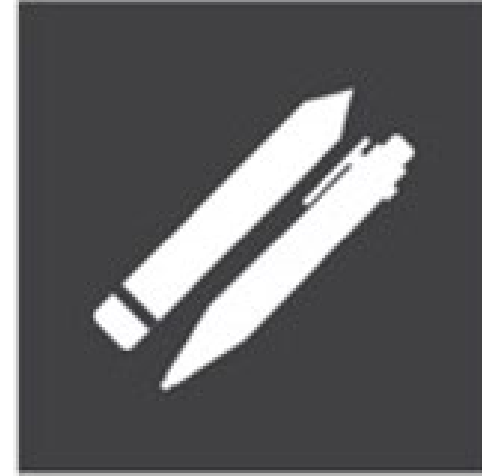


WRITING IN THE **SCIENCES**



Storytelling in Science Writing

Storyboard Example - Presentation

This storyboard example is a derivative of the EcoEvoRxiv preprint “Hardwood content impacts the parasitoid community associated with Eastern spruce budworm (Lepidoptera: Tortricidae)” by Christopher J. Greyson-Gaito and coauthors. As such, this storyboard example is distributed under a [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/) license.

Purpose

- This storyboarding example is a storyboard for the EcoEvoRxiv preprint (scientific article) “[Hardwood content impacts the parasitoid community associated with Eastern spruce budworm \(Lepidoptera: Tortricidae\)](#)” by Christopher J. Greyson-Gaito and co-authors. Please use this example to help guide your own storyboarding.

Notes

- Each slide below corresponds to a single paragraph in the scientific article.
- The “Point” section of each scene contains the single idea or message that we want the readers to understand.
- The “Known” section of each scene contains the known information that the reader already knows prior to reading this specific scene.
- The “New” section of each scene contains the new information that logically follows from the known information.
- The known to new technique was not used for the method and results sections because the scenes in these sections are listing information mostly chronologically.

ACT 1: INTRODUCTION

Scene 1

Point: There are massive outbreaks of spruce budworm caterpillars.

Known: Spruce budworm caterpillars cause large forest damage.

New: Need to find methods to reduce severity of spruce budworm caterpillar outbreaks.

ACT 1: INTRODUCTION

Scene 2

Point: Hardwood trees could reduce severity of spruce budworm caterpillar outbreaks.

Known: Need to find methods to reduce severity of spruce budworm caterpillar outbreaks.

New: Researchers think hardwoods could help.

ACT 1: INTRODUCTION

Scene 3

Point: Knowledge gap – does hardwood content impact parasitoid communities?

Known: Researchers think hardwoods could help.

New: Not much research on how hardwood content impacts parasitoid communities.

ACT 1: INTRODUCTION

Scene 4

Point: Outline useful methods to explore parasitoid communities.

Known: DNA barcoding can identify phylogenetic structure. Stable isotope analysis can identify trophic structure.

New: DNA barcoding and stable isotope analysis can identify effects of hardwood content on parasitoid communities.

ACT 1: INTRODUCTION

Scene 5

Point: Summarize goals, methods, & results.

Known: Researchers need to identify effects of hardwood content on parasitoid community.

New: Parasitoid community was affected by hardwood content.

ACT 2A: METHODS

Scene 1

Point: Location of sampling

Known:

New:

ACT 2A: METHODS

Scene 2

Point: Sampling methods of parasitoids along a hardwood gradient.

Known:

New:

ACT 2A: METHODS

Scene 3

Point: DNA barcoding methods of parasitoids along a hardwood gradient.

Known:

New:

ACT 2A: METHODS

Scene 4

Point: NMDS statistical analysis of parasitoids along a hardwood gradient.

Known:

New:

ACT 2A: METHODS

Scene 5

Point: Phylogenetic structure statistical analysis of parasitoids from 2016.

Known:

New:

ACT 2A: METHODS

Scene 6

Point: Phylogenetic structure statistical analysis of parasitoids from 1980s.

Known:

New:

ACT 2A: METHODS

Scene 7

Point: Sampling of parasitoids for stable isotope analysis.

Known:

New:

ACT 2A: METHODS

Scene 8

Point: Separation of parasitoids into different groups and preparation for stable isotope analysis.

Known:

New:

ACT 2A: METHODS

Scene 9

Point: Stable isotope analysis baseline sampling and preparation.

Known:

New:

ACT 2A: METHODS

Scene 10

Point: Statistical analysis of stable isotopes.

Known:

New:

ACT 2B: RESULTS

Scene 1

Point: Reporting of NMDS analysis.

Known:

New:

ACT 2B: RESULTS

Scene 2

Point: Reporting of phylogenetic structure analyses.

Known:

New:

ACT 2B: RESULTS

Scene 3

Point: Reporting of stable isotope analysis.

Known:

New:

ACT 3: DISCUSSION

Scene 1

Point: Summary of results.

Known: Hardwood content did impact the parasitoid community associated with spruce budworm caterpillars.

New: Important to examine hardwood trees to understand spruce budworm caterpillar dynamics.

ACT 3: DISCUSSION

Scene 2

Point: Hardwood content impacted the composition and phylogenetic structure of the budworm-associated parasitoid community.

Known: Specific result (summary).

New: Environmental filtering may be impacting the parasitoid community.

ACT 3: DISCUSSION

Scene 3

Point: Overview of group three parasitoid trophic relationships and stable isotopes.

Known: Specific result (summary).

New: Group three parasitoids can be used to examine other parasitoid groups.

ACT 3: DISCUSSION

Scene 4

Point: Overview of group one & two parasitoid trophic relationships and stable isotopes.

Known: Specific result (summary).

New: Groups of parasitoids differed in the trophic relationships between balsam firs and hardwood trees.

ACT 3: DISCUSSION

Scene 5

Point: Coupling of balsam fir and hardwood trees could be occurring.

Known: Groups of parasitoids differed in the trophic relationships between balsam firs and hardwood trees.

New: Coupling a useful mechanism to explore in spruce budworm system.

ACT 3: DISCUSSION

Scene 6

Point: Scale of parasitoid, caterpillar, tree interactions in spruce budworm system.

Known: Hardwood trees impact parasitoid communities.

New: Researchers must consider scale when examining spruce budworm caterpillar, parasitoid, hardwood interactions.

ACT 3: DISCUSSION

Scene 7

Point: Concluding remarks

Known: Hardwood trees long thought to impact spruce budworm caterpillar outbreaks.

New: Hardwood content does impact parasitoid communities but future work must consider scale of hardwood tree placement.