Species composition of *Skeletonema* in the water column and the sediment of the tidal zone of the Chikugo River and the Ariake Sea

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We investigated species composition of *Skeletonema* in the water column and the sediment of the tidal zone of the Chikugo River and the Ariake Sea. Water samples were taken seven times in 2015 and 2016. And, sediment samples were also taken in 2015. And species were identified with PCR-based analysis. In the case of the sediment sample, we cultured sediment samples, and isolated 10 *Skeletonema* colonies for each sample. From the sediment sample, we also estimated viable *Skeletonema* using MPN method.

In April 2015, resting cells of this genus was 33,000 MPN g^{-1}, and *Skeletonema potamos and S. costatum* were obtained in the tidal zone of the Chikugo River. In August, sediments were eroded by 20 cm after the heavy rain. Resting cells reduced to 1,100 MPN g^{-1}. Both *S. potamos and S. costatum* were disappeared from the sediment, indicating that resting cells of these two species transported to the Ariake Sea. In the September, resting cells increased to 49,000 MPN g^{-1}, and *S. potamos*, *S. costatum*, and *S. marinoi-dohrnii* complex germinated from the sediment. In the water samples, *S. potamos* was detected in all samples derived from tidal zone, while *S. marinoi-dohrnii* complex was detected in all samples of the Ariake Sea.
The present study revealed that *Skeletonema potamos* dominated in the tidal zone of the Chikugo River, while *S. marinoi-dohrnii* complex mainly distributed in the Ariake Sea. As *S. potamos* and *S. costatum* were detected in the sediment samples obtained before- and after rainy season, these two species are possible causatives after heavy rain in the Ariake Sea.

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