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Reexamination and updating of diatom species for paleoenvironmental reconstructions

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### **Abstract**

This paper reviewed diatom-based environmental reconstructions in coastal areas and upgraded so-called “environmental indicators.” After the definition of diatom species as environmental indicators by Kosugi (1988), many papers have referred to them when reconstructing paleo-environments by fossil diatom assemblages. However, in contrast, no one has upgraded them in the subsequent decades. Here we reorganized the environmental indicators following the recent flora work around the Japanese coast. The environmental indicators are upgraded as follows: common brackish species and “brackish water algae or plants (C2)” were removed from the environmental indicators. Eight taxa in “open sea (A)”, five taxa in “inner bay (B)”, two taxa in “marine water algae or plants (C1)”, four taxa in “marine water sand flat (D1)”, eight taxa in “marine water mud flat (E1), one taxon in “brackish water mud flat (E2)”, nine taxa in “lake (M)” and fourteen taxa in “high moor (P)” were added to the new list of environmental indicators.

**Key index words:** environmental indicators, halobion system, ecological code, reconstruction of paleoenvironmental changes