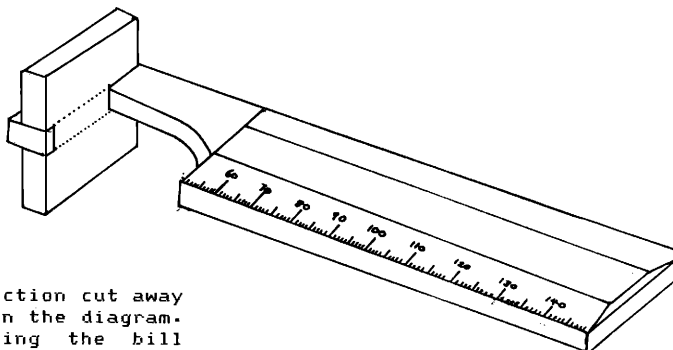


A SIMPLE "HEAD AND BILL" RULER

C.M. Reynolds



This is a stepped-ruler with a section cut away for the bird's head as shown in the diagram. The measurement is taken by resting the bill tip on the scale and thus removes any risk of bending the bill. The original model was made from a length of scrap perspex of cross-section 4.5 x 0.5 cm. The cutaway was removed and a piece fitted in to form the stop. Then a white plastic ruler was glued into position, having carefully zeroed it. The surplus ruler was then trimmed off. It was originally designed with a gap of 48 mm for use on Dunlin *Calidris alpina*,

but during 2 year's use it has also proved to be suitable for other species up to the size of Bar-tailed Godwit *Limosa lapponica*.

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THE NESTING HABITS OF AVOCETS IN THE EVROS DELTA, GREECE

Vassilis Goutner

INTRODUCTION

The population of Avocets *Recurvirostra avosetta* breeding in the Evros Delta has declined steadily since 1982. This has been explained through competition with breeding Laridae for the limited breeding habitat available for these species in the delta (Goutner and Kattoulas 1984, Goutner 1985). In 1985 only 40 pairs of Avocets bred in the delta and in 1986 there were no more than 25 pairs.

Previous studies of Avocets in the Evros Delta have only briefly touched on habitat use (Goutner 1985). In order to undertake effective management of breeding areas for Avocets it is important to know how the birds use the available vegetation for nesting. The observed population decline in the delta has stimulated the conservation need for quantitative data for the management of nesting sites. Thus, during the 1985 and 1986 breeding seasons I collected relevant data from three small colonies present in the delta.

STUDY AREA AND METHODS

I visited colony sites in May and June. All three colonies found occurred on islets of the "Drana" fish pond - description and maps are given in Goutner (1983, 1985). In May 1985 a mixed colony of 31 pairs of Avocets was made and 71 pairs of Little Terns *Sterna albifrons* along the bank of a 17.6 ha islet. In May 1986 a colony of 15 pairs of Avocets occurred on another islet (3.1 acres) together with 9 pairs of Little Terns and 2 pairs of Kentish Plovers *Charadrius alexandrinus*. This was the first time that breeding Avocets had used this islet; it was sparsely vegetated, separated from the mainland to its northern side by a deep canal

some 5 m wide and was surrounded by water at least 80 cm deep. Its maximum height above water was only 30 cm and the colony was flooded by high water which occurred due to strong SW winds at the beginning of June. A new colony of 11 pairs was found in late June on the first mentioned islet (550 m distant). This might represent a second breeding attempt by failed pairs. In the text below I describe these colonies as 1, 2 and 3 respectively.

I measured the percentage cover of vegetation around each nest in the colonies using a 0.5 m² grid, divided into 10 cm squares, by placing the nest in the central square. To measure the available vegetation, I walked transects across the colony (the area provided by connecting the peripheral nests with a line) throwing the grid "randomly" every few steps. For each nest and "random" sample I recorded the presence of all plant species.

RESULTS AND DISCUSSION

Colony 1

This colony covered 0.70 acres. Figure 1 compares the cover around nests and that available within the whole colony. No significant difference was found. The presence of breeding Little Terns might have partly affected nest locations of Avocets through competition. However I found that Avocets occupied the breeding sites earlier even though the laying and hatching peaks were almost simultaneous. The Little Terns generally avoided vegetation in the colony (Goutner & Goutner in prep.). Consequently, the selection of nest sites by Avocets was relatively unaffected.