



REPRODUCTIVE AND AGGRESSIVE BEHAVIOUR IN THE COD

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Aggressive behaviour as part of a pattern of social dominance and of reproductive activity plays a big part in the life of large mature cod in captivity under aquarium conditions.

In threat display there is head distortion, body tenseness, depression of the first dorsal fin, full extension of the pectorals, and positioning to ensure presentation of a lateral view. It may occur alone, or be associated in varying degree with a fast approach, prodding, biting, and grunting. Fear postures and flight reactions develop in return. Aggression is shown by both sexes indiscriminately against either sex in the autumn, but before spawning it is shown only by males and against other males and unripe females. It leads in captivity to the establishment of a social hierarchy, an order of dominance, and the setting up of territories by dominant males. These are lost in darkness and after spawning.

During spawning the recognition of sex by other fish is based on response to threat display. Once an intruding fish is recognised as female by her response, the male gives a flaunting display, followed by grunting and prodding from below, the full action culminating in the swimming upwards by the female and a characteristic set of movements leading to a ventral "mount" and ejaculation of eggs and spawn. Grunting, whether in courtship, aggression, or fear, only affects fish within 2 feet of each other; and the flaunting display although apparently released visually takes place only in very subdued light.

The value and relevance of these observations to fisheries was discussed.