

CORRIGENDUM

Shangbin Xiao, Hong Yang, Defu Liu, Cheng Zhang, Dan Lei, Yuchun Wang, Feng Peng, Yingchen Li, Chenghao Wang, Xianglong Li, Gaochang Wu, Li Liu. 2014. Gas transfer velocities of methane and carbon dioxide in a subtropical shallow pond. *Tellus B* 2014, **66**, 23795, <http://dx.doi.org/10.3402/tellusb.v66.23795>

The following Corrigendum aims to rectify our original paper as strings of text from certain articles were quoted therein without giving full credit to the authors of those articles. In fact, we highly respect these authors and very much regret leaving out the references.

1. Page 2

‘Considerable efforts have been made in different systems in order to quantify k , which is the parameter in eq. (1) most prone to errors (Raymond and Cole, 2001) and primarily controlled by turbulent mixing on the water side of the air-water interface (Wanninkhof et al., 2009)’.

should be

‘Beaulieu et al. (2012) point out that considerable efforts have been spent in different systems on quantifying k , which is too prone to errors to be definitely determined in equation (1) (Raymond and Cole, 2001) and primarily controlled by turbulent mixing of the air-water interface (Wanninkhof et al., 2009)’.

2. Page 2

‘Both sheer stresses at the riverbed and wind at the water surface result in turbulence at the air-water interface in large rivers (Beaulieu et al., 2012).’

should be

‘Beaulieu et al. (2012) point out that both sheer stresses at the riverbed and wind at the water surface result in turbulence at the air-water interface in large rivers.’

3. Page 2

‘However, the large heterogeneity of aquatic systems raises questions about the appropriateness of using a single wind-based model to predict k in all aquatic systems (Vachon and Prairie, 2013).’

should be

‘However, Vachon and Prairie (2013) note that the large heterogeneity of aquatic systems raises questions about the appropriateness of using a single wind-based model to predict k in all aquatic systems.’

4. Page 2

‘The existence of a unique and universal wind- k relationship for all aquatic systems is highly questionable given that for any wind speed, its effect on gas exchange is unlikely to be the same in the ocean and, for example, in a small kettle lake.’

should be

‘There is no universal wind- k function which can describe gas exchange in all aquatic systems (Vachon et al., 2010)’.

5. Page 3

‘where C_{10} equals the surface drag coefficient for wind at 10 m (1.3×10^{-3}) (Stauffer, 1980); k_c equals the von Karman constant (0.41); and z is the height of wind speed measurement (meter) above the water surface’.

should be

‘where C_{10} equals the surface drag coefficient for wind at 10 m (1.3×10^{-3}) (Stauffer, 1980; Guérin et al., 2007); k_c equals the von Karman constant (0.41); and z is the height of wind speed measurement (meter) above the water surface (Guérin et al., 2007)’.

6. Page 4

‘To compare the exchange coefficient for different gases and at different water temperatures, the gas transfer velocity was normalized to a Schmidt number of 600 ($Sc = 600$, for CO_2 at $20^\circ C$) with the following equation (Jähne et al., 1987)’.

should be

‘To compare the exchange coefficient for different gases and at different water temperatures, the gas transfer velocity was normalized to a Schmidt number of 600 ($Sc = 600$, for CO_2 at $20^\circ C$) with the following equation given by Jähne et al. (1987) and Guérin et al. (2007)’.

7. Page 9

‘Measured gas flux was up to five times higher when heat was being lost from the surface layer of an arctic lake and wind speeds were low than when wind speeds were 5 m s^{-1} (Macintyre et al., 2001)’.

should be

‘Macintyre et al. (2001) reported that measured gas flux was up to five times higher when heat was being lost from the surface layer of an arctic lake and wind speeds were low than when wind speeds were 5 m s^{-1} ’.

8. Page 10

‘On clear days, there is sufficient light for high rates of photosynthesis, and dissolved oxygen concentrations normally are high. On cloudy day, photosynthesis is limited by insufficient light, and dissolved oxygen concentrations often are low (Table 1). The probability of dissolved oxygen depletion is much greater during nights following cloudy days than during nights following clear days (Boyd and Tucker, 1998)’.

should be

‘On clear days, there is sufficient light for high rates of photosynthesis, and dissolved oxygen concentrations normally are high; on cloudy day, photosynthesis is limited by insufficient light, and dissolved oxygen concentrations often are low (Table 1) (Boyd, 2000). The probability of dissolved oxygen depletion is much greater during nights following cloudy days than during nights following clear days (Boyd and Tucker, 1998; Boyd, 2000)’.

References

- Beaulieu, J. J., Shuster, W. D. and Rebolz, J. A. 2012. Controls on gas transfer velocities in a large river. *J. Geophys. Res. (Atmos.)* **117**, G02007. DOI: 10.1029/2011JG001794.
- Boyd, C. E. 2000. *Water Quality: An Introduction*. Kluwer Academic Publishers, Boston, MA.
- Boyd, C. E. and Tucker, C. S. 1998. *Pond Aquaculture Water Quality Management*. Kluwer Academic Publishers, Boston, MA.
- Guérin, F., Abril, G., Serça, D., Delon, C., Richard, S. and co-authors. 2007. Gas transfer velocities of CO_2 and CH_4 in a tropical reservoir and its river downstream. *J. Mar. Syst.* **66**, 161–172.
- Jähne, B., Münnich, K. O., Börsinger, R., Dutzi, A., Huber, W. and co-authors. 1987. On the parameters influencing air-water gas exchange. *J. Geophys. Res. Oceans*. **92**, 1937–1949.

- Macintyre, S., Eugster, W. and Kling, G. W. 2001. The Critical Importance of Buoyancy Flux for Gas Flux Across the Air-Water Interface. In: *Gas Transfer at Water Surfaces* (eds. M. Donelan, W. Drennan, E. Saltzman, and R. Wanninkhof). American Geophysical Union, Washington, pp. 135–139.
- Raymond, P. A. and Cole, J. J. 2001. Gas exchange in rivers and estuaries: Choosing a gas transfer velocity. *Estuaries*. **24**, 312–317.
- Stauffer, R. E. 1980. Windpower time series above a temperate lake. *Limnol. Oceanogr.* **25**, 513–528.
- Vachon, D. and Prairie, Y. T. 2013. The ecosystem size and shape dependence of gas transfer velocity versus wind speed relationships in lakes. *Can. J. Fisheries Aquatic Sci.* **70**, 1757–1764.
- Vachon, D., Prairie, Y. T. and Cole, J. J. 2010. The relationship between near-surface turbulence and gas transfer velocity in freshwater systems and its implications for floating chamber measurements of gas exchange. *Limnol. Oceanogr.* **55**, 1723–1732.
- Wanninkhof, R., Asher, W. E., Ho, D. T., Sweeney, C. and McGillis, W. R. 2009. Advances in quantifying air-sea gas exchange and environmental forcing. *Ann. Rev. Mar. Sci.* **1**, 213–244.