Literature Reviews

Example from Biology

Although studies have shown that diet has an important influence on a mammal's overall biology (e.g. McNab 1983), little is known about the feeding ecology of many Australian species. One species, the yellow-bellied glider (Petaurus australis), which weighs up to approximately 700g, is the largest of the arthropod and exudate-feeding marsupial gliders (see Smith & Lee 1984). It has a widespread but patchy distribution in eastern Australia and is characterized by low population densities (Henry & Craig 1984, Kavanagh 1984). Relatively little research has been centred on the feeding behaviour of this species because of difficulty in its detection and capture (Craig & Belcher 1980).

main point about previous research in this area

One study (Wakefield, 1970) concluded that while yellow-bellied gliders obtain sap from the 'V'-shaped incisions they make in the trunks of various species of eucalypt arthropods comprise the bulk of their diet. This conclusion, however, was based on limited feeding observations and the irregular occurrence of these 'sap-site' trees.

findings of one study using limited observations

Other studies conducted analyses on faecal samples from north Queensland and Victoria respectively (Smith and Russell, 1982; Henry and Craig, 1984; and Craig, 1985) to determine feeding behaviour. These studies found the presence of arthropods, eucalypt sap, nectar and honeydew. However, as insect and plant exudates are almost tota1ly digested and leave little trace in the faeces other indicators must be used to infer their use (Smith & Russell 1982). Bark, for example, is used as an indicator of eucalypt sap. Faecal analysis, therefore, does not allow a precise determination of the relative importance of each of the separate dietary items.

other studies using faecal samples to infer feeding behaviour

Other studies assessed presence of food items in the diet, not the differential proportions of each food item in the diet.

Qualitative observations of feeding behaviour in gliders have also been carried out (Henry and Craig, 1984; Craig, 1985; Kavanagh and Rohan-Jones, 1982; and Kavanagh, 1987a,b). In these studies each observation is scored equal, regardless of duration, thus these data indicate only the presence or absence of food items in the diet, not their relative use. A study employing the use of timed (i.e. quantitative) feeding observations is necessary to give a better resolution of the species' dietary requirements. This study was aimed at achieving this by addressing the following question: are different food resources exploited in different proportions throughout the year?

identification of the gap

Aims of this research – shows how this research will fill the gap.