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Phytochemical Analysis and Biological Activities of *Asphodelus tenuifolius* in District Bannu, Khyber Pakhtunkhwa, Pakistan

Kalim Ullah[1*], Zeeshan Afzal[2], Dr. Wahib Noor Khan[3]

[1]*Bacholar (HONS) Zoology, Government Post Graduate College Karak, Khyber Pakhtunkhwa, Pakistan.*

[2] *Master Of Philosophy Chemistry.*

[3]*Assistant Professor, Department Of Chemistry University of Science & Technology Bannu, Khyber Pakhtunkhwa, Pakistan.*

Corresponding author: ukalim696@gmail.com

ABSTRACT

The main aim of the study on Asphodelus tenuifolius plant it has been revealed that it contains phytochemicals which are Phenols, Tannins, Anthraquinones, Alkaloids, Steroids and Flavonoids.Because the plants contain bioactive compounds, they exhibit a variety of pharmacological activities. Because plant extracts contain a variety of bioactive compounds that can be used to treat a variety of ailments, bioassay-guided assays of the active compounds are advised for the exclusion and entire elaboration of the structures of these additives, which can then be used in drug design.

Keywords: Phyto-chemicals, Analysis, Biological Activities, *Asphodelus tenuifolus* and Bannu.

INTRODUCTION

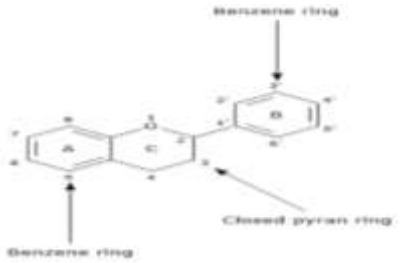
Asphodelus tenuifolius is a plant in the Asphodelaceae family. The plant is known as onion weed name in English language, Tazai called in Arabic, Piazi is its Urdu name, Barwang and Dangro in Hindi, and Pezaka in Pashto language. It is a well-known plant in both Asian and Mediterranean countries. *Asphodelus tenuifolius* is a plant in the Asphodelaceae family. The plant is known as onion weed in the language of English, Tazai is name in Arabic, Piazi name in Urdu language, Barwang and Dangro in Hindi, and Pezaka in Pashto language. It is a well-known plant in both Asian and Mediterranean countries. [1, 2]. *Asphodelus tenuifolius* is used in cooking as a vegetable or to enhance the flavour of other dishes. Its seeds are used in breeding and are added to dates to add elegance. [2].

Phytochemicals consists of following groups as alkaloids, phenols, flavonoids, Anthraquinones, tannins and steroids are declared from plant extracts. The phytochemicals isolated and detected

from the plant include asphorins, caffeic acid, apigenin, feruloyltyramine, luteolin, glucoside, rutin, vanillin, stigmasterol, sitosterol glucosides, hexadecanoic acid, chryssophanol, dimethoxynaphthalene, fallacinal, 3-hydroxybenzoic acids. [3,4].

Asphodelus tenuifoliusis an abundant source of natural antioxidants. It has a broad range of functional and structural variation. This family contains approximately 289 g-enera & 4000 grown species, including many important edible, ornamental, and medicinal plants. [5].

1. Flavonoids meaning yellow, their natural colour) are a type of poly-phenolic bioactive compound found in plants that are widely consumed. Flavonoides can be obtained from plants in two forms: glycoside bonds and free aglycones. G lycoside bond form of flavone and flavonol is by far the most prevalent flavone as well as flavonol type consumed in the diet. Flavonoids have a 15-carbon skeleton that is made from two aromatic ring and a heterocyclic ring. [6, 7].

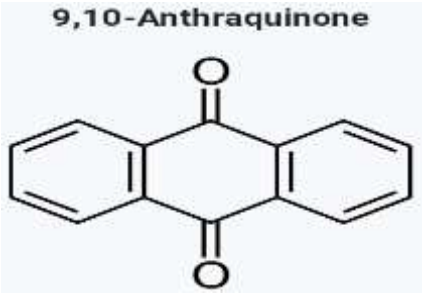


2. Anthraquinones (aslo called anthracenedione or dioxoanthracene has $C_{14}H_8O_2$ molecular formula and is an aromatic organic compound. Its isomers include several derivatives of quinone. 2.It is a key component in many dyes which is used in numerous bleaching pulps for making papers. It is insoluble in water and soluble in steamy organic solvents and a yellow heavily crystalline solid. It is nearly irresolvable in ether at room temperature, but 2.25 g would then solubilize in 100 g of heating ethanol. [8]

3. The phenolic acids (It is a polyphenol, which is a form of phytochemical) Flavonoids and stilbenes are two other types of polyphenols. Phenolic acids can be found in a variety of plant-based foods, with the highest concentrations found in fruit seeds and skins and vegetable leaves. Aromatic acid compounds include phenolic acids and phenol carboxylic acids. 3.Substances with an aromatic ring as well as an aromatic carboxylate function are included in this class. Two essential natural sources hydroxycinnamic acids as well as hydroxylbenzoic acids are derived from non-phenolic benzoic and cinnamic acid molecules, respectively [9].

4. Triterpenes (A class of chemical compounds that contain three terpene units with the molecular formula C30H48. It also has six isoprene units. Triterpenes are produced by microorganisms such as fungi, plants, and animals [10].

5. Fatty acids (fat acids are the basic building block of fat throughout our bodies and the food that we eat. During digestive process, the body converts fats in to the fatty acids, which are then absorbed into the bloodstream. Fatty acids molecules are usually joined together in the groups of three forming a molecule called a triglyceride) and naphthalene derivatives [11,12].



MATERIAL AND METHODS

Materials and Chemicals

Following materials and methods will be followed for the experimental work:

Chemicals

Following chemicals are used for the experimental work.

1. Methyl Alcohol
2. Ethyl Alcohol
3. n–hexane
4. Chloroform
5. Ethyl Acetic Acid
6. Hydrochloric acid
7. Sulphuric acid
8. Deionized water

Laboratory Apparatus

Following laboratory apparatus are used for the experimental work.

1. Beaker
2. Graduated Cylinder
3. Conical-Flask
4. Funnel
5. Magnetic Stirrer
6. Hot plate
7. Rota vapor
8. Test-tubes
9. Spectrophotometer
10. Glass rod
11. Micro pippete
12. Petri dish
13. Separatory funnel
14. Water bath
15. Analytical balance

Sample of Plant collection

The plants were collected from Districts Bannu and Karak Khyber Pakhtunkhwa, Pakistan in the winter season 2020. The plant sample were cut by the help of sharp saw and during sample collection to make safety sure, I wear gloves.

Identification of Plant

The plant was identified as *"Asphodelus tenuifolius"* by Dr. Faizan (HoD Botany UST Bannu).

Washing Sample

The collected sample of plant were washed 3 to 4 times with clean water in order to remove all the impurities in first attempt. In second attempt it is again washed out 2 to 3 times with water.

Shading Drying

After washing, the whole plant *Asphodelius tenuifolius* kept under 25 ℃ and was dehydrated for about two month. After one month the sample of the plant completely dried.

Grinding

After shade drying the sample was grinded in a electric grinder to make its powder form. When the sample is completely powdered then it is further treated with organic solvents to obtained its various fractions.

Different fractions were prepared for Pharmalogical assessment by the help of standard protocol. All of the fractions are discussed below.

Methanol Extract

The powdered form of sample made wet in 70% of methyl alcohol for 17 days at 25 ℃ r. After 17 days the plant extract was purified and the filtered extract was then directed to rotary evaporator for methanol evaporation. The temperature of rotary evaporator was kept 45℃, vacuum speed was kept 10 and raotaing speed was kept 65 rpm. After evaporation the dark-green unit was received. This liquid residual extract was poured into water and obtained with n-hexane to eliminate fats and prepare the n-hexane fraction. The defatted crude extract was extracted further with chloroform and ethyl acetate. The crude and proportions were then screened for phytochemicals, enzyme inhibitory activities, and pharmacological activity.

Phytochemical Screening

Phytochemicals of *Asphodelius tenuifolius* were subjected to screening test on the method developed by Santhosh et al., (2015); P. Jayanthi et al., (2011); Vimalkumar et al., (2014)

1. **Qualitative analysis**

Qualitative analysis of various bioactive components viz; alkaloids, terpenoids, coummarins, glycisdes, flavonides and tennins will be carried out using standard protocols (Sofowara, 1993); Trease and Evans, 1989; Harborne, 1973).

2. **Quantitative Analysis**

   - **Test for Sterols**

I have 0.05 g of different fractions and also take acetic anhydride and chloroform. The crude extract was treated individually with acetic anhydride and chloroform. After this treatment I add some drops of sulphuric acid, after addition of sulphuric acid dark pink color is detected. Dark pink color show that sterols are present.

- **Test for Coumarins**

Individually, a small amount of each extract fraction and crude sample was mixed with chloroform. Then a few drops of 10% NaOH were incorporated. After leaving the Test-Tube for a while, a yellow colour appears, indicating the presence of coumarins.

- **Test for Quinones**

Little quantity of different fractions and crude extract of *Asphodelus tenuifolius* treated individually with congregate Hydro Chloric Acid and detected for the appearance of yellowish color precipitates. The yellow color precipitations represent the presence of quinones.

- **Test for Anthocyanin**

A fewer quantity of various concentration/fraction of *Asphodelus tenuifolius* was treated with 2M NaOH and observed for the signal of blue-green colour. Blue-green formation color represents the presence of Anthocyanin.

- **Test for Tannins**

In each case, 600 mg of the specimen will be stored in plastic bottle with 60 ml of sterile distilled water. The mixture will then be shaken in a rotary shaker for 1 hour before being filtered in a 60 ml volumetric-flask and consist to the required concentration. A total of 0.6 mL of crude different extracts was mingled with 2 mL of H2O. After that, a few droplets of FeCl3 solution were added. The presence of tannins was determined by the appearance of blue coloration, and methanolic tannin was determined by the appearance of black green coloration (Harborn, 1973).

- **Test for Saponins**

In a small amount of water, 0.5 g extract and various proportions were dissolved and thoroughly shaken. The presence of saponins is demonstrated by the production of foam.

3. Flavonoid Screening

A few drops of NaOH solution were added to the crude extract and fractions. The presence of flavonoids is indicated by the presence of a deep yellow colour.

- **Steroid Testing**

0.7 g of crude extract and every fraction mixed in 2 ml of H_2SO_4 & 2 ml of acetic-anhydride. The conversion to green, blue or violet representing the existence of steroids.

4. Test for Terpenoids

7 mL of crude extracts and fractions was intermingled with 3 mL of $CHCl_3$ after then concentrated with 4 mL of Sulphuric acid which was added wisely to form a layer. Appearance of reddish-brown color at the crossing point show the existence of Terpenoids.

5. Test for Cardiac Glycosides

7 ml of each extract was treated with 2 ml of glacial acetic acid containing drop of $FeCl_3$ solution. After that 3 ml of concentrated sulphuric acid added. Appearance of reddish-brown colour ring detected at interface of 2 layers.

6. Test for Alkaloids

The specimen will be weighed into a 255 ml beaker, and 210 ml of 16% acetic acid in ethyl alcohol will be added. The beaker has been covered and left to stand for four hours. The extract will then be filtered and concentrated to one-quarter of its initial size in a water bath. Drop by drop, saturated NH3OH will be added to the isolate until the water is complete. The entire solution will then be allowed to exist until it is resolved. The precipitate was easily removed from the mixture and washed with soluble ammonium hydroxide before being filtered. The occurrence of Alkaloid can be seen in the synthesising of pale or white ppt.

7. Anthraquinone Screening

Born forager's test was used to identify Anthraquinones.Benzene was treated with 0.5 g plant extract and various fractions before the benzene layer was isolated. It was treated with a 10% ammonia solution. The presence of Anthraquinones is indicated by the appearance of violet, red, or pink colour in the ammonia phase

8. Disk Diffusion Method

Since the plant isolate to be examined disperses from its storage tank through the agar medium sown with the test microorganisms, the disc - diffusion methods are categorized as an agar well diffusion method (ADM). In most cases, the tank is a membrane filter disc placed on top of a surface of the agar. After incubation, if the tests performed plant crude extract or compounds are microbially involved, an inhibition zone forms all around filter paper disc. The diameter of the growth inhibition zone accurately describes plant extracts or independent compounds' antimicrobial potency.

9. Antibacterial and Antifungal Activity

The antifungal and antibacterial activities of organic extracts of Asphodelus tenuifolius were determined using the agar disk diffusion explained by the researchers Rios and Recio and Snoussi et al. [8, 10]. Eight strains are generally recognised as being the most pathogenic strains affect the food utensils (E. coli is a Gram negat-ve bacteria, facultative anaerobic condition, rod shaped, e. coli type of bacteria of the genus Escherichia which is frequently found in the small intestines of warm-blooded organisms ATCC 35218, Staphylococcus aureus ATCC 25Vibrioparahae molyticus ATCC 17802, The antifungal activity effect, on the other hand, was checked against four. parapsilosis ATCC 22019, Candida cultivars (C. tropicalis 06 to 85, C. albicans ATCC 2019 and C C. krusei ATCC 6258). The antifungal activity was assessed using the same method. As a positive control, ampicillin (10 miligram/mL) and amphotericin-B (10 miligram/mL) were used [9]. The antibacterial effects were assessed by using a flat rule to measure the diameter of growth zones of inhibition (IZ) around the discs. All tests were carried out in triplicate, and also the mean surface area of IZ was determined. The values were presented in millimetres of expansion around each disc, with low intensity (I-Z from 1-6 mm), modest function (7-10 mm), catalytic capacity (11 mm to 15 mm), yet very high activity (15- 20 mm) [13].

10. Antioxidant Activities

DDPH activity of the extracts and -carotene bleaching was used to assess the antioxidant activity of various Algerian A. tenuifolius extracts. Table 1 shows the results demonstrated as I.C.50 values compared to positive control BHT. As demonstrated, all extracts had potent radical - scavenging activity on DPPH, with Ic50 from 25 to 92 g/mL, which was clearly less essential than the positive control BHT (11.5 0.01 g/mL). The highest DPPH radical scavenging efficiency was found in CHE (25 4.36 g/mL), followed by EAE (45 2.88 g/mL) and BE (92 4.05 g/mL). According to our findings, this same extract rich in phenolic (CHE) phenolic (CHE) flavonoids and was found as being the most significant DPPH radical scavenger, which would be supported by a clear link between phenolic and flavonoid components and DPPH outcomes. Polyphenolic compounds are the most common antioxidants found in plant extracts [50]. Predicated on LC-ESI/MS results, chloro-formic extract was found to be extremely rich in apigenin-7-O-glucoside, luteolin, apigenin, anthraquinones, and their derivatives, all of which were previously known to play antioxidant roles [14-17].

11. Phytotoxic Activities

Four independent experiments were conducted in the Laboratory of Chemistry Department, University of Science and Technology Bannu, KP, Pakistan. At maturity stage the Plant of *Asphodelus tenuifolius* were uprooted and isolated into different parts like roots, stems, leaves and fruits. All the isolated parts were kept under 25℃ for shading drying. This dried plant parts made wet in mineral water (2:40 w/v) for 48 hours at 25℃. The aqueous isolation of different plant parts were obtained by filtering the mixture through sieves of 10 and 60 mm mesh. The osmotic potential (the potential of water molecules to move from hypotonic solution (more water, less solutes) to hypertonic solution (less water, more solutes) across a semi permeable memberane) of aqueous extracts of root, stem and leaf was 0.550, 0.358 and 0.228 M.Pa, respectively. The aqueous extracts of 100% concentration were used for wheat seed soaking and continuous extract application. Treatment compounds were ordered in a entirely irregular design in four repetitions in Petri-dish.

RESULT AND DISCUSSION

Different phytochemical test was to be done in chemistry lab UST Bannu, Khyber Pakhtunkhwa, Pakistan. All of these tests and their result are as under

Tannins and Phenolics Tests

In a test tube, a dried powder mixture (0.4 g) was prepared by boiling (8 ml) and then filtered. 1 mL of 0.1 percent FeCl3 was added and the coloration was checked for brown-green or blue–black. The existence of tannins is indicated by the appearance of a browinsh colour. Tannins are available in Methanol, ethanol, and chloroform extracts, but are missing in ether extracts.

Phytochemical (Tannins) in Methanol, Ethanol, Chloroform and Ether Extracts				
Phytochemical	**Solvents**			
Tannins	**Methanols**	**Ethanols**	**Chloroform**	**Ether**

	Present	Present	Present	Absent

Alkaloid Screening:

In a test tube, various solvents extracts (0.5 mL) were blended to picric acid solution media (1 mililiter) and the composition of orange coloration was observed. Orange colour is founded in Methanol, Ethanol, and Chloroform extracts but not in Ether extracts, indicating that alkaloid is missing in Ether extract.

Phytochemical (Alkaloids) in Methanol, Ethanol, Chloroform and Ether Extracts				
Phytochemical Alkaloids	**Solvents**			
	Methanols	**Ethanols**	**Chloroform**	**Ether**
	Present	Present	Present	Absent

Test for glycosides:

2g of plant matter was mixed with 5 ml of distilled water each. Then sulphuric acid H_2SO_4 or H_20 was added to two sets of beakers. The samples were then heated for 7-minutes and distilled. Filterates were obtained, and 1 ml of NaOH has been added to the filtrates before heating to 7 ml of Fehling's solution for 7-minutes and looking for the presence of a reddish brown crystallise. There was no reddish-brown precipitate, indicating the absence of glycosides.

Phytochemical (Glycosides) in Methanol, Ethanol, Chloroform and Ether Extracts				
Phytochemical Glycosides	**Solvents**			
	Methanols	**Ethanols**	**Chloroform**	**Ether**
	Absent	Absent	Absent	Absent

Test for anthraquinones

Powdered sample of *Asphodelus tenuifolius* crops (5 g) made wet in organic compound named benzene solvent (12 ml) in conical-flask and left that solution for 25 minutes. After 15 minutes the solution is filtered. After filtration, to filtrate we add 5 ml of ammonia solution (10%) and shake it for 5 minutes very well and then allowed it for to determined the appearing of a red, pink or sometime violet colour in the NH_3 stage. If pink, red or violet color is appeared, it shows that anthraquinones is present. After some time, red color is obtained in methanol extracts, but no colour appeared in ethanol, chloroform and in ether extracts which show that there is no anthraquinones.

Phytochemical (Anthraquinones) in Methanol, Ethanol, Chloroform and Ether Extracts

Phytochemical Anthraquinones	**Solvents**			
	Methanols	**Ethanols**	**Chloroform**	**Ether**
	Present	Absent	Absent	Absent

Flavonoid Screening

Different extracts (7 mL) and distilled water (7 mL) have been incorporated to the same quantity of NH_3 and filtrate, which was then mingled with 3–4 drops of concentration (H_2SO_4). Flavonoid presence is considered an indicator of a yellow colouring. Yellow colour is obtained from ethanol, chloroform, and ether extracts but not from methanol extracts. This demonstrates the presence of anthraquinones.

Phytochemical (Flavonoids) in Methanol, Ethanol, Chloroform and Ether Extracts				
Phytochemical Flavonoids	**Solvents**			
	Methanols	**Ethanols**	**Chloroform**	**Ether**
	Absent	Present	Present	Present

Steroid Test

To 0.7 gram of extracts, 4 ml ml of acetic anhydride was added, followed by 2 ml of H_2SO_4. The appearance of steroid was indicated by a change in colour from violet to green or blue coloration. In methanolic and ethanolic extracts color is changed to green, which show that steroids are present while in rest of the extracts no color is changed, which means that steroids are absent.

Phytochemical (Steroids) in Methanol, Ethanol, Chloroform and Ether Extracts				
Phytochemical Steroids	**Solvents**			
	Methanols	**Ethanols**	**Chloroform**	**Ether**
	Present	Present	Absent	Absent

While rest of the phytochemicals are not detected in *Asphodelus tenuifolius*. Only these compounds are present. All of these phytochemicals are given in the following table:

Phytochemicals	**Solvents**			
	Methanols	**Ethanols**	**Ether**	**Chloroform**

Phenols	Exist	Exist	Missing	Exist
Tannins	Exist	Exist	Missing	Exist
Anthraquinones	Exist	Missing	Missing	Missing
Alkaloids	Exist	Exist	Missing	Exist
Steroids	Exist	Exist	Missing	Missing
Flavonoids	Missing	Exist	Exist	Exist

Table 1: Phyto-chemical compounds & organic substances existing in extract from various aerial part of plant.

Other organic compounds and phytochemicals *Asphodelus tenuifolius* analysis revealed that solvent bark extract of stem bark contains various classes of compounds. The highest classes are found in ethanol extracts, followed by methanol. Petroleum ether extracts had the fewest phytochemical constituents in the aerial parts. Phenols, tannins, anthraquinones, steroids, alkaloids, and flavanoids are among the phytochemical constituents and organic compounds discovered (Table 1).

Antibacterial Activities of *Asphodelus tenuifolius*

The vegetation *Asphodelus tenuifolius* sample has exceptional antibacterial properties. The bacterial strains used were E. coli, Klebsiella pneumonia, and S. aurous at various concentrations and fractions. *Asphodelus tenuifolius* extracts have the ability to oppose various bacterial strains to varying degrees. The crude was extremely effective against Escherichia coli, with an inhibitory effect of up to 60%. Its various fractions also show good outcomes against Escherichia coli, with the fraction labelled as F1 showing a 16 percent inhibition, the fraction 2 labelled as F2 showing a 32 percent inhibition, and the fraction 3 showing no result in anyway; even so, the tiny proportion 4 which was water trace amounts showed a 20 percent inhibitory activity. Keep in mind also that Azithromycin inhibition zone had been 26 micrometres, which is equivalent to 2.6 centimetres against E.coli, which is the standard working parameter. The crude was also effective against Klebsiella pneumonia, with a 56% inhibition activity. The fraction also yields good results, with F1, F2, and F3 yielding 16 percent, 24 percent, and 40%, respectively, but F4 yielded no result. The basic Azithromycin inhibition zone against Escherichia coli was 25 mm or 2.5 cm. The ability of crude to inhibit Escherichia coli. The inhibitory ability of extract against S. generation of heat was 48%, with its subsequent fractions having potencies of 25%, 30%, 19%, and 15% for F1, F2, F3, and F4 in that order. In compared to the other 2 bacterial strains, the plant's potential to suppress S. aurous was lower. Azithromycin had an average inhibition of 31 mm or 3.1 cm against S. aurous.

Bacterias	Z.I Standard (*Azithromycin*)	Inhibitions in Percentage (%)				
		Crudes	F-1	F-2	F-3	F-4

Klebsiella pneumonia	Hundred (100%)	60	16	34	-----	22
Escherichia coli	Hundred (100%)	56	18	26	43	-----
Staphylococcus aureus	Hundred (100%)	50	26	32	23	18

Antifungal Activities of *Asphodelus tenuifolius*

With different fractions and concentrations, plant *Asphodelus tenuifolius* crude was evaluated against 3 disease causing fungi strains A. niger, A. flavus, and B. albicans. Following this research, the crude demonstrates significant antifungal activity against a variety of fungal strains. The most inhibited fungal strain by crude Asphodelus tenuifolius has been A. flavus, which has been inhibited by 58 percent with growth of 22 mm. The fractions F-1, F-2, F-3, and F-4 had inhibitory potentials of 32%, 50%, 47%, and 42%, respectively, with linear increase of 48 milimeter, 34 milimeter, 41 milimeter, and 49 milimeters in that order.

For *A. niger* the inhibitory potency of the Asphodelus tenuifolius crude is 71% with linear growth of 17 mm. The fractions F_1, F_2, F_3, and F_4 activity was 57%, 48%, 36%, and 27% with linear growth 29 mm, 38 mm, 50 mm, and 59 mm respectively against the *A. niger* fungi. Similarly, the crude is also able to inhibit the growth of *B. albicans* with the activity of 73% with 19 mm growth and its subsequent fractions i.e. F_1, F_2, F_3, and F_4 with the results of 60%, 50%, 44%, and 38% having growth of 23 mm, 34 mm, 48 mm, and 54 mm. The table of the activity is under.

Fungi.	**Standard**	**Crude**		**F-1**		**F-2**		**F-3**		**F-4**	
	Inhi	**L.G**	**Inhi**	**LG**	**Inhi**	**LG**	**Inhi**	**L.G**	**Inhi**	**L.G**	**Inhi**
Aspergillus flavus	100%	22	58	48	32	34	50	41	47	49	42
A.niger	100%	17	71	29	57	38	48	50	36	59	27

In the above table LG means “Linear growth in mm”, Inhi means “Inhibition in Percent (%)”, The tubes were prepared with DMSO at a concentration of (mg/ml). Terbinofin

Phytotoxic activeness of *Asphodelus tenuifolius*

Phytotoxic activity indicates whether one plant has a positively or negatively effect on the growth of another. In this study, *A. tenuifolius* aqueous extracts has an incredible allelopathic effect on the growth of wheat.

Phytotoxic table after 3 and 7 days, of *Asphodelus tenuifolius*

Specimen	**Percentage Growth Suppression**

Samples	**1000 µg/ml**		**500 µg/ml**		**250 µg/ml**	
Samples	**Shoots**	**Roots**	**Shoots**	**Roots**	**Shoots**	**Roots**
Extract	57± 0.15	73± 0.90	59± 0.44	54± 0.61	40± 0.23	50± 0.25
F 1	49 ± 0.25	43± 0.07	35± 0.32	32± 0.19	26± 0.08	28± 0.8
F 2	20 ± 0.23	16± 0.10	12± 0.37	24± 0.42	20± 0.13	20± 0.40
F 3	32 ± 0.19	28± 0.71	40± 0.43	33± 0.71	28± 0.3	20± 0.91
F 4	20± 1.33	15± 0.22	15± 0.32	12± 0.37	18± 0.4	10± 0.6

Antioxidant activity of *Asphodelus tenuifolius*

Asphodelus tenuifolius is an antioxidant-rich plant. With a concentration of 1000 ppm, the plant crude provides 812.20 percent antioxidant activity and 340.11 percent activity with a concentration of 100 ppm. The Ic50 of the standard is 401.15 g/mL. Antioxidant activity can be found in all the fractions. At 1000 ppm, the F1 has an activity of 78.1 0.45 percent, while at 100 ppm, the F1 has an activity of 32.2 0.5 percent. F1 had an IC50 value of 431.15 g/mL. The recent work, which was collected from new research project, is similar to previous research of the utilisation of DPPH solution, which demonstrated incredible antioxidant potential with in *Asphodelus tenuifolius*. The phytochemicals found in *Asphodelus tenuifolius* reduce the DPPH solution. The phytochemicals found in *Asphodelus tenuifolius* reduce the DPPH solution. By trying to attract their unpaired electron, the free radical is stabilised. The *A.tenuifolius* methanol extract extrac demonstrated this property extremely well; as the density of their solution increases, so does their radical - scavenging potency.

Following are the values of the Antioxidant activities of *Asphodelus tenuifolius* for different fractions;

Conc. On	**Standard Drugs**	**Test Samples**				
		Crude Extract	**F1**	**F2**	**F3**	**F4**
100	68 ± 0.28	32 ± 0.14	32.2 ± 0.5	08.2 ± 0.23	39.2 ± 0.1	21.2 ± 0.01
250	89 ± 1.68	64 ± 0.54	48.8 ± 0.04	19.4 ± 0.11	42.2 ± 0.01	39.6 ± 0.21
500	95 ± 0.57	77 ± 0.32	56.6 ± 0.15	41.6 ± 0.03	58.3 ± 0.83	55.4 ± 0.2

1000	96 ± 1.28	86 ± 1.21	78.1 ± 0.45	53.3 ± 0.22	75.2 ± 0.04	82.8 ± 0.03
IC50 µg/ml	42 ± 1.17	147 ± 0.69	175 ± 0.17	383 ± 0.58	319 ± 0.03	392 ± 0.09

Table No. 2. Antioxidant Activities of Asphodelus tenuifolius for Crude and different fractions

CONCLUSION

In the recent work of *Asphodelus tenuifolius* plant it has been revealed that it contains phytochemicals which are Phenols, Tannins, Anthraquinones, Alkaloids, Steroids and Flavonoids. Because the plants contain bioactive compounds, they exhibit a variety of pharmacological activities. Because plant extracts contain a variety of bioactive compounds that can be used to treat a variety of ailments, bioassay-guided assays of the active compounds are advised for the exclusion and entire elaboration of the structures of these additives, which can then be used in drug design.

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