REINCUBATION OF FLOODED SNOWY PLOVER Charadrius alexandrinus NEST

by Ralph S. Widrig

Natural mortality of the exposed nests and precocial chicks of the Snowy Plover Charadrius alexandrinus is often high, and renesting frequently takes place. The devotion of the parent birds of this species to their nests and young is extraordinary. On June 20, 1978, the nest of a Snowy Plover containing three eggs was found at Leadbetter Point, on Willapa Bay, Washington. The female was incubating. During the night one of the highest tides of the year flooded the nest site. On June 21 the three eggs were found near the high water mark, scattered between 5 and 10 metres from the flooded nest. Fresh plover tracks indicated an adult had located all 3 eggs and possibly attempted to incubate one of them where it lay stranded on the wet sand. Fresh plover tracks were also in and around the scrape, but no plovers could be seen. I retrieved the eggs, which were warm from the sun, and placed them back in the scrape. At this point I heard the plaintive call of a plover nearby. I walked north about 75 metres and glanced back at the nest site. The female had immediately settled on her eggs in the nest as though nothing had happened.

I returned the next morning, but the high tide during the night had again flooded the nest, which was empty. A few fresh plover tracks were at the scrape, but no adults could be seen or heard. The eggs were found 20 metres away and were cold, but the incident illustrates the tenacity which these plovers show for their nests.

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TERRITORIAL BEHAVIOUR IN AMERICAN OYSTERCATCHERS Haematopus palliatus

by M. Cadman

The barrier islands of coastal Virginia consist of an ocean beach behind which is a row of dunes followed by upland salt marsh (though some islands have a central region of trees), then lowland salt marsh. The American Oystercatcher (Haematopus palliatus) breeds in the dunes and upland marsh areas but feeds primarily in the lowland salt marsh on the banks of small creeks. Large channels penetrate the marshes between the islands and upland salt marsh is formed in patches along the banks, creating more nesting habitat.

On my study area on Wallops and Assawaman islands, 16 pairs of Oystercatchers maintained vigorously defended breeding territories which were almost contiguous along some stretches of beach and large channels (see Figure 1). Four pairs fed entirely within their nesting territory, seven held completely separate feeding territories and five fed on their nesting territories plus distant feeding territories. The territories of all pairs which fed entirely on their breeding area contained a large patch of lowland salt marsh and a small creek. Those pairs which fed entirely on separate feeding territories had breeding areas containing no low salt marsh and the closest lowland salt marsh was in the possession of other pairs. These birds were forced to fly several hundred metres to their feeding territories but did not defend any land between the two territories.

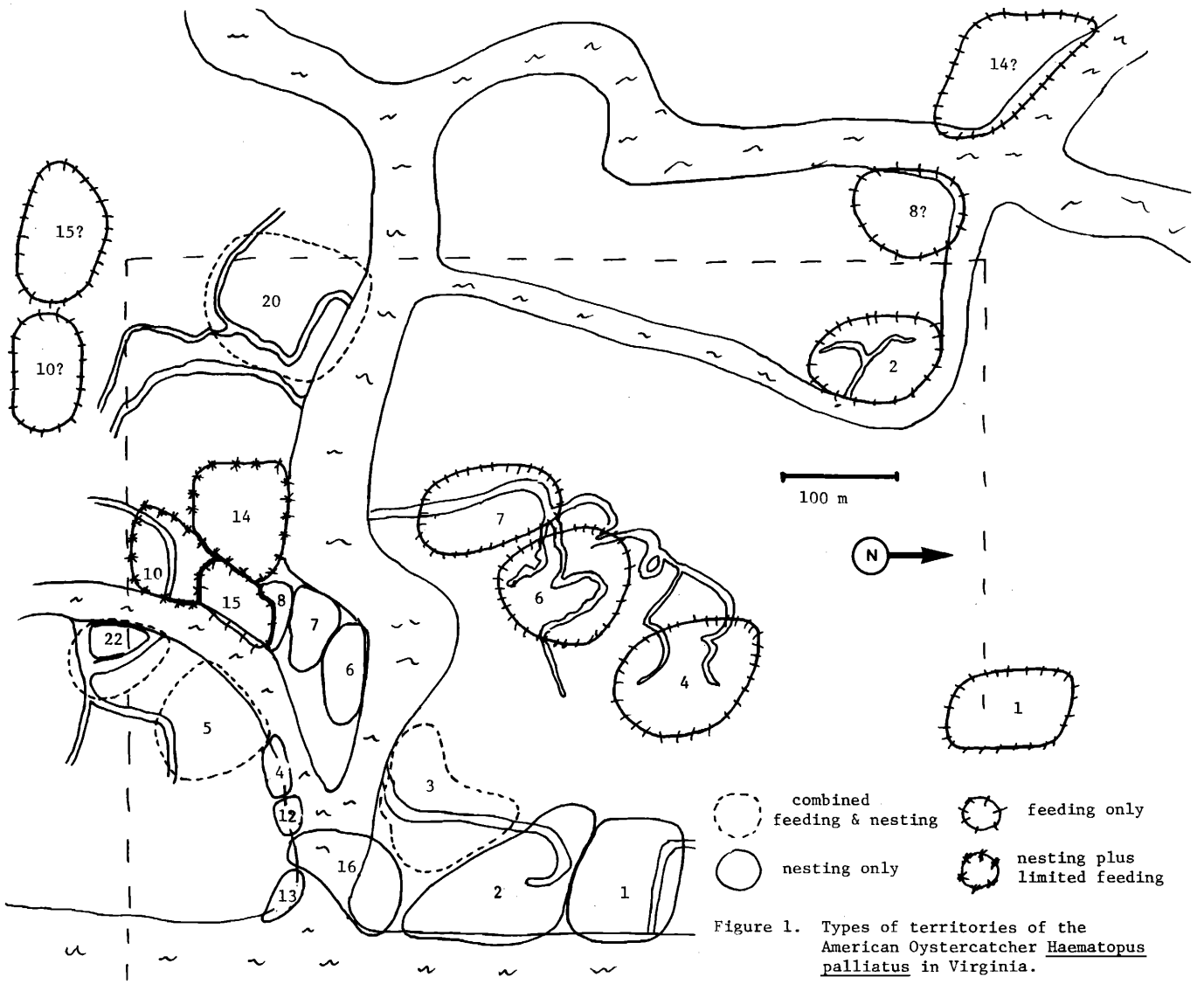

Figure 1. Types of territories of the American Oystercatcher Haematopus palliatus in Virginia.

Five pairs had separate feeding territories but fed to varying degrees on their breeding territories. Pair 1 fed regularly on Mole Crabs Emerita talpoida on the beach near their nest while maintaining a feeding territory in the marshes. Pairs 2, 10 and 15 were first noted making feeding trips to distinct feeding territories during their incubation period. Their feeding up to this time had been restricted to salt marsh on the breeding territory. Pair 14 fed entirely on salt marsh on their breeding territory until the hatching of the young, when the female of the pair began making feeding trips to Wallops Island and returning with exceptionally large Ribbed Mussels Geukensia demissa.

Among the 16 pairs on the study area only three pairs (20, 22 and 14) raised young. Pairs 20 and 22 fed and raised their young (up to four weeks of age when the study ended) entirely on the breeding territory while pair 14 fed entirely on salt marsh on the breeding territory until the hatching of the young (see above). It would appear that having feeding habitat near the nest so that both parents are available when needed is advantageous in the raising of a brood.

I shall be on the study area next year in time to establish if these territories are the first chosen by the returning birds. (Editor's note: this was the case, pers. comm. from Dr. A. Baker).

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(See also a comparable study in Wales: Safriel, U. 1966. Food and Survival of Oystercatcher chicks on Skokholm in 1965. Ibis 108: 455; Harris, M.P. 1970. Territory limiting the size of the breeding population of the oystercatcher(Haematopus ostralegus) - a removal experiment. J.Anim. Ecol. 39: 707-713. -Eds.)

DISPERSAL AND PREDATION RATES OF WING-TAGGED SEMIPALMATED SANDPIPERS Calidris pusilla AND AN EVALUATION OF THE TECHNIQUE

by David Lank

During the southward migrations of 1977 and 1978, I studied the effects of weather, fat stores and migratory route on the daily variations in migration rates of shorebirds. The study required the individual identification of hundreds of small sandpipers during daily censuses at feeding and roosting areas. I developed a highly visible sandpiper wing tag, and in two seasons tagged 2935 Semipalmated Sandpipers Calidris pusilla. This report deals with the tagging technique itself, with reports of marked birds from distant locations and with predation rates relative to untagged birds.

The Tags

Figure 1a shows a wing-tagged sandpiper. The tag is illustrated in Figure 1b. In passerines and larids, similar tags have been attached around the humerus between the wing and the body ("patagial tags"). Morgenwick and Marshall (1977) reported excellent success with patagial tags on American Woodcock Philohela minor . Kelly and Cogswell (1979) used patagial tags on Willet Catoptrophorus semipalmatus and Marbled Godwit Limosa fedoa , but reported that the tags were sometimes hidden by the scapulars. When I tested patagial tags on captive sandpipers, I found that the birds invariably rotated them under the wing, where they completely disappeared.

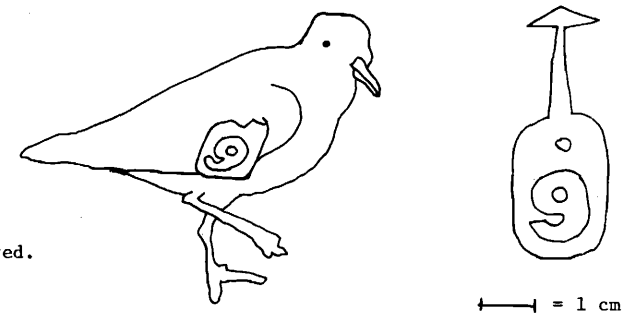

Figure 1. (a) Wing-tagged sandpiper
(b) Wing tag

As an alternative, the tag was tucked into the diastataxic gap between the 4th and 5th secondaries, looped around the radius and ulna, and pulled through the hole in the body of the tag to secure it to the wing. Care was taken not to catch coverts inside the loop of the tag. The loop was then flattened against the wing with the fingers, and its width checked where it passed between the secondaries. With practice, a bird can be tagged by one deterous individual in about a minute, if no adjustment to the tag is necessary. These tags sit vertically while the wings are folded (Figure 1a) and lie flat above the secondaries while the bird is in flight. They are almost never covered by feathers and are highly visible.

The tags were made from a variety of materials. Since my primary interest was short-term, less permanent tags were preferable. In 1977, most tags were made of nylon-impregnated vinyl, such as SAFLAG, but some were made from plain 8-10 mil vinyl sheets. Only one bird appeared to have lost its tag (it remained banded), which suggests that simple vinyl tags were adequate for determination of stopover times, which ranged up to 60 days. In 1978, most tags were made from unreinforced vinyl to lessen long-term interference with the birds. All tags were made from materials stiff enough to lie flat along the wing, and they did not flap in the wind.

The characters on the tags were self-sticking ½ inch gothic vinyl letters, available at hardware stores. These provide crisp, alpha-numeric symbols which can be read with a 15-60x spotting scope at distances up to 70-80m. Potentially confusing characters, such as '5' and 'S' were rotated 90° or eliminated to prevent confusion. In 1977, when I tagged birds on the New Brunswick coast, I saw no tag which had lost its character. In 1978, when tagging was done in North Dakota, the hot prairie sun loosened the black letters on one set of yellow tags. Different colours of vinyl varied in the firmness of letter attachment, but all except the yellow-black combination proved to be satisfactory in the field. For a longer term study, enamel paint might be preferable.

Upon release, a bird's first wing flap usually caused it to bank sharply. Following this, birds appeared able to compensate for the aerodynamic changes produced by the tag. Tagged birds did not tend to lag behind others when flying in flocks, and some individuals performed well under the high performance demands of aerial pursuit by a falcon or trans-oceanic flight.

On the ground, with folded wings, birds also appeared to adjust to the tags. With few exceptions, no obvious increase in preening of the tagged vs untagged wing was seen after the first few days. Of 158 tagged birds recaptured during the study, only 6 showed callusing or swelling of the skin at the attachment site. There was no indication that likelihood of irritation increased with length of time the tag had been worn (Mann-Whitney U test, $p > 0.10$, 1-tail test). With care, the tags have almost no direct effect on the birds' skin and plumage.

In addition to the tagging, birds were measured, weighed, checked for moult, and given standard aluminum bands above the tarsal joint. In 1978, birds were also breast-dyed with a variety of alcohol-soluble green and blue dyes, all of which washed off within 2-4 weeks.