

SEPT - DEC 2023

MICRO SCOOP

DEPARTMENT OF MICROBIOLOGY

ST. JOSEPH VAZ COLLEGE, CORTALIM

DO YOU KNOW THIS BACTERIA?



Azotobacter vinelandii

It is a free- living nitrogen fixer known to produce many phytohormones & vitamins in soils. It produces fluorescent pyoverdine pigments.



Actinomyces israelii

It is known to live commensally on and within humans. It is an opportunistic pathogen & a cause of Actinomycosis disease.



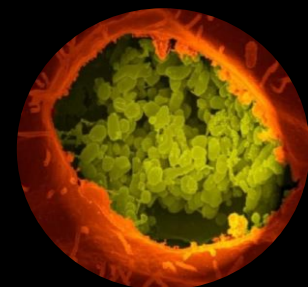
Clostridium difficile

It is a type of bacteria that can cause diarrhoea. It often affects people who have been taking antibiotics.



Clostridium botulinum

It has the ability to produce the neurotoxin botulinum. The botulinum toxin can cause botulism, a severe flaccid paralytic disease in humans & other animals.



Coxiella burnetii

It is the causative agent of Q fever, which is a zoonotic disease. Q fever can present as a febrile illness, pneumonia or hepatitis



Acinetobacter baumannii

It is commonly found in soil & water. It causes infections in the blood, urinary tract & lungs.

Bacterial Art



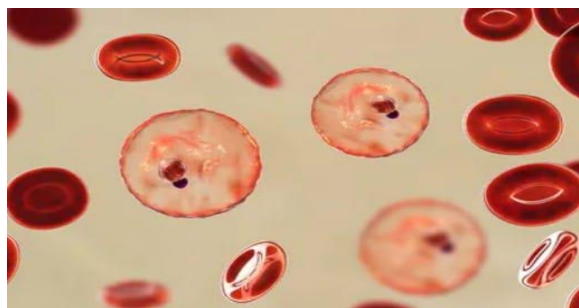
The bacteria observed on the petridish was isolated from soil by FYBSc Microbiology students during their practical session.

Dangerous 'Superbugs' Are on the Rise. What Can Stop Them?



Traditional antibiotics drive bacteria toward drug resistance, so scientists are looking to viruses, CRISPR designer molecules and protein swords for better superbug treatments. {1}

A New mRNA Malaria Vaccine



By targeting resident memory T cells in the liver, a novel mRNA malaria vaccine prevented infection, even in those with prior exposure. {2}

The Vaginal Microbiome May Affect Health More than We Thought!



A recent study finds varying combinations of microbes in the vaginal microbiome may influence health outcomes such as risk of sexually transmitted disease and preterm birth. {3}

REFERENCES



{1} Nicoletta Lanese. [2023, Oct 13]. Dangerous 'Superbugs' Are on the Rise. What Can Stop Them?

<https://www.scientificamerican.com/article/dangerous-superbugs-are-a-growing-threat-and-antibiotics-cant-stop-their-rise-what-can/>

{2} Rebecca Roberts. [2023, Nov 30]. A New mRNA Malaria Vaccine. <https://www.the-scientist.com/news/a-new-mrna-malaria-vaccine-71533>

{3} Lori Youmshajekian. [2023, Dec 06].

The Vaginal Microbiome May Affect Health More than We Thought!

<https://www.scientificamerican.com/article/the-vaginal-microbiome-may-affect-health-more-than-we-thought1/>

DEPARTMENT ACHIEVEMENT CORNER

- ❖ FYBSc students, **Pavithra A. Nair & Damini Rajput** participated in the "Meme Competition" on the topic "One Microbe Hundred Solutions" organised by MBSI, "Department of Botany" of St. Xavier's College, Ranchi on Sep 10, 2023.
- ❖ FYBSc students, **Pavithra A. Nair, Natasha Nadaf, Fey Da Silva, Anezia Barreto, Maithili Rudruke, Srushti Naik, Prajakta Prabhu Gaunker, Vianney Colaco, Verwarly Tavares, Tejasvini Lamani, Sheraine Andrade & Mahesh Morajkar** participated in the "Poster Making Competition" on the theme "Expanding the Horizons of Microbiology" organised by MBSI- Goa Unit at St. Xavier's College, Mapusa on Oct 06, 2023.
- ❖ **Dr. Aureen Gomes** participated in the International Conference on "Environmentsl Sustainability:New Paradigms & Developments" held at BITS Pilani in Dubai, UAE from 26-29 November 2023 and presented her research work on endophytic and rhizosphere bacteria from coastal sand dunes of Goa.

Editorial Team:

Faculty- :Dr. Aureen Gomes

Student Members [FYBSc]-:Pavithra A. Nair, Prajakta Prabhu Gaunker, Vianney Colaco, Verwarly Tavares