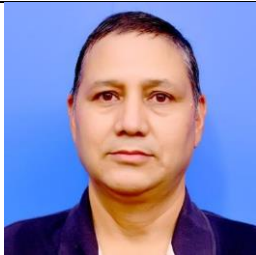


Curriculum Vitae

Full Name:	Dr. Rajendra Singh FARTYAL, F.R.E.S. (<i>डॉ. राजेंद्र सिंह फर्त्याल, एफ. आर. ई. एस.</i>)			
Designation:	Professor			
Department:	Department of Zoology			
Campus:	Birla-Chauras			
Telephone:	+91 1370 267530	Fax:	+91 1370 267530	
Mobile:	+91 9412356050			
Email	fartyalrs@gmail.com; rs.fartyal@hnbgu.ac.in			
Education Qualification:	Degree, University, Year > In 2001: Ph.D. ZOOLOGY . Thesis entitled " <i>Studies on the systematics and cytogenetics of Drosophilids of Kumaon region</i> ", under the supervision of Prof. B. K. SINGH, Cytogenetics Laboratory, Department of Zoology, DSB Campus, Kumaon University, Nainital, Uttarakhand, India. > In 1995: M.Sc. ZOOLOGY from the Kumaon University, Nainital, Uttarakhand, India > In 1993: B.Sc. BIOLOGY (Zoology, Botany & Forestry) from the Kumaon University, Nainital, Uttarakhand, India.			
Teaching Experience:	__20__ Years	Research Experience:	__25__ Years	
Research Interest and Fields of Specialization				
Research field: 1. Systematics, Cytogenetics, Molecular Phylogeny, Ecology, Evolution, pest and Biodiversity of family – Drosophilidae (Diptera- <i>Drosophila</i> [fruit fly]). Research interest: 2. Planning create useful website for taxonomy and identification of Drosophilidae (for online Species diagnosis). 3. We try to DNA sequencing & molecular phylogeny of all known and new species of Drosophilids of western Himalayan region.				
Honours & Awards				
1. Fellowship & Award: F.R.E.S. (Fellow of the Royal Entomological Society), London on 01.05.2019. 2. Visiting Associate Professor under the institute program to invite foreign guest researchers (Japanese Fiscal Years 2009) from July 1 st , 2009 to September 30 th , 2009 in The Institute of Low Temperature Science, Hokkaido University, Sapporo, JAPAN . 3. Invited as a resource person by Department of Zoology, Dr. Harisingh Gour Vishvidyalaya, Sagar for MOOCs SWAYAM Course , Annual Refresher Programme in Teaching (ARPIT) recording at EMMRC for National Resource Centre (NRC) in Zoology on 11 January 2019. <i>Two modules/presentations</i> entitled 'Population concepts and Metapopulation' and 'Allopatric and Sympatric Populations'. (Start Date 19/11/2018; End Date 28/02/2019; Enrollment End Date 15/01/2019)				
Member of Academic Institutions				
1. 2.				
Membership of Scientific Organizations				
1. The Indian Science Congress Association (Lifetime member) 2. The Entomological Society of Japan (B00109) 3. Royal Entomological Society, London, UK (3409) 4. The Entomological Society of India 5. The International Society of Zoological Sciences, CAS, China				

6. Vigyan Bharati, Uttarakhand [Devbhoomi Vigyan Samiti (DEVISA)] Lifetime membership

Research Supervision (No. of Ph.D. Degree Awarded/Submitted/Registered)

Awarded: 04

Submitted: nil

Registered: 04

Research Projects/ MoU undertaken

S.No.	Title of Research Project	Funding agency	Budget Rs.	Duration/ Year	Status
1.	"Faunistic studies on the systematics and cytogenetics of the Drosophilids of Garhwal region, India".	University Grants Commission New Delhi	7,61,945=00	01.02.2010 to 31.07.2013; 3.6 years	Completed

Administrative Experience

- **Micro-Observer** Assembly Election General Election 14.02.2022. Chaubattakhal/ Yamkeshwar
- **Assistant Centre Superintendent (Ph.D. Entrance Exam) Examination 2022** – Birla/Chauras Campus HNB Garhwal University, Srinagar Garhwal
- Assistant Supervisor in UPSC - CDS Exam II 2021 dated 14.11.2021 HNBGU Chauras Campus.
- Coordinator of Zoology information for IQAC team of SOLS HNBGU three campus 2021-24
- Member of Task force MoU with University of Haifa committee
- Member of Constitution day and Citizens Duties celebration committee 2019-20
- Member of Social media committee, HNBGU
- Member of NIRF committee 2019-2020
- Member of NPS committee, HNBGU
- **Sector Magistrate** Garhwal 02 Lok Sabha General Election AC – 37 Pauri 18.02.2019 to 12.04.2019.
- **Member of Re-scrutiny committee – 25.01.2019 re-scrutiny of B.Sc. Nursing / MBBS courses**
- **Assistant Superintendent (AS Exam) Examination 2018** – Birla/Chauras Campus HNB Garhwal University, Srinagar Garhwal
- **Joint Secretary** – HNB GU Teachers Welfare Society, Srinagar Garhwal May 2018-May 2020
- **Secretary** – HNB GU Teachers Welfare Society, Srinagar Garhwal 2022-2024

Scientific Visits Abroad/ International Collaboration

1. Visited in *The Institute of Low Temperature Science, Hokkaido University, Sapporo, JAPAN* as a **Visiting Associate Professor** under the Institute program invited foreign guest researchers program in Japanese fiscal years 2009 from July 1st, 2009 to September 30th, 2009.
2. Visited in MNHN Museum for Modern Taxonomy programme 2013-2014, under **Distributed European School of Taxonomy (DEST) course 'Zoological Nomenclature'** training program held in September 22-26th, 2014 at the **Muséum National d'Histoire Naturelle, Paris, France**.
3. Visited in **London School of Hygiene & Tropical Medicine (LSHTM)** in **ENTO '19** for attending International Symposium & Annual National Meeting organised by the Royal Entomological Society, London from August 20-22, 2019.

Collaborations International:

- Prof. Masanori J. Toda, Hokkaido University Museum, Sapporo, JAPAN.
- Dr. Jian-Jun Gao, Laboratory for Conservation and Utilization of Bio-resource, Yunnan University, Kunming, CHINA.
- Dr. Toru KATOH, Division of Biodiversity, Department of Biological Sciences, Faculty of Science, Hokkaido University, North 10 West 8, Kita-ku, Sapporo, Hokkaido 060-0810, JAPAN

Conference/Symposium/Workshop Attended during last five years (2015-2020)

International

1. Participate in the three days 4th Annual conference poster presented entitled “Celebrating taxonomy: red eyed insect” organised by the Indian Society of Evolutionary Biologists, ‘Revolutionizing Darwinian Synthesis: Fresh Perspectives and Future Challenges’ at Ahmedabad University from February 09-11, 2023.
2. Participate in the five days online conference & virtual ‘Annual General Meeting’ poster presented entitled “Journey of world Drosophilid’s Taxonomy” (<https://youtu.be/yzJLDrsF4s8>) organised by the Royal Entomological Society, London in **ENTO 21** from August 23-27, 2021.
3. Participate in the online workshop on “**The Grand Challenges in Entomology**” organized by Royal Entomological Society, London held on 21 and 22 July 2021.
4. Participate in the three days International Symposium & Annual National Meeting ‘Vectors of diseases’ paper presented entitled “Diversity and Distribution Pattern of Drosophilids (Diptera: Drosophilidae) along an Altitudinal Transect in North India” organised by the Royal Entomological Society, London at **London School of Hygiene & Tropical Medicine (LSHTM)** in **ENTO ’19** from August 20-22, 2019

National

1. Participate and presented a paper in one day **jk"V^{ah}; dk;Z'kkyk fgeky;h {ks=ksa esa xzkeh.k vkthfodk ds fofHkUu vk;ke 14 tqykbZ 2022 ¼gkbfczM ek;/e }kjk½ M^akslksfQyk lqtqdh ds fy, dhV fu;a.k mik;ksa ij ,d leh{kk ¼M^akslksfQyk% fMIVsjk½, organized by xksÇon cYyHk iar jk"V^{ah}; fgeky;h i;kZoj.k laLFkku ¼lk;kZoj.k} ou ,oa tyok;q ifjorZu ea=ky;] Hkkjr ljdkj dk ,d Lok;Ük"kklh laLFkku½ fgeky {ks=h; dsæ] eksy] dqYyw&175126] fgeky çns'k 14.07.2022.**
2. Participate in the five days “**Indian Drosophila Research Meeting 2021**”, presented an online poster (P56) on 15th December titled “Five Decades of Drosophilidae Taxonomy in leadership of Late Prof. (Dr.) J. P. Gupta, in India: A tribute”, (<https://youtu.be/jgcVxhrB9pU>) in the **InDRC '21** meeting organized by the Indian Institute of Science Education and Research Kolkata under the auspices of Indian Society for Drosophila Researchers on 13 – 17 Dec 2021.
3. Participate in the online workshop on “DNA Bar-Coding: A Challenge to Linnaeus Classification” organized by CytoGene Research & Development, Lucknow held on 22nd & 23rd of May 2021.
4. Participate in the webinar on “Principles & Practices of Animal Taxonomy: Classical & Molecular Approach” organized by Western Ghats Regional Centre, Zoological survey of India, Kozhikode – 673006, Kerala held on 24th August 2020.
5. One-week online training course on Bee Keeping and successful completion of E-Quiz organized by PG and Research Department of Zoology Khadir Mohideen College Adirampattinam-614701 Thanjavur District, Tamil Nadu from 19.05.2020 to 23.05.2020.
6. Participate in the two days national seminar on “Researches in Environment and Biosciences: Current Scenario and Future Perspectives” paper entitled “Preliminary Study of Drosophilids (Diptera, Drosophilidae) and their host plant preference in the subtropical and temperate forest of Central Himalaya” organized by D.A.V. (P.G.) College, Dehradun on June 22nd -23rd, 2018.
7. Participate in the two days national seminar on “Environment Health via-a-vis Human Welfare in Present scenario” paper entitled “Study on Invasive Fruit Pests *Drosophila suzukii indicus* & *Zaprionus indianus* and Possible Management Strategies in Garhwal Region, Uttarakhand”, organized by D.A.V. (P.G.) College, Dehradun on April 18th -19th, 2016.

Conference/Symposium/Workshop Organized during last five years (2015-2020)

Chairman/Convener/Organizing Secretary, Title of event, place, date, year

Publications during last five years (2015-2020)

Journals

1. Khali Sonali, Pragya Topal, and Rajendra Singh Fartyal: Impact of elevation on the distributional pattern of Drosophilid diversity (Drosophilidae: Diptera) from Mandakini Valley, Uttarakhand. *Environment and Ecology* **40 (3C)** pp1751-1756, ISSN 0970-0420, 26 August 2022. Link: <https://www.environmentandecology.com/volume-40-2022>
2. KHAN, M. Z., BHARDWAJ, A., KHALI, S., SATI, P. C., TODA, M. J., & FARTYAL, R. S. Morphological comparison between a pair of wing-pigmented and non-pigmented sibling species of the genus *Hirtodrosophila* (Diptera: Drosophilidae), with description of a new

- species from Western Himalaya. *Journal of Insect Biodiversity*, **34(2)**, 45–56. <https://doi.org/10.12976/jib/2022.34.2.4>; (Online: 2137-7612 Print: 2538-1318), Impact Score 0.46, 30 September 2022.
3. Khali, S., Khan, M.Z., Asha, K., Topal, P. and **Fartyal, R.S.** Biodiversity and molecular characterization of Drosophilids (Drosophilidae: Diptera) from Indian Himalayan region. In *Springer Journals-Proceedings of the Zoological Society, Kolkata*, (Proc. Zool. Soc.) Published online 18 August 2022, Doi: <https://doi.org/10.1007/s12595-022-00444-3> **Vol. 75 (3)** pp 269-282, E-ISSN 0974-6919; P-ISSN 0373-5893, 18 August 2022.
 4. Topal Pragma, Fartyal, R .S., and Khali Sonali. Exploring the Pest Behaviour of Drosophilids on basis of their Presence in fruit belt region of Uttarakhand along with observation of their ovipositor. *Journal of Mountain Research*, Vol. 17 (1) pages 83-91. P-ISSN: 0974-3030, E-ISSN: 2582-5011, DOI: <https://doi.org/10.51220/jmr.v17i1.11> June 2022
 5. Fartyal, R .S., Pragma Topal and Kishor Kumar. Status of derailing taxonomy and list of Indian taxonomists working on various taxa of Phylum Arthropoda. *Journal of Scientific Research*, Vol. 66 (3) pages 121-150. ISSN NO. 0447-9483 https://internet.bhu.ac.in/research_pub/jsr/Volumes/JSR_66_03_2022/17.pdf; April 2022.
 6. Kumar kishor, Pashupati Nath and **R. S. Fartyal**. Population Ecology of the Dipteran Fauna of the Nanda Devi Biosphere Reserve, Western Himalaya, India. *Journal of Environment and Bio-Sciences (J.Env.Bio-Sci.)*, (under Connect Journal) **Volume 35 (2)** Pages no. 115-125, **ISSN: 0973-6913/e-ISSN: 0976-3384**. https://connectjournals.com/toc.php?aid=%20R.%20S.%20FARTYAL%20&&bookmark=CJ-033001&&volume=35&&issue_id=02&&month=December&year=2021December2021.
 7. Sonali Khali, Mohd Zahier Khan, Akariti Sharma, Pragma Topal, **Rajendra Singh Fartyal**, A study on food preference of some species of *Drosophila* (Diptera: Drosophilidae) in natural and artificial conditions. *International Journal of Entomology Research*, **Volume 5; Issue 4**; Page No. 07-10, **ISSN: 2455-4758**; <http://www.entomologyjournals.com/archives/2020/vol5/issue4/5-3-39>; 27 June 2020.
 8. Toda Masanori J., Hans Banziger, Pradeep C. Sati, Rajendra S. Fartyal, Awit Suwito & Toru Katoh. Taxonomy and evolution of asymmetric male genitalia in the subgenus *Ashima* Chen (Diptera: Drosophilidae: *Phortica* Schiner), with descriptions of seven new species. *Zootaxa*, 4789 (1) : 1-54, / <https://doi.org/10.11646zootaxa.4789.1.1>; ISSN 1175-5326 (p), 1175-5334 (o) **IF 0.99, 2020**
 9. Bhardwaj, Asha; Khan, Mohd Zahier; Fartyal, Prachi; Sarswat, Manisha and **Fartyal, Rajendra Singh**. Drosophilid diversity (Diptera: Drosophilidae) from Shimla District, Himachal Pradesh. *Indian Journal of Entomology*, **81(1)**:82-86, ISSN: 0367-8288(Print) ISSN: 0974-8172 (Online) (DoI No.: 10.5958/0974-8172.2019.00026.9) **2019**
 10. Khan Mohd Zahier, Asha Bhardwaj, and **Rajendra Singh Fartyal**. Species Diversity and Ecology of Drosophilids (Diptera: Drosophilidae) of Poonch, Jammu and Kashmir, India, *Int. J. of Life Sciences*, Volume 6(2): 529-535, ISSN:2320-7817(P); 2320-964X(o); UGC Approved Journal No.48951 (old list). **2018**
 11. **Fartyal, R.S.**, Sarswat, M., Dewan, S., Fartyal, P. Morphometric analysis of wild-caught flies of *Drosophila* (Diptera: Drosophilidae) species: Altitudinal pattern of body size traits, wing morphology and sexual dimorphism. *Turkiye Entomoloji Dergisi* (Turkish Journal of Entomology) **41(45)**: 367-382 (DOI: <http://dx.doi.org/10.16970/entoted.331102>), ISSN 1010-6960; E-ISSN 2536-491X, **IF=0.388, 2018**.
 12. **Fartyal, R.S.**, Sati, P.C., Pradhan, S., Kandpal, M.C., Toda, M.J., M., Chatterjee, R.N., Singh, B.K., Bhardwaj, Asha. A review of the genus *Lordiphosa* Basden (Diptera: Drosophilidae) in India, with descriptions of four new species from the Himalaya region (Diptera, Drosophilidae). *Zookeys*, **688**: 49-79, ISSN: 1313-2989 (print); m1313-2970 (web: doi: 10.3897/zookeys.688.12590) publisher : Pensoft { <http://zookeys.pensoft.net>} **08.08.2017** **IF=1.546, 2017**.
 13. Pradhan, S., **Fartyal, R.S.** and Chatterjee, R.N. Checklist of Drosophilid species so far described and recorded from the Darjeeling areas, West Bengal, India. *Drosophila Information Service* (Norman Oklahoma, U.S.A.) Vol. **100**: pp 154-157. **2017**. (International, Indexed, Non Peer reviewed, ISSN 0070-7333).
 14. Sarswat, M., Sati, P.C., Dewan, S., **Fartyal, R.S.** Implying quantitative ecology of Drosophilid fauna as a tool for biodiversity assessment–A case study along altitudinal transect in the Garhwal region of Central Himalaya. *Tropical ecology*, **57(4)**: 637-647. ISSN 0564-3295 (**IF: 1.43**). **2016**.

15. Sarswat, M., Dewan, S. and **Fartyal, R.S.** Mitochondrial DNA sequence variation in Drosophilid species (Diptera: Drosophilidae) along altitudinal gradient from Central Himalayan region of India. *Journal of Genetics, (J. Genet.)* **95(2)**, 357-367. DOI:[10.1007/s12041-016-0646-x](https://doi.org/10.1007/s12041-016-0646-x) ISSN: 0022-1333(P), eISSN: 0973-7731(**IF: 0.672**). **2016**.
16. Manisha Sarswat, **Rajendra Singh Fartyal**, Pradeep Chandra Sati, Mukul Kandpal and Birendra Kumar Singh: Diversity and distribution pattern of drosophilids (Diptera, Drosophilidae) along an altitudinal transect in Uttarakhand and its implication in cytogenetics & molecular systematics study. *Journal of Entomological Research (j.ent. Res.)* **39(4)** : 311-322; DOI: 10.5958/0974-4576.2015.00038.9, ISSN:0378-9519(P); online ISSN: 0974-4576, **2015**
17. Pradhan, S. Sati, P.C., **Fartyal, R.S.**, Chatterjee, R.N., Sarswat, M., Kandpal, M.C. and Singh, B.K. *Drosophila curviceps* species-group (Diptera: Drosophilidae) from India, with description of a new species and redescription of a known species. "Proceeding of Zoological Society Calcutta & Springer. Vol. **68 (2)** pp. 178-183; DOI 10.1007/s12595-014-0121-8; ISSN 0373-5893 (**2015**).

Books

Paper Published in Edited Book chapter:

1. Topal, Divita Garg and **Rajendra S. Fartyal**. March 28th 2021. Fruit Flies (*Drosophila spp.*) Collection, Handling, and Maintenance: Field to Laboratory. In Open Access Book: "**The Wonders of Diptera - Characteristics, Diversity, and Significance for the World's Ecosystems**," (book edited by Dr. Farzana Khan Perveen) online published by IntechOpen Limited, London. DOI: 10.5772/intechopen.97014 (ISBN 978-1-83968-883-6). Available from: <https://www.intechopen.com/chapters/75974>
2. Fartyal, R. S., Sarswat, M. 2017. "Study on Invasive Fruit Pests *Drosophila suzukii indicus* & *Zaprionus indianus* and Possible Management Strategies in Garhwal Region, Uttarakhand", In: *Environment Health : Human Welfare in Present Scenario*. (eds. S. Kumar, S. K. Solanki, J.V.S. Rauthan, N.Pemola Devi), pp 199-210. Published by ABS Books, New Delhi (ISBN 978-9386088-15-4).
3. Kumari Asha, Khan, Z. Fartyal, R. S. 2017. Biodiversity of Insect in the Sal Forest of Manduwala Region, Dehradun, Uttarakhand. In: *Environment Health : Human Welfare in Present Scenario*. (eds. S. Kumar, S. K. Solanki, J.V.S. Rauthan, N. Pemola Devi), pp 78-85. Published by ABS Books, Delhi (ISBN : 978-9386088-15-4).

Total Number of Research Publications:

40+5=45

Collaborations (National/International):

- Emeritus Prof. Masanori J. Toda, Hokkaido University Museum, Sapporo, JAPAN.
- Dr. Jian-Jun Gao, Laboratory for Conservation and Utilization of Bio-resource, Yunnan University, Kunming, CHINA.
- Dr. Toru KATOH, Division of Biodiversity, Department of Biological Sciences, Faculty of Science, Hokkaido University, North 10 West 8, Kita-ku, Sapporo, Hokkaido 060-0810, JAPAN
- Dr. Subhash Rajpurohit, Room107, BLS Building, Biological and Life Sciences, School of Arts and Sciences, Ahmedabad University, Ahmedabad, Gujarat 380009, INDIA

Research achievements:

- 38 species new to science and 18 species new records first time from India – total 56 new drosophilids species described/undescribed from Uttarakhand, West Bengal, India (some unpublished data), details as below:**
08 species new to science and 08 species new recorded first time from India - RSF; 15 species new to science & 07 species new recorded first time from India – PCS;
07 species new to science & 03 species new recorded first time from India – Asha;
08 species new to science & 00 species new recorded first time from India – MZK

Total new = 56 new drosophilids

- We have five sequences for submissions to GenBank in NCBI with accession no. KF601930, KF601931, KF601932, KF601933, KF601934 of four different *Drosophila busckii*, *Drosophila immigrans*, *Drosophila melanogaster*, *Drosophila repleta* and *Zaprionus indianus*, Garhwal strains (India), respectively, Cytochrome oxidase subunit II (COII) gene, partial cds; mitochondrial (10- SEP-2013).
- We assessed genetic variations in three mitochondrial genes viz., 16S rRNA, cytochrome c

oxidase subunit I and II (COI, COII) in 26 drosophilid species collected along altitudinal transect from 550m to 2700m AMSL. Overall, 543 sequences were generated 82 for 16S rRNA, 238 for COI, 223 for COII with 21, 47 and 45 haplotypes for 16S rRNA, COI and COII genes respectively (03-Feb-2015).

GenBank accession numbers for drosophilids nucleotide sequences:

file 16S: KP730750 - KP730831 = 82

file COI: KP730832 - KP731069 = 238

file COII: KP731070 - KP731292 = 223