

A multiagent model of sexual selection in Malaysian diopsids

Kanika, Jain

2007

Kanika, J. (2007, March). A multiagent model of sexual selection in Malaysian diopsids. Presented at Discover URECA @ NTU poster exhibition and competition, Nanyang Technological University, Singapore.

<https://hdl.handle.net/10356/95178>

© 2007 The Author(s).

Downloaded on 29 Apr 2025 19:17:53 SGT



A Multiagent model of Sexual Selection in Malaysian diopsids

Area of Research

NATURAL SELECTION SURVIVAL OF THE FITTEST

• Explains evolution of traits that enhance survival in the natural environment

SEXUAL SELECTION

Good genes Hypothesis

A female chooses a male for an enhanced trait so that her progeny has a good genetic constitution

Fisher's Runaway Hypothesis

Male progeny inherits better genes for enhanced ornament

Female progeny inherits better genes that evolve female preference

Phenomenon explained well by Stalk-eyed flies.

Exaggerated ornament: Distance between eye stalks

EXPERIMENTAL STUDIES

Wet lab experiments

costly

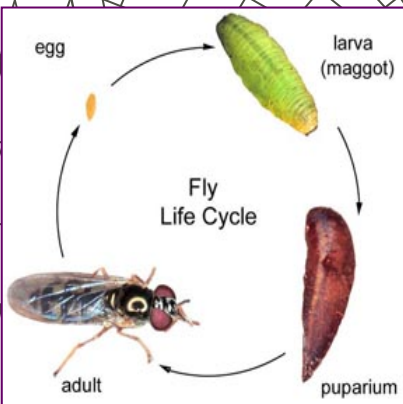
Simulation studies

Biologically inaccurate

Agent based Model

Methodology and Simulation

Life Cycle



Simulated Genetic structure



Structure of chromosome: Colors represent different abilities



Discrete Event Simulation

Events

Simulated Larval event

Fixed Attributes

Eye span

Body Size

Immunity

Simulated Adolescent event

Fixed Attributes

Immunity

Size of Sexual organ

Environment

Light

Bank

Leks

Food

Bed

Stream

Adult activities

Resting

Contesting

Mating

Foraging

Observed Simulated Environment

