INTRODUCTION

Today Aquaculture considered an important source of animal protein necessary for meeting the world's increasing demand. Aquaculture development projects were being initiated worldwide, Medicinal and aromatic plants had been used for many years in human nutrition as a spices and medical additives for animal to increase dietary energy utilization, improve the performance efficiency and as a new source of protein **Abd El-Samee, *et al*., 2003, Abdelhamid, *et al*., 2005 and Ahmad, *et al*., 2006 .** Used also to increase the immunity and chllenage the pathogenic bacteria; *Pseudomonas aeruginosa & Pseudomonas Flourscence* **Ahmad *et al*., 2006.**

Fishes were 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 represented one of the clear solutions of nutritive problems for human being. The increase of fish production was 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 infectins. So disease was considered to be the most important limiting factor in aquaculture especially with intensification **Allen *et al*., 1983**. Fish diseases due to bacterial infection were 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 fished **El-Bouhy, 1995**, *Pseudomonas septicemia* was 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 caused mass mortalities, reduced production and low quality of aquatic organisms. This was in agreement with that stated by **Ghittino, 1976 and Ahmed and Shoreit, 2001.**

Herbal medical was a growing area of alternative medicines. Nowadays, many of the active ingredients in manufactured drugs were derived originally from plant compounds and had a wide range of use. It was believed that plants were more natural less toxic and safer than chemical preparations. The use of natural products was becoming more popular, Since drugs of synthetic origin may had a negative impact on the environment and parasite resistance to poisonous chemicals can develop after repeated applications **AlZoreky, Nakahara, 2003 and Hsieh, *et al*., 2001** specially in the developing countries.

Herbs and spices had been added to different types of food to impart flavors as well as to improve storage stability. Many herbs and spices had been shown to impart antioxidant effects in food; the active principles were phenolics **Davis, 1994; Loper *et al*., 1991 and Service, 1995.** A wide variety of phenolic substances derived from herbs and spices possess potent anti-oxidant, anti-inflammatory, anti-mutagenic, anti-carcinogenic, and activities, which contributed to their chemopreventive potential **Walker, 1988; Deak and Beuchat, 1996; Pitt and Hoching, 1997 and Betts *et al*., 1999**.

The risk associated with the use of antibacterial 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 caused toxic and

allergic reaction when consumed the treated fish. For these reasons many researchers had been investigated the use of safer compound that had 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 experemtnal work being carried out to assess its commercially applicability. Antimicrobial substances were widely used for the treatment of bacterial diseases for fish**. Sahin *et al*., 2004 and Jirawan *et al*., 2005**.

The search for utilization of plants as a source of medicine was a subject which had occupied intensely thoughts of mankind in one way or another.

The pharmacological action of many species of famil *Labiatae*, and *Zingberaceae* was investigated by many workers. *Labiatae* included many herbs and small shrubs, readly recognized by the aromatic scent glands with ethereal oils .

Origanum plants :

The genus origanum Bth. of the Labiatae was represented in the Egyptian wild flora by fruticose shrubs or perennial herbs with ovate, entire leaves. The inflorescnces were corymbose or paniculateds. In the "Manuial of Egypt" **Montaser and Hassib, 1956** this genus can be differentiated into two species. *O.vulgure Linn* and *O.Maru Linn V.sinaicum* Boiss. *Origanum vulgare* was a native to the Mediterranean, Euro-Siberian and Irano-Siberianregions **Aligiannis *et al*., 2001.** A total 38 Origanum species were recognized in the World. Most of the Origanum species, over 75%, were concentrated in the East

Mediterranean subregion **Ietswaart, 1980.** Of them, 16 species were considered as endemic for the flora of Turkey **Guner *et al*., 2000. Snogerup, 1971** reported that Origanum species grow abundantly on stony slopes and in rocky mountain areas at a wide range of altitudes 0 – 4000 m . Due to the variability in chemical and aromatic characteristics, Origanum plants belonging to different species and ecotypes were widely used in agriculture, pharmaceutical and cosmetic industries as a culinary herb. Flavoring substances of food products, alcoholic beverages and perfumery for their spicy fragrance several investigators including **Aligiannis *et al*., 2001 and Milos *et al*., 2000 .** Stated that the content of essential oil and extracts of Origanum species containing antimicrobial, antioxidant and other biological activities may change based on the differences in cultivation, origin, vegetative stage and growing seasons of the plants.

***cZingiber officinale* :**

Zingiber officinale Zingiberaceae, was one of the most widely species used and was utilized as a condiment for a variety of compounded foods and beverages due to its characteristic aromatic and pungent flavor. Ginger extracts were rich in gingerols and shogaols, which exhibit antioxidant, antifungal, antimycobacterial and anticarcinogenic proprieties under "in vitro" and "in vivo" systems **Surh *et al*., 1998; Surh, 2002 and Langner *et al*., 1998 .** Ginger has been used traditionally as a carminative, diaphoretic, antispasmodic and antiemetic agent against motion sickness and hyperemesis gravidarum. **Katiyar *et al*., 1996** indicated that some constituents of ginger had potent antioxidant and

antiinflammatory effects, and some of them exhibit antitumor activity in rodent skin and intestinal chemical carcinogenesis.

Tilapia culture was believed to offer one of the solution needed to face the increasing demand for cheap protein source. Tilapia was widely distributed in many countries of the world. In Egypt, Nile tilapia was a major species in aquaculture system and much appreciated by consumers. However, the success of intensive tilapia culture depends to a large extent on supplemental feeding.

Therefore, the aim of present work comprises applied antimicrobial studies for certain fresh water fishes via:

1) Extraction of *Origanum vulgar*; turbines and *Zengiber officinale* extract; glycosides.
2) Addition *Origanum vulgar* extract turbines and *Zengiber officinale* extract glycosides to fresh water fishes diets.
3) Experimental infection of the fishes by certain pathogenic bacteria.
4) Study the effect of *Origanum vulgar* extract turbines and *Zengiber officinale* extract glycosides as treatment for diseased fishes.
5) Evaluation for treatment of fresh water fishes from the bacterial diseases by *Origanum vulgar* extract turbines and *Zengiber officinale* extract glycosides.