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福島 博・小林艶子・寺尾公子：河川付着藻のザプロビ指数と水温との関係

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Abstract

Samples of attached algae on the stone were collected several times from spring to summer or to autumn in four rivers of Japan and correlation between saprobic index and water temperature is surveyed. The values of the index vary in parallel with water temperature when the sampling is carried out after an interval of one month or more. While the interval is as short as one week, the lag is recognized between water temperature and saprobic index because it takes several days for algae to adapt to the change of water temperature. Its maximum time is considered to be one month.

Positive correlation is found between water temperature and saprobic index in each river. This may be related to increase of decomposed organic matters and consequential decrease of dissolved oxygen, induced by high bacterial activity in higher water temperature. In addition, intolerant species to the water pollution has behaved mostly as cold-water species. Consequently, saprobic index in colder water temperature represent the water quality as clearer one than that in high water temperature.

Key index words

attached river algae, saprobic index, water temperature, water quality.