Scratch my back and maybe I'll scratch yours

Allogrooming is the behaviour whereby one individual grooms another. This practice is common and has been well studied across a wide variety of mammals, including primates, antelope and rodents. Two general explanations have been proposed for the function of allogrooming. The first is hygiene, whereby animals remove ectoparasites, such as ticks, from each other. The second is social communication, allowing a dominant individual to assert or confirm its status, or serving to reconcile individuals after punishment. Allogrooming may also be used to divert aggressive attacks, reduce tensions, and/or maintain social relationships among group members.

Allopreening, the bird equivalent of allogrooming, is also widespread but it has not been nearly as well studied. This is perhaps because allopreening was initially thought to serve a solely hygienic function. Early studies indicated that birds allopreen mainly those body parts of another individual which the recipients cannot reach with their own bills, for example, the head and neck regions. However, many bird species also allopreen accessible body parts. This latter behaviour is disproportionately frequent among birds that live in complex, permanent groups in which social interactions are commonplace.

Among the best-known African bird families that live in such groups are the wood-hoopoes, babblers and helmet-shrikes. Using wood-hoopoes as a model, Morné du Plessis and former doctoral student Andy Radford searched for answers concerning the functions of allopreening in a social, group-living bird.

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Allopreening in wood-hoopoes not only serves a hygienic function, it also has considerable social significance.

Green Wood-Hoopoes *Phoeniculus purpureus* are cooperative breeders that roost communally every night in a tree cavity and are thus susceptible to accumulating high ectoparasite loads. They have long bills and are unable to preen significant areas of their bodies. It would therefore seem logical that the primary function of allopreening among these birds should be for hygiene. However, allopreening in wood-hoopoes is not restricted to the head and neck, and this led the researchers to investigate whether this behaviour might have an important additional social function.

They made detailed behavioural observations of 18 wild wood-hoopoe groups in which all individuals were uniquely colour ringed, and hence identifiable. Their results confirmed that allopreening of the head and neck, areas that cannot be effectively self-preened, serves primarily a hygienic function. All individuals in a group, irrespective of their age, sex, dominance status and the group size, donated and received similar rates of head allopreening. Further, the 'favour' of head allopreening was often returned and it occurred at a relatively constant rate throughout the year.

By contrast, allopreening of the rest of the body which is accessible to the recipient was received mainly by the most dominant individuals (primarily the breeding pair). This behaviour had a strong seasonal pattern, being most pronounced immediately preceding the breeding season. This is the time of year when assertion of dominance is most important, especially by the breeding pair who are attempting to maintain their breeding status.

Taken together, these observations provide strong support for the assertion that allopreening in Green Wood-Hoopoes serves a dual function, depending on the part of the body involved. Who knows whether this is also the case in several of southern Africa's babbler species, all of which engage in elaborate bouts of allopreening? □

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