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Inverse distributions: the logarithmic case

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Abstract: In this paper it is proved that the distribution of the logarithmic series is not invertible while it is found to be invertible if corrected by a suitable affinity. The inverse distribution of the corrected logarithmic series is then derived.
Moreover the asymptotic behaviour of the variance function of the logarithmic distribution is determined.
It is also proved that the variance function of the inverse distribution of the corrected logarithmic distribution has a cubic asymptotic behaviour.

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