NOTES ON THE FEEDING TECHNIQUES OF INLAND FEEDING OYSTERCATCHERS

by K.B.Briggs

Most published research on the resource strategy of Oystercatcher Haematopus ostralegus L. has concerned lamellibranch molluscs and polychaete worms as prey. Only Safriel (1967) and Heppleston (1971,1972) have studied inland feeding techniques. The following points refer to some of the feeding methods and foods observed so far in a study of a population of inland-breeding Oystercatchers in north Lancashire, England.

The breeding birds return to the site in late February and feed on sheep- and cattle-grazed pastures bordering their gravelly nesting sites on the River Lune. Earthworms (Alloborphora chlorotica, A. caliginosa, A.longa and some Lumbricus terrestris) are their major prey items. They are obtained by the following methods:

1) Pecking- the bird walks in one direction and touches the surface of the ground with the tip of the bill 20 to 37 times per minute until prey is detected.
2) Probing- the head is continually down as the bird walks and the bill is thrust firmly into the ground every 2 or 3 paces to a depth of 4-6 cm.
3) Scanning- the head is held up and as the bird moves forward it is turned from side to side. The bird walks quickly or runs 3-10 paces off at an angle from its forward path to peck, probe or pick up items.

The prey item (earthworm) is pulled from the ground with a gradual straightening of the neck, occasionally taking a pace forwards or backwards, often holding the worm taut and then relaxing the stretched body before continuing to pull. The full length of the bill can be inserted into the ground and the birds' body and feet rotated (usually to the right) for a more difficult extraction. The handling time (peck to swallowing time) varies with the size of prey. Large worms (8 cm + in length) take 4-9 seconds, small worms (less than 4 cm) take 2.2-6.7 seconds. The worms are usually eaten whole, but some individuals break up large worms into 2 or more pieces, others will carry the worm 20-40 metres to water to wash the prey. Visual clues seem all important in earthworm capture, but difficult to prove. On 16 March 1979 at 0830 GMT a bird was observed feeding on an area of silt (4-6 cm deep) deposited by recent flood water on pasture. In the area of about $8m^2$, of the 23 worm casts on the surface, 19 had been probed by the bird. There were 45 other peck marks visible. 22 had been made with the mandibles together (to a depth of 2.5cm) and 18 with the mandibles apart to a depth of 5.7 cm.

Until the end of April the feeding birds are kleptoparasitised by Black-headed Gulls Larus ridibundus, Common Gulls Larus canus, Rooks Corvus frugilegus and Carrion Crows Corvus corvus corone. The last species appears to patrol groups of feeding Oystercatchers and Lapwings Vanellus vanellus moving with the birds and driving off other potential kleptoparasites. The Oystercatchers also steal prey from each other. During late July and August one pair of Oystercatchers regularly stole earthworms from a post-breeding flock of Lapwings feeding in their territory.

The majority of the Oystercatchers on the site fed on the land but at any time during feeding periods 4-6% fed in the water using these methods:

a) Continuous pecking - slowly moving forward in shallow water (especially over silt or flood pasture) and "stitching" with the bill in the water (in the same way as Bar-tailed Godwit Limosa limosa).
b) Turning small stones with the bill or pushing them to one side in shallow water and then pecking at disturbed items.
c) With the head and bill pointing down walking in shallow water and probing selectively.
d) Moving forward in the water with the bill under the surface and sweeping from side to side; then stopping and pecking at items. The bill can be horizontal or vertical.
e) Plunging the whole head and upper body under the water, when wading in deep water (10-15 cm), to pick at items.

Organisms sampled from the water that could be taken in these methods were Stonefly Plectoptera and Mayfly Emphemoptera nymphs; also earthworms displaced after flooding. Faecal analysis showed these organisms had been taken as prey.

Oystercatchers feed on stonefly larvae emerging from the river and catch mayfly imagines on the water surface and gravel or snap at those flying past.

Birds that are disturbed from their territories by fishermen in June stand at the water's edge about 30 metres from the disturbance successfully catching flying mayflies.

On three occasions in July 1978 and twice in the same month in 1979, a bird was observed feeding in a shallow pool using method (d) to drive shoals of small fish, mainly Minnows Phoxinus phoxinus and small Trout Salmo trutta to the edge of the pool and to catch and eat them.

On 6 June 1979 at 1016 GMT a colour-ringed male Oystercatcher was observed feeding at the carcass of a small lamb left by the flood water. On examination the body was seething with maggots Diptera larvae. On the 27 July 1979 at 1014 GMT an adult Oystercatcher picked up and swallowed a small Frog Rana temporaria.

Earthworms and tipulid larvae form the major prey items for the Oystercatchers but in late July and August these items are scarce. Adults still on the site with young during this period feed on dung heaps and waste silage piles. The surface is pecked for organisms and then the dry surface crust pecked open to expose items beneath. In a similar manner some individuals specialised in breaking open six-week old cow pats and eating the earthworms and beetle larvae inside. Fresh cow pats (1-3 days old) were used by the young chicks to take surface flies and beetles and probe for fly larvae. Chicks fed in cow pats (8-30 days old) opened for them by adults. On this site the chicks are rarely fed by the adults after their first 10 days and find their own food. (In contrast to Safriel (1967), Heppleston (1972) and Norton Griffiths (1969) but as found by Mercer (1968)). The Oystercatcher chicks were frequently chased by Lapwings feeding in the same area and one bird caught and held a chick by the wing until the parent Oystercatcher responded to the chick's cries and chased the aggressor.

These colour-ringed inland breeding Oystercatchers have been observed in the post-breeding season in Morecambe Bay. The individuals have all been feeding in mud, probing for polychaete worms and Cockles Cerastoderma edule from July to February. In all cases these birds were in the minority, 87-96% of birds visible feeding on the Mussel Mytilus edulis beds. The birds were not observed feeding in coastal fields during the 1978/79 winter.

References

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A SIMPLE RAPID METHOD OF MOVING A SET CANNON NET WITH MINIMAL DISRUPTION

by Nigel A. Clark

In response to the cannon-netter's nightmare of unpredictable tides a new method of setting or re-setting a cannon net was sought. This has now been developed to the point at which a two-cannon net can be set or re-set by five experienced people in less than five minutes.

The method involves the use of a "stretcher" made of hessian or polyester sacks, 13 metres long and ½ metre wide. Three 5½ metre-long bamboo mist-net poles are threaded through channels on each side, and these poles must overlap to make the entire structure rigid.

The net, which is 13 metres long, is set in the usual way, on top of the stretcher. If it becomes necessary to move the net, the cannons and projectiles are lifted and placed on top of the net on the stretcher with the electrics still connected. (N.B. see 1, below). The pegs connected to the jump ropes are also placed on the net, as are spade, mallet, decoys, etc. The five people are spaced out at regular intervals along the stretcher to move the net.

There are several very important points to be remembered:-
1. As loaded cannon are being moved with cables attached, THE FIRING BOX MUST BE DISCONNECTED before the team starts the move. It is NOT sufficient only to switch off.
2. Each person must be allotted a particular job before starting the operation, so that it can be carried out as quickly and quietly as possible.
3. When cannons and pegs are lifted off the net, care should be taken to ensure that the net is not twisted.
4. New cannon holes must be dug and the cannon weighted down properly so they are not displaced when fired.
5. All normal safety precautions must be taken when positioning cannon, and all members of the team must be behind the net when circuit-testing.
6. The stretcher poles in front of the net must be below the trajectory of the net, otherwise the net will not extend properly.

We have found this method extremely successful. It has proved very useful for catching on sites which are exposed on the falling tide; birds seem to have no hesitation in landing with the decoys, in front of the very obvious stretcher, perhaps as they have learned that cannon nets cannot be set below high tide!

This method may also prove useful for catching species such as Sanderling Calidris alba and Turnstone Arenaria interpres on sites where it is possible to make several catches over the high-tide period.

If any further information is required, I shall be happy to provide it.

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Safety note

Some groups may contemplate using the "stretcher" principle to enable them to catch on a rising tide, with the idea of gathering both net and birds onto the stretcher, and carrying the catch to dry ground in this way. There could be many possible dangers in using this technique (see Cannon Netting Code - page 8, Beach catches para.b.), and any experiments should be conducted with the very greatest care. In particular, it is suggested that experiments should start with small numbers of medium or larger sized species; that care be taken to avoid too great a weight of net and birds on any part of the stretcher; and that a team of at least ten experienced people should be involved to gather the net onto the stretcher, to control it while being moved, and to spread the net and extract the birds after moving to higher ground. - Eds.

Rocky shores

When a cannon net is set on a rocky shore there is considerable risk that it will become entangled on rock projections and torn when fired. We therefore set nets on rocks on hessian strips about 1m wide using the procedure developed for catching gulls on rubbish tips (Cannon-netting Code of Practice p.13-16). This method is entirely satisfactory. The hessian may also be folded forward over the furled net to prevent birds standing on it if the cannons are set under the furled net (see Code of Practice). Obviously the stretcher principle described above could also be used. - G.H.Green

Reference

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