Diatom flora and some environmental conditions of their habitat were studied at a salt marsh in Vladimirovo, Sakhalin, Russian Federation. The sampling point was covered by *Phragmites communis*, *Carex* spp. and some beach or wetland species of spermatophytes (e. g., *Potentilla egedei v. groenlandica*, *Lathyrus palustris v. pilosus*). The depth of water was ca. 15 cm and salinity was 1.2% (pH=7.2). A total of 48 species were collected, which were mainly benthic diatoms. Although many species occurred were brackish forms (e. g., *Rhopalodia brevissonii*, some species of *Tryblionella*), freshwater (e. g., *Amphora veneta*) or marine (e. g., *Navicula crucicula*) forms were also observed. The salinity of the water may change according to the tide level. Diatom flora of this salt marsh was unique. The species composition of diatom assemblage was compared with those found in habitats supporting spermatophytes (i. e., alder swamp, sedge fen, reed fen, sphagnum bog) within the Kushiro mire, which is a typical northern wetland on the Pacific coast of Hokkaido, Japan. The proportions of diatom taxa common to this marsh and Kushiro mire to the all taxa occurred in this marsh were generally low (2.1-12.5%).

Key index words
diatom flora, Sakhalin, salt marsh ecosystem.