Monday Morning

RMRC, Bhubaneswar

(Laxmi Narayan Memorial Library)

Weekly Current Awareness Service

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An original idea. That can't be too hard. The library must be full of them.

–Stephen Fry

About Monday Morning:

Monday morning is a weekly E- CAS (Electronic Current Awareness Service) of RMRC Library, Bhubaneswar which carries one Biomedical & health science news item and some useful current medical research links so that the scientists can access the articles. This E- Bulletin starts its journey from 21st Nov. 2016. In this maiden attempt we cordially invite your inputs and suggestions to improve in future.

Dr. Banamber Sahoo, Lib & Inf. Officer
Satyajit Nayak & Twinkle Rout (Lib. Trainee)

DOWN TO EARTH

Origin of life's building blocks

Increase of amino acids, nucleobases and sugars in early ocean explained

WASHINGTON: Scientists have uncovered a physical mechanism that may explain how the building blocks necessary for the origin of life on Earth formed.

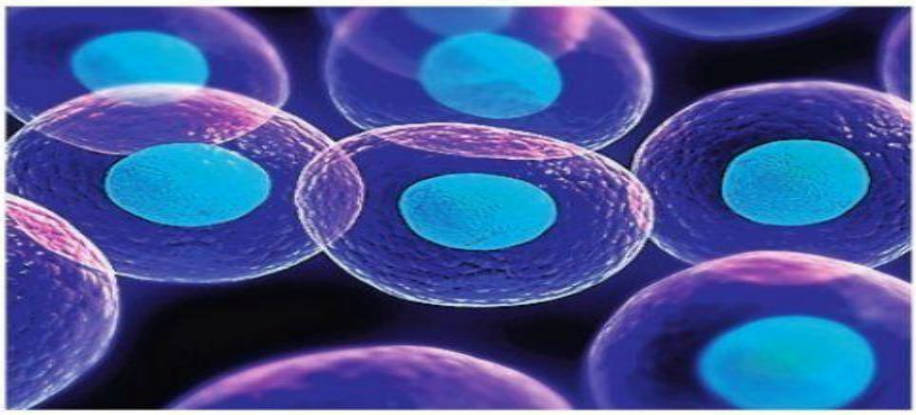
Researchers have known that the building blocks of life — amino acids, nucleobases and sugars — were present in the early ocean, but were low in concentration.

In order for life to emerge, these building blocks needed to be combined and enriched into long-chain macromolecules. Identifying the process and mechanism driving this synthesis has been one of the largest questions concerning the origin of life. Now, researchers at Texas A&M University in the US have found a mechanism that may have played a major role in combining these dilute chemical building blocks into the long-chain macromolecules necessary for life.

"In the early ocean, those building blocks were present in the environment," said Victor Ugaz, professor at Texas A&M University. "They were there, but they were so dilute; there is a question about how they combined."

The research team created a model system of cylindrical cells that mimic the structure of pores in mineral formations found near a recently discovered, new type of subsea hydrothermal vent. The temperature gradients present within these vents function just like an ordinary lava lamp, circulating fluid within the tiny pore spaces. The team found that these flows are surprisingly complex and chaotic — meaning that individual paths follow a rough general pattern, but no trajectories are identical. This discovery made it possible to identify conditions where these flows are able to provide bulk homogenisation of the various organic molecules present in the vents, while at the same time transport them to catalytically active pore surfaces where they absorb and react, researchers said.

These flows naturally occur within hydrothermal pore networks providing a mechanism to explain how dilute organic precursors could have assembled into biomacromolecules.



Methodology

The team used a model system of cylindrical cells that mimic the structure of pores in mineral formations found near a new subsea hydrothermal vent.

http://epaper.newindianexpress.com/c/18400638

1. Enzyme saves us from insect dust and worm skin.

Each time you take a breath, there's a good chance you're inhaling bits of insects, morsels of mites, and other remnants of various organisms. This debris is rich in a molecule called chitin, the main ingredient of insect skeletons, whose impact on our health has puzzled researchers. A new study bolsters the case that chitin promotes lung diseases. But the study also suggests that an enzyme that breaks down chitin staves off these illnesses, potentially leading to a new class of drugs that could help combat them. For more details click on the below link.

http://www.sciencemag.org/news/2017/04/enzyme-saves-us-insect-dust-and-worm-skin

2. Young human blood makes old mice smarter.

A protein found in young human blood plasma can improve brain function in old mice. The finding, published on 19 April in *Nature*, is the first time a human protein has been shown to have this effect[1]. It's also the latest evidence that infusions of 'young blood' can reverse symptoms of ageing, including memory loss, decrease in muscle function and metabolism, and loss of bone structure. For more details click on the below link.

http://www.nature.com/news/young-human-blood-makes-old-mice-smarter-1.21848

3. Treatment of HCV allows for sustained removal from the liver transplant waiting list.

A new European study presented today demonstrated that patients with chronic Hepatitis C virus (HCV) and severe liver damage, taken off the liver transplant list as a result of successful direct-acting antiviral (DAA) therapy, had a favourable outcome over a year later. The study, presented at The International Liver Congress™ 2017 in Amsterdam, The Netherlands, showed that 38 of 142 patients (26.7%) could be removed from the waiting list due to clinical improvement. Of the 38 patients taken off of the transplant list, one (2.6%) died as a result of rapidly progressing HCC while two other patients (5.2%) had to be relisted or considered for relisting. For more details click on the below link.

https://www.eurekalert.org/pub_releases/2017-04/eaft-toh041117.php

4. WHO Weekly epidemiological record.

Eliminate Yellow fever Epidemics (EYE): a global strategy, 2017–2026. For more details click on the below link.

http://apps.who.int/iris/bitstream/10665/255040/1/WER9216.pdf?ua=1

E- CAS (Current Awareness Service)

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