

Navigating minds and melodies: Pied flycatcher cognitive exploration

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BACKGROUND

Sexual signals play an important role in mate choice. Female songbirds use song to assess male quality, but how song and male quality are related is a long-term challenge. The cognitive capacity hypothesis suggests that variation in song learning ability is related to general cognition, giving females information about male's genetic quality and ability to provide resources to offspring.

Aims: Is there a relationship between cognition and song complexity? Habitat quality? Fitness?

METHODS

Monitoring of 23 pairs of wild pied flycatcher

Male quality

- Brood size and nestling body mass
- Male mass and wing length
- Forehead patch size

Song complexity

Songs of males were recorded and the song versatility (measure of complexity) was measured using spectograms.

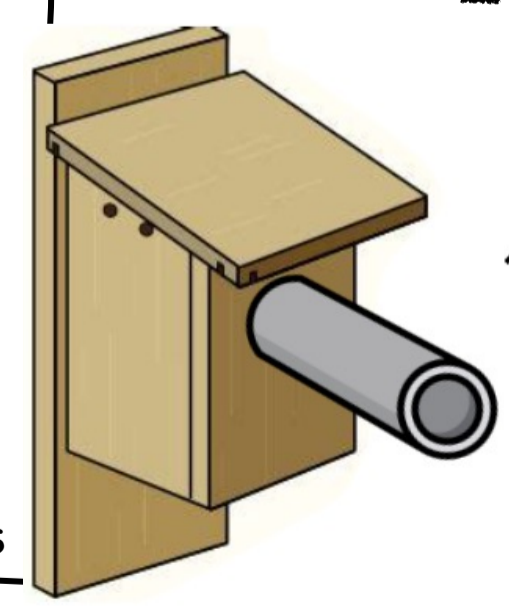
Habitat quality

- Tree density and species diversity measured around each nest box
- Frass* traps placed under different tree species to estimate food availability

Cognitive task

- Detour-reaching task: entering the box despite the tube
- Recorded with high speed cameras

*Frass = caterpillar faeces



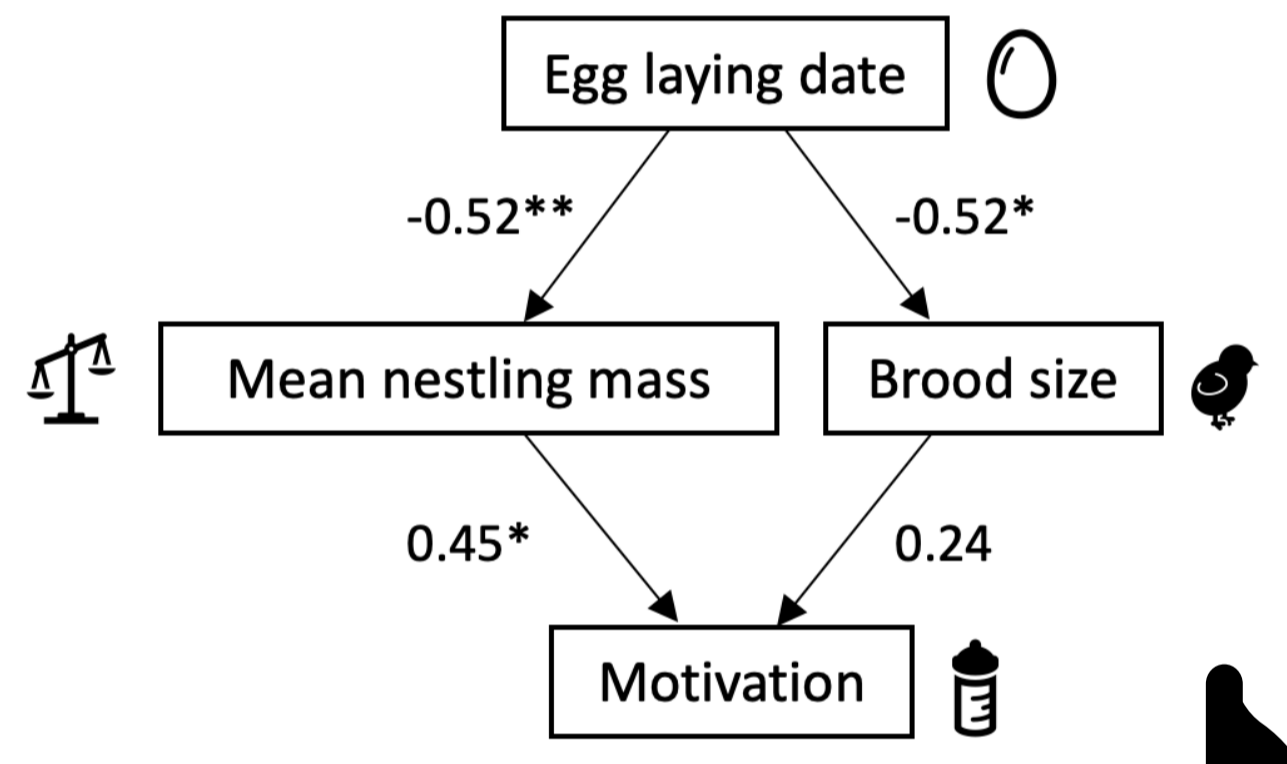
RESULTS

>35% of males succeeded in the task

No correlation was found between song complexity and different measures of cognition

All males were found to follow a clear progression in steps when exposed to the cognitive task

Significant relationships between environmental factors:



Motivation = number of times the male fed the nestlings in the 30 min prior to putting the cylinder

CONCLUSION

Complex singers were not found to have higher cognitive abilities but environmental factors might influence the results.

European pied flycatcher (*Ficedula hypoleuca*)



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