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FLATWORMS AND FLIES, SPIDERS AND SNAILS: THE UNKNOWN DIVERSITY IN YOUR OWN BACKYARD

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Zimbabwe is Big Mammal country and most zoological research has concentrated, disproportionately, on this group. Research on invertebrates has emphasized, correctly, pests of medical, veterinary and agricultural importance. A handful of eminent entomologists, such as Dr G. Arnold and Dr E. Pinhey, have made major contributions to wider studies of insects. But most other non-insect invertebrates have been neglected. The high number of unknown animal species, even in my own backyard in Highlands, Harare (the focus of my natural history studies) surprised me. My initial interest lay in the invertebrates interacting with *Odontotermes transvaalensis* termites on the rims of their open-vented mounds in the study site, a garden, which has been monitored to greater and lesser extents since 1990. The termite mounds have proved to be centres of biodiversity.

The well-treed, leafy garden covers 0.6 ha, is over 50 years old and is only 4 km from the city centre; it represents an ecosystem at a very small scale. A philosophy of "gardening for Biodiversity", which entails no use of artificial chemicals, minimal disturbance, no great emphasis on tidiness and the creation of a variety of niches, has been pursued.

An illustrated account of some of my research was presented, starting with aspects of the termite mounds themselves, going on to the taxonomy, natural history and daily activity patterns of the minute phorid fly, *Termitophilomyia zimbabwensis* (new species); the daily patterns and feeding behaviour of the termitivorous terrestrial flatworm, *Microplana termitophaga*; and the taxonomy and behaviour of the termitivorous jumping spiders, *Microheros termitophagus* and *Mashonarus guttatus* (both new genera). Recent work on habitat separation among the 41 species (about a third yet to be described) of garden salticid spiders (compared with 36 species in the entire British Isles) was summarised briefly. Other invertebrates using the mound (stingless bees, beetles and snails) were illustrated, as were slime moulds, algae and *Termitomyces* mushrooms which grow on mounds.

A great deal remains to be done before the biodiversity of the invertebrates of Zimbabwe is even partially known. Yet invertebrates are extremely important in forming the basis of many food chains and as drivers of natural processes; termite and millipede communities, for instance, each consume the same or more plant biomass than large (admittedly more charismatic) mammals. Perhaps it is time for the BFA to pay greater attention to invertebrate biodiversity?

My studies have been fun and altered my perception of ecological systems. It takes a long time to build up a picture of an ecosystem, even a small one, and to appreciate its dynamism and endlessly fluctuating nature.

This work would not have been possible without the co-operation of biologists and taxonomists from around the world, who have also helped me overcome some problems facing Zimbabwe scientists, such as the absence of up-to-date libraries and of colleagues in

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