



# AND ENTOMOLOGY

RJ Millena

Nerd Nite 09/10/26

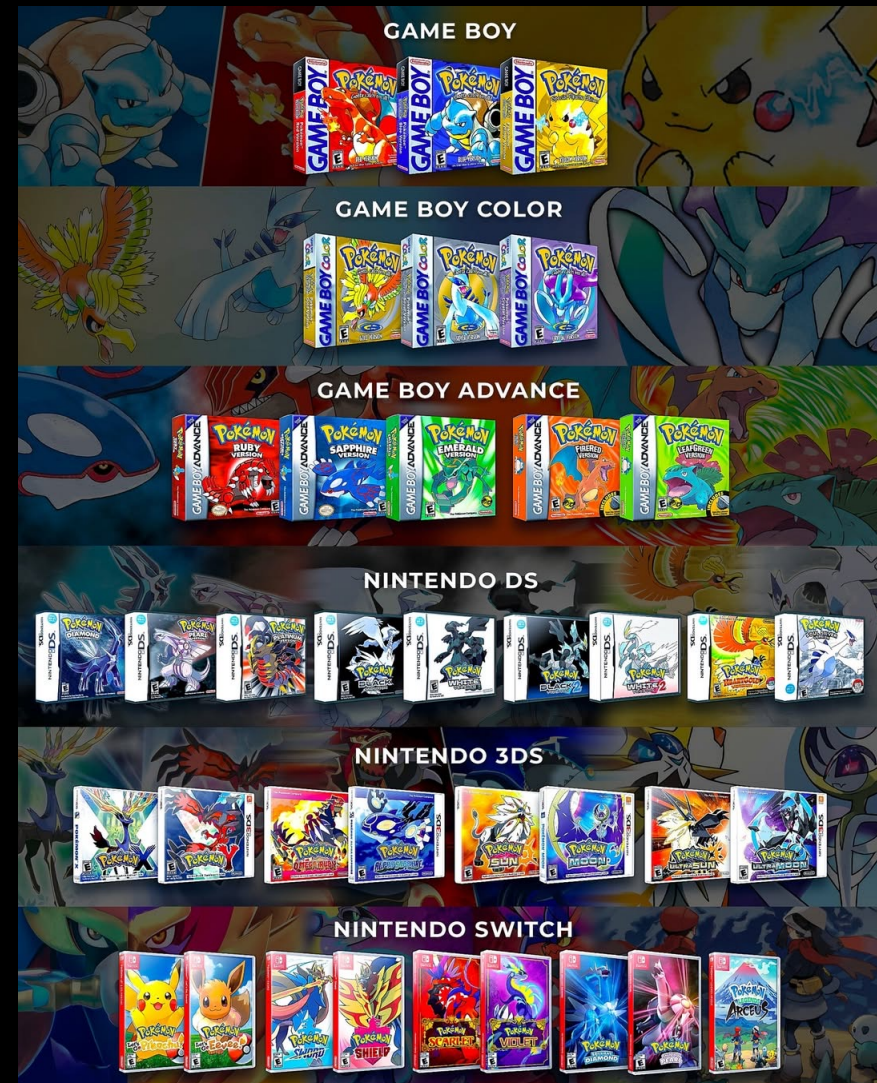
# Outline

- What is Pokémon?
- How does Pokémon relate to entomology?
- Bug-type Pokémon and moves
- Pokémon as a tool for entomological education



# What is Pokémon?

- Japanese media franchise
  - Highest grossing of all time
- Over 120 games on various consoles



<https://www.facebook.com/eStarland/posts/which-console-had-the-best-pok%C3%A9mon-games-/1188150223345747/>

# What is Pokémon?

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  - Highest grossing of all time
- Over 120 games on various consoles
- Satoshi Tajiri, 1996



[https://archives.bulbagarden.net/wiki/File:Satoshi\\_Tajiri\\_Shogakukan\\_1.png](https://archives.bulbagarden.net/wiki/File:Satoshi_Tajiri_Shogakukan_1.png)

# What is Pokémon?

- Japanese media franchise
  - Highest grossing of all time
- Over 120 games on various consoles
- Satoshi Tajiri, 1996
- Fictional creatures
  - “Pocket Monsters”
- Players as Pokémon trainers
- “Gotta Catch ‘Em All!”



<https://www.etsy.com/listing/1337947088/pokemon-1st-generation-red-green-blue>

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- Players as Pokémon trainers
- “Gotta Catch ‘Em All!”



<https://www.gamerstemple.com/vg/games11/001336/001336s.asp?screen=1>

- Gameplay
  - Catch and train Pokémon to battle other Pokémon for sport
- Collect, train, battle

# How does Pokémon relate to entomology?

Conservation + Pokemon + Short Story + Games + Insects +

## Pokémon's Creator Originally Wanted to Be an Entomologist

And that's what inspired him to create the Pokémon world.

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**TIL that Satoshi Tajiri, creator of Pokémon, loved insect collecting as a child. As more and more land was paved over to make room for Japan's cities, Tajiri became inspired to create the Pokémon video games so that other children could experience the joy of catching bugs just as he had.**

# How does Pokémon relate to entomology?

- Satoshi Tajiri in 1960–70s rural Machida, Japan
- “Mr. Bug”
- Tajiri and video games as a teenager
  - Nearly failed high school
- Studied electronics at a Tokyo technical college



[https://www.reddit.com/r/pokemon/comments/6bqfwu/oc\\_art\\_i\\_illustrated\\_the\\_original\\_12\\_bug\\_pokemon/](https://www.reddit.com/r/pokemon/comments/6bqfwu/oc_art_i_illustrated_the_original_12_bug_pokemon/)



# How does Pokémon relate to entomology?

- Inspired by a love of collecting creatures
- Collecting methods
  - Pokéballs as vials
- Evolution as metamorphosis
- Bug Collector NPCs
- Bug type Pokémon



<https://64.media.tumblr.com/44a7038d074a72f7373dfeede305059a/14f5fa856551c721-b1/s1280x1920/041f09da061ab6ffdb5ec8fc781ca1c0952b045.png>

[https://i1.wp.com/media.tumblr.com/06e8392890366c5ec182c4077c513af8/tumblr\\_inline\\_mt7djpzzzu1s633uk.png](https://i1.wp.com/media.tumblr.com/06e8392890366c5ec182c4077c513af8/tumblr_inline_mt7djpzzzu1s633uk.png)

<https://images.fineartamerica.com/images/artworkimages/mediumlarge/2/set-of-insects-on-a-white-background-protasov-an.jpg>

明日使えるムダ知識をあなたに

世界のカブトムシが闘ったら  
一番強いのは ☐ カブトムシ



 アクティオンゾウカブト

ヘラクレスオオカブト 



# Bug-type Pokémon

- 18 types of Pokémon
- “As of Generation IX, there are 95 Bug-type Pokémon or 9.14% of all Pokémon, making it the 6th most common type after Psychic and before Fire & Poison.”
- Lowest attack and HP values; highest defense



# Bug-type Pokémon

- 34 Bug-type moves
- Pin Missile



# Bug-type Pokémon

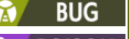
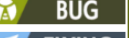
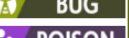
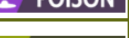
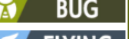
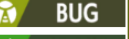
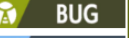
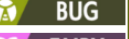
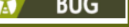
- 34 Bug-type moves
- String Shot



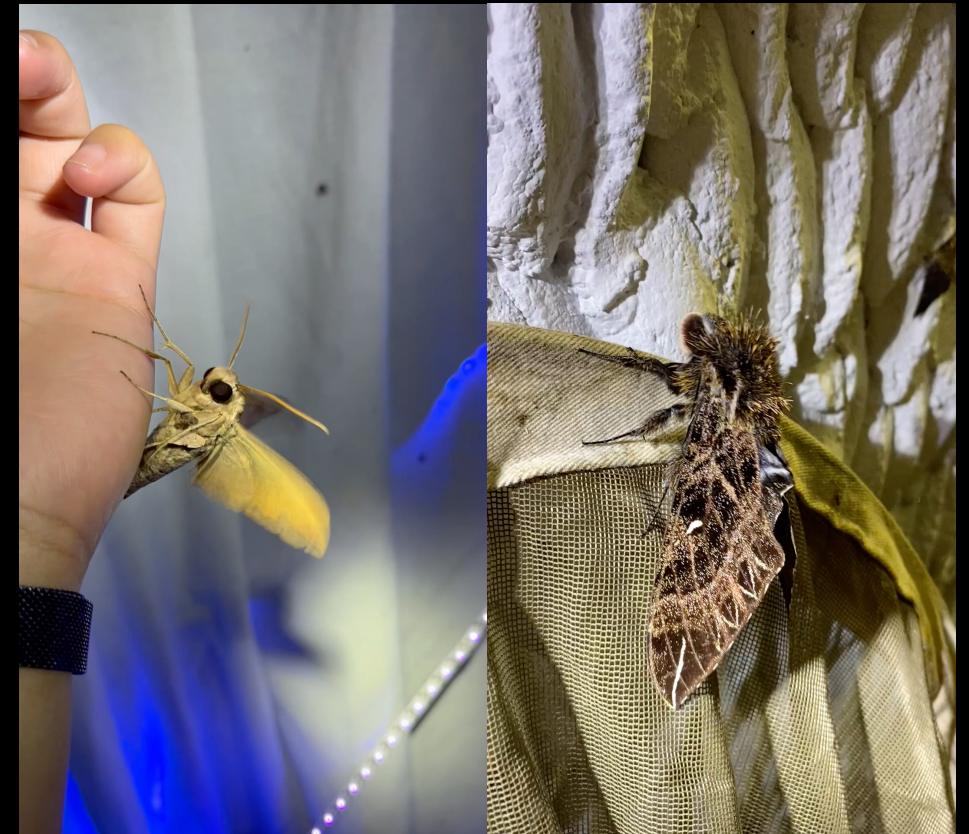
# Bug-type Pokémon

- 34 Bug-type moves
- **Twineedle**



| #    | Pokémon                                                                             |                       | Types                                                                                                                                                                                   | Egg Groups            | Level |                                              |         |    |         |         |      |
|------|-------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|----------------------------------------------|---------|----|---------|---------|------|
|      |                                                                                     |                       |                                                                                                                                                                                         |                       | V     | VI                                           | VII     |    | VIII    | IX      |      |
|      |                                                                                     |                       |                                                                                                                                                                                         |                       |       |                                              | SMUSUM  | PE | SwSh    | BDSP    | SV   |
| 0012 |    | Butterfree            |  BUG<br> FLYING       | Bug                   | 46    | 46                                           | 47      | 22 | 44      | 44      |      |
| 0049 |    | Venomoth              |  BUG<br> POISON       | Bug                   | 63    | 1, 63                                        | 1, 63   | 55 |         | 1, 63   | 1    |
| 0182 |    | Bellossom             |  GRASS                                                                                                 | Grass                 | –     | –                                            | 39      |    | 1       | 1       | 1    |
| 0267 |    | Beautifly             |  BUG<br> FLYING       | Bug                   | 45    | 45 <sup>XY</sup><br>40 <sup>ORAS</sup>       | 40      |    |         | 40      |      |
| 0269 |    | Dustox                |  BUG<br> POISON       | Bug                   | 45    | 45 <sup>XY</sup><br>40 <sup>ORAS</sup>       | 40      |    |         | 40      |      |
| 0284 |    | Masquerain            |  BUG<br> FLYING       | Water 1<br>Bug        | 68    | 1, 68 <sup>XY</sup><br>1, 52 <sup>ORAS</sup> | 1, 52   |    |         | 1, 52   | 52   |
| 0413 |    | Wormadam<br>All forms |  BUG<br> GRASS        | Bug                   | –     | –                                            | 1, Evo. |    |         | 1, Evo. |      |
| 0414 |    | Mothim                |  BUG<br> FLYING       | Bug                   | 50    | 50                                           | 1, Evo. |    |         | 1, Evo. |      |
| 0549 |    | Lilligant             |  GRASS                                                                                                 | Grass                 | 28    | 28                                           | 28      |    | 1       |         | 1    |
| 0637 |    | Volcarona             |  BUG<br> FIRE         | Bug                   | 59    | 1, 59                                        | 1, Evo. |    | 1, Evo. |         | Evo. |
| 0666 |   | Vivillon<br>All forms |  BUG<br> FLYING    | Bug                   |       | 45                                           | 45      |    |         |         | 45   |
| 0742 |  | Cutiefly              |  BUG<br> FAIRY    | Bug<br>Fairy          |       |                                              | 41      |    | 54      |         | 54   |
| 0743 |  | Ribombee              |  BUG<br> FAIRY    | Bug<br>Fairy          |       |                                              | 49      |    | 64      |         | 64   |
| 0795 |  | Pheromosa             |  BUG<br> FIGHTING | No Eggs<br>Discovered |       |                                              | 1       |    | 65      |         |      |
| 0873 |  | Frosmoth              |  ICE<br> BUG      | Bug                   |       |                                              |         |    | 52      |         | 52   |

- Quiver Dance
- “The user lightly performs a beautiful, mystic dance. It boosts the user's Sp. Atk, Sp. Def, and Speed stats.”



# Pokémon as a tool for entomological education

- Provide a bridge between popular culture and biology
- Fictional Bug-type traits closely mirror real ones



- Burmy and Burmadam/Mothim
- Psychidae (Bagworms)





- Karrablast/Escavalier
  - Ground beetle (Carabidae) larva and adult
- Shelmet/Accelgor
  - Terrestrial land snail

<https://alchetron.com/cdn/carabus-blaptoides-34f1ecfc-4dfc-40cd-8cd4-5dcd0feb587-resize-750.jpeg>

<https://static.pokemonpets.com/images/monsters-images-800-800/616-Shelmet.webp>

<https://img.pokemondb.net/artwork/large/accelgor.jpg>

[https://scontent-lga3-1.xx.fbcdn.net/v/t1.6435-9/124704169\\_3672974632767481\\_2603479534999393476\\_n.jpg?\\_nc\\_cat=105&ccb=1-5&\\_nc\\_sid=cdb9c&\\_nc\\_ohc=Ie3eT2hB4YcAX-wU1\\_H&\\_nc\\_ht=scontent-lga3-1.xx&oh=ce165ff2f50f40cd8bd0002b84b84168&oe=61039555](https://scontent-lga3-1.xx.fbcdn.net/v/t1.6435-9/124704169_3672974632767481_2603479534999393476_n.jpg?_nc_cat=105&ccb=1-5&_nc_sid=cdb9c&_nc_ohc=Ie3eT2hB4YcAX-wU1_H&_nc_ht=scontent-lga3-1.xx&oh=ce165ff2f50f40cd8bd0002b84b84168&oe=61039555)



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<https://img.pokemondb.net/artwork/large/accelgor.jpg>  
[https://scontent-lga3-1.xx.fbcdn.net/v/t1.6435-9/124704169\\_3672974632767481\\_2603479534999393476\\_n.jpg?\\_nc\\_cat=105&ccb=1-5&\\_nc\\_sid=cdb9c6&\\_nc\\_ohc=Ie3eT2hB4YcAX-wU1\\_H6\\_nc\\_ht=scontent-lga3-1.xx&oh=ce165ff2f50f40cd8bd0002b84b84168&oe=61039555](https://scontent-lga3-1.xx.fbcdn.net/v/t1.6435-9/124704169_3672974632767481_2603479534999393476_n.jpg?_nc_cat=105&ccb=1-5&_nc_sid=cdb9c6&_nc_ohc=Ie3eT2hB4YcAX-wU1_H6_nc_ht=scontent-lga3-1.xx&oh=ce165ff2f50f40cd8bd0002b84b84168&oe=61039555)  
[https://www.reddit.com/r/NatureIsFuckingLit/comments/1c5ethu/caught\\_this\\_beetle\\_eating\\_a\\_snail/](https://www.reddit.com/r/NatureIsFuckingLit/comments/1c5ethu/caught_this_beetle_eating_a_snail/)

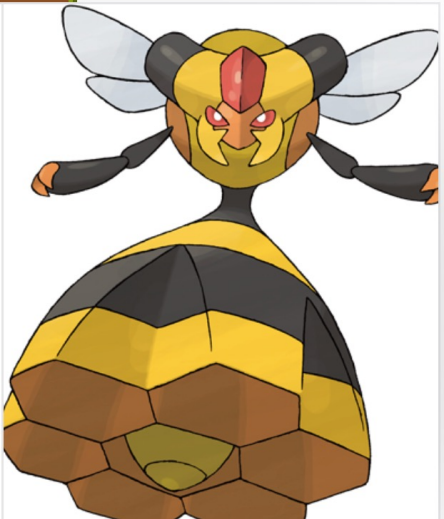
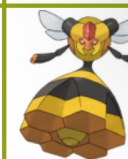


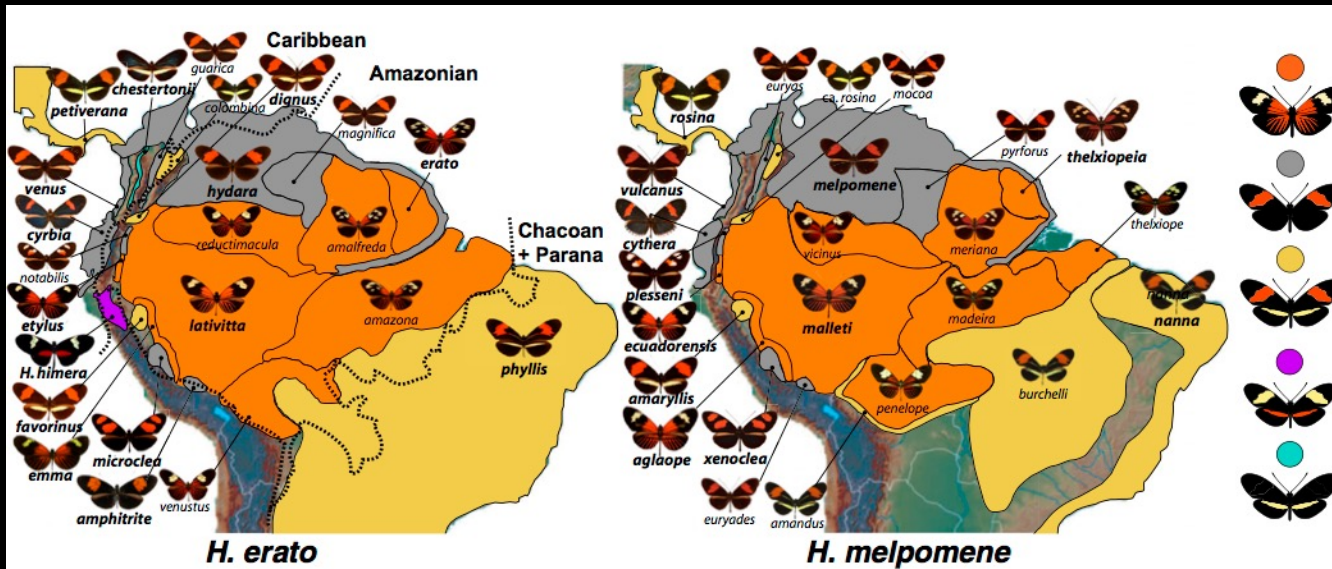
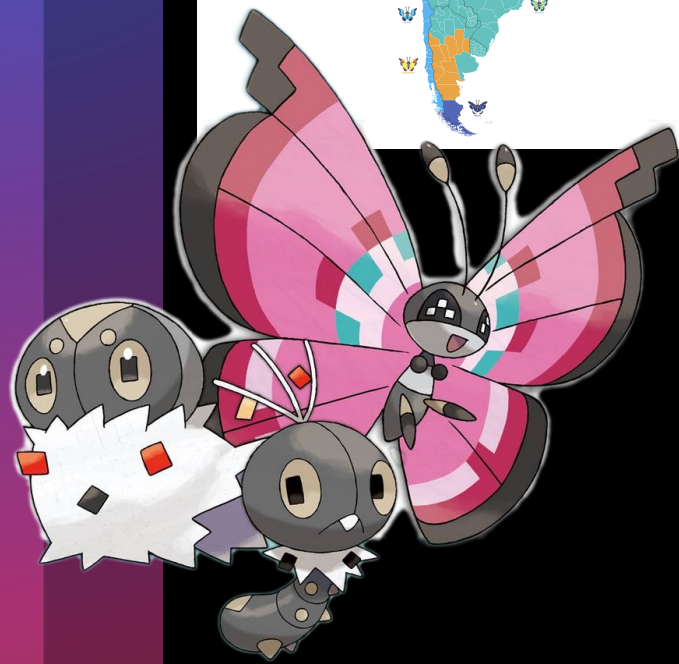
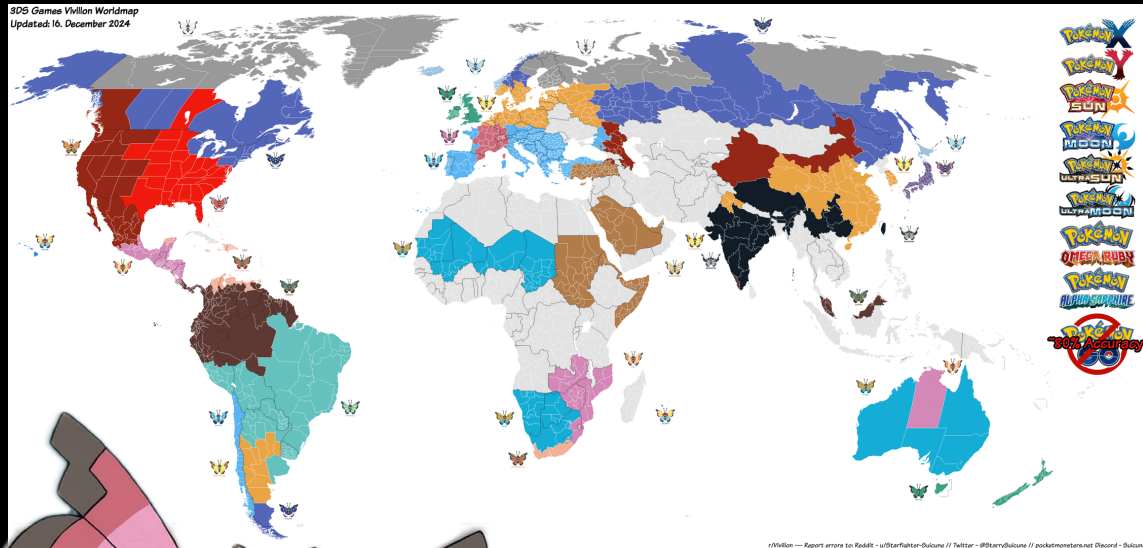
|       |                                                                                   |          |     |        |
|-------|-----------------------------------------------------------------------------------|----------|-----|--------|
| #0290 |  | Nincada  | Bug | Ground |
| #0291 |  | Ninjask  |     | Flying |
| #0292 |  | Shedinja |     | Ghost  |



|       |                                                                                   |            |     |        |
|-------|-----------------------------------------------------------------------------------|------------|-----|--------|
| #0415 |  | Combee     | Bug | Flying |
| #0416 |  | Vespiqueen |     | Flying |



|       |                                                                                       |                                                                                                                                                                                                                                                                                                                            |     |        |
|-------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|
|       |    | <p>Vespiqueen (Japanese: ビークイン Beequeen) is a dual-type Bug/Flying Pokémon introduced in Generation IV. It evolves from a female Combee starting at level 21. Male Combee are not known to evolve into or from any other Pokémon.</p>  |     |        |
| #0414 |   |                                                                                                                                                                                                                                                                                                                            |     |        |
| #0415 |  |                                                                                                                                                                                                                                                                                                                            |     |        |
| #0416 |  |                                                                                                                                                                                                                                                                                                                            |     |        |
|       |                                                                                       | <a href="#">Vespiqueen</a>                                                                                                                                                                                                                                                                                                 | Bug | Flying |



[https://pocketmonsters.net/content/Vivillon\\_Location\\_List](https://pocketmonsters.net/content/Vivillon_Location_List)  
[https://www.ign.com/wikis/pokemon-go/Pokemon\\_Go\\_Vivillon:\\_Map\\_and\\_Patterns](https://www.ign.com/wikis/pokemon-go/Pokemon_Go_Vivillon:_Map_and_Patterns)  
<https://www.heliconius.org/2013/new-paper-genetics-of-red-pattern-elements-in-heliconius-erato-and-heliconius-melpomene/>  
<https://www.polygon.com/pokemon-go-guide/23569524/vivillon-patterns-map-regions-medal-friends-locations-how-to-catch-scatterbug-speewpa-candy/>



Volume 64, Issue 3

# Gotta Catch 'Em All! Communicating Entomology with Pokémon FREE

R A Schmidt-Jeffris, J C Nelson

*American Entomologist*, Volume 64, Issue 3, Fall 2018, Pages 159–164,

<https://doi.org/10.1093/ae/tmy048>

**Published:** 15 September 2018

## INSECT BIODIVERSITY SCIENCE AND SOCIETY

*Edited by Robert G. Foottit and Peter H. Adler*

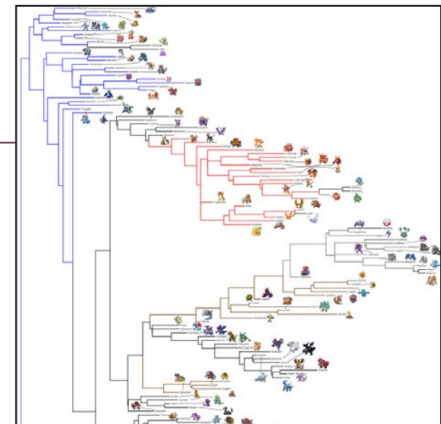


WILEY-BLACKWELL

## A PHYLOGENY AND EVOLUTIONARY HISTORY OF THE POKÉMON

*by Matan Shelomi<sup>1</sup>, Andrew Richards<sup>1</sup>, Ivana Li<sup>1</sup>, Yukinari Okido<sup>2</sup>*

With the phylogenetic and evolutionary relationships of the kingdoms *Animalia*, *Plantae*, and *Fungi* mostly out of the way, attention is now turning towards the *Monstrasinu*, commonly known as “Pocket Monsters” or “Pokémon” for short. Starting from the 151 original “species” described by Japanese scientist Satoshi Tajiri in a 1996 monograph, Pokémon science today continues to be a rewarding field for taxonomists. Every three to four years, several new species are discovered and described almost simultaneously. A total of 646 Pokémon



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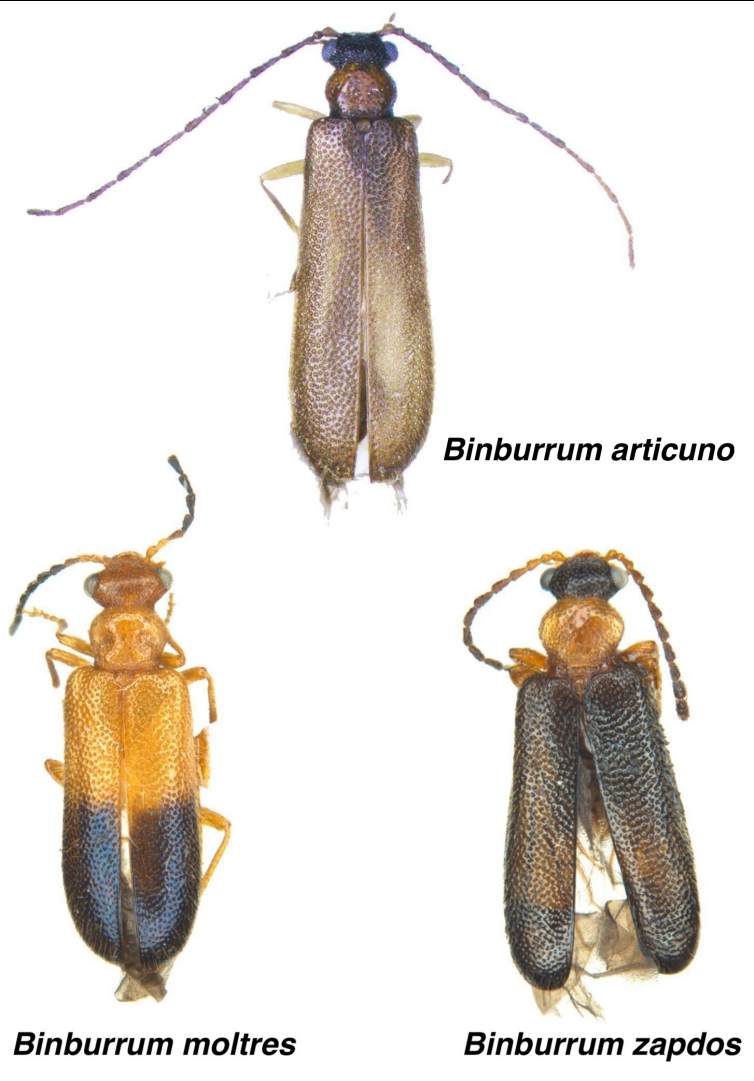


### The entomological diversity of Pokémon

Rebecca N. Kittel

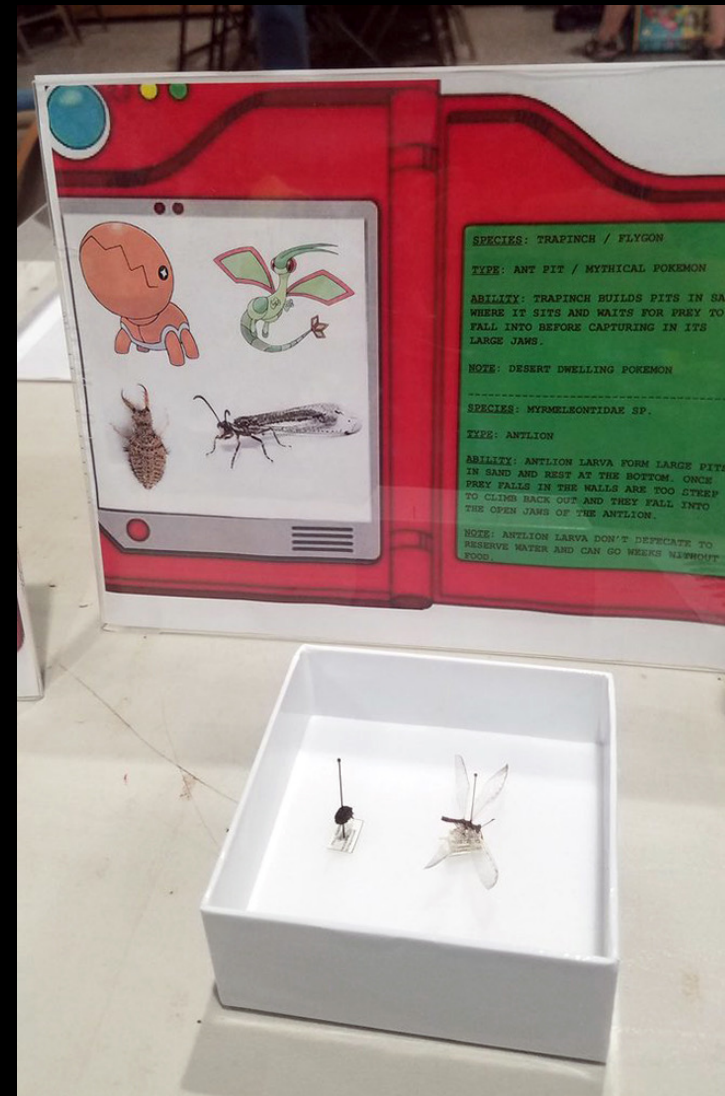
Museum Wiesbaden, Hessisches Landesmuseum für Kunst und Natur, Wiesbaden, Germany.

Email: [rebecca.n.kittel@gmail.com](mailto:rebecca.n.kittel@gmail.com).



| Species                                             |            | Pokémon                                                                                       | Notes                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------|------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Bulbasaurus phylloxyron</i> <sup>[4][5][6]</sup> | Dicynodont | Bulbasaur     | "The genus <i>Bulbasaurus</i> (bulb lizard) refers to the bulbous nasal boss [...]" "[It's not named after the Pokémon] as published, no, but...if one wished to read between the lines concerning certain similarities, I wouldn't stop them."                                                                                                                  |
| <i>Chilicola charizard</i> <sup>[7]</sup>           | Bee        | Charizard    | "The specific epithet is in homage to the fictional monster which this species resembles."                                                                                                                                                                                                                                                                       |
| <i>Stentoriceps weedle</i> <sup>[8][9]</sup>        | Wasp       | Weedle       | "Named in honour of the creature Weedle, a hymenopteran larva from the Pokémon video game series. Weedle shares the distinguishing character of S. weedlei, a spine in the middle of its head."                                                                                                                                                                  |
| <i>Dicranocentrus pikachu</i> <sup>[10]</sup>       | Springtail | Pikachu      | "The specific epithet is a noun taken in apposition and is in reference to Pikachu [...] The female epigynum resembles the face of Pikachu."                                                                                                                                                                                                                     |
| <i>Epicratinus pikachu</i> <sup>[11]</sup>          | Spider     |                                                                                               | "The species is named after Pikachu, a fictional character from Pokémon Yellow, as the habitus color of this new species is yellow."                                                                                                                                                                                                                             |
| <i>Alistra pikachu</i> <sup>[12]</sup>              | Spider     |                                                                                               | "The specific name is a homage to Pikachu, a fictional monster which this species resembles in its yellow elytra with a black apical band (like the ears of Pikachu)."                                                                                                                                                                                           |
| <i>Hiperantha pikachu</i> <sup>[13]</sup>           | Beetle     |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                  |
| <i>Aerodactylus</i> <sup>[14]</sup>                 | Pterosaur  | Aerodactyl   | "The name derives from the Nintendo Pokémon Aerodactyl, a fantasy creature made up of a combination of different pterosaurian features."                                                                                                                                                                                                                         |
| <i>Hedruris dratini</i> <sup>[17][18]</sup>         | Nematode   | Dratini      | "Do #Pokemon get parasites? Maybe? Well, there certainly are parasites named after Pokémon <sup>[sic]</sup> - like these two parasitic nematodes!"                                                                                                                                                                                                               |
| <i>Parapharyngodon politoed</i> <sup>[19]</sup>     | Roundworm  | Politoed     | "The species epithet is derived from the fictional character named 'Politoed' a frog-type Pokémon from the Pokémon Universe."                                                                                                                                                                                                                                    |
| <i>Rathalos treecko</i> <sup>[12]</sup>             | Spider     | Treecko      | "The species is named after Treecko, a fictional character from Pokémon Emerald that lives in the forest, as does the new species."                                                                                                                                                                                                                              |
| <i>Anyphaena grovyle</i> <sup>[12]</sup>            |            | Grovyle     | "The species is named after Grovyle, a fictional character from Pokémon Emerald that lives in the forest, as does the new species."                                                                                                                                                                                                                              |
| <i>Anyphaena scepsile</i> <sup>[12]</sup>           |            | Scepsile   | "The species is named after Sceptile, a fictional character from Pokémon Emerald that lives in the forest, as does the new species."                                                                                                                                                                                                                             |
| <i>Nocticola pheromosa</i> <sup>[20][21]</sup>      | Cockroach  | Pheromosa  | "Entomologist Foo Maosheng, who co-authored the finding, said: "There are some similarities between Pheromosa and the delicate cockroach that we found, such as having a long antenna, wings that mimic a hood and long slender legs."<br>"Both my collaborator and I are Pokemon fans, so we thought, why not name it after a Pokemon inspired by a cockroach." |
| <i>Phrynarachne dreepy</i> <sup>[22]</sup>          | Spider     | Dreepy     | "The species is named after <i>Dreepy</i> , a fictional character from Pokémon Sword and Shield, who has a triangular head that is reminiscent of the opisthosoma of the new species."                                                                                                                                                                           |

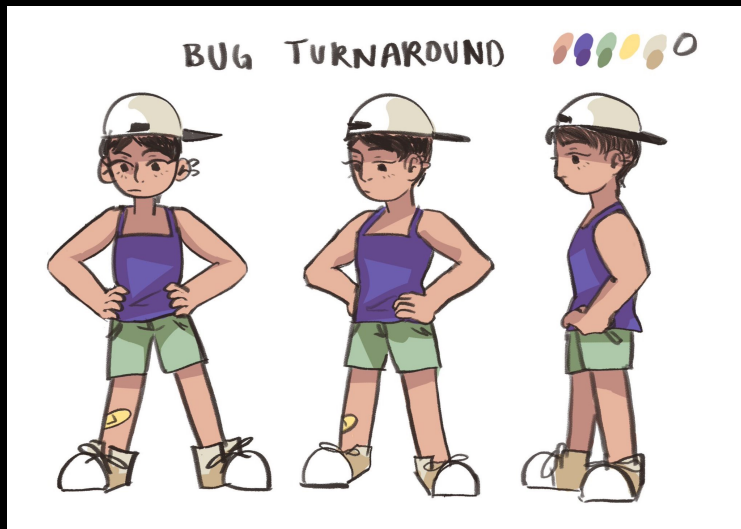
- 18 real-life species named after Pokemon
- 16 are invertebrate, 8 are insect
- Two genera; both for vertebrates
- Dratini as nematode



“At its Great Insect Fair, the Frost Entomological Museum at Pennsylvania State University used Pokémon to show the parallels between insects and Pokémon in the game. Displays created by Andrew R. Deans, Emily Sandall, Jonah Ulmer and Carolyn Trietsch. (Photo credit: Michael Skvarla.)” (Schmidt-Jefferis, 2018)



# Thanks!!!



[rjmillena.com](http://rjmillena.com)  
for resources,  
info, contacts,  
and entomological  
media!

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