

## Feeding Strategy of Palm Civets; carnivorans who chose to be frugivore

We studied feeding behaviors of common palm civets (*Paradoxurus hermaphroditus*) and small-toothed palm civets (*Arctogalidia trivirgata*) in primary tropical rain forests of Danum Valley Conservation Area, Sabah, Malaysia from December 2012 to March 2013. Palm civets appear to have no morphological adaptation to frugivorous diets (*e.g.* developed canine, carnassial tooth, short digestive gut) although fleshy fruits constitute over 80 % of their diet (Rest of diet consists of invertebrates). Direct observations at fruiting fig trees (1,764 hours in total) demonstrated their feeding strategy different from those of pied hornbills and long-tailed macaques. Staying time at the fruiting trees, feeding time and time for selecting fruits in palm civets were longer than those of other frugivorous species. The longer time for selecting fruits suggests that available fruits for the palm civets are limited. In order to reveal determinant of their fruit selections, we evaluated the differences of chemical components between the sample fruits and the fruits spat out by palm civets (fruits selected by civets) using high performance liquid chromatography (HPLC). The principal component analysis of the chemical components showed that there were differences in the chemical components between the sample fruits and the civet-selected fruits. For further analysis, we will compare the concentration of glucose and fructose (sugar content), pectin (fiber level), citric acid (degree of acid), tylophorine (alkaloid), rutin (flavonoid), trilinolein (lipid), and calcium between them.