

Overview

OVERVIEW

IDEA

Model how chameleons change their color depending on situations. If they get angry they turn red and yellow want to court a female they turn purple.

MODELING TASK

Simulate a scene in Madagascar where male panther chameleons display color changes in response to:

- Courtship with a female
- A confrontation with a predator
- Competition with another male

COMPUTATIONAL PRACTICES (Based on Weintrop's Framework)

- Simulation and modeling practices: Designing and refining computational models.

PROGRAMMING SKILLS REQUIRED

- Intermediate.

STARLOGO NOVA CONTENTS

- Core Agent Traits: Size, color
- Behaviors: Collisions, remote detection (sniffing), conditionals, random walks
- Interactions: Agent resizing, color change

MODELING CONCEPTS

- Understanding how individuals react to external stimuli.
- Translating reactions into changes in individual properties.
- Relating individual changes to external world variables.

CURRICULAR CONNECTIONS

- Natural Sciences: Endangered species, nanocrystals, color theory, animal communication.
- Social Sciences: Behavior in response to external stimuli, evasion, and mimicry mechanisms.

ADDITIONAL RESOURCES

- Types of signals sent by chameleon color change

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