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**Lianas are Increasing in the Tropics: A Consolidated Evidence from Southeast India**

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**Abstract**

Lianas are one of the most conspicuous elements of tropical forest ecosystems, comprising up to 50% of the woody species density and richness. Therefore, they are expected to majorly determine the tropical forest structure, function, and dynamics. Are lianas increasing in dominance in tropical forests has been a focused question in several recent studies. While the studies from neotropical sites agree with this claim, results from Afro-tropical sites have produced a contrasting trend. At this crucial juncture, we present the evidence for increasing liana abundance and biomass in the seasonally dry tropical forest sites of Southeast India based on over 30 years of long-term monitoring from six 1 ha permanent plots. During the initial inventory, all lianas  $\geq 1$  cm DBH were enumerated and tagged using serially numbered aluminium metal tags. At decadal intervals, each 1 ha permanent plot was re-invented for liana censusing. The liana density has increased by  $\sim 30\%$  from the initial inventory. The results also revealed the decrement of trees by more than 35% during the same censusing interval. Similarly, the liana basal area and biomass increased significantly during the study period. While the underlying ecological mechanisms favouring lianas are still unclear, this crucial evidence from the present study will further strengthen the liana increment hypothesis in the tropics. The ecological implications of increasing liana dominance are also discussed.

**Keywords:** Forest dynamics, Population density, Long-term monitoring, seasonally dry tropical forests, Above-ground biomass