Exercise 8 for May 16th

Exercise. Fix $p \in [1/2, 1]$. Set $\mu(k) = p(1-p)^k$ for $k \geq 0$. Let $\mathcal{T}_n$ be a B_μ random tree conditioned on having n vertices. Show that $\mathcal{T}_n$ follows the uniform distribution on the set of all plane trees with n vertices.