

Accepted Manuscript

Duckweed diversity decreases heavy metal toxicity by altering the metabolic function of associated microbial communities

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PII: S0045-6535(18)30603-9

DOI: 10.1016/j.chemosphere.2018.03.175

Reference: CHEM 21119

To appear in: *Chemosphere*

Received Date: 20 December 2017

Revised Date: 24 March 2018

Accepted Date: 26 March 2018

Please cite this article as: Zhao Zhao, Huijuan Shi, Cunqi Liu, Xianjiang Kang, Lingci Chen, Xiaofei Liang, Lei Jin, Duckweed diversity decreases heavy metal toxicity by altering the metabolic function of associated microbial communities, *Chemosphere* (2018), doi: 10.1016/j.chemosphere.2018.03.175

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1 **Duckweed diversity decreases heavy metal toxicity by altering the**
2 **metabolic function of associated microbial communities**

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14 **Abstract**

15 Mono-cultured and mix-cultured duckweed species were investigated
16 with respect to the function of their associated microbial communities in
17 heavy metal contaminated wastewater. Results show that the carbon
18 source utilization patterns of the *L. aequinoctialis*- and *S. polyrhiza*-
19 associated microbial communities were different. The relationships
20 between microbial activity, antioxidant enzyme activity (CAT, GSH, and
21 SOD) and growth was positive and significant. The microbial activity of
22 *L. aequinoctialis* and *S. polyrhiza* in mixture was higher than in

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