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Occurrence patterns of the gametophyte of *Thorea okadae* (Rhodophyta) in the Yasumuro River, Kamigori, Hyogo Prefecture, Japan, with special reference to variations in river-water discharge

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Abstract

Thorea okadae, a freshwater red alga (Rhodophyta), was found in the Yasumuro River, Kamigori, Hyogo Prefecture, on January, 2004. Although this species was initially found in 1991, it had not been encountered in this river from 1995 to 2003. It occurred attached to submerged substrata at water depths ranging from 20 to 100 cm and at a surface water velocity ranging from 14 to 84 cm s^{-1}. Occurrence patterns were investigated for this species with special reference to variations in water discharge. It is suggested that the flood discharge exhibiting its greatest daily mean value in July and/or August (summer) along with the subsequent low discharge during the growth period (autumn) may result in abundant

gametophytes of T. okadae occurring from autumn to the following spring. The sporophyte (*Chantransia* stage) of *T. okadae* was also found attached to submerged stones at the lower part of the study area.

Key Words: flood discharge, freshwater red alga, gametophyte, *Thorea okadae*, Yasumuro River

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