

**Using the Phylo
Card Game to
advance
biodiversity
conservation in an
era of Pokémon**

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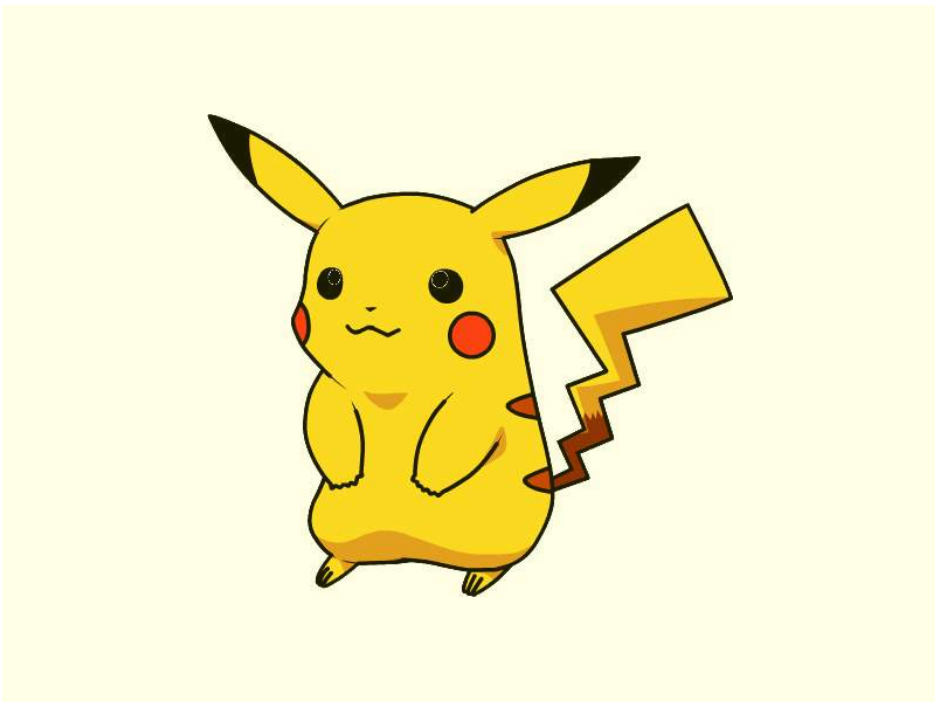
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LETTERS

Why Conservationists Should Heed Pokémon

According to E. O. Wilson's Biophilia hypothesis (1), humans have an innate desire to catalog, understand, and spend time with other life-forms. This in turn provides a powerful aesthetic argument for combating the present extinction crisis. Yet, as industrialization and urbanization reduce our direct interactions with nature, our interest in the variety of living things is perhaps becoming redirected toward human artifacts, with potentially grave consequences for biodiversity conservation (2-5). As Robert Pyle writes, "what is the extinction of the condor to a child who has never seen a wren?" (6, p. 147).

To quantify children's knowledge of nature and shed light on the premise that their innate interest in diversity is nowadays being met by man-made variety, we surveyed 109 UK primary schoolchildren aged 4 to 11 to assess their knowledge of both natural and unnatural history. Each child was asked to identify from flashcards 10 types of British wildlife and 10 "species" of Pokémon, characters in the card-trading game invented by Satoshi Tajiri to give today's urban children a chance to collect creatures in the way he did as a child (7). Each child's set of 10 wildlife cards included at least two plants, two invertebrates, two mammals, and two birds picked randomly from a set of 100 common UK species, and the 10 Pokémon cards were drawn randomly from among 100 of the basic set of 150 Pokémon types;

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Children know more about Pokemon than they do about the plants and animals in their neighbourhood.

<http://phylogame.org>

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CROWDSOURCING ≠ CROWDSURFING

INFLUENCERS



HUMAN CAPITAL



7

boingboing

WIRED



into nature



into games







into art



into education

8

boingboing WIRED

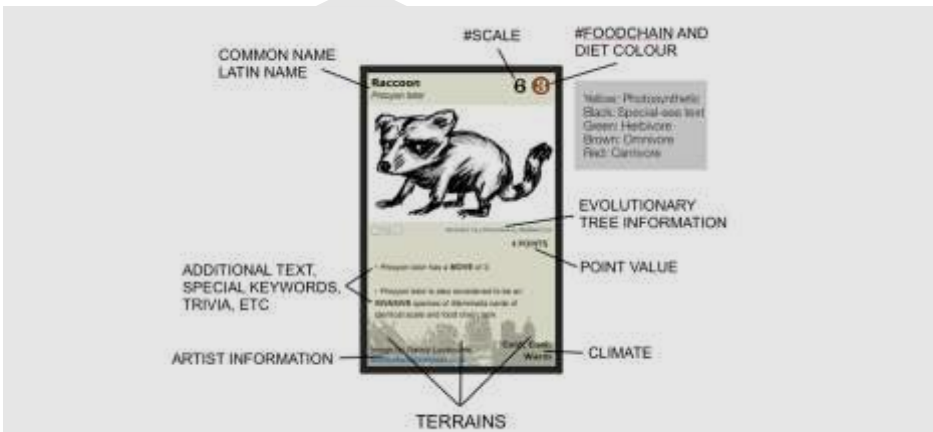
 into nature
  into games
  into art
  into education



9

boingboing WIRED

 into nature
  into games
  into art
  into education



10

boingboing WIRED



into nature



into games



into art



into education



into IP law



into programming



into museums

boingboing WIRED



into nature



into games



into art



into education



into IP law



into programming



into museums



Phylo THE TRADING CARD GAME BETA



into nature



into games



into art



into education



into IP law



into programming



into museums



into nature



into games



into art



into education



into IP law



into programming



into museums



1

Kind of like Dominoes



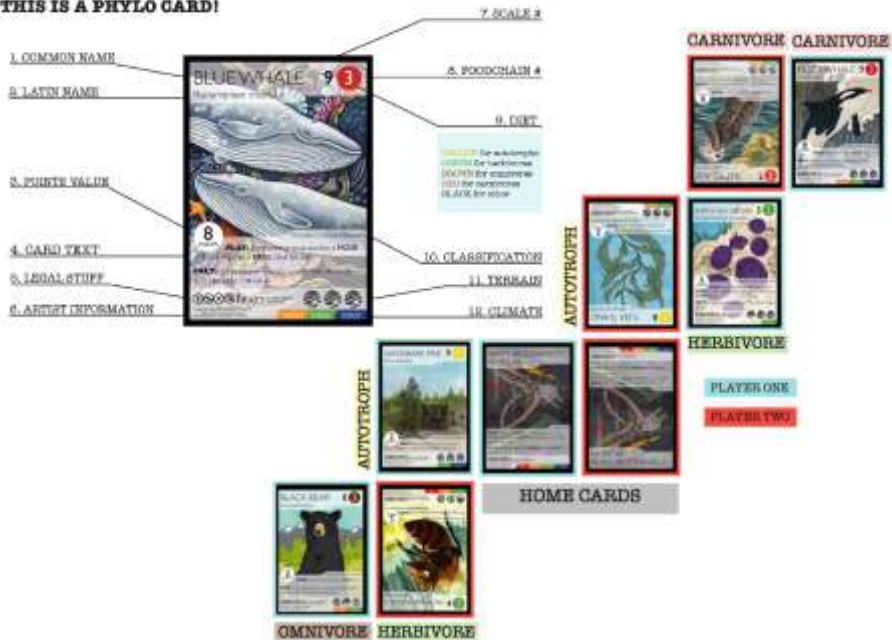
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Kind of like Rummy



15

THIS IS A PHYLO CARD!



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Project Cards



Symbols for resources required for project completion (species and research techniques)

Project title and brief description.

Number of points won if the project is completed.

Modifier Cards



Resource Cards



Note that at the bottom of the Species Cards, there is a cluster of symbols and numbers. This information is provided so that these Species cards can be also used in the general PHLOD game system (see phylogame.org). For the GSA game you can ignore this.



<http://phylogame.org/decks/>

palgrave communications

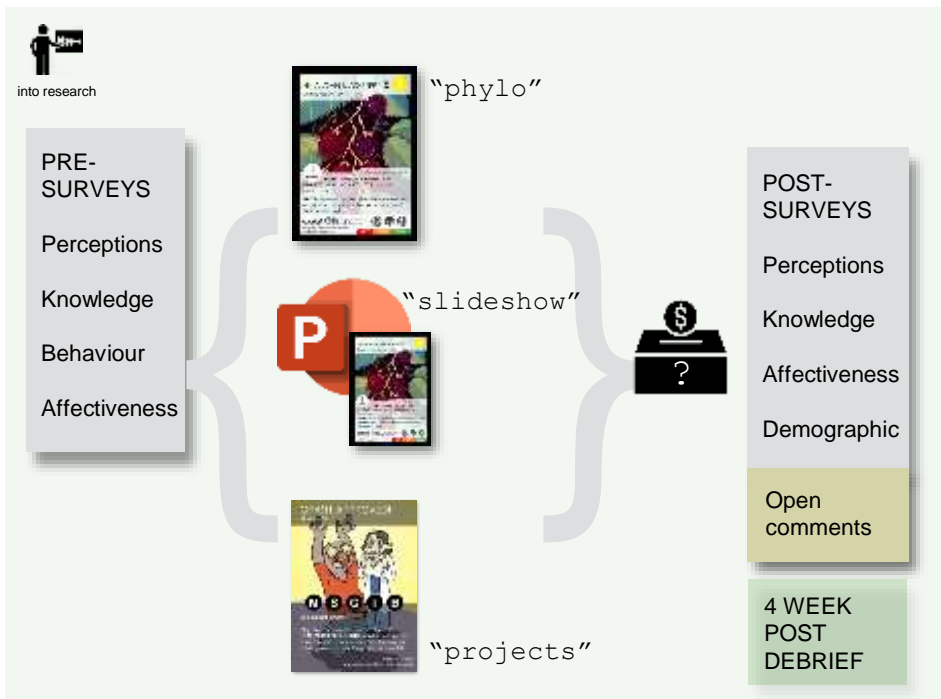
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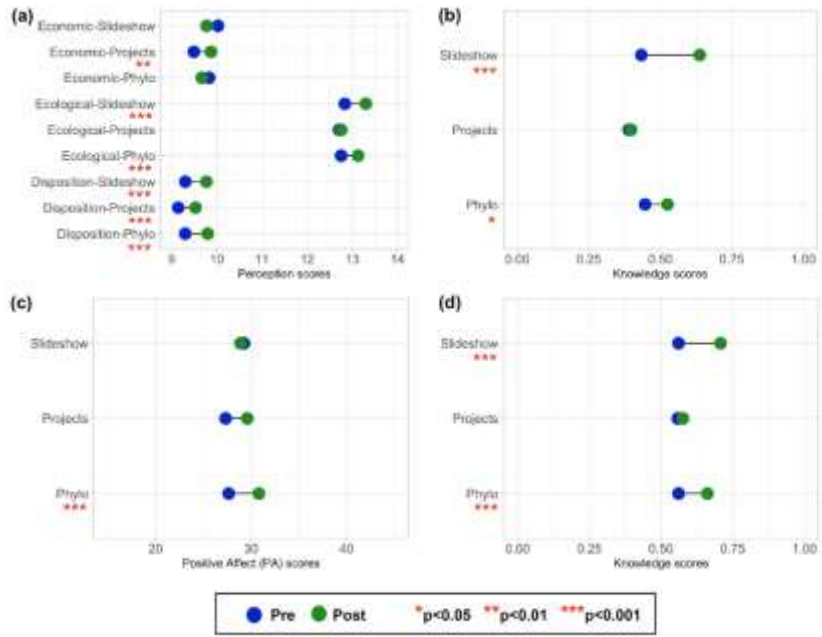
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Using the Phylo Card Game to advance biodiversity conservation in an era of Pokémon

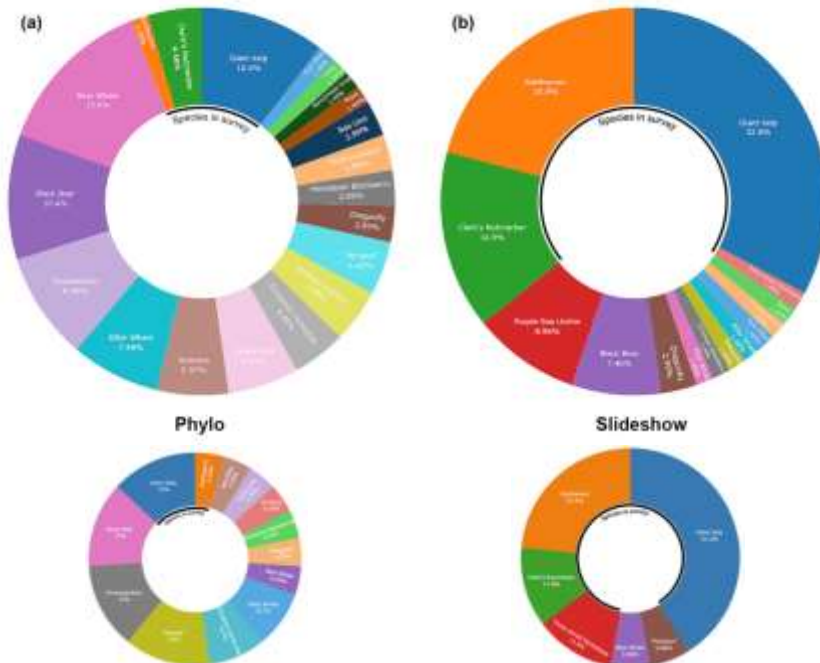
Megan M. Callahan¹, Alejandra Echeverri¹, David Ng², Jiating Zhao^{1,3} & Terre Satterfield¹

ABSTRACT Broader realization of both increasing biodiversity loss and pressures on ecosystems worldwide has highlighted the importance of public perceptions of species and the subsequent motivations towards improving the status of natural systems. Several new proposals have arisen in reference to environmental learning, including mimicking popular gaming media. Inspired by the popular game Pokémon, the Phylo Trading Card Game (Phylo game) is one such emerging possibility. It was invented as an open-source, competitive, and interactive game to inform players' knowledge of species, ecosystems, and negative environmental events (e.g., climate change, oil spills, wildfires). The game has now achieved global reach, yet the impact of this game on conservation behavior has never been tested. This study used a randomized control trial to evaluate the Phylo game's impact on conservation behavior (i.e., Phylo condition). This was compared to an information control condition with a more traditional learning method using a slideshow (i.e., Slideshow condition). A second card game was used to control for the act of playing a game (i.e., Projects condition). We found that ecological perceptions (i.e., the perceived relationship of species to their ecosystems) and species knowledge increased after both the game and the slideshow, but the Phylo Game had the added benefit of promoting more positive affect and more species name recall. It also motivated donation behavior in the direction of preventing negative environmental events





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Does it:

Change people's perception? Ecological and economical?

Yes,
No (but)

Improve knowledge?

Yes (but)

Does it impact behaviour?

Yes (and)

Is it fun?

Yes (definitely!)

Is it the new Pokemon?

well...

Encourage a community of researchers to work on the Phylo project?

Hopefully :)

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into education

Phylo CARD WORKSHEET

Your Name: _____ School/Organization: _____

Organism Name: _____

Latin (scientific) Name: _____

Scale (circle closest one below) •

1 2 3 4 5 6 7 8

Foodchain (circle best one below) •

1 2 3

Card Text: _____

Terrain (choose up to three): Urban/City Forest Desert Marine (fresh)

Grasslands Tundra/Rocky Marine (ocean)

Climate (choose at least 1): Hot/desert Warm/temperate Cool/temperate Cold/Arctic

Card Points: Base score dependent on diet: Carnivore 7 | Herbivore 4 | Omnivore 3 | Autotroph/Photo 2
Terrain modifier: 3 terrains -1 | 2 terrains 0 | 1 terrain +1
Climate modifier: 3+ climates -1 | 2 climates 0 | 1 climate +1
Other: Move/flight spread of 3 or higher -1

Image: _____

Phylo **wp-admin**



<http://phylogame.org/make/>

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Thank you's phylogame.org

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Dr. Jiaying Zhao
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Beaty Biodiversity Museum

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Lu Li
Sam McKinnon
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Genetics Society of America

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Mark Frauenfelder

Hundreds of educators,
game designers, STEM folks,
and artists who have worked
(or are working) on various
decks

Thousands of web denizens
who crowdsourced their way
through the project in the first
year or so.



Current local decks in progress:

*Microbial, L'Oreal Women in Science and Engineering, Nepalese, Access to Medicines/Neglected Diseases. **South African?***

Phylo



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA
Michael Smith Laboratories

