

Ecological trends in the wood anatomy of some trees from Atlantic rain forest in south of Brazil: Growth rings and vessels. Botosso, P.C., Povoá de Mattos, P. (Embrapa Florestas, Brazil; botosso@cnpf.embrapa.br, povoá@cnpf.embrapa.br), Galvão, F., Roderjan, C.V., Kuniyoshi, Y.S. (Departamento de Ciências Florestais, UFPR, Brazil; fgalvao@floresta.ufpr.br, roderjan@floresta.ufpr.br, yoshiko@floresta.ufpr.br).

There is not much information on growth dynamic and ecology of tree species growing in the Brazilian Atlantic forest domain, now reduced to less than 7% of its original area. Ecological trends based on wood anatomy were observed in some representative woody species occurring within this ecosystem in the state of Paraná. Data on tree rings, qualitative and quantitative vessel features (arrangement, grouping, diameter and element length) were analyzed in tree species growing in lowlands forests, mixed forests and dense montane forests situated at 0–20m, 800–1200m and >1200m above sea level, respectively. Non-destructive small wood samples were collected and prepared for macro and microscopic observations. The presence of growth rings was associated with seasonal environments in terms of temperature, humidity and soil water balance. Preliminary results show that vessel elements seems to be smaller and occur more frequently in multiples at higher altitudes and in environments affected by thermal seasonality. The wood of species from lowland forests appears to be at least as well adapted to efficient water transport as to safety for hydraulic conduction during periods of physical or physiological drought. These results are compatible with ecological trends established by other authors for other floras and/or taxa.