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**STOCHASTIC DOMINANCE IN MULTINOMIAL
DISTRIBUTIONS: AN APPLICATION OF A PRESERVATION
THEOREM**

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This is a follow-up of a recent article [Goswami-Sinha (2005): Some Probabilistic Aspects in the Discovery of Species - to appear in Sequential Analysis Journal]. The problem is to examine the nature of effort size distribution [i.e., distribution of the number of trials needed] in order to "discover" each of the "m" categories of "units" in a multinomial distribution with specified cell probabilities. Among other results, Goswami-Sinha (2005) asserted that the effort size distribution is stochastically largest when the cell probabilities are "equal" [in case of an infinite population] and "equal or nearly equal" [in case of a finite labelled population, involving simple random sampling with / without replacement]. In this note we provide an alternative proof of this result, using a Preservation Theorem of Proschan and Sethuraman (Annals of Statistics, 1977). We also state some allied results in this context.

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