INTRODUCTION

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Fishes are among the most important sources of protein for human in many areas of the world because of its higher nutritive value as well as its good digestabilty. So fish production represents one of the clear solutions of nutritive problems for human being. The increase of fish production is accompanied by gradual intensification with high densities of fish in small area. This may lead to a decrease in resistant of fish and consequently increases of the infections. So disease is considered to be the most important limiting factor in aquaculture especially with intensification **(Allen *et al.*, 1983)**. Fish diseases due to bacterial infection are considered as one of the major problems in aquaculture **(Okpokwasili, 1991)**. The presence of potential danger of many fish pathogens associated with the stress factors may favour to the occurrence of out breaks in cultured fishes **(El-Bouhy, 1995)**. *Pseudomonas* septicemia is known to be one of the most important diseases and infected freshwater fishes associated with environmental stress factors **(Allen *et al.*, 1983)**. Fish diseases caused by *Aeromonads* and *Pseudomands* may considered as the major bacterial problems facing the aquaculture development which causes mass mortalities, reduced production and low quality of aquatic organisms. This is in agreement with that stated by **(Ghittino, 1976 and Ahmed and Shoreit, 2001)**.

In recent years, multiple drug/chemical resistance in both human and plant pathogenic microorganisms have been developed due to indiscriminate use of commercial antimicrobial drugs/chemical commonly used in the treatment of in- factious diseases **(Davis, 1994; Loper *et al.*, 1991; Service, 1995)**. On the other hand, foodborne diseases are still a

major problem in the World, even in well developed countries, like USA (**Mead *et al.*,1999**).Food spoilage caused by a variety of microorganisms has often been recognized as inconvenient and one of the most important concern for food industry. So far many bacterial species including *Escherichia coli, Enterobacter* spp. ,*Bacillus* spp., *Salmonella* spp., *Staphylococcus aureus, Klebsiella pneumoniae, Listeria monocytogenes* and *Campylobacter jejuni*, yeast and fungi including *Candida* spp., *Zygosaccharomyces spp., Fusarium* spp., *Aspergillus* spp., *Rhizopus* spp.,and *Penicillium* spp has been reported as the causal agents of foodborne diseases and food spoilage **(Betts, *et al.*, 1999; Deak and Beuchat, 1996; Pitt and Hocking, 1997; Walker,1988).**

The contamination of raw and processed foods with microflora can take place at various stages from the production to the sale and distribution.**(Deak and Beuchat, 1996).**Thus, food industry at present uses chemical preservatives to prevent the growth of food spoiling microbes **(Sagdıc, O., and € Ozcan, 2003).** In Egypt, and due to the economical impacts of spoiled foods and the consumer's concerns over the safety of foods containing synthetic chemicals, much attention has resently directed to ward **natural products (Alzoreky & Nakahara, 2003; Hsieh, *et al.*,** 2001). Recently, there has been considerable interest in extracts of essential oils with antimicrobial activities from aromatic plants for controlling pathogens and toxin producing microorganisms in foods **(Alzoreky and Nakahara, 2003; Soliman and Badeaa, 2002; Valero and Salmeron, 2003).**

The risk associated with the use of antibacterical agent in fish farms may lead to an increase of antibiotic resistant bacteria, as well as of human infection and increase of residues that may cause toxic and allergic reaction

when consumed the treated fish. For these reasons many researchers have been investigated the use of safer compound that have no harmful effect on fish and their eggs. The use of natural products obtained from medicinal plant extracts to control bacterial fish pathogens may be considered as one of the moderen strategies available and much expremental work being carried out to assess its commercially applicability. Antimicrobial substances are now widely used for the treatment of bacterial diseases for fish. (**Sahin *et al.*, 2004 and Jirawan *et al* ., 2005).**

The present work, therefore, comprises antimicrobial study approached via:

1-Isolation of pathogenic bacteria from diseased fish.

2- Identification of most potent isolates.

3- Experimental infection with isolated strains.

4- Using of medicinal plants as antibacterial agent aganist isolated strains.

5- Comparison between the effect of chemical antibiotics and natural products extracted from the selected plant species .

The search for utilization of plants as a source of medicin is a subject which had occupied intensly thoughts of mankind in one way or another.

The pharmacological action of many speices of family *Labiatae,*and *Zingberaceae* was investigated by many workers. Labiatae includes many herbs and small shrubs, readly recognized by the aromatic scent (glands with ethereal oils).

Among the species of this family that contain volatile oils are *Lavandula spica* and other species (lavender oil); *Rosmarinus officinalis* (Rosmari oil); *Thymus serpyllum* (Herba serpylli); *Orignum vulgare* (Herba origami); and the numerous form of mint, particularly the hybrids known as *Mentha eiperita* (peppermint oil); and *Mentha spicata* (spearmint oil).