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FORAGING BEHAVIOURAL ECOLOGY OF THE SUPERB LYREBIRD

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Foraging was investigated in a Superb Lyrebird population in southern Victoria. Soil invertebrate food resources were moderately patchily distributed and the fact that foraging effort and success varied greatly spatially suggested that the birds located patches mainly by trial-and-error. The similarity of the nestling's diet, the soil invertebrate fauna and probably the adult's diet, plus the high mean capture rate of 14–18 prey per min foraging, indicated relatively unselective prey consumption by adult lyrebirds. Soil invertebrate abundance exhibited no highly consistent seasonal pattern; however, it showed some tendency to increase in summer and autumn when fledglings were being reared rather than in spring during the period of nestling care. Foraging was probably energetically expensive because >80% of foraging time was spent digging in soil at a mean rate of 78–84 foot movements per min; only 5–8% of foraging time was spent walking or running at a low speed between excavation sites which averaged < 2 m apart. Foraging lyrebirds followed both fairly straight and quite circuitous routes, the latter being more common in the non-breeding season and resulting in intensive exploitation of a localized area. The mean daytime defecation rate (approx. 3 per h) and faecal energy density (8.54–9.28 kJ per g dry mass) indicated that the species probably has a slow gut passage rate, but is highly efficient at assimilating energy from its diet. Lyrebirds' foraging ecology could make them particularly susceptible to habitat fragmentation and to disturbance that increases the cost of digging.