

# **Responses of phyllosphere microbiome to ozone stress: abundance, community compositions and functions**

Jiayu Liu <sup>a,1,2</sup>, Manjiao Song <sup>a,2,3</sup>, Xinyuan Wei <sup>2</sup>, Huanzhen Zhang <sup>1</sup>, Zhihui Bai <sup>2,3,4,\*</sup>,  
Xuliang Zhuang <sup>2,3,5,\*</sup>

<sup>a</sup> These authors contribute equally to this paper.

<sup>1</sup> Beijing Key Laboratory of Water Resources and Environment Engineering, School of Water Resources and Environment, China University of Geosciences (Beijing), Beijing, 100083, China.

<sup>2</sup> Key Laboratory of Environmental Biotechnology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, China.

<sup>3</sup> Sino-Danish College, University of Chinese Academy of Sciences, Beijing, 100049, China.

<sup>4</sup> Xiongan Institute of Innovation, Xiongan New Area, 071000, China.

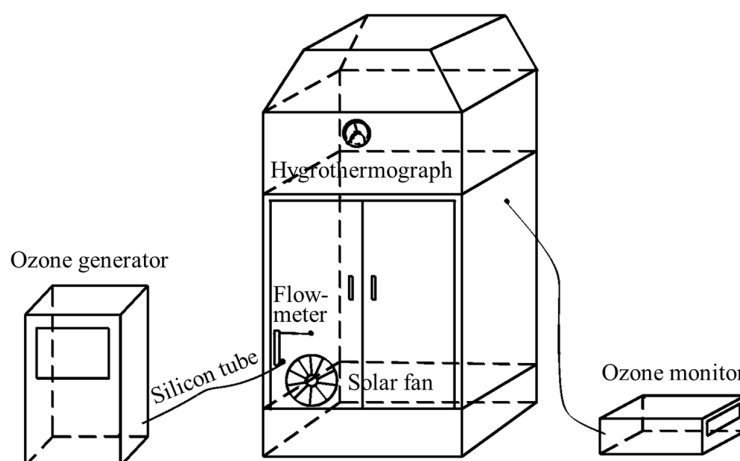
<sup>5</sup> Institute of Tibetan Plateau Research, Chinese Academy of Sciences, Beijing, 100101, China.

\*Corresponding authors.

E-mail addresses: zhbai@rcees.ac.cn (Z. Bai), xlzhuang@rcees.ac.cn (X. Zhuang)

**Table S1.** The properties of the tested plants in the ozone remediation and exposure experiments. D, H stand for the projected area of the canopy and the above-ground height, respectively.

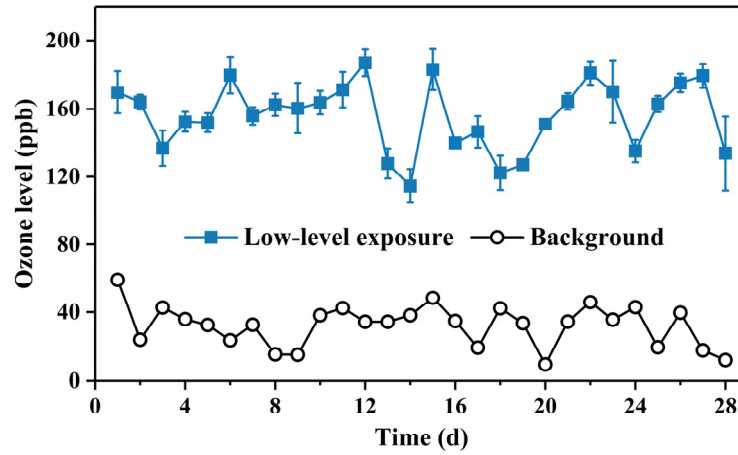
Species	Purpose	D (cm)	H (cm)
<i>Euonymus japonicus</i>	Phylloremediation	20~25	20~25
	Exposure	45~50	60~70



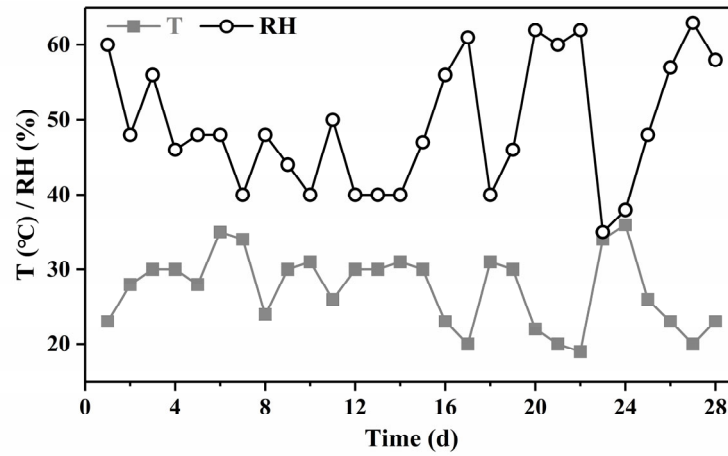
**Figure S1.** The schematic diagram of the experimental chamber

**Table S2** The specification of each component in the apparatus

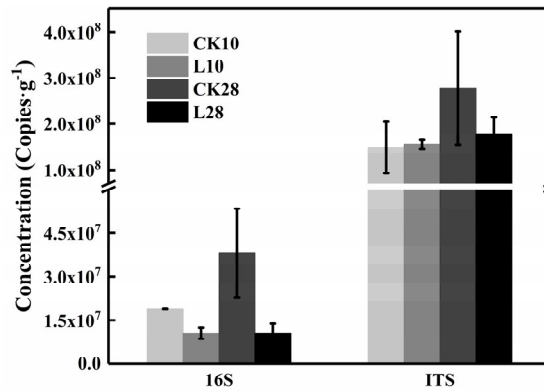
Components	Specification
Outer membrane	Teflon
Solar fan	6V, 3W
Hygrothermograph	Deli, China, T: 0~50 °C, RH: 0~100%
Flowmeter	LZB-3WB, 0.15-1.5 L·min <sup>-1</sup>
Portable ozone generator	KWNT-CYF2, BEIJING CONVENIENT ENVIROTECHCO.,LTD, China
Ozone monitor	Model 106-L, 2B Technologies, USA



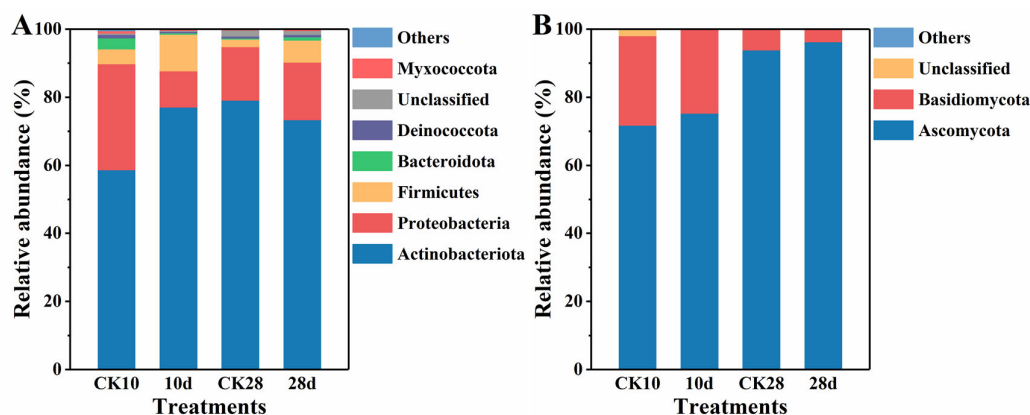
**Figure S2.** Ozone concentrations in chambers and the synchronous background level during the 28-d low-level exposure. Error bars represent standard deviation (n=3).



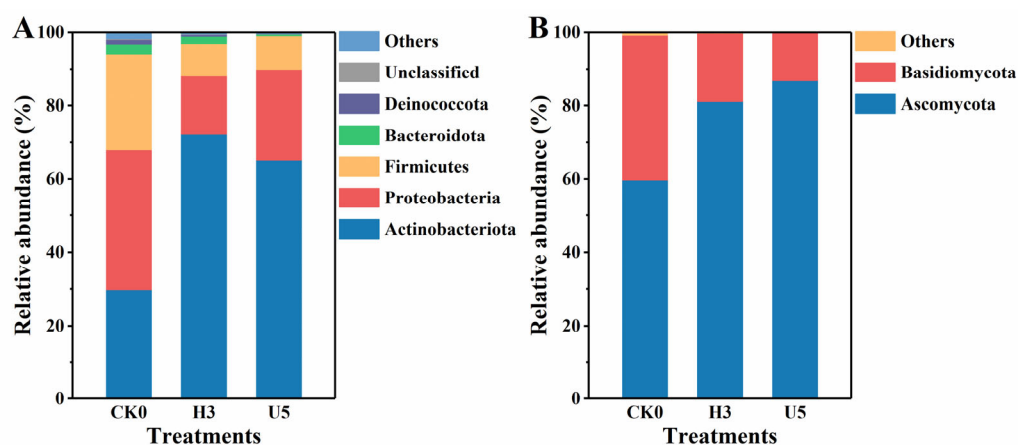
**Figure S3.** T (°C) and RH (%) in chambers during the 28-d low-level exposure



**Figure S4.** 16S and ITS concentrations in per gram leaf during the low-level ozone exposure. Error bars represent standard deviation (n=3).



**Figure S5.** Relative abundance changes of bacterial (A) and fungal (B) phyla in the phyllosphere during the low-level ozone exposure. Values were presented as the average (n=3).



**Figure S6.** Relative abundance changes of bacterial (A) and fungal (B) phyla in the phyllosphere during the (ultra) high-level ozone exposure. Values were presented as the average (n=3).