

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

KITABUCHI, Hiroyuki^{1*} ; NAGAFUCHI, Osamu¹ ; NAKAZAWA, Koyomi¹ ; YOKOTA, Kuriko² ; TETUKA, Kenshi³ ; AYUKAWA, Kazuyasu⁴ ; TANABE, Masahiro⁵

¹The University of Shiga Prefecture, ²Toyohashi University of Technology, ³Yakutane-goyou Research Group, ⁴Environmental System Co., Ltd, ⁵Nikkaki Bios Co., Ltd

Hydrobryum puncticulatum (*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