

DECOMPOSITION OF LEAF LITTER OF *Dombeya goetzenii* (K.SCHUM) ON THE WET AND HUMID ZONES OF THE NJORO RIVER, KENYA.

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ABSTRACT

Leaf breakdown rates of *Dombeya goetzenii* (K. Schum) were compared in the wet and humid (dry) zones of Njoro River, Kenya from May to September, 1998. The study involved litter bags exposure on the stream bed (wet zone) and on both banks of the stream (humid zone). At some stage some litter bags were interchanged from wet to dry zone and vice versa to establish whether there could be a corresponding change in both the decomposition rate and the number of macroinvertebrates. The litter bags were retrieved after every fourteen (14) days, dried, weighed and then ashed to determine the remaining ash free dry mass (AFDM). There occurred a significant difference between mean ash free dry mass on these two zones. The mean decay by the exponential model $Y_t = Y_0 e^{-kt}$ are for the humid zone ($-0,005 \text{ day}^{-1}$) and ($-0,021 \text{ day}^{-1}$) for the wet zone. They are statistically different. These differences were attributed to the site and the composition of macroinvertebrates per gram dry leaves which were significantly more in the wet zone than in the humid zone. Both zones also differed in terms of sediments trapped in the litter bags. The litter bags which were interchanged differed significantly both in terms of decomposition and the number of macroinvertebrates per gram dry leaves from those which remained in two zones throughout the experimental period. The observed difference was also attributed to the site (treatment) and density of macroinvertebrates per gram dry leaves which correlated strongly with the decrease in percentage AFDM.

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