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Tema - Botânica: diversidade de cores e formas

Can *Astronium graveolens*, a tropical species be used as ozone bioindicator?

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In the southern hemisphere and tropical ecosystems, the effects of ozone on native species remain unclear. Visual symptoms, caused by oxidative stress due to ozone exposure in the native Brazilian arborous species *Astronium graveolens* (Anacardiaceae), was validated by our group based on morphological and microscopic markers, leading us to rise the hypothesis that this species could be used as a passive air quality bioindicator in tropical environments. This ongoing study has the aim to test the potential of *A. graveolens* as a bioindicator, based on the visual symptom development along a time series, validating those by means of microscopical markers. For this purpose, seedlings are being exposed in São Paulo city, in a standardized way, for 90 days during the four seasons of the year. In order to validate the visual symptoms, we are conducting light and epifluorescence microscopic analyses, using histochemicals and biochemical tests. During springer and summer expositions, *A. graveolens* showed visible symptoms similar to those previously observed in fumigated plants, characterized by intercostal brown stipplings surrounded by chlorosis which can be observed in both adaxial and abaxial leaf surfaces. The microscopical observation of fresh and untreated section showed that the symptoms are restricted to the mesophyll tissue, near the substomatal chambers, reaching palisade and spongy parenchyma cells, but not the epidermis. Epifluorescence microscopic analyses of the leaves tissues revealed changes in the chlorophyll fluorescence intensity at palisade parenchyma cells as well as in spongy cells, indicating decrease in leaf photosynthetic capacity. Analyses of plants exposed during the fall and new tests, in fixed material, are underway. The results obtained so far confirm the sensibility of *A. graveolens* to O_3 indicating the viability of the species to be used as a passive bioindicator.

Key word: oxidative stress, tropical tree, ozone effect, visual symptoms.

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