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LEAF GAS EXCHANGE AND CHLOROPHYLL FLUORESCENCE PARAMETERS AMONG *Passiflora* SPECIES AT DIFFERENT GROWTH STAGES

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The study of the photosynthetic efficiency of plants is important to understand the response to different environmental conditions. The physiological characterization of traits related to the photosynthetic apparatus is used in different plant growth stages for understanding the physiological characteristics and dry-matter accumulation predictions. In order to explore differences in leaf photosynthesis and chlorophyll fluorescence among *Passiflora* species in different growth stages, plants of *Passiflora ligularis* , *P. edulis*, *P. adenopoda* , *P. mollisima*, and *P. tripartita* were characterized during vegetative and reproductive stages, every 21 days for a total of five measurements. Passiflora plants were established on the field at Rionegro, Colombia. Fully expanded leaves from the first third of young branches were evaluated between 0900 and 1200 hours. Net photosynthesis (*A*), transpiration (*E*), stomatal conductance (g_s), quantum yield (*Qy*), and leaf temperature (T_{leaf}) were recorded. Our results indicated mean values for *A* of 10.14 µmol CO_2 $m^{-2}s^{-1}$, where the highest values were recurrently observed for *P. adenopoda* (11.49 µmol CO_2 $m^{-2}s^{-1}$). A variable behavior was observed for *E* , with mean values ranging between 1.76 (*P. ligularis*) and 10.04 µmol H_2O $m^{-2}s^{-1}$ (*P. edulis*). The mean value of g_s was 0.31 µmol H_2O $m^{-2}s^{-1}$, as well as *Qy* of 0.77, and T_{leaf} of 30.57°C with a maximum thermal amplitude of 11.7°C. The greater *A* values observed in *P. adenopoda* plants were reflected in larger biomass accumulation in relation to the other species studied.

Keywords: light response; *Passiflora*; photosynthesis; physiological characterization

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