



**Detecting the Veiled Chameleon (*Chamaeleo calytratus*) on Maui:
Enhancing Control of an Injurious Species**



1st Progress Report

**Maui Invasive Species Committee
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SUMMARY OF PROJECT OBJECTIVES AND RESULTS

The veiled chameleon (*Chamaeleo calyptrotus*), native to Yemen and Saudi Arabia, is an injurious alien species in Hawaii. A breeding population of veiled chameleons in upcountry Maui is the only known breeding population in Hawaii. The veiled chameleon is believed to pose a greater risk to native plants and animals than the well-established Jackson's chameleon (*Chamaeleo jacksonii*). Veiled chameleons are larger than Jackson's, tolerate a wider range of environmental conditions, and are omnivorous feeders. The intent of this research project is to obtain basic natural history information to improve detection of veiled chameleons and to test different detection and capture methods to enhance effectiveness of control efforts.

Funds for this project first became available in late 2005.

PROJECT ACCOMPLISHMENTS: NOVEMBER 2005 – FEBRUARY, 2006

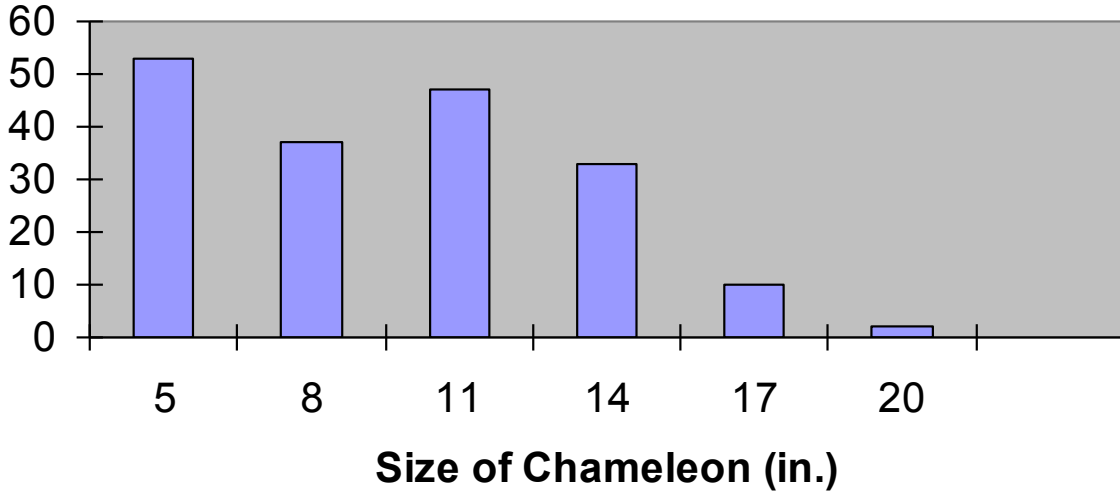
As a research project associated with the University of Hawaii, activities involving live chameleons are subject to protocols approval by the University's Institutional Animal Care and Use Committee (IACUC). In anticipation of funding for the project, an IACUC proposal for the project was developed and submitted to the University of Hawaii. The IACUC proposal has been conditionally approved, but the Committee has requested additional information before the project can proceed. All requirements by the University have been met and final approval is expected to be granted at the next meeting of the IACUC.

Objective: Research basic natural history information to improve and to test different detection and capture methods to enhance effectiveness of control efforts.

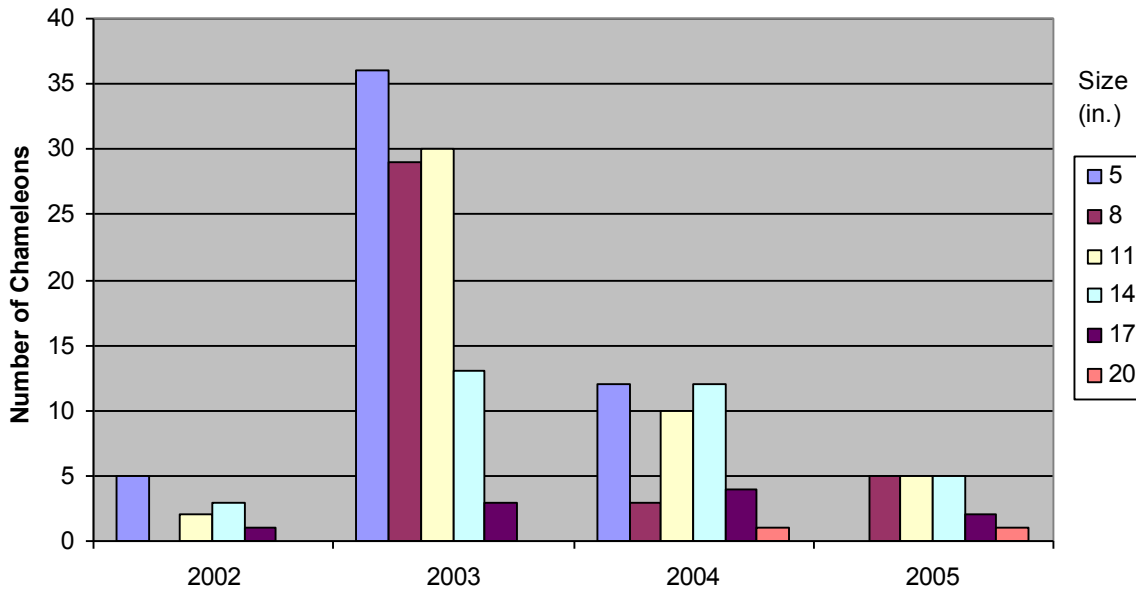
Work during this period concentrated on compiling and reviewing all available information on veiled chameleons. Activities included researching scientific literature databases as well as online exchanges associated with the reptile trade. Because efforts to control the veiled chameleon population have been ongoing in cooperation with the Hawaii Department of Agriculture, there is an existing database with information about all veiled chameleons previously captured. The data were reviewed for accuracy and completeness and the database is in the process of being updated.

To date, 184 animals have been recovered from the upcountry Maui population. Initial analyses suggested a high percentage of young veiled chameleons in the population; however, more recent efforts have not recovered any juvenile chameleons and overall numbers have declined even though relative effort remained unchanged. The continued discovery of large, adult chameleons underscores the need to better understand basic information about the natural history of these animals.

Size Distribution of Veiled Chameleons 2002-2005



Veiled Chameleons Captured by Year & Size: 2002-2005



Objective: Make direct field observations on and use radio transmitters and/or other markings to learn about the chameleon's movement patterns, habitat use, dispersal distances, and reproductive cycles.

As noted above, direct field observations and/or radio tagging under this project can not occur until the project receives final IACUC approval. MISC has begun to acquire necessary equipment and make contact with private landowners to obtain permission to work on their properties to carry out more detailed observations once approval is received. Two searches during this time period conducted in association with MISC's partners, the Department of Agriculture and Department of Land and Natural Resources, did not detect any veiled chameleons.

Objective: Record information on movement and feeding activities, habitat use, home range, interactions with other animals, reproductive behavior, and weather conditions.

Deferred until final IACUC approval is obtained.

Objective: Develop alternative methods for detecting and capturing individual chameleons to more effectively control or eradicate the population

MISC has previously worked with a private landowner to remove thick vegetation that may have hindered the ability to detect veiled chameleons. No chameleons were discovered during that work. Additional efforts to remove vegetation will be conducted in the future. Exploration of other alternative methods awaits final IACUC approval.

For further information contact:

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