INFORMATION

- About the Conference
- Call for papers
- Accommodation
- Major deadlines
- Fees
- Organizers
- Committees
- Sponsors
- Exhibition
- Photo Gallery
- Contact

FIRST STEP

- Register

FOR REGISTERED PARTICIPANTS

- Sign In
- Account Overview
- Submit Abstract
- Fee payment
- Financial support
- Request an invitation
- View My Abstracts
- Change Account Info

PROGRAM

- List of Participants
- Abstracts and Authors
- Conference program

PREVIOUS EDITIONS

- CEECHE 2008

Abstract Details

Abstract Title

OCCURRENCE AND ANTIBIOTIC RESISTANCE PROFILES OF GRAM NEGATIVE STRAINS ISOLATED FROM THE DANUBE DELTA ECOSYSTEM

Abstract Text

Nowadays, antibiotic resistant bacteria are becoming more commonly found in aquatic ecosystems. Taking into account the great ecological importance of Danube Delta, there is a stringent need of a careful surveillance and monitoring of pollution problems, especially in the surface water. The main goal of the present paper was to perform microbiological investigations to monitor the occurrence of antibiotic resistant bacterial strains in aquatic ecosystem from the Danube Delta. The experimental study was performed in 2013 on St. Gheorghe Branch, were some areas are used as raw surface water for drinking. The surface water and sediment samples were monthly collected from 11 control sections with anthropogenic potential risk that could influence the quality of the aquatic ecosystem. The samples were quantitatively assessed for the microbiological contamination level and the antibiotic resistance phenotypic profiles of coliform bacteria were established. The membrane filtration method was used to perform the bacteriological analysis of surface water and multiple tube technique for the sediment microbiological analysis. To obtain isolated colonies, nutritive agar was used and the antibiotic resistance was specifically tested on Muller Hinton medium by using the disk diffusion method and CLSI recommendations. The bacterial population's analysis revealed that the density of Gram negative bacteria in sediment samples was superior to that found for the same group in the surface water samples. In our study, bacterial strains resistant to commonly used antibiotics in clinical settings have been identified. The isolated strains exhibited high rates of ?-lactam-resistance, especially to ampicillin and amoxicillin plus clavulanic acid. During the monitoring period, for several consecutive months, similar resistance phenotypes isolated from the same control sections was observed.

Author(s)

Catrangiu, Alina
1National Research and Development Institute for Industrial Ecology - ECOIND, 71-73 Drumul Podu Dambovitei Street, 060652 Bucharest, district 6, Romania, 2University of Bucharest, Faculty of Geology and Geophysics, Splaiul Independentei Street, Bucharest, Romania

Presentation

Contribution proposed for: oral presentation

- CEECHE 2006