

**DYNAMICS OF CROP-RAIDING BY SUMATRAN ORANGUTANS (*PONGO ABELII*) LIVING IN A HUMAN-DOMINATED LANDSCAPE IN NORTHERN SUMATRA, INDONESIA**

G.A. Campbell-Smith<sup>1</sup>, M. Linkie<sup>1,2</sup>

<sup>1</sup> *Durrell Institute of Conservation and Ecology, University of Kent, Canterbury, Kent, United Kingdom*

<sup>2</sup> *Fauna & Flora International-Aceh Programme, Aceh Besar, Nanggroe Aceh Darussalam, Indonesia*

*Presenter's Email: primatelass@gmail.com*

Quantitative data on the temporal and spatial patterns of crop-raiding by non-human great apes, in particular orangutans, are lacking. This study provides the first evaluation of annual variations in crop-raiding patterns by an isolated group of Sumatran orangutans (*Pongo abelii*) who co-exist with farmers in an agroforest system in North Sumatra, Indonesia. Higher crop-raiding levels were observed in the first year of the study than the second (Year One: 801 crop-raiding incidents, damaging 4,569 individual crops in 179 farmlands; Year Two: 403 crop-raiding incidents, damaging 3,130 individual crops in 94 farmlands). Orangutan feeding habits differed between the two study years. During Year One, jackfruit (*Artocarpus integer*) and durian (*Durio zibethin*) fruits were raided significantly more during the wetter months, with jackfruit bark and rubber (*Hevea brasiliensis*) bark being raided significantly more during the drier months. In contrast, lower fruit availability of crops recorded in Year Two, especially jackfruit and durian, resulted in no significant temporal association. Overall orangutans raided crops significantly more in the afternoon and evening when human presence was lower compared to the morning. Spatially, most crop raids occurred within farmlands that were small and had a higher abundance of large wild and agricultural trees. Understanding the temporal and spatial patterns of crop-raiding by orangutans is a prerequisite for implementing effective control measures. Our research suggests that farmers in this agroforest system would experience reduced crop damage if they tailored their guarding efforts toward late afternoon and evening in addition to increasing guarding efforts during the wetter months.

Keywords: Great ape conservation, human-wildlife conflict, spatial patterns, temporal patterns