

Dusting and Sunning by Australian Brush-turkeys

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Neither sunning (sun-bathing) nor dusting (dust-bathing) has been described in previous accounts of behaviour of the Australian Brush-turkey *Alectura lathami*.

Many writers have considered the species to be virtually restricted to tropical and subtropical rainforests, building their incubation mounds in dark recesses well protected from the deleterious drying effect of direct solar radiation (e.g. Frith 1956; Clark 1964; Rowley 1975). Their closest apparent relatives, in the genus *Talegalla*, are also described as typical forest birds (e.g. Coates 1985). Further, the Australian Brush-turkey's dark colouration has suggested to some writers that it is a denizen of a shadowy environment.

But the common occurrence of the Australian Brush-turkey during the past 100 years in more open woodland to the west is well documented (Gould 1865; Campbell 1900; North 1914; Blakers *et al.* 1984) and its more recent association with introduced *Lantana* *Lantana camera* and suburban plantings (Lord 1956; Dow 1980) suggest that the key to its habitat selection may be dense understorey rather than dense forest *per se*.

I have observed Australian Brush-turkeys on my property at Upper Brookfield on the west side of Brisbane since 1973, noting each year up to four active mounds on 18 ha of woodland dominated by Spotted Gum *Eucalyptus maculata* with Brush Box *Tristania conferta* on southern slopes. The soil in most places is poor, being composed largely of shale.

Dusting behaviour has proved very common in this environment. Perhaps drier ground cover provides a greater stimulation, or simply more opportunity, for dusting than does that of moister rainforest. But dusting also appears, at times, to be a social activity, particularly while birds are in early-morning aggregations. Suitable sites may become traditional. Over the years, dusting Australian Brush-turkeys have formed several depressions at three sites, including one below the veranda of my home. Often, two or three birds will wait together for access to the dust bath and squabbling can quickly break out among them. More often, single birds come in and at any time of the day.

A dusting Brush-turkey squats on the ground and, alternately leaning from one side to the other, kicks out strongly behind. The scratching claws loosen the dry

substrate. Some birds peck vigorously at the soil but most do not. The breast is lowered heavily to the ground while wings beat strongly. Dust and fine sand are thrown onto the bird's back by this activity. The scratching forms pits in the hard shale: these may be 80 by 40 cm reaching depths of 30 cm.

I have now observed this behaviour hundreds of times and in every month of the year; it occurs somewhat more commonly in March and April. Then, birds are undergoing moult and it may be that vigorous dusting is a response to irritating fragments of sloughing feather shafts.

Dusting behaviour seems fairly similar to that described for many species, being dramatic only because of the bird's size. The great strength of the legs and feet of Australian Brush-turkeys results in the formation of pits, which then seem to become traditional sites. The only previous mention I could find of such sites was by Gould (1865): 'In various parts of the brush I observed depressions in the earth, which the natives informed me were made by the birds in dusting themselves.'

Sunning is much less often seen. Like dusting, it may have a social component, but in a dozen or so observations, I have seen mostly single birds.

In a typical sunning episode a bird will lie on one side. For example, on 8 October 1984 at 1251 h, I encountered a female in full sun on the top of a flat ridge; the ground cover was predominantly eucalypt and acacia leaf litter with scattered grasses. She lay on her right side and had lifted her left wing above her back, allowing it to droop until the primaries touched the ground behind her. The primaries in the outstretched wing were twisted, producing an obvious space alongside each feather.

Another bird rolled onto her left side and elevated her right wing until vertical. The wing then drooped back and she held her tail, somewhat fanned, in a plane parallel to the ground. Lying thus, on her left wing, the underside of her right wing and her flank were totally exposed to the sun. The bird held this position rigidly for 40 sec, then rolled back onto her ventral surface.

Yet another bird rolled onto her left side and raised her right wing but not vertically. The wing was roughly parallel to the ground, primaries spread, the wingtip just touching

the grass. Her tail was not fanned as before and her neck was not particularly extended. She held her head up with eyes open.

Sometimes a bird uttered a 'bwok' call, usually when sunning near another. Interactions — generally agonistic — between sunning females could often be related to previously established dominance relations.

All episodes of sunning had in common the raising of one wing and the positioning of the tail so that the sun struck the ventral surfaces. The head was held close to the ground but never rested there. Typically, the posture was maintained from two to four minutes, and the behaviour was followed by ruffling and preening. All sunning occurred between 1000 h and 1500 h at temperatures ranging from 30° to 38°C. Only once did I see a male Australian Brush-turkey sunning.

While sunning, gallinaceous birds '... lie on one side, or even briefly roll over on their backs, with the wings lifted and spread and the head and neck often outstretched on the ground' (Simmons 1964). Sunning by the Australian Brush-turkey is most similar to that which I have observed in pigeons, a group for which it has been described in detail (Goodwin 1967). Pigeons show similar behaviour when bathing in rain. I have not observed Brush-turkeys bathing in rain or in standing water. Simmons (1964) states that gallinaceous birds do not bathe in water and that when dusting they '... scrape earth towards them with the closed bill (often partly burying themselves) ...' Brush-turkeys make greater use of the feet than the bill while dusting.

Both behaviours doubtless subserve a feather maintenance function (Simmons 1964). But it is interesting that in both dusting and sunning by the Australian Brush-turkey, elements of social facilitation are introduced and aggression can quickly erupt. The relative rarity of sunning suggests that it is unlikely to have any significant role in socialisation. But aggression, both inter and intrasexual, is so common among these birds that it comes as no surprise to see it associated even with unusual behaviour patterns.

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