ManyPrimates:
A large-scale collaborative approach to studying primate cognition and behavior

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Lydia Hopper Lincoln Park Zoo

on behalf of **ManyPrimates**

ManyPrimates contributors

Matthias Allritz, Drew Altschul, Michael Beran, Manuel Bohn, Josep Call, Sarah DeTroy, Shona Duguid, Crystal Egelkamp, Claudia Fichtel, Julia Fischer, Molly Flessert, Daniela Fuchs, Daniel Hanus, Daniel Haun, Lou Haux, R. Adriana Hernandez-Aguilar, Esther Herrmann, Lydia Hopper, Marine Joly, Fumihiro Kano, Stefanie Keupp, Alicia Melis, Alba Motes-Rodrigo, Steve Ross, Alejandro Sánchez-Amaro, Yutaro Sato, Vanessa Schmitt, Manon Schweinfurth, Amanda Seed, Ruiting Song, Derry Taylor, Christoph Völter, Bridget Waller, Elizabeth Warren, Julia Watzek — **and counting!**

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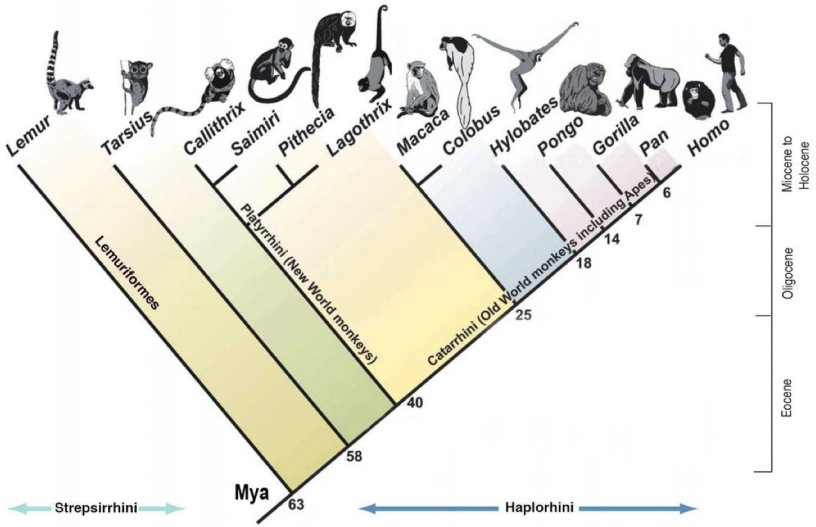
Challenges to primate cognition research

Important questions are understudied due to lack of infrastructure:

- How does cognition evolve?



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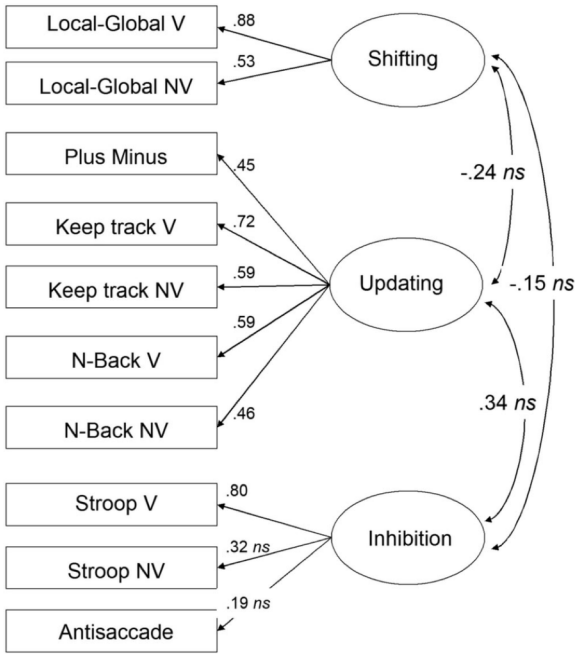
Challenges to primate cognition research

Important questions are understudied due to lack of infrastructure:

- How does cognition evolve?
- How is cognition structured?



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Challenges to primate cognition research

Important questions are understudied due to lack of infrastructure:

- How does cognition evolve?
- How is cognition structured?
- How does cognition develop?

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Challenges to primate cognition research

Answering these questions requires:

- Large and diverse samples
- Pooling of resources across labs
- Infrastructure to support studies

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ManyPrimates

- Network to connect researchers, plan and conduct collaborative studies
- Collaboratively deciding on research agenda
- Open to all interested in primate cognition

Inspired by:

- Open Science Collaboration // ManyLabs // ManyBabies

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Pilot study

Study the phylogeny of a fundamental cognitive ability:

Short-term memory

Build basic infrastructure for future projects

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Timeline

Dec ‘17:	Initial contact
Jan ‘18:	Decision on topic for pilot study
Feb ‘18:	Pre-registration of design and analysis
Mar - Jul ‘18:	Data collection for pilot study
Aug - Feb ‘19:	Data analysis and writing
Mar ‘19:	Manuscript submitted to PLOS One
May ‘19 - May ‘20:	**Data collection for ManyPrimates 1**

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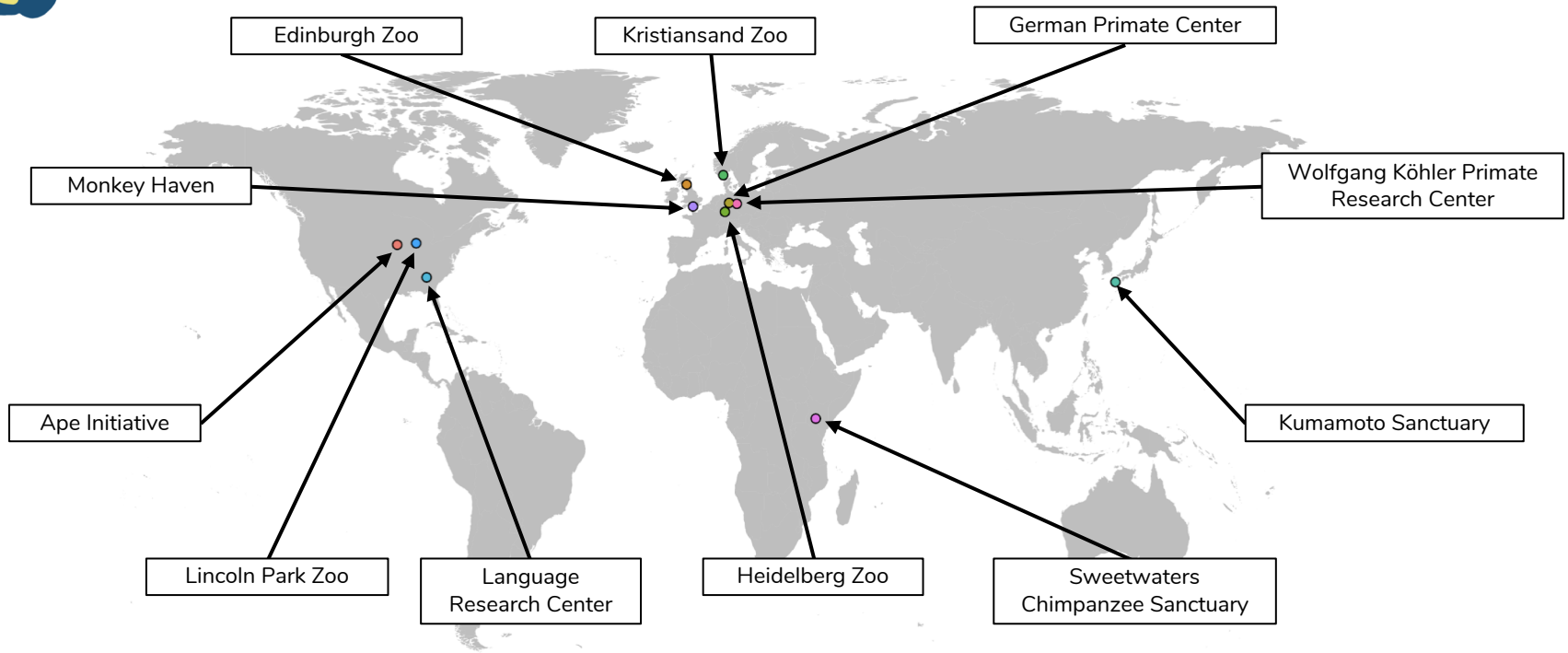
Data collection sites



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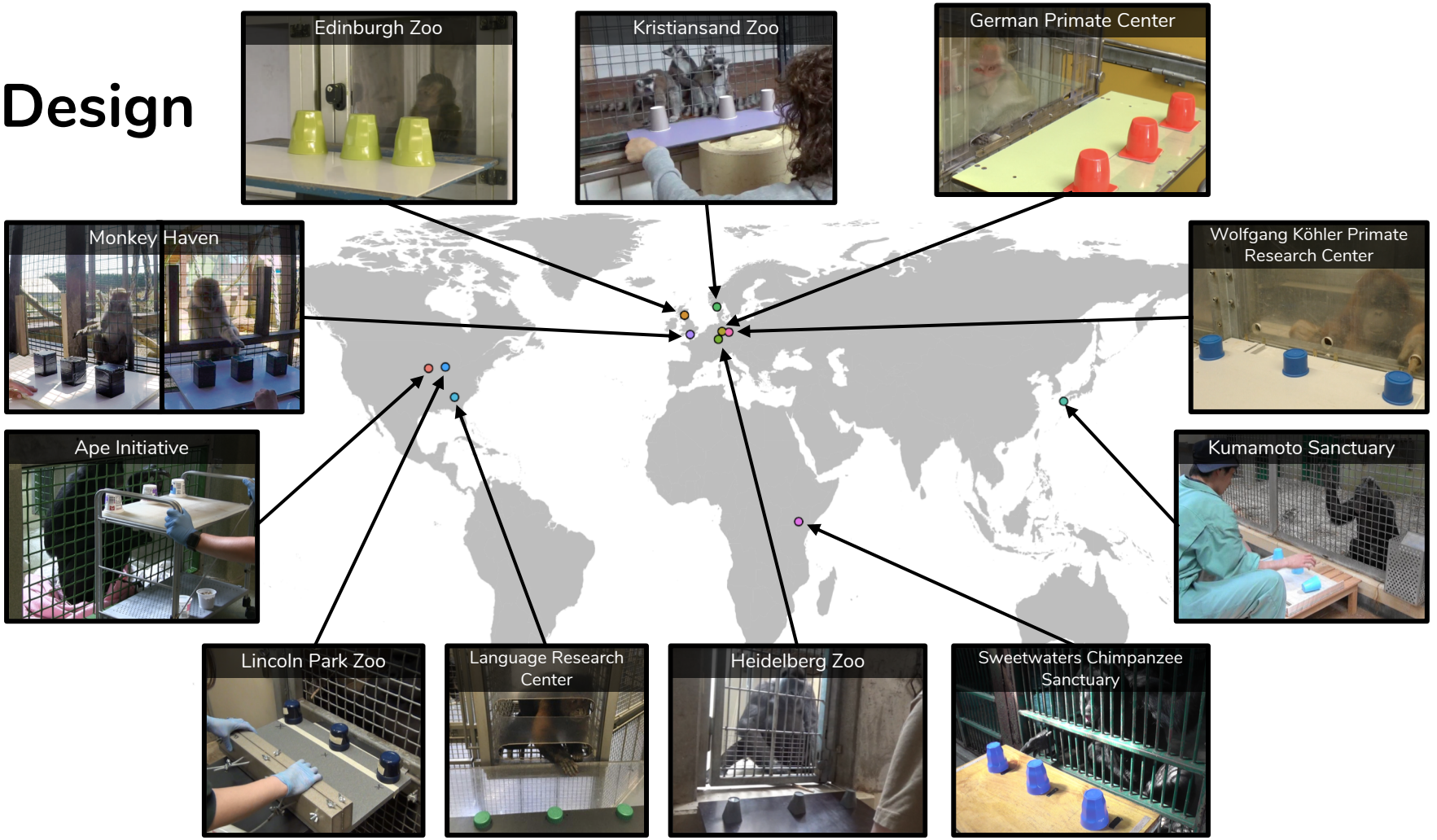
Design


Edinburgh Zoo
Kristiansand Zoo
German Primate Center
Monkey Haven
Wolfgang Köhler Primate Research Center
Ape Initiative
Kumamoto Sanctuary
Lincoln Park Zoo
Language Research Center
Heidelberg Zoo
Sweetwaters Chimpanzee Sanctuary

Design

Squirrel Monkey - Short Delay (0s)

Barbary Macaque - Medium Delay (15s)

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Sample

Total Species	**12**
Total Sites	**11**
Total N	**176**

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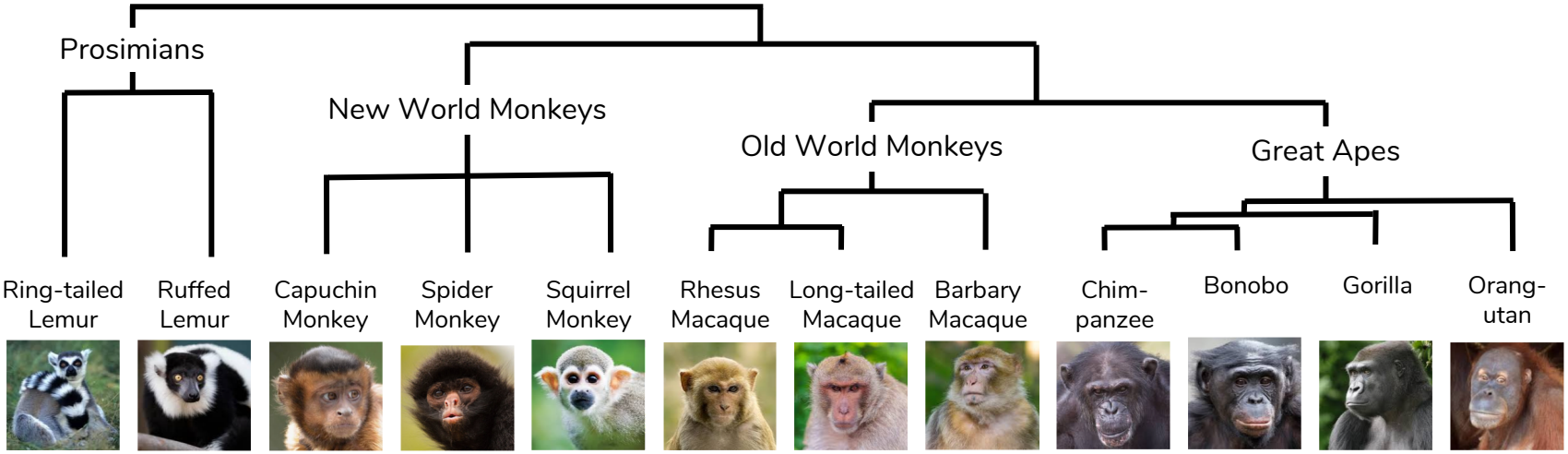
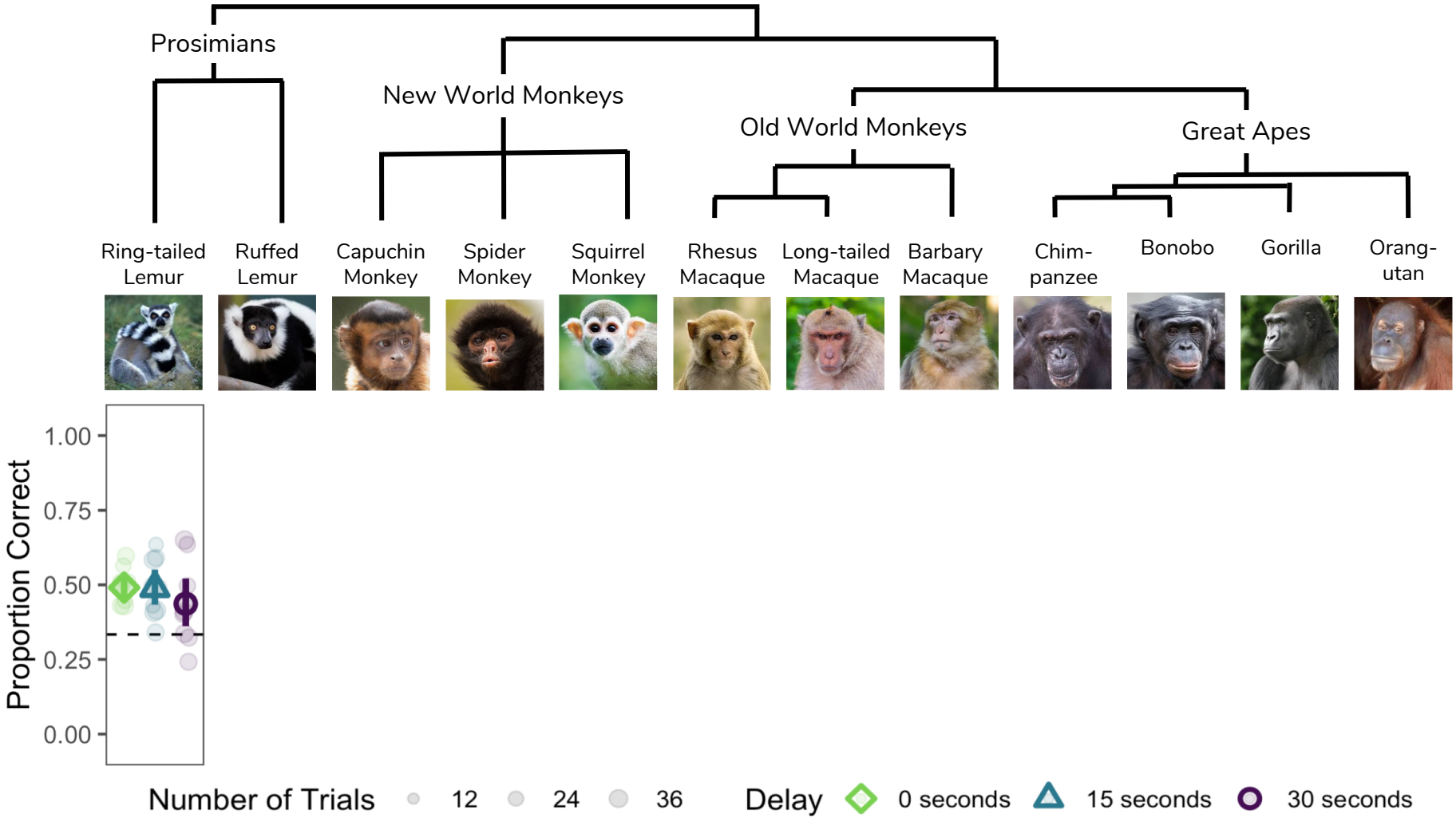
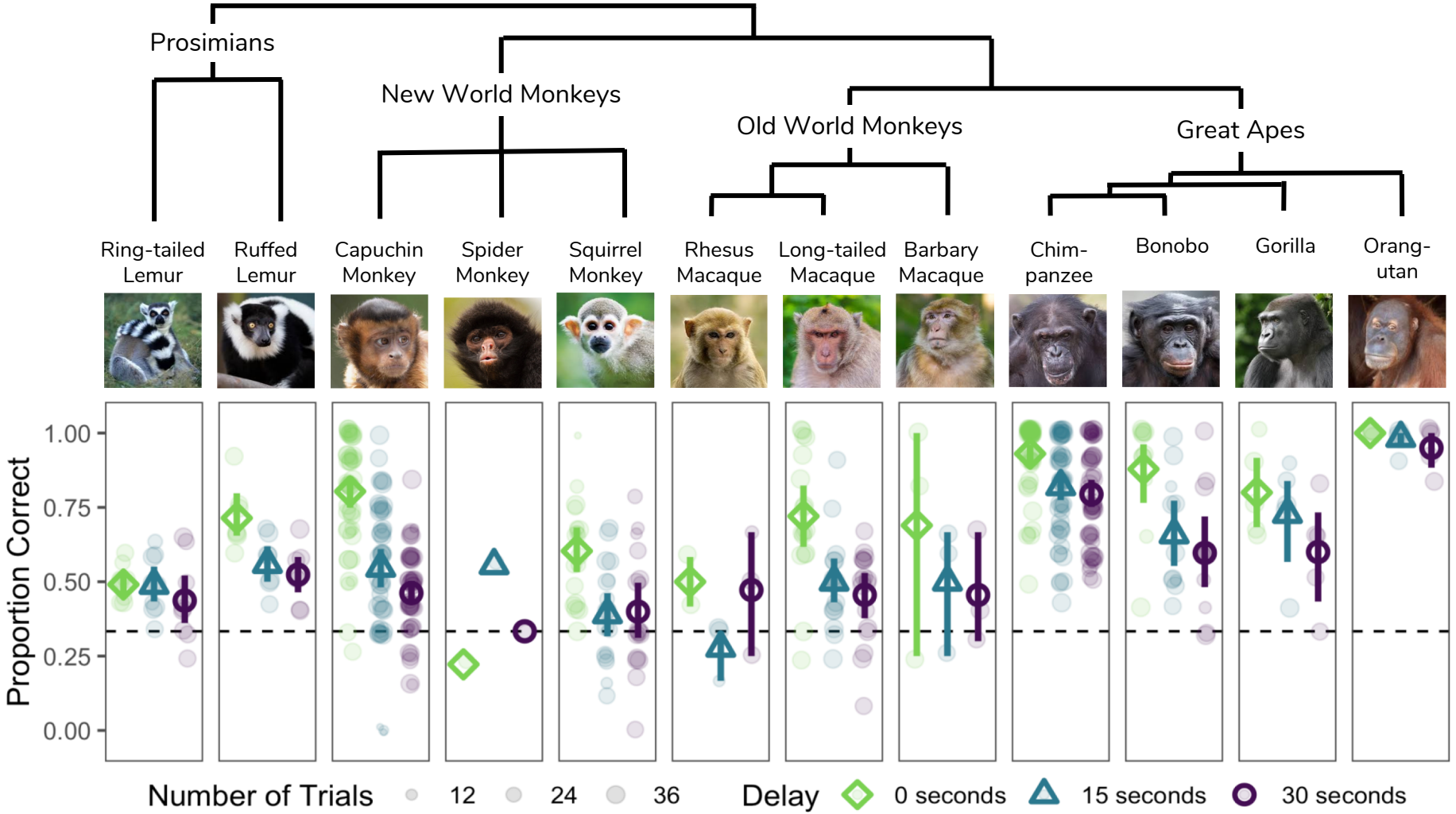


	Ring-tailed Lemur	Ruffed Lemur	Capuchin Monkey	Spider Monkey	Squirrel Monkey	Rhesus Macaque	Long-tailed Macaque	Barbary Macaque	Chim-panzee	Bonobo	Gorilla	Orang-utan
N	**9**	**7**	**46**	**1**	**18**	**3**	**17**	**3**	**51**	**11**	**5**	**5**
Sites	**2**	**1**	**2**	**1**	**1**	**1**	**1**	**1**	**4**	**2**	**2**	**1**


Prosimians
New World Monkeys
Old World Monkeys
Great Apes
Ring-tailed Lemur
Ruffed Lemur
Capuchin Monkey
Spider Monkey
Squirrel Monkey
Rhesus Macaque
Long-tailed Macaque
Barbary Macaque
Chim-panzee
Bonobo
Gorilla
Orang-utan
Proportion Correct
1.00
0.75
0.50
0.25
0.00
Number of Trials
12
24
36
Delay
0 seconds
15 seconds
30 seconds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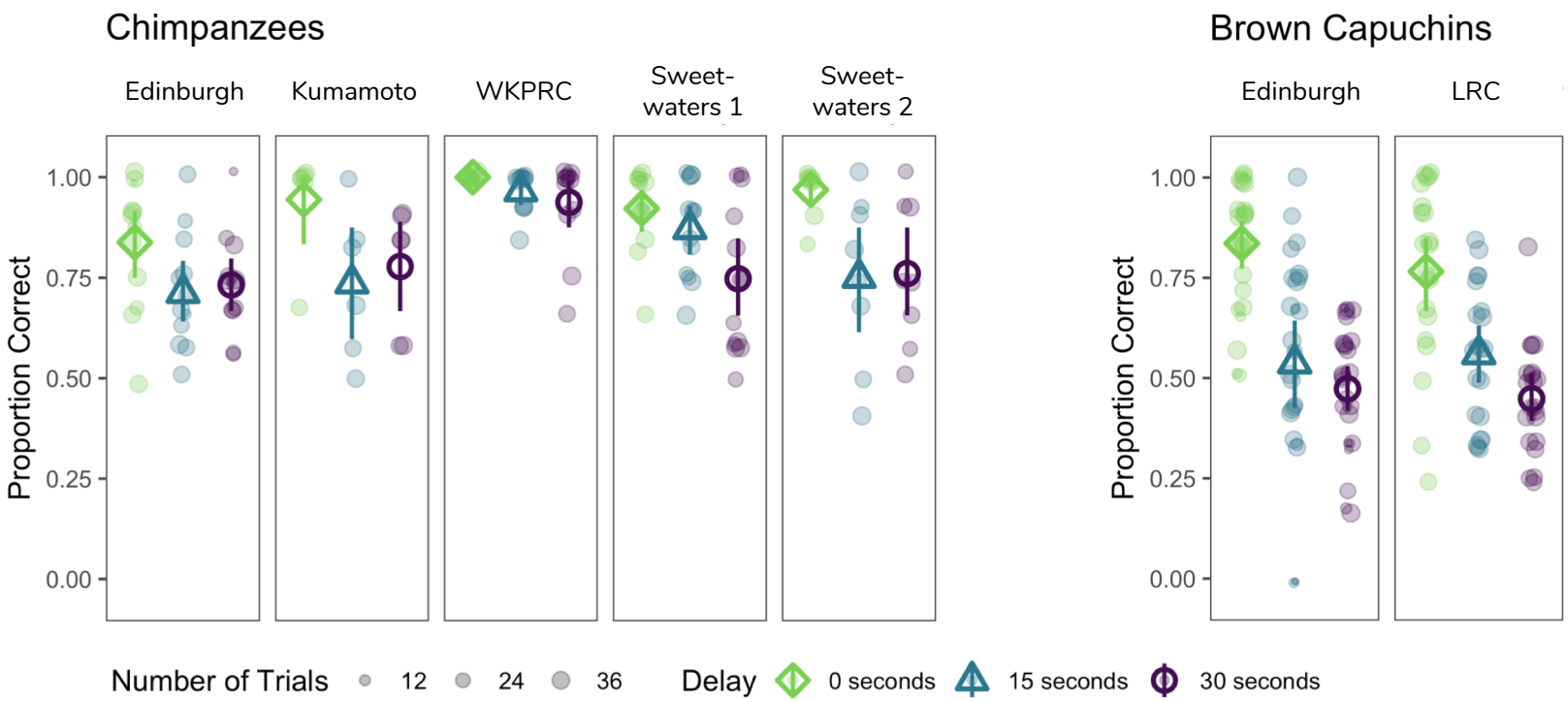
30 seconds

Variation across sites



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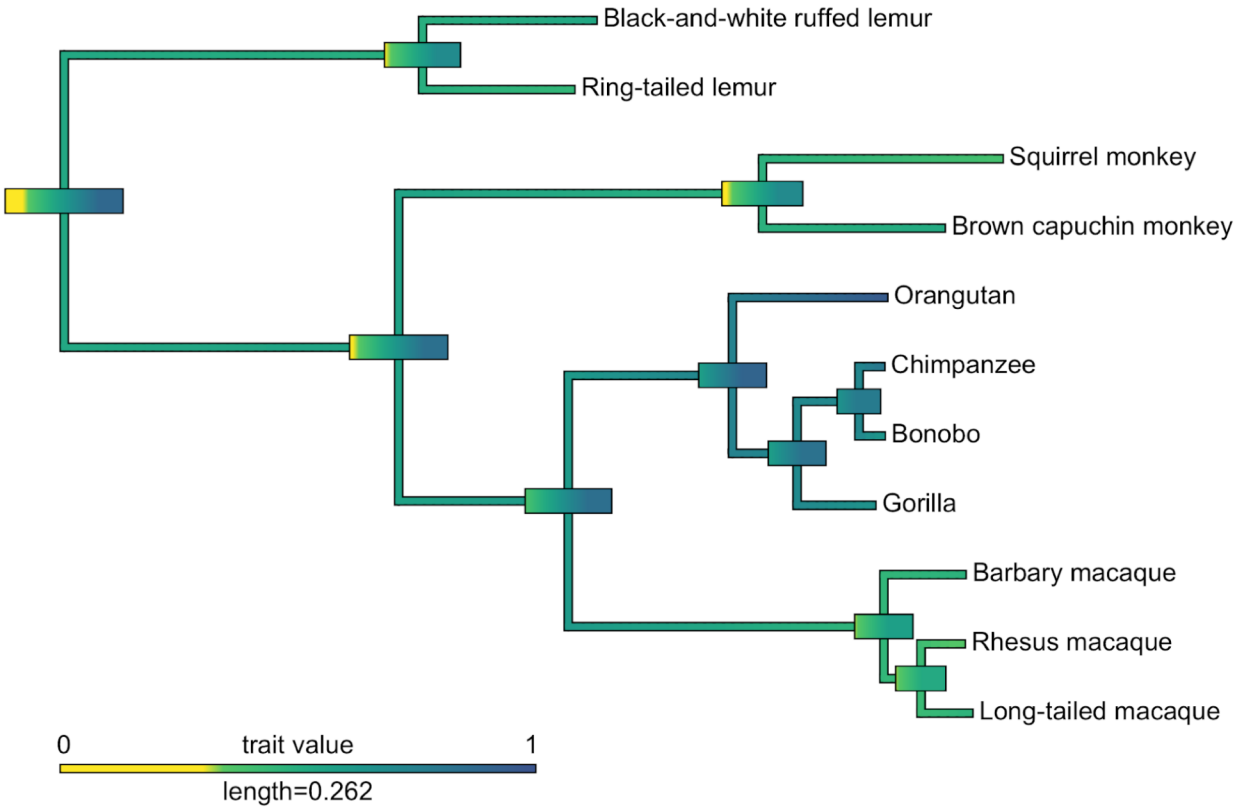
Phylogenetic analysis



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Contributions

Study planning

- Generating ideas // designing studies // coordination

Data collection

- Data collection // coding & reliability

Analysis and publication

- Data analysis // writing // public outreach

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Outlook

- Spread the word and get more people involved
- Continue with short-term memory study – **data collection is ongoing!**
- Collect and develop ideas for future studies
- Further diversification (e.g. including non-captive samples)

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Acknowledgements

Cog Etho Lab (DPZ): to Lukas Schad and Carolin Kade

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Sánchez-Amaro, Hanus: WKPRC Leipzig Zoo

Hernandez-Aguilar, Motes-Rodrigo: Dyreparken Kristiansand (especially Helene Axelsen and Tanya Michin)

Herrmann, Melis, Duguid, Haux: Sweetwaters Chimpanzee Sanctuary

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Thank you!

ManyPrimates website: → manyprimates.github.io

Code and data: → github.com/ManyPrimates/mp_pilot

Preprint: → psyarxiv.com/3xu7q