



the northern part of this region (Yana-Indigirka tundra).

It seemed that the distribution of lemmings on the Chukotka was patchy as in previous years.

In a situation of increasing numbers of lemmings within great territory from the Bol'shezemel'skaya Tundra in the west to the Kolyma in the east, Arctic Foxes and avian-predators had abundant food and highly favourable conditions for reproduction: a high proportion of occupied fox dens, large Snowy Owl clutches and high densities of breeding skuas in some places testified to this. Breeding of Short-eared Owl was noted by some observers in southern tundras. Unexpectedly, the low abundance or absence of Pomarine Skua, Snowy Owl and Arctic Fox were noted there when lemming numbers were moderate in the north of the Central Taymyr; it is very likely that these predators settled in more southern territories.

Spring was early in Europe to the east of the White Sea (besides Vaygach Island) and on the Yamal. Summer was cool without extreme changes of weather in the whole of the European tundras and on the Yamal (the drought was noticed on the Kola Peninsula). Spring started as usual on the Taymyr (a little later in eastern Taymyr): mild summer weather was broken by cyclones and snow afterwards at the end of July and in August. This adversely affected wader chicks in the north of Central Taymyr and on the Severnaya Zemlya archipelago. In Yakutia, Tazovskiy Peninsula and Chukotka the middle and end of summer was hot and dry. This situation could have limited food resources for waders which prefer wetter habitats.

Most observers working in tundra habitats in 1991 had the impression that in different regions between the White Sea and the Anadyr Plateau the *breeding success of waders in 1991 was moderate or high*. Only in the Western Taymyr, where the number of lemmings had started to decrease, and in southern Yamal, in places with low lemming abundance, where the bird breeding success was unexpectedly low. More detailed studies carried out in northern and central Yamal and in northern Taymyr confirmed these impressions.

The prognosis made in 1990 that the 1991 breeding season would be successful for waders, appeared to be correct for the greater part of Eurasiatic tundra. Though the density of lemmings was not maximal in all places, their numbers were great enough to attract mammal and avian predators. This gave the possibility of better breeding success for waders and other small birds. Low breeding success of waders, besides the Western Taymyr, was noted only in coastal habitats of the Murmansk region, and locally in Yakutia and Chukotka.

Undoubtedly, as a result of successful reproduction of predators, their autumn abundance allows to foresee that it will be high in summer 1992. Lemming number will decrease in some places or will remain at a high level in others. However, it may be expected that predators will reduce lemming number soon and then they may reduce markedly the number of wader clutches. Thus breeding success of waders in 1992 is predicted to be low or moderate.

P. S. Tomkovich

A case of three clutches in the same nest by the same pair of Kentish Plover *Charadrius alexandrinus*

Juan Antonio Lorenzo

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Juan Antonio Lorenzo, *Departamento de Biología Animal (Zoología), Facultad de Biología, Universidad de La Laguna, La Laguna, Tenerife, Islas Canarias, Spain.*

INTRODUCTION AND STUDY AREA

The Kentish Plover *Charadrius alexandrinus* is a widely distributed wader, with 6 subspecies. The nominate race, *C. a. alexandrinus*, is present in Europe and North Africa (Cramp & Simmons 1983). In recent years, this population has decreased drastically, resulting in increased priority being given to the study of the species (Jönsson *et al.* 1990).

Hence an extensive study on the breeding biology of this species has been carried out in the Canary Islands, at El

Médano, a coastal locality situated in the south of Tenerife Island. This area is characterized by an interesting sand derived environment (Wildpret 1970; Lorenzo *et al.* 1988), and by an important ornithological community (Lorenzo in press). It is a popular tourist resort.

RESULTS

During the course of this study a single pair of Kentish Plover was observed to lay three clutches in the same nest.



In February 1992, a pair of plovers was discovered on territory displaying typical courtship behaviour, including nest site selection and building a scrape in the sand, near a bush.

The first egg was laid on 16 February, and the clutch of three eggs was completed 4 days later, on 20 February. Incubation took 21 days, and the chicks were observed near the nest during the first week of March. Later in the month, the female was discovered near the nest, and on 17 March it was verified to contain another egg. This second clutch of three eggs was completed 5 days later, on 24 March. In April, the chicks near to the place in question were found, following on estimated incubation of about 24 days. On 15 May, the same female was discovered again near the same nest, where she had laid the first egg of a third clutch with three eggs, which she completed two days later. After an incubation period of about 20 days the chicks were observed near the rest area in June.

In July the birds had abandoned the area, and moved to the coast accompanied by only one young bird, joining the rest of the local Kentish Plover population.

DISCUSSION

This observations raises three points of interest.

Firstly, it seems to be the first record of three clutches being laid by the same pair in the same season (Cramp & Simmons 1983; Page *et al.* 1983; Jönsson 1989; Szekely 1990). Kentish Plover tend to have a monogamous mating system laying 1-2 clutches but even in those populations of plovers with polygamous systems, where individuals may re-nest as many as five times in a season, one or other of the pair always varies between clutches (Lessells 1984; Warriner *et al.* 1986; Marshall 1989).

The second point is the use of the same nest in each of the recorded relayings. This fact suggests that the location of the nest was ideal for successful incubation. It was the only nest recorded during the study that was located under a bush, the rest being situated in open places. Page *et al.* (1983) similarly found that nests sited under objects were more successful than those in open places. This was related to the presence of many predators. However, in the locality of the present study there are few predators, and those that are present tend to prey on the plover chicks rather than their eggs (Lorenzo & González 1992). On the other hand, Warriner *et al.* (1986) mentions that after loss of clutches due to human disturbance or other natural causes, in 12 out of 23 the birds re-occupied the same areas. However, he does not specify whether the birds re-occupied the same nest.

The third point relates to the high mortality of broods, which appeared to be the cause of the two relaying. Human disturbance due to heavy tourist pressure, would

appear to be the cause of the high Kentish Plover chick mortality at El Médano. To escape from the continuous tourist presence, the chicks are continuously forced to hide, and hence lose energy, decreasing in strength until they die, or are easily located by natural predators, such as the Kestrel *Falco tinnunculus canariensis* (Lorenzo & González 1992).

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