

Departmental profile

DEPARTMENT OF ZOOLOGY

RANGIA COLLEGE



RANGIA, DIST- KAMRUP
ASSAM
PIN- 78135

***Goal of the
Department of Zoology***

Advancement, development and empowerment of the students by imparting quality education.

***Mission of the
Department of Zoology***

To prepare the students to meet the challenges of modern world and to inculcate the spirit of leadership in different avenues.

History of the department

1985 was a historic year for Rangia College and for the people of Rangia as Science stream was introduced in this year. In the annals of Rangia College, this year would be remembered as a historic year as some enthusiastic, prudent people with the sole intention of upliftment of higher education in the entire sub-division, preluded Science stream in the college and dream of Late Siddhinath Sarma, the legendary political figure and the one of the members of council of ministers of undivided Assam, who brought a revolutionary changes in the higher education of Rangia got a boost.

The subject Zoology was introduced right from the inception of the Science Stream and could flourish over the years by the co-operation of the college authority, dedication of the teachers of the department and proper management by the disciplined bearers.

Introduction of a new stream or a new subject is always troublesome. Similar thing was happened to Zoology department too. A few numbers of teachers joined the department and did not continue long as the department was in nascent stage and might require a longer period to get government affiliation and concurrence in the process of deficit grants-in-aid system. It is ironical that despite empowerment and valuable contribution, in the beginning of every new institution or stream of a college, both mental and financial preparation is a must. In case of Rangia College although mental strength was very high, financial position was not so sound to the expectation. It is regret to mention here that Science stream was started even without a laboratory of respective department. In the beginning, only theory classes were held. But within less than one year of time, laboratories were constructed viz. for Physics, Zoology, Botany and Chemistry department. But the main challenges stood before the college authority i.e. to equip the laboratories, which needed huge amount of financial involvement. The college authority would surely admit the helping hand extended by M/S Appichem Enterprise, Guwahati when most of the laboratory equipments they provided in credit and as a result of that, students did not suffer at all in want of an equipped laboratory. But to have a fully equipped laboratory was not an easy task at that initial stage.

Rangia College Science Development Committee (RCSDC) is the premier scientific organization of the college and the locality as a whole, which was formed in 1989. The committee was formed with Dr. Apurba Kr. Goswami, Head of the department of Zoology as President and Dr. Pradip Thakuria, Associate Professor of the department of Zoology as Convenor & Secretary in 1989 just to gear up the developmental processes in the college authority level and for proper correspondence with Gauhati University and Govt. of Assam.

The department must take the privilege to appreciate Dr. Pradip Thakuria and Dr. Syed Abdur Razzak, for their tireless, dedicated services to the department. It is pertinent to mention here that Major course in Zoology was introduced from the year 1995 where two students appeared in the B.Sc. final examination in 1998

accordingly and both the students secured Major with high second class marks, thereby yielded cent percent achievement in the very first batch. In the last decade, the department has made all round progress and acquired a position. It offers specialization in two disciplines of Major in Zoology. These special papers are 'Cell Biology', 'Physiology' and 'Wild-life Management'. The department also wants to appreciate Dr. Syed Abdur Razzak, Dr. Prem Kishan Singha and Imdad Ali for rendering their special services for special papers. The department has five experienced and efficient faculty members, capable of imparting quality education. Some of them have social standing in diversified fields besides being successful teachers. By and large, the teachers have been serving the department with a missionary zeal. Every year, the department could retain Major position under Gauhati University right from the first batch in 1998. The department of Zoology was established with an objective to produce quality students equipped with moral spiritual, aesthetic values to face the challenges of life. In the year of 2003, the department touched the glorious peak when Miss Barnali Sarma secured 1st class with distinction marks in zoology under Gauhati University. After completing M.Sc in Biotechnology, she is doing Ph.D in North Eastern Hill University, Shillong. In 2010, four Major students secured 1st class and other four got 2nd class. It is quite apparent that the department is not able to produce sufficient quantity of students, yet it believes that the results were quite satisfactory and encouraging to the new department so far as the qualities of the students admitted as well as departmental infrastructure are concerned. But the department is by now nearly well equipped and quite a good quality students are being attracted to it and it is apparent that they will bring laurels in the years to com~. The department always believes that success may come at a snail's pace but once it comes, the thrill that it brings it is perennial.

The department has undertaken some project works for not only to inculcate the students about new information but also how to do research works and to innovate new dimension of knowledge and to explore in the area of zoology. More emphasis is attributed in the study of 'Biodiversity' as we all know that Northeastern region has been recognized as one of the hot spots in the field of Biodiversity. The department takes pride to mention here that the faculty members are involved in research of their respective fields.

The Head of the department Dr. Apurba Kr. Goswami has been awarded Ph.D. from Gauhati University in the year 2009 under the renowned Ichthyologist Dr. Amallesh Dutta. The topic of the research work was "*A study on eco-biology of certain commercially important prawn of Assam*". He has been awarded UGC Teachers Fellowship for completing the Ph.D. work under Xth plan. A fish was collected from the Rangia College campus fishery. A team of Zoologists, comprising Dr. M.M. Goswami, Professor of Gauhati University and programme coordinator of UGC-SAP (DRS) project, its Project Fellow Arunav Barthakur, after a thorough taxonomic investigation found the species of fish to be a South American Sailfin catfish of Amazon river region. The team of scientists identified the fish as '*Liposarcus multiradiatus*' of the family - Loricariidae, sub-family - Hypostominae, order Siluriformes, class- Osteichthys, sub-class- Actinopterygi. Dr. Apurba Kr. Goswami, Head of the department of Zoology was one of the members of the scientist

group.

Dr. Syed Abdur Razzak, Associate professor of the department has been awarded Ph.D. from Gauhati University under the guidance of renowned scientist Dr. D.K. Sharma. The topic of the research work is "Antitumor activity of copper complex BRH₂ on Dalton's Lymphoma". He has also completed one Minor Research Project entitled: "Antitumor activity of copper complex BRH₂ on Dalton's Lymphoma on 2004".

Dr. Prem Kishan Singha, lecturer has been awarded Ph.D. degree from Gauhati University on 15th November, 2003 and the research work entitled "Cost effectiveness of fishing gears used in the beel fisheries of Assam".

The college authority has handed over the sericulture garden to the department and now onwards the garden will be under the supervision of the department and has been developed as "***Biodiversity Study Centre***". The department has attributed all technical matters related to the Biodiversity study for practical implication.

Infrastructure

BUILDING

Total built up area of the department is around 144.60 sq.m consisting of the following:

1. One Faculty Room with Computer facility
2. One Laboratory for HS/TDC General Students
3. One Laboratory for TDC I and II yr. Major Students
4. One classroom cum Laboratory for TDC III yr. Major And General Students.
5. Biodiversity Study Centre (a natural habitat of 20.58 Acres area).

Departmental Library

1. Books and Journals in the Department: 400 (list is available with departmental library in-charge)

Journals : 70 Nos.

VISUAL AIDS

1. Charts : 30 nos. (Annexure- 1)
2. Models : 25 nos. including Human skeleton model (Annexure II)
3. Overhead Projector : 1 no.
4. LCD Projector : 1, common to all science streams.

(Students from all the science streams use it for seminar purpose, which is under safe custody of Department of Physics)

In 2009 the department got a special grant from **DST, New Delhi** for the renovation of the existing laboratories and out of which the department could be given a new look to facilitate the students for a systematic and proper practical works.

Info site:

“**Info site**”, an information centered board has been established in the department through which some recent information related to biology has been provided at regular intervals for the benefit of the students in particular and the teachers in general.

Aquarium:

For aquatic captive experiment and project cum research work, ‘**Aquarium**’ numbers 6(Six) maintained in the department(Under NFDB Project)

Glass Jar for rare zoological species

It is adducible that a fish species is kept in a glass jar for further study, which is a South American Sailfin catfish of Amazon River origin. A team of scientists identified the fish as *Liposarcus multiradiatus*. The Head of the department was also one of the members of the team.

Newspaper display

A Newspaper display stand is maintained for newspapers.

Journal Stand

A journal showcase is also maintained properly for the benefit of the teachers and the students of the department. Besides two regular journals, some magazines, bulletins, journals, seminar proceedings, materials supplied in the orientation/refresher courses are also kept in the stand.

Laboratory

The laboratories are well equipped with all the necessary instruments for different experiments. Some of them are:

1. Colorimeter
2. Kymograph
3. Tissue Homogenizer
4. Centrifuge
5. Hot plate
6. Digital pH meter
7. Microscopes (simple & compound)
8. Serological water bath
9. Projector (overhead)
10. A well stocked Museum
11. Rotary Microtome
12. Hot air ovens
13. Chromatography facility
14. Camera
15. Binocular
16. Dissecting Microscope
17. Thermometer
18. Incubator
19. Ganong Respirometer
20. Max. & Min. Thermometer
21. Binocular Microscope
22. Desicator

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|-------------------------|-----------------------------|
| 23. Luxmeter | 24. Electric Oven |
| 25. Electric Hitter | 26. Automyzer |
| 27. Refregerator | 28. Altimeter |
| 29. Hygrometer | 30. Vortex Electrical Mixer |
| 31. Soil Moisture Meter | |

Following materials are received from DST, New Delhi in 2010.

1. Hot Air Oven
2. Rotary Microtome Preision
3. UV-VIS- Spectrophotometer
4. Water Bath (double walled)
5. Binocular Microscope

Also some photographs of some Great Scientists are available in all the labs (including teachers' sitting room), who devoted their lives for upliftment of Biology.

Museum

To provide preliminary knowledge about different animal diversity, a well-stocked museum is maintained in the department. Different species of different animal groups representing all phyla of Invertebrate and all classes of Vertebrate are kept in respective selves. Staffed animals representing Mammals and Aves are also kept in the museum (Annexure III).

Osteology section

1. Skeletons of Varanus, Toad, Fowl. (both articulated & disarticulated).
2. Different bones of the aforesaid species.
3. One full size Human Skeleton.

BIODIVERSITY STUDY CENTRE

20.58 ACRE area has been developed as Biodiversity Study Centre to pursue advanced studies on natural and natural resources, ecosystem, habitat, social behaviour, ecological interactions etc. in natural habitat without disturbing and destructing the nature. The BSC giving ample opportunities to students and teachers of the department ample opportunities in pertaining research and studies on ecology and ecological components.

List of present faculty members

Name	Date of joining	Designation	Qualification	Specialization	Sex	Date of birth
Dr. Apurba Kr. Goswami(Retired)	01-10-1985	Head & Associate Professor	M. Sc., Ph.D, B. Ed., LL.B	Entomology	M	01-03-1961
Dr.Syed Abdur Razzak	01-02-1991	Associate Professor	M. Sc., Ph.D. PGDCA	Cell Biology	M	01-01-1964
Dr. Prem Kishan Singh	24-02-1995	Assistant Professor	M. Sc., Ph. D.	Animal Physiology	M	01-03-1968

List of the Bearers:

Name	Date of joining	Designation	Qualification	Sex	Date of birth
Moniram Deka	10-04-1992	Bearer	Matriculation	M	15-03-70
Akuntha Kakoti	03-09-1996	Bearer	Matriculation	M	01-05-74

Service profile of the faculty members

Dr. Apurba Kr. Goswami, Head & Associate Professor

- i) Date of Joining : 01 -10 -1985
- ii) Date of Approval of Post : 14 -07-1992
- iii) Date of Confirmation of Service : 14 -07-1994
- iv) Date of Senior Scale : 14 -07-1998
- v) Date of Selection Grade Scale : 14-07-2003
- vi) Date of Associate Professor : 14-07-2006

Before joining as lecturer in Rangia College, joined as school teacher in the Kendriya Vidyalaya, Upper Shillong, Meghalaya. One year nine months teaching experience in that school.

Dr. Syed Abdur Razzak, Associate Professor

- i) Date of Joining : 01-02-1991
- ii) Date of Approval of Post : 14 - 07-1992
- iii) Date of Confirmation of Service : 14 - 07-1994
- iv) Date of Senior Scale : 14 - 07-1998
- v) Date of Selection Grade Scale : 14-07-2003
- vi) Date of Associate Professor : 14-07-2006

Before joining as lecturer teaching as a school teacher.

Dr. Prem Kishan Singha, Assistant Professor

- i) Date of Joining (Non Sanctioned) : 24 -02 -1995
- ii) Date of Joining in regular post : 26 -06 -2014

Before joining as lecturer in Rangia College, joined as research scholar in a project entitled "Techno-Socio-Economic Feasibility Study of Beel

Fisheries of Assam” under the supervision of Dr. Subhash Ch. Dey, Professor in the deptt. of Zoology, Gauhati University. Later on he joined the same project under Dr. M.M. Goswami, Zoology deptt. of Gauhati University.

Outstanding of the department

The department of Zoology has produced so far about 64 numbers of 1st class in the Major course and the highest achievements were in year 2015 & 2016 when **Syeda Najnin Islam** in 2015 and **Miss Ritu Sharma** in 2016 got **1st class first** with distinction under Gauhati University.

The faculty members are involved in research work and project work

1. Dr. Apurba Kr. Goswami

(i) Awarded Ph.D. degree from Gauhati University. Topic of the research work: “A study on eco-biology of certain commercially important prawns of Assam”.

Supervisor of the research work: Dr. Amalesh Dutta, Professor of the department of Zoology, Gauhati University (Assam).

(ii) Supervisor of departmental project work.

3. Dr. Syed Abdur Razzak

(i) Awarded Ph.D. degree from Gauhati University. Topic of the research work: “**Antitumor activity of copper complex BRH₂ on Dalton’s lymphoma**”.

Supervisor of the research work: Dr. D.K. Sharma, Professor of the department of Zoology, Gauhati University (Assam).

(ii) UGC sponsored Minor Research Project entitled “Antitumor activity of copper complex BRH₂ on Dalton’s lymphoma” was completed on 31-08-2004 .

(iii) Supervisor of departmental project work.

1. Dr. Prem Kishan Singha

(i) **Awarded Ph.D.** Degree from Gauhati University on 15-11-2003. Topic of the research work: “**Cost effectiveness of fishing gears used in the beel fisheries of Assam**”.

Supervisors of the research work: Dr. M.M. Goswami, Professor of the department of Zoology and Dr. M. Kakati, Head of the department of Management, Gauhati University (Assam).

(ii) Minor Research Project:

- (a) Project on Morpho-ethology of Tapir in the Assam State Zoo (Gauhati University, 1991)
- (b) Effect of latex of *Calotropis gigantea* in some aspects of blood and tissue in white Rat, Gauhati University, 1992).
- (c) Techno-socio-economic feasibility study of beels of Assam (total 57 nos.) under World Food Programme, Project No. 2750.1 through AFDC, Assam.
- (d) UGC sponsored MRP entitled Cost effectiveness of fishing gears used in the bell fisheries of Assam”.

(iii) Supervisor of departmental project work.

The departmental faculty members are involved in different fields inside and outside the college:

Dr. Apurba Kr. Goswami

1. Founder President of Science Development Committee, Rangia College.
2. Ex. Asstt. Secretary –RCTU
3. Vice-president –RCTU
4. EX.-editor- **“Wall Magazine”**, Science Dev. Com., Rangia College.
5. Member- Rangia College Construction Committee
6. Member- “Planning & Development Committee.
7. Member- Committee.
8. Ex-GB member - Rangia College.
9. For the session 1994-95, Cultural in-charge of Rangia College Students’ Union.

10. Member, All Assam Voluntary Blood Donation Association, Gauhati Medical College (Blood Bank), Guwahati.
11. Member, Assam Sishu Siksha Samity, Bidya Bharati, Guwahati.
12. Member of RK. Memorial Trust, Guwahati.
13. Connected with Nagarik Samabay Bank Ltd.
14. Asst. General Secretary, Jonali Path Unnayan Samity, R.G. Baruah Road, Guwahati: 24.
15. Member, Guwahati Pain and Palliative Care Society, Uzan Bazar, Guwahati.
16. Life Member, IAPe' from the year 2004.
17. Life Member, Assam Zoological Society (AZS) from 2004..

Dr. Syed Abdur Razzak

1. **President:** Sarba Siksha Avizan- Rangia Municipality Board, Ward no-10 in 2005-06.
2. **Ex Treasurer:** Rangia College Science Development Committee.
3. **Associate Editor:** Proceedings on National Seminar on "Challenging Frontiers in Applied Zoology, Rangia College, Rangia
4. **Sub Editor :** Abstracts on National Seminar on "Challenging Frontiers in Applied Zoology, Rangia College, Rangia

Dr. Prem Kishan Singha

1. **Ex. Secretary:** Rangia College Science Development Committee.
2. **Life member:** Indian Science Congress Association.
3. **Life member:** Zoological Society of Assam.
4. **Editor:**
 - (i) Abstract, National Seminar on "**Challenging Frontiers in Applied Zoology**, Rangia College, Rangia.

(ii) Proceedings on National Seminar on ***“Challenging Frontiers in Applied***

Zoology, Rangia College, Rangia.

5. Supervisor:

Guided three Research scholars for **M. Phil. Degree** under different Universities of India.

(i) **Mrs. Prativa** Deka, HOD, Dept. of Zoology, Barbhag College, Borbhag, on the topic entitled ***“Studies on Butterfly Diversity and Conservation Biology in Kamrup District of Assam”*** Under **Vinayaka Mission University**, Salem, Tamil Naidu.

(ii) **Md. Imdad Ali**, Lecturer, Dept. of Zoology, Rangia College, Rangia, on the ***reference to its habitat use pattern in Rani Raserve Forest (Kamrup) Assam.”*** Under **Periyer University**, Salem, Tamil Naidu

(iii) **Abdul Quium Osmani**, Lecturer, Morigaon College, Morigaon, on the topic entitled ***“A Study on Diversity and conservation of Butterflies in morigaon district of Assam”*** Under **Periyer University**, Salem, Tamil Naidu

Orientation /Refresher Courses attended by the Faculty members:

Dr. Apurba Kumar Goswami

- UGC sponsored orientation course under Academic Staff College, Gauhati University held from 28th December, 1992 to 24th January, 1993.
- UGC sponsored refresher course in Zoology under North Eastern Hill University, Shillong, Meghalaya held from 8th March to 28th March, 1993.
- UGC sponsored refresher course in Zoology under Academic Staff College, Gauhati University held from 6th November, 1995 to 26th November, 1995.
- UGC sponsored refresher course on “Air Pollution Measurement & Control Engineering in the Department of Chemical Engineering”, Jadavpur University, Kolkata held from 26th November to 20th December, 2001.

- UGC sponsored refresher course on Environment studies in the University of Delhi from 17th January to 8th February, 2005.
- UGC sponsored Short Term Course Under Gauhati University During the period from 06-08-2012 to 12-08-2012.

Dr. Syed Abdur Razzak

- Attended UGC sponsored refresher course in Zoology at North-Eastern Hill University, Shillong, Meghalaya held from 23rd August to 12th September, 1995.
- Attended UGC sponsored orientation course at Jamia Millia Islamia University, New Delhi held from 10th June to 7th July, 1999.
- Attended UGC sponsored refresher course in Life Science at Visva Bharati University, Santiniketan held from 4th March to 24th March, 2002.
- Attended UGC sponsored refresher course in Zoology at Himachal Pradesh University, Shimla held from 22nd March to 10th April, 2004.
- Attended UGC sponsored Short Term Course at Gauhati University.

Dr. Prem Kishan Singha:

Orientation Programme/ Refresher course:

- Attended UGC sponsored **156th General Orientation Programme** organized by the M. J. College, Jalgaon (Maharashtra) under the auspices of Academic Staff College, **Savitribai Phule Pune University**, Pune during the period of **11/02/2015 to 10/3/2015**.
- **Attended Refreshers Course in life Science conducted by UGC – HRDC, University of Rajasthan, Jaipur from 27/11/2017 to 16/12/2017 .**

Goal of the Department:

Advancement, Development and Empowerment of the students by imparting quality education.

Mission of the department

To prepare the students to meet the challenges of modern world and to inculcate the spirit of leadership in different avenues.

Departmental Rules

1. All the students must appear in all the unit tests conducted by the department during an academic year.
2. If a student is unable to appear in the unit test owing to some unavoidable circumstances, he/she is to inform the Head of the department forthwith and simultaneously must be appeared in the same unit test later on for which date and time will be fixed by the teacher concerned.
3. Whether the names of the students who have not appeared in the unit tests or have not participated any programme conducted by the department can be forwarded to the principal, will be decided by the department itself.
4. Attendance in class is compulsory.
5. Subject to the availability of seats in the Major classes, transfer from other colleges may be allowed. Such candidates must apply to the principal through the Head of the department.
6. Departmental library has some important books and journals for reference. This library provides additional help to the students and teachers in their academic pursuits. Each needy and deserving student is allowed to borrow the books and journals only during the college hours and they have to return the same to the teacher concerned.
7. The department offers prizes, felicitation to the students securing the highest marks in the Major subject (degree level) and in Biology (zoology) at H.S. level.
8. Major students have to give seminar talks on some important topics related to their syllabus, which is a mandatory provision.

9. Departmental financial aid to the students is granted to the needy students in the form of books, counseling services and concession for excursion etc.
10. The students particularly the Major students have to participate through their writings in the '**Wall-Magazine**' of Rangia College Science Development Committee.
11. Any violation of rules, unsatisfactory progress, irregular attendance and showing discourtesy to the teachers in any form, adoption of unfair means during any examination (including unit test) are some of the offences which may make students liable for disciplinary action and if the Head of the department with the help of the faculty members fails to solve the problem, he is compelled to inform the principal forthwith for necessary action.
12. Students must follow the rules and regulations while performing practical in the laboratory. While handling the sophisticated instruments (microscope, oven, hot plate, water bath, colorimeter, binocular etc.) students are to follow the instructions of the concerned teachers.
13. The academic calendar of the college reflects the commitment of the department towards maintaining healthy academic atmosphere.
14. Continuous assessment of the students will be done by the department through regular tests, seminars, projects, group discussion and assignments. The marks secured by the students at these assessments will be taken into consideration at the time of ranking the internal assessment grade.
15. Projects, study tours like excursion etc. and fieldwork are considered compulsory for the students of degree classes.
16. The department strongly believes that a correlation between the efforts of the teachers and the guardians benefits a student most. Therefore the guardians/parents are expected to be co-operative with the department by:
 - (i) Being constantly touched with the department with a view to improving their performance.

(ii) Providing valuable suggestions to the Head of the department and the teachers for further improvement.

Constructive suggestions from the guardians and well-wishers are always welcome.

Vision of the Department

(1) The department of Zoology is imparting diverse education related to various aspects of fauna and Bio-diversity with a vision to establish the department not only as a centre of excellence but to create it as a “Model Institution” in the regional level.

(2) In order to achieve the aforesaid goal, the department has already made a project to establish a “Bio- Informatics Centre” which may cater to the needs of the teachers, students, research-scholars and public in general to up date themselves in the recent happenings and findings in the field of Zoology in regional, national and global level.

(3) The Department of Zoology also has a vision to start P.G. classes in Zoology by scientifically exploiting human resources and the information, .potentialities and well-equipped laboratory already established.

(4)The Department of Zoology is also having a vision to utilize the College fishery to establish a source of income generation after scientifically designed and utilized modern technology.

(5) The Department of Zoology is also having a **VISION** to establish a permanent “Mushroom Cultivation Centre” in collaboration with Department of Botany not only to guide the young generation to take it as an entrepreneurship but also to set up a major income generating source.

(Dr. Abdur Razzak)

Head, Department of Zoology