

**SOLANUM ANGUIVI:- A COMPREHENSIVE REVIEW OF ITS BOTANICAL  
SIGNIFICANCE AND MEDICINAL POTENTIAL**

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**ABSTRACT**

Solanum Anguivi, a plant belonging to the Solanaceae family, has been a subject of growing interest among researchers and botanists in recent years. This review paper aims to provide a comprehensive overview of thorough examination of the taxonomy, morphology, distribution and ecological roles of *Solanum anguivi* along with its botanical, ecological and medicinal aspects. Furthermore, this review synthesizes the existing knowledge on the chemical composition and pharmacological properties of *Solanum anguivi*. It discusses the various bioactive compounds found within the plant which have shown promise in diverse medical applications. In addition, this paper highlights the medicinal uses of *Solanum anguivi* in indigenous community.

**KEYWORDS:** Solanum anguivi, Antimicrobial, Antioxidant, Antidiabetic, Antitrypanosomal, Hypolipidemic potential.

**INTRODUCTION**

*Solanum anguivi*, commonly known as "wild eggplant" or "bolo maka" in some regions, is a fascinating plant species that has garnered attention due to its diverse uses and ecological significance. This report delves into the comprehensive study of *Solanum anguivi*, encompassing its botanical characteristics, distribution, ecological role, economic importance, and potential applications in various fields.

At the heart of our exploration lies the botanical intricacies of *Solanum anguivi*. This plant, belonging to the Solanaceae family, exhibits unique features that distinguish it within the vast realm of plant diversity. From its distinctive leaves to the vibrant hues of its flowers, a closer examination of *Solanum anguivi*'s morphology sets the stage for understanding its place in the botanical tapestry.

Geographically, *Solanum anguivi* has a wide distribution, thriving in diverse ecosystems across different continents. Understanding its habitat preferences and adaptability provides valuable insights into the plant's ecological dynamics. This report elucidates the regions where *Solanum anguivi* flourishes, shedding light on the factors contributing to its successful proliferation.

The ecological function of *Solanum anguivi* stretches beyond its mere existence in different ecosystems. As a potential indicator species, its engagements with other flora and fauna play a part in the intricate balance of

biodiversity. Investigating the ecological connections it forms reveals the complex network of interdependencies that characterize natural ecosystems, establishing *Solanum anguivi* as a pivotal figure in sustaining ecological stability.

Furthermore, *Solanum anguivi* holds economic significance in numerous communities. Indigenous knowledge and traditional uses of this plant for medicinal, culinary, or other practical purposes emphasize its cultural importance. By documenting these traditional practices, this report aims to bridge the divergence between local wisdom and contemporary scientific knowledge, facilitating the path towards sustainable utilization.

Moreover, in addition to its traditional applications, the report delves into the potential modern uses of *Solanum anguivi*. From its nutritional benefits to the prospect of extracting bioactive compounds with pharmaceutical potential, the diverse contributions of this plant to various industries are revealed. This segment of the report spotlights avenues for further research and potential commercial exploitation.

In summary, the investigation into *Solanum anguivi* endeavors to offer a thorough comprehension of this captivating plant species. By exploring its botanical traits, geographical spread, ecological significance, economic value, and prospective uses, we unveil the intricate layers of complexity that render *Solanum anguivi* a subject of both scientific intrigue and practical

significance. As we traverse the nuances of this plant's presence, we acquire invaluable perspectives on the interwoven nature of the environment and the possibilities it presents for sustainable harmony.

#### Scientific classification

- ❖ Kingdom: Plantae
- ❖ Clade: Tracheophytes
- ❖ Clade: Angiosperms
- ❖ Clade: Eudicots
- ❖ Clade: Asterids
- ❖ Order: Solanales
- ❖ Family: Solanaceae
- ❖ Genus: Solanum
- ❖ Species: *S. anguivi*
- ❖ Biological names: *Solanum anguivi*
- ❖ Synonymes:
  - *Solanum aethiopicum*
  - *Solanum albidum* De wild
  - *Solanum cultum* De wild
  - *Solanum flamigmii* De wild.

#### Macroscopic description

A spiny subshrub, commonly referred to as "Wild eggplant" or "Bolo maka," is an intriguing plant species belonging to the Solanaceae family, which encompasses various well-known members. It reaches a height of 1.5 to 2 meters, adorned with densely stellate-tomentose parts. Prickles measure up to 10mm in length, standing erect to slightly recurved. The leaves range from 4-15 x 3.5-9 cm, ovate to oblong-ovate in shape, acute at the apex, with both surfaces covered in stellate hairs and prickly along the veins. The petiole can extend up to 2.5cm in length.

1. **Fresh fruit:** The berry is globular, green, occasionally bearing white stripes, maturing to a light yellow color, about 1.2 cm in diameter, with a persistent calyx devoid of spines.
2. **Dry fruit:** Light yellow and shiny, often displaying wrinkles.
3. **Seed:** Ovate to round, discoid-shaped, yellow to yellowish-brown in color, approximately 4-5 mm in diameter.
4. **Powder characteristics:** Exhibits a light yellow hue and a gritty texture.
5. **Epicarp cells:** Possess narrow lumens, occasionally containing yellowish content, measuring 15-25 micrometers in diameter.
6. **Spermoderm cells:** Irregular in shape, with cavities ranging from 100-150 micrometers in length. Palisade-like structures measure 120-180 micrometers in height and 40-60 micrometers in width.

#### Medicinal uses

The plant is used as therapeutic agent for various diseases. The roots are carminative and expectorant useful in cough, dysuria, colic, nasal ulcers. To manage fever, injuries, dental decay, reproductive issues, and arterial hypertension. Thus leaves fruits Roots and aerial

plants can benefit humans by enhancing their health when consume as a part of daily diet neutraceuticals or biopharmaceuticals. It is used for the treatment of high blood pressure, ulcer, nerve disorder and diabetes.

With conditions related to water retention or edema.

Traditional uses:- One notable medicinal use of *Solanum anguivi* is in dermatology. The plant's extracts have demonstrated anti-inflammatory and antimicrobial properties, making them beneficial for managing skin conditions such as eczema, psoriasis, and acne. The application of *Solanum anguivi*-based formulations may help reduce inflammation and combat bacterial infections, promoting skin health.

Furthermore, this plant has been traditionally employed to alleviate digestive ailments. *Solanum anguivi* is believed to possess carminative properties, aiding in the relief of indigestion and bloating. Additionally, its extracts are thought to support liver function, contributing to overall digestive well-being.

In certain cultures, *Solanum anguivi* has been used as a natural diuretic. The plant is believed to facilitate the elimination of excess fluids from the body, which may be beneficial for individuals.

In many regions, the plant holds significance for its medicinal, Culinary and Even cultural applications.

Medicinally, *Solanum anguivi* has been employed to treat a range of ailments. The plant's leaves and fruits contain compounds with potential medicinal properties, and extracts have been used in traditional medicine to address issues such as skin infections, inflammation, and digestive problems. Additionally, some cultures believe in its efficacy against snakebites, leading to its inclusion in traditional antidotes.

Culinarily, *Solanum anguivi* finds its place in regional dishes. Despite its bitter taste, certain culinary practices involve the preparation of dishes where the plant is cooked or processed to reduce its bitterness. In some cuisines, the fruit is used as an ingredient in chutneys, pickles, or stews, contributing a unique flavoured profile to the local cuisine.

Furthermore, the cultural significance of *Solanum anguivi* is notable. In certain communities, the plant has found its way into folklore and traditional rituals. Its presence in local myths or its association with specific ceremonies reflects the deep-rooted connection between the plant and the cultural heritage of these regions.

It's important to note that while *Solanum anguivi* has been traditionally used for various purposes, caution is advised due to its potential toxicity. The plant contains alkaloids that can be harmful if consumed in excessive amounts. As with any traditional remedy, the use of *Solanum anguivi* for medicinal purposes should be

approached with care and under the guidance of knowledgeable practitioners.

In conclusion, *Solanum anguivi* plays a multifaceted role in traditional practices, serving as a source of medicine, a unique culinary ingredient, and a symbol of cultural heritage. However, its usage requires careful consideration and respect for its potential toxic properties.

### Origin and Distribution

The origin and distribution of *Solanum anguivi* can be traced back to its domestication in Africa, where it was crossbred with other *Solanum* species to develop the scarlet eggplant, *Solanum aethiopicum*.

The species is native to the Mediterranean and Eurasian regions, and its cultivation has spread to other parts of the world.

In China, there are 39 species and 14 varieties of *Solanum*, and *S. anguivi* can be found in nearly every province. Phytochemical analyses of *Solanum anguivi* have unveiled its diverse chemical makeup, with the identification of as many as 188 chemical constituents. Of these, the principal bioactive components include steroidal saponins, alkaloids, phenols, and polysaccharides.

The species has been found to exhibit a wide range of therapeutic potential, including antitumor, anti-inflammatory, antioxidant, antibacterial, and neuroprotective activities both *in vivo* and *in vitro*.

### Pharmacological activity

Extracts of *S. Anguivi* are extensively studied for their therapeutic potential like Antioxidant, Antimicrobial, Antidiabetic, Anti trypanosomal, Antiherps.

### Antimicrobial activity

#### Introduction

Bacterial infections pose significant threats to public health globally, particularly in developing nations where poor sanitation and overcrowded living conditions prevail, leading to substantial mortality and morbidity rates.

Antibiotics, potent medications designed to combat bacterial infections by either eradicating the bacteria or inhibiting their reproduction, have played a crucial role in modern medicine. However, over time, bacterial organisms can adapt and develop resistance mechanisms against these antibiotics, rendering them ineffective.

The emergence and proliferation of antimicrobial resistance stem from multifaceted socioeconomic and behavioral factors, including the misuse of antibiotics, inadequate training among medical practitioners and non-professionals, and the utilization of substandard antimicrobial agents, particularly prevalent in developing

regions. While antimicrobial resistance is a global concern, its impact is disproportionately higher in developing countries due to the widespread prevalence of bacterial diseases and the associated risks of resistance emergence and dissemination.

The escalating prevalence of resistant bacterial strains, coupled with limited access and the high cost of newer-generation antimicrobial drugs, has exacerbated the burden of infection-related morbidity and mortality, especially evident in countries like Ethiopia.

The escalating ineffectiveness of chemotherapeutics and the rise of antibiotic-resistant pathogens have prompted researchers to explore alternatives in their quest for efficacious and safe therapeutics, including medicinal plants utilized as antimicrobials in traditional medical systems.

Across the ages, diverse communities worldwide have relied on medicinal plants to address various health issues. In Ethiopia, a significant portion of the rural populace and economically disadvantaged urban dwellers turn to traditional medicine to address their primary healthcare needs. Traditional medicine enjoys widespread acceptance and is deeply ingrained in Ethiopian culture, often preferred even in the presence of demonstrably effective and more affordable alternative healthcare options. Over 95% of traditional Ethiopian medical remedies derive from plants. Ethnobotanical studies conducted on medicinal plants in Ethiopia have underscored their utilization in treating various infectious diseases, underscoring the continued significance of plant-based medicines in the nation's traditional medical practices.

Despite the extensive use of medicinal plants with antimicrobial properties by traditional healers, many of these plants' therapeutic potential remains scientifically unexplored. In Ethiopia, *Artemisia absinthium*, *Datura stramonium*, and *Solanum anguivi* are reputed to possess antimicrobial efficacy. Nonetheless, there exists a dearth of scientific evidence substantiating these traditional claims. Thus, this study seeks to assess the antibacterial activity and acute toxicity of these three plants, aiming to validate the assertions of traditional practitioners. Furthermore, the study's outcomes may pave the way for the discovery of novel compounds for the development of antimicrobial drugs.

Bacterial pathogens have developed numerous defense mechanisms against commercial antimicrobial agents, and their resistance to most available antimicrobials is on the rise.

### OBJECTIVE

The objective of this research is to determine the antimicrobial properties and acute toxicity of 80% methanol extracts derived from the leaves of *Artemisia*

absinthium, seeds of *Datura stramonium*, and fruits of *Solanum anguivi*.

### MATERIALS AND METHODS

The 80% methanol extracts were obtained through cold maceration. Antimicrobial efficacy was assessed against five bacterial species using agar well diffusion at concentrations of 125, 250, and 500 mg/ml, with positive and negative controls employed. Minimum inhibitory concentration was determined through broth dilution. Acute toxicity evaluations were conducted in accordance with OECD guidelines.

### RESULTS

The methanolic extract 80% derived from the fruit of *S. anguivi* exhibited a comprehensive spectrum of antimicrobial activity against the bacterial strains tested.

	Concentration of <i>S. anguivi</i> extract			Positive control
	125mg/ml	250mg/ml	500mg/ml	
<i>S. aureus</i>	10.67±0.33 <sup>acd</sup>	12.67±0.33 <sup>ad</sup>	17±0.58 <sup>a</sup>	27.66±0.33(Amo)
<i>S. Typhimurium</i>	14.67±0.33 <sup>acd</sup>	18.33±0.33 <sup>ad</sup>	20.33±0.33 <sup>a</sup>	27.33±0.33 (Cpr)
<i>S. flexneri</i>	12.67±0.33 <sup>acd</sup>	17.33±0.33 <sup>ad</sup>	19.33±0.33 <sup>a</sup>	26±0 (Cpr)
<i>P. aeruginosa</i>	13.33±0.33 <sup>acd</sup>	16±0.58 <sup>ad</sup>	19.33±0.33 <sup>a</sup>	28.68±0.33(Cpr)
<i>E. coli</i>	9.33±0.33 <sup>acd</sup>	12.33±0.33 <sup>ad</sup>	15.67±0.33 <sup>a</sup>	27±0 (Amo)

Table:- Antibacterial activity of 80% methanol extract of fruit of *S. anguivi* against standard bacterial strains using agar well diffusion expressed as a mean zone of inhibition (mm).

### Antioxidant activity

*Solanum anguivi* fruits exhibit noteworthy antioxidant activity attributed to their polyphenolic compounds. In vitro studies have demonstrated their ability to inhibit calcium-induced mitochondrial swelling, showcasing their potential in mitigating oxidative stress and preserving cellular integrity. This exploration delves into the intricate interplay between *Solanum anguivi*'s polyphenols and their inhibitory effects on mitochondrial swelling, shedding light on promising avenues for antioxidant research and potential health benefits.

An investigation was conducted to evaluate the antioxidant and free radical scavenging attributes of *Solanum anguivi* fruit (SAG), as well as its potential influence on mitochondrial permeability transition pore and mitochondrial membrane potential, using samples extracted from rat liver.

### Methods

The antioxidant potential of SAG was evaluated using assays for 2,2-diphenyl-1-picrylhydrazyl (DPPH) scavenging, reducing power, iron chelation, and inhibition of lipid peroxidation in liver and brain homogenates of rats. Furthermore, the impact of SAG on mitochondrial membrane potential and swelling was assessed. Bioactive polyphenolics were identified and quantified through HPLC-DAD analysis.

The acute toxicity investigation revealed LD50 values exceeding 2000 mg/kg body weight for all three plants, indicating their safety profile.

### CONCLUSION

The results of this study reveal that the methanol extract of the three plants (*A. absinthium*, *D. stramonium* and *S. anguivi*) had different degrees of antimicrobial activity against the selected pathogenic bacteria and were safe at higher doses and thus being of great potential to be developed as antimicrobial agents.

The study further substantiated the traditional utilization of these medicinal plants by communities across various regions of Ethiopia for managing infectious diseases, backed by scientific evidence.

### RESULTS

SAG displayed significant and dose-dependent scavenging activity against free radicals (IC50/DPPH = 275.03 ± 7.8 µg/mL). Its reductive and iron chelation capacities increased with rising SAG concentrations. SAG effectively suppressed the peroxidation of cerebral and hepatic lipids under iron-induced oxidative stress. Additionally, SAG protected against Ca<sup>2+</sup> (110 µmol/L)-induced mitochondrial swelling while preserving the ΔΨ<sub>m</sub>. HPLC examination revealed the presence of gallic acid (17.54 ± 0.04 mg/g), chlorogenic acid (21.90 ± 0.02 mg/g), caffeic acid (16.64 ± 0.01 mg/g), rutin (14.71 ± 0.03 mg/g), and quercetin (7.39 ± 0.05 mg/g) among the bioactive polyphenolic compounds.

### CONCLUSION

This study represents a pioneering investigation into HPLC fingerprinting, comprehensive antioxidant assessments, and the effects of SAG fruit on mitochondrial membrane potential and swelling. The findings underscore the rich antioxidant content of SAG, suggesting its potential as a food additive to mitigate diseases linked to oxidative stress.

### Antidiabetic activity

With an increasing global prevalence of diabetes and a growing demand for alternative therapies, there is a burgeoning interest in exploring the antidiabetic potential of natural compounds found in plants. *Solanum anguivi*, given its phytochemical composition, has attracted attention as a potential candidate for antidiabetic research.

By examining the phytochemical constituents and their potential mechanisms of action, this review seeks to contribute to the understanding of how *Solanum anguivi* may influence glucose metabolism and insulin sensitivity. Furthermore, the exploration of relevant preclinical and clinical studies will shed light on the efficacy and safety of *Solanum anguivi* as a potential adjunct or alternative in the management of diabetes.

As we delve into the current state of knowledge on *Solanum anguivi* and its antidiabetic properties, it is crucial to recognize the significance of such research in the context of developing novel therapeutic interventions for diabetes, offering potential benefits for individuals seeking alternative approaches to complement conventional treatments.

Various researchers have documented the presence of phytochemicals in SALF, encompassing phenolics, flavonoids, saponins, alkaloids, coumarins, and vitamins. Phenolics found in SALF include gallic acid, chlorogenic acid, caffeic acid, along with phenolic acids and tannins. Flavonoids such as rutin and quercetin are also present. Triterpenoid saponins and steroidal saponins or glycosides, including anguiviosides A to C, III, XI, XV, and XVI, have been identified in SALF, exhibiting chelating abilities. SALF extracts have demonstrated inhibition of lipid peroxidation, possibly attributed to the presence of saponins, known to inhibit lipid peroxidation in diabetic rats by restoring SOD and CAT. Additionally, SALF extracts have shown blood-glucose-lowering effects in diabetic rats. The antidiabetic properties, including antioxidant activities, inhibition of oxidative stress, and blood-glucose-lowering effects, may be linked to the diverse phytochemicals in SALF. However, while saponins in SALF have been studied for their antidiabetic effects, other classes of phytochemicals like phenolics, flavonoids, and alkaloids remain understudied in this context. Hence, we discuss their potential antidiabetic effects and underlying mechanisms of action in comparison to other medicinal plants with similar phytochemical profiles.

## CONCLUSION

In conclusion, the investigation into the antidiabetic activity of *Solanum anguivi* plant extracts, particularly those rich in saponins, has yielded significant insights.

The study aimed to explore the potential therapeutic effects of these compounds in managing diabetes, a prevalent and challenging metabolic disorder.

Through rigorous experimentation, it was observed that the presence of saponins in *Solanum anguivi* exhibited promising antidiabetic properties. Saponins are known for their diverse pharmacological activities, and in this context, their ability to modulate glucose metabolism and enhance insulin sensitivity became evident.

The plant's extracts, containing these bioactive compounds, demonstrated a considerable impact on blood glucose levels, suggesting their potential as natural agents for diabetes management.

Furthermore, the study delved into the underlying mechanisms of action. It was revealed that the saponins from *Solanum anguivi* may influence key pathways involved in glucose homeostasis, insulin signaling, and oxidative stress regulation.

These findings not only contribute to our understanding of the plant's therapeutic potential but also pave the way for the development of novel antidiabetic agents inspired by natural sources.

Despite these promising outcomes, it is essential to acknowledge the need for further research to validate and elucidate the specific bioactive components responsible for the observed antidiabetic effects.

Additionally, comprehensive safety assessments and clinical trials are imperative to ascertain the viability of *Solanum anguivi*-derived compounds as potential pharmaceutical interventions for diabetes.

In conclusion, the exploration of *Solanum anguivi* as a source of antidiabetic agents, particularly focusing on saponins, signifies a valuable stride in the quest for alternative and complementary approaches to managing diabetes.

The multifaceted potential of these plant-derived compounds opens avenues for future research, offering new perspectives on harnessing nature's resources for combating this global health concern.

## Antitrypanosomal activity

Trypanosomiasis also known as sleeping sickness is one of the worlds most serious infectious disease caused by *Trypanosoma* parasites affecting both human and livestock.

It is mainly found Tropical Africa, Latin America and Asia.

## Symptoms

Swollen lymph nodes  
Behavioural changes  
Fever and Insomnia

*Solanum anguivi* lam. Is a rare ethanomedicinal herb that belongs to the family Solanaceae and can be found throughout the non arid parts of Africa.

*S. anguivi* has been recognised to possess medicinal properties and they are used in traditional systems of medicines has been on record for a long time.

It exhibits significant polymorphism and variability in its plant structure, fruits, and leaf characteristics. Despite its traditional use in Ethiopian folk medicine for Trypanosomiasis treatment, there is a lack of laboratory-based evidence regarding its efficacy and safety.

### OBJECTIVE

This study aims to investigate the *in vivo* anti-trypanosomal effects of the hydromethanolic extract of *S.anguivi* fruit on mice deliberately infected with a field strain of *T. congolense*.

### MATERIAL AND METHODS

#### Plant Collection and Authentication

In this study, *Solanum anguivi* fruits were harvested and utilized as a potential antitrypanosomal agent. Samples of the plant's leaves and flowers were collected, identified, and authenticated at the Aklilu Lema Institute of Pathobiology.

#### Plant extract preparation

The dried plant material was macerated in 80% methanol in an Erlenmeyer flask for 72 hours at room temperature, with periodic shaking using a mini orbital shaker. The resultant mixture underwent filtration twice using gauze and Whatman filter paper No. 1. Supernatants were separated from the undissolved portion, and methanol was removed from the filtrate using a rotary evaporator. The filtrate was then lyophilized to remove water.

#### Ethical approval

Before commencing data collection, ethical clearance was obtained from the research ethics committee (REC) of the School of Veterinary Medicine.

#### Experimental animals

Swiss albino mice of both sexes weighing 30-35 g (10-12 weeks old) were obtained from Ambo University. They were housed in the laboratory animal unit of ALIPB and maintained on a standard animal diet with *ad libitum* access to water. The animals were kept at a room temperature of 23-25°C with a relative humidity of 60-65%.

All procedures were conducted in accordance with the Guide for the Care and Use of Laboratory Animals, as outlined in the Herbert and Lumsden table. Parasitemia was monitored every four days to minimize stress on the experimental animals until 21 days post-treatment initiation. The 80% methanol extract of *S. anguivi* fruits was prepared using the cold maceration technique. *In vivo* curative tests were conducted to evaluate the effect of the plant extract against *T. congolense* in Swiss albino mice.

The plant extracts were administered at doses of 100, 200, and 400 mg/kg of body weight. Acute toxicity testing of the extract at a dose of 2000 mg/kg was performed following OECD guidelines. Data obtained

from the experiments were analyzed using one-way ANOVA followed by the Tukey test.

### RESULTS

The study revealed that the extract did not demonstrate any signs of acute toxicity up to a dose of 2000 mg/kg of body weight. In the curative tests, the extracts significantly reduced parasitemia, preventing a decline in packed cell volume and body weight compared to the control ( $p < 0.05$ ).

Groups provided with extracts before infections got prolonged incubation period with chemoprophylactic effect at the doses of 100, 200 and 400 mg/kg

Phytochemical analysis showed the presence of flavonoids, steroids, triterpenes, saponins, glycosides, tanins and alkaloids.

### CONCLUSION

Research into the impact of plant extracts on *Trypanosoma* parasite infection is expanding, yielding encouraging outcomes.

In summary, the findings of this study provide evidence that the hydromethanolic extract derived from *Solanum anguivi* Lam fruits exhibits antitrypanosomal activity against field isolates of *Trypanosoma congolense*. Furthermore, it lends support to the traditional use of this plant for managing animal trypanosomiasis in Ethiopia. As this study focused on the crude extract of the plant, further investigations are warranted to identify and isolate pure compounds from the plant and elucidate their mechanisms of action.

#### Hypolipidemic potential

*Solanum anguivi* has gained attention for its potential as antihyper lipidemic. This medicinal plant has been studied for its ability to regulate lipid levels in the body, offering promising prospects for managing hyperlipidemia – a condition characterised by elevated level of fats in the blood.

The quest for save herbal remedy for the management of cardiovascular disease prompted the investigation and aimed at determining the effect of saponin from *Solanum anguivi* fruits on serum lipid profile a risk factor in the development of coronary heart disease.

36 rats (*Rattus norvegicus*) were divided into 6 groups Saponin was orally administered daily to the groups for a duration of 21 days. The serum lipid profile was assessed using diagnostic kits. The results revealed a notable initial increase ( $p < 0.05$ ) in the weights of the treated animals compared to the control group. However, by the third week, this increase was no longer statistically significant.

A significant reduction in serum triglycerides, total cholesterol and high density lipoprotein (HDL) AND low density lipoprotein (LDL) was observed.

This leads to the conclusion that saponin extracted from *Solanum anguivi* fruits exhibits hypolipidemic potential, a significant factor contributing to the prevalence and severity of coronary heart disease.

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