Feral cats under examination

CALM research on feral cats has led to an international collaboration with animal physiologists from the Goethe-University in Frankfurt, Germany.

Zoology lecturer, Dr Elke Schleucher, and diploma (honours) student, Stefanie Hilmer, are in WA studying the energetics and body temperature of feral cats to see if these factors have a bearing on their rapid and successful invasion of the continent.

Since October 2004, an experiment that measures the metabolic turnover of cats via oxygen consumption has been running in a laboratory at the Wildlife Research Centre, Woodvale.

Surgically implanted temperature loggers are collecting data on the cats' body temperatures under laboratory and field conditions.

For the field data, feral cats were trapped at Lorna Glen, 150 km north-east of Wiluna, and implanted with temperature-sensitive loggers that store data. They will roam the desert region until the device is retrieved.

Elke and Stefanie believe the energy turnover rates and thermoregulatory capacities of the cats are key characteristics in their successful colonisation of Australia, and that information could aid the refinement and improvement of control management strategies.

by Dave Algar

Feral cats are physiologically well adapted to hot and arid conditions, but the main features of their physiology have not been thoroughly investigated to date.

Goethe-University student, Stefanie Hilmer, and zoology lecturer, Dr Elke Schleucher, capturing feral cats during a recent field trip to Lorna Glen Station.

For instance, cats occur in regions without access to free water, which is a striking characteristic, especially in comparison to foxes and dingoes, the other two main introduced predators.

The University's preliminary studies on domestic cats in Germany as well as six feral cats from desert regions of WA show that their energy requirements are 50 per cent lower than expected for a mammal of their body mass.

This is a physiological characteristic typical for desert species, as a low energy turnover rate is associated with minimised heat production and water loss, which is an advantage in hot and arid conditions.

The group also plans to examine the cats' patterns of physiological adaptation by analysing kidney, skeletal and body morphology.

Stefanie is planning to start her PhD thesis later this year, continuing research initiated during her diploma studies.

The main aim of this project will be to examine potential physiological differences between feral cat populations from different ecological backgrounds, such as arid versus temperate and mainland versus island populations.

Data from these studies are expected to help in understanding the dynamics of feral cat invasion into Australia's arid zone.