

Study of Antimicrobial Effect for Water Extracts of Lepidium Aucheri Boiss and Peel Actinidia deliciosa on Growth Some Types of Bacteria in Vitro

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Abstract

Were prepared from water extracts belonging to two of the plants which leaves and stalks and husks *Lepidium aucheri* Boiss mainland *Actinidia deliciosa* has studied the effect of water extracts of plants mentioned in the growth of a *Escherichia coli*, *Staphylococcus aureus*, *Klebsiella sp.* and *Streptococcus faecalis* and two concentrations of (25,50)mg / ml has varied effect of these extracts on the bacteria and the relationship between them was any direct correlation greater the concentration of extract increased the inhibitory effect of aqueous extract showed him to the mainland inhibition rates *Lepidium aucheri* Boiss higher than the peel *Actinidia deliciosa* and to varying degrees.

Introduction

We have increased attention in recent years, plants and medicinal herbs to use as key sources for the production of medical drugs or as a source of active substances that fall within the composition of the drug are also used as a raw material for the production of some chemical compounds in the production of some pharmaceuticals, has addressed many of the studies the effect of extracts plant on the growth of micro-organisms and thus the possibility of their use in the treatment of some diseases resulting from injuries microbial different domestically conducted several studies on the effect of plant extracts on legionella [1]. this was we decided to do this current study, which deals with the effect of extracts *Lepidium aucheri* Boiss both land and peel the *Actinidia deliciosa* on the growth of various types of bacteria. was elected to provide these plants in abundance in the local environment and the scarcity of studies on their effectiveness in growth inhibition. *Lepidium aucheri* Boiss grass around me height of up to 40 cm leg many branching, abundant white flowers, fruits and seeds small and sleek structure to reddish color and part of the plant used all of its parts [2]. Plant known by several names, including crafts and ivae known as the grain or seeds *Lepidium aucheri* Boiss. Plant known scientifically as *Lepidium sativum* of the Ctuci Ferae. the original home of the plant are considered the middle east, home to the original plant and there are abundant in syria, especially in the golan and horan and be natural or planted. it also grows significantly planted in turkey [3]. the chemical content *Lepidium aucheri* Boiss contain many minerals which iron, phosphorus, manganese, iodine, calcium, potassium, arsenic, such as vitamins A, B, E, C also contains, karotenoids and volatile oil and glucosidase. and is more plants rich in iodine and this is what makes it easy to digest and contains iron, sulfur, lime, phosphorus, manganese and arsenic, which is rich in vitamin "C" and a small percentage of vitamin "A" and "B" and "PP" and karotene, seed and *Lepidium aucheri* Boiss important to the vitality of the body in general have used doses of it to activate the nationality [4]. it contains vitamin tcopherol it is similar to vitamin (E) and this vitamine plays a vital role for the activity of the body tonic and restorer and appetizers, is useful for treatment of anemia, diabetes and against drilling, diuretic, expectorant and

sedative, hypotensive, and tonic to the vitality of the hair follicle where applied to the scalp to prevent hair loss, and treatment of skin ulcers.[5] dendritic *Actinidia deliciosa* plant dioecious unisexual chive 30-40 years climber prolific growth deciduous feminine flowers with a single ovary huge it livery dense and large-sized flowers note accumulate in the form of oval-shaped fruit bouquet hairy with bay color and the inside of her diet emerald green color with black lines radial contain edible seeds. known in the world currently 36 strain of *Actinidia deliciosa* and all these breeds is a perennial plants *Actinidia deliciosa* attack leaves a large length of (8-12) cm and width (6.7) cm long with a holder, a bottom surface of livery severe short and dense *Actinidia deliciosa* shrub up for lade after (3-4)years of farming, while up to a full load after(8-9) years. flowers with white color in the beginning and then turn into a creamy, flower diameter(3.4) cm. *Actinidia deliciosa* fruit or elongated oval- brown in color and the dander and rough texture, meat and green radiant contains many black seeds that are eaten with meat[6]. the advantage of *Actinidia deliciosa* fruits rich in many minerals and vitamins and flavonids, in particular vitamin C, where the *Actinidia deliciosa* is rich in vitamin C even more than oranges, and also it is also rich in potassium than bananas, and contains a fair amount of beta-karotene also, the *Actinidia deliciosa* fruits rich in vitamin E, so they work on the protection of many diseases, and the *Actinidia deliciosa* is also rich in dietary fiber, which is working to improve the process of digestion in the gut and have a significant impact also on reducing the level of cholesterol in blood, as it is also rich in linoleic acid, A omega -3 fatty acids. lutein and beside alzaksatinin as they work to protect the eye from macular networking that may occur with age[7]

Aim of the Study

This study aims to know the effectiveness of the extracts inhibitory aquatic plants *Lepidium aucheri* Boiss land and peel *Actinidia deliciosa* on different types of bacteria that may contribute to finding alternatives to substances inhibitory to bacteria, which have become resistant to them because of the widespread use to antibiotics.

Materials and Methods

1. Plant Specimens

The study included all plants from the mainland *Lepidium aucheri* Boiss and peel the *Actinidia deliciosa* has been obtained .all of the local market in Diwaniyah province,was taken to the laboratory,washed with distilled water and then dried on sterile nomination papers sterilized at a temperature of the laboratory was crushed and milled by electric grinder and then preserved in polyethylene bags in the refrigerator (4 ° C) until the materials used in the extraction.

2. Preparation of Plant Extracts Water

attended a manner drenching plant extracts [8] where it was taking 10 grams of powder every vegetarian Subject to study and put in 100 ml of sterile distilled water For 24 hours and was getting rid of solids nomination plant extracts through filter paper hettich universal then conducted using a centrifugal type 11, whattman No.1 And fast 3000 RPM for ten minutes, then took the filtrate and placed in sterile bottles and save The refrigerator until use this has been prepared concentrations (25,50)mg/ml of each extract in order take the appropriate amount of the filtrate and place it in a given volume of sterile distilled water.

3. Bacteria: Use the Following Bacteria

Escherichia coli, *Staphylococcus aureus*, *Klebsiella sp.* and *Streptococcus feacalis*

4. Preparation of Samples for the Purpose of the Study

A. Bacterial Samples

Samples were taken and undiagnosed bacterial isolated by microbiology laboratories in the college of veterinary medicine, where he was taking the 4 bacterial isolates *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella sp.*, *Streptococcus faecalis* and after calibration tube McFarland has been furnished to the center of mueller hinton for the purpose of studying the effect of the extract.

B. Study the Effect of Plant Extract in the Growth of Bacteria

In agar diffusion method followed by drilling well [9] in testing the sensitivity of bacteria to extract vegetable, as it has been published (0.1) ml of airborne bacterial each type of microbiology at the center of mueller hinton steel using (Cork borer) and then work (5) drill diameter (6 mm) for each hole and added (0.1) ml of the plant extract and different concentrations as stated in the paragraph above also add distilled water to drill one control negative. left the dishes for a period of (15) minute and then incubated degree (37 m°) for 24 hours. zone of inhibition was measured by the ruler inhibition rule.

5. Statistical Analysis

The analysis of the results derived from the experiences of the impact of various plant extracts on the growth of bacteria by testing dunkin polynomial according to the source [10], and at the level of the probability of 0.05 to evaluate the differences between the results of transactions in terms of being significant differences (the effect of article) or is it not significant because of the mistakes of laboratory.

Results and Discussion

The effect of aqueous extract of the plant *Lepidium aucheri* Boiss mainland showed the aqueous extract of the leaves and stalks *Lepidium aucheri* Boiss mainland percentage inhibition high for all the bacteria *Escherichia coli*, *Staphylococcus aureus*, *Klebsiella sp.* and *Streptococcus faecalis* used in this study and this statistical analysis at the level of a significant 5% as when the concentration 50 mg / ml was damped accrementition to a large extent and the rate of diameters at a concentration 5.2mm, 8.5 mm, 5.1mm, 2.5mm either at concentration 25 mg / ml was damped accrementition to a large extent and the rate of diameters at a concentration of 25 mg / ml 12.5 mm 10.2 mm, 7.7 mm, 15.2 mm, respectively, results showed the effect of aqueous extract of the peel *actinidia deliciosa* effectiveness of different this extract about the development of bacteria studied *Escherichia coli*, *Staphylococcus aureus*, *Klebsiella sp.* and *Streptococcus faecalis* and generally increased rate of inhibition increase the concentration of extract in the middle pea-averaged diameters bacteria studied *Escherichia coli*, *Staphylococcus aureus*, *Klebsiella sp.* and *Streptococcus faecalis*, and a concentration of 50 mg / ml 15.5 mm, 12.3 mm 12 mm 25 mm respectively, and averaged diameters when focusing 25 mg/ ml 25 mm, 25.5 mm, 35.8 mm, 30.8 mm.

A table(1) showing the effect of aqueous extract of *Lepidium aucheri* Boiss and peel *Actinidia deliciosa* in the growth of some bacteria

Table 1:

control		Type bacteria		Type Extract	
		aqueous extract of the <i>Lepidium aucheri</i> Boiss concentration used 25 and 50 mg / ml		aqueous extract of the peel <i>Actinidia deliciosa</i> concentration used 25 and 50 mg / mL	
		Concentration of 50 mg / ml	Concentration of 25 mg / ml	Concentration of 50 mg / ml	Concentration of 25 mg / ml
<i>Escherichia coli</i>	35A	5.2E	12.5D	15.5C	25 B
		±	±	±	±
		2.45	3.20	5.81	5.08
<i>Staphylococcus aureus</i>	50A	8.5E	10.2D	12.3C	25.5B
		±	±	±	±
		2.45	3.20	5.81	5.08
<i>Klebsiella sp</i>	45A	5.1E	7.7D	12C	35.8B
		±	±	±	±
		2.45	3.20	5.81	5.08
<i>Streptococcus faecalis</i>	45A	2.5E	15.2D	25C	30.08B
		±	±	±	±
		2.45	3.20	5.81	5.08

Control represents a rate of growth of bacteria without adding any substance to the center transplant.

Different large letters horizontally means having a significant difference at 5% $P \leq 0.05$ Level of significance.

The figures that follow represent a reference(±)standard deviation of the growth rate.

Where the results showed in the table above that there are significant $p \leq 0.05$ differences in the inhibitory effect of the growth of bacteria in the table above, compared with control.

can attribute the cause of the effect of dose 50% inhibition of the growth of bacteria more moral than the effect of a dose of 25% and two extracts that the greater the concentration of the substance in the extract increased the effectiveness of inhibitory to the growth of bacteria mentioned in the trial and thus increasing the percentage of inhibition increase the concentration of extract in the center transplant and reason ability inhibitory aqueous extracts (for *Lepidium aucheri* Boiss and peel *Actinidia deliciosa*) impairs for they include flavonids that exist either freely or derivatives glycosides [11] and is characterized by flavonids effect various medical, including possession of the properties of anti-revival of the microstructure and to its ability to dissolve cellular proteins and destroy the cell membrane [12], [13] and return the influence Inhibitory peel *Actinidia deliciosa* because they contain vegetable oils that have the effect of anti against different types of bacteria as well because it contains large amounts of flavonids as mentioned previously and may be due inhibitory effect *Lepidium aucheri* Boiss for the growth of bacteria and larger moral of the impact peel *Actinidia deliciosa* because it contains an element «squalene» is useful; It uses a killer bacteria, fungi, and also contains a compound«alpenzaal iso tallosianid» this compound is an inhibitor of bacteria and recent studies indicate to contain an element of antibiotics microbicides inhibitory effect of extracts of aquatic plants mentioned may be due to contain flavonoids and volatile oils [14]add to the results of the tests hits contrary plant extracts that tested the effect of extracts of water for each of the *Lepidium aucheri* Boiss and peel *Actinidia deliciosa* positive effect in inhibiting the growth of bacteria types of the four used in this study. it has been found that the concentrations of 25mg/ml and 50mg/ml, both with effect inhibitory on the growth of bacteria, but the effect of the concentration of 50mg/ml for the two extracts with greater effect was significant for the inhibition of the growth of bacteria concentration of 25mg/ml and two extracts and the results showed that the effect of aqueous extract of *Lepidium aucheri* Boiss mainland's biggest moral of the aqueous extract to peel the *Actinidia deliciosa*.

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