

governing bird distribution; some are extremely complex and the causes underlying them are difficult to understand. It is always of interest however to try and work out what some of these factors are, and even apparently unimportant observations can sometimes provide a useful clue. This is exemplified by Lack's observations on two species of Pipits which were detailed earlier in this paper. Some understanding of habitats is essential to the policy of conservation.

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Feather Painting by Black Currawongs.—The Cradle Mountain-Lake St. Clair area in the highlands of north-western Tasmania is a state reserve visited annually by several thousand people. As a consequence a number of free-living mammals and birds have become very tame and supplement their diet with food scraps provided by visitors. The Black Currawong, *Strepera fuliginosa*, is a conspicuous resident and upward of a dozen individuals are regularly present in the picnic area at "Waldheim" at the northern end of the reserve, where tourist accommodation is available.

When visiting "Waldheim" on the afternoon of December 4th, 1965 we disturbed a Black Currawong with its feathers heavily

soiled with yellow clay. After a few minutes this bird was seen to return to the wet open-cut drain from which it was flushed and commence painting its feathers with wet yellow clay excavated from the side of the drain. In the course of an hour, six Black Currawongs were seen to visit the site and engage in feather painting to varying degrees. Though running water was available in the drain the birds made not attempt to bath. Several holes had been excavated in the bank by the action of the birds' beaks, the largest being four inches deep and two inches across.

The birds collected wet yellow clay from these holes and often shook or wiped the excess from their beaks before commencing to paint. Painting was usually carried out at the site but if the birds were nervous or disturbed they retreated a few yards to vantage points in the shelter of adjacent rain forest. Several such roosts were heavily soiled with the yellow clay from the bird's feet or the action of removing the excess material from their beaks.

The clay was applied to the feathers either by a sideways wiping action of the beak or in the manner of feather preening. The most heavily affected birds had applied wet clay to feathers on all parts of the body, but preference seemed to be given to the carpal area of the wings. Much of the material was applied to the skin or sub-surface feathers by the deliberate action of the birds burrowing their beaks deep into their plumage and preening the basal parts of the feathers. Painting was often interrupted by vigorous chin scratching.

These observations were made between 1500-1600 hours on a sunny afternoon following several days of rain. The action of the birds left the observers with the impression that this behaviour was not being carried out as an adornment but more probably for the purpose of a "dirt bath". The habitat of these birds is mostly rain forest in a heavy rainfall area and there would be little or no opportunity for them to engage in the dry dust bathing carried out by other species.

After considerable searching this was the only site found where this kind of yellow clay was exposed and the birds did not seem inclined to use any alternative material.

Mr. Gordon Saunders, the ranger at "Waldheim" informed us that though he had never actually observed this behaviour he had on previous occasions seen Black Currawongs round the "Waldheim" area with yellow clay on their feathers.—R. H. GREEN and J. W. SWIFT, Launceston, Tasmania.