



Corrigendum: Characterization of the Interactive Effects of Labile and Recalcitrant Organic Matter on Microbial Growth and Metabolism

Lauren N. M. Quigley¹, Abigail Edwards¹, Andrew D. Steen² and Alison Buchan^{1*}

¹ Department of Microbiology, The University of Tennessee, Knoxville, Knoxville, TN, United States, ² Department of Earth and Planetary Sciences, The University of Tennessee, Knoxville, Knoxville, TN, United States

Keywords: interactive effects, terrestrially derived, dissolved organic matter, Roseobacter, species-specificity, community interactions

A Corrigendum on

Characterization of the Interactive Effects of Labile and Recalcitrant Organic Matter on Microbial Growth and Metabolism

by Quigley, L. N. M., Edwards, A., Steen, A. D., and Buchan, A. (2019). Front. Microbiol. 10:493. doi: 10.3389/fmicb.2019.00493

In the original article, there was an error. Incorrect units were listed for some components of our growth medium.

A correction has been made to **Materials and Methods**, subsection **Strains, Media, and Growth Conditions**, paragraph 1. The corrected paragraph appears below.

"Sagittula stellata sp. E-37, Citreicella sp. SE45, Phaeobacter sp. Y4I, Roseovarius nubinhibens ISM, Sulfitobacter sp. EE-36, and Sulfitobacter sp. NAS-14.1 were routinely grown on an aromatic basal medium (ABM) containing per liter 8.7 mM KCl, 8.7 mM CaCl₂, 43.5 mM MgSO₄, and 174 mM NaCl with 225 µM K₂HPO₄, 13.35 mM NH₄Cl, 71 mM Tris-HCl (pH 7.5), 68 µM Fe-EDTA, trace metals (7.8492 mM Nitroloacetic acid, 0.5325 mM MnSO4*H2O, 0.4203 mM CoCl2*6H2O, 0.3478 mM ZnSO4*7H2O, 0.0376 mM CuSO4, 0.1052 mM NiCl2*6H20, 1.1565 mM Na2SeO3, 0.4134 mM Na2MoO4*2H2O, 0.3259 mM Na2WO4*2H2O, 0.2463 mM Na2SiO3*9H2O) and trace vitamins (0.0020% vitamin H [Biotin)], 0.0020% folic acid, 0.0100% pyridoxine-HCl (B6), 0.0050% riboflavin (B2), 0.0050% thimaine (B1), 0.0050% nicotinc acid, 0.0050% pantothenic acid (B5), 0.0001% cyanocobalamin (B12), 0.0050% p-aminobenzoic acid). These strains were routinely passaged on ABM containing 10 mM sodium acetate. Four of these strains (E-37, SE45, Y4I, and EE-36) were isolated from Southeastern US coastal waters, while NAS-14.1 was isolated from North Atlantic off-shore waters and ISM from the Caribbean Sea (Buchan et al., 2000; Cude et al., 2012). The bacteria were routinely cultured at 30°C, shaking, in the dark. This temperature condition is nominally representative of Southeastern US salt marshes which are tidally influenced and where average water temperatures are close to 30°C from June through September (The Southeast Regional Climate Center, University of North Carolina, Chapel Hill, NC). Suwannee River natural organic matter (NOM), obtained from the International Humic Substance Society (IHSS, St. Paul, MN) was used as a representative t-DOM. This material is a discipline standard for natural organic matter (Her et al., 2003). Incubations occurred in the dark as the aromatic moieties in NOM are sensitive to photodegradation. NOM is provided in lyophilized form from IHSS and was suspended in Milli-Q water and 0.22 µm filter-sterilized prior to addition to the medium. NOM was held at a constant concentration of 2 mM-C for all experiments.

OPEN ACCESS

Edited and reviewed by: Jarone Pinhassi, Linnaeus University, Sweden

> *Correspondence: Alison Buchan abuchan@utk.edu

Specialty section:

This article was submitted to Aquatic Microbiology, a section of the journal Frontiers in Microbiology

Received: 19 March 2021 Accepted: 19 May 2021 Published: 12 July 2021

Citation:

Quigley LNM, Edwards A, Steen AD and Buchan A (2021) Corrigendum: Characterization of the Interactive Effects of Labile and Recalcitrant Organic Matter on Microbial Growth and Metabolism. Front. Microbiol. 12:682681. doi: 10.3389/fmicb.2021.682681 ¹³C NMR estimates of carbon distribution provided by IHSS show that Suwannee NOM comprised of roughly 25% aromatic residues."

REFERENCES

- Buchan, A., Collier, L. S., Neidle, E. L., and Moran, M. A. (2000). Key aromatic-ring-cleaving enzyme, protocatechuate 3,4-dioxygenase, in the ecologically important marine roseobacter lineage. *Appl. Environ. Microbiol.* 66, 4662–4672. doi: 10.1128/AEM.66.11.4662-4672. 2000
- Cude, W. N., Mooney, J., Tavanaei, A. A., Hadden, M. K., Frank, A. M., Gulvik, C. A., et al. (2012). Production of the antimicrobial secondary metabolite indigoidine contributes to competitive surface colonization by the marine roseobacter Phaeobacter sp. strain Y4I. *Appl. Environ. Microbiol.* 78, 4771–4780. doi: 10.1128/AEM.00297-12

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

Her, N., Amy, G., McKnight, D., Sohn, J., and Yoon, Y. (2003). Characterization of DOM as a function of MW by fluorescence EEM and HPLC-SEC using UVA, DOC, and fluorescence detection. *Water Res.* 37, 4295–4303. doi: 10.1016/S0043-1354(03)00317-8

Copyright © 2021 Quigley, Edwards, Steen and Buchan. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.