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Stereotypic behaviour of captive New Zealand zoo mammals: attitudes of zoo staff, prevalence, and effectiveness of short-term environmental enrichment

A thesis presented in partial fulfilment of the requirements for the degree of

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*“Until one has loved an animal, a part of one's soul
remains un-awakened”*

Anatole France 1844-1924

Abstract

Modern captive animal institutes (zoos) focus on conservation, entertainment, education, research and the welfare of the animals. A good indicator that there could be underlying welfare issues, caused by physical or managerial inadequacies for example, is the display of stereotypic behaviour. Stereotypic behaviour refers to repetitive or abnormal actions, such as pacing or self-mutilation. In this study, I firstly examined the prevalence of stereotypies in captive mammals, and associated risk factors, in three New Zealand zoos (in Auckland, Hamilton, Wellington) using a questionnaire to examine staff perceptions and attitudes towards stereotypical behaviour and its mitigation. Secondly, I observed behaviours of eight species (African wild dogs [AWDs], chimpanzees, giraffes, meerkats, otters, southern white rhinoceroses, tigers, and zebras) housed at the three institutes to document the occurrence of stereotypical behaviour. Thirdly, I investigated the efficacy of short-term enrichment on three target species (chimpanzees, giraffes, AWDs) that displayed stereotypies.

At each institute, zoo staff recognised the occurrence of stereotypic behaviour and they agreed that such behaviour indicates underlying welfare issues. My observations confirmed that stereotypical behaviour did occur at each institute, with six of the eight species displaying stereotypies including pacing, licking inedible objects, begging, circling, head shaking/tossing, hair picking, body rocking, and coprophagy. Neither meerkats nor rhinos displayed stereotypies, however, indicating that these species may be better suited to captivity than the others. The enrichment program I developed for three species (AWDs, giraffes, and chimpanzees) was partly successful in that the animals engaged with the range of toys and devices provided, but the frequency of stereotypies was not reduced. Consequently, enrichment alone cannot be used to treat stereotypical behaviour. My findings are important for helping to improve the welfare of captive zoo mammals.

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