ACTIVITY REPORT ON EXCURSION AT TALSARI SEA-BEACH, ODISHA FOR SEMESTER – V; ZOOLOGY HONOURS STUDENTS – 2023

CITY COLLEGE

Affiliated to the University of Calcutta
102/1, Raja Rammohan Sarani, Kolkata – 700009
Phone: 033 2350 1565, Office: 033 2360 7463
E-mail: principal.citycollege@gmail.com
Website: www.citycollegekolkata.org
GST No. : 19CALC00619D1DE

Allowed for Educational field Trip to Talsari Sea Beach, Odisha, India with the Students of Semester – V from 19.12.23 to 22.12.23
Silai challan 16/12/23

To,
The Principal
City College,
102/1 Raja Rammohan Sarani
Kolkata – 700 009

Sub: Intimation about the Educational Field Trip to ***Talsari Sea Beach, Odisha, India,*** with the students of Semester – V; ZOOA, on and from **19/12/2023 (Tuesday) to 22/12/2023 (Friday)**

Dear Sir,

The undersigned would like to intimate you that a batch of 30 students (16 Girls and 14 Boys) of Semester – V; Zoology Honours (List enclosed) are going to an Educational Field Visit to Talsari Sea Beach, Odisha, India, on and from 19/12/2023 (Tuesday) to 22/12/2023 (Friday) for the partial fulfillment of their CU Curriculum under the guidance of the following escorts (List enclosed), followed and abided by all the academic and administrative compliances of University of Calcutta and City College, Kolkata.

This is for your kind permission and necessary action and oblige.

Thanks in anticipation.

18/12/2023

Head, Department of Zoology

Head, Department of Zoology
City College, Kolkata-700009

Yours truly,

Saiful Anam Mir

Dr Saiful Anam Mir
Assistant Professor in Zoology

SL. No.	Name of the Escorts	Gender
1	Dr Debasish Karmakar, Assistant Professor in Zoology	M
2	Dr Saiful Anam Mir, Assistant Professor in Zoology	M
3	Dr Indranil Roy, SACT 1 in Zoology	M
4	Mr Rajpat Ram, Laboratory Attendant in Zoology	M

Indranil Roy

Dr Indranil Roy
SACT – 1 in Zoology

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City College

DEPARTMENT OF ZOOLOGY

List of Students Participating in the Educational Field Trip to Talsari Sea Beach, Odisha
Semester - V (ZOOA)

Sl. No.	Name of Students	Gender
1	Saugata Dey	M
2	Rumap Banik Chowdhury	M
3	Ajay Kumar Singh	M
4	Biswarup Das	M
5	Dhruba Paul	M
6	Russel Rana Mondal	M
7	Jahid Hossain Mollick	M
8	Bikash Murmu	M
9	Pritam Dhara	M
10	Kunal Sarkar	M
11	Anubhab Karar	M
12	Sauvik Das	M
13	Subhajit Nandy	M
14	Dipjit Pal Chowdhury	M
15	Suptika Ghosh	F
16	Dishari Sen	F
17	Ruchisa Das	F
18	Torsha Hembrom	F
19	Antara Naskar	F
20	Soulima Dutta	F
21	Anurati Patra	F
22	Aishiki Chakraborty	F
23	Priya Mondal	F
24	Debangshi Paul	F
25	Priti Saha	F
26	Debleena Rout	F
27	Samridhi Singh	F
28	Soma Jana	F
29	Anusree Sen	F
30	Manisha Chowdhury	F

Head, Department of Zoology

Dr Saiful Anam Mir
Assistant Professor in Zoology

Dr Indranil Roy
SACT – 1 in Zoology

NOTICE TO THE PARENT/GUARDIAN

Date: 06.10.2023

Dear Parent/Guardian

Please note that a long excursion is being arranged during **last week of November 2023 or First week of December 2023**, by the Department of Zoology, City College, Kolkata – 700009, for students of **Semester 5 Zoology Honours**, as per the syllabi of University of Calcu a. The exact programme will be given later. Approximate cost of a ending the program will be **Rs. 5500/- (Rupees Five Thousand Five Hundred Approx.)** per head.

Format of the **'NO OBJECTION LETTER'** is being sent herewith. Kindly ll the form carefully and send it immediately through your ward.

In this connec on, I would request you to deposit a sum of **Rupees Three Thousand only (Rs. 3000/-)** for the aforesaid excursion, posi vely by 16th October, 2023 to the undersigned.

06/10/2023

Head
Department of Zoology
City College, Kolkata 700 009

Attendance Sheet

WORKING GROUPS FOR FIELD STUDY AT TALSARI SEA BEACH BY SEM - V; ZOOA, CITY COLLEGE, KOLKATA

			DATE & TIME	19/12/23 2 pm	20/12/23 6.00 AM	20/12/23 12.00 pm	20/12/23 4:00 pm	21/12/23 6.00 AM	21/12/23 12:00 pm
				SESSION 1	SESSION 2	SESSION 3	SESSION 4	SESSION 5	SESSION 6
	GROUP - A								
1	SAMRIDDHI SINGH	GROUP LEADER		Samriddhi Singh	Samriddhi Singh	Samriddhi Singh	Samriddhi Singh	Samriddhi Singh	S. Singh
2	RUCHISHA DAS			Ruchisha Das	Ruchisha Das	Ruchisha Das	Ruchisha Das		R. Das
3	MANISHA CHOWDHURY			Manisha Chowdhury	Manisha Chowdhury	Manisha Chowdhury	Manisha Chowdhury		Manisha Chowdhury
4	PRITI SAHA			Priti Saha	Priti Saha		Priti Saha	Priti Saha	
5	JAHID HOSSAIN MOLLICK			Jahid Hossain Mollick					
6	BIKASH MURMU			Bikash Murmu	Bikash Murmu			Bikash Murmu	
	GROUP - B								
1	DIPJIT PAL CHOWDHURY	GROUP LEADER		Dipjit Pal Chowdhury	Dipjit Pal Chowdhury	Dipjit Pal Chowdhury	Dipjit Pal Chowdhury	Dipjit Pal Chowdhury	DIPJIT PAL CHOWDHURY
2	DHRUBA PAUL			Dhruba Paul	Dhruba Paul	Dhruba Paul		Dhruba Paul	Dhruba Paul
3	DISHARI SEN			Dishari Sen	Dishari Sen	Dishari Sen	Dishari Sen	Dishari Sen	Dishari Sen
4	DEBLEENA ROUT			Debleena Rout	Debleena Rout	Debleena Rout	Debleena Rout		Debleena Rout
5	TORSHA HEMBRAM			Torsha Hembram	Torsha Hembram	Torsha Hembram	Torsha Hembram		Torsha Hembram
6	SUPTIKA GHOSH			Suptika Ghosh	Suptika Ghosh	Suptika Ghosh	Suptika Ghosh		Suptika Ghosh
	GROUP - C								
1	PRITAM DHARA	GROUP LEADER		Pritam Dhara	Pritam Dhara	Pritam Dhara	Pritam Dhara	Pritam Dhara	Pritam Dhara
2	AJAY KUMAR SINGH			Ajay Kr. Singh	Ajay Kr. Singh	Ajay Kr. Singh	Ajay Kr. Singh	Ajay Kr. Singh	A.K. Singh
3	BISWARUP DAS			Biswarup Das	Biswarup Das	Biswarup Das	Biswarup Das	Biswarup Das	Biswarup Das
4	SOMA JANA			Soma Jana	Soma Jana	Soma Jana	Soma Jana	Soma Jana	
5	ANTARA NASKAR			Antara Naskar	Antara Naskar	Antara Naskar	A. Naskar	A. Naskar	A. Naskar
6	ANUSHREE SEN			Anushree Sen	Anushree Sen	Anushree Sen	Anushree Sen	Anushree Sen	Anushree Sen
	GROUP - D								
1	SOUGATA DEY	GROUP LEADER		Sougata Dey	Sougata Dey	Sougata Dey	Sougata Dey	Sougata Dey	Sougata Dey
2	KUNAL SARKAR			Kunal Sarkar	Kunal Sarkar	Kunal Sarkar	Kunal Sarkar	Kunal Sarkar	K Sarkar
3	ANUBHAB KARAR			Anubhab Karrar	Anubhab Karrar	Anubhab Karrar	Anubhab Karrar	Anubhab Karrar	Anubhab Karrar
4	SOUVIK DAS			Souvik Das	Souvik Das	Souvik Das	Souvik Das	Souvik Das	S. Das
5	RUSSEL RANA MONDAL			Russel Rana Mondal	Russel Rana Mondal	Russel Rana Mondal	Russel Rana Mondal	Russel Rana Mondal	Russel Rana Mondal
6	SOULIMA DUTTA			Soulima Dutta	Soulima Dutta	Soulima Dutta	Soulima Dutta	Soulima Dutta	Soulima Dutta
	GROUP - E								
1	SUBHAJIT NANDY	GROUP LEADER		S. Nandy	S. Nandy	S. Nandy	S. Nandy	S. Nandy	S. Nandy
2	RUPAM BANIK CHOWDHURY			R.B Chowdhury	R.B Chowdhury	R.B. Chowdhury	R.B. Chowdhury	R.B Chowdhury	R.B Chowdhury
3	ANURATI PATRA			Anurati Patra	Anurati Patra	Anurati Patra	Anurati Patra		Anurati Patra
4	DEBANSHI PAUL			Debanshi Paul	Debanshi Paul	Debanshi Paul	Debanshi Paul		D. Paul
5	AISHIKI CHAKRABORTY			A. Chakraborty	A. Chakraborty	A. Chakraborty	A. Chakraborty		A. Chakraborty
6	PRIYA MONDAL			Priya Mondal	Priya Mondal	Priya Mondal	Priya Mondal		Priyanka Das

NATURE OF WORK:

Joint Educational Excursion of Semester – V [Paper – CC-5-11-P (Ecology Lab)] and would be Semester – VI [Paper – DSE(B)-6-1-P (Animal Behaviour and Chronobiology Lab)]; with the students of Zoology Honours, City College, Kolkata, to study the natural habitat and biodiversity of Beach Floor Faunae of the Talsari Sea Beach, Odisha, including the Species Richness, Species Abundance etc. and their relatedness with various Environmental and Aquatic Parameters for Paper CC-5-11-P and to study the various Behavioural Responses like Feeding Behaviour, Aggression, Mate Choice and Reproductive Behaviour etc. in different periods of a day-length of Ghost Crab (*Ocypod* sp.) and Fiddler Crab (*Uca* sp.) considering the relatedness with various Environmental and Aquatic Parameters for Paper DSE(B)-6-1-P.

Ecology Lab, ZOOA-CC5-11-P

Full Marks 30	60 Hours	2 Credits

List of Practical

1. Determination of population density in a natural/hypothetical community by quadrate method and calculation of Shannon-Weiner diversity index for the same community
2. Study of an aquatic ecosystem: Phytoplankton and zooplankton, Measurement of area, temperature, salinity, determination of pH, and Dissolved Oxygen content (Winkler's method), Chemical Oxygen Demand and free CO_2
3. Report on a visit to National Park/Biodiversity Park/Wild life sanctuary/ any place of ecological interest/ ecological uniqueness/ Zoological garden

Animal Behaviour and Chronobiology Lab, ZOOA-DSE(B)-6-1-P

Full Marks 50	60 Hours	2 Credits

List of Practical

1. To study nests and nesting habits of the birds and social insects.
2. To study the behavioural responses of wood lice to dry and humid conditions(demonstration only).
3. To study geotaxis behaviour in earthworm.
4. To study the phototaxis behaviour in insect larvae.
5. Visit to Forest/ Wild life Sanctuary/Biodiversity Park/Zoological Park to study behavioural activities of animals and prepare a short report.
6. Study of circadian functions in humans (daily eating, sleep and temperature patterns).

DATE:

19/12/2023 (Tuesday) to 22/12/2023 (Friday)

ORGANIZER:

Department of Zoology City College, 102/1 Raja Rammohan Sarani, Kolkata-700009

NO. OF PARTICIPANTS:

Students: 30 – 16 Girls & 14 Boys; Teachers: 3 – Dr Debasish Karmakar, Dr Saiful Anam Mir and Dr Indranil Roy; Laboratory Attendant: Mr. Rajpat Ram

BRIEF REPORTS:

Ecology deals with organisms and their environment and it is important that we understand the relationship between them. Probably the most important statement

that we can make about this relationship is that different kinds of organisms are not distributed at random amongst different kind of environment. There is a correspondence between the two. The ecological study utilizes data at the population level rather than the individual level. Ecological studies are basically database surveys at population level, meant to highlight possible correlations between an environmental factor and an observed condition in a defined geographic area. "Biological diversity" means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Importance of Coast as Field of Study

The coast as the "area where aquatic and terrestrial ecosystems interact". The coasts cover broad scale aquatic–terrestrial interactions, beyond the limited single-point area where water and land meet physically. Terrestrial processes (such as upland erosion and pollution) have a clear impact on the aquatic ecosystems. Marine phenomena, such as storms and hurricanes clearly have an impact beyond the beach. Thus, in this study the coast is considered as that "part of land most affected by its proximity to the sea, and that part of the sea most affected by its proximity to the land". The study was conducted mostly in coastal regions to be the intertidal and subtidal areas routinely inundated by saltwater and at the adjacent land along the shoreline. Talasari beach is one of the virgin beaches in India on 'Bay of Bengal', which is located in Balasore district of Odisha. The geographic location of this beach lies in the north-eastern coast of India having a calm and serene atmosphere. Distinguished by the vast stretches of coniferous plants and extensive beaches, the place is quite untouched as far as tourists are concerned.

Objective of the Study

The study was conducted based on the following objectives:

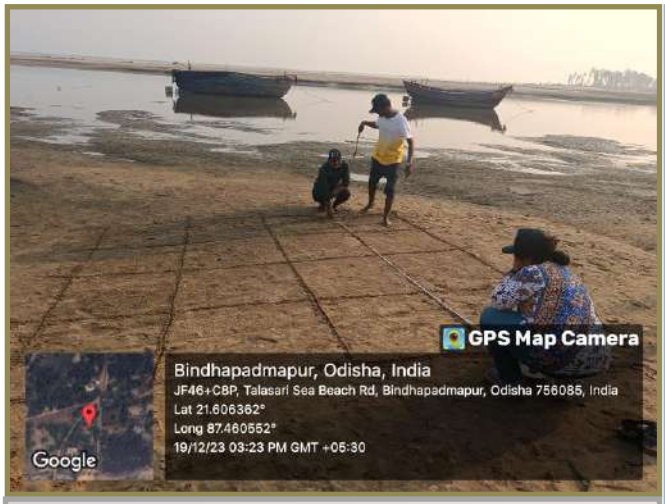
- To study various water quality parameters at different study sites at and along the shoreline.
- To derive a correlation, if any, between various water parameters.
- To study the insect diversity via Pitfall Trapping method.
- To study the vast biodiversity of Talsari Beach Floor, Odisha, India, through eye observation and Quadrat Study.
- To comment on the overall ecosystem health of the Talsari Beach.

Outcome of the Study

From all the measured environmental parameters and biodiversity study through the three different periods of a single Day-Length it was observed that the two most dominant species, which were thickly populated in Talsari sea-coast, are Ghost Crab, having with higher population density at the time of Sunset and Fiddler Crab, having with the highest population Density at the time of Sunshine. So, it is quite obvious that the dense populations of these two related species will inhibit the growth and development of each other. As an outcome the organisms are trying to adapt themselves preferring differential

activity period, Ghost Crabs are becoming active at the time of afternoon or near to 'Sunset' and the Fiddler Carbs are becoming active at the time of high Sun or 'Sunshine' to avoid inter-specific competition. These Species Dominance may also be the reason for less abundance of many other species like Hermit Crabs, Bivalves, Starfish etc. accounted in a very few numbers in the quadrats studied and also for the species, which were not accounted in the studied quadrats too. Finally, from all the observed and calculated statistical data analysis, it may be commonly stated that the Talsari Beach Community is a Moderately Diverse Community in respect to Biodiversity with High Species Richness along with High Species Dominance too, but with Low Species Evenness.

Photographic Plates



Photographic Representation of Quadrat Study and In-field Estimation of Various Water Parameters at Talsari Sea Beach, Odisha

Photographic Representation of Biodiversity, accounted on Talsari Sea Beach, Odisha

A. *Murex* (Shell) with Hermit Crab, B. *Telescopium* (Shells) with Barnacles, C. & K. Shells of Bivalves, D. Sea Anemone, E. Fiddler Crabs, F. Red Crab, G. *Squilla*, H. Star Fish, I. Ghost Crab, J. Hermit Crab, L. Holes of Ghost Crabs on the Floor of Talsari Sea Beach