

Courtship display in the Waxwing

By F. M. Meaden and C. J. O. Harrison

(Plate 39)

APART FROM OBSERVATIONS made during irruptive dispersals outside the breeding season, little information is available on the behaviour of the Waxwing *Bombycilla garrulus*. As a species which lives in sub-arctic pine forest and has relatively quiet and unspectacular habits, it is likely to escape notice. F. M. M. has kept a small group of individuals under aviary conditions for several years, during which time nests have been built and eggs laid, and one young one reared to maturity. It has been found that, before nesting, these birds indulge in a courtship display which does not appear to have been recorded for this species, although a similar ceremony has been noted as 'play' in the Cedar Waxwing *B. cedrorum* (Bent 1950).

Although normally rather silent, F.M.M.'s birds have periods of activity during which they frequently utter a short high-pitched trill, *tsee-ee-ee, tsee-ee-ee*, that suggests the type of call used by a small nestling begging for food and seems to function as a contact call or flock note. At other times, especially after feeding when their behaviour is more sluggish, they may remain silent for long periods. They are sociable, but not a contact species, maintaining an individual distance of an inch or two. About May some indication of breeding activity becomes apparent, and there is an upsurge of agonistic activity which is not apparent at other times.

Although the sexes appear alike, the male can be identified at close quarters by his longer crest and brighter wing colouring, and at times the sex can be tentatively determined by the behaviour. In the following notes the sex of individuals has been indicated where known.

Sociability does not break down completely at the nesting period, but the males show some signs of rivalry, apparently competing for the attention of the females, while the latter may occasionally quarrel over nesting sites. When the hens are sitting the males show limited territorial aggression in the immediate vicinity of the nest. Aggressiveness is indicated by a posture in which one bird perches upright near another, with all its feathers and its crest sleeked down, making it appear tall and thin. The bill is raised slightly and the dark throat patch becomes very apparent. Overt aggressive behaviour may follow. This usually takes the form of gaping at the adjacent bird, or of opening and closing the bill, often with a loud snapping, while

leaning towards it in a typical forward-threat posture; the attack is directed at the head, but there is little sign of real pecking.

The courtship display posture is the antithesis of the aggressive posture, the axis of the body being horizontal and the feathers erected rather than sleeked. In its simplest form the male hops towards the female and displays when a few inches from her. He depresses his tail and erects the feathers of his lower back, rump and upper tail-coverts to form a smooth continuous hump, above the level of the back in part and looking rather like the outline of a cockerel's tail (plate 39b). At the same time he raises the feathers on his belly and under tail-coverts in similar fashion, which makes him appear much larger and shorter-legged. As he erects his feathers, he pivots the foreparts of his body a little towards the female, at the same time turning his head slightly away (plate 39c). His crest is erected to an almost vertical position. The whole effect is that of a momentary swagger in which his shoulder is pushed towards the female. As he turns his head away, he bends his closed tail laterally towards the female in a posture similar to the 'tail-twist' which occurs in the displays of the waxbills (*Estrildidae*) and the Bullfinch *Pyrrhula pyrrhula*. If she is responsive and shows signs of erecting her feathers in similar fashion, a 'gift-passing' ceremony may follow.

In this ceremony the pair perch near one another and may face in the same or opposite directions. In the low intensity form of this display the plumage of both is erected in the manner described. The male has in his bill a small object which may be a morsel of food but may equally well be something inedible which he has picked up just before approaching the female. He stretches up his neck so that he is looking down at the female (plate 39a), who is crouching slightly with bill raised, and deliberately places the object in her open bill. The two birds then hop apart and relax the plumage a little. They remain motionless, then a second or two later they move together again, take up the same posture, and the ceremony is repeated with the roles reversed. This passing backwards and forwards of the 'gift' may continue and has been seen to take place up to fourteen times in succession. It is performed silently and with an air of solemn deliberation. It appears usually to be self-exhausting and does not normally lead to immediate subsequent sexual behaviour. Copulation is seen only at rare intervals and may occur after perhaps one display in ten.

In the high-intensity version of the ceremony the erection of feathers is greater and may involve those of the mantle and breast to some degree, so that from the side the birds appear almost spherical but for the short down-pointing tail, the stiffly erected crest and the head separated by the short slender neck. In all the displays the birds appear laterally flattened when seen from the front, the wings being held

against the sides, and it seems to be the dorsal and ventral feather tracts which are erected to present as great a surface area as possible from the side view. In this respect the display resembles some postures of the Jay *Garrulus glandarius* (Goodwin 1956) and the Red Avadavat *Amandava amandava* (Kunkel 1961). These displays occur in complete silence, without special vocalisation. Just before the display, however, the male is often heard uttering a soft *zut*, this being very similar to the call used by the hen when about to feed her nestlings.

The displays appear to be linked with pairing-up and pair-bond maintenance. They normally involve only two birds, but on one occasion, when a pair were performing the gift-passing ceremony, another hen, perching only an inch or two away and previously ignored erected her feathers in similar fashion, whereupon she was threatened by the hen of the pair already displaying. True courtship feeding occurs fairly often during the breeding season without any sign of this display, which appears to be a highly ritualised ceremony derived from courtship feeding but now quite independent of it.

REFERENCES

- BENT, A. C. (1950): *Life histories of North American Wagtails, Shrikes, Vireos, and their Allies*. Washington. Pp. 80-82.
- GOODWIN, D. (1956): 'Further observations on the behaviour of the Jay *Garrulus glandarius*'. *Ibis*, 98: 186-219.
- KUNKEL, P. (1959): 'Zum Verhalten einiger Prachtfinken (Estrildinae)'. *Z. Tierpsychol.*, 16: 302-350, especially 333.

PLATE 39A. Courtship display of Waxwings *Bombycilla garrulus*. Here the male has partly erect plumage and tail to one side, while the female is turning her head for a 'gift'

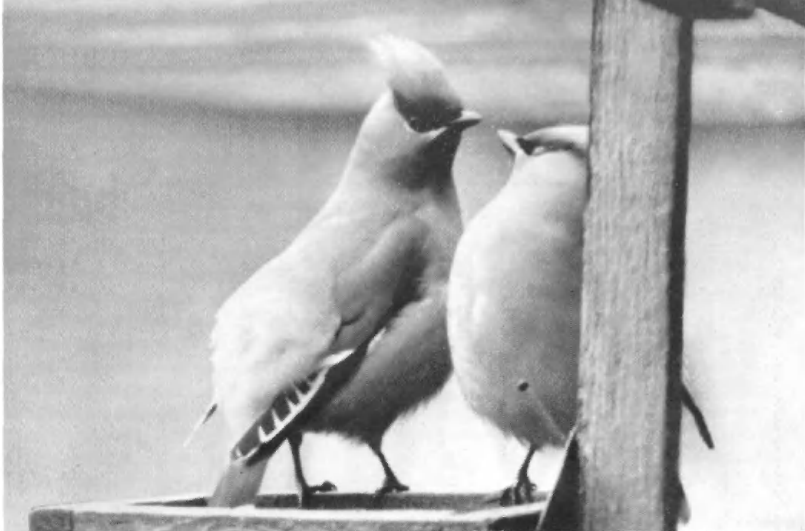


PLATE 39B. Display posture by the male stimulates the female to respond. The tail is depressed and the rump feathers are erected into a hump which rises above the level of the back

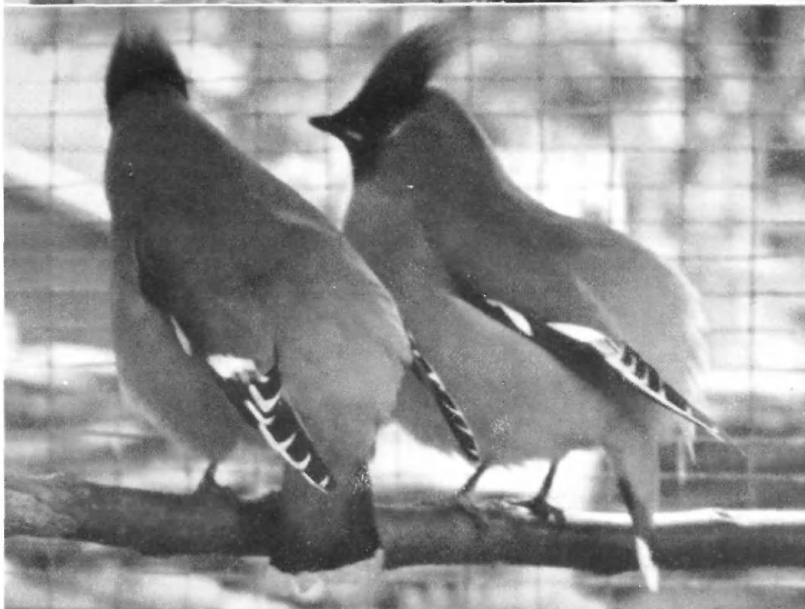


PLATE 39C. Display pivot by the one on the left: feathers of rump markedly erect, breast pivoted towards the other bird and head turned away (see pages 206-208) (photos: F. M. Meaden)

