

Chapter 4

SELF MAINTENANCE ACTIVITIES

Introduction

An attempt has been made in this chapter to present concisely different daily activities of the Malabar Trogon except those, which have already mentioned in other chapters.

The self-maintenance activity is those that serve to remove sources of irritation, extraneous materials, care for the body surface and plumage, and counteracts the effects of muscular activity (Potts1976). Maintenance activities are concerned with locomotion and general health and efficiency of the body (Marler1956). They have been used in comparative studies to help determine the taxonomic relationships between several species (Andrew1956, Morris 1958, and McKanney1965). According to Van Lersel and Bol (1958), McKinney (1965), Dunham (1960) the studies on self-maintenance activities also provid a basis for the study of sexual and agonistic behavior since many displays contain elements derived from body maintenance activities.

Methodology

All observations on the behavior of Malabar trogon were carried out on pairs at Marottichal (T2) and Bhoothathankettu (T1) forests. To record

behavior, individual Trogons were followed in their territories. The behaviors were observed from various blinds. Altogether about 380 hours were spent for watching the members of the pairs in the study sites during 1998 and 1999.

Results and discussion

The following behaviors were observed as the self-maintenance activities of Malabar Trogon.

1. Stretching

The stretching and shaking movements are necessary for the bird after taking long rest. Stretching was also recorded after bath, along with the preening and fluffing. During this, a wing and a leg on the same side of the bird were extended downwards and backwards from the body. These stretching movements usually occurred after a long rest or perch (n=86). Kortlandt (in McKinney, 1965) suggested that stretching movements served to stimulate the flow of blood in the limbs, thus preparing the bird for action.

2. Shaking

During this, the feathers were fluffed, after which the body was quickly shaken from side to side (n=27). Most body shakes occurred in association with long bouts of preening, after bathing or when the bird gets wet in the rain. The function of body shake seems to be to remove water from the plumage and

rearrange feather disorder during bathing or foraging. Out of the 27 observations, 3 are associated with bathing, 9 with preening, and 6 after rain.

3. Beak wiping

Beak wiping (n=89) consists of the beak being drawn from the base to the tip, against a branch on the tree. It took place after a number of activities like, killing and eating caterpillars or a large insect or after feeding the juveniles. Its main function is to remove foreign material from the beak and fascial bristles.

4. Head Scratching

This movement was achieved by bringing a leg over a lowered wing from behind to enable the claws to scratch the head; this is called indirect method (Simmons 1957). As specified by Simmons (1961) for other avian species; the Trogons have two levels of head scratching; the 'basic level' - when a restricted area of head or beak was scratched for a short time, and an 'extended level' during this several parts of the body were scratched in sequence. The former was basic level was probably a response to an irritation or the presence of unwanted materials, while the later seems to be associated with the maintenance of the entire head plumage for with oiling. A total of 123 observations were made.

5. Preening

Preening was usually preceded by fluffing of the plumage, to facilitate the grasping of individual feathers. The preening movements (n=140) involved one or several feathers being drawn through the tip of the beak, often with a nibbling action, from the base of the feather to the tip. When primary and secondary feathers were preened, the wing was brought up towards the beak, and the feather grasped at its base and the beak moved down the feather the wing was pulled back towards the side of the body. The rectrices were cocked and fanned upward and slightly to one side for preening. Preening activities of less than one minute duration interrupted other activities to remove foreign materials or to relieve irritation from parasites. Extended preening activities lasted more than a minute and usually occurred in the morning, after bathing and rains

6. Oiling

Initially the tail was cocked and turned to one side. Then the head was turned to the same side of the body, the head and the beak, chin and crown rubbed over the preen gland. Afterwards the bird rubbed the beak and head over much of the body plumage. Often oil was transferred from the beak to the toes by scratching and then applied to the feathers of the head by head scratching. Oiling is done by Trogons (n=126) mainly in the early morning hours, after bathing, and during daytime rest.

7. Bathing

The bathing behavior of land birds has not been investigated systematically except the accounts of Simmons (1964), and Slessers (1970). Trogons bathe on the wing, dropping repeatedly into water (n=54). They drive into water and submerge the body for an instant, just deep enough to raise spray of water and scoop it over the back. The bathing is always followed by preening and oiling of feathers.

Trogon's preparation for bathing was a long process. First the male bird comes and advertises its presence with 'que' sound repeatedly and scans the entire area to make sure of the absence of predators. Then the bird approaches a suitable branch over the pool for making the bath easy. After perching on the branch it repeats the 'que' along with a 'Chrrrrrr' at intervals. By the time the female also reaches and perches nearby. First, the male takes bath, followed by the female. During bath they hurriedly drop and plunge into the water from a branch placed over a pool or stream, and return to the same branch. They hold the body feathers fluffed and wings were extended during the process. In each bath, the number of diving varies, sometimes only once. In most of the observations (n=35), they dive four or five times during bath. After this, the Trogon flies to a perch and begins drying. Initially drying consists of quick movements of the wings besides the body shakes, head scratching, stretching and long movements of preening. Usually the wing movements were so

vigorous that a distinguished shuffling sound could be heard. Gradually the frequency and duration of wing movements decrease. Towards the end of the drying process, only preening takes place.

Trogon seldom bathed during the peak summer, due to the non-availability of water. Bathing seemed not to be a daily requirement for the bird. The main reason for bathing of trogon appeared to be to cleanse the plumage. They bath after a long period of eating. Slessers (1970) found that several species of birds bathed most often during the late morning when the temperature was very high. It was noticed that Malabar Trogon bathes in the noon from 12.00 to 14.00 hours. The observation corresponds with the observation of Slessers.

8. Feather fluffing

During fluffing, the wings of Trogons were held slightly loose and all contour feathers were fluffed which was accompanied by a slight drooping of the wing tips. This behavior was observed after bathing and rains. This never lasted for more than a few minutes. Fluffing was reported to prevent heat loss by increasing 'dead space' (Berger 1971).

Conclusion

The self maintenance activities of Malabar Trogon identified were preening, bill cleaning, head scratching, wing stretching, leg stretching, body shaking, tail shaking, feather fluffing, bathing, and oiling. During stretching activity a wing and a leg on the same side of the bird were extended downwards and backwards from the body and usually occurred after a long rest. Most body shakes in Trogons were occurred in association with long bouts of preening, after bathing, or when the bird gets wet in the rain. Beak wiping took place after the feeding activity to remove foreign material from the beak and facial bristles. Trogons have two levels of head scratching, the basic level and extended level. Preening activities of Malabar Trogon lasted more than a minute and usually occurred in the morning, after bathing and rains. The oiling of Trogons took place mainly in the early morning hours, after bathing, and during daytime rest. Trogons bathe on the wing, dropping repeatedly into water. Bathing was correlated with the availability of water and seemed not to be a daily requirement for the bird. Malabar Trogon bathe in the noon from 12 to 14 hours. Fluffing was observed after bathing and rains.

References

- ANDREW, R. J. (1956): Normal and irrelevant toilet behavior in *Emberiza* sp.
Br. J. of Anim. Behav. 4: 85-91.
- BERGER, A. J. (1971): Bird study. Dover Publications, Inc. New York.

- DUNHAM, D. W. (1960): Maintenance activities of the Rose breasted Grusbeak. *Wilson Bull* 78:68-78.
- MARLER, P. (1956): Behavior of Chaffinch *Fringilla coelebs*. *Behavior* (Suppl.) 5:1-184.
- McKINNEY, F. (1965): The comfort movements of Anatidae. *Behavior* 25: 120-220.
- MORRIS, D. (1958): The comparative ecology of Grass finches (Erythrurae) and Mannikins (Amadinae). *Proc. Zool. Soc. Lond.* 131: 389- 439.
- POTTS, K. J. (1976): Comfort movements of the Kea, *Nestor notabilis* (Psittaciforms, Nestoridae) *Notornis* 23:302-309.
- SIMMONS, K. E. L. (1957): The taxonomic significance of head scratching methods of birds. *Ibis* 99:178-181.
- SIMMONS, K. E. L. (1961): Problems of head scratching in birds. *Ibis* 103a: 37-49.
- SIMMONS, K. E. L. (1964): Feather maintenance, A new Dictionary of birds (A. L. Thomson, Ed.). New York, McGraw-Hill, Pp.278-286.
- SLESSERS, M. (1970): Bathing behavior of land birds. *Auk* 87: 91- 99.
- VAN LERSEL, J. J. A & A. C. A. BOL (1958): Preening of two tern species, a study on displacement activities. *Behavior* 23:1-88.
- LABASTILLE, A., ALLEN, D. G., & DURREL, L.W. (1972): Behavior and feather structure of the Quetzal. *Auk* 89:339- 348.