



Family Ecology

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- The family forms a crucial social environment for individual fitness and trait
- In this family context individuals interact with each other and influence each other (social selection)
- Thus, traits expressed– e.g. during *parental care* - are both agents and targets of selection (social selection)



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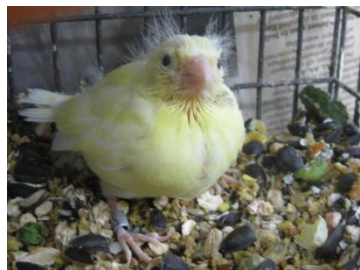
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Parental care

- is a “family interaction” with significant consequences for offspring development and survival
- but providing is care costly for the parents
- Each individual will try to optimize the amount of care provided/received - but what is optimal for one individual may not be optimal for another family member
- This causes *family conflicts*, which in turn influence the evolutionary dynamics and communication within the family



Potential topics are:



Parental care and nestling development in *canaries* (CDE)

- Begging signals
- A solution of the *parent-offspring conflict* in canaries?
- Maternal effects as modulators of sibling competition (focus on maternal yolk testosterone)
- Stress during early development and the costs of compensatory growth
- Sibling rivalry





Mate choice, parental investment and parent-offspring co-adaptation in canaries (CDE)

- **Are female canaries choosing “good quality males”?**
- What signals male quality? What information provides bird song (condition, genetic quality, health status, parental qualities)?
- What is genetic quality?
- What are the consequences of inbreeding?



Parental care in *blue tits* (*Peerdsbos*)

- Parental care and offspring begging - in concert with with the local environment
- Parent-offspring co-adaptation
- Cooperation and conflicts between parents during parental care (polygyny)
- Parental care or parental exploitation - begging as honest signals of need





Wild immunology



- Trade-offs between immunity and life-history traits
 - Costs and benefits of immunosuppression



- Immunocompetence during early development
 - Anti-oxidants and immunomodulants (carotenoids)
 - Growth versus immunity



Begging in *Herring/lesser black-backed gulls* (Zeebrugge)

- Sibling competition
- Parental experience/age
- What regulates begging?
- and offspring begging - in concert with with the local environment
- Optimal begging and growth strategies in relation to food quality