Species-a-Rama!

Species-a-Rama!

An Experiment in Dinosaur Aesthetics

Imagination and Identification at the Limits of Knowledge

by

Chris Wildrick

input/output press

Syracuse, NY

Chris wishes to thank everyone who filled out the *Species-a-Rama!* form, including students in the Say Yes! after-school program at McKinley-Brighton Magnet Elementary School, the faculty at the Foundation Department dinner at the Art School in the Art School, and the many visitors to his exhibitions and performances at the Redhouse, XL Projects, New York State Fair, and the Museum of the Earth.

This book edition of *Species-a-Rama!* was analyzed, written, designed, printed, and hand-bound by Chris Wildrick, ©2010, and published by INPUT/OUTPUT PRESS in Syracuse, NY.

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The typefaces used in the body of this book are Arno and **Futura**.
The charts also use TRAJAN and **Futura Condensed**.

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INTRODUCTION

Chris is studying the role of dinosaurs in our culture. Each project in this series approaches this subject from a different angle. *Species-a-Rama!* seeks to find out which dinosaurs are the most popular, and why.

Methodology

Chris asked participants to write down the names of as many dinosaurs as they could in one minute. (There is also a five-minute version of the game.)

As with other projects in this series, participants were not limited to naming "official" dinosaurs, but could also list animals that the general public also (incorrectly) thinks of as dinosaurs, such as pteranodon, ichthyosaurus, dimetrodon, etc. While this is certainly scientifically inaccurate, the point of this project is to better understand the *layperson's* interest and knowledge of dinosaurs; to do so, it must consider *their* concept of dinosaurs. After the project is over, Chris takes the opportunity to talk with the participant about their list of animals and where they fall in the "tree of life," thus turning it into an educational experience.

Dinosaur names were written, not spoken, which put a lot of stress on the test-takers to write quickly. This meant that there was a theoretical upper limit on how many names could be possibly be written in one minute, which seems to be around 14. Therefore, this project would not necessarily tell us how *many* dinosaurs the everyday person could name off the top of their head, unless that number is less than 14 (which, it turns out, it is: 6.3, as a matter of fact.)

Objectives

By asking for a list of dinosaurs within a time limit, the participants are forced to rattle off the ones that are the most deeply burned into their memories. These will in turn tend to be the dinosaurs that are the most prolifically reproduced within popular culture and have the strongest resonance with one's own psyche, thus providing us with interesting data on these subjects.

The lists also provide us with us with a secondary hierarchy within dinosaur popularity. Working on the hypothesis that the dinosaurs that are named first are also the most popular and psychologically relevant, while those that come later are literally afterthoughts, we can learn even more about which dinosaurs are the most salient in our culture and our minds.

Once we have learned which dinosaurs are the most popular, we can then ask *why* they are the most popular. What does this say about these dinosaurs' characteristics? What does it say about our culture, that it places emphasis on these characteristics? What does it say about us, as part of that culture and as solitary beings?

And, of course, it helps to answer the burning question, who can name more dinosaurs, an 8-year-old or an adult?

The following sections of this book provide the original data supplied through the experiment, then analyze that data for answers to the above questions.

The Original Survey Form

This is the form Chris gave to each participant.

They write the dinosaurs names directly on the form. There is room for another 86 names on the back. (Only two people--both paleontologists--have needed to use the back of the page.)

Chris collects the forms after the participants play the game.

PORTABLE PALEONTOLOGICAL PROJECTS & POLLS

Species-a-rama!

Goal: Name as many dinosaur species as you can. You can choose your own time limit: 1 minute, 5 minutes, or15 minutes.

You are in a race against yourself, and may try this project as many times as you wish. You are also in a contest against everyone else who takes the test: all contestants' names and their scores will be organized by time category (1, 5, 15 minutes) and posted on the internet at www.chriswildrick.com under the "Interactive Projects" link.

Rulings on Names: This challenge is designed towards inclusiveness. The point is not to see who can best take advantage of the intricacies and controversies of cladograms or dinosaur nomenclature rules, but to see if you can name a whole lot of dinosaurs really fast. Thus, "dinosaur" is meant in its colloquial sense and includes all dinosaur-like animals such as their coeval flying and swimming reptiles, pelycosaurs, dinosaur-bird transitional forms, etc. Nomen ex dissertatione, nomen dubium, nomen nudum, nomen oblitum, ichnospecies, and synonyms are all allowed.

If there is a question as to the validity of a listed dinosaur species, it will be checked against a set of the reputedly "complete lists of all dinosaur species" found on the internet. If it is included on one of these lists, it will count; if not, it won't.

Your Name:

Category of Competition (circle one): 1 minute 5 minutes 15 minutes

1.	13.
2.	14.
3.	15.
4.	16.
5.	17.
6.	18.
7.	19.
8.	20.
9.	21.
10.	22.
11.	23.
12.	24.

(turn page over for more spaces)

The Survey Results

Please feel free to unfold and examine the chart on the following page. Thank you for exercising care while folding it back up into the book.

This chart shows the project's results.

The contestants are listed on the X-axis in the order of how many dinosaurs they named, from most to least. All the dinosaurs that were named are listed in alphabetical order on the Y-axis. For every dinosaur that a contestant named, a red dot was placed at the intersection of their name and the dinosaur's name.

This clearly shows which participants named the most dinosaurs, and which dinosaurs were named the most times.

The red dots are surrounded by grey rings. The relative darkness or lightness of these rings signifies the order in which each contestant named each dinosaur. The first dinosaur on someone's list is surrounded by a black ring; the middle third of the dinosaurs on their list are ringed by dark grey; the middle third of the dinosaurs on their list have a medium-grey ring, the final third of the dinosaurs on their list are surrounded by a light-grey ring; and the last dinosaur on their list is given a ring with just a trace of grey.

In other words, the darker the ring, the earlier that dinosaur was named on that participant's list. Therefore, we not only know which dinosaurs were named the most frequently, but how quickly they came to each participant's mind.

Species-a-Rama!

Participants

Richard Kissel (5 minutes)
Samantha Sands (5 minutes)
Samantha Sands
Wally Kirschler
Kathia (5 Minutes)
Denise
Maureen
Joanna (5 Minutes)
Sarah (5 Minutes)
Andrea
Liam
Minseok (Try #2)
Juan (5 Minutes)
Judith Meighan (5 Minutes)
Kevin Wang
McKinley-Brighton Group #1 (5 minutes)
McKinley-Brighton Group #2 (5 minutes)
McKinley-Brighton Group #4 (5 minutes)
Billy Kepner
Dan Lukas
David Fleischman
Michael
Minseok (Try #1)
Susan
Brandon Wilson
Liz
McKinley-Brighton Group #3 (5 minutes)
Adrian
Alexander Strauss
Alicia
Jonathan
Sue
Tomer
Dyan
Mamo

Dinosaurs Named by Participants

Abelisaurus
Alamosaurus
Albertosaurus
Allosaurus
Anatosaurus
Anatotitan
Ankylosaurus
Apatosaurus
Archaeopteryx
Argentinosaurus
Barosaurus
Baryonyx
Brachiosaurus
Brachyceratops
Brontosaurus
Camarasaurus
Camptosaurus
Carnotaurus
Ceratosaurus
Chasmosaurus
Coelophysis
Compsognathus
Cryolophosaurus
Deinonychus
Dicraeosaurus
Dilong
Dilophosaurus
Dimetrodon
Diplodocus
Dromaeosaurus
Dryosaurus
Duckbill
Edmontonia
Edmontosaurus
Eoraptor
Euoplocephalus
Gallimimus
Giganotosaurus
Gorgosaurus
Gryposaurus
Herrerasaurus
Ichthyosaurus
Iguanodon
Kentrosaurus
Kritosaurus
Lambeosaurus
Lufengosaurus
Majungasaurus
Masiakasaurus
Megalosaurus
Megaraptor
Maiasaura
Microraptor
Minmi
Monoclonius
Muttaburrasaurus
Nanotyrannosaurus
Oviraptor
Pachycephalosaurus
Parasaurolophus
Pentaceratops
Plateosaurus
Plesiosaurus
Protoceratops
Psittacosaurus
Pteranodon
Pterodactyl
Rajasaurus
Rapetosaurus
Saltasaurus
Shuvosaurus
Sinorthinosaurus
Spinosaurus
Stegoceras
Stegosaurus
Stygimoloch
Styracosaurus
Supersaurus
Tarbosaurus
Titanosaurus
Triceratops
Tyrannosaurus rex
Ultrasaurus
Unenlagia
Velociraptor

- The very first dinosaur on someone's list
- All the other dinosaurs from the first third of someone's list
- All of the dinosaurs in the middle third of someone's list
- All of the dinosaurs from the last third of someone's list except the very last one
- The very last dinosaurs on someone's list

Breakdown of the Survey Results

The following charts and graphs break down the main chart and show details that might otherwise be less evident.

The first eleven pages provide a series of charts that focus on each of the dinosaur species that was named in the game. Each chart shows one red dot for each person who named that dinosaur (but does not in this case give the person's name).

It also breaks down the dots by where they were named on the lists, using the darkness of the grey rings as the key, just like on the main chart.

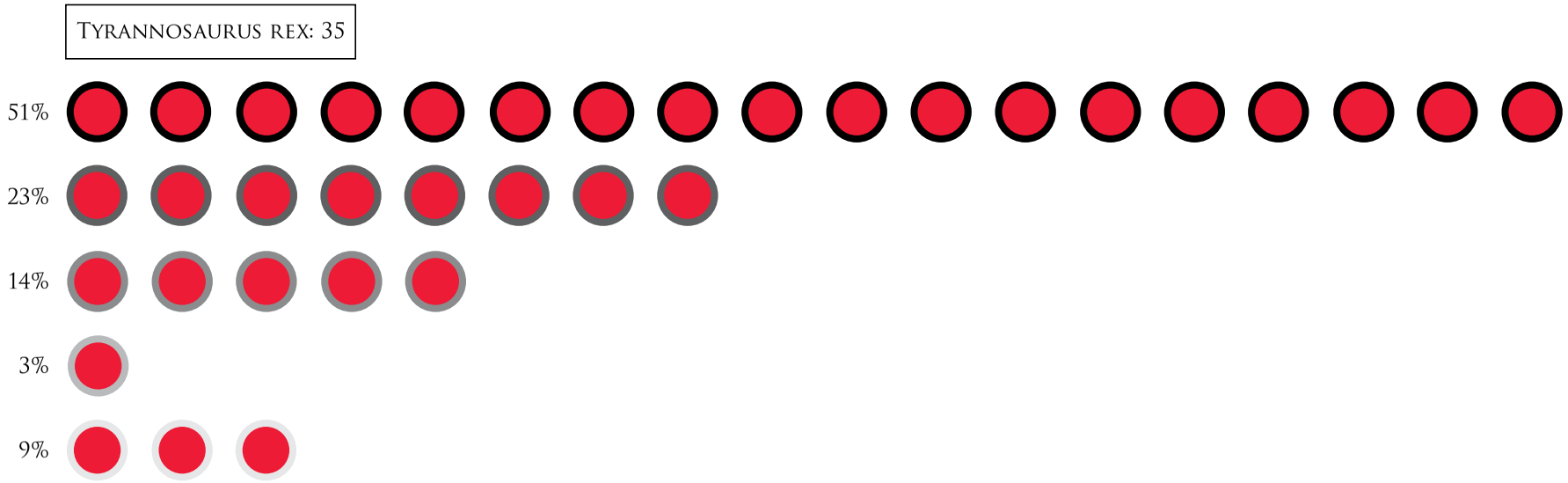
Using the chart for Tyrannosaurus rex on the next page as an example, you can see that 35 people named it on their lists, because there are 35 total red dots. The total number of references (dots) is also provided directly after the dinosaur's name.

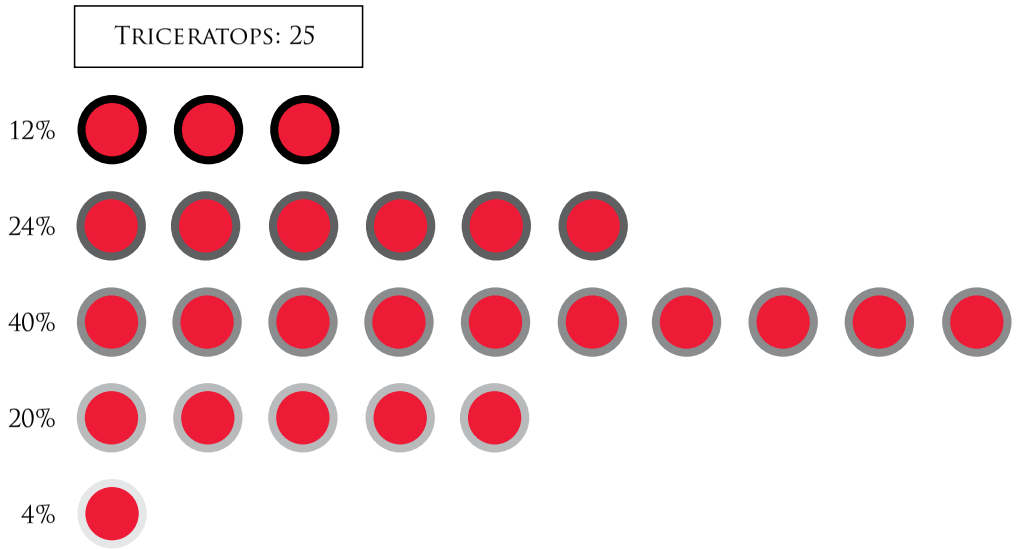
You can further see that 18 people named it as the first dinosaur on their list, 8 people named it within the first third of their list, 6 people named it within the middle third of their list, 1 person named it within the last third of their list, and 3 people named it as the last dinosaur on their list, because of the varying shades of grey around the red circles.

The chart also lists each row's percentage of the total--so the 18 people who named it first make up 51% of the total people who named it on their lists, and so on.

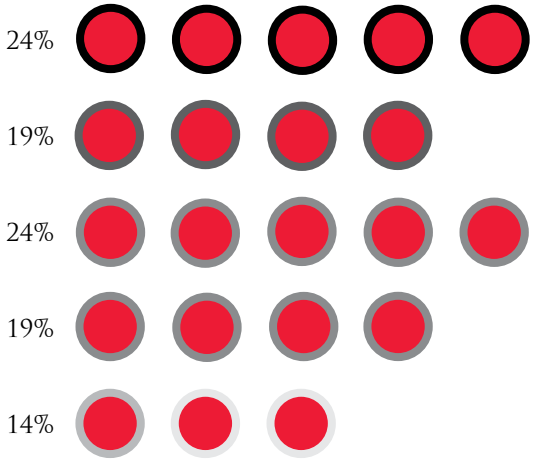
This series of charts allows easy comparison for a variety of factors: which dinosaurs were mentioned the most, which dinosaurs were mentioned first (or last) on the list the most, etc.

It makes it easy to compare, for instance, a dinosaur that might have been mentioned several times, but usually in the middle of the list, with a dinosaur that has a lesser number of dots, but which was usually mentioned higher up in the list. The inevitable question is, which is a more important factor in ranking a dinosaur's familiarity and salience--the number of times people mentioned a dinosaur, or the immediacy with which it came to their minds?

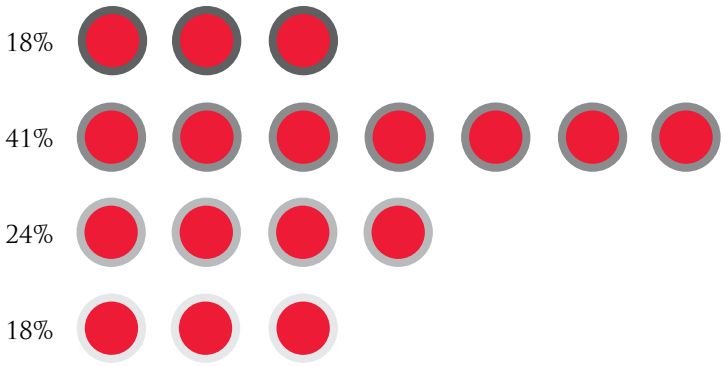

Tyrannosaurus rex: 35
51%
23%
14%
3%
9%


Triceratops: 25
12%
24%
40%
20%
4%

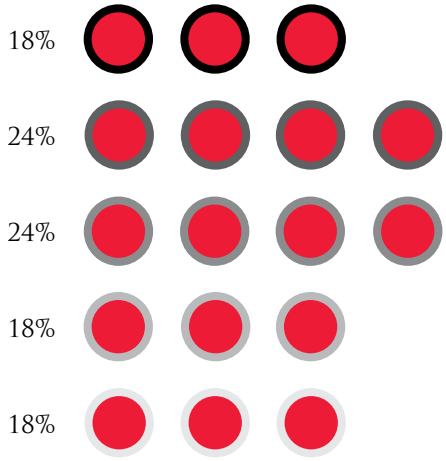
Stegosaurus: 21



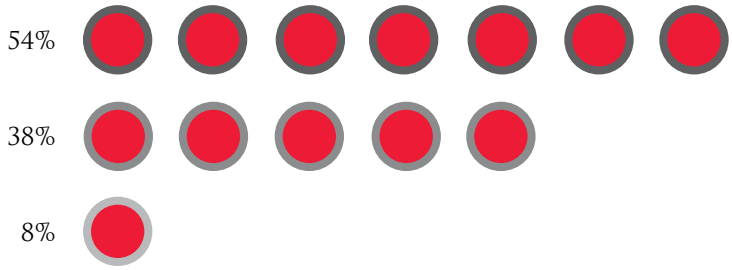
Pterodactyl: 17



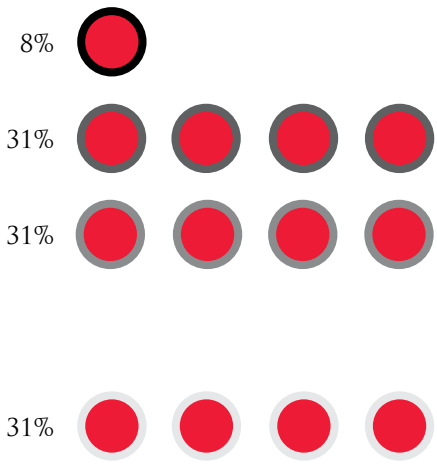
Velociraptor: 17



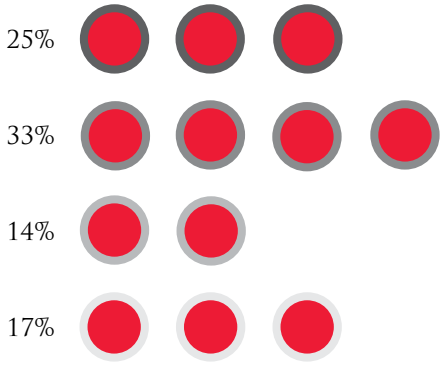
Brontosaurus: 13



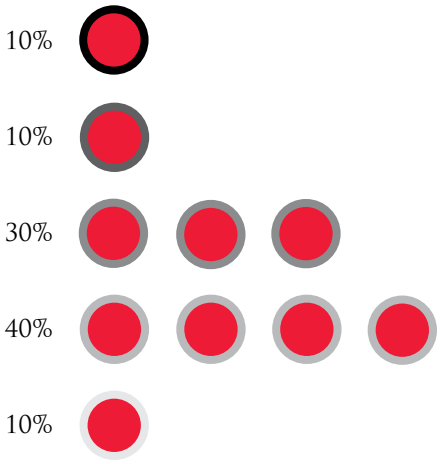
Brachiosaurus: 13



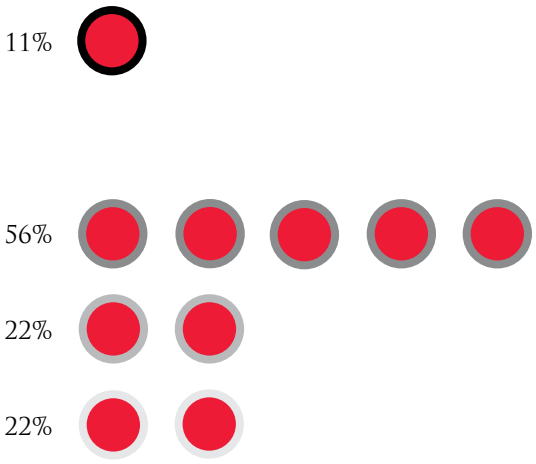
Apatosaurus: 12



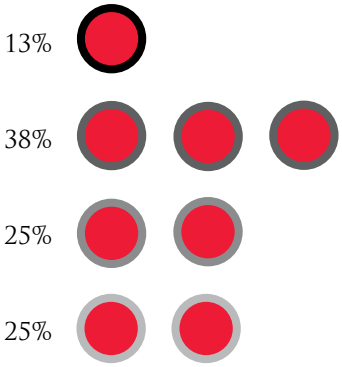
Allosaurus: 10



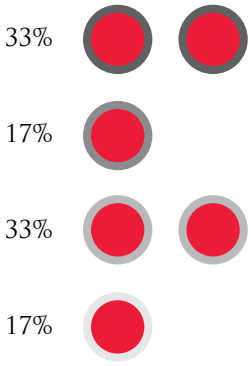
Ankylosaurus: 9



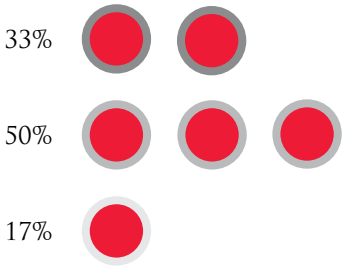
Diplodocus: 8



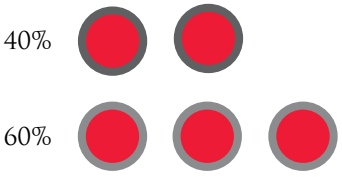
Parasaurolophus: 6



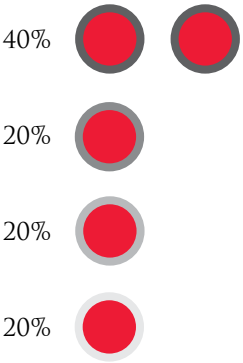
Pachycephalosaurus: 6



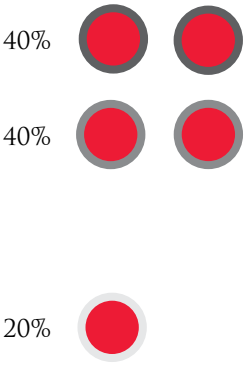
Coelophysis: 5



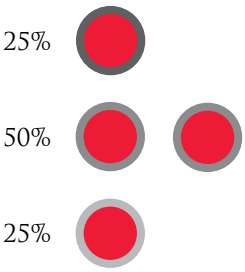
Deinonychus: 5



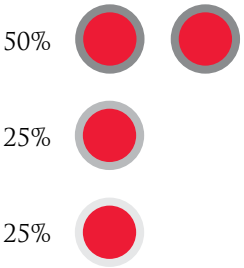
Oviraptor: 5



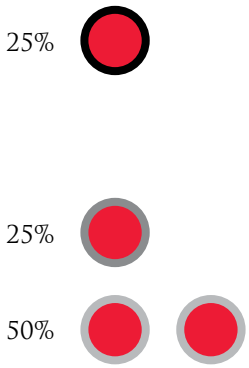
Maiasaura: 4



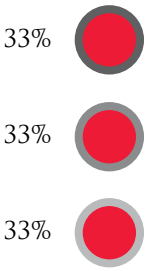
Protoceratops: 4



Pteranodon: 4



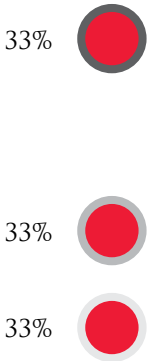
Albertosaurus: 3



Compsognathus: 3

Iguanodon: 3

Lambeosaurus: 3



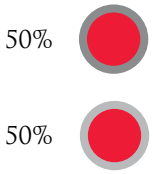
Argentinosaurus: 2

Baryonyx: 2

Camptosaurus: 2

Dimetrodon: 2

Eoraptor: 2



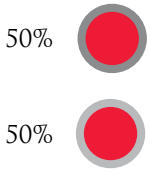
Euoplocephalus: 2

Giganotosaurus: 2

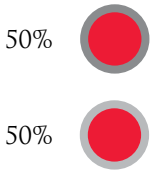
Kentrosaurus: 2

Microraptor: 2

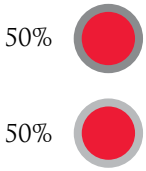
Psittacosaurus: 2



Rajasaurus: 2



Spinosaurus: 2



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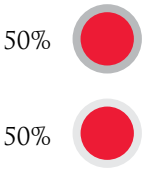
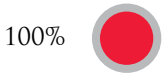


Tarbosaurus: 2

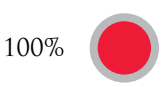
Titanosaurus: 2

Abelisaurus: 1

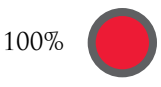


Alamosaurus: 1

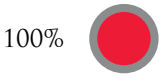
Anatosaurus: 1



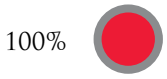
Anatotitan: 1



Barosaurus: 1

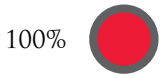


Brachyceratops: 1



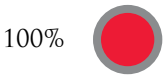
Camarasaurus: 1

Carnotaurus: 1

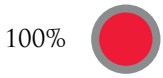


Ceratosaurus: 1

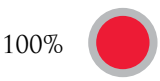
Chasmosaurus: 1



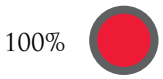
Cryolophosaurus: 1



Dicraeosaurus: 1



Dilong: 1



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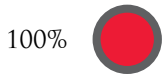

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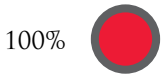

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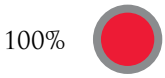

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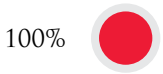
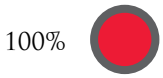
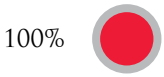


Edmontonia: 1

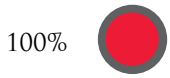
Edmontosaurus: 1



Gallimimus: 1

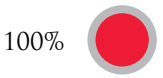


Gorgosaurus: 1



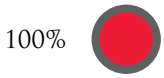
Gryposaurus: 1

Herrerasaurus: 1



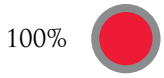
Ichthyosaurus: 1

Kritosaurus: 1

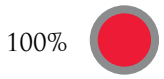


Lufengosaurus: 1

Majungasaurus: 1

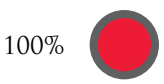


Masiakasaurus: 1



Megalosaurus: 1

Megaraptor: 1



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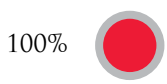
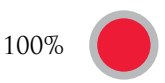
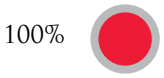


Monoclonius: 1

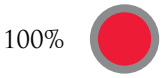


Muttaburrasaurus: 1



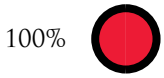
Nanotyrannosaurus: 1

Pentaceratops: 1

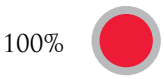


Plateosaurus: 1

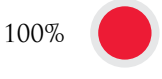
Plesiosaurus: 1



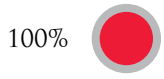
Rapetosaurus: 1



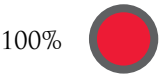
Saltasaurus: 1



Shuvosaurus: 1



Sinorthinosaurus: 1



Stegoceras: 1

100%

Stygimoloch: 1

100%

Supersaurus: 1

100%

Ultrasaurus: 1

100%

Unenlagia: 1

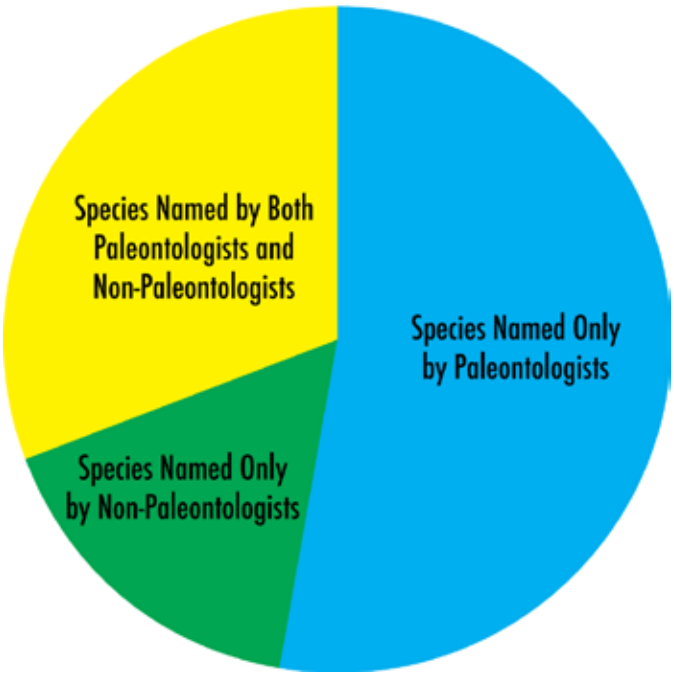
100%

These graphs point out a few more simple facts.

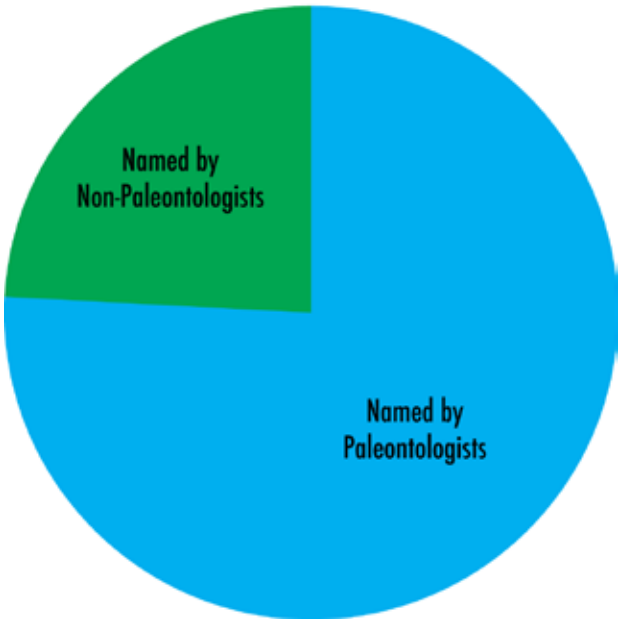
Two of the participants in the project were paleontologists. As can be seen in the top graph, more than half of the species that were named for the project were named *only* by one of these two paleontologists. More than three-fourths of the dinosaurs that were listed only once were listed only by these paleontologists, and more than half of the dinosaurs listed only twice were only named by them as well.

This obviously creates somewhat of a bias in the sample--more than half of the dinosaurs listed would not be there if it were not for these two participants, who have a different level of knowledge of dinosaurs than the general population. This would seem to warn of caution in making any interpretations about these specific dinosaurs.

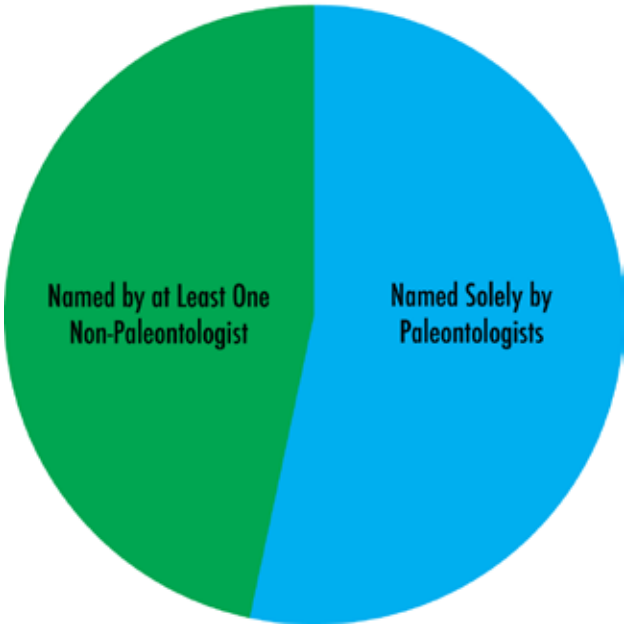
Total Number of Species



Total Number of Species That Were Only Listed Once



Total Number of Species That Were Only Listed Twice

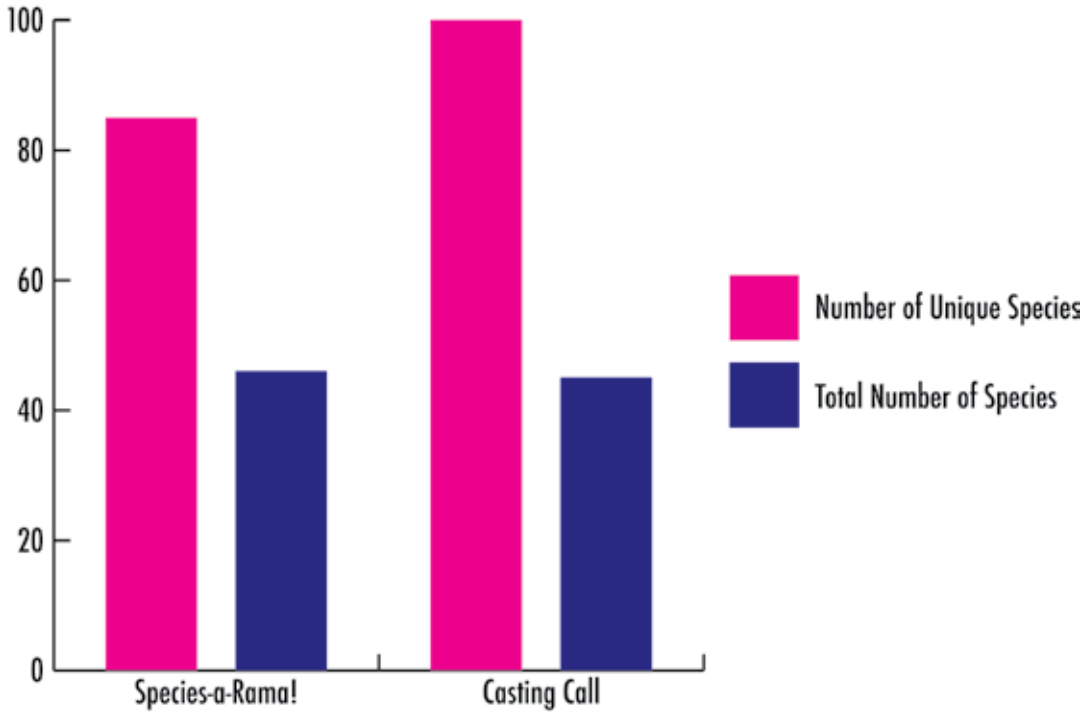


This graph compares the total number of species listed in this project with the total number of species listed in *Casting Call*, a project which is similar in the sense that its participants were allowed to list any dinosaur they wished.

It also compares the number of unique species in each project--that is, species which were only listed by one person throughout the entire project.

It is interesting that the two projects happened to have approximtely the same total number of responses, which is coincidental. Less coincidental, probably, is the percentage of species that were mentioned only once in either project--approximately half in both projects. This seems to provide evidence that perhaps the large number of species named only once by the paleontologists in *Species-a-Rama!*, as described on the previous page, is not so much of an abberation after all. Importantly, it shows that the public is aware of a number of dinosaurs beyond the most obvious and popular examples, even if these other dinosaurs are not always the ones that first spring to their minds.

Comparison of the Total Number of Species and the Number of Species That Were Only Listed Once in Species-a-Rama! and Casting Call



Please feel free to unfold and examine the chart on the following page. Thank you for exercising care while folding it back up into the book.

This is another comparison of *Species-a-Rama!* and *Casting Call*. It shows the total number of each dinosaur named in both projects individually, then adds them up to see the totals.


100
80
60
40
20
0
Total
Casting Call
Species-a-Rama!
Tyrannosaurus rex
Triceratops
Velociraptor
Apatosaurus
Stegosaurus
Ankylosaurus
Compsognathus
Parasaurolophus
Brachiosaurus
Pterodactyl
Dimetrodon
Allosaurus
Pteranodon
Miasaura
Ichthyosaurus
Oviraptor
Iguanodon
Pachycephalosaurus
Deinonychus
Diplodocus
Plesiosaurus
Protoceratops
Coelophysis
Hadrosaurus
Therizinosaurus
Troodon
Microraptor
Styracosaurus
Archaeopteryx
Argentinosaurus
Baryonyx
Giganotosaurus
Albertosaurus
Chasmosaurus
Dilophosaurus
Spinosaurus
Utahraptor
Camptosaurus
Carnotaurus
Centrosaurus
Eoraptor
Euoplocephalus
Gallimimus
Lambeosaurus
Muttaburrasaurus
Ornithomimus
Psittacosaurus
Rajasaurus
Struthiomimus
Barosaurus
Brachyceratops
Ceratosaurus
Corthysaurus
Cryolophosaurus
Kentrosaurus
Megaraptor
Rugops
Supersaurus
Tarbosaurus
Titanosaurus
Ultrasaurus
Wooly Mammoth
Zuniceratops
Abelisaurus
Acrocanthosaurus
Alamosaurus
Altirhinus
Anatosaurus
Anatotitan
Anomalocaris
Archelon
Aristosuchus
Avimimus
Bambiraptor
Camarasaurus
Caudipteryx
Dakosaurus
Dicraeosaurus
Dilong
Dimorphodon
Dromaeosaurus
Dryosaurus
Edmontonia
Edmontosaurus
Elasmosaurus
Eudimorphodon
Futalognkosaurus
Gorgosaurus
Gryposaurus
Guanlong
Herrerasaurus
Hyaenadon
Hypsilophedon
Janenschia
Kritosaurus
Laeallynasaura
Lesothosaurus
Lufengosaurus
Lukousaurus
Majungasaurus
Mamenchisaurus
Masiakasaurus
Megalosaurus
Meganuera
Minmi
Monoclonius
Monoclonius
Nanotyrannosaurus
Nanyangosaurus
Nqwebasaurus
Pelorosaurus
Pentaceratops
Plateosaurus
Protarchaeopteryx
Quetzalcoatlus
Rapetosaurus
Rhamphorhynchus
Saltasaurus
Saltopus
Shuvosaurus
Silesaurus
Sinorthinosaurus
Smilodon
Stegoceras
Stygimoloch
Thecodontosaurus
Thescalosaurus
Torosaurus
Unenlagia
Xiaosaurus

Analysis of the Survey Results

Overview

Species-a-rama! is in many ways a less "exciting" project than many of the others when it comes to looking at the results. It is a more of a pure tabulation of species' popularity than the others that dabble in the same thing. However, in practice *Species-a-Rama!* was one of the most fun. It was an exciting game and the participants were always under pressure. It turns out that the number of dinosaurs one can write down in one minute is just a little more than the number of dinosaurs a normal person can name on a really good day, so they often spend more than a few precious seconds thinking, "oh man, what is that one..with the thing..."

It was clear from the process that people knew about more dinosaurs than they knew their names. They would blank out on names like Stegosaurus and Triceratops, and especially Apatosaurus, whose "new" name has never fully caught on (more people named Brontosaurus than Apatosaurus). But no one ever forgot the name of T-rex (as it is usually spelled on people's sheets)!

Part of the idea behind this project was not simply to find out how many dinosaurs people knew, but also to see if the most popular dinosaurs now are the same as the most popular dinosaurs from decades ago--Tyrannosaurus, Triceratops, Stegosaurus, Apatosaurus, Ankylosaurus, Pterodactyl. Perhaps some of the new Chinese dinosaurs have worked their way into the public consciousness? As it turns out, the answer is no. No, there were very few of the "new" dinosaurs, except those named by the professional paleontologists, and the standard "Group of Six" is still pretty much triumphant. Velociraptor has worked its way into the pack, but honestly not as far as Chris would have assumed, based on how its prominence grew after *Jurassic Park*. (This is true for any of the projects.)

Specifics-a-Rama!

Tyrannosaurus was named more than any other dinosaur by far. It was named by every single participant. Furthermore, it had more than three times the number of "first dinosaur on the list" rankings than the next-best "first on the list" (which was Stegosaurus). It even had more than two times the number of "first third of the list" rankings.

Triceratops and Stegosaurus were close to each other. Triceratops had more "middle of the list" dots than any other dinosaur by far, and so was very "average" in that way, but Stegosaurus' spot on the lists was evenly distributed from top to bottom, making it average in a different way.

Apatosaurus was more or less tied with them, if you add it together with Brontosaurus.

Velociraptor is very evenly distributed on its spot in the participants' lists, like Stegosaurus. Pterodactyl is as well, except that it has no first-places--the most popular "dinosaur" for which that is the case.

There are fairly large numbers of people who mentioned Pachycephalosaurus, Parasaurolophus, Coelophysis, and Oviraptor, especially since this was not a project for which the participants received any prompting or were able to do any research.

In the eternal battle between Pterodactyl and Pteranodon, Pteranodon was a big loser in this project. (But the converse was true in other projects.)

Albertosaurus was named a shocking three times.

The dinosaurs that were named only once tended to be placed fairly low down on the participants' lists, with a few exceptions: Plesiosaurus and Sinornithomimus (!) were both listed first. No dinosaur that was only listed two or three times was listed first. Pteranodon, with four mentions, is the second-lowest-ranked "dinosaur" to have a first-place mention (and in that way, beating out Pterodactyl!).

As seen on the graphs, almost all of the dinosaurs that were mentioned only once or twice were listed by one or both of the professional paleontologists, so they do not necessarily give a clear picture about which dinosaurs the general public knows. But, paleontologists are people too!--and they count as part of the project.

It is also worth taking into consideration that the participants in *Casting Call* named a similar number of obscure dinosaurs, but they had the advantage of internet research.

The large graph comparing and combining the two projects has a wonderfully smooth curve from most to least popular, a curve that smooths out any irregularities in either project on their own.

Taken together, the most popular dinosaurs fall into two basic groups, distinguished by slight changes in the curve.

Tyrannosaurus, Triceratops, Apatosaurus, Velociraptor, Stegosaurus, and Ankylosaurus are at the top, followed by Compsognathus, Parasaurolophus, Pterodactyl, Brachiosaurus, Dimetrodon, and Allosaurus--they are a group everybody knows, but they just aren't in the top echelon.

When comparing *Species-a-Rama!*'s numbers with those of *Casting Call, Species-a-Rama!* has less than *Casting Call* for most species. This mostly just comes from having less total entries. But there are a few that are much lower: Ankylosaurus, Compsognathus, Parasaurolophus, Dimetrodon, Maiasaura, Pteranodon, Ichthyosaurus, Iguanodon, Plesiosaurus, Hadrosaurus, Diplodocus, Therizinosaurus, and Troodon.

Some of these are just random. Others, however, especially those that belong to the "second echelon of fame," are probably due to the fact that they are second tier, and if one is in a timed situation, one goes with the first tier. Another reason some of these are low is that they (Dimetrodon, Ichthyosaurus, Plesiosaurus) are not really dinosaurs, and people may have left them off on purpose.

Overall, *Species-a-Rama!* has done a fine job coming up with dinosaur-popularity data, while taking advantage of an exciting process for doing so.