Abstract: Seasonal changes in the numbers of sulphate-reducing bacteria in water, soil, the surface of sedge (*Carex acutiformis* Ehrb.) immersed in water and roots (dead and live) were studied. The study on one of larger wetland near Olştyn (Masurian Lake District) was carried out in two annual cycles. Sulphate-reducing bacteria in the studied ecosystems occurred sporadically and generally in inappreciable count. Their count did not exceed 20 cells in 1 cm$^3$ of water; in the soil and in different parts of sedge the number of bacteria ranged from several to over dozen thousands cells in 1 g of dry weight. In the first year of studies these bacteria were the most numerous in June, July and during first days of December, but in the second – in April (in soil and sedge immersed in water), in August (in soil and dead and live roots), in November (in water, soil, sedge immersed in water and dead roots) and exceptionally in other months.