



DINABANDHU ANDREWS COLLEGE

KOLKATA, WEST BENGAL, INDIA

**One Day National Seminar, Poster
Presentation & Photography Competition**

Jointly Organized by

Department of Botany

in Collaboration with

Internal Quality Assurance Cell

Celebrating International Year of Millets

Hon'ble Speaker

Prof. Dr. Krishnendu Acharya, FICN

**Molecular and Applied Mycology and Plant
Pathology Laboratory**

Centre of Advanced Study

Department of Botany

University of Calcutta, Kolkata, India

Topic: Think outside the box. Be an Entrepreneur

Important Dates:

Last Date of Abstract Submission: 10th May, 2023 (10:00 A.M.)

Last Date of Registration: 10th May, 2023 (12:00 P.M.)

No Registration Fee

Registration Link: <https://forms.gle/iDtrU7uUieC7Cwkp9>

Programme Date: 12th May, 2023

Time: 12:30 P.M

No Spot Registration



Poster Competition

Topic: Biology in Everyday Life

1. A poster competition will be held at Dinabandhu Andrews College as a part of the “**One Day National Seminar, Poster Presentation & Photography Competition**” in the post lunch session, based on the theme “**Biology in Everyday Life**”.
2. **Review/Survey/Research** based posters on the above themes are invited from **students, research scholars and faculty members** from any discipline for the participation in the competition.
3. There is no provision for **spot registration**.
4. Top **two posters** from each category (**UG/PG/Research Scholar/Faculty**) will be awarded after the competition.

Necessary Guidelines:

- ❖ **Posters should adhere to the themes as mentioned.**
- ❖ **Poster Size: 3 feet (Horizontal) x 4 feet (Vertical).**
- ❖ **Reporting time: 11.30 A.M. (12th May, 2023).**
- ❖ **Participants should bring the registration slip or registration ID for entry.**

Photography Competition

Theme: Biology in Everyday Life

1. Register Yourself through the Google Form.
2. Click a Photo.
3. Follow us on Instagram [@shikor.dac](https://www.instagram.com/shikor.dac) .
4. Post the photo in Instagram using **#shikor_dac2023** and tag us.
5. Give a Proper Description of your Picture in the Caption Area.
6. **Auto rejection without registration, hashtag and Copyright issues.**
7. Special Marks will be given to pictures with Better Description and following the rules.
8. **In case of multiple pictures, the first uploaded picture will be counted.**
9. **Last Day of Registration: 10th May, 2023 12:00 P.M.**
10. **Announcement of Winners: 11th May, 2023.**
11. **Prize Distribution: 12th May, 2023.**

For any Queries Contact:

Email: bioscopedac@gmail.com

Instragram: [@shikor.dac](https://www.instagram.com/shikor.dac)

WhatsApp: [7278018792](https://wa.me/9163547477) / [9163547477](https://wa.me/9163547477)

Organising Committee

Chief Patron:

Sri Debabrata Majumdar, President, Governing Body

Chairperson:

Dr. Somnath Mukhopadhyay, Principal, Dinabandhu Andrews
College

Chief Advisors:

Sri Tarakeswar Chakraborty, Member, Governing Body

Sri Arup Chakraborty, Member, Governing Body

Convener:

Dr. Joy Sarkar, Member, Governing Body, IQAC Coordinator,
Assistant Professor, Dept. of Botany

Joint Secretaries:

Dr. Mithun Maji, Bursar, Assistant Professor, Dept. of Botany

Dr. Rupa Chakraborty, Assistant Professor, Head, Dept. of
Botany

Organising Members:

Sri Subhasis Saha, Associate Professor, Dept. of Botany

Dr. Krishna Chaudhury, SACT-I, Dept. of Botany

Associating Members:

Sri Nayan Ray, Member, Governing Body

Sri Joy Chaudhury

One Day National Seminar, Poster Presentation & Photography Competition

Organised by

Department of Botany

In Collaboration with

Internal Quality Assurance Cell

Dinabandhu Andrews College

Programme Date: 12.05.2023

Reporting Time: 10:30-11:45 (Room No. 113)

Tea: 11:45-12:00 (Near Room No. 114)

Inauguration & Welcome Address: 12:00-12:40 (Room No. 114)

Publishing of Department's first e-Magazine "Bio-Scope": 12:40-12:50 (Room No. 114)

Scientific Session: 1

Introduction to Prof. Dr. Krishnendu Acharya: 12:50– 13:00 (Room No. 114)

Speech by Prof. Dr. Krishnendu Acharya: 13:00 – 14:30 (Room No. 114)

Interactive Session with the Speaker: 14:30-14:45 (Room No. 114)

Lunch Break: 14:45-15:30 (Room No. 309)

Scientific Session: 2

Poster Session: 15:30-16:15 (Room No. 306)

Tea Break: 16:15-16:30 (Near Room No. 114)

Valedictory Session & Prize Distribution: 16:30-16:50 (Room No. 114)

Vote of Thanks: 16:50-17:00 (Room No. 114)

Krishnendu Acharya



One day National Seminar, Poster Presentation and Photography Competition

Date: 12.05.2023; Venue: Dinabandhu Andrews College Campus



Jointly Organized By:
Department of Botany & IQAC

Hon'ble Speaker:
Prof. (Dr.) Krishnendu Acharya, FICN
(Molecular and Applied Mycology and Plant
Pathology Laboratory; Department of Botany,
University of Calcutta)

Results of Poster Competition

• UG Category:

- 1st Best Poster: Niladri Halder
- 2nd Best Poster: Shinijinee Pramanik
- 3rd Best Poster: Akanksha Pal

• PG Category:

- 1st Best Poster: Sunandana Das
- 2nd Best Poster: Anik Banerjee
- 3rd Best Poster: Jesika Upadhyay

• Research Scholar/ Faculty Category:

- 1st Best Poster: Anamika Paul
- 2nd Best Poster: Dishari Acharya



1st Runner Up



2nd Runner Up



3rd Runner Up



Winner

Results of Photography Competition

- **Winner:** Anik Nag (Dinabandhu Andrews College)
- **1st Runner Up:** Abhishek Balo (Dinabandhu Andrews College)
- **2nd Runner Up:** Srijit Das (Surendranath College)
- **3rd Runner Up:** Bikram Mahanta (Surendranath College)

From the EYE of Botany Department

ON 12th May 2023, a national seminar was organised by the Department of Botany in Collaboration with Internal Quality Assurance Cell of our College. Principal and President, Governing Body along with other GB members graced the occasion with their auspicious presence. The dignitaries gave motivational speeches and thanked the Department of Botany for its efforts and interest to organize the event.

Renowned scientist, Prof. Dr. Krishnendu Acharya, FICN, Department of Botany, University of Calcutta, was the honourable speaker of the seminar. The topic of his lecture was “Think outside the box, be an entrepreneur”. It was highly motivational and encouraging in the true sense as he shared his first-hand experience with the audience.

A poster competition (post-lunch session) along with a Photography Competition (photographs to be posted in the Instagram account of the department) were held as a part of the programme based on the theme “Biology in Everyday Life”.

Programme was a huge success as faculty members, research scholars and PG , UG students from various disciplines from our college and other institutions participated in this event.

The poster session was highly interactive, and participants showed great enthusiasm to present their work. Dr. Surjit Sen and Dr. Nilanjan Chakraborty, both the Experts to give judgment for poster presentation & Photography Competition, honoured the prize distribution ceremony after the poster session was over. All the participants were presented with certificates. The programme was ended by a vote of thanks, given by the HOD, Department of Botany. The Department thanked everyone for coming to the event and becoming a part of it.

List of Participants

Sl. No.	Unique I.D.	Name	Contact Number	Institution	Food Preference	Signature
1	DAC/ONSPPC/A-001	Zeenita Piyada	8420200897	Ballygunge Science College	Veg	
2	DAC/ONSPPC/A-002	Ankita Halder	9674150186	Ballygunge Science College, University Of Calcutta	Non-Veg	
3	DAC/ONSPPC/A-003	SAGARDEEP DEY	6296918881	BALLYGUNGE SCIENCE COLLEGE, UNIVERSITY OF CALCUTTA	Non-Veg	
4	DAC/ONSPPC/A-004	SRIJITA SARKAR	9097411597	Ballygunge Science College, University of Calcutta	Non-Veg	
5	DAC/ONSPPC/A-005	Anik Das	9874316432	Bangabasi College	Non-Veg	
6	DAC/ONSPPC/A-006	Debodyuti Ray	7439989181	Bangabasi College	Veg	
7	DAC/ONSPPC/A-007	SNEHA MUKHERJEE	9748006285	Bethune college	Non-Veg	
8	DAC/ONSPPC/A-008	Saptadeep Bandyopadhyay	9830787936	Birla Industrial and Technological Museum	Veg	
9	DAC/ONSPPC/A-009	Puja Baidya	9038894723	Calcutta University	Non-Veg	
10	DAC/ONSPPC/A-010	Shreya sana	85840 43324	Calcutta university	Non-Veg	
11	DAC/ONSPPC/A-011	Arpita Sarkar	9143027018	Dinabandhu Andrew college	Non-Veg	
12	DAC/ONSPPC/A-012	Soumika Mandal	9734167247	Dinabandhu Andrew College	Non-Veg	
13	DAC/ONSPPC/A-013	Sudipnaskar	8710030270	Dinabandhu andrews collage	Non-Veg	
14	DAC/ONSPPC/A-014	Abhrajit Mukherjee	9903304200	Dinabandhu Andrews College	Non-Veg	
15	DAC/ONSPPC/A-015	Agantuk Naskar	7679107420	Dinabandhu Andrews College	Non-Veg	

16	DAC/ONSPPC/A-016	Ahan Marick	9163547477	Dinabandhu Andrews College	Non-Veg	
List of Participants						
Sl. No.	Unique I.D.	Name	Contact Number	Institution	Food Preference	Signature
17	DAC/ONSPPC/A-017	Alankrita Ghosh	9163061403	Dinabandhu Andrews College	Non-Veg	
18	DAC/ONSPPC/A-018	Ananda Shikari	8597499050	Dinabandhu Andrews College	Non-Veg	
19	DAC/ONSPPC/A-019	Ananya Das	7890927714	Dinabandhu Andrews College	Non-Veg	
20	DAC/ONSPPC/A-020	Anumita Das	6290520014	Dinabandhu Andrews College	Non-Veg	
21	DAC/ONSPPC/A-021	Anushree Sarkar	7980999588	Dinabandhu Andrews College	Non-Veg	
22	DAC/ONSPPC/A-022	Anwasha Bera	8101204884	Dinabandhu Andrews College	Non-Veg	
23	DAC/ONSPPC/A-023	Arpita Kabishekhar	9143410026	Dinabandhu Andrews College	Non-Veg	
24	DAC/ONSPPC/A-024	Bidisha Datta	8653013655	Dinabandhu Andrews College	Non-Veg	
25	DAC/ONSPPC/A-025	Bikramjitsardar	8100679467	Dinabandhu andrews college	Non-Veg	
26	DAC/ONSPPC/A-026	Chhandasik Dasgupta	7980731893	Dinabandhu Andrews college	Non-Veg	
27	DAC/ONSPPC/A-027	Dr Tanmay Ghosh	9732188299	Dinabandhu Andrews college	Non-Veg	
28	DAC/ONSPPC/A-028	Krishnendu Kar	8910056640	Dinabandhu Andrews College	Non-Veg	
29	DAC/ONSPPC/A-029	Madhurima ghosh	9748421357	Dinabandhu Andrews college	Non-Veg	
30	DAC/ONSPPC/A-030	Moumita Nandi	9046812334	Dinabandhu Andrews College	Non-Veg	

31	DAC/ONSPPC/A-031	Neelanjan Chakraborty	8017827998	Dinabandhu andrews college	Non-Veg	
32	DAC/ONSPPC/A-032	Poulami Ghosh	8167847156	Dinabandhu Andrews College	Non-Veg	
List of Participants						
Sl. No.	Unique I.D.	Name	Contact Number	Institution	Food Preference	Signature
33	DAC/ONSPPC/A-033	Riya Das	8670173118	Dinabandhu andrews college	Non-Veg	
34	DAC/ONSPPC/A-034	Samarpita Dey	9123839956	Dinabandhu Andrews College	Non-Veg	
35	DAC/ONSPPC/A-035	Sayani jana	7063923829	Dinabandhu Andrews college	Non-Veg	
36	DAC/ONSPPC/A-036	Shewantika Das	7001894564	Dinabandhu Andrews College	Veg	
37	DAC/ONSPPC/A-037	Shimul Nandi	8777365057	Dinabandhu Andrews College	Non-Veg	
38	DAC/ONSPPC/A-038	SHOUVIK KUMAR SAHA	7278018792	DINABANDHU ANDREWS COLLEGE	Non-Veg	
39	DAC/ONSPPC/A-039	Shreya Sardar	9903687495	Dinabandhu Andrews College	Non-Veg	
40	DAC/ONSPPC/A-040	Shristi Bhattacharya	7439816814	Dinabandhu Andrews College	Non-Veg	
41	DAC/ONSPPC/A-041	Sneha Bhattacharjee	9831554877	Dinabandhu Andrews College	Non-Veg	
42	DAC/ONSPPC/A-042	Sourav Middy	7439683385	Dinabandhu Andrews College	Non-Veg	
43	DAC/ONSPPC/A-043	Sreyashi Chatterjee	8017260788	Dinabandhu andrews college	Non-Veg	
44	DAC/ONSPPC/A-044	Sudipta halder	7318731087	Dinabandhu Andrews college	Non-Veg	
45	DAC/ONSPPC/A-045	SUTAPA GUPTA	9230515300	Dinabandhu Andrews College	Non-Veg	
46	DAC/ONSPPC/A-046	Tamanna Maji	9674158312	Dinabandhu Andrews College	Non-Veg	

47	DAC/ONSPPC/A-047	Tiyasha ghosh	8100516517	Dinabandhu andrews college	Non-Veg	
48	DAC/ONSPPC/A-048	Utpal Bhanja	9883497965	Dinabandhu Andrews College	Non-Veg	

List of Participants

Sl. No.	Unique I.D.	Name	Contact Number	Institution	Food Preference	Signature
49	DAC/ONSPPC/A-049	Utsab Naskar	7980870395	Dinabandhu Andrews college	Veg	
50	DAC/ONSPPC/A-050	Ankita Roy	7980634359	Dinabandhu Andrew's College	Non-Veg	
51	DAC/ONSPPC/A-051	MADHURIMA MAITI	9051114123	DINABANDHU ANDREW'S COLLEGE	Non-Veg	
52	DAC/ONSPPC/A-052	Ritika Bairagi	8337052683	Dinabandhu Andrew's college	Non-Veg	
53	DAC/ONSPPC/A-053	Sandipan Mondal	6289622217	Dinabandhu Andrew's college	Non-Veg	
54	DAC/ONSPPC/A-054	Shreya Naskar	6289260493	Dinabandhu Andrew's College	Non-Veg	
55	DAC/ONSPPC/A-055	Ishita Pradhan	6289538068	Dinabandhu andrews college	Non-Veg	
56	DAC/ONSPPC/A-056	Tanmoy Kumar Das	7980430044	Dinabandhu Andrews college	Non-Veg	
57	DAC/ONSPPC/A-057	PRIYAJEET GHOSH	8240680805	Dinabhandhu Andrews college	Non-Veg	
58	DAC/ONSPPC/A-058	Sayani Naskar	9123891646	Dinabhandhu Andrews college	Non-Veg	
59	DAC/ONSPPC/A-059	Rupam Chakraborty	7685845540	Dinubandhu Andrews college	Non-Veg	
60	DAC/ONSPPC/A-060	PRIYAJEET GHOSH	8240680805	Dinabhandhu Andrews college	Non-Veg	

61	DAC/ONSPPC/A-061	Sayani Naskar	9123891646	Dinabhandhu Andrews college	Non-Veg	
62	DAC/ONSPPC/A-062	Rupam Chakrabortty	7685845540	Dinubandhu Andrews college	Non-Veg	
63	DAC/ONSPPC/A-063	SONALI DAS	9748094930	DNABANDHU ANDRWES COLLEGE	Non-Veg	
List of Participants						
Sl. No.	Unique I.D.	Name	Contact Number	Institution	Food Preference	Signature
64	DAC/ONSPPC/A-064	Tuli Pal	9123926200	Jogamaya Devi College	Non-Veg	
65	DAC/ONSPPC/A-065	SRIMAYEE SARKHEL	8967324034	JOGAMAYA DEVI COLLEGE	Non-Veg	
66	DAC/ONSPPC/A-066	Usasi Dey	7439761193	Lt. Abhishek Ray Chaudhury Teachers Training College	Non-Veg	
67	DAC/ONSPPC/A-067	TANUSRI ROY	9903459515	MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY	Non-Veg	
68	DAC/ONSPPC/A-068	Priya biswas	70294 82172	Muralidhar girls college	Non-Veg	
69	DAC/ONSPPC/A-069	Priyanka Das	7439736109	Muralidhar Girls college	Non-Veg	
70	DAC/ONSPPC/A-070	Vandita Verma	9007422848	Muralidhar girls college	Non-Veg	
71	DAC/ONSPPC/A-071	Riya Mukherjee	8334855844	Muralidhar Girls' College	Non-Veg	
72	DAC/ONSPPC/A-072	Susmita Mondal	7439873971	Muralidhar Girls' College	Non-Veg	
73	DAC/ONSPPC/A-073	SANAK BHOWAL	7980743501	NA	Non-Veg	
74	DAC/ONSPPC/A-074	Prithu Bhattacharyya	9674029893	Ramakrishna Mission Vivekananda Centenary College	Non-Veg	
75	DAC/ONSPPC/A-075	AGNIDYUTI HALDER	8902232061	Scottish Church College	Non-Veg	

76	DAC/ONSPPC/A-076	Rimita mukherjee	8902535987	South Calcutta girl's college	Non-Veg	
77	DAC/ONSPPC/A-077	Riya Karmakar	8617235830	Surendranath college	Non-Veg	
78	DAC/ONSPPC/A-078	Suparna Ojha	9907042466	Surendranath College	Non-Veg	

List of Participants

Sl. No.	Unique I.D.	Name	Contact Number	Institution	Food Preference	Signature
79	DAC/ONSPPC/A-079	Sharmistha Dash	8617251347	Vijaygarh Jyotish Ray College	Non-Veg	
80	DAC/ONSPPC/A-080	Himanko Chakraborty	8116336056	WBCSME	Non-Veg	
81	DAC/ONSPPC/A-081	Dr. Prakash Pradhan	7908106464	West Bengal Biodiversity Board	Non-Veg	
82	DAC/ONSPPC/A-082	Dwaipayan Mandal	7980888730	IISWBM	Non-Veg	
83	DAC/ONSPPC/A-083	Arghya Naskar	9775522422	University of Calcutta	Non-Veg	
84	DAC/ONSPPC/A-084	Kuntal naskar	9883461871	dinabandhu andrews college	Non-Veg	
85	DAC/ONSPPC/A-085	Abhishek Balo	9933817326	Dinabandhu Andrews College	Non-Veg	
86	DAC/ONSPPC/A-086	Parag Bhattacharjee	7047684050	Dinabandhu Andrews College	Non-Veg	
87	DAC/ONSPPC/A-087	Rahit pal	8436210435	Dinabandhu Andrews college	Non-Veg	
88	DAC/ONSPPC/A-088	Ankita Bose	7439597406	Dinabandhu Andrews College	Non-Veg	
89	DAC/ONSPPC/A-089	Anushree Naskar	7044557898	Dinabandhu Andrews college	Non-Veg	
90	DAC/ONSPPC/A-090	Sushrita Modak	7437929898	Dinabandhu Andrews College	Non-Veg	

91	DAC/ONSPPC/A-091	Tapabrata Debnath	9163895602	DinabandhuAndrewsCollege	Non-Veg	
92	DAC/ONSPPC/A-092	Sudipta Saha	6291420018	DinabandhuAndrewsCollege	Non-Veg	
93	DAC/ONSPPC/A-093	Rahul Pahari	9330543067	DinabandhuAndrewsCollege	Veg	
94	DAC/ONSPPC/A-094	Payel Kundu	6291491296	DinabandhuAndrewsCollege	Non-Veg	
List of Participants						
Sl. No.	Unique I.D.	Name	Contact Number	Institution	Food Preference	Signature
95	DAC/ONSPPC/A-095	Anubhob De	943	DinabandhuAndrewsCollege	Non-Veg	
96	DAC/ONSPPC/A-096	Maitri Patra	9830714873	Sister Nivedita Govt. General Degree College for Girls	Non-Veg	
97	DAC/ONSPPC/A-097	Joyita Chowdhury	7980952445	Dinabandhu Andrews College	Non-Veg	
98	DAC/ONSPPC/A-098	Madhurima Thakur	8101430297	Dinabandhu Andrews College	Non-Veg	
99	DAC/ONSPPC/A-099	Subhomita Chakraborty	8420600749	Dinabandhu Andrews College	Non-Veg	
100	DAC/ONSPPC/A-100	Ranita Dey	7044730777	Dinabandhu Andrews college	Non-Veg	
101	DAC/ONSPPC/A-101	Ipsita Saha	9330289738	Dinabandhu Andrews college	Non-Veg	
102	DAC/ONSPPC/A-102	Tania banik	6290998567	Dinabandhu Andrews College	Non-Veg	
103	DAC/ONSPPC/A-103	Ruksa Nur	9832315643	Dinabandhu Andrews College	Non-Veg	
104	DAC/ONSPPC/A-104	JOYDEEP DAS	9836595156	Dinabandhu Andrews College	Non-Veg	
105	DAC/ONSPPC/A-105	SUSMITA MAJUMDER	8583917549	Dinabandhu Andrews College	Non-Veg	

106	DAC/ONSPPC/A-106	Sneha Malakar	7044933711	Dinabandhu Andrews College	Non-Veg	
107	DAC/ONSPPC/A-107	Debosmita Nandi	9830566569	Jogesh chandra Chowdhury college	Non-Veg	
108	DAC/ONSPPC/A-108	Akshita Tiru	7739773234	Scottish Church College	Non-Veg	

List of Participants for Photography Competition

Sl. No.	Unique I.D.	Name	Contact Number	Institution	Instragram	Total Points
1	DAC/ONSPPC/B-001	Abhishek Balo	9933817326	Dinabandhu Andrews College	_the_aesthetic_guy_	
2	DAC/ONSPPC/B-002	Ahan Marick	9163547477	Dinabandhu Andrews College	ahanmarick	
3	DAC/ONSPPC/B-003	Anik Nag	9382970679	Dinabandhu Andrews College	anik_nag_	
4	DAC/ONSPPC/B-004	Ankita Roy	7980634359	Dinabandhu Andrews College	__ankita__._roy__	
5	DAC/ONSPPC/B-005	Anurag chattopadhyay	74396 47972	Dinabandhu Andrews College	Anu_rag_chatt_e_rjee	
6	DAC/ONSPPC/B-006	Parag Bhattacharjee	7047684050	Dinabandhu Andrews College	__pixel_perfection__	
7	DAC/ONSPPC/B-007	Samarpita Dey	9123839956	Dinabandhu Andrews College	speciallysamarpita	
8	DAC/ONSPPC/B-008	Sandeepa Chowdhury	6294923365	Dinabandhu Andrews College	chowdhurysandeepa	
9	DAC/ONSPPC/B-009	Sudipta Mondal	9477963121	Dinabandhu Andrews College	sud.ipta2001	
10	DAC/ONSPPC/B-010	Sudipta Mondal	9477963121	Dinabandhu Andrews College	sud.ipta2001	
11	DAC/ONSPPC/B-011	Shivani Kumari Soni	6202631183	Jogmaya Devi College	shivani_kumari_soni	
12	DAC/ONSPPC/B-012	Dipanwita Sarkar	9883375514	Krishnagar Government College	_basantika_driti_dr_	
13	DAC/ONSPPC/B-013	Prithu Bhattacharyya	9674029893	Ramakrishna Mission Vivekananda Centenary College	p2b_photography_official	
14	DAC/ONSPPC/B-014	AGNIDYUTI HALDER	8902232061	Scottish Church College	@agnidyuti.halder.photography	
15	DAC/ONSPPC/B-015	Ishita Bagui	6290485941	Scottish Church College	something_fishi	

16	DAC/ONSPPC/B-016	Devtaru Datta	6290861705	Scottish Church College	Devtaru_Datta_(https://instagram.com/devtaru_datta?igshid=ZGUzMzM3NWJiOQ==)	
17	DAC/ONSPPC/B-017	Debapriya Chattopadhyay	7047071583	Scottish Church College	arku1583	
18	DAC/ONSPPC/B-018	Niladri Jodder	8902551531	Scottish Church College	niladri.bm	
19	DAC/ONSPPC/B-019	Ritrishna Jana	8910972054	Sister nivedita government general degree college	the_crezyanyone04	
20	DAC/ONSPPC/B-020	SRIJAN SAMANTA	8391980854	SURENDRANATH COLLEGE	srijan.samanta.311	
21	DAC/ONSPPC/B-021	Bikram Mahanta	9609394679	Surendranath College	whobikrammahanta	
22	DAC/ONSPPC/B-022	Srijit Das	8373029304	Surendranath college	srijitdas_	
23	DAC/ONSPPC/B-023	SUBHAM SAHU	8167819783	University of Calcutta	subhamsahu2002	
24	DAC/ONSPPC/B-024	Dr. Prakash Pradhan	7908106464	Board	pradhanprakashh	
25	DAC/ONSPPC/B-025	Shoumen Roy	8017918745	Dinabandhu Andrews College	shou_roy	
26	DAC/ONSPPC/B-026	Pubali Chakraborty	9433827280	Scottish Church College	itzz_pubali_	

List of Participants for Poster Competition

Sl. No.	Unique I.D.	Abstract Number	Name	Contact Number	Institution	Food Preference	Signature
1	DAC/ONSPP C/C-001	P-14	Deganta Ghosh	7478390477	Ballygunge Science College, University of Calcutta	Non-Veg	
2	DAC/ONSPP C/C-002	P-19	Anwasha Bera	8101204884	Dinabandhu Andrews College	Non-Veg	
3	DAC/ONSPP C/C-003	P-11	Dr. Maitreyee Mondal	9836703035	Dinabandhu Andrews College	Non-Veg	
4	DAC/ONSPP C/C-004	P-11	Martina Chakraborty	8017317057	Dinabandhu Andrews College	Non-Veg	
5	DAC/ONSPP C/C-005	P-7	Niladri Halder	9339495568	Dinabandhu Andrews college	Non-Veg	
6	DAC/ONSPP C/C-006	P-15	Sneha Roy	9123325924	Dinabandhu Andrews College	Non-Veg	
7	DAC/ONSPP C/C-007	P-8	Sudipta Mondal	9477963121	Dinabandhu Andrews College	Non-Veg	
8	DAC/ONSPP C/C-008	P-22	Akash Singh	9088474800	Dinabandhu Andrews College	Non-Veg	
9	DAC/ONSPP C/C-009	P-17	Dipan Roy	8017437357	Dinabandu Andrews College	Non-Veg	
10	DAC/ONSPP C/C-010	P-10	Ankita Sarkar	8967229755	Scottish Church College	Non-Veg	
11	DAC/ONSPP C/C-011	P-10	Devtaru Datta	6290861705	Scottish Church College	Non-Veg	
12	DAC/ONSPP C/C-012	P-13	Jesika Upadhyay	9163509159	Scottish church college	Non-Veg	
13	DAC/ONSPP C/C-013	P-6	Mrs. Anamika Paul	7980852769/ 9903779253	Scottish Church College	Non-Veg	
14	DAC/ONSPP C/C-014	P-10	Sarthak Dey	6291149072	Scottish Church College	Non-Veg	
15	DAC/ONSPP C/C-015	P-10	Shreya Ghosh	8697545226	Scottish church college	Non-Veg	

List of Participants for Poster Competition

Sl. No.	Unique I.D.	Abstract Number	Name	Contact Number	Institution	Food Preference	Signature
16	DAC/ONSPP C/C-016	P-9	Sunandana Das	8013267262	Scottish Church College	Non-Veg	
17	DAC/ONSPP C/C-017	P-21	Anshuman Jha	7439712577	Scottish Church College	Non-Veg	
18	DAC/ONSPP C/C-018	P-21	Shinjinee Pramanik	7044835587	Scottish Church College	Non-Veg	
19	DAC/ONSPP C/C-019	P-21	Shubham Dutta	9874094347	Scottish Church College, University Of Calcutta	Non-Veg	
20	DAC/ONSPP C/C-020	P-23	Dishari Acharya	9732403776	Sister Nivedita University	Non-Veg	
21	DAC/ONSPP C/C-021	P-1	AKANKSHA PAL	9832624327	Surendranath college	Non-Veg	
22	DAC/ONSPP C/C-022	P-4	Amit Mistri	8777099456	Surendranath College	Non-Veg	
23	DAC/ONSPP C/C-023	P-18	Anamika Sarkar	7479037312	Surendranath College	Non-Veg	
24	DAC/ONSPP C/C-024	P-12	Ankita Karmakar	7584005797	Surendranath College	Non-Veg	
25	DAC/ONSPP C/C-025	P-1	Banhisikha Poddar	9831933785	Surendranath College	Non-Veg	
26	DAC/ONSPP C/C-026	P-2	Bidisha Mistry	8420390362	Surendranath College	Non-Veg	
27	DAC/ONSPP C/C-027	P-1	Bikram Mahanta	9609394679	Surendranath College	Non-Veg	
28	DAC/ONSPP C/C-028	P-2	Deep Dutta	9832851507	Surendranath college	Non-Veg	
29	DAC/ONSPP C/C-029	P-3	Injla Anikah Ali	9874165819	Surendranath College	Non-Veg	

30	DAC/ONSPP C/C-030	P-5	Kasturi Mahato	7679031546	Surendranath College	Non-Veg	
List of Participants for Poster Competition							
Sl. No.	Unique I.D.	Abstract Number	Name	Contact Number	Institution	Food Preference	Signature
31	DAC/ONSPP C/C-031	P-12	Leona Bagchi	8582800973	Surendranath college	Non-Veg	
32	DAC/ONSPP C/C-032	P-3	NAVONIL SADHU	9073907330	SURENDRANATH COLLEGE	Non-Veg	
33	DAC/ONSPP C/C-033	P-4	Partha Protim Naskar	9883413652	Surendranath college	Non-Veg	
34	DAC/ONSPP C/C-034	P-18	Priya Banik	8276013851	Surendranath college	Non-Veg	
35	DAC/ONSPP C/C-035	P-18	Rasel Parvez	7679620132	Surendranath college	Non-Veg	
36	DAC/ONSPP C/C-036	P-4	Rinki Chowdhury	6291122788	Surendranath College	Non-Veg	
37	DAC/ONSPP C/C-037	P-3	Riya Karmakar	8617235830	Surendranath College	Non-Veg	
38	DAC/ONSPP C/C-038	P-4	Souvik Panja	8116335067	Surendranath college	Non-Veg	
39	DAC/ONSPP C/C-039	P-5	SRIJAN SAMANTA	8391980854	SURENDRANATH COLLEGE	Non-Veg	
40	DAC/ONSPP C/C-040	P-5	Asif Anwar khan	6295964183	Surendranath college, CU	Non-Veg	
41	DAC/ONSPP C/C-041	P-12	Arijit Karmakar	8101402069	Surendranath College, Kolkata	Non-Veg	
42	DAC/ONSPP C/C-042	P-16	ANIK BANERJEE	6296265342	University of Calcutta	Non-Veg	
43	DAC/ONSPP C/C-043	P-20	Subham Sahu	8167819783	University of Calcutta	Non-Veg	

One Day National Seminar, Poster Presentation & Photography Competition

Organised by

Department of Botany

In Collaboration with

Internal Quality Assurance Cell

Dinabandhu Andrews College

Date: 12.05.2023

Venue: Room No. 113, 114 & 306

Dinabandhu Andrews College

P.O. Garia, Kolkata-700084

Website: dacollege.org

E-Mail: bioscopedac@gmail.com

Organizing Committee

Chief Patron:

Sri Debabrata Majumdar, President, Governing Body

Chairperson:

Dr. Somnath Mukhopadhyay, Principal, Dinabandhu Andrews College

Advisors:

Sri Tarakeswar Chakraborty, Member, Governing Body

Sri Arup Chakraborty, Member, Governing Body

Convener:

Dr. Joy Sarkar, Member, Governing Body, IQAC Coordinator,

Assistant Professor, Dept. of Botany

Joint Secretaries:

Dr. Mithun Maji, Bursar, Assistant Professor, Dept. of Botany

Dr. Rupa Chakraborty, Assistant Professor, Head, Dept. of Botany

Organising Members:

Sri Subhasis Saha, Associate Professor, Dept. of Botany

Dr. Krishna Chaudhury, SACT-I, Dept. of Botany

Associate Members:

Sri Nayan Ray, Member, Governing Body

Sri Joy Choudhury

Contents

	Pages
I. Program Schedule	4
II. Keynote Lecture	5-6
III. Abstracts for Poster Presentation	7-29
IV. Space for Notes	30-32

Program Schedule:

Reporting Time: 10:30-11:45

Tea: 11:45-12:00

Inauguration & Welcome Address: 12:00-12:40

Publishing of Department's first e-Magazine "Bio-Scope":
12:40-12:50

Scientific Session: 1

Introduction to Prof. Dr. Krishnendu Acharya: 12:50-13:00

Speech by Prof. Dr. Krishnendu Acharya: 13:00 – 14:30

Interactive Session with the Speaker: 14:30-14:45

Lunch Break: 14:45-15:30

Scientific Session: 2

Poster Session: 15:30-16:15

Tea Break: 16:15-16:30

Valedictory Session & Prize Distribution: 16:30-16:50

Vote of Thanks: 16:50-17:00

Keynote Lecture



Think Outside the Box. Be an Entrepreneur!

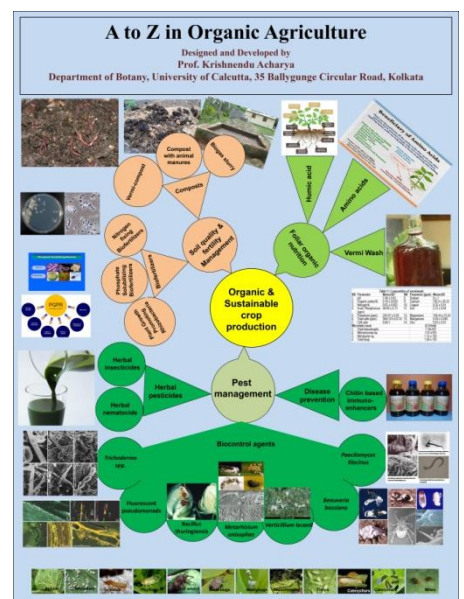
Krishnendu Acharya

Molecular and Applied Mycology and Plant Pathology Laboratory, Centre of Advanced Study, Department of Botany, University of Calcutta, 35, Ballygunge Circular Road, Kolkata- 700019, West Bengal, India.

Email: krish_paper@yahoo.com

The success of the first phase of the ‘Green Revolution’ proved to be more of a hindrance than being beneficial, making the farmers over-jealous while greed overtook their need. What followed subsequently, in terms of using chemical fertilizers, pesticides and irrigation styles, can certainly not be called very scientific. These industrial agricultural practices lead to significant greenhouse gas emissions and loss of biodiversity. Further, chemical fertilizers and pesticides spread large-scale pollution, degrade and destroy the soil, reduce pollinators which lead to global warming, climate change, risks on human health and many other adverse effects.

There is now a worldwide awareness about the ill-effects of chemical farming, and not surprisingly, many farmers are willing to convert to organic farming, which sadly is not easy and laden with numerous obstacles. Firstly, the transition is very difficult and the learning process is costly. Thus, most of the small farmers are affected as they have not enough money to spare for the initial investment. Secondly, our knowledge and expertise on the “science” of organic farming has been sketchy at best, and no proper guidelines have been formulated till date which could help the farmers as a “complete package” of do’s and don’ts’. Keeping these facts in mind, a biotechnology-based package was devised for the farmers for a low-cost, organic crop-production system, launched at Balagarh, Gobindapur, Gurap, Hooghly; Basanti, South 24PGS; Datan, Midnapur (w) and Saltora,



Bankura, West Bengal. With this technology, the farmers are self-sufficiently producing enriched compost (rich in N, P, K and micronutrients), nitrogen-fixing organisms, phosphate solubilizers, plant growth promoting rhizobacteria, microbial biopesticides as well as formulating organic liquid fertilizers and applied in their own fields (Figure). In the course, farmers faced no hurdles during the transition; yields became high and cost of production actually decreased with the adoption of the organic method. Nowadays, this model has become a portrait of organic revolution and gradually spreading out to other rural areas of West Bengal.

P-1

Water Hyacinth – “The Terror of Bengal”

¹ Akanksha Pal, ¹ Bikram Mahanta, ¹ Banhisikha Poddar and ^{2*} Nilofer Khatoon

¹ UG Students, Department of Botany, Surendranath College, Kolkata 700009, West Bengal

^{2*} Assistant Professor, Department of Botany, Surendranath College, Kolkata-700009, West Bengal

^{2*} Corresponding Author Email: niloferk.botanysnc@gmail.com

ABSTRACT:

Water hyacinth is a perennial, free-floating and flowering aquatic plant from South America. This plant varies in size from a few inches to over 3ft tall. Climatic and water conditions are the main determinant factors for the growth and expansion of water hyacinth. It has become the world most invasive weed due to its rapid spread, ecological adaptability, and negative impacts it causes on the environment, economic development, aquatic ecosystem and human health. Water hyacinth is an exotic species which is not native to Bengal and once it got introduced into the water bodies of Bengal, it outcompeted and eliminated other native species leading to large scale loss of aquatic life, particularly fishes. This is why water hyacinth is referred to as the terror of Bengal;. Water hyacinth can completely cover the waterbodies, outcompeting native aquatic species, reducing oxygen levels, and creating ideal habitat for mosquitoes. They also prevent river transport, fishing, damage bridges, and clog dams. It significantly affects the lake hydrology by increasing the evapotranspiration of lake water. Dead water hyacinths also cause problems like river silting. It has plenty of beneficial effect also both for humans and nature, only if the amount is under control. This plant can reduce water pollution and process as animal feed, compost, and bioenergy. Considering the positive and negative impacts of water hyacinth, the population of this plant needs to be controlled to prevent ecosystem destruction and keep it balanced with human needs. Balance is the key to sustainable consumption and production.

Key words: Water Hyacinth, aquatic plant, weed, terror

P-2

MEDICINAL VALUE OF PLANT STEROIDS

Deep Dutta*, Arpita Gupta*, Bidisha Mistry^o, Badhan Bala^o, Shreya Das^o, Dr. Amit Saha~

*UG Students (Sixth Semester Hons.), Dept. Of Botany, Surendranath College, Kolkata

^oUG students (Second Semester Hons.), Dept. Of Botany, Surendranath College, Kolkata

~Associate Professor, Department of Botany, Surendranath College, Kolkata

E-mail : ammico02@yahoo.co.in ~(Corresponding Author)

ABSTRACT:

Plant steroids also known as photosterols, are natural steroid compounds found in plants that have been found to have several medicinal properties. Plant steroids are unique class of chemical compounds that are found throughout the plant kingdom. The objective of this review is to discuss the medicinal value of plant steroids such as Ergosterol, Sarsasapogenin, Guggulsterone, Withanolide, Solasodine, Digitoxin, Diosgenin. These plant steroids classified in different classes based on their chemical structures, pharmacological activities and sources from which they have been isolated. Medicinal value of plants containing steroids like *Anemarrhena asphodeloides* Bunge. [Family: Asparagaceae], *Commiphora wightii* Arn. [Family: Burseraceae], *Withania somnifera* L. [Family: Solanaceae], *Solanum xanthocarpum* L. [Family: Solanaceae], *Digitalis purpurea* L. [Family: Plantaginaceae], *Trigonella foenum graecum* L. [Family: Fabaceae] by modern clinical & preclinical studies have been reviewed. Ergosterol is used to treat fungal infections, plant steroids like Sarsasapogenin, Solasodine, Withanolide are used as potential anti-inflammatory agents, Digitoxin is used as cardiac disease. There is an immense scope in investigation of the medicinal value of plant steroids. Further investigations are needed to explore the more potent lead compounds with lesser side effects and might thus hold great potential for therapeutic uses.

KEYWORDS: Plant Steroids, Ergosterol, Sarasasapogenin, Guggulsterone, Withanolide, Solasodine, Digitoxin, Diosgenin.

P-3

Phytoremediation of Arsenic-contaminated soil by *Pteris* sp

Injla Anikah Ali ¹, Navonil Sadhu ¹, Riya Karmakar ¹, Samima Nasrin ¹ and Sonali Ray ²

¹ UG Students, Department of Botany, Surendranath College, Kolkata- 700009.

² Assistant Professor, Department of Botany, Surendranath College, Kolkata- 700009.

Email: sonyyrr@gmail.com

ABSTRACT:

Arsenic is known to be one of the most toxic and hazardous metalloid, present naturally in soil in both organic and inorganic forms (Shrivastava et al., 2015). It causes extreme health issues in human populations, when ingested for a prolonged period of time. The arsenic contamination is very prevalent in several regions of South East Asia, including India. There are several districts in West Bengal, where populations are seriously affected by the consumption of arsenic contaminated water and crops grown in these soils. Many conventional mechanical and chemical measures are undertaken by the government to ensure removal of arsenic from the soil. But these methods are very expensive and cause an imbalance in the ecosystem. In this regard, phytoremediation processes by the usage of certain plants have been proved to be effective in removing many pollutants, including heavy metals. Arsenic toxicity in soil can be dealt with the use of arsenic hyperaccumulator – *Pteris vittata*. This plant has been found to be highly effective in assimilating and accumulating arsenic from the soil, and thus its potential can be further utilized in a more environment-friendly measure for remediation of arsenic contaminated soil.

Keywords: Phytoremediation, Arsenic, *Pteris vittata*, soil-contamination.

P-4

BGA-biofertilizers for West Bengal: aspects & prospects

Antara Nath¹, Rinki Chowdhury¹, Souvik Panja¹, Amit Mistri¹, Partha Protim Naskar¹, Suparna Ojha¹ and Jayanta Sikdar^{2*}

¹ UG Students, Department of Botany, Surendranath College, Kolkata 700009, West Bengal, India

^{2*} Assistant Professor, Department of Botany, Surendranath College, Kolkata-700009, West Bengal, India

^{2*} Corresponding Author Email: jayantabot@gmail.com

ABSTRACT:

Blue green algae constitute the photoautotrophic nitrogen fixing organisms now known as Cyanobacteria. Due to its ubiquitous occurrence in various habitats, it has been projected for its applications in different fields. Fortunately, they are of common occurrence in tropical rice fields. P. K. De (1939) first suggested its nitrogen fixing role in the rice fields of 24-Parganas which now has been clearly established & utilized in various countries. Unfortunately, BGA biofertilizer in rice fields of West Bengal is not very popular, nor has been utilized seriously. The basic reason for it lies in the fundamentally aspects of its application. Basically, nitrogen fixing strains of BGA are region specific. Moreover, they are also sensitive to various agroclimatic conditions. So, to make this fertilizer successful following steps are to be adopted: a) Isolation & screening of region-specific strains depending on various agroclimatic conditions. b) Establishment of local laboratories in different districts and stations where agroclimatic conditions are more specific. c) The local laboratories should act as germplasm bank for the biofertilizer where regular checking and maintenance will be done. d) Regional training and awareness camps for the use of biofertilizer. e) Regular interactive meet of farmers with the experts in this field for establishment BGA in the field.

Keywords: Blue green algae, biofertilizer, West Bengal

Pharmacological Properties of *Trigonella foenum-graecum* L. (Fenugreek)

Srijan Samanta¹, Asif Anwar Khan¹, Kasturi Mahato¹, Md. Akib Ansari¹, Dipasree Roychowdhury^{2*}

¹ UG Students, Department of Botany, Surendranath College, Kolkata.

^{2*} Assistant Professor, Department of Botany, Surendranath College, Kolkata.

^{2*} Corresponding Author Email: dipasree.roychowdhury@yahoo.com

ABSTRACT:

Trigonella foenum-graecum L. (Fenugreek) belongs to the family Fabaceae. Seeds and leaves of fenugreek are used in different culinary practices around the world. Traditionally, seeds and leaves of *T. foenum-graecum* L. have been used since ages for treatment of various ailments in different parts of the world including China, India, Middle eastern countries, etc for treatment of kidney problems, gastritis and gastric ulcers, abdominal cramps associated with menstrual pain, diarrhoea or gastroenteritis, head colds, influenza, constipation, bronchial complaints, asthma, emphysema, pneumonia, pleurisy, tuberculosis, sore throat, laryngitis, hay fever and sinusitis. Fenugreek contains significant quantities of alkaloids namely, trigonella, trigocoumarin, nicotinic acid, trimethyl coumarin. It also comprises other important, valuable compounds like flavonoids and polyphenols. In the alcoholic extracts of the fenugreek plant, extensive variety of flavonoids, such as quercetin, luteolin, vitexin, and 7, 4-dimethoxy flavanones, is present, additionally, existence of aglycones, kaempferol, quercetin, tricetin and naringenin is reported. Recent investigations have revealed plethora of pharmacological properties including anticarcinogenic, antidiabetic, antioxidant, hypo-cholesterolemic, anti-lithogenic, antimicrobial and immunological properties, make it an important compound to be used in food and pharmaceutical industries. This review summarizes the current status of the plant *Trigonella foenum-graecum* L. and its pharmacological properties.

Keywords: Fenugreek, *Trigonella foenum-graecum* L., Medicinal properties, pharmaceutical properties.

P-6

Comparative Study of Isonicotinic Acid and L-Ascorbic Acid on Induction of Innate Immunity and Secondary Metabolite Production in *Catharanthus roseus* (L.) G. Don

Anamika Paul, Aritrika Sinha and Nilanjan Chakraborty*

² Department of Botany, Scottish Church College, Kolkata 700006, India

*Correspondence: nilanjanchak85@gmail.com

ABSTRACT:

Plants are constantly threatened by an array of biotic and abiotic stresses in their natural environment. Since plants are primary producers, they are at the bottom of most food chains and are prone to invasion and infection. Plants have their own immune system, but to resist towards the diseases and damage that immunity is not sufficient. *Catharanthus roseus* (L.) G. Don is a ornamental plant with pharmacological significance. Vinblastine, Vincristine, and Vindesine are anticancerous bisindole alkaloids that are medicinally and pharmacologically active. Elicitation is a powerful method for increasing and boosting secondary metabolite production and promoting plant defence. Through this study, we have tried to investigate the ability and mechanism of L-Ascorbic acid (L-AA) and Isonicotinic acid (INA) to induce and augment immune responses in *C. roseus* plant. Different defence-related enzyme assays, such as PO (peroxidase), PPO (polyphenol oxidase), and PAL (Phenylalanine ammonia lyase assay) activities are increased as well as greater accumulation of total flavonoid and phenol content are observed when compared to water-treated control plant. The alkaloid content of vinblastine and vincristine was determined using both qualitative method using dragendroff reagent and quantitative method using LC-MS (Liquid Chromatography-Mass Spectrometry). Both the results show INA is more potential to induce defence responses and secondary metabolites content than L-Ascorbic acid.

Keywords: Défense, elicitation, secondary metabolites

P-7

Green Nanotechnology Unwrapped: New Perspective of a Fern

¹ Niladri Halder, ¹ Ahan Marick, ¹ Ankita Roy, ¹ Anushree Sarkar, ¹ Shouvik Kumar Saha, ² Arindam Chatterjee, ³ Krishnendu Acharya and ¹ Joy Sarkar *

¹ Department of Botany, Dinabandhu Andrews College, Garia, Kolkata-700084

² Endocrinology and Human Genetics Laboratory, Department of Zoology, University of Calcutta, Kolkata- 700019

³ Molecular and Applied Mycology and Plant Pathology Laboratory, Department of Botany, University of Calcutta, Kolkata-700019

*jsarkar80@gmail.com

ABSTRACT:

Atomic clusters between 1 and 100 nm in size are known as nanoparticles. The Greek word 'nano' means 'extremely small' or 'dwarf'. Nanoparticles, which have well-defined chemical, optical, and mechanical properties, are gaining popularity as a result. New environmentally preferable 'green' biological methods of synthesis are being discovered to meet the increasing demands for commercial production of inorganic metal nanoparticles. Due to slower kinetics, they offer better manipulation and control over crystal growth and their stabilization. Our study reveals the potential of a wild cosmopolitan fern, *Adiantum lunulatum* Burm. f., of West Bengal for this green synthesis application because of its high antioxidant, antimicrobial, and medicinal properties. Silver, gold, copper oxide, zinc oxide, and iron oxide nanoparticles were successfully produced using the aqueous extract of this fern for the first time. Multiple high-tech instrumental methods have successfully completed accurate characterisations. The application section includes tests on the biosynthesized nanoparticles; antimicrobial efficacy and toxicological parameters, as well as on the nano agglomerated polymer matrix; mechanistic enhancement and, most notably, the nanoparticles; beneficial effects on the model plants physiological and biochemical changes aimed at boosting the plants innate immunity.

P-8

Bio-reduction of different metal nanoparticles using bryophytes of Kolkata and surrounding areas

¹ Sudipta Mondal, ¹ Shreya Naskar, ¹ Ananda Shikari, ² Krishnendu Acharya and ¹ Joy Sarkar *

¹ *Department of Botany, Dinabandhu Andrews College, Garia, Kolkata-700084*

² *Molecular and Applied Mycology and Plant Pathology Laboratory, Department of Botany, University of Calcutta, Kolkata-700019*

**jsarkar80@gmail.com*

Since its inception, nanotechnology has expanded science horizons and had a significant impact on a variety of fields, including electrical, mechanical, thermal, optical, and biological technologies. In the past, nanoparticles were created chemically using methods like chemical vapour deposition, microchemical cleavage, or the use of exceedingly dangerous and reactive chemical reductants. This method was time-consuming, expensive, and challenging to manage. As nanoscience developed, it became necessary to synthesise large quantities of nanoparticles, which called for safer, more affordable, and quicker techniques of production. Biosynthesis of nanoparticles eventually emerged as one of the primary approaches of bulk nano synthesis among all the alternative synthetic strategies that were investigated. Several bacteria, algae, fungi, and plants have been shown to be able to synthesise certain nanoparticles, but plants have come to be seen as more adaptable due to their durability, availability, and main capacity to produce a variety of intra and extracellular enzymes. As a result, in the current investigation, various bryophytes from Kolkata and its surrounding areas that had not yet been evaluated for the synthesis of nanoparticles were chosen. Metal salts and the gametophytic extract of various bryophytes were employed in this process. The gametophytic extract of a bryophyte was not only able to synthesize silver, gold, CuO and γ -Fe₂O₃ nanoparticles, it also helped synthesize a metalloid nanoparticle, selenium, which was unreported previously as biosynthesizable. Characterization of the synthesized nanoparticles revealed particles of different sizes and diverse topography. Furthermore, different characterization techniques have been employed to know the different parameters of the biosynthesized nanoparticles. The biosynthesized nanoparticles are then applied in the various fields to know their different biological applications of the nanoparticles. As a result, it could add a new dimension to modern nanoscience leading to safer, more stable nanoparticles with diverse applications.

P-9

Cultivation of a wild species of *Ganoderma* and comparative analysis of its bioactive compounds in Microwave Assisted and Hot Water based Extraction procedures.

Sunandana Das¹, Sandipta Ghosh², Nilanjan Chakraborty^{1*}

¹ Department of Botany, Scottish Church College, Kolkata – 700006, West Bengal, India

² Molecular and Applied Mycology and Plant Pathology Laboratory, Department of Botany, -
-University of Calcutta, Kolkata - 700019, India

* Email ID of Corresponding Author: nilanjan.chakraborty@scottishchurch.ac.in

Abstract

For many years, Traditional Chinese Medicine has made extensive use of the well-known medicinal mushroom *Ganoderma* sp. The cultivation of *Ganoderma* sp. and its therapeutic benefits are thoroughly examined in this research, with an emphasis on the quantification of its bioactive substances. Since, the natural availability of *Ganoderma* sp. is quite low, thus to meet the growing demand, artificial cultivation is vital. Its bioactive components, which have been demonstrated to have a variety of health-promoting benefits, includes antioxidant properties, antimicrobial, anti-cancer, anti-inflammatory, and cardiovascular protection. In this work, a relatively novel and promising technique called Microwave-Assisted Extraction (MAE) was used to extract bioactive components from *Ganoderma* sp. and its yield was compared with Hot Water Extraction process. MAE could enable a more effective extraction of bioactive ingredients found in *Ganoderma* sp. and thereby increasing its yield, and it might prove to be a useful tool for the creation of premium *Ganoderma*-based nutraceutical and traditional medicinal products. The concentration of these bioactive substances and their accompanying effects on health define the potency of the mushroom. *Ganoderma* sp. cultivation and medicinal property measurement play intricate role in the betterment of mankind and thus may give rise to further medicines that can help fight a wide range of diseases. The outcomes of this study offer important knowledge on the effectiveness and quality of *Ganoderma*-based products for use in conventional medicine and nutraceuticals.

Keywords: Cultivation, *Ganoderma* sp., Microwave Assisted Extraction, Medicinal Properties

ROLE OF FUNGI IN BIOTECHNOLOGY IN EVERYDAY LIFE

ABSTRACT

Sarthak Dey, Shreya Ghosh, Ankita Sarkar, Devtaru Datta

Department of Botany, Scottish Church College, Kolkata

Fungal biology plays crucial role in the development of the biotechnology and biomedical sectors. There is a relationship between fungi and humans. It is characterized by an integrative approach to fungi as infectious agents as well as a highly versatile system for a range of uses and exploiting them economically, via important biotechnological applications.

The fungi that are ubiquitous in nature have been isolated from different territories including extreme surroundings (high temperature, low temperature, salinity, drought, radiation, pressure and pH) and may be associated with plants as epiphytic, endophytic and rhizospheric. Fungal strains are both beneficial and harmful for human beings. The beneficial fungal strains may play a significant part in agriculture, industry and medical sectors.

This has been a matter of immense interest since various new fungi and their associated biomolecules are still being identified. The fungi are used to synthesize functional bioactive compounds, hydrolytic and compounds promoting plant growth and biocontrol agents. These are used immensely in the field of biotechnology (agriculture, medicine, pharmaceutical and various other industries).

Here we discuss about various diverse groups of fungi and productions of extracellular enzymes, secondary metabolites and bioactive compounds for various and diverse purposes.

Keywords: Fungi, biotechnology, bioactive compounds, secondary metabolites

Correspondence to: Sarthak Dey, Department of Botany, Scottish Church College, Kolkata - 700006

Email: sarthak.pcm123@gmail.com

P-11

MICROBIOLOGY FOR QUALITY OF LIFE

Martina Chakraborty¹, Madhurima Thakur², Joyita Chowdhury³, Subhomita Chakraborty⁴, Dr. Maitreyee Mondal*

Department of Microbiology, Dinabandhu Andrews College, Garia, Kolkata

1,2,3,4: Students of 6th Semester

Correspondence: M. Mondal, Assistant Professor, Department of Microbiology, Dinabandhu Andrews College, Kol: 700084
(maitreyee.bonny@gmail.com)

ABSTRACT

Daily life is interwoven inseparably with microorganisms. Yet they are the most misunderstood creatures. People think all of them are disease causing harmful pathogens, while the truth is that, of the millions of types of microbes on the planet, pathogenic microbes make up only a very tiny fraction. A large proportion of them actually help us in our everyday lives. In this poster, we discuss the natural microflora of human body and how crucial they are for our existence. Further we explain different aspects of life, in which Microbiology is used, including food production, manufacture of antibiotics, bioremediation, energy production etc. This poster highlights how microbes do wonders and enhance the quality of life.

P-12

Importance of Lichens- an Overview

Arijit Karmakar ^{1*}, Ankita Karmakar ^{2*}, Leona Bagchi ^{2*} and Suranjana Sarkar ^{1*}

• UG Student, Department of Botany, Surendranath College, Kolkata

**Assistant Professor, Department of Botany, Surendranath College, Kolkata. E-mail: drsuranjanasarkar@gmail.com*

Abstract

Lichen symbioses produce long-lasting thallus structures even in the toughest environments. These structures are also habitats for many other microscopic organisms, including other fungi, which vary in their specificity and interaction with the whole symbiotic system. Lichen grows relatively slowly, yet it can withstand hot, dry weather and other harsh environments. Lichen is a rich plant resource that is utilised for a variety of things around the world, including food, medicine, perfume, spices, colours, and other things. Lichens are well known for producing a wide variety of secondary metabolites. This is why lichen is referred to as a pollution indicator. It is the most crucial in terms of both the environment and the economy. It has been demonstrated that lichens have a theoretically abundant nutritional value, and that their extracts and active ingredients have a number of positive health effects, including those related to the prevention of cancer, inflammation, oxidative stress and diabetes. The mechanism of action of the bioactive compounds found in lichens, as well as the bioavailability of nutrients derived from lichens, are still unknown. These might be the research areas for lichens in the future. This review compiled the uses of lichens in food, investigated their nutritional and edible qualities, and outlined any potential health advantages. These could present new possibilities for the creation and study of innovative functional foods and/or medicines.

Keywords: Lichens, edible and nutritional values, health benefits, secondary metabolites

P-13

"Exploring the Therapeutic Potential of *Ganoderma casuarinicola*: A Promising Medicinal Mushroom"

Jesika Upadhyay, Sandipta Ghosh, Nilanjan Chackraborty*

Affiliation >> M.Sc student

Email Of Corresponding author>> nilanjan.chakraborty@scottishchurch.ac.in

Abstract:

In light of the growing public awareness of drug safety, there is a greater tendency for people to choose medicinal natural products that are extracted from plants and fungi because of their advantages of being less toxic and having fewer side effects. Among other medicinally important mushrooms, *Ganoderma P. Karst.* is considered as the most prolific producer of novel mycochemicals. *Ganoderma* commonly known as as Lingzhi or Reishi and has been used in traditional Chinese medicine for more than 200 years. Meanwhile, this present investigation aimed at extracting bioactive components from fruiting bodies of *Ganoderma casuarinicola* using three different methods of extraction, viz infusion, decoction and hydroalcohol and evaluating its in vitro Phytochemical estimation, antioxidant capacity and antimicrobial efficacy. Upon chemical analysis, it was found that the extracts contained high amounts of phenol (30 ± 0.9 to 40.66 ± 4.04 μg of gallic acid equivalent per mg of extract), Flavonoid (1.9 ± 1.36 to 18.57 ± 5.29) and ascorbic acid (19.4 ± 2.4 to 72.2 ± 9.6), with relatively lower levels of β -Carotene (0.213 ± 0.08 to 0.106 ± 0.008 $\mu\text{g}/100\text{ml}$) and Lycopene (0.117 ± 0.005 to 0.158 ± 0.018 $\mu\text{g}/100\text{ml}$) was detected. Decoction expressed higher levels of phenolic and β -Carotene content whereas hydroalcoholic extract had higher Lycopene and ascorbic acid content. The above-mentioned extracts were able to scavenge 1,1-diphenyl-2-picrylhydrazyl (DPPH) and 2,2'-azino-bis (3 ethylbenzthiazoline6-sulphonate) (ABTS) radicals and also showed Ferrous ion chelating activity. Hydroalcoholic extract showed highest ABTS and DPPH radical scavenging activity and exhibited the highest antioxidant activity (83.3 ± 5.7 μg AAE/mg extract). All three extracts showed antibacterial activity against both Gram-positive and Gram-negative bacteria where *Stephylococcus aureus* being the most susceptible one, moreover, the hydroalcoholic extract demonstrated superior antibacterial activity compared to the other extracts. Therefore, these studies thus provide the reference data that could support this mushroom as an easily accessible source of natural bioactive components.

Key words: Mycochemical, antioxidant, antimicrobial, phenolics.

P-14

MUCORMYCOSIS: A NEW THREAT TO CORONA VIRUS DISEASE 2019 WITH SPECIAL EMPHASIS ON INDIA

^a Deganta Ghosh, ^a Sagardeep Dey, ^b Sneha Mukherjee, ^c Himanko Chakraborty, ^a Ankita Halder, ^a Shreya Sana, ^d Akash Sarkar, ^e Pallab Chakraborty, ^f Rajdeep Ghosh, ^c Joy Sarkar*

^a Department of Botany, University of Calcutta, 35, Ballygunge Circular Road, Kolkata, West Bengal-700019, India

^b Department of Botany, Bethune College, Bidhan Sarani Rd, Manicktala, Azad Hind Bag, Kolkata, West Bengal-700006, India

^c Department of Botany, Dinabandhu Andrews College, Garia, Kolkata, West Bengal-700084, India

^d Department of Botany, Ramakrishna Mission Vivekananda Centenary College, Chowdhary Para, Rahara, Khardaha, West Bengal-700118, India

^e Department of Botany, Visva-Bharati, Santiniketan, West Bengal-731235, India

^f GSL Medical College and General Hospital, Rajahmundry, Andhra Pradesh-533296, India

*Corresponding author: E-Mail: jsarkar80@gmail.com

Abstract: The main reason for the growth of mucormycosis in people with Coronavirus disease-2019 (COVID-19) is mainly produced by *Rhizopus* spp. The infective mechanisms and issues recognized in *Rhizopus* spp. are the cell wall, germination proteins, and enzymes assisted to iron sequestration, CotH protein, and positive regulation of the GRP78 cell receptor. Mucormycosis is mainly caused by the *Rhizopus* spp. such as *R. oryzae*, *R. microsporus*, *R. arrhizus*, *R. homothallicus*, etc. that are gifted to numerous host defence mechanisms and attribute to the endo- thelium via specific receptors, GRP78 simplifying their endocytosis and angio-invasion. Factors such as hyper- glycemia, elevated iron concentrations, and ketoacidosis have been shown to contribute to the pathogenesis in the tentative situation. The analytical data of ‘black fungus disease’ or ‘mucormycosis’, specify India reported for about 42.3% of published cases, followed by the USA about 16.9%, Iraq, Bangladesh, Iran, Paraguay, and 1 case each from Brazil, Mexico, Italy, UK, China, France, Uruguay, Turkey, and Austria. The COVID-19 infection is maybe a predisposing factor for mucormycosis and is related to a high mortality rate. Early recognition and restriction of hyperglycemia, liposomal amphotericin B, and surgical debridement are the bases in the successful managing of mucormycosis.

Unmasking the Mystery of Monkeypox Virus Evolution and Diversity

¹Sneha Roy, ¹ Parag Bhattacharjee, ¹ Abhishek Balo, ¹ Ankita Bose, ¹ Anushree Naskar, ² Pallab Chakraborty, ¹ Rupa Chakraborty*, ¹ Mithun Maji* & ¹ Joy Sarkar*

¹ Department of Botany, Dinabandhu Andrews College, Garia, Kolkata, West Bengal, 700084, India

² Department of Botany, Visva-Bharati, Santiniketan, West Bengal-731235, India

E-mail: sneha.roy200128@gmail.com

Abstract

Mpox (formerly monkeypox) is a viral disease caused by the monkeypox virus (MPXV), an Orthopoxvirus closely related to variola, the causative agent of smallpox. Mpox can cause a Severe rash, fever, headache, lymphadenopathy and other complications. Mpox is a zoonosis That can be transmitted from animals to humans or from person to person. The natural Reservoir of MPXV is unknown, but various small mammals such as squirrels and monkeys are Susceptible. Mpox has been endemic in central and west Africa for decades, but since 2022, a Global outbreak of mpox has occurred, affecting countries outside the African region for the First time. The outbreak is caused by a strain of MPXV known as clade IIB, which has shown increased transmissibility and virulence. Mpox poses a serious public health threat, especially in Areas where smallpox vaccination has been discontinued and where health systems are weak. There is no specific treatment for mpox, but supportive care and infection prevention and Control measures can reduce morbidity and mortality. Vaccines and antivirals developed for Smallpox can be used for mpox in some circumstances, but their availability and efficacy are Limited. Mpox can be prevented by avoiding contact with infected persons, animals or Materials, and by vaccination of high-risk groups. This poster provides an overview of the History, molecular virology, epidemiology, clinical features, detection, transmission, evolution, Prophylaxis and treatment of mpox.

Keywords: Monkeypox virus; Orthopoxvirus; Clade IIB; Symptoms

P-16

Assessment of the nutraceutical prospects of a newly identified edible *Agaricus* sp. (Agaricaceae).

Anik Banerjee, Entaj Tarafder, Arghya Naskar, Krishnendu Acharya*

Molecular and Applied Mycology and Plant Pathology Laboratory, Department of Botany, University of Calcutta, 35, Ballygunge Circular Road, Kolkata 700019, West Bengal, India

*Corresponding author: krish_paper@yahoo.com

ABSTRACT

The term “nutraceutical” refers to food that improves the health of humans by having a medicinal effect. In recent times mushrooms are considered as a potential nutraceutical due to the presence of many essential nutrients and therapeutic bioactive compounds, thereby making them a valuable supplement to our diets. Recently, a new wild edible mushroom was collected from West Bengal, and after detailed morphological and microscopic examination, along with molecular phylogenetic studies, the specimen belongs to the genus *Agaricus* under the family Agaricaceae. The specimen is characterized by its entirely white, smooth pileus, crowded lamellae with two series of lamellulae, a cylindrical stipe with a slightly broader base coloured white all over that turning brownish orange on bruising, a supra-median annulus with the smooth, brown upper side and fibrillose, white lower side, as well as ellipsoid basidiospores, and pyriform to ovoid cheilocystidia. The methanolic extract of the dried basidiocarp was rich in phenols and flavonoids. The proximity of these compounds ratifies the pharmaceutical and nutraceutical properties of this specimen. Further study reveals that the methanolic extract showed a strong free radical scavenging activity in the in-vitro system which includes ABTS and DPPH radical scavenging activity and with significant total antioxidant capacity. The extract also responded well in cytotoxicity estimation assays against the lung adenocarcinoma cell line (A549). The DAPI staining of the nucleus showed significant nuclear condensation, shrinkage, and blebbing, the microscopic markers of apoptosis in the treated sets. EtBr/AO staining reveals that the treated cells have a greater EtBr uptake, suggesting its role in apoptosis-associated changes of cell membranes. All these preliminary data suggest that the newly identified *Agaricus* species might have a potential nutraceutical prospect.

Keywords: Antioxidant, Cytotoxicity, Mycochemicals, New species.

P-17

Embryogenesis through Somatic Cells

¹Dipan Roy, ¹Shimul Nandi, ¹Bikramjit Sardar, ¹Neelanjana Chakraborty, ¹Sourav Midya, ¹Samarpita Dey, ¹Shouvik Kumar Saha, ¹Ankita Roy, and ¹Ahan Marick *

¹ Department of Botany, Dinabandhu Andrews College, Garia, Kolkata-700084

*[*ahanmarick993@gmail.com](mailto:ahanmarick993@gmail.com)*

ABSTRACT

Somatic embryogenesis is a plant tissue culture technique that allows the development of embryos from somatic cells or tissues, including haploid cells, and to regenerate plants. The process involves different stages such as callus initiation, embryo development and maturation, and plantlet formation. There are two types of somatic embryogenesis: direct and indirect. The former involves embryos initiating directly from explants without callus formation, while the latter involves callus formation followed by embryo development.

Somatic embryogenesis has several advantages, including higher propagation rates, pathogen-free plant production, conservation of genetic resources, and labor savings. However, it is confined to a few species, and the somatic embryos show poor germination due to their physiological and biochemical immaturity. Factors such as the explant characteristics, growth regulators, nitrogen sources, and other environmental factors, including high K⁺ levels and low dissolved O₂ levels, can affect somatic embryogenesis. Despite its limitations, somatic embryogenesis is an essential technique for plant biotechnology, including artificial seed production and germplasm conservation.

Keywords: Somatic Embryogenesis, Haploid Culture, Callus, Artificial Seeds

P-18

MUSHROOM AS PROTEIN COMPLEMENT, MUSHROOM OF BENGAL IN DEVELOPMENT OF RURAL ECONOMY

PRIYA BANIK (SEM 2), ANAMIKA SARKAR (SEM 4), RASEL PARVEZ (SEM 4)

DEPARTMENT OF BOTANY, SURENDERNATH COLLEGE
Corresponding author's Email id :: priyabanik129@gmail.com

ABSTRACT

The potential role of mushroom as only supplementary protein but as biochemical agents for preservation and treatment of disease of human attracted mycologist for last few years. In this reviews we just tried to focus on the edible mushroom of West Bengal starting from Darjeeling Himalaya to Delta of Sundarban ; the edaphic and climatic diversity in very much suitable for growth of large numbers of Macro-fungi throughout this region. Many of them are edible. The metabolites produced by their edible mushroom can not only be used as animal protein supplements but also help in different diseases as low costing treating agent. If we can promote the proper cultivation of the mushroom in rural Bengal that can also strengthen the economy of rural people as it can be flourished as low investment small scale industry.

Keyword : mushroom , nutritional value, therapeutic use, small scale industry

Mushrooms: Effective Against Cancer

¹**Anwasha Bera**, ¹Tamanna Maji, ¹Ipsita Saha, ¹Ranita Dey, ¹Shouvik Kumar Saha, ¹Ankita Roy, ¹Ahan Marick, and ¹Joy Sarkar *

¹ Department of Botany, Dinabandhu Andrews College, Garia, Kolkata-700084

**jsarkar80@gmail.com*

ABSTRACT

From ancient times mushrooms have been used as a good source of food, but now with scientific evolution, we can bring out the true value of mushrooms. Eating those has consistently been shown to have profitable effects on human health. We know that mushroom is a good source of protein, vitamins, energy, fibre, minerals, etc. In recent studies, we got to know that it helps in cure to many human diseases and one of them being cancer. Cancer is a tribal term for various types of diseases that can be chronic and are responsible for a large number of deaths worldwide. In the treatment of cancer, various chemotherapeutic drugs have been extensively used, however, current anticancer drugs cause severe side effects and induce resistance. So, it is very important to discover novel and effective anti-cancer agents without side effects or minimal effects. Exploration of mushroom extracts has been carried out to determine if anti-disease properties exist, such as for polysaccharide-K or lentinan. It also remains disapproved in mainstream science and medicine, and so is not approved as drugs or medical treatment. Mushrooms have many biomolecules and several types of nanoparticles which can help in cancer, especially in breast cancer, prostate cancer, ovarian cancer, etc. It's not just cancer, it also works as an antioxidant, anti-diabetic, hypocholesterolaemia, nephroprotective, anti-allergic, and anti- microbial agent. Those mushrooms which have success against cancer belong to the genus *Agaricus*, *Anthodia*, *Ganoderma*, *Grifola*, *Lentinus*, *Merulius*, *Phellinus*, *Pleurotus*, etc.

Keywords: Mushrooms, Cancer, Food

HANDMADE SEED PAPER FROM SUGARCANE BAGASSE AFTER MUSHROOM FARMING: A STEP TOWARDS THE CIRCULAR ECONOMY

Subham Sahu, Jit Sarkar, Krishnendu Acharya*

*Molecular and Applied Mycology and Plant Pathology Laboratory, Centre of Advanced Study, Department of Botany, University of Calcutta, 35, Ballygunge Circular Road, Kolkata 700019, West Bengal, India. *Correspondence:*

krish_paper@yahoo.com

ABSTRACT

Sugarcane is cultivated in considerable quantities in tropical countries. In 2017, about 1.84 billion tons of sugarcane were produced worldwide. Apart from its commercial applications, it is also used by local vendors to obtain sugarcane juice. After the removal of sugarcane juice a large amount of residue called a sugarcane bagasse was disposed of as solid waste. This waste residual material was high in complex lignocellulosic substances. Here, an attempt has been made to convert this waste into wealth. Initially, sugarcane bagasse was utilized for the production of mushrooms (*Pleurotus ostreatus*). 800g of mushroom produced from 1 kg sugarcane bagasse. The conversion of this into cellulosic fibres required a very low concentration of NaOH (1M) due to the enzymatic degradation of the substrate by *P. ostreatus* whereas the conventional process for conversion of sugarcane bagasse into cellulose required more than 3(M) concentrations of NaOH. Finally, after bleaching from 1 kg of this spent mushroom waste (DW) give rise to 300 g of cellulose fibre. Cellulose fibre is now utilized for the production of handmade paper and handmade seed paper. From 300 g of this cellulose, of 200 pieces of 5×10' handmade seed paper were prepared. So, from this waste if we calculate the total income from 1 kg sugarcane bagasse: 800g mushroom = ₹160.00 and 200 pieces of handmade seed paper @ ₹5 .00/piece= ₹1000.00 and the total budget for the production is ₹160.00. Net profit = ₹1160- ₹160= ₹1000.00. In conclusion, this is a very small step towards the circular economy and the spent mushroom substrate (SMS) (45-50% of initial dry wt.) was utilized further for the production of cellulosic fibres.

Keywords: Cellulose fibre, Handmade paper, Lignocellulosic substance, Seed paper.

P-21

Bioluminescence in Plant Kingdom and it's application in curing disease.

Presenters: Shinjinee Pramanik, Anshuman Jha and Shubham Dutta

UG students (Semester: IV), The Department of Botany, Scottish Church College.

ABSTRACT

Algae and fungi are two major wonders of the Plant Kingdom having immense potential in the field of medicine and pharmacy which directly links to how this could be incorporated into our daily lives. Both algae and fungi show the unique property of bioluminescence. The term bioluminescence refers to a conspicuous light emission displayed by numerous aquatic and terrestrial organisms, algae and fungi have certain important luciferin/luciferase chemical enzymes that perform the reaction for bioluminescence.

Usually, the process involves three key components: an oxidizable luciferin substrate, a luciferase enzyme, and a light emitter, typically oxidized luciferin, and called oxyluciferin. We report the structure of oxyluciferin, investigate the mechanism of bioluminescence, and describe the use of simple synthetic α -pyrones as luciferins to produce multicolor enzymatic chemiluminescence. A high-energy endoperoxide is proposed as an intermediate of the oxidation of the native luciferin to the oxyluciferin, which is a pyruvic acid adduct of caffeic acid. Luciferase promiscuity allows the use of simple α -pyrones as chemiluminescent substrates. This enzyme is extracted and can potentially help in curing cancer. The chemical α -pyrones has a similar structure which fit the receptor sites and acts as an inhibitor for anti-lung cancer.

The aim of this abstract is to throw light on the function on bioluminescent fungi and algae and showcase it's specific ability to cure lung cancer via secretion of certain enzymes.

P-22

Unwinding the mystery about Sericulture

¹AkashSingh¹, SudiptaSaha¹, Tapabrata Debnath¹, Madhujoya Dasgupta*

Department of Sericulture, Dinabandhu Andrews College, Garia, Kolkata, West Bengal, 700084, India

E-mail: akashsingh664404@gamil.com

ABSTRACT

In order to obtain silk from silk worm it's called sericulture and it contains various types of products in the 4 stages of life cycle and nothing can be discarded not even litter or excreta ! If we utilizes every by products of sericulture & moriculre we produce pharmaceutical to various types of food items and even dead larvae can be used as compost. So, it's a good opportunity to learn new side of biology.

Keywords: Sericulture, Silk, Moriculre, Pharmaceuticals

P-23

Some important microorganisms for the organic cultivation

Diptosh Das¹, Sudipta Mukherjee^{1,2}, Dishari Acharya^{1,3}, Nirmalya Chakraborty¹ and Krishnendu Acharya¹

¹Molecular and Applied Mycology and Plant Pathology Laboratory, Centre of Advanced Study, Department of Botany, University of Calcutta, 35, Ballygunge Circular Road, Kolkata 700019

²West Bengal Biodiversity Board, Prani Sampad Bhavan, 5th Floor, Sector- III, Salt Lake, Kolkata- 700106

³Department of Microbiology, Sister Nivedita University, New Town, Kolkata – 700156

ABSTRACT

Overuse of inorganic fertilizers has caused soil, air, and water pollution through nutrient leaching, destruction of soil physical characteristics, accumulation of toxic chemicals in water bodies, and so on, as well as causing severe environmental problems and loss of biodiversity. Thus, agrochemicals are among the considerable and dominant factors of pollution in developing countries and play a hazardous role in human and livestock health. Organic farming was actually initiated as an answer to the environmental sufferings caused by the use of chemical pesticides and synthetic fertilizers. According to FAO/WHO Codex Alimentarius Commission, 1999, "Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system. "Organic farming utilizes diverse communities of microorganisms to protect plants from disease and to keep soil healthy and productive. Here, micromorphology and cultural features of some important microbes such as *Trichoderma viride*, *T. harzianum*, *T. asperellum*, *Metaharzium anisopilea*, *Beauveria bassiana*, *Paecilomyces lilacinus*, *Bacillus subtilis*, *Bacillus thuringiensis*, *Bacillus velezensis*, *Bacillus amyloliquefaciens*, *Pseudomonas fluorescens*, *Azotobacter* sp. were documented.

Keywords: Biofertilizers, Biopesticides, Organic farming, Soil health

Some Rare and Endangered Medicinal Plants and its threats in West Bengal

Agantuk Naskar¹, Arpita Kabishekhar¹, Ishita pradhan¹, Moumita Jana¹, Shristi Bhattacharya¹, Utsab Naskar¹, Dr. Krishna Chaudhury¹

¹Dinabandhu Andrews College, Garia, Kolkata-84, West Bengal, India.

Abstract

West Bengal, located in eastern India, harbors a rich diversity of rare and endangered medicinal plants that possess immense biological and therapeutic significance. These plants have been traditionally used in Ayurvedic and traditional medicine systems for their healing properties and contribution to human well-being. However, rapid urbanization, habitat destruction, and unsustainable harvesting practices pose significant threats to their survival.

This abstract highlights the urgent need for the preservation of these valuable botanical resources. Conservation efforts such as establishing protected areas, implementing sustainable harvesting practices, and raising awareness about the ecological and economic value of these plants are crucial to safeguarding their existence.

Furthermore, the biological importance of these rare medicinal plants cannot be overstated. They contain a wide array of bioactive compounds with potential medicinal applications, including antimicrobial, anti-inflammatory, and anticancer properties. Their preservation not only ensures the availability of natural remedies for current and future generations but also holds promise for drug discovery and the development of novel pharmaceuticals.

In conclusion, the preservation of rare endangered medicinal plants in West Bengal is of utmost importance. Conserving their habitats and promoting sustainable practices will not only protect their biodiversity but also support the continued exploration of their therapeutic potential for human health and well-being.

Space for Notes:

