شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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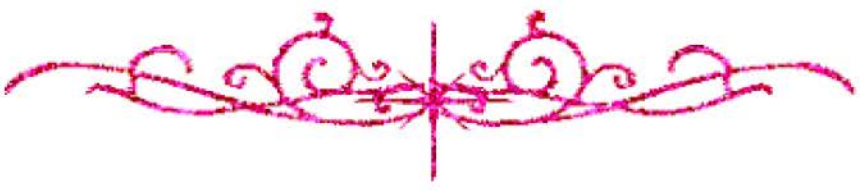

بالرسالة صفحات لم ترد بالأصل

Cairo University
Faculty of Veterinary Medicine
Department of Microbiology and Immunology

Molecular and conventional assays for detection of Arcobacter species

A Thesis Submitted by

Lamiaa Abdel Ghaffar Abdel Azim Abdel Ghaffar

(B.V.Sc. Cairo University, 2009)

For the degree of M.V.Sc.
Microbiology and Immunology

Under Supervision of

Prof. Dr. Khaled Farouk M. Al-Amry
Professor of Microbiology and Immunology
Faculty of Veterinary Medicine
Cairo University

Prof. Dr. Mahmoud Al-Hariri
Professor of Microbiology and Immunology
Faculty of Veterinary Medicine
Cairo University

Prof. Dr. Alaa Eldin Eissa
Professor of Aquatic Animal Medicine and Management
Faculty of Veterinary Medicine
Cairo University

2021

Cairo University

Faculty of Veterinary Medicine

Department of Microbiology

Approval Sheet

This is to certify that the dissertation submitted by **Vet./ Lamiaa Abdel Ghaffar Abdel Azim Abdel Ghaffar** to Cairo University, for the master degree of Veterinary Medical Sciences, Microbiology and Immunology has been approved by the examining committee:

- **Prof. Dr./ Alaa El Din Hussein Mustafa**
  Professor of Microbiology
  Faculty of Veterinary Medicine
  Sadat University
- **Prof. Dr./ Mohamed Ibrahim Abdel Salam**
  Professor of Aquatic Animal Medicine & Management
  Faculty of Veterinary Medicine
  Cairo University
- **Prof. Dr./ Khaled Farouk Mohamed Abdel Hamid El-Amry (Supervisor)**
  Professor of Microbiology
  Faculty of Veterinary Medicine
  Cairo University
- **Prof. Dr./ Alaa Eldin Eissa (Supervisor)**
  Professor of Aquatic Animal Medicine & Management
  Faculty of Veterinary Medicine
  Cairo University
- **Prof. Dr./ Mahmoud Al-Hariri (Supervisor)**
  Professor of Microbiology
  Faculty of Veterinary Medicine
  Cairo University

Dated: 13/10/2021

Supervisors

Prof. Dr./ Khaled Farouk Mohamed Abdel Hamid El-Amry

Professor of Microbiology

Faculty of Veterinary Medicine

Cairo University

Prof. Dr./ Alaa Eldin Eissa

Professor of Aquatic Animal Medicine & Management

Faculty of Veterinary Medicine

Cairo University

Prof. Dr.// Mahmoud Dardiri Al-Hariri

Professor of Microbiology

Faculty of Veterinary Medicine

Cairo University

Cairo University
Faculty of Veterinary Medicine
Department of Microbiology and Immunology

Name: Lamiaa Abdel Ghaffar Abdel Azim Abdel Ghaffar
Birth date: 26-3-1988
Nationality: Egyptian.
Scientific degree: M. V. Sc.
Specification: Microbiology and Immunology.
Title of thesis: Molecular and conventional assays for detection of *Arcobacter* species.
Under the supervision of:

- **Prof. Dr. Khaled Farouk M. Al-Amry** Professor of Microbiology and Immunology, Faculty of Veterinary Medicine, Cairo University.
- **Prof. Dr. Alaa Eldin Eissa** Professor of Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Cairo University.
- **Prof. Dr. Mahmoud Al-Hariri** Professor of Microbiology and Immunology, Faculty of Veterinary Medicine, Cairo University.

Abstract

Untreated poultry manure/droppings were used in integrated fish ponds as organic fertilizers. This process could put an additional complexity on the bacterial load within fish's ponds ecosystem. *Arcobacter* species is one of the most important food-borne zoonotic pathogens that infect humans, animals, fish, and fowl. This study aimed to examine if raw poultry manure could enhance arcobacter propagation among the cohabitant Nile tilapia. In addition, the comparative phenotypic and molecular characterizations among various *Arcobacter* spp. retrieved from two diverse animal hosts (the Nile tilapia and fowl) with special reference to antibiotic-resistant and virulence genes traits were also studied. Clinically, the examined Nile tilapias exhibited darkness, fin rot, and skin hemorrhages. Internally, the Nile tilapias displayed severe congestion in internal organs, catarrhal enteritis, and swollen gall bladder. The moribund chickens exhibited mild diarrhea, anorexia, and ruffled feathers. Internally, chickens displayed enlarged spleen and liver, enteritis, and kidney congestion**.** The bacterial colonies on arcobacter selective agar appeared small and non-pigmented with an intact edge. The recovered bacterial isolates were identified as *Arcobacter* spp. depending on the phenotypic characters and PCR. Sequencing of *16S rRNA* gene confirmed the identity of *Arcobacter butzleri (A. butzleri*), *A. skirrowii*, and *A. cryaerophilus* in both fish and fowl, while *A. cloacae* was confirmed in fish. PCR confirmed the occurrence of two virulence genes (*pldA* and *tlyA*) in most fish and chicken *Arcobacter* isolates. All chicken *Arcobacter* isolates showed resistance against ampicillin, ampicillin-sulbactam, and cefotaxime, and variable susceptibility to ciprofloxacin, aztreonam, imipenem, and amikacin. Fish *Arcobacter isolates* were sensitive to ciprofloxacin, sulpha-trimethoprim, and amikacin.

Keywords: *Arcobacter* species, Chicken, Nile tilapia, virulence genes, Egypt.

To my mother's soul, my father, my brother and my husband

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