Corrigendum to Biogeosciences, 15, 597–612, 2018
https://doi.org/10.5194/bg-15-597-2018-corrigendum

Biogeosciences Open Access EGU

Corrigendum to "The role of soil pH on soil carbonic anhydrase activity" published in Biogeosciences, 15, 597–612, 2018

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Published: 9 January 2019

References to Eqs. (6)–(14) in the main text have been mislabeled.

- On p. 602, the last sentence of the paragraph after Eq. (8) should read: "The right-hand side of Eq. (7) was then used to estimate $\widetilde{V}_{\mathrm{inv}}$ and V_{inv} was solved iteratively to satisfy the equation $\widetilde{V}_{\mathrm{inv}} = V_{\mathrm{inv}}\tanh(V_{\mathrm{inv}} z_{\max}/D_{\mathrm{iso}})$, from which z_1 and then $\widetilde{\varepsilon}_{\mathrm{D}}$ and δ_{eq} could be deduced (using Eq. 6 replacing ε_{D} by $\widetilde{\varepsilon}_{\mathrm{D}}$)."

- On p. 603, the first sentence of the caption of Fig. 4 should read: "The CO_2-H_2O isotopic exchange rate (k_{iso}) and isotopic composition of soil water equilibrated with CO_2 (δ_{sw}) retrieved using the two-steady-state approach described in the main text (Eqs. 6 and 7), for one single microcosm (LeBray1 with an α-CA addition of 24 mg L^{-1})."

- On p. 604, the last sentence of the caption of Fig. 5 should read: "According to Eq. (12), the addition of exogenous CA shifts the gas exchange results ($\delta_{\mathrm{sw\text{-}eq}}$) to shallower depths ($z_{\mathrm{eq}}$)."

- On p. 604, the first sentence of Sect. 3.1 should read: "From each sequence and steady state, it was possible to compute a relationship between the soil CO_2-H_2O isotopic exchange rate, k_{iso} and the isotope composition of soil water in equilibration with soil CO_2, $\delta_{\mathrm{sw\text{-}eq}}$ by combining Eqs. (8) and (9)."

- On p. 605, the sentence before Eq. (13) should read: "This influence of soil pH on the enhancement of k_{h} by exogenous CA was anticipated as the $k_{\mathrm{cat}}/K_{\mathrm{M}}$ (appearing in Eq. 11) is known to be strongly reduced in acidic pH with a pH response of the form (Rowlett et al., 1991)".

- On p. 605, the sentence before Eq. (14) should read "To test whether our results only reflected the pH response of the exogenous α-CA, we rewrote Eq. (11) as follows:"

- On p. 605, the end of Sect. 3.2 should read: "The theoretical pH response of Δk_{h} at the two CA concentration values used in this study (24 and 80 mg L^{-1}) is shown in Fig. 6b, using Eq. (13) with $pK_{\mathrm{a}} = 7.1 \pm 0.5$ and $(k_{\mathrm{cat}}/K_{\mathrm{M}})_{\max} = 30 \pm 7\ \mathrm{s}^{-1}\ \mu\mathrm{M}^{-1}$ and a molar mass of 30 kg mol^{-1}, typical values for bovine α-CA (Lindskog and Coleman, 1973; Rowlett et al., 1991; Uchikawa and Zeebe, 2012). For LeBray1, Folleville and Toulouse, our results were in very close agreement with Eq. (13) for the two different CA concentrations we tested, but this was not the case for the other soils. For LeBray2 and Pierrelaye, the observed enhanced hydration rates were smaller than the ones predicted by Eq. (13), while for Planguenoual, they were higher."

- On p. 605, the second sentence of Sect. 4.1 should read: "Our data from three of the soils (LeBray1, Folleville and Toulouse) agreed remarkably well with the pH response described by Eq. (13) and parameterised with $k_{\mathrm{cat}}/K_{\mathrm{M}}$ and pK_{a} values previously estimated from independent studies on the same α-CA as the one used here (Uchikawa and Zeebe, 2012) or other bovine CA (Rowlett et al., 1991)."

- On p. 606, the last sentence of the second last paragraph of Sect. 4.1 should read: "Overall the discrepan-

cies between Δk_h estimates and the theoretical predictions (Eq. 13) were only marginally reduced, even after non-steadiness and soil water inhomogeneity had been accounted for."

– On p. 606, the second sentence of the last paragraph of Sect. 4.1 should read: "We tested this hypothesis by exploring how the ratio between Δk_h predicted by Eq. (13) ($\Delta k_{h,theory}$) and the observed Δk_h varied with total phosphate concentration (P_i), as well as with the concentrations in mono- and di-hydrogen phosphate ions (HPO_4^{2-} and $H_2PO_4^-$ respectively)."

– On p. 609, the title of Appendix A should read: "Derivation of Eq. (8) in the main text".