Crops provide chimpanzees with more energy than wild foods

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A University of Kent study has found that cultivated foods offer chimpanzees in West Africa more energetic benefits than wild foods available in the region.

The findings have made a significant development for our further understanding into human-primate coexistence and can help to inform conservation efforts for future improvement, particularly in locations where agricultural expansion is encroaching on tropical forests.

Dr. Nicola Bryson-Morrison and Dr. Tatyana Humle of Kent's Durrell Institute of Conservation and Ecology, examined the macronutrient content of 24 wild and 11 crop foods consumed by chimpanzees in Bossou, Guinea, West Africa.

It was found that cultivated fruits were higher in easily digestible carbohydrates and lower in insoluble fibre than wild fruits, while wild fruits were higher in protein. Higher easily digestible carbohydrates provide more energy.

Oil palm food parts were relatively rich in carbohydrates, protein, lipids, and fermentable fibre, adding nutritional support for the importance of the oil palm for West African chimpanzees inhabiting human-dominated environments.

When compared with published macronutrient measures of crops from Bulindi, Uganda, East Africa, the composition of wild fruits, leaves, and pith were consistent with previous reports for primate diets. Furthermore, no differences were found in the composition of cultivated fruits, suggesting macronutrient content alone does not explain differences in primates' crop selection. This confirms the idea that food-crop selection in chimpanzees is partly cultural.

Dr. Bryson-Morrison said: "Our research has built on the current understanding of chimpanzee feeding ecology within forest-agricultural mosaics. By providing further validation that nutritionally dense crops offer primates energetic benefits over wild foods, this study has widened scope for more research into human-primate interactions in relation to

shared resources and species-specific dietary needs."

More information: Nicola Bryson-Morrison et al, The macronutrient composition of wild and cultivated plant foods of West African chimpanzees (Pan troglodytes verus) inhabiting an anthropogenic landscape, *American Journal of Primatology* (2020). DOI: 10.1002/ajp.23102

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