



# XIII Congresso de ECOLOGIA

## III International Symposium of Ecology and Evolution

Múltiplas ecologias: evolução e diversidade

08 a 12 de outubro de 2017 • UFV - VIÇOSA | MG

### FLUCTUATING ASYMMETRY OF *Eremanthus erythropapus* (DC.) McLeisch (ASTERACEAE) IN RESPONSE TO HEAVY METALS IN SOIL

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Tema/Meio de apresentação: Ecologia de populações/Oral

The fluctuating asymmetry is a small deviations of the symmetry of the plants in response to adaptations and coadaptations of the populations. Asymmetry can be influenced by the exposure of plants to stressful environments, as the presence of heavy metals in the soil. In this study, we tested the hypothesis that soil with heavy metals affect the leaf asymmetry of candeias - *Eremanthus erythropapus* (Asteraceae). We cultivated 70 trees in greenhouse with a heavy metal concentration gradient ranging from 1 to 7. We mixed two soils with low and high concentrations of metals (Cu, Fe, Mn, Zn). Level 1 was composed of 100% soil with little metal and level 7 with 100% soil with a lot of metal. Levels 2 to 6 contained 15, 30, 45, 60 and 75% respectively of soil with more heavy metal. There were 10 plants for each type of soil. In each plant, 4 leaves (with the exception of 2 plants that died during the experiment) were randomly selected. We measured (with pachymeter) the length of each leaf and in half of it we measured the leaf width from the midrib to the right and left edge. The index of leaf asymmetry was calculated by the ratio between the absolute value of the width differences and the total width ( $|R - L| / R + L$ ). The Ancova showed that there is no significance in the direct influence of heavy metals on asymmetry. However, the covariance of the asymmetry with the leaf area showed a significant relationship. The plants exposed to higher concentrations of heavy metals had a larger leaf area, which in turn reflected lower asymmetry. Candeias are adapted to soils rich in heavy metals. Though, low concentration of metals would be a stress factor that would result in leaf asymmetry.

Acknowledgments: The authors thanks CNPq and Fapemig for providing scholarships.