UGC Journal No. : 64674

ISSN : 2348-571X

EDUCATION, RESEARCH AND ANALYSIS

Volume : 5 Issue : 1.3 January 2018

Vijaygarh Jyotish Ray College

In Collaboration With :

Kalyani Foundation For Media Science & Community Research

Kolkata, West Bengal, India

Antimicrobial Potential of Marine Organisms Collected From The West Bengal Coastal Region of India Against Multiresistant Microorganisms

Dr. Prasenjit Das

[Assistant Professor, Department of Microbiology, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract *:* Marine natural products are increasingly receiving attention in the search for new and effective medicinal compounds. The aim of this study was to investigate the antimicrobial potential of some marine organisms against multi-resistant human pathogens. The sample extracts of a total of seven marine flora and fauna were tested against four standard multi-resistant bacteria and a fungi. Among the marine organisms screened, sea anemone and sundari tree fruit extracts had shown antibacterial activity. The extracts (both aqueous and methanolic) of sample pellets of cyanobacteria, hermit crab and white shelled clam had shown antifungal properties. These findings are encouraging for further investigation for discovery of new therapeutic agents.

Keywords: Marine Organisms, Antimicrobial Activity, MIC

Introduction

The marine environment consists of oceans, seas, coastal backwaters, estuaries, and bays. It is considered to be a unique source of earth's biological diversity, as it covers 70.8% of earth's surface and comprises more than 200000 described species of invertebrates and algae (Winston,1988). However, it represents only a small percentage of the marine biodiversity (Malakoff, 1997). Due to their particular environment many marine invertebrates such as sponges, jelly fish, sea anemones, bryozoans and corals exhibit unique physiological and structural characteristics which enable them to survive in extremes of pressure, salinity and temperature (Bhakuni and Jain, 1990). Marine natural products are increasingly receiving attention in the search for new and effective medicinal compounds. Competition for space and nutrients led to the evolution of antimicrobial defence strategies in the aquatic environment. Therefore, aquatic organisms, offer a particularly rich source of potential new drugs (Bansemir *et al.*, 2006). The chemical ecology of marine microbes is vastly unexplored even though microbes produce metabolites that can have significant effects on target organisms (Hay, 1996). Marine macro-organisms use metabolites from microbial symbionts to deter consumers, subdue prey, and defend their embryos from pathogens (Hay, 1996). Beside marine animals, plants of this habitat (such as mangroves) are also of great importance. Therefore, a knowledge of the biological activities of plants of the marine environment is desirable, not only for the discovery of new therapeutic agents, but because such information may be of value in disclosing new sources of already known biologically active compounds (Bandaranayake 1998).

Secondary metabolites as natural products provide greater structural diversity than standard combinatorial chemistry and so they offer major opportunities for finding novel low molecular weight lead structures that are active against a wide range of assay targets (Harvey, 2000). Direct tests in both the field and laboratory show that secondary metabolites of marine origin commonly function as defences against consumers. Some metabolites also diminish fouling, inhibit competitors or microbial pathogens, and serve as gamete attractants; these alternative functions are less thoroughly investigated (Hay, 1996).

Because of the evolving resistance of microorganisms to existing antibiotics, there is an increasing need for new antibiotics (Bansemir *et al.*, 2006). Attachment and growth are two major processes in bacterial colonization of surfaces in the sea. By inhibiting either or both of these processes, marine macro organisms may defend themselves against bacterial infection and fouling (Nylund *et al.*, 2005).

A few of the investigation regarding marine natural products as antimicrobial agents reported antibacterial

Vinayak Damodar Savarkar and His perception of Nationalism

Ruma Ray

[Assistant Professor, Department of Political Science, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract : Vinayak Damodar Savarkar(1883-1966), as an ardent Hindu nationalist a heroic revolutionary represented an unconventional stand of political thought in India in so far as his theory of cultural nationalism in contrast to the theory of territorial nationalism propounded by the leaders of mainstream nationalist movement. The uniqueness of the personality and thinking of Savarkar may be gauged from the fact that while one school of thought calls him an anarchist nationalist , heroic revolutionary and terrorist who won immortal fame by his daring political exploits in the early decades of the twentieth century, the other demonises him as an angry, resentful, vengeful, violent and intolerant person. Infact, Savarkar gave a systematic articulation of the opinions held by many people in the country that the true resurgence of India could be facilitated only by rooting Indian nationalism in the cultural ethos of the Hindu religion .

This paper aims to appeared, the political phiolosphy of Savarkar- appeared as a distinct ideological formulation having its focus on the homogeneity of the Hindu population living in a particular tract of land and having the urge to create a nation based on the cultural mornings of the majority people.

Key Words : Nationalism, Hinduism, Ideological Formulation

Introduction

Vinayak Damodar Savarkar(1883-1966), as an ardent Hindu nationalist a heroic revolutionary represented an unconventional stand of political thought in India in so far as his theory of cultural nationalism in contrast to the theory of territorial nationalism propounded by the leaders of mainstream nationalist movement. Savarkar was one of the earliest exponents of the view that the so called sepoy mutiny of 1857 was, really , the first war of independence. The distinction made by Savarakar between Hinduism and Hidutva is remarkable . The movement for independence was witness to different phases of leadership up to 1947, amidst which Hindu nationalism prevailed strongly between the 1920s and 1930s under the wing of prominent political thinkers and leaders like Vinayak Damodar Savarkar and Bhai Parmanand to name a few. Savarkar however had the most influence in the spread of Hindu nationalism with his concept of 'Hindutva' which he speaks about in his book 'Hindutva: Who is a Hindu?' that was first published anonymously at Nagpur in 1923. Savarkar wrote this book in prison, after he had meet with Khilafatists whose attitude apparently convinced him that Muslims were the real enemies, not the British.[1]Savarkar came to believe that Hindus were weak as compared to Muslims, who had ruled India before the British colonised India. It is this idea that drove Savarkar to write about the origin of Hindus and Hindustan, thereby making his work the constitution for Hindu Nationalism. This chapter seeks to comprehend and analyse Savarkar's Hindutva and its effects on nationalism, socialism and democracy during Indian's struggle for freedom.

Savarkar in his earlier days was a part of the struggle for independence but was not anti-Muslim in nature, this was seen in his first book 'The First Indian War of Independence: 1857' that he wrote in 1909, where Savarkar speaks of the sepoy mutiny and the existence of Hindu-Muslim unity against the common enemy, the British. The reasons for the mutiny according to Savarkar were much deeper than grease cartridges and the undermining of the Talukdars by the British, he said that it was due to the principles of 'Swadharma'

1 D. Keer, Veer SavarkarBombay: Popular Prakashan, 1988, p. 161.

Removal Of Chromium From Waste Water By Fungal Biomass-A Review

Dr. Saswati Gayen

[Assistant Professor, Department of Microbiology, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract : Industrial effluents especially leather tanneries discharge very high amount of heavy metals especially chromium. These effluents released in rivers or canals or dumped in ground water lead to contamination of chromium due to its accumulation and may result in a higher chance of chromium exposure. Chromium can replace other metals in biological systems with toxic effects and its accumulation throughout the food chain leads to serious ecological and health problems as chromium (VI) is a known human carcinogen. There is a great danger to man and livestock particularly from the high chromium content and it has been found to be toxic to humans at levels as low as 0.1 mg/L. The traditional methods for removing heavy metals have several disadvantages. Biological methods of metal removal from aqueous solution known as biosorption have been recommended as cheaper and more effective process. This method is based on the use of the metal binding capacities of various biological materials including algae, fungi and bacteria. Fungi are the most studied microbe for a variety of fermentation processes from which a constant supply of biomass can be obtained for metal removal. Hence, fungal biomass could serve as an economical method for effective removal of toxic metals. In general, biosorption takes place by inactive, dead and immobilized microbial biomass but there are differences in the efficiency and mechanisms involved. In this review paper an attempt has been made to study the various processes of biosorption of hexavalent chromium by fungal biomass tannery effluent.

Key Words : Hexavalent Chromium, Biosorption, Fungal Biomass.

Introduction

The increasing trend towards artificial high life standards are compelling the people towards misuse of resources which ultimately result in environmental pollution in a large scale. Incidentally, increased industrialization has also affected the ecosystem through waste disposal which contains toxic metal contaminants. The presence of heavy metals in aquatic environments is known to cause severe damage to aquatic life, beside the fact that these metals kill microorganisms during biological treatment of waste water with a consequent delay of the process of water purification [1]. These metals exert a deleterious effect on the flora and fauna that grow in lakes and streams and rivers [2]. Ground water contamination can also occur when such waste water and chemicals seep through the soil from unlined ponds, pipes and drains or from dumps and spills. Ground water may take a long time to cleanse itself because it moves slowly and is out of contact with air [3]. So, heavy metals are among the worst group of pollutants of the environment and among all the heavy metals chromium (VI) is considered to be highly toxic, which is often present in industrial waste waters as chromate and dichromate [4]. The discharge of chromium (VI) into aquatic ecosystems has become a matter of concern in all the tannery areas in India over the last few decades. This pollutant is introduced into the aquatic systems significantly from the effluents of leather processing units as a result of chrome tanning of leather [5]. Other than the leather industry chromium is also released from steel, aluminium, metal processing, electroplating, iron sheet cleaning, chrome plating, water cooling, pigments, electric, battery manufacturing and a variety of other industries [6-8]. Chromium, a highly reactive element with an oxidation state of 6 exhibits stability as Cr (III) and Cr (VI). But hexavalent chromium is more toxic to living organisms than the trivalent chromium. Trivalent chromium has limited hydroxide solubility making it relatively immobile and less available for biological uptake [1]. Cr (VI) being

Establishment of Pigment Producing *Pseudomonas* as Biomarkers for Plant Growth Promotion in Vermicompost

Anushree Hait, Moumita Sadukhan, Debatri Ghosh, Subhankar Barua and Dr. Shilajit Barua

[Department of Microbiology, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract : Vermi-composting principally involves bio-oxidation and stabilization of organic material in garbage, by the joint action of earthworms and microorganisms to generate a 'miracle plant growth promoter' to be applied in garden. Earthworms acts as aerator, grinder, crusher, chemical degrader, and a biological stimulator. They host millions of decomposer (biodegrader) microbes in their gut (as they devour them) and excrete them in into degraded compost materials along with the nutrients nitrogen (N) and phosphorus (P) in their excreta. The nutrients N and P are further used by the microbes for multiplication and vigorous action. Various species of the genus *Pseudomonas* has been reported earlier to be principal member of the microbial community in vermicompost. They can actively degrade organic wastes to generate mature and stable compost rapidly. Poduction of pigment (like pyoverdine (fluorescent yellow), pyocyanin (blue), pyorubin (reddish brown), pyomelanin (black)) has been considered as one of the diagnostic traits of some species of *Pseudomonas*. Pigment production in media could be positively correlated with the number of its producer strain. If any correlation could be established between pigment production and PGP activities, it would be a fast hassle free indication of plant growth promoting activities in soil.

We herein had made an attempt to study microbial population at various stages of vermicomposting with special emphasis on *Pseudomonas* population. Selected plant growth promoting (PGP) activities like Indole acetic acid (IAA) production and phosphate solubilization of Pseudomonas community was studied and also production of various pigment of Pseudomonas origin in various stages of vermicomposting by the microbial community was analyzed. It was found that PGP by P-solubilization and IAA production was principally carried out by non-fluorescent pseudomonas as evident from their quantitative taxon specific pigment production.

Key Words : Vermi Compost, Pseudomonas, Pigments, Plant Growth Promotion.

1. Introduction

Composting and vermicomposting are two of the best-known processes for the biological stabilization of solid organic wastes. Composting involves the accelerated degradation of organic matter by microorganisms under controlled conditions with simultaneous sanitization of the waste by the elimination of pathogenic microorganisms (Lung *et al.*, 2001). Organic farming systems with the aid of 'Vermiculture Biotechnology' were visioned centuries ago by Sir Charles Darwin calling them as 'friends of farmers'. It is an ecofriendly approach of resolving diverse problems related to safety, security and productivity of food, protection of farmlands and the farmers in an economical way.

Vermicomposting involves the bio-oxidation and stabilization of organic material by the joint action of earthworms and microor-ganisms. Earthworms [Red Wigglers (***Eisenia foetida or Eisenia andrei)*** and European nightcrawlers (***Eisenia hortensis***)] act as mechanical blenders and by comminuting the organic matter they modify its physical and chemical status by gradually reducing the ratio of C:N and increasing the surface area exposed to microorganisms – thus making it much more favourable for microbial activity and further decomposition (Domínguez *et al.*, 1997).

Use of Silicate Bacteria in Processing Fly Ash Based Ceramics

Subhankar Barua, Anushree Hait, Rupak Ghosh and Dr. Shilajit Barua

[Department of Microbiology, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract: Biomineralization involves biologically induced extracellular chemical precipitation of mineral phases. "Silicate" bacteria, one of the mediator of biomineralization, are group of microorganisms that has been reported to removes silicon from low-grade bauxites (containing aluminosilicates, mainly kaolinite as impurities) and feldspar. Fly ash, a byproduct waste of incinerators and thermal power plants is a potential ecological hazard and difficult to dispose. Reports regarding their usage as raw material for ceramic production are widespread. However, a major drawback of this fly ash based ceramic production technology is inability to impart flexibility and plasticity to fly ash based products at green stage (prior to smeltering). Silicate bacteria are uniquely characterized by a "mucilaginous phase" during the growth. Mucilagenous extracellular polymeric substance (EPS) produced during active growth of silicate bacteria acts as resins during drying, reportedly increasing the bending property of kaolin or other similar fine clay like substances in ceramic production. We herein had made an attempt to isolate and study such silicate bacteria and analyze parameters that would be beneficial for ceramic production. Isolation was primarily carried out from soil samples overlayed by flyash in area near a thermal power plant, West Bengal. Screening of efficient strains was based on slime production and silicate solubilization from feldspar. Mixed culture with best silicate solubilizer and slime generator was developed and compared with individual strain. Also, growth and activity of both the mixed culture and individual strains were studies in presence of various carbon sources including industrial wastes like whey, molasses and corn steep liquor. This is merely a primary investigation where in it can be considered that Silicon, solubilized out of feldspar is amended with the mucilaginous EPS of silicate bacteria might help in inculcating plastic property in flyash.

Keyword : Ceramic, Fly Ash, Silicate Bacteria, Mucilage.

Introduction

Biomineralization is defined as a biologically induced process in which an organism creates a local micro-environment with conditions that allow optimal extracellular chemical precipitation of mineral phases (Hamilton, 2003). "Silicate" bacteria are group of microorganisms are able to remove silicon from low-grade bauxites (containing aluminosilicates, mainly kaolinite, as impurities) (Malinovskaya et al., 1990, Zhou et al., 2006) and feldspar (Sheng et al., 2008). Silicate bacteria are uniquely characterized by a "mucilaginous phase" during the growth. Mucilagenous extracellular polymeric substance (EPS) produced during active growth of silicate bacteria acts as resins during drying, thereby increasing the bending property of kaolin in ceramic production (Groudev 2001).

Fly ash, a byproduct waste of incinerators, thermal power plants is a potential ecological hazard and difficult to dispose. Hence, research in relation to utilization of fly ash has been extensively carried out throughout the world. Such problem can be overcome by developing technogies for generating value added products from flyash. Beside, different products that have been developed from fly ash, ceramic are the most useful products, with high market demand for construction and decorative purpose.

Several technologies have been employed for improving the tensile strength of fly ash based ceramic. Often, feldspars are added to improve the quality and tensile strength of ceramic. Sillicate solubilizing

UGC Journal No. : 64674

ISSN : 2348-571X

EDUCATION, RESEARCH AND ANALYSIS

Volume : 5 Issue : 1.2 January 2018

Vijaygarh Jyotish Ray College

In Collaboration With :

Kalyani Foundation For Media Science & Community Research

Kolkata, West Bengal, India

Isolation and Biochemical Characterisation of Microorganisms from Meat : Study of Antimicrobial Activity and Phytochemical Study of Bromelain

Mainak Deb Mondal and Dr. Sampa Debnath

[Department of Microbiology, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract : The aim of this study is the assessment of antimicrobial effect of Bromelain on microbial flora of meat. Bromelain is a crude, aqueous extract from the stems and fruits of pineapples (Ananas comosus) derived from Bromeliaceae family. Bromelain was extracted from pineapple fruit by homogenizing in cold sodium acetate buffer (pH-4.5) solution. Bromelain has a number of medicinal importances. Antimicrobial activity is one of them. Crude bromelain was estimated by folin-lowry method. Various Phytochemical studies were also done of various compounds which are beneficial for our health. Anti microbial activity of bromelain was studied by determination of MIC and MIC was 400µg/ml. After isolation of microorganism from meat sample, Gram Staining of that microorganism and biochemical tests of that microorganism was performed. Isolated microorganism was Gram negative. In addition effect of bromelain in tissue softening was also observed.

Key Words: Meat Microbial flora, Bromelain

Introduction

Bromelaine is a crude protein extract obtained from pineapple fruit and stem, which comprises a variety of proteolytic enzymes. It is applied for reduction of muscle and tissue inflammation and as an aid in digestion. The important application of bromelaine includes meat tenderization, antimicrobial activity etc.. Bromelain is a general name for a family of sulfhydryl containing; proteolytic enzymes obtained from *Ananas comosus*, the pineapple plant. It can function in the pH range 3 to 9.The effective temperature range is 40-65 °C with the optimum being 50 °C. Bromelain can be activated by calcium chloride, cysteine, bisulfate salt, NaCN, H_2S, Na_2S and benzoate. Hg^{2+}, Ag^{+}, Cu^{2+}, α-1-antitrypsin, estatin A and B, idoacetate, inhibits bromelain. First introduced as a therapeutic compound in 1957(R.M. Heincke and W.A. Gortner, 1957), bromelain's actions include: (1) inhibition of platelet aggregation; (2) fibrinolytic activity; (3) anti-inflammatory action; (4) antitumor action; (5) modulation of cytokines and immunity; (6) skin debridement properties; (7) enhanced absorption of other drugs; (8) mucolytic properties; (9) digestive assistance; (10) enhanced wound healing and (11) cardiovascular and circulatory improvement(R. Dubey et al, 2011) etc.

Materials and Method : In our study we have focussed on isolation of meat microbial flora and antimicrobial activity of bromelain on meat microbial flora. For this study we have prepared the bromalein extract.

Preparation of bromalein extract: Experiment-1: Extraction of Enzyme Bromelain from pineapple and Study of its antimicrobial effect on meat microbial flora:

- ***Extraction of Bromelain***: Bromelain is a general name for a family of sulfhydryl containing, proteolytic enzymes obtained from Ananas comosus, the pineapple plant.
- **Process:**

Homogenate was prepared by using Chopped Pineapple in Sodium Acetate Buffer (pH: 4.5)

Extracted was filtered by filter paper

The filtrate was centrifuged at 6000 rpm for 10 minutes

Bromelain is being extracted (concentration 1gm/ml)

Transfer of Education Over Generations in India

Palashpriya Halder

[Assistant Professor, Department of Economics, Vijaygarh Jyotish Ray College, West Bengal, India]

Prof. Dr. Ishita Mukhopadhyay

[Professor, Department of Economics, University of Calcutta, West Bengal, India]

Abstract : In this paper we use a nationally representative data set from India to examine one aspect of mobility: that of educational attainment across generations. Specifically, we examine role of father's education on two aspects of child's educational attainment i) years of schooling attained and ii) progression across different schooling levels. We have taken India Human Development Survey data (2011-2012) in this paper and tried to find out the effect of father's education on the educational attainment level of son particularly for different social groups, General Caste(GC), Other Backward Castes(OBC), Scheduled Castes(SC), Scheduled Tribes(ST) in India. Intergenerational transfer takes place in three ways : Persistence (Same level of education between generations) , Downward Mobility (if education level falls from one generation to another) , Upward Mobility (if education level increases from one generation to the other).We focus particularly on upward mobility and persistence because only through these mechanisms human capability formation takes place.

JEL Classification: O12, I21, C31

Key Words : Intergeneration, Education, Transfer, Mobility

Introduction

In most of the growth processes across the world, rapid economic growth has taken place along with increased inequality in outcomes such as income, wealth, and education. One of the main reasons behind this inequality roots from intergenerational persistence in outcomes. Higher the level of persistence in outcomes between generations high will be the inequality problem. In this sense a measure of intergenerational mobility is intrinsically connected to the extent of economic inequality in a society. This issue of intergenerational mobility is very important in the context of India. Among developing countries India stands out in terms of the remarkably low levels of mobility (Gupta, 2004; Munshi and Rosenzweig, 2009). This lack of mobility means that many sections of the society are unable to derive the advantages of the economic growth that the country has experienced over the past few years.

Part of this could be due to the fact that in a society characterized by lack of mobility, the gains from growth accrue disproportionately across the population and in particular some sections of the population like the less advantaged low income group people, are unable to reap the benefits that the growth process in the country has provided. For the benefits of the growth process to be distributed much more equally, the population needs to be mobile. In this paper, we focus on intergenerational mobility in educational attainment. Education plays a major role in the expansion of capabilities. By 'expansion', we mean two aspects of capabilities, although they are mutually related. One is the expansion of a person's capacity or ability. The other is the expansion in opportunities that the person has. Education has a multiplier effect that increases the quality of human resource of an economy for many generations. There is a vast literature that shows that higher education is associated with higher earnings, better health, and other economic outcomes (see Black and Devereux, 2011), rendering a measure of intergenerational mobility based on education a reasonable proxy for mobility in overall economic status.

Media Literacy: What, Why & How ?

Sunandit Chaudhury

[Asst. Prof. & Head, P.G. Department of Media Science, Swami Vivekananda Institute of Modern Science, Sonarpur. Guest Lecturer, Department of Journalism & Mass Communication, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract : The term 'literacy' can traditionally be defined as the skill to read & write. Media, being a powerful vehicle to convey the messages, needs applied form of literacy in all aspects. In short, 'Media Literacy' is the ability to Access, Analyze, Evaluate & Create messages across a variety of contexts.

Key Words: Literacy, Media, Self actualization, Media education, Data Society, Digital Media, Visual Media, Information & Communication Technology, Cyber Literacy, Web Education

The Debate

The idea of media proficiency, similar to that of education itself, has since quite a year ago. The massively huge aptitudes of perusing and composing have been enlarged by the likewise huge expertise of 'perusing' varying media material from the mid twentieth century onwards. Today, as we witness a further real move in Information & Communication Technology (ICT), another type of education is developing, uneasily named Cyber Literacy or Web Education. This new type of proficiency, if it is for sure 'new', and in the event that it is fittingly described as 'proficiency' as well as 'efficiency', lies at the core of a progression of energetic civil arguments crossing the foundation, the approach group, and people in general.

This blend of controls and partner interests with disciplines is maybe creating more warmth than light at introduce. This is exacerbated by the way that up until now, inquire about has been essentially diagnostic, for few have investigated new skill levels observationally. Surely, just as of late has the larger part of people in general even had the opportunity to deal with the new abilities required of them not simply in their relaxation, as with TV and presently with Mobile Internet, but rather significantly additionally at work, in institution and in their community. This accepts the open door to draw out a progression of key scholarly difficulties postured by the presentation of new data and correspondence innovations for our reasoning & challenges about media literacy.

The Application

Media community individuals can use communications media like Print, Visual as well as Digital media to overcome problems in a creative understanding. They are acquainted of the Political, Social, Cultural, Economic &Educational role of the Mass Media in Association including ability of how media organizations operate. A few models exist for advancing and surveying open mindfulness and seeing, each of which could, with varying points of interest and burdens, be connected to media literacy. These aptitudes and capacities are quite questioned in connection to the work advertise, training, the home, recreation, correspondence conditions etc. What's more, frequently unique areas have altogether different sorts of aptitudes as a main priority – including low-level specialized abilities like typing, operating electronic program devices and very high-level skills like online debate participation etc.

This four-segment model has the role of applying similarly well to print, broadcasting and the web. This is well-a known area for print and broadcasting, subject of numerous strategy activities and instructive educational program. This may incorporate web proficiency.

Access : Access is based on few dynamic and social processes, not an irregular demonstration of arrangement. When access is built up, creating proficiency drives clients to modify essentially and constantly the states of access (refreshing, redesigning and broadening equipment and programming applications).

UGC Journal No. : 64674

ISSN : 2348-571X

EDUCATION, RESEARCH AND ANALYSIS

Volume : 5 Issue : 1.1 January 2018

Vijaygarh Jyotish Ray College

In Collaboration With :

Kalyani Foundation For Media Science & Community Research

Kolkata, West Bengal, India

The History and Evolution of Social Media: An Overview

Bakul Srimany

[PhD Research Scholar, Techno India University, West Bengal, India]

Dr. Arnab Kumar Banerjee

[Assistant Professor, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract: Today, social media is a term that everyone knows. Even the most remote areas of the world have at least heard of Facebook and Twitter, and are probably using them on a regular basis. But it wasn't always that way. Rather than fixing a year or a web portal as the point of origin, the formation of World Wide Web and the subsequent increase in instantaneous connectivity of the Internet is regarded as the starting point of social media. The rise of Internet gave the world the power of near-instant communication, which, in the subsequent years, opened up a world of possibilities, and the landscape of social media. Here, we try to trace the roots of where it all began, how it took the eventual course of evolution, and everything that influenced the rise of social media from chat windows with tacky backgrounds to the thriving, connected world that it is today.

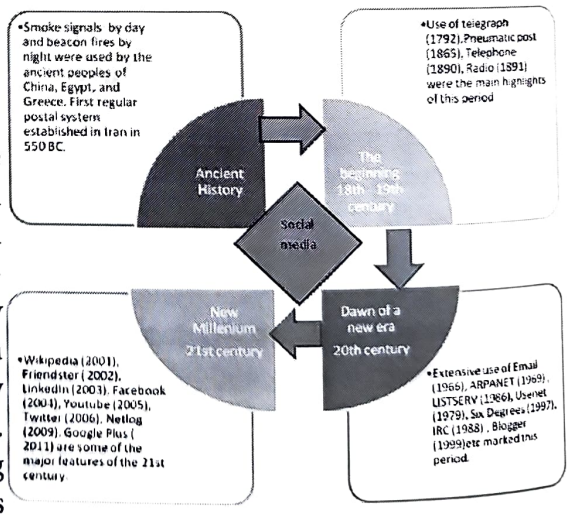
Key Words : Social Media, Facebook, Twitter, History of Social Media, Virtual Reality, Future of Social Media, Types of Social Media

Introduction

Social media is typically defined in Oxford Dictionaries as:-

"Websites and applications that enable users to create and share content or to participate in social networking"

It can be argued that social media is nothing new; in fact it is as old as long distance communication itself. People used to communicate through smoke signals by day and beacon fires by night in ancient China, Egypt, and Greece. Drums were used in many parts of the world to extend the range of the human voice for communication as well. The seeds of social media were sown during 550 BC when the regular postal system was established in Iran where horse riders and horse-drawn wagons carried mail. 1 The 18th and 19th century were breakthrough period where devices like the Telegraph (1792), Telephone (1890) and Radio (1891) ushered in a new era of the sending and receiving messages over long distances. The invention of telephone and radio took the meaning of communication to another level2. The 20th century was marked by the growth and development of internet. With the growth and development of internet, there came era of exchange of messages from one person to another digitally or via web.



Compuserve, BBS, Usenet And AOL: The Infant Years

The earliest social media can be traced back to the 1970s, with the likes of CompuServe and Bulletin Board System (BBS).

Compu Serve's 40-year history from 1969 to 2009 spans a vast array of connectivity efforts, from its early use as a support network for an insurance company to its latter days in email and forums3.Admittedly, connectivity was scarce and the technology was limiting. Individuals on CompuServe could only send and

Staphylococcus Aureus in Milk: A Review

Dr. Gargi Saha Kesh

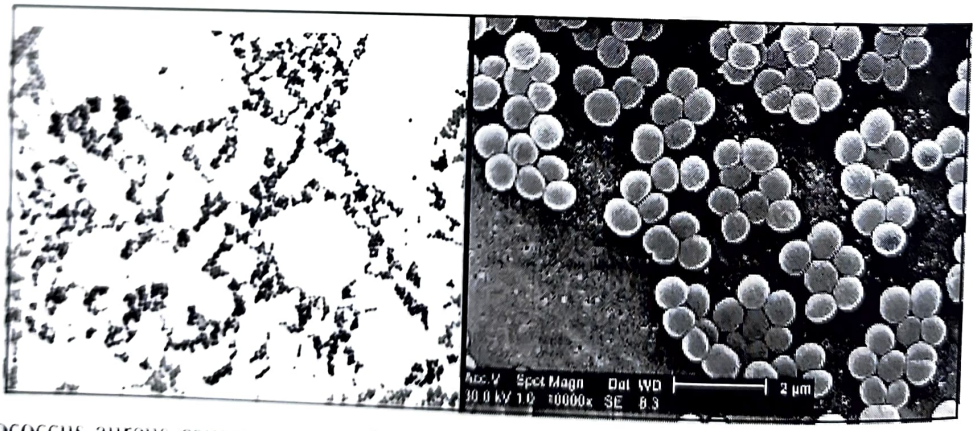
[Assistant Professor, Department of Microbiology
Vijoygarh Jyotish Ray College, West Bengal, India]

Abstract: Food born diseases are defined by the World health Organization (WHO) as "disease of infectious or toxic nature are caused by, or thought to be caused by the consumption of food and water". More than 250 food borne diseases have been recorded. Depending upon the infecting microbe, the symptoms vary, though mostly the symptoms are diarrhoea and vomiting. In most countries, food borne diseases are caused by bacteria in more than two third of the cases. Staphylococcus aureus causes severe animal diseases, and for humans, this organism is an important cause of food poisoning, pneumonia, postoperative wound infections, and nosocomial bacteremia. Human isolates of S. aureus, unlike animal isolates, are frequently resistant to the penicillinase-resistant penicillins. Several cases have been reported where antibiotic resistant and or pathogenic Staphylococcus aureus has been detected in milk.

Key Words : Food Born Diseases, Staphylococcus, Milk.

Staphylococcus- The Bacteria

Staphylococci (staph) are Gram-positive spherical bacteria that occur in microscopic clusters similar to grapes (*staphylo* means grape in greek). Although more than 20 species of *Staphylococcus* are described in Bergey's Manual (2001), only *Staphylococcus aureus* and *Staphylococcus epidermidis* are noteworthy in their interactions with humans. The genus Staphylococcus comprises of several species and subspecies. The genus is largely grouped into two, namely, coagulase-positive and coagulase-negative *Staphylococcus* (CNS). CNS consists of a group of different Staphylococcus species that have an effect on diverse host ranges. Staphylococci are facultative anaerobes that grow by aerobic respiration or by fermentation that yields chiefly lactic acid. The bacteria are catalase-positive and oxidase-negative. (Y.L. Loir *et al*) Staphylococci are normal residents of the skin and mucous membranes of animals and humans.



Staphylococcus aureus causes severe animal diseases, such as suppurative disease, mastitis, arthritis, and urinary tract infection with the production of numerous virulence factors, such as extracellular toxins and enzyme. For humans, this organism is a significant basis of food poisoning, pneumonia, postoperative wound infections, and nosocomial bacteremia (Takele Beyene et al).

Milk

An outstanding growth medium, milk is used by a great number of micro-organisms, including *S. aureus*. Milk contains excluding exceptions, all the nutrients needed for the growth and development of the new

Status of Women in Higher Education in 21st Century India

Dr. Rajyasri Neogy

[Principal, Vijaygarh Jyotish Ray College, West Bengal, India]

Ms. Shumonika Gangoly

[College Full-Time Teacher (College Management Appointed), Department of Economics, K. K. Das College, West Bengal, India]

Abstract **:** Education is an art of imparting knowledge to others for betterment of their life and preparing them for achieving their aim, as a profession. Higher education means education beyond the level of secondary education, i.e. education at degree level and above. Indian education system is one of the oldest and largest in the world. But it is a common feature in India that since birth girls are discriminated in subtle and crude ways. But despite this, it is a great advancement that presence of women in colleges and universities are growing. In recent years, India has progressed much in women's education to change the social face of country, although much remains to be done in this regard. This paper attempts to study the status of women in Higher Education in India since the Vedic Period and how it has changed since then to culminate into its current form.

Key Words : Women's Higher Education, Empowerment, Women Colleges, Stream-wise Enrolment, Degrees Awarded, Teachers, etc.

Introduction

It is often argued that education is a powerful tool in the emancipation and empowerment of women. Experts on women's liberation argue for women's education as the basic step in women's equality. Education is a milestone for women empowerment because it enables them to respond to opportunities, to challenge their traditional roles and to change their lives. Education is one of the most important means of empowering women with knowledge, skills and self confidence required to participate fully in the development process. The role of education is not only learning of three R's, ("Reading, Writing, and Arithmetic") but also includes raising awareness and critical analysis of various structures and acquiring knowledge for empowerment at all levels.

Education plays a crucial role in social- economic development of a country through improvement of human resources. Educating women, therefore, occupies top priority among various measures taken to improve the status of women in India. In recent years, the focus has shifted from their traditional roles towards recognizing their worth as producers, making a major contribution to family and national income. Today India's higher education system is the World's third largest education system after U.S and China. But the educational statistics in higher education is not as per expectation.

Historical Background

Indian mythology is rich with stories of highly educated and evolved women. One can trace the historical evidence of ancient Indian education to the 3rd century B.C. when education was imparted orally and many women scholars were part in it.

In the Vedic period of ancient India, education was open equally to men and women. Many females distinguished themselves not only as Vedic scholar but also as great philosopher, sages and teacher among whom Gargi, Sulabha, Lopamudra, Maitrai, Apala, Vishivavare, Sikata, Ghosha are worth mentioning. There are several references in the epics, smrities and puranas, where women enjoyed an elevated status in society. It is also interesting that girls like boys underwent the upanayana ceremony before entering into the

Microbial Biodegradation may be A Positive Solution Against The Environmental Disaster Created by Plastic in Future

Dr. Sampa Debnath

[Assistant Professor, Vijaygarh Jyotish Ray College, West Bengal, India]

Abstract : Plastic is a synthetic polymer. Since last few decades the uncontrolled use of plastics for various purposes such as packaging, transportation, industry and agriculture in rural as well as urban areas, has elevated serious issue of plastic waste disposal and its pollution. The efficient decomposition of plastic bags takes about 1000 years. Plastic causes pollution and global warming not only because of increase in the problem of waste disposal and land filling but also release CO2 and dioxins due to burning. Commonly used methods for plastic disposal were proved to be inadequate for effective plastic waste management, and hence concern is growing regarding the procedure to overcome the environmental disaster created by plastic. Much interest is generated by the degradation of existing plastics using microorganisms. It seems that biological agents and their metabolic enzymes can be exploited as a potent tool for polymer degradation. This review has covered the areas: (1) the level of polythene pollution; (2) source of polythene degrading microbes; (3) the mechanism of polythene degradation; (4) methods used for the biodegradation of the polythene, (5) discussion of the future aspects of polythene degradation

Key Words: Plastic, Synthetic Polymer, Biodegradation

Introduction

The Level of polythene pollution: Plastic is a synthetic polymer. It consists of carbon, hydrogen, silicon, oxygen, chloride and nitrogen. It is derived from different sources such as oil, coal and natural gas. Plastics are extensively used because of their stability and durability. They are different types such as polyethylene (PE), Poly Ethylene Terephthalate (PET), nylons, Poly-Propylene (PP), Polystyrene (PS), Polyvinyl Chloride (PVC), and Polyurethane (PUR) [1]. Due to the absence of efficient methods for safe disposal of these synthetic polymers, they often end up accumulated in the environment, posing an ever-increasing ecological threat to flora and fauna [1]. Due to the presence of plastics in municipal wastes, many countries do not allow the incineration of these wastes. Instead, plastics are disposed of through open, uncontrolled burning and land-filling. Various health problems can be present as a result of open burning of these wastes which release pollutants into the air. In addition, the burning of Polyvinyl chloride (PVC) plastics produces persistent organic pollutants known as furans and dioxins, and the burning of polyethylene, polyurethane, polyvinyl chloride and polystyrene produces toxic irritant products that lead to immune disorders and lung diseases, and are classified as possible human carcinogens [2]. Plastic can be degraded by a variety of mechanisms such as chemical, thermal, photoxidation and biodegradation, all of which take an extremely long time depending on the molecular weight of polymer, it could take up to 1000 years for some types of plastics to degrade [4]. While some plastics are lucky enough to be recycled, most are sent to landfill, and the rest is left to its own devices, free to roam our environment clogging up streams, rivers, lakes and oceans, polluting forests and soils. This environmental disaster is designated by a term 'white pollution'.

(2) Source of polythene degrading microbes: Microorganisms can also play a vital role in this process, as over 90 genera of bacteria, fungi and various species of bacteria and fungi such as Bacillus subtilis, Aspergillus niger, Aspergillus nidulance, Aspergillus flavus, Aspergillus glaucus, Penicillum species,

A Study of Child Health Status (Malnutrition) in the localities of Jadavpur, Kolkata

Soma Majumder

[Assistant Professor, Department of Physiology, Vijaygarh Jyotish Ray College, West Bengal, India]

Dr. Soma Basu

[Former Associate Professor, National Medical College, Nepal; Researcher on Public Health, Germany]

Abstract: India with a population of 1.37 billion stands at the second position as the most populous country in the world after China. India comprises almost 13.1 per cent of child population aged 0-6 years. Children of today are tomorrow's citizens; hence it is very necessary to provide better health care facilities to them. This paper attempts a Study of Child Health Status (Malnutrition). The area of present study is in the localities of Jadavpur, Kolkata.

Key Words : Overnutrition, Toxic Food Environment, Lifestyles, Nfhs

Introduction

As of 2012 an estimated 162 million children under 5 years of age, or 25%, were stunted due to malnutrition. More than 90% of the world's stunted children live in Africa and Asia, where respectively 36% and 56% of children are affected.[1] Malnutrition is a condition that results from eating a diet in which nutrients are either not enough or are too much such that the diet causes health problems.[2]

It may involve calories, protein, carbohydrates, vitamins or minerals. Lac of enough nutrients is called undernutrition or undernourishment while too much is called overnutrition. Malnutrition is often used to specifically refer to undernutrition where an individual is not getting enough calories, protein, or micronutrients. If undernutrition occurs during pregnancy, or before two years of age, it may result in permanent problems with physical and mental development. [3] Undernourishment is most often due to not enough high-quality food being available to eat. This is often related to high food prices and poverty. A lack of breastfeeding may contribute, as may a number of infectious diseases such as: gastroenteritis, pneumonia, malaria, and measles, which increase nutrient requirements.[4] In some developing countries, overnutrition, in the form of obesity is beginning to present within the same communities as undernutrition .[5]

Overnutrition caused by overeating is also a form of malnutrition. Many parts of the world have access to a surplus of non-nutritious food, in addition to increased sedentary lifestyles. Yale psychologist Kelly Brownell calls this a "toxic food environment" where fat and sugar laden foods have taken precedence over healthy nutritious foods. Not only does obesity occur in developed countries, problems are also occurring in developing countries in areas where income is on the rise. Overeating is also a problem in countries where hunger and poverty persist. Overeating leads to many diseases, such as heart disease and diabetes, that may result in death.[6]

Worldwide in 2016, 41 million, or 6 per cent, of children under age 5 were overweight. Eastern Europe and Central Asia had the highest overweight prevalence in 2016 with 12.8 per cent affected, followed by Middle East and North Africa at 10.7 per cent and North America at 7.8 per cent. The lowest overweight prevalence in 2016 was seen in West and Central Africa, at 3.7 per cent, followed by Eastern and Southern Africa at 4.2 per cent. East Asia and the Pacific had the highest number of overweight children in 2016 with 8.6 million affected, followed by South Asia with an estimated 7.4 million overweight. Overall these two Asian regions account for nearly two out of every five overweight children in the world. Eastern Europe and Central Asia is the only region that has seen a statistically significant increase in number of overweight children between 2000 and 2016. [7]

With one of the highest rates of child malnutrition in the world, India has won notoriety as one of the nutritional basket cases of the world over the past few years. Although India has witnessed significant progress in its battle against child malnutrition over the past decade, the progress has been quite uneven, and child malnutrition rates still remain high in many parts of the country, data from the latest round of the National Family Health Survey (NFHS) shows.[8][11]

International Journal of Engineering, Science and Mathematics
Vol. 7,Special Issue 4(3), April 2018,
ISSN: 2320-0294 Impact Factor: 6.765
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

Antimicrobial potential of marine cyanobacteria collected from the West Bengal coastal region of India against multiresistant microorganisms

Prasenjit Das*

Abstract

This study focuses on some cyanobacteria collected from the Bakkhali, a coastal town of West Bengal, India. The aim of this study was to investigate the antimicrobial potential of some marine cyanobacteria against some standard microorganisms. The sample extracts were tested against four standard multiresistant bacteria and a fungi such as *Escherichia coli*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Bacillus subtilis*, *Klebsiella pneumoniae* and *Aspergillus niger*. Cyanobacterial extracts have shown varied levels of antimicrobial properties with *Calothrix sp.* being the most effective as evidenced from MIC and MBC values. These findings are encouraging for further investigation for discovery of new therapeutic agents. Such information may also be of great use in disclosing new sources of already known biologically active compounds.

Keywords:

Cyanobacteria;
Inhibition zone;
MIC;
MBC;
Calothrix sp.

Author correspondence:

Prasenjit Das,
Assistant Professor, Deaprtment of Microbiology,
Vijaygarh Jyotish Ray College, Kolkata- 700032, West Bengal, India
Email: pdmicrobio@gmail.com

1. Introduction

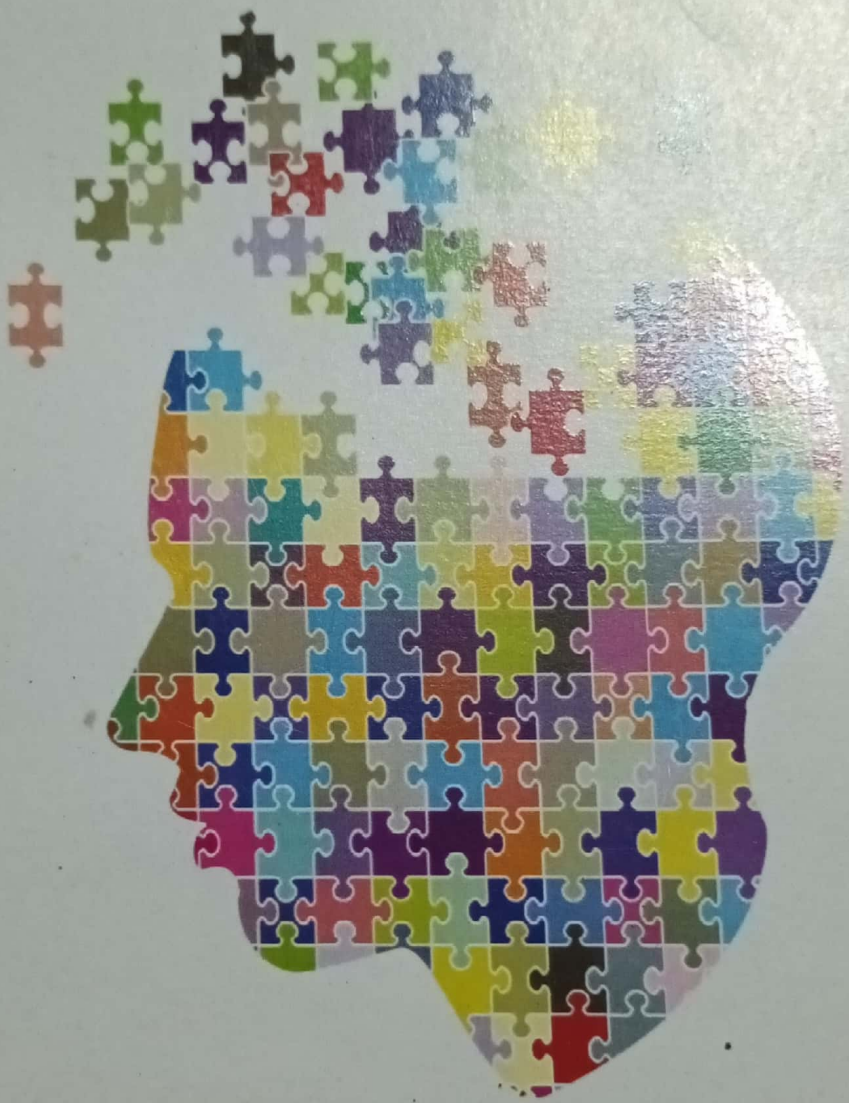
Oceans, seas, coastal backwaters, estuaries, and bays are part of the marine environment. It covers 70.8% of earth's surface and comprises more than 200000 described species of invertebrates and algae [18]. However, it represents only a small percentage of the marine biodiversity [10]. Yet, marine natural products are increasingly receiving attention in the search for new and effective medicinal compounds. Competition for space and nutrients led to the evolution of antimicrobial defence strategies in the aquatic environment. Therefore, aquatic organisms, offer a particularly rich source of potential new drugs [2]. The chemical ecology of marine microbes is vastly unexplored even though microbes produce metabolites that can have significant effects on target organisms [8]. Marine macro-organisms use metabolites from microbial symbionts to deter consumers, subdue prey, and defend their embryos from pathogens [8]. Therefore, a knowledge of the biological activities of marine microorganisms is desirable, not only for the discovery of new therapeutic agents, but because such information may be of value in disclosing new sources of already known biologically active compounds [1].

Marine bioactive compounds, many of which are secondary metabolites, are produced for the purpose of greater survivability or fecundity [11]. Secondary metabolites are adaptive and play a key role in the host's defence against pathogens, parasites, predators, competitors and epibiota [6]. Secondary metabolites as natural products provide greater structural diversity than standard combinatorial chemistry and so they offer major opportunities for finding novel low molecular weight lead structures that are active against a wide range of assay targets [7].

* Assistant Professor, Deaprtment of Microbiology,
Vijaygarh Jyotish Ray College, Kolkata- 700032, West Bengal, India

ISSN : 2348-571X

Education, Research and Analysis



Volume : 4 Issue : 1 January 2017

Kalyani Foundation For Media Science & Community Research
In Collaboration With :
Vijaygarh Jyotish Ray College
Kolkata, West Bengal, India.

Antibacterial Activities of Different Solvent Extract of Seed and Latex of *Carica Papaya* of Local Area.

Dr. Sampa Debnath

[Assistant Professor, Department of Microbiology, Vijaygarh Jyotish Ray College, Kolkata, India]

Supita Sutradhar

[Department of Microbiology, Vijaygarh Jyotish Ray College, Kolkata, India]

Abstract: The Papaya belongs to small family *Caricacea* . It is the most widely cultivated fruit in India. This fruit is popular for its nutritional value as well as medicinal value. It shows antimicrobial activity. The antimicrobial activity of different solvent extract of seed and latex of *Carica Papaya* on gram negative and gram positive organisms e.g. *E.Coli, Bacillus Subtilis, Klebsiella pneumoniae and Pseudomonas aeruginosa* was observed and MIC was also determined.

Key Words : Carica Papaya, Antimicrobial Activity, MIC

Introduction:

Many herbal remedies individually or in combination have been recommended in different medical cases for the cure of various diseases. *Carica papaya* belongs to the family of Caricaceae, and several species of Caricaceae have been used as remedy against a variety of diseases (Alabi *et al.*, 2012). *Carica papaya* is a plant having a wide range of pharmacological activities. The whole plant has its own medicinal value. Papaya is rich source of anti oxidant vitamin, the minerals and fiber (Arbind et al.,2013) In recent years, multiple drug resistance has developed due to indiscriminate use of existing antimicrobial drugs in the treatment of infectious diseases (Service 1995). This problem demands that a renewed effort to seek the antibacterial agents effective against the pathogenic microorganisms resistant to current antibiotics (Soulsby 2005). Besides, though synthetic antibiotics are strong medicines and save lives, they cause more harm than good when they are not used in right way. Therefore, there is also a need to develop alternative antimicrobial drugs for the treatment of infectious diseases from other sources. For this purpose several experiments by using phytochemicals have been done (Cordell 2000). Plants are rich in a wide variety of secondary metabolites such as tannins, terpenoids, alkaloids and flavonoids which *in vitro* show the antimicrobial properties and could serve as an alternative, effective, cheap and safe antibacterial for the treatment of microbial infections (Cowan 1999). Secondary metabolites are organic compounds that are not directly involved in the normal growth and reproduction of an organism.

The black seeds of the papaya are edible and have a sharp, spicy taste. They are sometimes ground and used as a substitute for black pepper. Dried papaya seeds actually look quite similar to peppercorns and can be used in just the same way. Grinding a couple over a meal, especially protein rich meals, is a simple way to add extra enzymes to your diet and improve your digestive health. The papaya seeds are very pungent and peppery, making them almost unpalatable. However the seeds