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ENGLISH TITLES

BIOLOGY

Notes on the genus *Halothamnus* jaub. And Spach Chenopodiaceae in Yemen

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Abstract

There is no comprehensive flora of Yemen, therefore we as individual botanist at Aden and Sana'a Universities decided to go for such flora in portions. We are going to start with less known genera. The genus *Halothamnus*Jaub. &Spach *(Chenopodiaceae)* in Yemen is represented with one species and two subspecies, all are endemic to Arabia and Yemen. A detailed description of the genus and the species occurring in Yemen are given.

Key words: Yemen, Arabia, endemic species, *Halothamnus*.

ENGINEERING

A new theoretical formulation of electrical parameters related to photovoltaic cell maximum power output

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Abstract

This work deals with a new theoretical analysis and formulation of electrical parameters lasts to a derivation of a satisfied simple maximum power output equation of photovoltaic (pv) cells. Essentially, this work concentrates on useful parameters in characterizing the maximum power output cannot be expressed explicitly in terms of other parameter. These are such as: the maximum voltage, maximum current and, hence, the

maximum power output. An air mass radiation (AM1.5) is used throughout this work. First, referring to AM1.5 sunlight power versus wavelength, all the electrical parameters of wide range pv cells having band gaps ranged (0.4887ev to 3.815 ev) are calculated by conventional way in order to compare their values with approach values. Second; instead of using the conventional way of modeling each pv cell independently, this approach introduces a method through which the modeling of several pv cells dependently is possible for the determination of the unknown electrical parameters. As a result of this analytical formulation, a satisfied derived equations of electrical parameters are obtained and satisfied up to around 100 % with no interpolation methods or other technique used.

Key words: PV cells, PV cell electrical parameters.

ENVIRONMENT

Distribution of petroleum hydrocarbons in sea waterof the Aden city - Yemen

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Abstract

This study is to determine the concentration and distribution of petroleum hydrocarbons residual in sea water in the coast of the city of Aden, Yemen, during three seasons: the first was in the period from 11 to 14 July 2014, the second was in December 2014, and the last was during March 2015,where the use of a gas chromatography and spectroflourometer to determine the characteristics of the hydrocarbons extracted. The results confirmed the concentration of hydrocarbons levels with regard the coast of to the city of Aden. The results showed that the concentrations of petroleum hydrocarbons in water ranging from 0.688715in Gold Mohour to 15.891754 µ /L in the refineries area, with an average concentration of 6.3269 µg /L. The study revealed that the level of hydrocarbons in sea water of the coast of the city of Aden is close to the levels of petroleum hydrocarbons in the region and other parts of the world , after comparing their results with other regions of the world, which showed that it is low/ within the range in the permissible limits.

Key words: Concentration; Petroleum Hydrocarbons; Gas chromatographic; spectroflourometer, Gulf of Aden; Yemen.

MATHEMATICS

Integrated representations of Euler- type for functions related to Kampe' de Fe'riet function of the fourth order

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Abstract

In this work, we obtain certain integral representations for functions related to Kampe' de Fe'riet function of the fourth order,which are the sufficiently general in nature and are capable of yielding a large number of simpler and useful results merely by specializing the parameters in them.
MSC. Primary 33C20, 33C65

Key words: Double hyper-geometric series, Kampe' de Fe'riet function of the fourth order, Eulerian integrals, Beta functions, Appell function.

MEDICINE

Epidemiological and clinical characteristics of patients with unstable angina and critical coronary stenosis detected by angiography

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Abstract

Certain clinical predictors like age, cardiac biomarker positivity, ST segment depression and congestive heart failure (CCF) can help effectively in predicting high risk group patients with critical coronary artery disease. Khat chewing is a significant risk factor for ACS in Yemenite patients, but correlation of heavy Khat chewing with critical artery stenosis in unstable angina (UA) patients is not studied. The aim of this study is to define the epidemiological and clinical characteristics in UA patients included in this prospective clinical study. Based on the angiographic findings, patients with UA were classified into 2 groups: Group (I): patients with coronary stenosis (≥70%), significant enough to require PCI

or CABG, (n=213) and Group II (control) patients who had insignificant coronary stenosis (≤50%), (n=42). Our results showed that group I patients were more likely to be males, elderly, with a prior history of CAD and MI, heavy khat chewers and in heart failure. Mean of age was 66.54 years, and 78.87 % were males. Age ≥ 65 years was found in 29.11%. Predictors of high risk CAD (critical stenosis) were found to be significantly in group I, compared to group II patients. We concluded that age ≥ 65 years, male gender, aspirin use and heavy Khat chewing during the last week, CCF with EF<35% and elevated Troponin were strong predictors for critical stenosis in UA patients.

Key wards: unstable angina, clinical predictors, heavy khat chewing.

Clinical characteristics of seizures in children admitted to

Al-Sadaqa general teaching hospital, Aden (2008-2009)

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Abstract

This study aimed at describing the frequency and clinical spectrum of seizure disorders among hospitalized children and determining the various underline etiologies in this population with reference to age, sex and the overall outcomes. A retrospective analysis of all medical records for children admitted to Al-Sadaqa General Teaching Hospital with seizures, during a period of two years (Jan 2008- Dec 2009) was carried. A total of 318 children were included, 181; (56.9%) were males and 137 (43.1%) were females. The majority of seizures were associated with fever (82.7%), commonly in the age group 6 months- 5 years (66%). Generalized tonic-clonic (GTC) seizure was the most frequent type (57.5%), followed by partial seizures (28.6%). Status epilepticus was present in (10.3%) of the cases.The most common diagnosis were febrile seizure (26.7%),followed by meningitis (16.3%), encephalitis (12.9%) and epilepsy (17.3%). Presenting symptoms beside seizure were fever (82.7%), cough (27.7%), vomiting (21.4%) and diarrhea (19.8%). Loss of conscious was the presenting feature in 20 cases (6.3%).Twenty five children with seizure (7.9%) died in hospital, and higher death rate was observed among those with CNS infections.

The results of this study indicate that seizure is an important cause of hospitalization with significant mortality. Fever was the most common associate and febrile seizure, which is known to have benign prognosis, was peaked at early childhood. Other more serious problems; such as CNS infections, cerebral malaria and status epilepticus, need to be considered as they can possessa real threat for child life ormight have long-termdetrimental consequences.

Key words: Seizure, convulsion, epilepsy, meningitis, encephalitis, malaria.

Clinical profile of admitted children with bronchiolitis at Al-Sadaka teaching hospital, Aden(January-December 2014)

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Abstract

This is a cross-sectional study involving all patients diagnosed with bronchiolitis up to two years of age, admitted in Al-Sadaka Teaching Hospital in Aden governorate, from 1st January– 31th December 2014. The purpose of this study was to describe the status and characteristics of admitted children with bronchiolitis. Of the 77 patients, there were 74.0% males and 26.0% females, giving a ratio of 2.85:1. The age ranged from 2 - 18 months, with a mean age of (5.4± 3.5) months. The majority of patients were under six months of age (80.5%). A seasonal variation of bronchiolitis was found with a peak incidence in winter, especially in October. We found that 64.9% of the children were exposed to smokers. The most common clinical symptoms weredyspnea, cough and fever (100%, 87.0%, 75.3% respectively). Clinical signs were fine wheezing and rhonchi (68.8%, 55.8% respectively). The median of respiratory rate was 65 breaths/minute. Treatment with antibiotics was given to all patients (100.0%), supplement of oxygen, bronchodilators and corticosteroids (92.2%, 87%, 84.4% respectively). Most of the patients discharged well (83.1%) and with no deaths. The mean duration of inpatient stay was 5.4±3.5 days ranging from 1 - 24 days. Nine per cent of patients were repeatedly admitted with recurrent bronchiolitis after discharge. We concluded that children of less than six months of age and those who have been exposed to smokers after birth have the highest risk of bronchiolitis. There was inappropriate use of antibiotics which can be prevented by the presence of unified guidelines. The results may lead to the desired improvement of health care for children.

Key words: Bronchiolitis,children, respiratory syncytial virus.

Complications and manifestations of diabetic patients skin in Aden-Yemen

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Abstract

Diabetes Mellitus is a chronic disease that affects multiple systems of the body, including the skin. Cutaneous manifestations of diabetes mellitus generally appear subsequent to the development of the disease, but they may be the first presenting signs and, in some cases, they may precede the primary disease manifestation by many years. The purpose of this study was to calculate the frequency of cutaneous manifestations and complications in patients with diabetes mellitus. This study is a prospective study for one hundred patients with diagnose and un diagnose cases of DM and having skin lesions that

either attending the Diabetic Center, or Dermatology Outpatient at Al-Gamhoria Teaching Hospital, during the period April - December 2014.Pre-designed and pretested Performa was filled after taking informed consent .Among one hundred diabetic patients, there were 39% males and 61% females. The age of the patients ranges from 13-75 years, with a mean age were 49.6± 13.37 years .Among cutaneous disorders, commonly associated with diabetes, infections (51%) were the most prevalent and among this group the fungal infectious diseases topped the list (65.4%) followed by pruritus (18%) .Various associated complications has been noted, in which neuropathy was the most commonly found (35%) followed by hypertension (27%) then retinopathy (17%).One should be vigilant enough for the cutaneous manifestations as they are the window to the systemic illness.

Key words: Cutaneous manifestations, diabetes mellitus, diabetic center, Aden.

Multi-drug resistant of *Escherichia coli* isolated from urinary tract infections

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Abstract

Urinary tract infection (UTI) is one of the commonest bacterial infections caused by microbial invasion of tissue lining the urinary tract. *Escherichia coli* (*E. coli*) is the primary etiologic agent of UTI, also antimicrobial resistance is an evolving and growing problem in UTI. The aim of this study is to aimed to determine the prevalence of antibiotic resistant of *E. coli* among outpatients with UTI in Mukalla city, Hadhramout-Yemen. Mid-stream urine specimens were collected, aseptically cultured, and the isolates were identified by using standard microbiological techniques. Antimicrobial susceptibility test was performed by disk diffusion method. Of the 295 urine samples, the total growth *E. coli* was 29 (78.38%) of the total positive samples (37). Of total antibiotics used, amoxicillin/clavulanic acid, cefotaxime and cefuroxime sodium showed the highest resistance to *E. coli* with 82.76%, 72.41% and 65.52% respectively, while75.86% of the isolates were susceptible to co-trimoxazole. The study revealed that high resistant and multi-resistant of the urinary *E. coli* isolates to antibiotics. Co-trimoxazole was the most effective antibiotic on *E. coli* isolates in this study.

Key words: UTI, *E. coli*, Antimicrobial susceptibility, Outpatients.

Diagnostic value of abdominal ultrasound in the evaluation of blunt abdominal trauma

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Abstract

The purpose of bedside ultrasound (US) in blunt abdominal trauma is to rapidly detecting of free intraperitoneal fluid. The aim of this study to evaluate the diagnostic performance of US in the diagnosis of blunt abdominal traumata at Al-Gamhuria General Hospital- Aden.

Outcomes of US, in terms of the sensitivity, specificity, positive predictive value and negative predictive value, were evaluated precisely in 159 consecutive patients and compared with the results of the surgical reports in cases undergone surgery and with those of the computed tomography (CT) scan in cases treated conservatively.

Of the 159 patients, 131patients (82.4%) were males and 28 (17.6%) were females. A significantly higher true diagnosis rate was 90.6%.The overall diagnostic accuracy of US in terms of the sensitivity, specificity, positive predictive value and negative predictive value were 95.8%, 75.6%, 91.9% and 86.1% respectively.

US saves the time, gives mostly accurate findings and makes the decision.

Key words: Utility of ultrasound. FAST examination. Blunt abdominal trauma.

ARABIC TITLES

AGRICULTURE SCIENCES

Effect of smoking process grinded plant parts in controlling *Varroajacobsoni*Oud. on the honey bee at two sites in Abyan province.

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Abstract

In order to find safe alternatives, in controllingvarroa parasite, and reducing its spread. An experiment has been carried out during the 2014/2015 season. The study focused on the effect of smoking grinded some plant extracts on honey bee (Yemen *stain*

Apismelliferajemenitica) to control varroa parasite *Varroajacobsoni*Oud. The study has been done in two sites. The first site is located in Elkod region and the second is in Gawala region . It included the following treatments: (1) grinded pepper seeds *Capsicum annum* (2) crushed mint leaves, *Menthapiperita*(3) grinded coriander seeds *Coriandrumsativam*L. (4) grinded fenugreek seeds, *Trigonellafoenum- graecum* (5) untreated control. Five grams of each treatment were used and crunched in cinerated by the smoker. Then cells were smoked once every five days during November and December 2014. In addition this was repeated in January and February 2015 in both sites. The Coriander seeds results showed that all studied treatments, have performed significantly on control, in both sites. The average rate of deaths increased in varroa parasite (157 and 120.9 and 146.1 and 110%, according to the order of treatments, respectively, compared to control). The highest numbers of varroa parasite densities were recorded in November 2014. The lowest numbers were recorded in February 2015, in both sites. The highest values were given from grinded pepper seeds which significantly surpassed to all other treatments, during the period of the study in both sites. This was followed by the treatment of crunched coriander seeds that converged in the influence with the first treatment on varroa parasite during the study without significant differences, in both sites. The density of the varroa parasite significantly was higher in Gawala site, which increased 24.1% as compared to Elkod site. The interaction between treatments and sites did not reached to significant limits

Key words: varroa parasite, Honey bee. Fumigation, Botanical parts, control, Abyan province

Effect of plant density and intercropping patterns on growth and productivity of maize and cowpea

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Abstract

One field experiment was carried out at the Research Farm in the Agricultural Research of Alkod Station (Delta Abyan) in 2012/2013 and 2013/2014 seasons to study the effect of different plant densities, intercropping patterns and their interaction on some growth characters, yield and yield components of maize and cowpea . Four plant densities were used (56000, 67000, 83000 and 111000 plant / hectar) and three intercropping patterns (1:1, 2:1 and 3:3) were used for maize and cowpea respectively, in addition to sole cropping treatment .Most of the characters under study were significantly affected by plant densities and intercropping patterns as well as their interaction . Yields of maize and cowpea were significantly increased as a result of the increasing plant density, but significantly decreased under intercropping patterns. The combined LER of both maize and cowpea exceeded one at all combinations of intercropping patterns and plant densities and that LER value of 3:3

pattern with 111000 plant /hectar was the highest one. This treatment could be recommended when intercropping cowpea with maize.

Key words: maize, cowpea, intercropping patterns, plant density.

ANIMAL PRODUCTION

Study of Productive and reproductive properties of domestic rabbits under breeding system cages in Lahij - Yemen.

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Abstract

The study was conducted during the years (2011 – 2012) in the Farm of Animals Research Center of Lahej Governorate. for this reason (24) of female and (9) male local rabbits were chosen. These Rabbits breeding in the whole Yemen as an economical animals in common houses and smaller farms of settlements in order of their excellent white meats and available proteins.For rabbits breeding, the whole random design method was introduced and the data were analyzed according to the well-known scientific statistic. The study results revealed, that the rabbits productivity in the summer season in the south costal region of the country was low (7.7%) ,but in winter season was increased to (62.5%) and the numbers of newborns reached to (6) , compared to other rabbits that exceed as (8) newborns and even more. Also there was weight decline for a single rabbit of an age (8) months and (about 960grams). but in the other races, in the same age, it was about (1.8)kg weight were given . The local rabbits gave net percentage of meat production about (85.3%) This is a good indicator for qualitative productivity. This study shows that it is necessity to carry out some other studies in rabbits nutrition and genetic improvements for raising the potential productivity and spreading of rabbits breeding within the middle highlands on the whole year and that is due to the influence of fertility and productivity by higher temperature and coldness factors.

Key words: Local Rabbits, Cages Breeding, Productive Properties, Reproductive Properties.

CHEMICAL

Study of factors affecting on the formation of acrylamide in the fried Potato

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Abstract

The aim of this research is to study the effects of different frying temperatures (120, 140, 160, 180 and 200 °C), different types of frying oils (sunflower, palm and olives oils), the effect of successive frying oil (first, second and third frying) and the effect of cooking methods (boiling method, frying method) on the acrylamide content in fried potato under controlled conditions. The results obtained showed that the frying temperature, types of frying oils, frying successive, as well as cooking methods had a notable impact on the formation of acrylamide in the fried potato. The acrylamide levels (ND, 124.6±5.72, 199.2±4.41, 805.8±29.77, 1306.5±24.19 ng/g) were significantly different ($P<0.05$) at different frying temperatures (120, 140, 160, 180, 200 °C), respectively. The acrylamide levels for olive oil frying was nearly undetectable, while for palm oil and sunflower oil were 199.2, 728.6 ng/g, respectively, and 199.2, 591.2, and 1167.6 ng/g for effect successive frying oil for potato (first, second, third frying) respectively. The present study shows that acrylamide content by frying method is 805.8ng/g but it hasn't been detected when using boiling method.

Key words: Acrylamide, Fried potato, Frying conditions,Maillard reaction, HPLC-UV.

ENGINEERING

Improve the signal to noise ratio at the physical layer using the program LTE

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Abstract

The aim of this study is to know the LTE (Long Term Evolution) , identifying the factors that dampen the possible origin and ways to improve the performance of the system of LTE (Long Term Evolution) , by improving the signal to noise ratio and the physical layer using the LTE program and discuss the results.

Keywords: LTE Long Term Evolution, SNR Signal to Noise Ratio, blercodeblockerrorrate, awgnadditive white gaussiannoise, TB transport block, CB codebook.

ENVIRONMENT

Study of suitability ground water for irrigation in Al-Husain district – Al-Dhalea -Yemen

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Abstract

The aim of this study is to analysethe water of the wells in order to know the physical and chemical features and its effect on the soils irrigated by it. The analysis of the physical and chemical features was as following:

The water which was used to irrigate Qat plants in the study sites was alkaline in general. It ranged between the PH values (7.50 -7.75).Regarding the EC of the studied samples used for irrigation of the planted soils with Qat, it ranged between (1.65 – 1.75) mmoles /cm. While the chemical analysis show that: The concentration of magnesium ions was between (1.6-2.43)mEq/L. while the concentration of Calcium ions ranged between(1.6 – 2.2)mFq/L. the of sodium ion ranged between (9.49 – 10.43) mFq/L. The concentration of potassium was low, It ranged between (0.26- 1.09)mFq/L. The concentration of bicarbonates was low, it ranged between (7.83-9.57)mFq/L. the concentration of chloride ion between (5.3-6.06)mFq/L.and the concentration of sulfates ranged between (27.7-31.63) mFq/L. The results have shown that the wells of the investigated area are free of nitrates ions. the SAR has been calculated as it is one of the important factors in determining the validity of ground water for purposes of irrigation. As well as the majority of wells water can be used for purposes of irrigation in different soils and does not affect the permeability of soil and the filtration average. On the other hand, it was found that the percentage of magnesium is 67% of wells which surpassed the standard allowable limits which causing harmful effect in growing and producing agricultural crops.

Key words: Agricultural uses, Qat plant, Chemical analysis, agriculture crops.

Plants diversity in Shagh region, Al- Dhala district – Yemen

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Abstract

The study was carried out on the flora ofShaqh Region in AL- Dhala District, Yemen. during the floristic survey to different parts of the study region and at different intervals of the seasons of the year (July 2011 – September 2012).One hundred and eighty plant species were collected. They belong to 133 genera and 61 family.

The most dominant Plant families in the study region are:

Asteraceae 10 genera and 15 species, Acanthaceae 9 genera and11 species, Asclepiadaceae 9 genera and11 species, Poaceae 8 genera and 11 species, Euphorbiaceae 5 genera and 10 species, Fabaceae 4 gener and 8 species, Solanaceae 5 genera and 7 species, Amaranthaceae 6 genera and 6 species, Boraginaceae 4 genera and 7 species, Lamiaceae 4 genera and 6 species.

The most dominant genera from the point of view of the number of plant species in the study region are:

Euphorbia(6), Indigofera (5), Ficus (5), Acacia(3), Pulicaria(3), Hibiscus(30, Commelina (3), Solanum(3).

The floristic composition of the study region is rich with endemic species and semi endemic. An endemic species was one whereas the semi endemic includes 12 plant species.

There are varions forms of plant : the herbs represented high numbers of species ,then shrubs , trees, succulents, under shrubs, pteridophytes, and parasites respectively.

Key words: Plant family, genera , plant species, endemic , semi endemic.

OIL

Evaluation of production capacity oil well in fields with hard recoverable reserves

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Abstract

Many oil fields having distinctive reserves with the production operations are associated with the difficulties and problems. These difficulties is related to many features and these increased when the well is operated at bottomhole pressure equivalent to the bubble point pressure. Therefore, the objective of this research is to avoid and marmite the problem in the investment process. The data has been collected from different fields in Russia. For verification of the efficiency of developed methods data, were collected from Novi Oringoe fields, where the plunger lift has been used as production method. This study has focused on these fields because of analogy of the production factor with Yemeni fields in Sabatain basin.

Therefore, the developed methods results obtained in this research can be applied to Yemeni oil fields.
Results obtained in research showed a good agreement between actual and calculated values of minimum bottomhole pressure. This leads to selecting the appropriate method of artificial lift according to permissible factors.

Key words: Evaluation, Hard-recoverable Reserve, Bottomhole Pressure, Production Capacity.