

# Title

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*Keywords:*

## **Current knowledge**

Ratcliffe and ter Hofstede [2005]

## **Question**

1. H1 Song learning can decelerate speciation by allowing for genetically diverse birds to mate with each other, maintaining gene flow between subpopulations that might either be on the verge of diverging
2. H2 Song learning can accelerate speciation by increasing standing genetic variation, which would allow for quicker divergence once new selection pressures arise Lachlan and Servedio [2004]
3. H3 Song learning can accelerate speciation because culturally inherited traits can evolve more quickly than genetically inherited ones Irwin [2012]

## **Goals**

## **Approach**

Table 1: Summary of choices made in previous models.

♂ trait(s)	How ♂ trait is learned	Inherited	♀ trait(s)	How ♀ trait is learned
Lachlan and Servedio [2004]				

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## References

- D.E. Irwin. Culture in songbirds and its contribution toward the evolution of new species. In E. Slingerland and M. Collard, editors, *Creating Consilience: Integrating the Sciences and the Humanities*, pages 163–178. Oxford University Press, 2012.
- R. Lachlan and M. Servedio. Song learning accelerates allopatric speciation. *Evolution*, 58(9):2049–2063, 2004.
- J. M. Ratcliffe and J. M. ter Hofstede. Roosts as information centres: social learning of food preferences in bats. *Biology letters*, 1(1):72–74, 2005.

Table 2:

Lachlan and Servedio [2004]

♂ traits                      allele A/a: song predisposition  
                                    song

How ♂ trait is learned    Obliquely

Inherited

♀ trait(s)

How ♀ trait is learned

Errors

Population Structure

Mating Structure

♀ preference

Selection