

PHYSIOLOGICAL RESPONSE OF DANDELION (*Taraxacum officinale* Weber) TO ENVIRONMENTAL FACTORS IN URBAN AREAS

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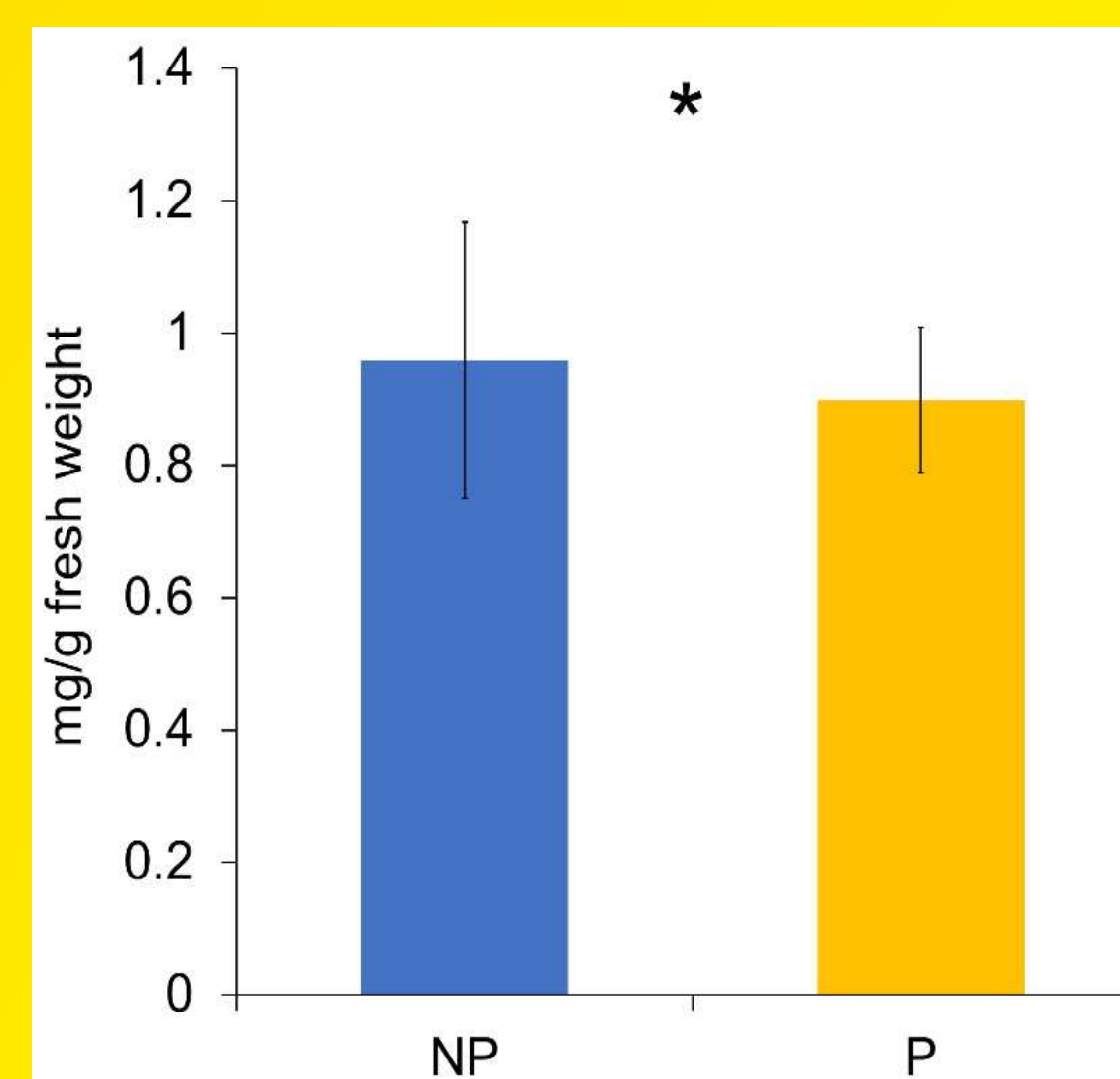
Introduction: In urban areas plants are most often exposed to various abiotic stress factors. Dandelion (*Taraxacum officinale* Weber) is a very abundant species which can grow in different urban areas. In this study we collected samples from 30 locations in city of Osijek which included traffic zones and parks. The aim of this work was to investigate and compare physiological response of dandelions growing in polluted and less polluted locations.

Materials & Methods: Analyses included measurement of total chlorophylls, carotenoid, polyphenols and ascorbic acid content as well as antioxidant capacity evaluated by FRAP (Ferric Reducing Antioxidant Power) and iRAC (Iron (III) Reducing Antioxidant Capacity) assays. Samples were compared using Student's T-test.

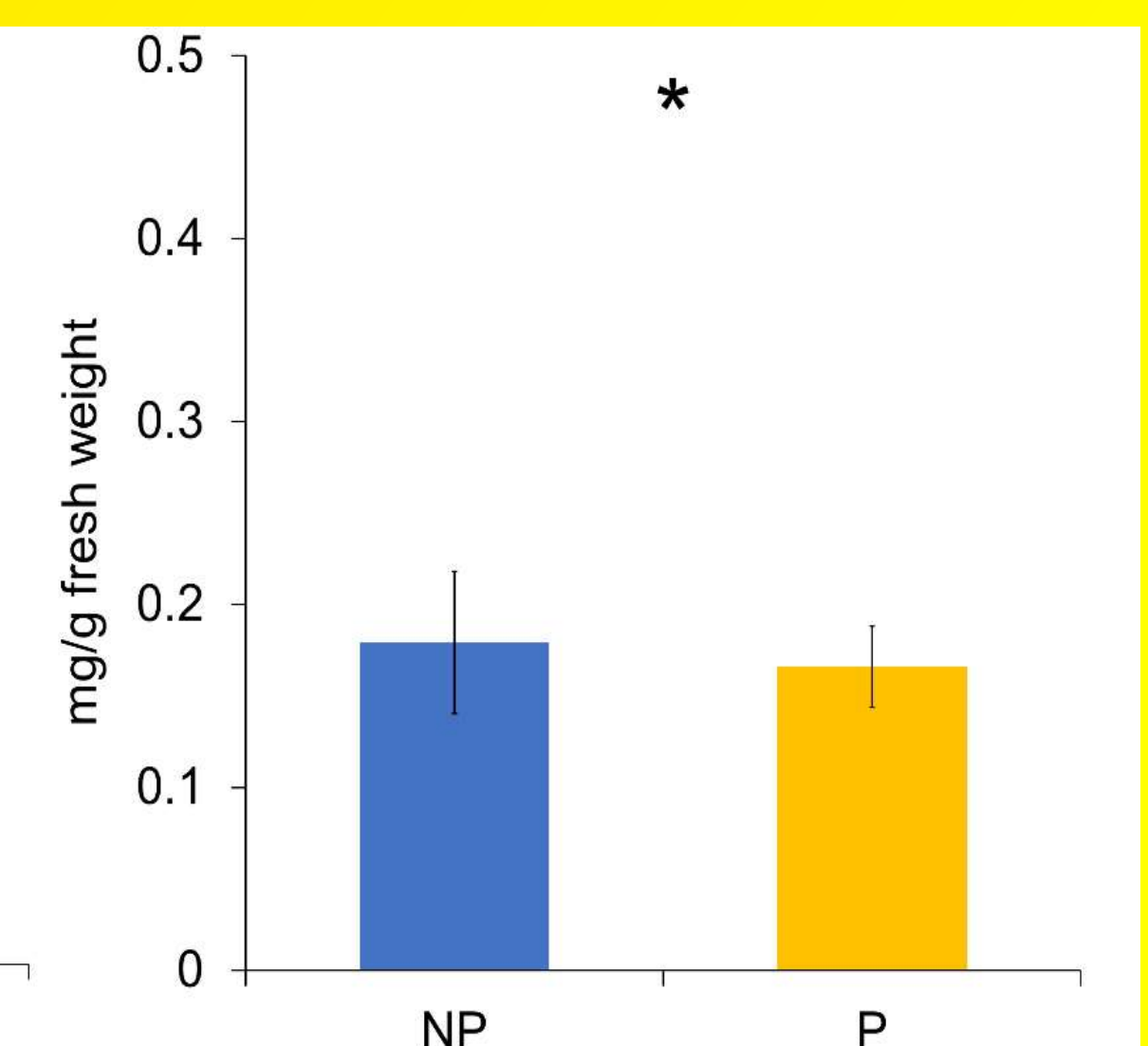
RESULTS



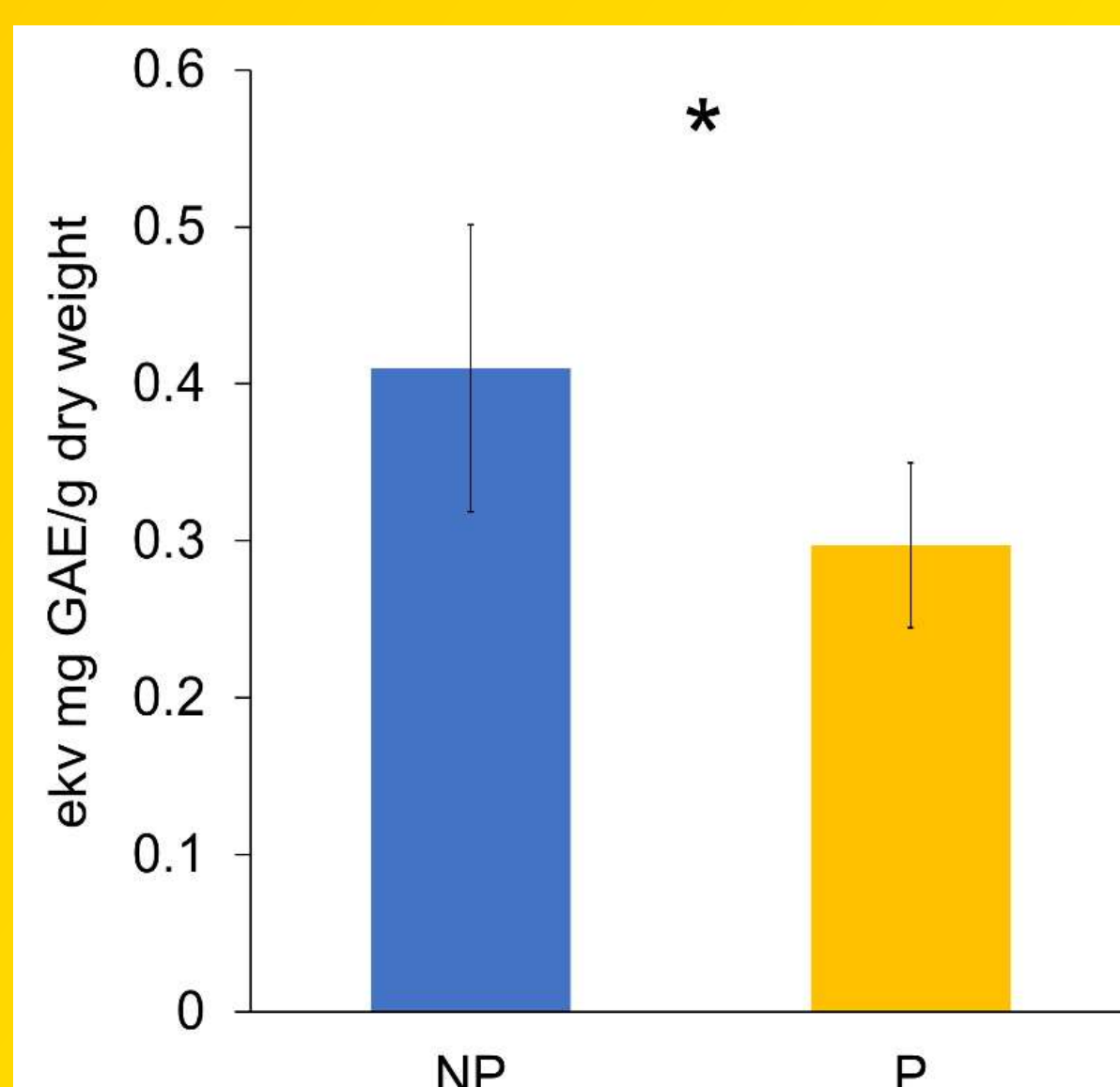
Total chlorophyll



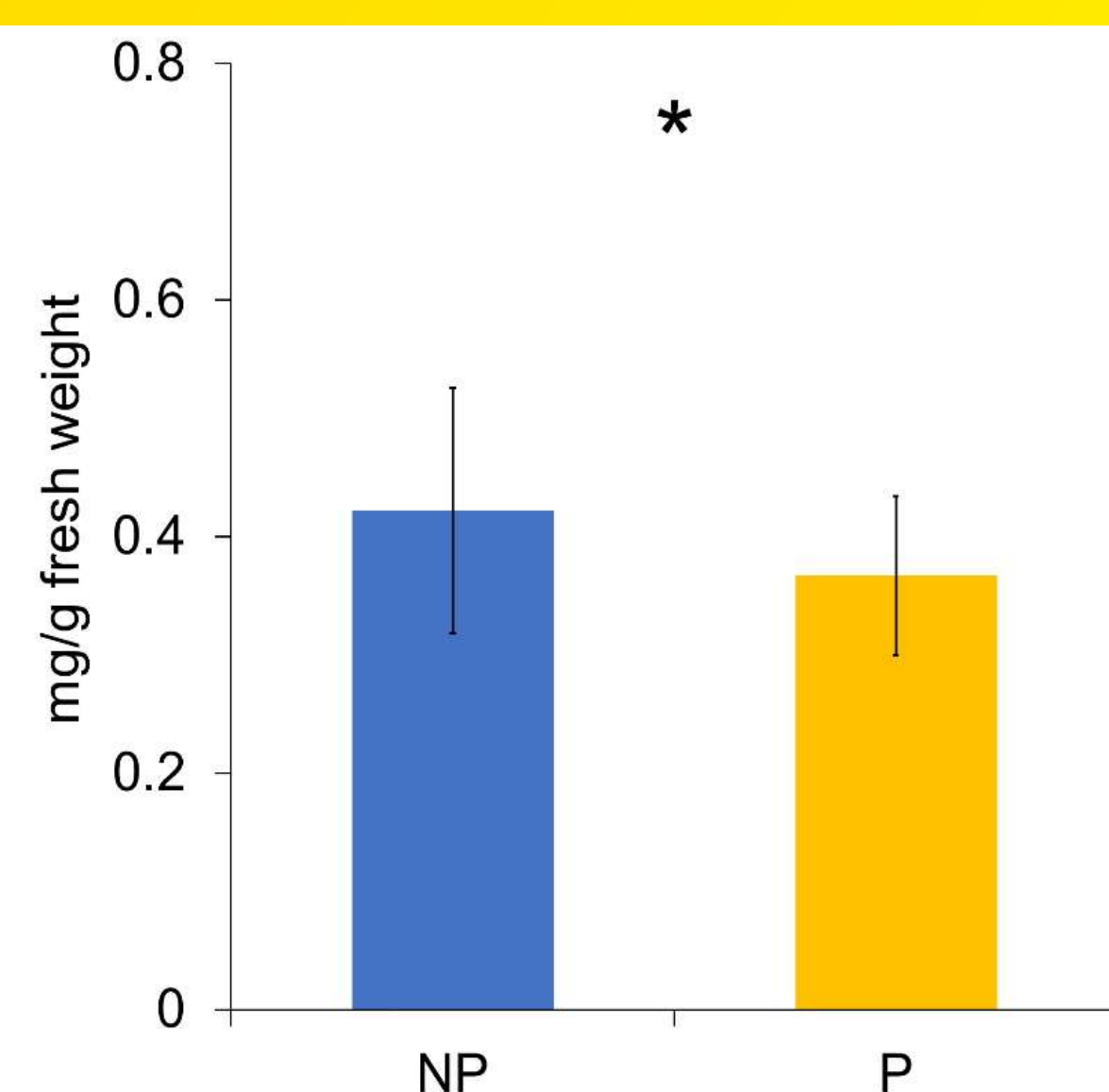
Carotenoids



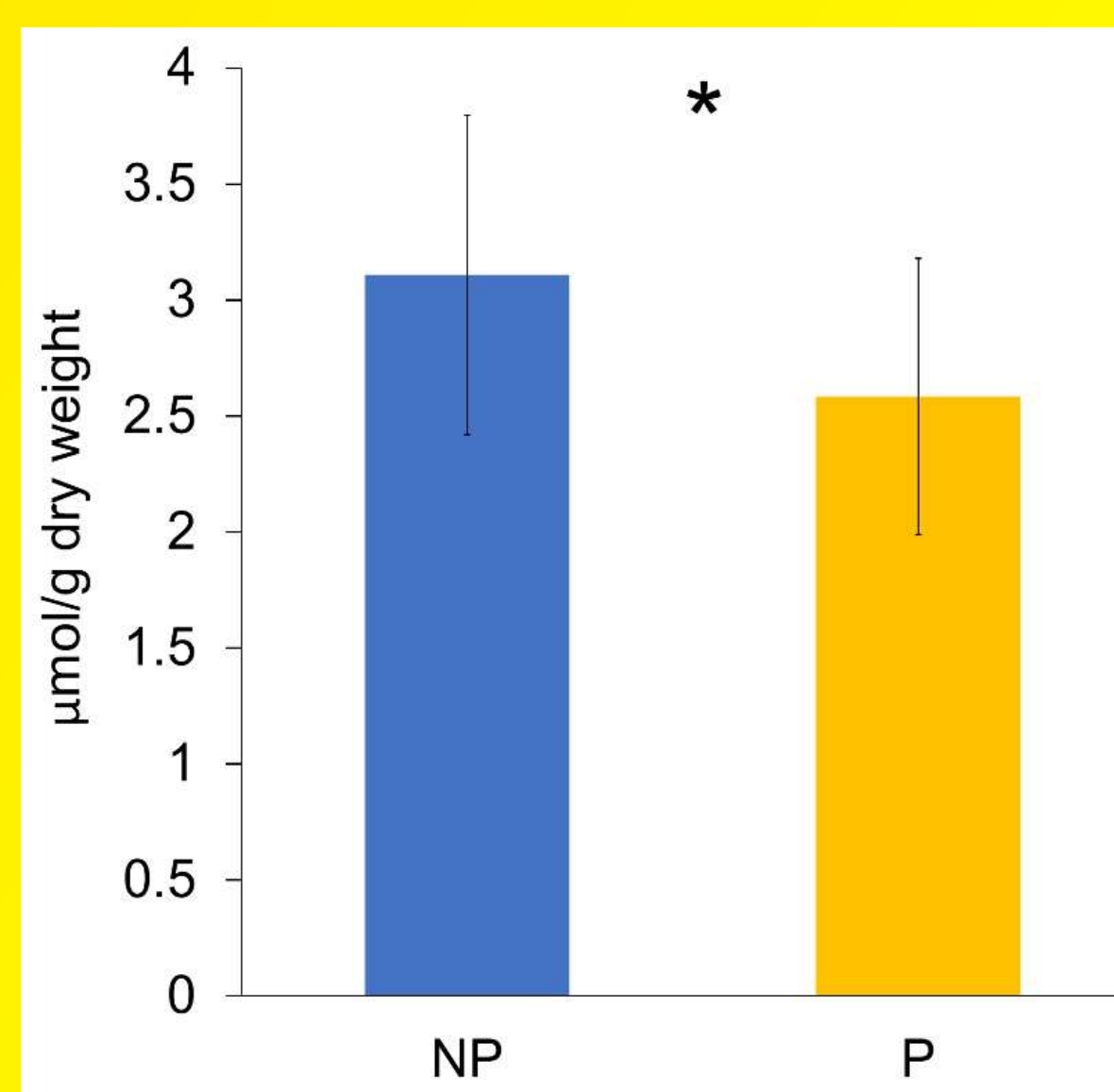
Polyphenolics



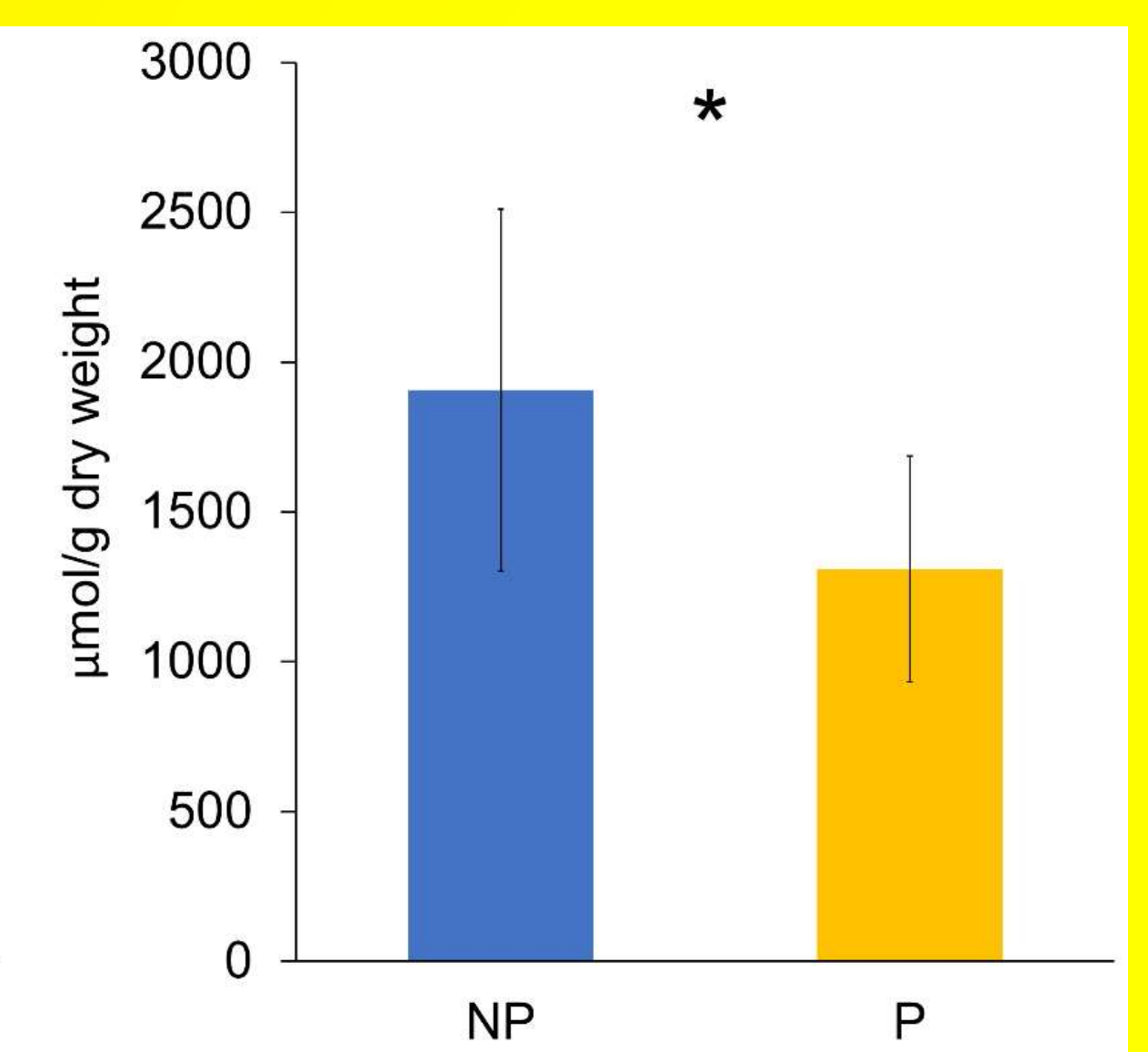
Ascorbic acid



FRAP



iRAC



Results showed decrease in all measured biochemical parameters (total chlorophylls and carotenoids, polyphenolics, ascorbic acid and antioxidant capacity (FRAP and iRAC assay) in dandelion plants growing on/near traffic locations (P) in comparison to less polluted locations such as parks and meadows (NP).

Conclusion: Observed results suggest suppression of metabolic processes and higher sensitivity to ecological stress in dandelion plants exposed to traffic zones. Results of this work will contribute to the understanding of physiological and biochemical responses of dandelion to environmental stress and its role as a bioindicator of environmental pollution in urban areas.