

Gadwall diving and submerging

ON 16th June, 1961, in one of the small bays at Chew Valley Reservoir, Somerset, I observed an unattached drake Gadwall *Anas strepera* swimming towards a pair which on a number of previous occasions had been seen in the more exposed shallow water of their breeding territory. As the intruder gradually came close both males, with heads stretched forward and bodies partly submerged, commenced to chase one another with considerable splashing and kicking up of surrounding water. Although only of short duration, this chasing resulted in the drakes plunging and completely submerging momentarily. Soon afterwards the aggressor departed, leaving the mated birds to their own devices. Fighting intense enough to include total submersion does not seem to have been recorded for the Gadwall, although B. W. Tucker drew attention to the regular occurrence of diving associated with chases in surface-feeding ducks in a footnote to an account of Shovelers diving (*British Birds* 43 : 19-20. 1950).

Bernard King

Courtship-feeding in the Red-crested Pochard

E. H. GILLHAM (*British Birds* 48 : 322-3. 1955) drew attention to courtship-feeding in the Red-crested Pochard *Netta rufina* living in a London park. The birds in which I first observed this display, several years ago, were pinioned birds, kept in Wiltshire on a private water of about one acre, with a maximum depth of four-and-a-half feet. I have since observed it in their full-winged descendants, and I have no reason to suppose that it is not normal to wild birds, which I have not seen in the breeding season.

The drake dives and brings up a skein of weed (mostly *Elodea* and *Myriophyllum*), and he then waits till the duck, who has been floating quietly near by, swims to him and feeds off it. He does not "offer" the weed to her, since it would be impossible for him to lift the whole saturated mass from the water, and probably very difficult to break off pieces for her. He does not therefore bring his bill to hers, but he does not attempt to eat any of the weed himself until she has done so. It is obvious that she is waiting for this to happen: she "expects" it, and he "intends" it, if these terms are permissible, and there is nothing accidental about the performance. It may be repeated several times in succession, and while this continues the duck never dives herself but sits in wait to swim to the drake when he surfaces a few feet from her. He in turn always waits for her to come to him and to feed before feeding himself (which he rarely does even when she seems content). The display is not associated with any other form of sexual behaviour, and it may take place any time from February to June.

The drakes described by Gillham differed from mine in actually sharing a bill-full of a green alga *Rhizoclonium hieroglyphicum* with their mates. Dr. Paul Johnsgard tells me that he has also seen courtship feeding and that in his view it takes place only between mated birds and is analogous to mutual nibbling in Wood and Mandarin Ducks. He has also seen inedible material, such as waterlogged branches, being brought to the surface.

Gillham saw females with young, a month or more old, bring up green matter for them in a similar way. Swans *Cygnus* sp. and Magpie Geese *Anseranas semipalmata*, which also feed their young, do not seem to include feeding in their courtship behaviour.

E. J. M. Buxton