

SCAVENGING BY THE MADEIRAN LIZARD *LACERTA DUGESII*

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The note by Bullock and Jury (1990) concerning the feeding habits of *Ameiva fuscata* and the role of herbivory in its diet, prompts the following.

On numerous occasions between 4 and 16 July 1985, whilst on holiday in Madeira, I was struck by the unusual habit of scavenging by the Madeiran Lizard *Lacerta dugesii*. At both a swimming pool and bar in Funchal I first noticed lizards eating crumbs of bread and cake which had been accidentally dropped to the floor by customers. The habit seemed to be opportunistic, lizards only eating items on chance encounters, although once located, they thoroughly searched the vicinity to consume every possible food item. However, I tested lizards by purposefully dropping food onto the floor, namely pieces of bread, cake, cold chicken, ham and tomato, and it was apparent that at least some individuals had become habituated to scavenging. The animals would run quickly from up to three metres distant to the site of the dropped food items, some quite large (up to three centimetres long), which after location by tongue flicking, were consumed whole. At times, contests over items took place between individuals which were invariably won by the larger animal.

The environs of the bar especially seemed to support a high density of lizards, up to ten being counted at once when food was available. The only 'natural' prey I saw eaten was a small moth (*Heterocera*) which was initially chased with great agility by a medium sized lizard, but was eventually caught and consumed by a larger animal following a confrontation.

In a comprehensive study of the gut contents of about 1700 Madeiran lizards, Sadek (1981) noted a preponderance of invertebrate food items, although a varying proportion of plant matter including fruits, seeds, flowers, buds and leaves was also recorded. However, scavenging in the above sense was not commented upon, and indeed would have been hard to detect from an examination of gut remains since the above types of food would be almost totally digestible and leave no identifiable remains.

Scavenging and herbivory by this species, however, is well known to the inhabitants of Madeira and Porto Santo. G. E. Maul (in litt) states that they are considered as pests because of the destruction caused in vineyards when the grapes ripen. Then, many are killed by baiting kerosene tins with pieces of ripe tomato or banana. Further, they can often be observed on the beach in Funchal harbour scavenging, even tearing off pieces from the carcasses of dead animals. The Madeiran lizard has also been observed to visit flowers of the indigenous *Echium nervosum* and introduced *Aloe arborescens* to take nectar (Elvers 1977).

Lacerta dugesii is closely related to the two African mainland species *L. andreanzkui* and *L. perspicillata* although it has also been considered a race of the wall lizard *L. muralis* (Arnold 1973, Elvers 1977). Most members of the genus are insectivorous, herbivory being quite rare and only recorded for Mediterranean insular species. Indeed herbivory is unusual in lizards generally, being mainly recorded in the families Iguanidae, Agamidae and Scincidae (Szarski 1962, Pough 1973), the reasons for it having been explored on morphological and metabolic grounds (Ostrom 1963, Szarski 1962, Pough 1973) rather than ecological or behavioural, although it is well known that many herbivorous species are insular.

One reason which may help to explain the herbivorous and scavenging tendencies of the Madeiran lizard is the absence of competition sometimes found on islands (Williamson 1981). There are no indigenous mammals, other reptiles or amphibians on Madeira though rats *Rattus*, mice *Mus* and frogs *Rana esculenta* have been accidentally or deliberately introduced and hence the only similar sized diurnal competitors are likely to be the few species of birds which occur. Cultivation of the islands must have brought a readily exploitable source of food and it is interesting to note that the tomatoes, grapes and bananas cited as food in Madeira follow

the trend of herbivorous species preferring soft pulpy tissues (Ostrom 1963).

Sadek also noted many feathers in the gut contents of lizards from Porto Santo and the Desertas – other nearby islands, and this may well be explained by the scavenging habit of animals which are able to take advantage of the numerous bird mortalities which must occur here during the breeding season.

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