

## Water Quality and Microbiological Contamination of Tabacarie Lake, Constanta City, Romania

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**Abstract.** *Urban lakes play a vital role in the sustainable development of urbanized areas. Tabacarie lake is an urban lake situated at the northern limit of the Constanta city, where anthropic impacts had affected the water quality and the microbial communities. The purpose of your research was to study the water quality and the bacterial contamination of Tabacarie lake, taking into account that the water bacterial abundance in the urban lakes is not well understood. So, we tried to identify possible sources of nutrients and bacteria in the lake. Our results showed that a possible source of nutrients and bacterial contamination is the water discharge from the Micro-Reservation channel (Natural Sciences Museum Complex) that communicates with Tabacarie lake.*

**Keywords:** Tabacarie lake, nitrates, phosphates, bacterial contamination

**DOI** <https://doi.org/10.56082/annalsarscibio.2023.1.57>

### 1. Introduction

Urban lakes play a vital role in the sustainable development of urbanized areas. Tabacarie lake is an urban lake situated at the northern limit of the Constanta city, formed by the damming of a river valley; genetically, the lake is a fluvial-maritime creek [3].

Tabacarie lake together with Siutghiol lake, form a lake complex included in Natura 2000 protected areas, as ROSPA0057 Siutghiol Lake. Relatively isolated from natural sources (ground water is insufficient to balance losses), Tabacarie lake depends upon the influx of water from Siutghiol lake. Surface water flows southward from Siutghiol lake by a small channel into Tabacarie lake and then discharges through an outlet into the Black Sea [7].