

Sexual Selection II: female choice

1

Theories of intersexual selection

1. Direct benefit- material resources; increase fecundity

Empidid flies
(Dance flies)

nuptial gift



4



Bird of Paradise



Swordtail fish - Xiphophorus

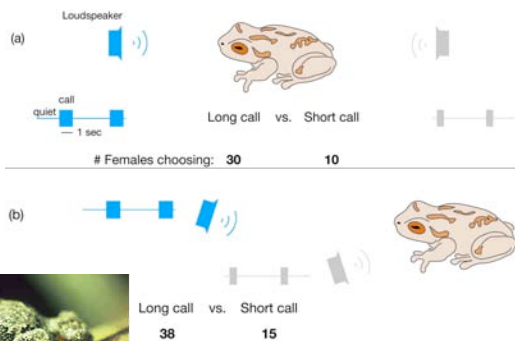
2



- Mormon crickets
spermatophore = ampulla + spermatophylax (Gwynne)

5

Females do choose....



Hyla versicolor

Gerhardt et al (1996)

3

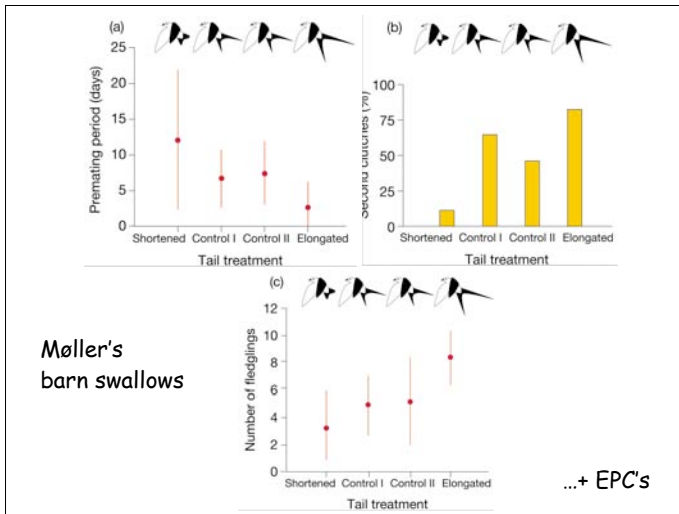
2. Indirect benefit



Eyespots on peacock tails

Fisher's Run-away Sexual Selection

6



7

Non-arbitrary badges...



Sticklebacks -
Milinski & Bakker

10

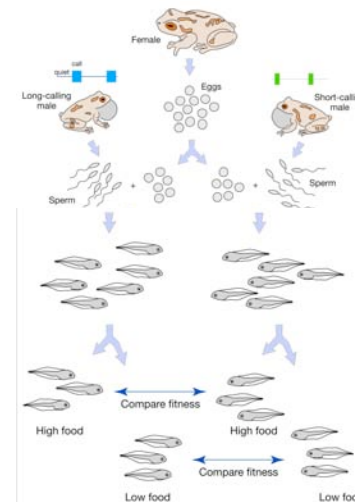
- 'sexy sons' the only benefit
- ornaments & preference coevolve
- ss & ns balance
- requires genetic correlation



8

'Good Genes'
Models

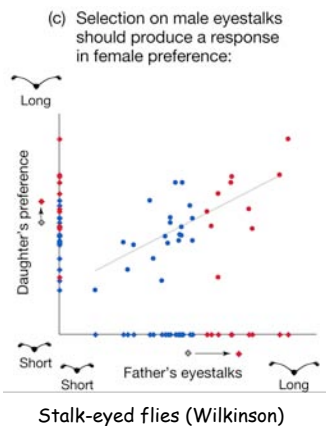
Long-call males
genetically superior to
short-call males



Welch et al 1998

11

Predict association betw. genes for M trait & F preference



9

Handicap Principle (Amotz Zahavi 1975)



Widowbird



Male sage grouse

- 'honest' signal
- superior survivorship

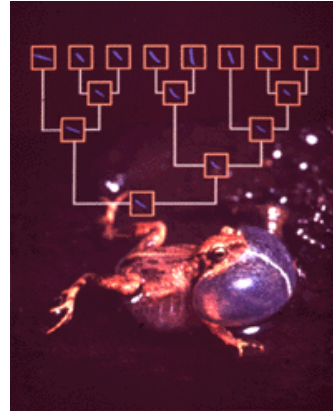
12



Male sage grouse strut display

13

3. Sensory Bias

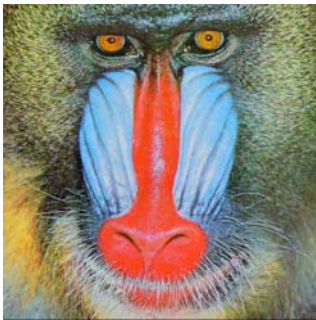


- 'chuck' evolved in terminal taxa
- F of unrelated species prefer calls with chuck

Physalaemus (Ryan et al)

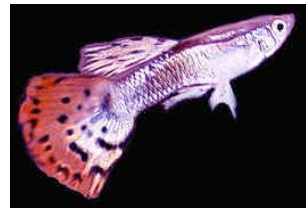
16

Parasite hypothesis
(Hamilton & Zuk 1982)



14

Mate copying



Dugatkin's guppies

17

Evidence? 4 types of study

1. Relationship betw. ornament elaboration & offspring viability
2. H_0 of female choice for parasite resistance
3. F choice of trait asymmetry as indicator of genetic quality
4. Choice for genetic complementarity

15



18