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Spatio-temporal dynamics of chlorophylls and chlorophyll-derived catabolites in Lake Biwa

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Chlorophylls in aquatic samples have been regarded as important biomarker for phototrophic microbes such as cyanobacteria and algae. Chlorophyll *a* (Chl-*a*) in particular has been treated as a proxy for photosynthetic production in oceans and lakes. Recently, Kashiyama, Yokoyama et al. (2012) [1] reported that 13^2,17^3-cyclopheophorbide *a* enol (cPPB-*a*E), a pigment derived from Chl-*a*, occurs ubiquitously from most of aquatic environments. cPPB-*a*E comprises 7-16% of total Chl-*a* derivatives in euphotic water column and 51% in the surface sediment at the center of Lake Biwa. We herein report monthly changes in pigment concentrations of vertical water column profile to discuss on year-around variations in activities of phototrophic and phycophagic microbes in Lake Biwa.

References
[1] Kashiyama, Y.; Yokoyama, A.; Kinoshita, Y.; Shoji, S. et al. Proc. Natl. Acad. Sci. USA 2012. 109, 17328.

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