

Diatom 27: 75-78 (和文)

渡辺 剛・上田晶子・赤星雄大・片野 登：秋田県の珪藻 4—小坂川の重金属精錬所排水が流入する地点の珪藻と水質

Tsuyoshi Watanabe, Akiko Ueda, Yudai Akaboshi and Noboru Katano: Diatoms in Akita Prefecture, northern Japan, part 4- Diatoms and water quality in the Kosaka River, and high concentrations of heavy metals

Abstract

Diatom assemblages and water quality were investigated at a site in the Kosaka River into which drainage flows from a non-ferrous metal refinery. At the site electrical conductivity was 1,529 $\mu\text{S}/\text{cm}$ and the concentrations of inorganic nitrogen, copper, and zinc were 5.11 mg/L, 14 $\mu\text{g}/\text{L}$, and 130 $\mu\text{g}/\text{L}$, respectively. Only five diatom taxa were recorded; dominant and subdominant species were *Achnanthydium minutissimum* (88%) and *Cyclostephanos fritzii* (11%), respectively. *A. minutissimum* has a special copper-resistance mechanism and is an indicator species of heavy metal-polluted rivers, while the heavy metal tolerance of the other four taxa has never been reported.

Key index words: Akita Prefecture, *Achnanthydium minutissimum*, copper, heavy metals, indicator species, pollution