

of the results are to be published elsewhere (Hori, in press). The thermo-couple did not give an accurate picture of incubation temperatures and acted merely as a deflecting source for the recorder. This resulted from a decision to 'play safe' by burying the couple beneath a layer of straw and cementing it to the recorder bowl. However, it still seems probable that incubation temperatures could be measured in this way.

This female, AJ87910, was noteworthy as

being the first ever to provide such data. Matters were not to end there however; her body was picked up at Niedersachsen on the river Weser near Bremerhaven on 15th October, 1963, so near the Knechtsand as to make it certain that she had been there or intended to go there. She thus went on to prove conclusively that some, if not all, breeding birds from North Kent make the moult migration to Heligoland (Goethe, 1961).

References

- GOETHE, F. 1961. The moult gatherings and moult migrations of Shelduck in north-west Germany. *Brit. Birds* 54: 145-160.
HORI, J. 1963. Observations on nesting Shelduck. *Wildfowl Trust 14th Annual Report*: 168-9.
HORI, J. (in press). The breeding biology of the Shelduck (*Tadorna tadorna*).

Congenital malformation in birds bred at Slimbridge

JANET KEAR

As in two previous breeding seasons, all young birds and eggs that failed to hatch during 1963 were examined for malformation. The high proportion of abnormality (10 out of 1,767 birds examined) in 1961 (Harrison and Kear 1962; Napier 1963) has not recurred (0 out of 934 in 1962 and 0 out of 2,459 in 1963), suggesting some external factor affecting, for one year only, a number of our breeding ducks. Harrison (1963) has supposed that seed-dressings, of which the three most toxic were voluntarily banned for spring use from January, 1962, might be implicated in congenital deformi-

ties in corn-eating birds. It is, of course, impossible to know whether grain fed to the collection in spring 1961 was contaminated, but it is recognised that certain drugs can upset normal embryonic development and the effect of agricultural chemicals in this specific situation might be investigated. The abrupt cessation of abnormality after 1961 makes a further suggestion that radioactive fall-out was a prime cause of the high level of congenital deformity seem less likely, since fall-out continues despite a partial test ban treaty.

References

- HARRISON, J. G. 1963. A congenital abnormality in the beak of a Curlew. *Bull. B.O.C.* 83: 88-90.
HARRISON, J. G. and J. KEAR. 1962. Some congenital abnormalities in the beaks and skulls of wildfowl. *Vet. Rec.* 74: 632-633.
NAPIER, A. 1963. Congenital malformations of the feet in Mallard ducklings. *Wildfowl Trust 14th Ann. Report*: 170-171.