

CORRECTION published: 28 September 2018 doi: 10.3389/fpls.2018.01459



Corrigendum: Low-Light Dependence of the Magnetic Field Effect on Cryptochromes: Possible Relevance to Plant Ecology

Jacques Vanderstraeten^{1*}, Philippe Gailly² and E. Pascal Malkemper^{3,4}

¹ Environmental and Work Health Research Center, School of Public Health, Université Libre de Bruxelles, Brussels, Belgium, ² Institute of Neuroscience, Université Catholique de Louvain, Brussels, Belgium, ³ Department of General Zoology, Faculty of Biology, University of Duisburg-Essen, Essen, Germany, ⁴ Department of Wildlife Management, Faculty of Forestry and Wood Sciences, Czech University of Life Sciences, Praha, Czechia

Keywords: Arabidopsis thaliana, clock proteins, geomagnetic field, light intensity, magnetoreception, plant growth, static magnetic fields

A Corrigendum on

OPEN ACCESS

Edited and reviewed by:

Aude Tixier, University of California, Davis, United States

*Correspondence:

Jacques Vanderstraeten vdstraeten.j@skynet.be

Specialty section:

This article was submitted to Plant Biophysics and Modeling, a section of the journal Frontiers in Plant Science

Received: 19 July 2018 Accepted: 12 September 2018 Published: 28 September 2018

Citation:

Vanderstraeten J, Gailly P and Malkemper EP (2018) Corrigendum: Low-Light Dependence of the Magnetic Field Effect on Cryptochromes: Possible Relevance to Plant Ecology. Front. Plant Sci. 9:1459. doi: 10.3389/fpls.2018.01459

Low-Light Dependence of the Magnetic Field Effect on Cryptochromes: Possible Relevance to Plant Ecology

by Vanderstraeten, J., Gailly, P., and Malkemper, E. P. (2018). Front. Plant Sci. 9:121. doi: 10.3389/fpls.2018.00121

In the original article, there was an error. The definition of f (x) (Equation 6) requires additional clarification, particularly the approach used to calculate Δ [Cry^{*}]/ Δk_I .

A correction has been made to the section LIGHT INTENSITY-DEPENDENCE OF THE MF EFFECT ON PLANTS, subsections I-Dependence of the MF Effect on Cry, and I-Dependence of the MF Effect on Cry Signaling State, Paragraph 3.

"... where f(x) gives the solution for $\Delta[B]_{eq}/\Delta k_a$ ($\Delta[Cry^*]/\Delta k_1$) according to log (k_a/k_b) for the case where Δk_a (Δk_1) = 20%, that is within the range of values possibly caused by the GMF, i.e., 1–50% (Maeda et al., 2012; Kattnig et al., 2016). Note f(x) remains similar within that range. For $\Delta k_a = 1$ or 50%, it is, respectively, slightly shifted to the right (centered at x ~0) or to the left (centered at x = -0.5), and its slope remains similar. $\Delta[Cry^*]/\Delta k_1$ is then calculated for different I and T values, with $x = \log (k_1/k_2 + k_{1b})$ at each respective values."

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.

ACKNOWLEDGMENTS

We are very grateful to Prof. Peter Hore of the University of Oxford, for having highlighted the lack of accuracy of the definition of f (x).

1

REFERENCES

- Kattnig, D. R., Evans, E. W., Déjean, V., Dodson, C. A., Wallace, M. I., Mackenzie, S. R., et al. (2016). Chemical amplification of magnetic field effects relevant to avian magnetoreception. *Nat. Chem.* 8, 384–391. doi: 10.1038/nchem .2447
- Maeda, K., Robinson, A. J., Henbest, K. B., Hogben, H. J., Biskup, T., Ahmad, M., et al. (2012). Magnetically sensitive light-induced reactions in cryptochrome are consistent with its proposed role as a magnetoreceptor. *Proc. Natl. Acad. Sci. U.S.A.* 109, 4774–4779. doi: 10.1073/pnas.11189 59109

Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright © 2018 Vanderstraeten, Gailly and Malkemper. 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.