

10.1071/FP20324_AC

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Supplementary Material: *Functional Plant Biology*, 2021, 48(6), 597–610.

Supplementary Material

The impact of elevated ozone on growth, secondary metabolites, production of reactive oxygen species and antioxidant response in an anti-diabetic plant *Costus pictus*

Naushad Ansari^A, Durgesh S. Yadav^A, Madhoolika Agrawal^A and Shashi B. Agrawal^{A,B}

^ALaboratory of Air Pollution and Global Climate Change, Department of Botany, Institute of Science, Banaras Hindu University, Varanasi, 221005, India.

^BCorresponding author. Email: sbagrawal56@gmail.com

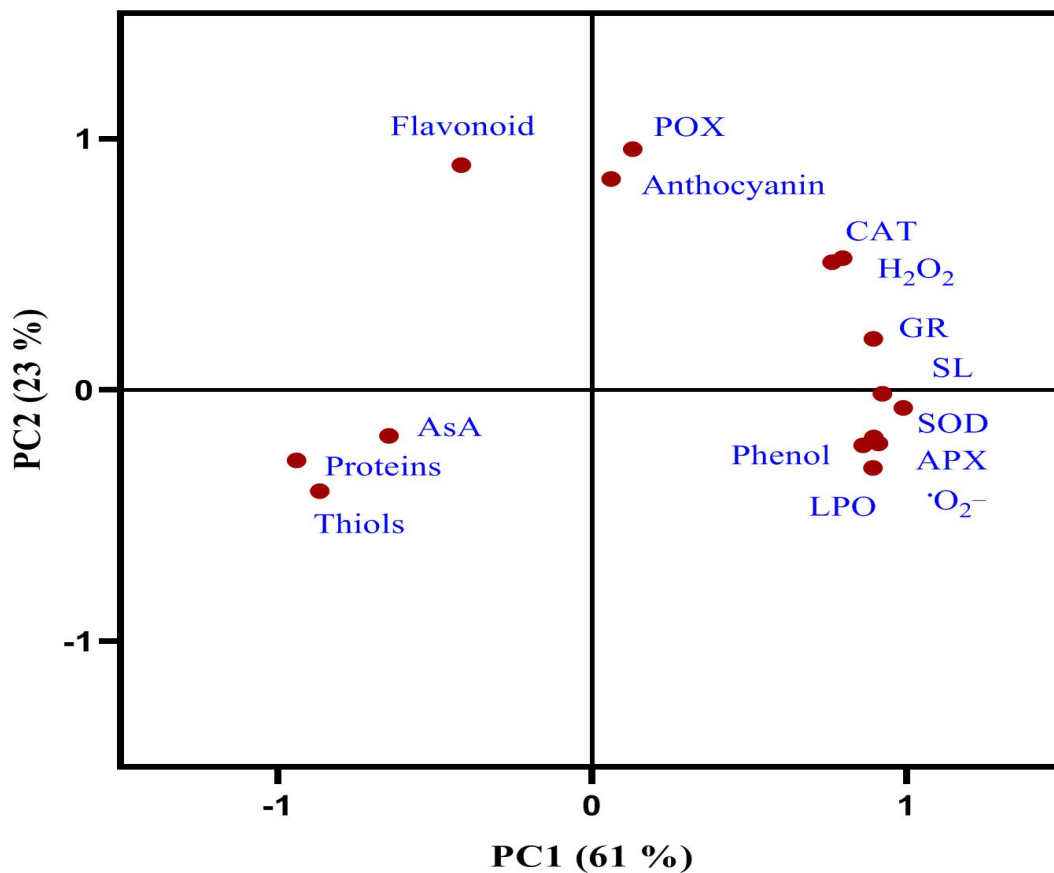


Fig. S1. Principal component analysis in biochemical parameters of *C. pictus*. Each dot symbol denotes the mean values for the PC scores of the three replicates of each parameter. POX: peroxidase; CAT: catalase; H₂O₂: hydrogen peroxidase; GR: glutathione reductase; SL: solute leakage; SOD: superoxide dismutase; APX: ascorbate peroxidase; LPO: lipid peroxidation; ·O₂⁻: superoxide radical; AsA: ascorbic acid.

Table S1. F ratios and levels of significance obtained from two-way ANOVA test to determine the effects of elevated O₃ treatments (T) and plant age (A) and their interactions on secondary metabolites in leaves and rhizomes of *Costus pictus*

Levels of significance are indicated: ns- non-significant, * - $P < 0.05$, ** - $P < 0.01$, *** - $P < 0.001$

Leaves parameters	A	T	A×T
Plant height (cm)	8.601 ***	715.207 ***	0.020 ^{ns}
Root length (cm)	5.564**	36.342***	0.012 ^{ns}
No. of leaves (plant ⁻¹)	9.047**	86.808	1.943 ^{ns}
No. of tillers (plant ⁻¹)	9.759**	47.494***	4.337*
Total biomass (g)	50.585***	560.017***	18.211***
Leaf area (cm ²)	59.358***	219.611***	8.666**
Leaves parameters	A	T	A×T
Alkaloids	423.20 ***	1196 ***	43.03***
Lignin	3642 ***	3299 ***	522.79 ***
Tannins	927.52***	1916***	572.45***
Saponins	2437 ***	3179***	52.79***
Phytosterols	7428 ***	891.01***	480.67 ***
Proteins	100.88 ***	121.69***	0.003 ^{ns}
Phenols	80.29***	80.29***	51.532***
Thiols	63.79***	351.315 ***	1.329 ^{ns}
Anthocyanins	33.18 ***	6.707 ^{ns}	3.824 ^{ns}
Ascorbic acid	10.612 **	620.84***	181.46***
Flavonoids	211.37***	444.07***	129.97***
Catalase	50.70***	24.30***	2.700 ^{ns}

Peroxidase	176.786 ***	0.006 ^{ns}	294.604***
GR	20.00**	15.02**	2.222 ^{ns}
SOD	182.511***	440.77***	51.532***
Solute leakage	137.11***	101.60***	79.42***
MDA	1.876 ^{ns}	101.60***	1.55 ^{ns}
H ₂ O ₂	56.14***	8.53**	0.145 ^{ns}
·O ₂ ⁻	64.65***	176.10***	65.85***
Rhizome parameters	A	T	A×T
Alkaloids	1117 ***	229.30 ***	43.02***
Lignin	3703***	2830 ***	76.01***
Tannins	1600 ***	4000***	197.38***
Saponins	3179 ***	2437***	814.10***
Phytosterols	3516***	468.81***	90.57***