

Food preferences and nutrient composition in zoo-housed ring-tailed lemurs (*Lemur catta*)

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Introduction: The ring-tailed lemur is an endemic species living on Madagascar mostly feeding on fruits, leaves and insects. Food choices of primates can be based on different factors such as nutritional content or the amount of secondary compounds in the foods. Few studies on non-human primates have assessed positive correlations between food choices and nutritional content.

Aim: Determine food preferences in zoo-housed ring-tailed lemurs for a variety of cultivated fruits, vegetables and animal matter and assess whether these preferences correlate

Method: Used four individuals at Furuvisparken, who were presented with all possible binary combinations of 12 foods.



Results: With 46 out of the 66 binary combinations the lemurs displayed a significant preference for one of the two options. Food choices correlated positively with content of carbohydrates and sucrose (Spearman, $p < 0.01$).

The choice behaviour of the lemurs (N=4). The first value applies to the food item on the left and the second value to the food item on the top. ← Indicates a significant preference for the food item on the left. n.s indicates a lack of a significant preference.

	Apple	Sweetpotato	Melon	Beetroot	Carrot	Egg	Eggplant	Pumpkin	Cabbage	Cucumber	Tomato	Mealworm
Apple	X	←	←	←	←	←	←	←	←	←	←	←
Sweetpotato	11:29	X	←	n.s	←	←	←	←	←	←	←	←
Melon	3:37	14:36	X	n.s	←	←	←	←	←	←	←	←
Beetroot	9:31	15:25	15:25	X	n.s	←	←	←	←	←	←	n.s
Carrot	2:38	6:34	6:34	12.5:27.5	X	n.s	←	←	←	←	←	←
Egg	2:38	6:34	7:33	11:29	16:24	X	←	←	←	←	←	←
Eggplant	1:39	0:40	0.5:39.5	2.5:37.5	2.5:37.5	7.5:32.5	X	n.s	n.s	n.s	n.s	n.s
Pumpkin	0:40	0:40	0.5:39.5	3.5:36.5	2.5:37.5	9:31	21:19	X	n.s	n.s	n.s	n.s
Cabbage	0:40	1:39	0:40	4:36	3:37	8.5:31.5	17:23	19:21	X	n.s	n.s	n.s
Cucumber	0:40	0:40	1:39	4:36	2:38	6:34	17:23	20:20	21.5:18.5	X	n.s	n.s
Tomato	0:40	0:40	0:40	5:35	1:39	8.5:31.5	16:24	18:22	21.5:18.5	19.5:20.5	X	n.s
Meal worm	0:40	0:40	0:40	3:37	0:40	6:34	16.5:23.5	17:23	20:20	20.5:19.5	18.5:21.5	X

Conclusion: Zoo-housed *Lemur catta* do display marked food preferences in relation to nutrient composition and they base their choices in order to maximize their intake of carbohydrates and sucrose.

