SUMMARY

This work started by taking water samples randomaly from the earthen ponds of Fish Production, Central Laboratory for Aquaculture Research, Abbassa, Abu-Hammad, Sharkia. Water analyses and isolation of some species blue green algae that presented in this water were done. The blue green algae were (*Anabaena, Oscillatoria* and *Lyngbya* sp.). *Anabaena wisconsinense and Oscillatoria curviceps* were selected to study their antimicrobial effect. The present investigation indicated that the growth curve of *Oscillatoria curviceps* was between 14-16 days and for *Anabaena wisconsinense* ranged between 16-18 days of incubation. The cells were harvested in the logarithmic growth phase and extracted by different organic solvents such as ethanol, methanol and chloroform using a soxhlet extractor. Different species of pathogenic bacteria were isolated from diseased fish and identified as Gram +ve *(Lactobacillus* sp. and *Bacillus firmus)* and Gram –ve *(Aeromonas hydrophila, pseudomonas fluorecence* and *Pseudomonas anguilliseptica). Aspergillus niger* was isolated from muscles of apparently healthy common carp, *Saprolegnia parasitica* was obtained from fish diseases department, Central Lab Aquaculture Research in Abbassa, Agriculture Research Centre, Egypt. That was isolated previously from diseased fish.

Methanolic extract of *Anabaena wisconsinense* had antibacterial effects against (*Pseudomonas anguilliseptica, Aeromonas hydrophila, B. firmus and Pseudomonas fluorecence*) with the diameter of inhibition zones were 50, 32, 32 and 30 mm, respectively. The same extract

formed an inhibition zone of 20 mm in diameter against *Aspergillus niger* growth.

Chloroform extract of *Anabaena wisconsinense* had antibacterial effect against the isolated bacteria (*Pseudomonas fluorecence, Pseudomonas anguilliseptica* and *Lactobacillus* sp.) and the results showed that an inhibition zones of diameter 30, 20 and 16 mm were obtained, respectively.

Ethanolic extract of *Anabaena wisconsinense* had antibacterial effect against the isolated bacteria (*Aeromonas hydrophilia, B. firmus* and *Pseudomonas fluorecence*) with the diameter of inhibition zones were 34, 24 and 12 mm respectively. The same extract formed an inhibition zone of 26 mm in diameter against *Aspergillus niger* growth.

Methanolic extract of *Oscillatoria curviceps* had antibacterial effect against the isolated bacteria (*Lactobacillus* sp., *Pseudomonas anguilliseptica* and *Aeromonas hydrophila*) and the results showed that inhibition zones of diameter 34, 16 and 4 mm were obtained, respectively. The same extract formed an inhibition zone of 20 mm in diameter against *Aspergillus niger* growth.

Chloroform extract of *Oscillatoria curviceps* had antibacterial against the isolated bacteria (*Pseudomonas anguilliseptica, Pseudomonas fluorecence, Aeromonas hydrophila* and *Lactobacillus* sp.) and the results showed an inhibition zones of diameter 14, 10, 10 and 6 mm were obtained, respectively. The same extract formed an inhibition zones 94 and 8 mm in diameter against *Saprolegnia parasitica* and *Aspergillus niger, respectively*. The highest efficiency to chloroform extract was against *Saprolegnia parasitica.*

Ethanolic extract of *Oscillatoria curviceps* had antibacterial effect against the isolated bacteria (*Lactobacillus* sp., *Aeromonas hydrophilia, Pseudomonas anguilliseptica, B. firmus* and *Pseudomonas fluorecence*) and the results showed inhibition zones of diameter 30, 30, 20, 14 and 6 mm were obtained, respectively. The highest efficiency to ethanolic extract was against *Lactobacillus* sp. *and Aeromonas hydrophilia*. The same extract formed an inhibition zone 28 mm. in diameter against *Aspergillus niger*.

In this investigation efficiency of methanolic extraction of *Anabaena wisconsinense* against the pathogenic *Pseudomonas anguilliseptica* among *O. niloticus* by (experimental injection). The intrapretonial inoculation (I/P) of 0.2×10^{7} cells /ml of *Pseudomonas anguilliseptica* caused mortality 50% among *Orechromis niloticus*, while the treated *Orechromis niloticus* with methanolic extract of *Anabaena wisconsinense* had mortality 12.5%. The other two groups (the group that injected by algal extract only and control group) did not show any mortalities or clinical signs.

More investigations must be carried out to clarify efficiency of these extractions, to elucidate the chemical composition of active materials in future work.