

## TABLE OF CONTENTS

### ENGLISH TITLES

#### BIOLOGY

**Analysis of *hsp90α* gene expression induced by temperature shock and heavy metals in the heart of common carp (*Cyprinus Carpio* L.)**

Edit Hermes and Khaled Saeed Ali

**Vitamin C administration reduces side effect of Penicillin and Streptomycin on liver cells in Guinea pigs**

Mohammed A.Y. Al-Eryani , Mohammed S. A. Al-Awar, Elham A. S.

AL- Shaibani , Elias M.A.Salih and Fatima M. H. Shedewa

**Study the efficacy of *Aloe vacillans* compared with Amprolium drug in broiler chickens experimentally infected with *Eimeria tenella* in Taiz-Yemen**

Badria Mohammed Abdel-Wasae and Manal A.S. Alashwal

#### CHEMISTRY

**Synthesis and reactions of 2,9-Bis(4-*N,N*-dimethyl phenyl)-5,12-*N,N'*-Bis(aryl)-1,5,8,12-tetraazatetracyclo-[6,6,0,<sup>3,7</sup>0,<sup>10,14</sup>0]tetradecane-4,6,11,13-tetraones and their screening for biological activity.**

Abdullah A. Al-Karim Al-Shara'ey and Younes S. Abdoualkader Ghanem

#### ENGINEERING

**Recognition of Arabic printed characters using structural features and contour methods**

Adel Sallam M. Haider and Omaima A.Aziz Bahaidra

## **ENVIRONMENT**

### **Correction of *Salix L.* (Salicaceae) in the flora of Jabal An-Nabi Shu'ayb, Sana'a Governorate, Yemen.**

Hassan M. Ibrahim and Abdul Nasser Al-Gifri

## **MARINE SCIENCES**

### **Stock assessment of *Lethrinus lentjan* in the Gulf of Aden**

Mahboob Mohamed Abdul-Wahab

## **MEDICINE**

### **Breast cancer awareness among women living in Meena District In Aden**

Hussun Saeed Jezan and Nadia Hassan Al-Asbahi

### **Management of spleen injuries at Algamhouria Teaching Hospital – Aden Yemen**

Salem H Alshabahi, Mohamed Hassan Salem and Nasser Ahmed  
Abdulla Harhra

### **Post-thyroidectomy complications: Comparison of total versus subtotal thyroidectomy performed for Nodular Goitre**

Saeed Hadi Al-Bahlouli

### **A clinical study of ectopic pregnancy in Al.Wahda Teaching Hospital, Aden, from 1<sup>st</sup> Jan- 31<sup>st</sup> Dec-2012**

Nahla S. Al.kaaky, Faiza S. Al.kaaky and Huda Basora

## **PHARMACY**

### **Formulation and evaluation of oral transmucosal ketamine as premedication in children**

A.M.A Sabati and Ahmed Mohamed Othman

### **Topical formulation & in-vitro , in-vivo evaluation of ascorbic acid**

A.M.A Sabati and Ahmed Mohamed Othman

**Antimicrobial, anti-oxidant and hepatoprotective activities of  
Quinazolinone-4 derivatives on Paracetamol induced hepatotoxicity  
in Guinea pigs**

Shada.H.Yassin, Ali Gamal Al-kaf, Mohammed Kotb,Jalal. H.Abdullah  
andTawfeek .A.Yahya

**The in- vitro antibacterial activity of a multierbal formula used in  
Yemeni traditional medicine for topical treatment of Impetigo**

Rawiya Hassan Alasbahi and Mohamed Farhan Al-Helali

**SHORT COMMUNICATIONS**

**ENVIRONMENT**

**Limnological studies of fresh-water ponds in south- east Yemen  
II – Primary productivity of five fresh-water ponds in Al-Hami  
( Hadhramout )**

Alawi Ahmed Makhnoon

**SUBJECT INDEX (Volume17 – 2013)**

**Subject index of research papers published in the "University of  
Aden Journal of Natural & Applied Sciences", and their authors  
Volume 17 (April- August- December 2013)**

**AUTHOR INDEX (Volume17 – 2013)**

**Author index of papers published in the “University of Aden Journal  
of Natural & Applied Sciences” and their addresses  
Volume 17 (April- August- December 2013)**

**ARABIC TITLES**

**ENGINEERING**

**An analytical Architectural study of the Mamluki Mosque in Gaza-  
Ibn Othman Mosque : A case study**

Mohamed Ali. El-kahlout

**ENVIRONMENT**

**Flora of Albahra area - Wadi Al-dhbab, Haifan District, Taiz  
Governorate, Yemen**

Othman S. S. Al-Hawshabi, Azmi A. A. Saif, Saeed S. Mohammed and  
Abdul-Nasser A. Al-Gifri

**MEDICINE**

**Loading of dental implants using the concept of Platform-Switching  
as a mean for preservation of marginal bone**

Rasha Saed Al-Deen, Elias Botros and Muhannad Ayoub

**Clinical comparative study of short and conventional early loaded  
implants**

Rabie Al-Kurdi, Salah Sakka and Rabab Al-Sabbagh

**Study of oral health statement of Syrian elderly patients and  
evaluation of their contentment of dental treatments presented to  
them**

Ali Alsheikh Haidar

**SUBJECT INDEX (Volume17 – 2013)**

**Subject index of research papers published in the "University of Aden Journal of Natural & Applied Sciences", and their authors  
Volume 17 (April- August- December 2013)**

**AUTHOR INDEX (Volume17 – 2013)**

**Author index of papers published in the “University of Aden Journal of Natural & Applied Sciences” and their addresses  
Volume 17 (April- August- December 2013)**

## ENGLISH TITLES

### BIOLOGY

#### **Analysis of *hsp90α* gene expression induced by temperature shock and heavy metals in the heart of common carp (*Cyprinus Carpio* L.)**

**Edit Hermes<sup>1</sup> and Khaled saeed Ali<sup>2</sup>**

<sup>1</sup>:Department of Biochemistry and Molecular Biology, Faculty of Sciences,  
University of Szeged, Hungary

<sup>2</sup>: Department of Biology, Faculty of Education/Sabir, University of Aden

#### **Abstract**

This study was conducted to analyze the *hsp90α* gene expression in the heart of carp (*Cyprinus carpio*) in vivo during exposure to heavy metals (Arsenate, cadmium and copper) and changes in temperature. *hsp90α* gene induction were measured in the heart by semiquantitative RT-PCR. Heat shock resulted in a transient induction of *hsp90α* (15-fold), while cold shock treatment induced high level (26-fold) of *hsp90α* expression. Among heavy metals, arsenate proved to be the most potent inducer of *hsp90α* gene. The *hsp90α* mRNA levels were elevated 11-fold after 24- h exposure, compared to control. Cadmium at 10 mg/L had no impact on the expression of *hsp90α*; while cadmium, at 10mg/kg, resulted in significant induction of *hsp90α* gene (14.5-fold and 17.5-fold) respectively, at 24 h and 48 h exposure. The various induction patterns suggest that *hsp90α* gene play different role in cardiac protection.

**Key words:** *hsp90α* expression, temperature shock, heavy metals.

**Vitamin C administration reduces side effect of Penicillin and Streptomycin on liver cells in Guinea pigs**

**Mohammed A.Y. Al-Eryani<sup>a</sup>, \*Mohammed S. A. Al-Awar<sup>a</sup>, Elham A. S. AL-Shaibani<sup>b</sup>, Elias M.A.Salih<sup>c</sup> and Fatima M. H. Shedewa<sup>b</sup>**

<sup>a</sup> Department of Biology, Faculty of Education, University of Amran, Yemen

<sup>b</sup> Department of Biology, Faculty of Faculty, University of Sana'a, Yemen

<sup>c</sup> Department of Biology, Faculty of Education, University of Aden, Yemen

\*momed.sadeg@yahoo.com

**Abstract**

This study aims at investigating the ability of Vitamin C as antioxidant to reduce the side effect of Penicillin and Streptomycin on function and tissue of liver in guinea pig. A total of fifty-five adult male guinea pigs weighing 800-900g were divided into six groups, and the period of experiment was 30 days. Group I served as control, group 2 was administrated orally with Vitamin C 100 mg/kg, group 3 was intraperitoneally (i.p.) injected with penicillin 50000 IU/kg, group 4, in addition to Penicillin (50000IU/kg), was orally administrated with Vitamin C 100 mg/kg, group 5 was (i.p.) injected with streptomycin 50 mg/kg, and group 6, in addition to streptomycin (50 mg/kg), was orally administrated with Vitamin C 100 mg/kg. The results showed a significant increase in the levels of AST, ALT and ALP, and a significant decrease in the levels of total protein and albumin, with histopathological changes in Penicillin and Streptomycin treated guinea pigs when compared to the control. Administration of vitamin C to penicillin and streptomycin treated groups produced significant ( $P<0.01$ ) reduction in AST, ALT and ALP and an increase in total protein and albumin levels. Administration of vitamin C also decreased these histopathological changes in hepatocytes appearance which was more or less similar to control group, as well as its function. The present results indicate that Vitamin C may play an important role as Cytoprotective and pave the way for further studies on the possible use of Vitamin C.

**Key words:** Vitamin C, Penicillin, Streptomycin, Histological and Biochemical study.

**Study the efficacy of *Aloe vacillans* compared with Amprolium drug  
in broiler chickens experimentally infected with *Eimeria tenella* in  
Taiz-Yemen**

**Badria Mohammed Abdel-Wasae and Manal A.S. Alashwal**

Department of Biology, Faculty of Applied Science, Taiz University, Taiz-Yemen  
[B\\_wasae2013@yahoo.com](mailto:B_wasae2013@yahoo.com)

**Abstract**

Coccidiosis is a parasitic disease that is responsible for the losses in the production of food producing animals worldwide. *Eimeria tenella* is the most pathogenic species of *Eimeria* which had infected chickens. Extract of *Aloe vacillans* sp. was used to determine their effect on the caecal coccidiosis of chicken. 40 broiler chickens aged 20 days were divided into four groups, each of 10 chickens, group A kept as a control group but each bird in the groups B, C & D were infected orally with 15,000 oocysts of *Eimeria tenella*. Nine days post-infected, group B was treated with extract of *Aloe vacillans* sp. herbals of 150 mg/ml of, respectively, for 15 days after the bloody diarrhea seen. Group C was treated with 1 gm of Amprolium drug added to two-liter distal water, while group D wasn't treated after infection. The aim of the present study is to compare the effects of herbal drugs with Amprolium on chicken infected with *Eimeria tenella* and the change of body weight and the histopathological changes between each group.

**Key words:** *Eimeria tenella*, Histopathological, Amprolium, herbal drugs (*Aloe vacillan*) and Taiz-Yemen.

## CHEMISTRY

### **Synthesis and reactions of 2,9-Bis(4-*N,N*-dimethyl phenyl)-5,12-*N,N'*-Bis(aryl)-1,5,8,12-tetraazatetracyclo[6,6,0,<sup>3,7</sup>0,<sup>10,14</sup>0]tetradecane-4,6,11,13-tetraones and their screening for biological activity.**

**Abdullah A. Al-Karim Al-Shara'ey<sup>1</sup> and Younes S. Abdoualkader Ghanem<sup>2</sup>**

<sup>1</sup>Department of Chemistry, Faculty of Science, Taiz University, Taiz– Yemen

<sup>2</sup>Department of Chemistry, Faculty of Education, Aden University, Aden– Yemen

#### **Abstract**

Criss-cross cycloaddition reaction of aldazines **1** and **2** with *N*-arylmaleimides **3a-e** represents an efficient method to obtain good yields of 2,9-bis(aryl)-*N,N'*-5,12-bis(aryl)-1,5,8,12-tetraazatetracyclo[6,6,0,<sup>3,7</sup>0,<sup>10,14</sup>0]tetradecane-4,6,11,13-tetraones **4a-e** and brominated **5a-d**, respectively, in solvent-free phase. Some of synthesized compounds were directed towards reduction, hydrolysis and dehydrogenation reactions to afford the expected compounds **6a-e**, **7b,d,e** and **8a,e** respectively. The structure of the new synthesized compounds was confirmed spectrally (by IR, <sup>1</sup>H NMR and Mass spectroscopy) and by elemental analysis. Some of the synthesized compounds were exhibit activity against some of bacterial and/ or fungal species.

**Key words:** Criss-Cross cycloaddition reaction, *N*-Arylmaleimides, Aldazines,

## ENGINEERING

### **Recognition of Arabic printed characters using structural features and contour methods**

**Adel Sallam M. Haider and Omailma A.Aziz Bahaidara**

Information Technology Department, Faculty of Engineering, University of Aden,  
Aden, Yemen

[adel\\_ye@yahoo.com](mailto:adel_ye@yahoo.com)

#### **Abstract**

In this paper, a recognition system of Arabic printed text is presented, using structural features and contour methods. The structural features method is based on the detection of holes and concavities in four directions (up, down, left, and right) and the secondary characteristics of this method are used to differentiate between the characters of each class and to reduce the confusion encountered in the system.

The contour method divides each character into a main part and numbers of secondary parts and, by the result of this division, four classes can be received of which each class can be deal with many characters, and to recognize these character, other features such as Cross-Points (Loop), Secondary Parts, Similarity of Secondary Parts, Bottom-Up Density Ratios(BUDR), Left-Right Density Ratios(LRDR), and Horizontal–Vertical Orientation (HVO) have been used.

In this paper, the two methods are tested on isolated characters and on a block of text which has 266 characters. The tests are also passed on multi font and multi size. The experimental results showed a relatively high accuracy of recognizing Arabic characters by two methods. The recognition rate of structural features method was 90.01% and by contour method, it was 98.02%, giving a better result of the structural features method.

**Key words:** Character recognition, contour method , Arabic printed characters, text segmentation, feature extraction , structural features.

## ENVIRONMENT

### Correction of *Salix* L. (Salicaceae) in the flora of Jabal An-Nabi Shu'ayb, Sana'a Governorate, Yemen

Hassan M. Ibrahim<sup>1</sup> and Abdul Nasser Al-Gifri<sup>2</sup>

<sup>1</sup>Biology Department, Faculty of Science, Sanaá University, Sanaá Yemen

<sup>2</sup>Biology Department, Aden University, Yemen.

#### Abstract

In 1997, J. R. I. Wood identified *Salix* sp. collected from the stream, located at the southwest part of Jabal An-Nabi Shu'ayb, as *Salix mucronata* Thunb.

In this paper, the identity of the only *Salix* sp. founded in Jabal An-Nabi Shu'ayb is *Salix excelsa* Gmel, which is elucidated by providing photos and morphological description. Specimens collected from the same locality were compared with the description of *S. mucronata* cited in Flora Capensis, Flora of Arabian Peninsula & Socotra and Flora of the Kingdom of Saudi Arabia. It is clarified that a misidentification was made by J. R. I. Wood. Thus the correct name for *Salix* species, found in the flora of Jabal An-Nabi Shu'ayb as described, is *Salix excelsa* Gmel. But not *S. mucronata* Thunb. as cited by J. R. I. Wood 1997.

**Key words:** *Salix alba*, *S. excelsa*, *S. mucronata*, *S. pentandra*, Jabal An-Nabi Shu'ayb.

## MARINE SCIENCES

### Stock assessment of *Lethrinus lentjan* in the Gulf of Aden

**Mahboob Mohamed Abdul-Wahab**

Marine Science and Biological Research Authority, Aden  
wahab.mm@hotmail.com

#### Abstract

Length-based analysis were conducted to assess the stock of the pink ear emperor, *Lethrinus lentjan*, in the Gulf of Aden. *L. lentjan* is one of the most abundant emperors in the Yemeni waters. Samples were collected from two main landing sites on the coast of the Gulf of Aden. The von Bertalanffy growth parameters were estimated as  $L_{\infty} = 41\text{cm}$  (standard length for both sexes combined),  $K = 0.36 \text{ year}^{-1}$  and  $t_0 = -0.3965$ . Natural mortality coefficient (M) was  $0.78 \text{ yr}^{-1}$  and the total mortality coefficient (Z) was estimated as  $1.89 \text{ year}^{-1}$ . Monthly mean value of gonadosomatic index (GI) was indicated to increase and reached the highest in February showing the spawning season peak of *L. lentjan* occurred in that month. Results of exploitation rate, E, showed that the current E equals 0.59 which is less than the value of  $E_{10}$  and which indicates that the present exploitation is at a safe level.

**Key words:** Landing site, mortality, artisanal fishery, gonad index, exploitation rate.

## MEDICINE

### **Breast cancer awareness among women living in Meena District in Aden**

**Hussun Saeed Jezan<sup>1</sup> and Nadia Hassan Al-Asbahi<sup>2</sup>**

<sup>1</sup>Department of Pathology, Faculty of Medicine and Health Sciences.

<sup>2</sup>Department of Physiology, Faculty of Medicine and Health Sciences.

#### **Abstract**

The aim of this study is to determine the behaviors of women towards the method of early detection of breast cancer in Aden. It is a cross-sectional study conducted by direct interview with 157 women living in Meena districts in Aden. One hundred and fifty seven women, age between 20 to 60 years with mean age 37 years, participated in the study; the university graduates 54 (34.4%) secondary school graduates 33 (21%), primary school 26 (16.6%) and illiterates 44 (28%). The knowledge of breast cancer was most frequently obtained from the media in all groups of women, except 11% of the illiterate women who had no knowledge of breast cancer. The overall majority of women were not performing breast self-examination. The likelihood of detecting a mass and not visiting doctor was frequent among the illiterates and secondary school graduates 66% and 48% respectively. The knowledge of curability of breast cancer when detected early was 2% in the illiterate women compared to 18.2% in secondary graduates, 12% in primary, and 11% in university graduates. It is concluded that the majority of women do not perform self breast examination and only few have some knowledge about it when detected early breast cancer is curable.

**Key words :** Aden, breast cancer, breast self-examination .

**Management of spleen injuries at Algamhouria Teaching Hospital –  
Aden Yemen**

**Salem H Alshabahi, Mohamed Hasan Salem and Nasser Ahmed Abdulla  
Harhra**

Department of Surgery, Faculty of Medicine and Health Sciences, University of  
Aden.

**Abstract**

Spleen is the most frequently injured organ in blunt abdominal trauma. This study is conducted to evaluate operative and non-operative management (NOM) performed for splenic trauma by comparing their outcomes. This is a prospective study, including 72 patients treated for splenic trauma, performed at Algamhouria General Hospital from 1<sup>st</sup> February 2009 to 31<sup>st</sup> January 2013. Data were analyzed using SPSS, version 17. A p – value  $\leq 0.05$  was considered significant.

Associated injury, blood transfusion requirements, morbidity, mortality and length of hospital stay was done and discussed.

There were 52 males (72.2%) and 20 females (27.8%) patients, and the mean age was  $30.93 \pm 15.41$  years. Blunt and penetrating injuries were documented in 62 (86%) and 10 (14%) patients, respectively. Of the 72 patients, 38 patients (52.8%) were treated surgically and 34 patients (47.2%) were treated conservatively.

Laparotomy was performed in 38 patients (52.8%), of which 34 patients (47.2%) undergone splenectomy and 4 patients (5.6%) undergone splenorrhaphy. The mean units of blood transfused in both groups were  $2.29 \pm 1.89$  units. Associated injuries were observed in 69 patients (95.8%), with head injury as the commonest one. The morbidity rate in all patients was 5.6%. The mortality rate was 5.6% for all patients. The mean length of hospital stay was  $11.66 \pm 5.66$  days.

The selection of NOM in hemodynamically stable patients is safe, effective and associated with low morbidity and low mortality. However, this depends on the individual merits of each case and the available facilities of adequate scanning and ICU monitoring service.

**Key words:** Abdominal trauma, Spleen injury, Nonoperative management.

**Post-thyroidectomy complications: Comparison of total versus subtotal thyroidectomy performed for Nodular Goitre**

**Saeed Hadi Al-Bahloli**

Department of Surgery, Faculty of medicine, Thamar University, Yemen

**Abstract**

The aim of this study is to determine and compare the complications of total and subtotal thyroidectomy in patients undergoing thyroid surgery.

Data of patients who underwent thyroidectomy in Al-Wahdah Thamar University Hospital, and Al-Salam Hospital in Saada Governorate and private clinic of the author, between 2007 and 2010 were prospectively analysed to compare post-thyroidectomy complications of subtotal versus total thyroidectomy. One hundred and eighty seven patients were included. There were 13 men and 174 women with age ranging from 20-67 years. One side lobectomy and cases with malignancy were excluded. One hundred and thirty two patients underwent subtotal thyroidectomy, 127 women and 7 men, while 55 patients underwent total thyroidectomy, 49 women and 6 men.

The majority of complications were associated with total thyroidectomy than those with subtotal thyroidectomy. The most often complication was hypothyroidism (100%), then comes temporary postoperative hypocalcaemia (26/55-47.2% vs 14/132-10.6%) in subtotal thyroidectomy. Temporary recurrent laryngeal nerve palsy occurred in (6/55-10.9% vs 3/132-2.2%). Both permanent palsy of recurrent laryngeal nerve and hypocalcaemia occurred in total group (1/55-1.8%). Neither mortality nor reoperation was detected as well as recurrence.

We conclude that the main complications detected are postoperative hypothyroidism, transient hypocalcaemia and recurrent laryngeal nerve palsy, permanent hypocalcaemia and permanent palsy of recurrent laryngeal nerve. Total thyroidectomy has higher incidence of post-thyroidectomy complications than subtotal thyroidectomy.

**Key words:** Nodular Goiter, Thyroidectomy, postoperative complications.

**A clinical study of ectopic pregnancy in Al.Wahda Teaching Hospital, Aden, from 1<sup>st</sup> Jan- 31<sup>st</sup> Dec-2012**

**Nahla S. Al.kaaky<sup>1</sup>, Faiza S. Al.kaaky<sup>2</sup> and Huda Basora<sup>1</sup>**

<sup>1</sup>Department of Gynecology & Obstetrics, Faculty of Medicine & Science & Health Sciences, University of Aden

<sup>2</sup>Morphological Department, Faculty of Medicine & Science & Health Sciences, University of Aden

**Abstract**

The aim of the study is to determine the pattern of ectopic pregnancy and some related risk factors and to study the clinical presentation and the outcome of ectopic pregnancy who were admitted to Alwahda Teaching Hospital in Aden, from 1<sup>st</sup> Jan to 31<sup>th</sup> Dec 2012. A retrospective descriptive review of ectopic pregnancy was conducted at the Comprehensive Emergency Obstetric Care for Mother and Newborn, at Al.Wahda Teaching Hospital.

The incidence of the ectopic pregnancy in the present study was 4.3 per 1000 live birth. The common age group affected was 20-<30 years (50.0%). The majority of the cases were pluriparous(1-3 deliveries). However, they were presented with pain in the abdomen, amenorrhea and vaginal bleeding in at least more than 50% of the cases. Almost one third (26.9%) were in a state of shock at admission. Ultrasound and urine pregnancy test were the investigative modalities which were used. All the cases were managed by surgical management. On laparotomy, the majority of the cases were found to be ampullary pregnancies (69.2%), followed by ovarian pregnancies (19.2%). The tube was ruptured in almost 57.7% of the cases and there was a haemoperitoneum. Mostly, the patients had intraoperative and / or postoperative blood transfusions (80.8%). There was no significant post-operative mortality in these cases.

**Conclusion-** In this study the incidence of EP was low, and all the cases were diagnosed with clinical inspection and ultrasound finding. The early diagnosis of an ectopic pregnancy is one of the greatest challenges for a physician..The importance of an early diagnosis lies in the fact that the woman can be offered a conservative line of management which can definitely has a beneficial result on her reproductive function.

**Key words:** Ectopic pregnancy, ampullary, Amenorrhea, Salpingectomy.

## PHARMACY

### **Formulation and evaluation of oral transmucosal ketamine as premedication in children**

**Sabati A. M. A and Ahmed Mohamed Othman**

Department of Pharmaceutics, Faculty of Pharmacy, Sana'a University

#### **Abstract**

Fear of hospitals (operations, diagnosis and injections) where the children are separated from their parents, prior to anesthesia, is very common, where ketamine hydrochloride (KH) was widely used as a preanaesthetic medication by intravenous and intramuscular injection. So, this study is an attempt to produce another alternative method as preanesthesia. This study is designed to formulate and evaluate the efficacy and safety of oral transmucosal ketamine as premedication in children in a dose of 100 mg.

Ketamine is chosen to be formulated in different traditional formulations for transmucosal administration including (lozenges, powders, chewable tablets and granules) in which KH concentration is 2% (100 mg / 5g of each dose). The released studies from different oral transmucosal formulations were carried out in-vitro over a period of twenty one minutes at a thermostatically controlled water bath operating at  $37^{\circ}\text{C} \pm 0.5$  and 50 r.p.m, by using dissolution tester. The results showed that chewable tablets > powder > granules > lozenges.

Because lozenges are more preferable than other oral transmucosal dosage forms in children, different formulations of lozenges were prepared using different sugar bases, different binders and shapes of lozenges which gave the following results:

Regarding the type of sugar bases; Glucose + sucrose combined base > glucose base > mannitol base > fructose base > maltose base > sucrose base.

Regarding the type of binders; the release of ketamine from lozenges using gelatin as a binder was higher than using gum tragacanth as a binder.

Regarding the shape of lozenges; the flat shape of ketamine lozenges gave more and rapid release than oval shape.

**Key words:** Premedication, KH (Ketamine hydrochloride), Oral transmucosal.

**Topical formulation & in-vitro, in-vivo evaluation of ascorbic acid**

**A.M.A Sabati and Ahmed Mohamed Othman**

Department of Pharmaceutics , Faculty of Pharmacy, Sana'a University

**Abstract**

Ascorbic acid is present in the market as solutions, effervescent tablets, chewable tablets, lozenges and injection for systemic action to treat vitamin C deficiency and promote wounds healing. A large number of cosmetic creams and lotions are available in the market containing the derivatives of ascorbic acid.

This investigation is an attempt for the preparation of vitamin C, for topical actions, to promote wound healing in traditional formulations such as ointment, cream and gel. In vitro release studies of the prepared formulation were done by using cellophane membrane in a diffusion cell ( dissolution apparatus ) operating at 37.5 C° and 50 rpm ,the receptor media employed through this investigation was phosphate buffer pH 6, the amount of drug released were determined spectrophotometrically at  $\lambda$ -max 265 nm and at specified periods of time. The results obtained are as the following :Gel > Cream > Ointment , then anin-vivo studies were done on alive rabbit skin by using the best formulation ( Gel ) of different constituents. After 10 days, the following results have been obtained: Sodium fusidate plus vitamin C gel with healing of 100% > Vitamin C gel alone with healing area of 96 % > Sodium fusidate alone with healing area of 87% > control group gel with healing area of 20% .

**Key words:** Ascorbic acid, topical , rabbit's, wounds.

**Antimicrobial, anti-oxidant and hepatoprotective activities of  
Quinazolinone-4 derivatives on Paracetamol induced hepatotoxicity  
in Guinea pigs**

**Shada.H.Yassin<sup>a</sup>, Ali Gamal Al-kaf<sup>a</sup>, Mohammed Kotb<sup>b</sup>, Jalal. H.Abdullah<sup>a</sup>  
and Tawfeek .A.Yahya<sup>a</sup>**

<sup>a</sup>Department of Medicinal Chemistry, Faculty of Pharmacy, Sana'a University, Sana'a  
Yemen.

<sup>b</sup>Department of Biochemistry, Faculty of Pharmacy, Helwan University, Egypt.

**Abstract**

In this study, two new compounds of quinazolinone-4 derivatives were synthesized and evaluated for some of their pharmacological activities that were predicted by computer program (PASS), and also testified for their yield obtained, by using some of strong polar aprotic solvents.

The synthesis of new compounds in lab from 2-phenylbenzoxazinones-4 with some compound as (p-aminobenzenesulfonamides) in a medium of acid catalyst and strong polar aprotic solvents (DMSO and DMFA).

After purification and identification of the final synthesized products; known weight was dissolved in 1ml of DMSO. This solution was used to determine the antimicrobial activity, using diffusion method.

Results showed that using of catalytic quantity of strong polar aprotic solvents increased the yield by 25% with DMSO and 12.5% with DMFA.

A study of the in-vitro of compounds (A&B) shows no antibacterial activity. It is suggested that the activity will be shown clearly in experiments in vivo because these compounds will be metabolized into the corresponding sulfonamides.

The synthesized compounds have been investigated for their toxicity & anti-oxidant activity (in vivo) by testing activity in inhibition of hepatotoxicity induced that the new compounds have low toxicity; since compound (A) gave class VI (harmless) and compound (B) gave class V (practically non toxic) according to Sidorov's classification.

In the anti-oxidant study, the investigated compounds A & B showed high anti-oxidant activity, (29.08% & 48.2% respectively) higher than the compared standard.

It is concluded that that the new synthesized quinazolinone-4 derivatives are preferably obtained with usage of strong polar aprotic solvents, especially DMSO. In

addition, the pharmacological investigations have confirmed the prediction of PASS that testifies the high reliability of the obtained results.

**Key words:** Hepatoprotective and Antimicrobial Activities, Quinazolinone-4, ALT, AST, TBARs, Bilirubin, ALP and Cholesterol, PASS, DMSO and DMFA.

### **The in- vitro antibacterial activity of a multih herbal formula used in Yemeni traditional medicine for topical treatment of Impetigo**

**<sup>a</sup>Rawiya Hassan Alasbahi and <sup>b</sup>Mohamed Farhan Al-Helali**

<sup>a</sup> Department of Pharmacognosy, Faculty of Pharmacy, University of Aden, Yemen

<sup>b</sup>Department of Biology, Faculty of Science, Sana'a University, P.O. Box 13499, Sana'a, Yemen

#### **Abstract**

An aqueous indigenous multih herbal formula, prepared from equal quantities of the leaves of *Meriandra benghalensis*, *Rutachalepensis*, and *Thymus laevigatus*, has been claimed to be useful for the treatment of impetigo. Different amounts (25µl, 50µl, and 100µl equivalent to 5 mg, 10 mg, and 20 mg of the dried extract) of aqueous and 80% ethanol extracts of the indigenous multih herbal formula and the plant materials mentioned above weretested for antibacterial activity, by using a modified agar diffusion assay against the pathogenic *Staphylococcus aureus* strains (1), (2), and (3), and *Streptococcus pyogenes* strains (1) and (2), isolated from patients with impetigo. All the tested concentrations of the aqueous indigenous multih herbal formula were found inactive against all tested strains of pathogenic microorganisms. On the other hand, only high concentration (100µl) of the aqueous extracts of *R. chalepensis*, and *T. laevigatus* showed antibacterial activity against *Streptococcus pyogenes* strain 1. The alcoholic multih herbal formula (50 and 100 µl) demonstrated good antibacterial activities, especially against *Staphylococcus aureus* strains 1 and 2, and *Streptococcus pyogenes* strain 1. Promising results could be obtained from the 80% ethanolic extracts of *R. chalepensis*, and *T. laevigatus* against *Staphylococcus aureus* 1,2 and 3, and the 80% ethanol extracts of *Thymus laevigatus* against *Streptococcus pyogenes* 1 and 2. These results indicate the importance of selecting the proper solvent for releasing the active constituents that makes an almost inactive multih herbal formula active against pathogenic microorganisms.

**Key words:** Yemeni herbal medicine, Aqueous multih herbal formula, *Meriandra benghalensis*, *Rutachalepensis*, *Thymus laevigatus*, Impetigo

## SHORT COMMUNICATION

### ENVIRONMENT

#### **Limnological studies of fresh-water ponds in south- east Yemen- II – Primary productivity of five fresh-water ponds in Al-Hami (Hadhramout)**

**Alawi Ahmed Makhnoon**

Faculty of Sciences, Mukalla, Hadhramout University

#### **Abstract**

In this paper, the primary productivity of five fresh-water ponds in south-east Yemen was investigated during the year 2010, in a seasonal basis, by chlorophyll a estimation. It was shown that chlorophyll a concentration varied in the five investigated ponds, and ranged from 0.33 to 1.91 mg/l. Generally, all the ponds showed the highest values of primary productivity in summer, followed by spring season, whereas the lowest values were in winter, followed by autumn season. Pond I revealed the highest value of 1.91 mg/l while pond V showed the lowest value of 0.63 mg/l in the summer season. The low value in pond V was associated with high turbid water of the pond. It is clear that, temperature and sunlight, in addition to turbidity, were the most important factors affecting primary production.

**Key words:** Limnology, fresh-water ponds, primary production, water chemistry. Yemen.

## ARABIC TITLES

### ENGINEERING

#### **An analytical Architectural study of the Mamluki Mosque in Gaza- Ibn Othman Mosque: A case study**

**Mohamed Ali. El-kahlout**  
Islamic University, Gaza, Palestine  
[mkahlot@iugaza.edu.ps](mailto:mkahlot@iugaza.edu.ps)

#### **Abstract**

Gaza City is one of the ancient Islamic cities, which hosts many of the archaeological and historical mosques, well as residential and public buildings. Mosques architecture in Gaza is authentic architecture rooted in the history, especially Mamluk architecture. The Mamluks ruled the Levant a long time, were Gaza was flourished with public buildings and mosques with high aesthetic and functional values. Ibn Othman Mosque, in Shejaeia area, is the largest Mamluk Mosques in Gaza. It is a witness to Mamluk architecture creativity and beauty until now.

The aim of the research is to highlight mosque architecture of the Mamluks in Gaza and to try answer the questions: Did the Mamluks in their philosophy realize the values those that were found in the era of the Prophet peace be upon him?, and to what extent has it been applied in Ibn Othman Mamluk Mosque in Gaza City?

The reason for choosing the Mamluk Mosque as a case study in Gaza refers to the spread of Mamluk architecture in the city as the oldest historical building. In addition, to refute Zionistic claims about the Palestinian historical rights through presenting stable, fixed, beautiful, and functionally historical building such as mosques, which is linked functionally and philosophically with the era of the Prophet.

The research consists of four sections: the first section deals with Islamic philosophy in the planning and mosques architecture, the second includes definition of Gaza city and the content of ancient Architecture of Mamluk buildings, the third will be deals with a case study of the Mosque of Ibn Othman in schejaaia neighborhood, explaining architectural and historical description of the Mosque and highlighting its damages, and the forth, the search includes conclusions and recommendations.

**Key words:** Gaza, Ibn Othman Mosque, Mamluk Mosques Architecture, Beauty Values

## ENVIRONMENT

### Flora of Albahra area - Wadi Al-dhbab, Haifan District, Taiz Governorate, Yemen

**Othman S. S. Al-Hawshabi, Azmi A. A. Saif, Saeed S. Mohammed and Abdul-Nasser A. Al-Gifri**

Biology Department, Faculty of Education, Aden University, Yemen  
othmanhamood773@yahoo.com

#### Abstract

This study deals with the floristic analysis of the flora of Albahra area (southern part of Wadi Ad-Dabab), Haifan District, Taiz Governorate, Republic of Yemen. The study area lies between 44° 17' - 44° 20' of the East Longitude and 13° 13' - 13° 21' of the North Latitude. This investigation was carried out during November 2011 to December 2012. Forty four sites were selected to represent, as much as possible, the variation in floristic composition.

There are 247 taxa (including species and infra-specific taxa) belonging to 164 genera and 57 families of the vascular that plant had been recorded; among them there were 6 taxa of Pteridophyta. The dicots were by 204 taxa, while the monocots represented by 37 taxa. The most common families were: Poaceae (23 species and 18 genera), Euphorbiaceae (21 sp. & 8 g.), Asteraceae (20 sp. & 17 g.), Acanthaceae (13 sp. & 8 g.), Asclepiadaceae (11 sp. & 10 g.), Solanaceae (11 sp. & 6 g.) and Amaranthaceae (9 sp. & 7 g.). The greatest genera recorded were: *Euphorbia* (11 species), *Commelina*, *Ficus* and *Hibiscus* (5 species for each), *Acacia*, *Grewia*, *Heliotropium*, *Indigofera* and *Solanum* (4 species for each).

Present results indicate that three species of parasitic and 13 species of aquatic plants and wetted soils. The present results have revealed that there are about 17 endemic species; among them 5 species are endemic to the flora of Yemen, while the rest 12 species are near endemic to the flora of Yemen, two families of Asclepiadaceae and Euphorbiaceae are most dominant in number of endemism species.

The present results have also proved that the flora of Wadi Ad-Dabab is rich and of very high diversity that need to be conserved.

**Key words:** Flora, Albahra area, Parasitic, Aquatic, Endemism.

## **MEDICINE**

### **Loading of dental implants using the concept of Platform-Switching as a mean for preservation of marginal bone**

**Rasha Saed Al-Deen\***, **Elias Botros\*\*** and **Muhannad Ayoub\*\*\***

\* Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Al Baath University, Syria

\*\* Oral and Maxillofacial Surgery, Faculty of Dentistry, Al Baath University, , Private University of Kalamoon, Syria

\*\*\* Fixed Prosthodontics, Head of Fixed Prosthodontics Department, Faculty of Dentistry, Al Baath University, Syria

### **Abstract**

Platform-switching concept refers to restoring dental implant with an abutment and prosthetic components of smaller diameter than the implant collar diameter. The aim of his study is to investigate the influence of this concept on the marginal bone levels around implants. The study involves 8 patients (3 males + 5 females) who had received one or more implants in the posterior region of the mandible four months ago, the sample consists of 10 implants (biohorizons, internal system). The implants were loaded using platform switching concept. Radiological follow-up was performed to measure the marginal bone levels by taking radiographs in two periods; after six months and after a year of loading. Data were collected by image analysis software and were statistically analyzed. The mean bone loss around the platform switched implants was 0.79mm after six months of loading and 0.95mm after a year. As such, there was no statistically significant differences in the marginal bone resorption between the two periods. The results of this study showed that, platform switching concept appears to be an effective method for preservation of marginal bone levels around implants after loading.

**Key words:** platform-switching, conventional, implant, abutment, marginal bone, resorption.

**Clinical comparative study of short and conventional early loaded implants**

**Rabie Al-Kurdi\***, **Salah Sakka\*\*** and **Rabab Al-Sabbagh\*\*\***

\*Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Al Baath University, Syria

\*\*Oral and Maxillofacial Surgery, Faculty of Dentistry, Al Baath University, Syria

\*\*\* Orthodontics Department, Faculty of Dentistry, Al Baath University, Syria

**Abstract**

The aim of this study is to clinically assess the osseointegration of short dental implants and to compare it with long implants; which all have been loaded early. Twenty implants (10 short and 10 long implants) were placed in 11 patients (6 males and 5 females). The implants were loaded after 6-8 weeks. For clinical comparative, the stability of implants was measured by PERIOTEST® after six months of loading. Data were analyzed by (Minitab® v15). As a result, the mean periotest measurement, after six months of loading was -3.2 in short implants group and -3.6 in long implants group. However, the differences weren't statistically significant in periotest measurements between the two groups. Thus, short implants represent an appropriate therapeutic option when alveolar bone height is insufficient, as they could be used successfully with early loading protocol.

**Key words:** short implants, long implants, conventional, early loading, osseointegration.

**Study of oral health statement of Syrian elderly patients and evaluation of their contentment of dental treatments presented to them**

**Ali Alsheikh Haidar**

Oral Medicine Department, Faculty of Dentistry, Tishreen University, Lattakia- Syria

**Abstract**

According to the most important international researches related to dental treatments of elderly patients, the oral health case is an important guide for the medical health status.

In Syria, The statistical epidemic studies of oral health status of elderly patients are very little. So this study is accomplished to evaluate the oral health status of elderly patients and their contentment of dental treatments are presented. In addition, a comparison between the results of this study and other similar studies has been done.

The study included 100 patients aged between 60 years and above, living in a nursing home under the same dietary and environmental conditions, representing different geographical areas and the middle of socioeconomic class.

**Key words:** Socioeconomic level, oral health statement, elderly patients