

Cytogenetics & Molecular Genetics

Prof. D. C. Gautam

This group is engaged in research on the cytogenetics of insect fauna of North western Himalayas. Different aspects under investigation include chromosomal organization, karyotype variation and behavior of chromosomes during different cytogenetic mechanisms. Genotoxic and cytotoxic effects of different fungicides and insecticides which were most frequently used in Himachal Pradesh were also investigated using mice as a system. The group at present has focused its research on the cytogenetics of Aphids' in order to ascertain the karyotype evolution, life cycle and genetic variation in aphids as well as their adaptability to different host plants. The group has been collaborating with European scientists and has been the first in characterizing the aphid karyotypes through recent banding techniques involving the use of restriction endonucleases. The group also provided the first cytological evidence of temperature control of male embryo viability in aphids, elucidating the occurrence of a particular holocyclic or anholocyclic life cycle in aphids. The findings have greatly helped the scientist in planning different strategies for the management of insect pests of horticulture and agricultural crops. At molecular level, the chromatic organization of holocentric chromosomes in aphids has been revealed using recent cytogenetics and molecular techniques and AT, GC sequences have been determined.

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Designation

Professor

Specialization

Cytogenetics &
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Dr. D. C. Gautam

Personal Information :

DOB: 16-11-1957

Qualifications: M.Sc. (Gold Medalist), M. Phil, Ph. D

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Teaching and Research Experience: 33 Years.

Awards: Best Researcher Award conferred by H. P. University. Shimla-5,
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Research Information:

Area of Research: Cytogenetics & Molecular Genetics

Research Publications:

Papers in Journal: 14 (7 International, 7 National)

Papers in Conferences: 60

No. of Ph. D. guided: 7

No. of M. Phil guided: 37

Project Information:

Research Projects completed: Nil

Research Project Ongoing: Nil

Conferences:

No. of Conferences/Workshops Organized: Nil

Conferences attended (National): 6

Conferences attended international): 1

Any Other:

Selected Publications: (5)

1. Manicardi, G. C.; Gautam, D. C.; Bizzaro, D.; Guicciardi, E.; Bonvicini, A. M. and Bianchi, U. 1991. Chromosome in Aphids: G, C, Alu I and Hae III Banding Patterns in *Megoura viciae*, *aphidae*). *Genome*, *34*: 661-665
2. Dutta, J. and Gautam, D.C. 1993. Chromosomes of Aphid Fauna from Northwestern Himalayas, India. *Cytologia*, *58*: 367-375
3. Gautam, D. C. ; Crema, R. and Bonvicini Pagliai, A. M. 1993. Cytogenetic Mechanism in Aphids *Boll. Zool.* *60*: 233-244.
4. Crema, R and Gautam, D. C. 1993. Temperature Control of Male Embryo Viability of the Aphid *Megoura viciae* . *Invertebrate Reproduction and Development*, *23* (2-3): 183-187
5. Gavrilo Zimin. A.; Stekolshchikov, A. V. and Gautam, D.C. 2015. General Trends of Chromosomal Evolution in Aphidococca (Insecta, Homoptera, Aphidinea + Coccinea) *Comparative Cytogenetics*, *9* (3): 335-422.