

Snow bathing by the Hooded Crow *Corvus corone cornix*

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Little appears to be known about bird snow bathing, a type of behaviour which is not included among the maintenance activities described by Pettingill (1970). Elkins (1983, p. 108) mentions it as an occasional activity of many species, without specifying which, and gives a drawing of a grouse *Lagopus* sp. taking a bath in the snow. Descriptions have been published regarding *Lagopus lagopus scoticus* by Watson Jenkins (1964), and *Lagopus mutus* by Watson (1972), who states that the Ptarmigan often bathes in dust and snow, and occasionally in water. Snow baths have also been recorded for the Rook *Corvus frugilegus* (Withe 1971) and the Starling *Sturnus vulgaris* (Challis 1978).

On 27 December 1984, on the River Trebbia near Bobbio in the Italian province of Piacenza, I observed Hooded Crows (*Corvus corone cornix*) bathing in the snow. When I first noted this it was around 11 a.m. but the birds might have started earlier. The sun at the time was hidden by cloud and there was no wind; about 10-15 cm of powdery snow had fallen the night before and was lying on the ground, the first of the season. During my 40-min observation period, Crows from nearby trees, but mainly from a nearby rubbish dump, followed each other in groups to the river bank. An estimated 20-30 of them took snow baths. Each individual bird bathed in the snow for only a minute or so, then most of them flew off immediately, though some stayed longer on the river bank. I observed one bird that stayed in the snow for half an hour, almost constantly in a crouching posture. Some Crows took baths in the shallow water, but only a few; at least one of these flew back to the dry bed and repeated its bath in the snow. The frequency of the bathing and its dual nature enabled me to analyse and compare with accuracy the sequence of movements.

While bathing in the snow, each bird made basically the same sequence of movements as if bathing in water, following the pattern common to corvids and most other passerines (Goodwin 1976, p. 26). However, in the snow, the birds pushed their heads forwards into the snow with an accentuated motion, followed by a forward thrust of the whole body which gradually dug a groove. The tendency to lean alternately to one side then to the other was also accentuated, and in fact one Crow slipped over and almost ended up on its back. Some of the birds, while taking their snow baths, were chased out by others, which occupied the position without continuing the bathing activity (supplanting behaviour, *sensu* Coombs, 1978, p. 57). No such activity was seen in the water. The next day, with very similar weather, but no longer with fresh snow, only two Crows took snow baths during a 10-min observation. Numerous other Crows were present in the area but did not seem interested in this activity. The accentuation of the bathing movements in the snow, in comparison with those in the water, might simply occur because once snow has been shifted it does not flow back against the body. On the other hand, the emphatic gestures gave the impression that the activity was highly gratifying. The supplanting behaviour confirmed my impression that a certain mood of excitement had spread among the Crows. This might have been a question of mild attacks, stimulated by unusual behaviours, between conspecifics, in accordance with Coombs' interpretation (pp. 91-2) of an attack made by a Rook on another that was anting.

Since all corvids, so far as is known, bathe in water and none takes dust baths (Goodwin, p. 25), it is likely that snow bathing originates from water bathing. On the other hand, in corvids as in all species in which snow bathing is rare, and appears as an addition rather than a substitute for water bathing (see also Elkins p. 108), this behaviour might be elicited, and possibly strengthened, by stimuli other than those deriving from water. In the present instance it might have been the first snow of the season that stimulated the Crows' curiosity, eliciting an exploratory activity that turned into play. It is known that corvids are easily excited by pungent or burning stimuli, and their anting activity is not limited to ants, but can be observed with various objects providing the same sort of sensation, even fire (Goodwin, p. 27). Snow, especially when powdery, might well produce a similar, exciting stimulus. However, as the snow retains some water properties, playing might take the form of bathing. Occasional snow bathing, as induced by infrequent combinations of motivations and stimuli, might persist in several species, although with no particular adaptive value. This reductive interpretation is obviously not applicable to birds such as the grouse, which spend much of its time in the snow, probably using it in the place of dust for the care of its plumage. It might, however, be valid for species such as the Crow, which normally tends to avoid snow.

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RIASSUNTO

Bagno nella neve della Cornacchia grigia *Corvus corone cornix*

Durante osservazioni compiute il 27 e 28 dicembre 1985, 20-30 Cornacchie hanno fatto il bagno nella neve sul greto del fiume Trebbia. Il bagno nella neve si è manifestato con maggior frequenza ed anche in aggiunta al bagno nell'acqua, del quale aveva la stessa sequenza stereotipica dei movimenti. L'enfasi dei movimenti e le azioni di rimpiazzo, durante l'attività nella neve e non nell'acqua, indicavano che gli uccelli erano più eccitati dalla neve. In conclusione, l'occasionale bagno nella neve della Cornacchia sembra trarre origine dal bagno nell'acqua. Ma a differenza di questo, poichè è un comportamento raro dovrebbe essere innescato da una combinazione insolita di stimoli ambientali e motivazioni dell'animale. Vengono fatte ipotesi a questo riguardo e viene suggerito il problema di un comportamento che potrebbe conservarsi in natura senza avere un particolare valore adattativo.

RESUME'

Bain dans la neige de la Corneille mantelée *Corvus corone cornix*

- Au cours d'observations occasionnelles le 27 et 28 décembre 1984, 20-30 Corneilles mantelées ont pris un bain dans la neige sur la rive du fleuve Trebbia. Le bain a eu lieu avec une fréquence plus élevée et même en plus du bain dans l'eau, dont il présentait la même séquence stéréotypique des mouvements. L'emphase des mouvements et les actions de remplacement, pendant l'activité dans la neige et non dans l'eau, indiquent que les oiseaux étaient plus excités dans la neige que dans l'eau. En conclusion le bain occasionnel de la Corneille dans la neige semble avoir comme origine le bain dans l'eau. Mais contrairement à celui-ci, étant un comportement rare il devrait être provoqué, et stimulé, par une combinaison inhabituelle de stimulations du milieu et de motivations de l'animal. On a émis des hypothèses à ce propos et pris en considération le problème d'un comportement qui pourrait se perpétuer en nature sans avoir une valeur d'adaptation particulière.

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