

THE COLLEGE OF SCIENCES AND MATHEMATICS &
THE R. W. YEAGY COLLOQUIUM PRESENT:

The Case of the Meganesian Carnivores

by

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Before the arrival of humans in Meganesia (Australia, New Guinea, and nearby islands) the dominant predators were large lizards. About sixty species of mammals weighing more than twenty pounds existed in the area at that time; however, only three of these species were carnivores and all are now extinct. For example, the last thylacine or Tasmanian wolf, the only doglike marsupial carnivore, died in a zoo in 1936. However, large reptilian predators such as the Komodo dragon still exist in the general area today. In contrast, Africa, America, Asia, and Europe supported large and diverse populations of mammalian carnivores 60,000 years ago. Tim Flannery of the South Australian Museum suggests in his Natural History journal article, "The Case of the Missing Meat Eaters," that the lack of large mammalian carnivores in Meganesia is due to the low productivity of soil, which makes large herbivores rare and thinly spread. We can use a predator-prey model to help explain why reptilian predators flourish in Meganesia and why their mammalian counterparts had little success. This talk is accessible to any undergraduate who has had courses in linear algebra and multivariable calculus.