some additional information. The Kentish Plover arrives in the southern Ukraine fairly early, in the middle to the end of March or at the beginning of April. Korzyukov (1988) found that arrival dates were closely correlated with night freezing temperatures. Between 1981 and 1992, first arrival dates in the upper parts of Kuyal'nitskiy liman were between 19 March and 5 April (median = 25 March). Kostin (1983) found that Kentish Plovers appeared on the Crimea between 20 March and 13 April and that migrant birds were recorded until the end of April. Kentish Plovers usually breed in flat salines situated in depressions with sparse vegetation, or coastal spits with sparse vegetation and washed up bits of drift wood, roots, reed, algae, and mollusc shells. Evidently all these materials provided better camouflage for the nests, which were usually placed close to pieces of wood or in depressions on top of plant remnants. Nests were also quite often found under low bushy plants. On the islands of Kuyal'nitskiy liman, nests were found within two to three metres of the water's edge.

In warm, early springs the first eggs were found in the first half of April. Between 1982 and 1992 at the Kuyal'nitskiy liman, first clutches were recorded between 3 and 26 April (median = 15 April). In the lower part of the Tiligul liman, the earliest nests to be found were found on 8 April 1977 and on 9 April 1982 (Chernichko 1988). The earliest complete clutches were found on 25 April 1978 (Molodan pers. comm.). The breeding season is quite long: nests with clutches have been found from May to July. A 10-day old chick was found on 12 August

1980 at the Sivash (M.E. Zhmud pers. comm.). As in other parts of the breeding range, clutches contain two to four, but most often, three eggs. Egg measurements vary a good deal (Table 1). The average size of 48 eggs found on the lower Tiligul liman was 31.8 x 23.2 mm (Chernichko 1988). During the day, one can often find nests in which eggs are almost covered with sand and hardly visible. This is probably for heat regulation.

Most eggs at the Kuyal'nitskiy liman hatched from the middle to the end of May or, in some years, between 1-10 June. Breeding success in the region was quite low because the nests were on flooded lowlands, on areas used as pastures, where wandering dogs often occurred. Breeding success was also limited by the increase in numbers of Raccoon Dogs *Nyctereutes procyonoides*, Hooded Crows *Corvus cornix*, Rooks *Corvus frugilegus* and Mediterranean Herring Gull *Larus cachinans*. Kentish Plover breeding success varied annually according to local factors. In the upper parts of the Kuyal'nitskiy liman in 1990 it was only 33%, in 1991 35%, and in 1992 10% because the area was grazed by cattle (breeding success was estimated as the number of nests which survived to hatching). On the islands of the Tiligul liman, mean clutch mortality in 1977 was 20%. In 1981-1985 it varied from 44% to 78% (Chernichko 1988).

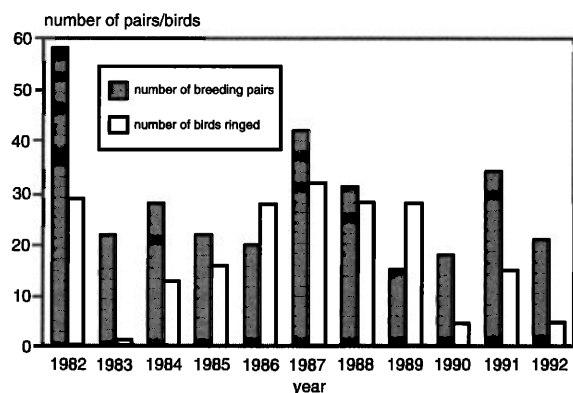


Figure 2. Annual changes in the numbers of Kentish Plovers in the upper part of the Kuyal'nitskiy liman, Odessa region.

Ringling data for 1982-1992 (Figure 2) showed that at least some of the surviving young and adult birds (both males and females) return in subsequent years to breed in the same areas. Most of the adults were retrapped in the first two years after ringling, but only one male was retrapped in the study area

Table 2. Time between ringing and re-trapping of Kentish Plovers at the Kuyal'nitskiy liman.

Age-group	Time between ringing and re-trapping (years)							
	0	1	2	3	4	5	6	7
Birds marked at the Kuyal'nitskiy liman								
Adult (n=161)		7	5	0	0	0	0	1
Chicks (n=34)		1	2	2	0	1	1	0
Birds marked at the Tiligul liman								
Adult	2	1	3	3	0	1	0	0
Chicks	0	0	1	0	0	0	0	0

seven years after it had been ringed (Table 2). The birds ringed as chicks returned to their natal area to breed between the age of one and six years. Also of interest are the Kentish Plovers retrapped at the Kuyal'nitskiy liman which were ringed 50 km away in the lower Tiligul liman. These recaptures were made either in the same season, or one to five years after ringing (Table 2). Birds from the Tiligul liman were caught at the Budakskiy liman and at the limans of the Tuzlovskaya group, in between the Danube and the Dniestr rivers. All these data confirm that together with a rather high level of site tenacity and natal philopatry, dispersion occurs and is of vital importance. Although more than 900 Kentish Plovers have been ringed since 1976 by ornithologists and students of Odessa University, only a few long-distance recoveries have been received and there is still no way of knowing where the Kentish Plover which breed in southern Ukraine spend the winter.

Kentish Plovers remained at their breeding sites until the end of August or the beginning of September. Migrating individuals were recorded during September and October. The latest Kentish Plover record on the Crimea was on 10 November (Kostin 1983). There are still insufficient data to analyse the population demography in the region.

Nevertheless, even now it is clear that intensification of human activities in the Kentish Plover areas is leading to a decline in numbers, probably through a reduction in breeding success. Future studies will be devoted to this problem and also to devising conservation measures.

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