



# **St. Xavier's College (Autonomous)**

(Recognized as “College with Potential for Excellence” by UGC & Accredited at A<sup>++</sup> grade with CGPA of 3.66/4 in IV Cycle by NAAC)

**Palayamkottai – 627 002**

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## **ANNUAL REPORT 2023-2024**

### **DEPARTMENT OF ZOOLOGY**

The Department of Zoology had its Association Inauguration on 19.07.2023. Over 180 students of the department attended the inauguration ceremony. Dr. K. Marimuthu was the resource person and he delivered a special lecture on “The usage of MS-Excel for statistical analysis highlighting its significance” and demonstrated the functioning of descriptive statistical options. On 07.09.2023, students of II M.Sc. Zoology accompanied by Dr. T. Pushpanathan and Dr. S. Mabel Parimala went on a one-day education tour to Keezhadi Heritage Museum, Sivagangai and Instrumental Facility of School of Biological Sciences, Madurai Kamaraj University, Madurai as a part of their Cell and Molecular Biology & Evolution Practical curriculum. On 15.09.2023, II B.Sc. Zoology students visited Manapad, Punnaikayal, and Melaputhukudi regions as a part of their Ecology Practical Course accompanied by Dr. R. SanthaKumari and Dr. K. Sahayaraj. The students were exposed to assessment procedures on pollution and studied the coastal, estuary, and terrestrial ecosystems, especially analyzing the physico-chemical parameters of water.

The Zoology Association organized a special lecture on 21.09.2023 at 11.45 a.m. in the UG lab. Dr. M. R. Sudhakaran, Head & Associate Professor, Department of Zoology, Sri Paramakalyani College, Alwarkurichi, Tenkasi addressed on the “Role of Bats in Environment Sustainability”. He highlighted the crucial roles played by bats in maintaining environment through various ecological functions like pollination, seed dispersal, insect control, nutrient cycling, ecosystem balance, economic value and scientific research. On 14.11.2023, an online quiz was conducted in view of World Diabetes Day in which around 100 participants attempted the quiz. On 28.11.2023 & 29.11.2023, the Department of Zoology in association with the Department of Botany organized a two-day National Workshop on “Cell imaging and cytological

techniques using bright field, fluorescence and phase contrast microscopy” sponsored by Incise Infotech Pvt. Ltd. The workshop had 35 participants from 11 colleges.

On 14.12.2023, the Zoology Association conducted an invited lecture at 11.45 a.m. Dr. K. Mallika, Head & Professor, Department of Basic Principles of Medicine, Siddha Medical College, Tirunelveli gave a special talk on “For a Prosperous and Healthy Life”. In her address, she pointed out the importance of Siddha in mitigating diseases. She highlighted the mention of ancient texts advocating for the protection of human health and longevity based on dietary principles. On 15.12.2023, 14 II M.Sc. Zoology students embarked on a field visit to the Central Salt and Marine Chemicals Research Institute-Algal Research Station (CSMCRI) and Central Marine Fisheries Research Institute (CMFRI) in Rameshwaram. The journey provided students with invaluable insights into marine research and seaweed production.

On 24.01.2024, the department conducted ZOOFEST 2024, an inter-collegiate competition. 65 students from 7 neighboring colleges participated in various events, viz. elocution, essay writing, model making, poster making, specimen collection, quiz and paper presentation. Students of S.T. Hindu College, Nagercoil won the overall championship with a rolling trophy for this academic year, 2023-2024. On 30.01.2024, the Department of Botany and Department of Zoology in association with the Placement Cell of SXC organized ‘Career Guidance for Outgoing Students of Life Sciences’ in Botany UG Lab from 12 noon to 1.30 p.m. Mr. Injamamulhaq, the CEO and Founder of IMCI Universe Private Limited, Tirunelveli gave a talk on “Scope of Medical Coding”. He highlighted the need and demand for life science graduates in the medical coding industry. All the final-year students of the Botany and Zoology department participated in this event.

On 15.02.2024, the department arranged a one-hour guest lecture for the II B Sc., I M Sc., and II M Sc. Zoology students in the UG Zoology Lab at 3 p.m. Mr. V. Edwin Joseph, Former Officer in charge, Library and Documentation Division, CMFRI, Kochi outlined the framework of the fisheries department in India, and the various fisheries institutes working for the livelihood enhancement of the fishermen community. He issued his monthly magazine *Aquaculture Spectrum* to the students, and contributes many of his books to the department

library for reference. V. Kalai Selvan (22UZO137) thanked the speaker. M.K. Shriram (22UZO101) hosted the lecture.



On 21.02.2024, a one-day National Conference on “Biodiversity Restoration: Current Trends and Emerging Opportunities” with the theme of restoring biodiversity for the revival of life was organized by Dr. T. Elizabeth and Dr. J. Ronald. The technical sessions started with the keynote address by Dr. T. R. Vinod, Programme Director, Centre for Environment and Development, Trivandrum, Kerala, who spoke on ecosystem restoration for the people, the planet and the climate, followed by three plenary lectures by Dr. V. Deepak Samuel, Scientist-E, CMR- Conservation of Coastal and Marine Resource Division, National Centre for Sustainable Coastal Management, Chennai, who talked on the evolution, ecology and ethology of cephalopods. Dr. K. Diraviyaraj, Associate Professor, Suganthi Devadason Marine Research Institute, Tuticorin, pondered on the restoration of coral reefs and sea grasses of Gulf of Mannar. Dr. L. Ranjith, Senior Scientist, Marine Biodiversity and Environment Management Division, Tuticorin Regional Station, ICAR-CMFRI, Thoothukudi focussed on the way forward in Indian jellyfish research. Over 210 from 18 colleges attended the conference.

On 27.02.2024, the Entomology Practical curriculum industrial visit to Agricultural College and Research Institute, Killikulam, led by Dr. T Pushpanathan and Dr. T Elizabeth, marked an enriching experience for the III B.Sc. Zoology students. The visit aimed to provide hands-on exposure to the practical aspects of entomology, emphasizing its applications in agriculture and research. On 29.02.2024, the Zoology Association Valediction of Zoology Association was arranged. Mr. N. Sridharan, Ecologist, Kalakad Mundanthurai Tiger Reserve, Tirunelveli gave a special talk on “Wildlife and its Conservation in Kalakkad Mundanthurai Tiger Reserve”.

### **Students Activities**

On 30.06.2023, the Government of India, Ministry of Youth Affairs and Sports, Nehru Yuva Kendra - Tirunelveli conducted District Level Yuva Utsav 2023 - India @ 2047 at St. Xavier's College, and the following students from the department actively participated in various events. M. K. Shriram (22UZO107) in Young Writer's Talent Hunt - Poetry, V. Suresh Murugan (22UZO116) in Young Artist Talent Hunt - Painting, J. Aishwarya (22UZO120) and V. Kalai Selvan (22UZO137) in Declamation - Speech. On 28.07.2023, St. Xavier's College conducted SXC@100 competitions, Elocution Tamil / English, and Essay writing Tamil / English in which, M. Subalakshmi (23PZO104) won the third prize in Essay writing English.

On 11.08.2023, in the 101<sup>st</sup> SXC Sports Day C. Kasthuri (22UZO125) won two prizes SECOND place in 400 m for women and SECOND place in shotput for women. On 20.08.2023, J. Jeyapal (21UZO132), G. Mariappan (21UZO146) and E. Esakkiraveen (21UZO143) participated and finished the 10 km Thisaiyanvilai marathon for the awareness of "Maram Valarpom Mazhai Peruvom" held at Sri Sudalai Andavar Temple, Thisaiyanvilai. On 26.08.2023 and 27.08.2023, C. Kasthuri (22UZO125) represented Falcon Athletics Academy and won three prizes: First place in shotput, Third place in 100 m, and Second place in 4x100 m relay, in the 24<sup>th</sup> Nellai District Junior Athletics Championship 2023 organized by Nellai District Athletic Association at Anna Stadium, Palayamkottai.

On 29.08.2023, over 13 students of B.Sc. Biotechnology from Thulasi College of Arts and Science for Women accompanied by two faculty paid a visit to the Department of Zoology and learned the usage of instruments from the department's bio-instrumentation facility and specimens from the department's museum. On 04.09.2023, XI and XII grade students of Oasis Matriculation Higher Secondary School, V.M. Chatram, Tirunelveli visited the Department instrumentation facility and museum. On 09.09.2023, the college arranged a Parents Teachers Meet in which over 70 of our students' parents participated and engaged in a discussion of their children's progress, and exchanged insights and thoughts about their children's academic progress.

On 15.09.2023, two PG students D. Suganya (22PZO110) and D. Revathy (22PZO111) attended a one-day workshop on "Spirulina cultivation and its health benefits" organized by the

Department of Biotechnology, Arulmigu Pannirupidi Ayyan College of Arts and Science, Vagaikulam, Tirunelveli. On 21.09.2023, Rajesh (21UZO108) won the third prize in poster presentation event in the inter-collegiate department festival “Biowiz 2023” held in the Department of Botany, St. Xavier’s College, Palayamkottai. On 24.09.2023, students of II B.Sc. Zoology organized a one-day camp in Puthukulam village, Tirunelveli as a part of their STAND outreach program.

From 13.11.2023 to 18.11.2023, two MSc students R. Ancy (22PZO108) and M. Krishna Dharshini (22PZO109) underwent a 6-day internship training on “Cell culture techniques and in vitro anticancer activity” in Avigen Biotech Research Laboratory, Chennai. On 30.11.2023, M. K. Shriram (22UZO101) received a grant of Rs. 2500, a Merit Endowment Scholarship of Manner Pulithevan from MS University, Tirunelveli for securing the second rank in the I B.Sc. Zoology University examinations for the academic year 2022-2023.

On 06.12.2023, in the International Human Rights Day 2023 competitions organized by AICUF of St. Xavier’s College, the following students won prizes: S. Bhuvanesh Kumar (21UZO110) - First Prize in Cartoon Contest, Pathimuhu Pakumitha (21UZO121) - Second Prize in Cartoon Contest and R. Deva Kirubai - Third prize in Cartoon Contest (21UZO103), and R. PonRanjani (21UZO102) - Third Prize in Drawing.

On 28.12.2024, Suvarna (21UZO106) won the Best Poster Award in the one-day International Seminar on “The Recent Trends in the Role of Microbiota in Human Health and Diseases” organized by P.G. & Research Department of Microbiology, Sadakathullah Appa College, Tirunelveli.

On 12.01.2024, in the Inter-Departmental Competitions - INDECO@2023 held from 04.12.2023 to 12.01.2024, students won the following competitions: S. Yasmin (22PZO117) first prize in Tamil creative writing, S. Yasmin (22PZO117) first prize in Tamil short story writing, C. Maharasis (23PZO108), S. Abitha (23PZO116) and S. Savitha (23PZO120) second prize in origami, a team of 20 students won the first prize in cultural procession with a cash prize of Rs. 2000 and Dr. S. Mabel Parimala third prize in staff solo singing. On 13.01.2024, in the Pongal Day Celebrations, the students of the department won the first place in Rangoli competition (M. Srimuthulakshmi (22PZO106), D. Revathy (22PZO111), D. Suganya (22PZO110), S.

Thangavalli (21UZO101), G. Murugeswari (21IZO111), M. Kaviyaselvi (21UZO119), C. Maharasi (23PZO108), Albina (23UZO101)), and second place in hurdles competition (M.S.Rajani (21UZO113)).

On 20.01.2024, parents meeting was held in the Department of Zoology and mark statements of Odd Semester 2023 Exams were issued to the students. On 27.01.2024 & 28.01.2024, students of the Zoology Department participated in Bird Census organized by the Tamil Nadu Forest Department. On 02.02.2024, an online quiz was conducted on “World Wetlands Day” in which 101 participants attempted the quiz. On 04.02.2024, an online quiz was conducted on World Cancer Day in which 113 participants attempted the quiz. On 10.02.2024, 2019-22 UG Batch and 2020-22 PG Batch students received their graduation in the 97<sup>th</sup> Convocation Ceremony. The graduates and their parents visited the department, met the professors, enrolled themselves as alumni, and relished their joyful golden memories on the campus.

On 12.02.2024, R. Ancy (22PZO108) won the third place in paper presentation in the one-day National seminar on "Exploring the essence: Advances in Life Sciences" organized by the Department of Zoology, Sadakathullah Appa College, Tirunelveli. On 12.02.2024, M. Madasamy Madhavan (22UZO134) won second place and M. Prakash (22UZO118) won third place in the 5 km Marathon held for creating "Road Safety Awareness" by the Department of Police, Thoothukudi District. On 16.02.2024, 8 students participated in the 'National Seminar on Health and Hygiene' organized by the Department of Zoology, Sarah Tucker College, Tirunelveli where S. Rajesh (21UZO108) won second place in oral presentation and A. Joshua Arul Rocco (21UZO136) won the first place in the poster presentation. From 15.02.2024 to 17.02.2024, students volunteered in the 14<sup>th</sup> edition of Tamirabharani Waterbird Count, conducted every year to spot and document domestic and migratory waterbirds visiting the water bodies of Tirunelveli, Tenkasi and Thoothukudi districts. Their participation contributed to the conservation and betterment of cherished ponds and their diverse avian inhabitants.

On 21.02.2024, MAX forum of St. Xavier's College conducted MAX FEST 2024 competitions and the following prizes were won by the students. First prize in group singing (M.

K. Shriram (22UZO101), M.Divya (22UZO145), A. Shunmugathai (22UZO147), N. Ramalakshmi (22UZO147), Anslin (22UZO109), Mercy (22UZO111), M. Kayathri (22UZO119), Suresh Murugan (22UZO116)), second prize in poem tamil (M.K. Shriram (22UZO101)), third prize in essay writing tamil (KalaiSelvan (22UZO137) and third prize in quiz (K. Afrin Faeza (22UZO105), G. Arumuga Surya (22UZO139), C. Rajathi (22UZO107)). On 28.02.2024, N. Ramalakshmi (22UZO148) and M. Divya (22UZO145) won the second place in science model display, G. Arumuga Surya (22UZO139) and K. Afrin Faeza (22UZO105) won the third place in science model display, and M. Subalakshmi (23PZO104) and G. AlaguParvathi (23PZO115) won the third place in science quiz competition conducted by Department of Physics commemorating the National Science Day Celebrations. On 29.02.2024, A. Joshua Arul Rocco (21UZO136), III B.Sc. presented a paper and won the third prize in oral presentation at the 2<sup>nd</sup> International conference on “Insects, Microbes and Environment” at Loyola College, Chennai.

**TABLE.8.a . PAPERS PUBLISHED IN JOURNALS (2023.2024)**

S. NO	Name of the Teacher	Name of the Department	Title of the Paper	Name of the Journal	Volume No/ Issue No/ Page No /year	ISSN No. / e.ISSN No.	Cited in Web of Science / Scopus Indexed/UGC Approved / Not Found in UGC.CARE List	National / International	Impact Factor	Month & Year of public ation
1	Dr. P. Selvaraj	Zoology	Insecticidal Mechanism of Botanical Crude Extracts and Their Silver Nanoliquids on <i>Phenacoccus solenopsis</i>	Toxics	11(305):1.19 DOI: 10.3390/toxics11040305	ISSN: 2305.6 304	Yes indexed within <a href="#">Scopus</a> , <a href="#">SCIE (Web of Science)</a> , <a href="#">PubMed</a> , <a href="#">PMC</a> , <a href="#">Embase</a> , <a href="#">CAPlus / SciFinder</a> , <a href="#">AGRIS</a> , and <a href="#">other databases</a>	International	4.6	March 2023
2	Dr. P. Selvaraj	Zoology	Composition characteristics of the Mitochondrial encoded COX1 gene of Triatominae (Heteroptera: Reduviidae)	Biological Forum – An International Journal	15(6): 636.642	0975.1 130	Yes indexed within <a href="#">Scopus</a> , <a href="#">SCIE (Web of Science)</a> ,	International		June 2023
3	Dr. P. Selvaraj	Zoology	Role of <i>Pityrogramma calomelanos</i> (L.) Link in dietary and nutritional indices of <i>Spodoptera litura</i> (F.) (Lepidoptera: Noctuidae). <i>Journal of Biopesticides</i> ,	Journal of Biopesticides	16(1): 01.08. DOI: <a href="#">10.57182/jbiopestic.16.1.01.08</a>		Yes indexed within <a href="#">Scopus</a> , <a href="#">SCIE (Web of Science)</a> ,	International		June 2023



4	Dr. P. Selvaraj	Zoology	Pathogenicity of native <i>Beauveria bassiana</i> (Balsamo.Crivelli) vuillemin isolate on <i>Dysdercus cingulatus</i> (Hemiptera: Pyrrhocoridae)	<i>J. Journal of Biopesticides,</i>	<b>16(1):</b> 38.44. <b>DOI:</b> <b>10.57182/jbiopestic.16.1.38.44.</b>		Yes indexed within <a href="#">Scopus</a> , <a href="#">SCIE</a> ( <a href="#">Web of Science</a> ).	International		June 2023
5	Dr. P. Raja	Zoology	Isolation and Characterization of Antagonistic Bacteria from the Gut of <i>Lampito mauritii</i> (Kinberg, 1866). I	Indian Journal of Science and Technology	17(2): 194.203. <a href="https://doi.org/10.17485/IJST/v17i2.2765">https://doi.org/10.17485/IJST/v17i2.2765</a>		Web of Science  UGC approved	National		Jan 2024
6	Dr. S. Mabel Parimala	Zoology	An evaluation survey on wetland birds in Vagaikulam river basin of Tirunelveli District, Tamil Nadu, India	Romanian Journal of Biology	68(1.2): 51.62	2248.3 799	UGC approved	International	0.2	Jan 2024
7	Dr. S. Mabel Parimala	Zoology	Assessment of anti.cancer property of <i>Syzygium cumini</i> seed extract in MDA.MB.231 cell line	International Journal of Biosciences	22(6): 1.12	2222.5 234	Web of Science	International	0.3	June 2023
8	Dr. S. Mabel Parimala	Zoology	A preliminary assessment on wetland birds at Thamiraparani river in Tirupadaimarudur of Tirunelveli District, Tamil Nadu,	BioGecko	12(3): 5834.40	2230.5 807	Web of Science	International	0.2	June 2023

			India							
9	Dr. S. Mabel Parimala	Zoology	Screening of Syzygium cumini (L.) seed ethanol and hexane extracts for phytochemicals, antioxidant, and anti-diabetic efficacy: An in.vitro study	Uttar Pradesh Journal of Zoology	44(8): 56.66	0256.9 71X	Web of Science	International	0.5	May 2023
10	Dr.T. Elizabeth Thangamani Sunitha	Zoology	Bacterial Examination in Spoiled Fruits, its Isolation, Identification and Antibacterial Activity of Vinegar	International Journal of Science and Research (IJSR)	Volume 12 Issue 8, ,1296.1301	ISSN: 2319.7 064	UGC approved	International		August 2023
11	Dr.T. Elizabeth Thangamani Sunitha	Zoology	Bacterial Examination in Spoiled Vegetables, Its Isolation, Identification and Antibacterial Activity of Turmeric, Pongamia and Betel Leaf	International Journal of Life Science and Agriculture Research	Volume 02 Issue 09	ISSN (Print): 2833.2 091, ISSN (Online ): 2833.2 105 288.29 6	UGC approved	International		September 2023
12	Dr.T. Elizabeth Thangamani Sunitha	Zoology	Isolation of Bacterial Colonies from House Fly Mouth Parts	Uttar Pradesh Journal of Zoology	Volume 45, Issue 3, 2024; Article no.UPJOZ.27 96	ISSN: 0256.9 71X (P) ISSN: 0256.9 71X (P)	Web of science	International		

13	Dr. R. Azhagu Raj	Zoology	Effects of dietary probiotic Lactobacillus acidophilus and prebiotic Spirulina platensis on Haematological profile of Labeo rohita (Hamilton, 1822) fingerlings	South Asian Journal of Experimental Biology	Vol.13(5), pp.334.340	2230.9799	Web of ScienceIndexed	International	.	December 2023
14	Dr. R. Azhagu Raj	Zoology	Protease activity in Labeo rohita fingerlings fed Lactobacillus acidophilus and Spirulina platensis.	Journal of Biodiversity and Environmental Sciences	Vol. 24, No. 1, p. 10.15	2222.3045	Web of ScienceIndexed	International	.	January 2024
15	Dr. R. Azhagu Raj	Zoology	Effect of probiotic (Lactobacillus acidophilus) and prebiotic (Spirulina platensis) Dietary supplementation on the growth performance and Biochemical composition of Labeo rohita fingerlings	International Journal of Biosciences	Vol. 23, No. 6, p. 135.145.	2222.5234	Web of ScienceIndexed	International	.	January 2024
16	Dr. R. Azhagu Raj	Zoology	A preliminary survey of arthropods in organic and inorganic paddy fields in Cheranmahadevi Taluk, Tamil Nadu, India	Journal of Applied Entomologist	vol. 4, no. 1, pp. 06–10	2583.1917	Indexed	National	.	February 2024

17	Dr. R. Azhagu Raj	Zoology	Growth performance of the Bombyx mori (Hybrid CSR2 x CSR4) using G4 and MR2 mulberry varieties	International Journal of Entomology Research,	Volume 9, Issue 2, Pages 66.70.	2455.4758	Web of ScienceIndexed	International	.	February 2024
18	Dr. R. Azhagu Raj	Zoology	Ethno.veterinary Practices in the Southern Districts in Tamil Nadu, India	Asian Journal of Research in Zoology	Vol. 7(1), 65–75.	2582.466X	Indexed	International	.	February 2024
19	Dr. R. Azhagu Raj	Zoology	Documentation of Ethno.veterinary Practices in Vellore District, Tamil Nadu, India	International Journal of Research and Analytical Reviews	Vol.11(1), pp.852.858	2348.1269	Indexed	International	.	February 2024
20	Dr. R. Azhagu Raj	Zoology	A Comprehensive Analysis of Acute Conjunctivitis in Tirunelveli district, Tamil Nadu, India	Indo American Journal of Pharmaceutical Sciences,	Vol.11(01), pp. 254.261	2349.7750	Indexed	International	.	February 2024

**TABLE.8.b – PAPERS PUBLISHED IN CONFERENCE / SEMINAR PROCEEDINGS (2023.2024)**

S. No	Name of the Teacher	Department	Title of the Paper	Title of the Proceedings	National / International	(Place, Publisher, Year, Page No.)	ISSN / ISBN No.
1	Dr. S. Mabel Parimala	Zoology	Phytochemical analysis and antibacterial activity of <i>Terminalia catappa</i> (L.) leaf extracts	National Conference on Sustainable microbial bio.energy.present and future perspectives	National	Department of Microbiology, Sadakathullah Appa College, Tirunelveli, 2023, 1.10.	978.93.5890.9388
2	Dr. S. Mabel Parimala	Zoology	Phytochemistry and antibacterial activity of <i>Citrus aurantifolia</i> leaf	National Conference on Sustainable microbial bio.energy.present and future	National	Department of Microbiology, Sadakathullah Appa	978.93.5890.9388

			extracts	perspectives		College, Tirunelveli, 2023, 110.117.	
3	Dr. S. Mabel Parimala	Zoology	Assessment of antimicrobial activity of ethanol extract of <i>Ficus benghalensis</i>	National Conference on Frontiers in Life Science Research	National	Department of Microbiology, Sadakathullah Appa College, Tirunelveli, 2023	
4	Dr. R. Azhagu Raj	Zoology	தமிழ் இலக்கியப் பௌத்தப் பண்பாட்டில் தேரோட்டம்	பன்முக நோக்கில் தமிழ் இலக்கியங்கள்	National	பாளையங்கோட்டை, கற்க கற்பிக்க ஆய்விதழ், 2024, 25.28	ISSN 2347.1751

**TABLE 9. BOOKS / BOOK CHAPTERS PUBLISHED (2023- 2024)**

S. No	Name of the Teacher	Department	Title of the Books / Proceedings	Title of Book Chapters	Place, Publisher, Page No.	National / Internationa l	ISSN / ISBN No.	Month & Year of publica tion
1	Dr.R. Santha Kumari	Zoology	Introduction to Nano Biotechnology		An Introduction to Nano Biotechnology	International	978.93.5 757. 475. 4, Sep, 2023	