

## **Primate life history and dietary adaptation – folivores are not always faster**

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Life history variables measure the speed of growth and reproduction in a population or species. Comparisons between species or higher taxonomic groups revealed a strong, positive, allometric relationship with adult female body mass. Other links have been proposed with respect to dietary adaptations: Because protein is essential for growth and one of the primary sources of protein, leaves, occurs much less seasonally than fruits, it has been predicted that folivorous species should grow and reproduce faster compared to frugivorous ones. Gorillas are a prominent example with the more folivorous gorilla maturing and reproducing much faster than the more frugivorous chimpanzee. However, when comparing folivorous Asian colobines with frugivorous Asian macaques (via ANCOVA and PGLS) my co-workers and I found a longer, instead of a shorter gestation in folivores, age at first reproduction was slightly shorter, and interbirth intervals did not differ. Causal explanations are still largely hypothetical and could relate to differences in the amount of expensive tissue, infant care patterns etc.. Wondering why these trends were not disclosed sooner, we attempted reconstructing our results for Asian primates with data from four popular life history compilations. The attempt failed; even the basic, allometric relationship with female body mass could not be recovered. These negative results hint at severe problems with data quality in existing databases which can be improved significantly by standardizing the measurement definitions and by controlling for population-specific factors such as nutrient availability. If based on such a standardized compilation, future life history analyses might disclose new and unexpected results.

Carola Borries is Research Associate Professor at the Department of Anthropology, Stony Brook University, interested in male and female reproductive strategies, dominance and competition, life history, and socioecology. She has mainly studied Asian colobines but her work extends to cercopithecines and apes.