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BEITRÄGE

Timing of laying of Oystercatchers *(Haematopus ostralegus)* in the Evros delta

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(With 1 Figure)

The timing of laying in the oystercatcher *(Haematopus ostralegus)* is known through various studies carried out mainly in western Europe (Dircksen 1932, Buxton 1939, Keighley & Buxton 1948, Heppleston 1972). Similar data from the Mediterranean region are poor and provided by the western part of this region (Martinez et al. 1983). This paper provides data collected from the Evros delta (Greece) useful for comparison with those already existing.

Methods: The field work was carried out in the breeding seasons of 1980 and 1981. The nests were found after regular observations of the pairs. When completed clutches were found, the laying of the first egg was estimated by hatching, using a mean incubation period of 25.8 days, measured by detailed observations on nine pairs in 1981. Data on the weather conditions during April and May for the two years were provided by the meteorological station lying close to the delta area.

Results

The course of egg laying during both years is indicated in the Figure. The first clutches were laid just after mid April, the first breeding peak appearing between 20 - 25 April (1981) and 25 April - 5 May (1980). A second peak appeared between 15 - 20 May and this was more prominent in 1981. The last eggs were laid between 20 - 25 June.

The main laying period (that is the smallest group of 5 day periods in which 80% of the clutches have been laid, Vaisanen 1977) was 40 days long, from 15 April to 25 May in both years. Within this period 89% and 90% of the clutches were completed in 1980 and 1981 respectively.

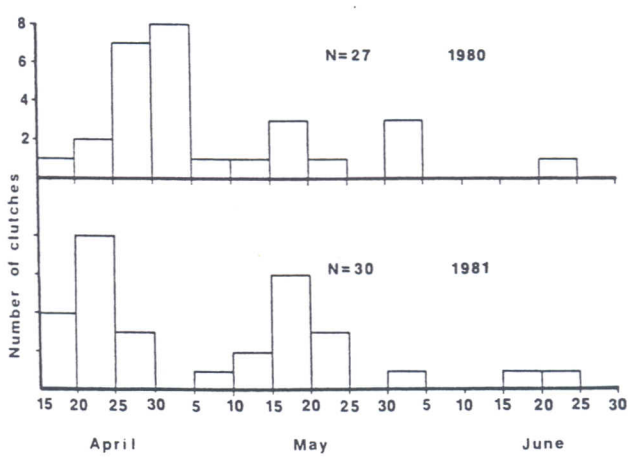

Fig.: Egg laying distribution of oystercatchers in the Evros delta. (N: Total clutches). – Zeitliche Verteilung der Ei-Ablagen beim Austernfischer im Evros Delta (N = Gesamtzahl der Gelege).

The mean laying date of the first egg was estimated by 18 clutches (67 % of the total laid) in 1980 and 24 (80 %) in 1981. This was 9.39 ± 17.85 (S.D.) and 3.04 ± 12.41 in 1980 and 1981 respectively (1 May = 1). Although the difference was not significant ($t = 1.33$ $P > 0.05$), it appeared that an important factor affecting the course of the egg laying was the weather conditions and especially wind direction. The weak tides of the region are greatly affected by wind direction. When this is S-SW, the sea covers the feeding grounds of oystercatchers in the littoral zone of the delta, thus increasing the time taken to accumulate the necessary energy stock for egg production. In April 1980 the frequency of S-SW winds was 24 % (57 % of the total wind frequency) in contrast to a 19 % (45 %) of that in April 1981, suggesting more favourable conditions for the birds in 1981 at start of laying. Further, in May 1980 and 1981 the respective frequency values were 20 % (69 %) and 9.5 % (26 %), favouring the appearance of the second breeding peak in May 1981.

Discussion

The main laying period of the oystercatchers in the Evros delta was 40 days, within the limits of 30 - 40 days provided by Vaisanen (1977) for other European populations. However, the mean date of the laying of the first egg was considerably smaller than the 12.08 ± 16.59 to 30.20 ± 10.37 given by Vaisanen for NW European populations. Our results are much more similar to those of Martinez et al. (1983) for the Ebro delta (Spain). Thus our data also suggest an earlier start to laying by the Mediterranean populations of oystercatchers compared to those of NW Europe, but a similar length of the laying period.

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Zusammenfassung

Nach Untersuchungen in den Jahren 1980 und 1981 an einer Population des Austernfischers *(Haematopus ostralegus)* im Evros Delta/Griechenland erfolgte die Ablage der ersten Eier in der Zeit vom 15. - 20. April und die der letzten in der Zeit vom 20. - 25. Juni (s. Abb.). Die Hauptlegephase, in der 80 % der erfaßten Gelege produziert wurden, umfaßte jeweils 40 Tage (15. April - 25. Mai). Das mittlere Legedatum für das jeweils 1. Ei fiel 1980 auf den 9. Mai und 1981 auf den 3. Mai. Die Eiablage wird vermutlich durch häufige Winde aus der Richtung S-SW (bedingen Überflutung wichtiger Nahrungsplätze) verzögert. Vergleicht man die Befunde der vorliegenden Arbeit mit veröffentlichten Daten anderer Regionen, so zeigt sich, daß die zeitliche Lage der Legephase des Austernfischers im Evros Delta der Situation in anderen mediterranen Gebieten stärker ähnelt als in Gebieten NW-Europas.

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