Rite of passage:
determining elephant-mediated seed shadows from ground-truth gut passage data

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Introduction

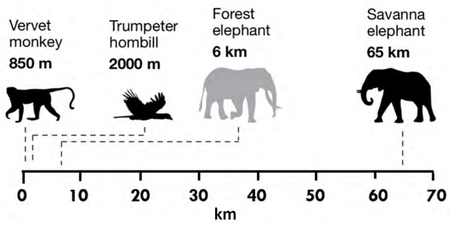
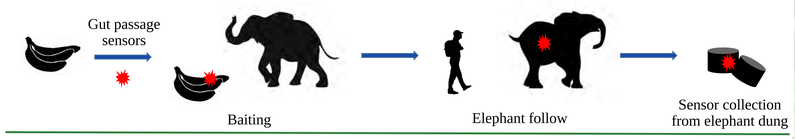


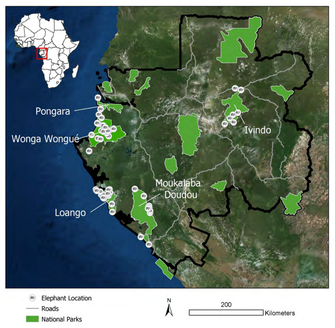
Fig. adapted from Cuadra & Grullon (2017)

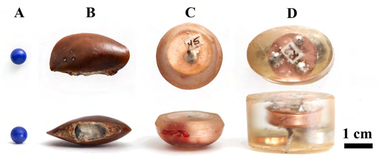
- **African forest elephants (***Loxodonta cyclotis***)** are important seed dispersers in tropical forests and influence the floral community structure
- **Seed dispersal pattern** is determined by: 1) gut passage time (GPT) and 2) movement patterns of the seed dispersers

We developed novel GPT measuring methods, obtained the first GPT data in wild forest elephants, and modeled elephant-mediated seed dispersal shadows based on GPT and elephant movement data.

Field Methods

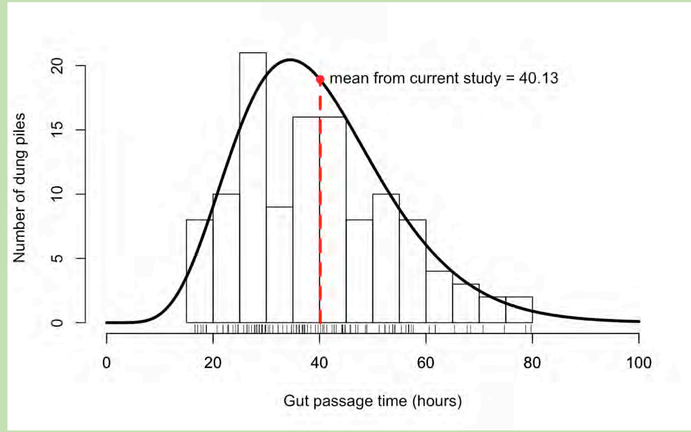


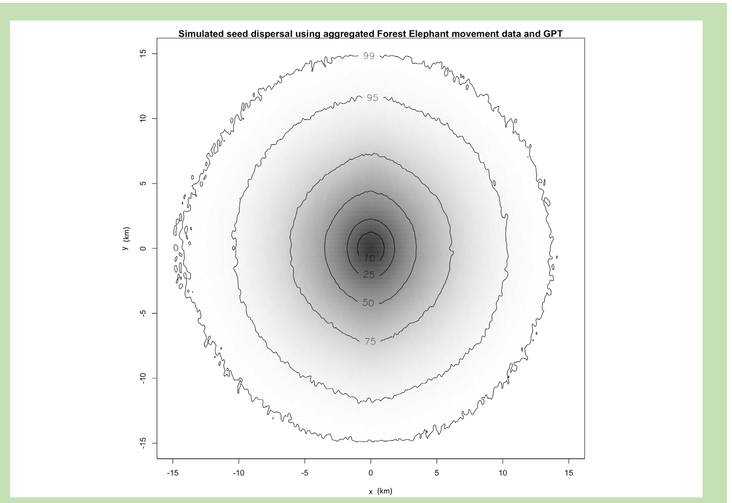




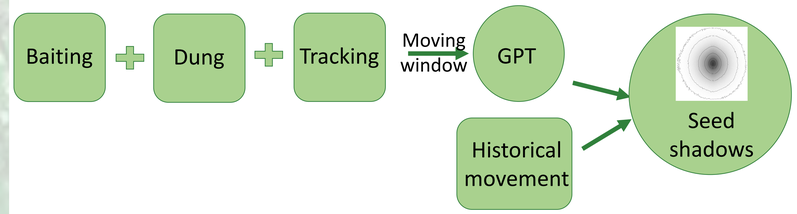
The role of forest elephants as seed dispersers has been underestimated and underappreciated

Results





Stat Methods



Conclusions

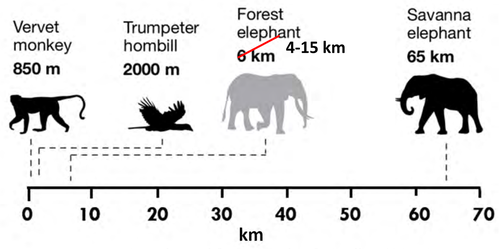
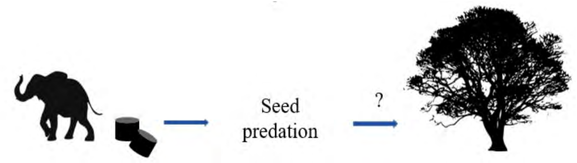


Fig. adapted from Cuadra & Grullon (2017)

- 99% of seeds fall within 15 km
- The continued loss of forest elephants will be detrimental to tropical forest structure

Future Directions



- Impacts of elephant ingestion on seed germination, seedling growth & survival
- Effects of seed predation in elephant dung on post-dispersal seed survivorship

References and Acknowledgements

Scan to see references and acknowledgements!

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