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茜谷和宏・渡辺剛・高野祥平・片野登：堆積物表生性珪藻群落に基づく水質指標の適用可能性－豊川（秋田県）の事例による検討

Kazuhiro Akaneya, Tsuyoshi Watanabe, Shohei Takano and Noboru Katano : Are water quality indices based on epipellic diatoms applicable ? -A case study of Toyokawa River, Akita, Japan

#### Abstract

Three diatom indices, Diatom Assemblage Index to organic water pollution (DAIpo), the water quality evaluation of Japanese-type River (WQEJR), and the trophic diatom index (TDI), were calculated based on epipellic diatom assemblages to test their applicability. The dominant diatom taxon was *Navicula gregaria* at three out of the five sampling sites. At the other two sites, *Nitzschia inconspicua* and *Nitzschia dissipata* var. *media* were the dominant species, respectively. Based on epipellic diatoms, the three diatom indices showed almost the same correspondences to the water quality as those based on epilithic diatoms. Correlations between the indices and the water quality were, however, not as expected from the nature of the indices. For instance, higher values of TDI at sites with low phosphorus concentrations were associated with the dominance of *N. gregaria*, which usually indicates high phosphorus concentrations on stones.

Key index words: correlation analysis, diatom indices (index), epipelon, environmental parameter, water quality