Growth of Hydrobryum puncticulatum (Yakushimakawagoromo) may be blocked by the increase of Melosira varians in Isso River

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Traditional kelp (Yakushimakawagoromo), the national monument and endangered species are making their habitat only in Isso river of Yakushima. For the first time in our observation, the bloom of Melosira varians which is periphyton of diatom was observed to be covered over the H.puncticulatum from 2011. This impact for the H.puncticulatum is a serious concern. The purpose of this study is to clarify the cause of bloom of M.varians. We examined the annual variability of dissolved nutrient concentration which was most accessible to M.varians. As a result, there was no increase in concentration of NO3-N, SiO2-Si from 2009 to 2013. In addition, PO4-P was much lower concentration(0.003±0.001 mg/l). Therefore, we assumed that there was no relationship between the bloom of M.varians and dissolved nutrient concentration in Isso river. Meanwhile, the floating mud which was deposited in the bottom of the river has been continued during dry-spell. Tachibana et al (1986) reported that an algae can intake the suspended nutrient same as dissolved nutrient. It suggests that the M.varians and H.puncticulatum can take suspended nutrient.

Keywords: Hydrobryum puncticulatum, periphyton, Yakushima, nutrient