



Tropentag, September 14-16, 2010, Zurich

“World Food System —
A Contribution from Europe”

Tree Richness and Forest Structure of the Forests around Yongsu Dosoyo, Jayapura, Papua, Indonesia

KONSTANTINA MARIA BRIGITA KAMEUBUN¹, YANCE DE FRETES², MICHAEL MUEHLENBERG¹

¹*Georg-August-Universität Göttingen, Department of Conservation Biology, Centre for Nature Conservation, Germany*

²*Conservation International Indonesia, Indonesia*

Abstract

It is estimated that Irian Jaya (Papua) contributes to more than half of Indonesia's biodiversity and that Papuan rain forests harbor high species diversity and a high degree of endemism, but this area remain poorly studied. This survey was designed to examine tree richness and forest structure of the tropical rainforests at Yongsu Dosoyo, Jayapura. Two altitudinal sites were considered: from 100–200 m (site 1) and from 300–400 m (site 2). Tree species richness was recorded along 4 transects of $20 \times 125 \text{ m}^2$ located randomly, while forest structure was studied on 2 transects of $10 \times 50 \text{ m}^2$ at each site. Tree species diversity was calculated using Shannon-Weaner Index and species composition between transects was calculated using Morsita Index. A species accumulation curve were constructed to determine whether our 4 transects adequately sampled the forest diversity at each site. Results showed that there were 125 tree species (DBH ≥ 10 cm) belonging to 41 families, and 71 sapling species ($2 \leq \text{DBH} \leq 9.9$ cm) from 31 families. Almost the same number of species was found on each site (93 at site 1 and 92 at site 2). The total number of stems increases from 295 in site 1 to 327 in site 2. Shannon-Weaner Index was respectively for site 1 and site 2 (4.31 and 4.45 for trees), (3.87 and 3.93 for sapling). A species area curve showed that the number of species is still increasing when the total area sampled is over 1 ha. There was no difference on tree richness for the 10 “dominant” families between site 1 and site 2, except for *Chrysobalanaceae*, *Clusiaceae*, and *Euphorbiaceae*. Similar pattern on species richness was observed from sampling stage. These results indicate that tree richness is similar to tropical lowland rainforest elsewhere.

Keywords: Biodiversity, Indonesia , Irian Jaya (Papua), plant richness, tropical rain forests