

The Metabolic Function of Giant Panda Gut Microbiota Decreased Compared with Other Mammals

Yan Zheng¹, hairui wang², xiaoyan liu³, le wang¹, xing chen³, Dingzhen Liu³, and shibin yuan¹

¹China West Normal University

²Chengdu Research Base of Giant Panda Breeding

³Beijing Normal University

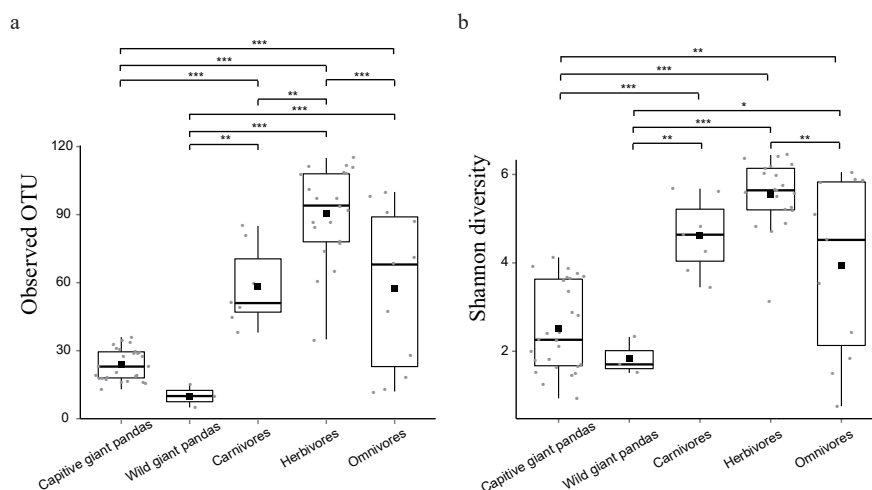
April 26, 2022

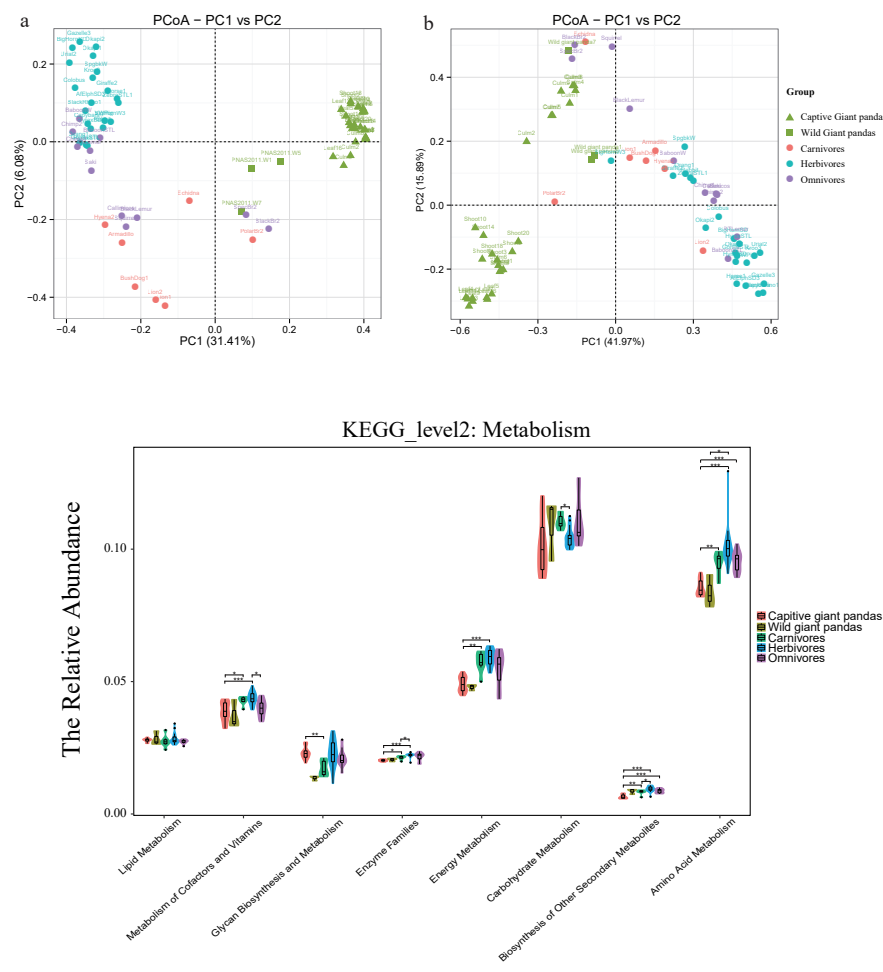
Abstract

Different responses of gut microbiota diversity affect host health in term of nutrient metabolism and disease immunity, the reason and the impact of low diversity level of giant panda needs to be studied. Therefore, to explore the impact of intestinal type and diet on gut microbiota diversity of giant pandas, we conducted a multi-species comparison (n=73), and the effects of different diets on gut microbiota function of giant panda were analyzed by PICRUST method. The gut microbiota of giant panda was significantly lower than the same diets type herbivores and the same intestinal type carnivores. High-fiber bamboo culm diet significantly reduced the gut microbiota diversity of giant panda than bamboo shoot and leaf. The low diversity of gut microbiota led to the low nutritional metabolic function of giant panda, including energy metabolism and amino acid metabolism. These results showed that the short intestinal tract and high fiber diet caused the decrease of gut microbiota diversity of giant pandas.

Hosted file

The diversity of giant panda gut microbiota.docx available at <https://authorea.com/users/478877/articles/566921-the-metabolic-function-of-giant-panda-gut-microbiota-decreased-compared-with-other-mammals>





KEGG_level2: Organismal Systems

