

ISSN 0253-7605

VOLUME 21 (NS) NUMBERS 1 & 2

JANUARY – DECEMBER 2020

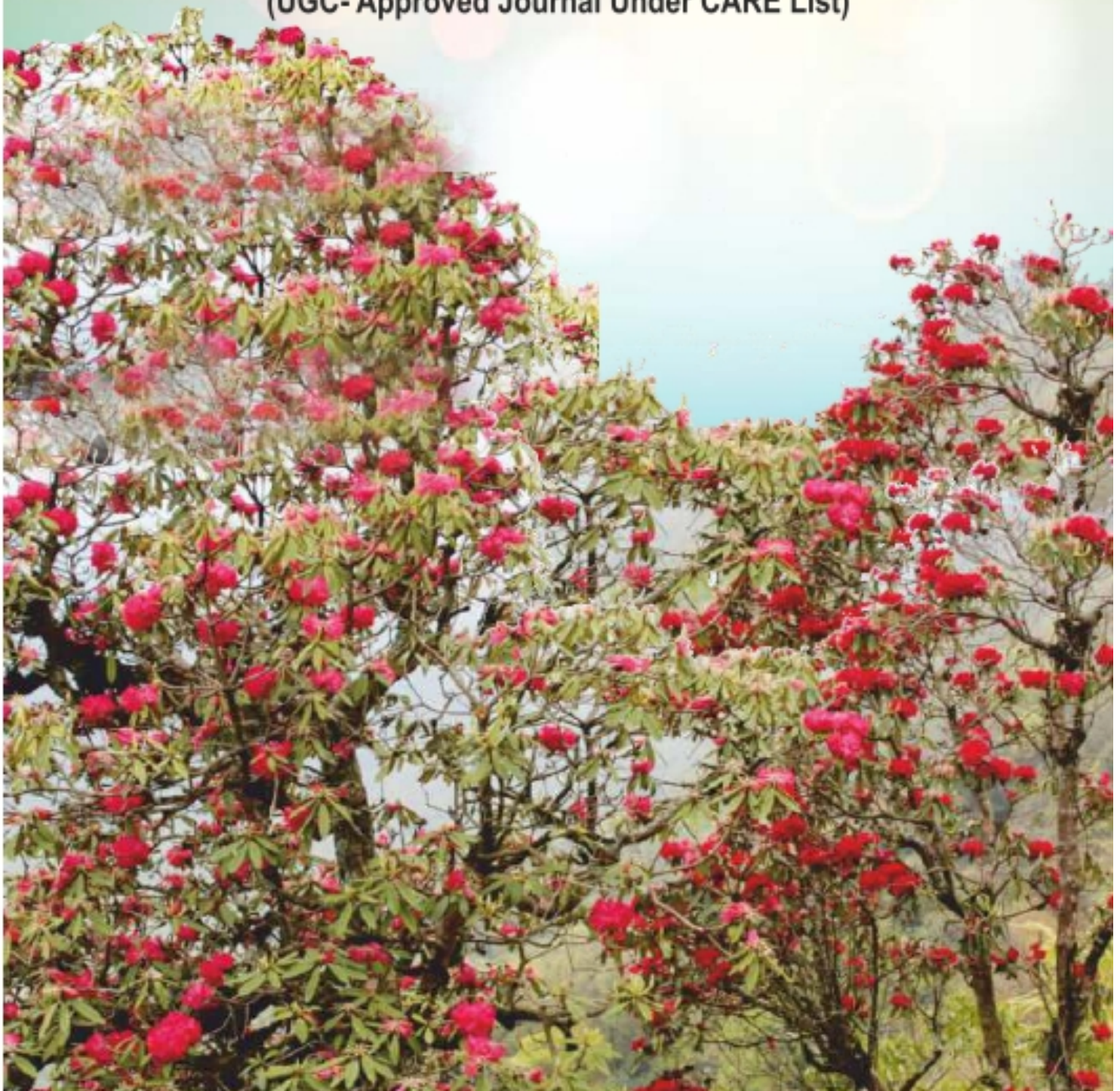
THE JOURNAL OF CYTOLOGY AND GENETICS

(UGC- Approved Journal Under CARE List)

Volume 21 (NS) Nos 1 & 2

The Journal of Cytology and Genetics

January – December 2020



THE JOURNAL OF CYTOLOGY AND GENETICS

CONTENTS

Comparative study on the effect of EMS treatment on production of secondary metabolites in <i>Andrographis paniculata</i> (Burm. F.) Nees N. ANITHA CHANDRAN and P. R. UNNIKRISHNA PILLAI	1
Cytotoxic effect of physical and chemical mutagens in root tip cells in <i>Rivinia humilis</i> L. A. K. ANEY and A. D. CHOUDHARY	7
Karyomorphological analysis of some edible aroids of Upper Brahmaputra Valley of Assam DIMBESHWAR DAS, BIJOY NEOG, SNEHASHISH DUTTA, LUHIT RAIDONGIA, AJANTA BARUAH DAS and ROMESH HATIMURIYA	27
Correlation and path coefficient analysis in Rhododendrons from Wokha district, Nagaland SANJAY KUMAR and N. ABENTHUNG KITHAN	41
Consanguinity study in the Knanaya Catholic Christian community of Kottayam district, Kerala I. Patterns, frequency and effects N. SINDU and P. M. MATHEW	51
Genetic divergence in forage maize (<i>Zea mays</i> L.) S. K. SRIVAS, R. RASTOGI and SANJAY KUMAR	59
Consanguinity study in the Knanaya Catholic Christian community of Kottayam district II. Role of socio-economic co-variables and demographic determinants N. SINDU and P. M. MATHEW	65
Antibacterial activity of three fern taxa GINCY ALEXANDER, N. SINDU, GIN ALEXANDER and P. M. MATHEW	73
Karyotypic studies on five species of <i>Macrosiphum</i> from Himachal Pradesh KAMLESH KUMARI and D. C. GAUTAM	83
Phytochemical and antibacterial efficacy of rhizome and frond extracts of <i>Pityrogramma calomelanos</i> , the silverback fern AMOSE P. THOMAS, N. SINDU, ARYA A. RAVIKUMAR and P. M. MATHEW	91
Karyotypic studies on <i>Cyprinus carpio</i> and <i>Cyprinus carpio haematopterus</i> from Himachal Pradesh, India ANIKA PARMAR and D. C. GAUTAM	97
Genotoxic effect of distillery effluent on mitotic chromosomes of mice (<i>Mus musculus</i>) PRAVIN PRAKASH and OM PRAKASH CHAURASIA	103
Assessment of genetic diversity among the three unique and potential genotypes of <i>Piper nigrum</i> - 'PMM', 'PAJ' and cv. 'Karimunda' using RAPD markers A. ANCHANA, DEEPUDAS, THOMSON DAVIS, M. ABDUL JABBAR, S. SUHARA BEEVY and P. J. MATHEW	107
Effect of bleaching waste from silk industries on skin of mice (<i>Mus musculus</i>) PRAVIN PRAKASH and OM PRAKASH CHAURASIA	115
Mutagenicity assessment of sunset yellow on chromosomal aberrations and whole genome DNA strand breaks in <i>Allium cepa</i> N. ALEEM YOOSUF, JOYOUS T. JOSEPH and JASMINE M. SHAH	121

Cover : Rhododendrons of Nagaland - See p. 41

ISSUED 31st DECEMBER 2020

INFORMATION FOR AUTHORS

The Journal of Cytology and Genetics accepts reviews, full-length articles not exceeding 10 pages (approx. 20 manuscript pages including figures and tables) and short communications not more than 3 pages (within 2000 words) in the area of cytology, genetics, biotechnology, molecular biology and allied subjects. Submission of the manuscript implies that the work has not been previously published and is not under consideration for publication elsewhere and if accepted it will not be published elsewhere. Two copies of the manuscript with a set of original figures and photographs along with its soft copy are to be submitted to the editor, **Prof. B. H. M. Nijalingappa, # 261, 7th Main Road, Hampinagara, Vijayanagar II Stage, Bengaluru-560 104, India. Email: bhmrij@gmail.com.**

While preparing the manuscript, the format followed in the latest issue of the journal shall strictly be adhered to. The **manuscript** should be typed on one side, double-spaced with a 30 mm margin on all sides and completely ready for typesetting. The **title page** should include a brief and specific title of the paper, name(s) of author(s), affiliation(s) and address for correspondence including Email ID. The material must be clearly arranged under appropriate headings and presented in a good, readable style. Each contribution should be preceded by a summary. Immediately after the **SUMMARY**, 3–5 **Keywords** indicating the scope of the paper must be provided. Genus and species names should be in italics. Complete scientific name should be given when organisms are first mentioned. The genus name may subsequently be abbreviated to the initial. **Tables** prepared in conformity with the journal's style must be numbered consecutively with arabic numerals and submitted separately from the text at the end of the paper. Each table shall have a short self-explanatory title. Vertical and horizontal lines within the table are not allowed. Data given in graphs or tables should not be repeated in the text. All pages of the manuscript including tables and figure legends should be numbered consecutively. **Symbols** should be well defined and used consistently in figures, tables and text (lower case or capital letters, arabic or roman numerals). Citation of **References** in the text as follows: Girish & Saidapur (2003) or (Engell 1994). If there are more than two authors, only the first should be named followed by et al. If there is more than one work from the same author(s) or team of authors in the same year, the letter a, b, c etc. is added to the year both in the text and in the list of References. Listing of references in the text should be alphabetical e.g. (Adams 1989, Bell & bra 1999, Prasad et al. 2002, Shao & Tu 2001) or chronological. **Units of measure** should be **metric** and conform to **SI notation** e.g., g, mg, m, cm, mm, μm , l etc. and likewise duration should be abbreviated e.g., h, min, sec, d, wks, y and none of them should be followed by full points unless they appear at the end of the sentence. Figures should be submitted as high-quality glossy photographic prints (singly or as composite photographs) or as line drawings neatly executed in black ink suitable for full page reproduction. Illustrations must be restricted to the minimum needed to clarify the text. The figures should be set to match the printing area (15 x 17 cm). All figures (incl. graphs or diagrams) are to be numbered consecutively throughout and submitted separately. **Figures should not be designated with letters.** Both in the text and legends, the figures should be referred to as Fig. 1, 2, 3 and so on. Legend should be short and appended to the text. They should provide a brief, self-sufficient description of each figure. Like tables, legends should also be submitted on separate sheets following the main text. Under **References** works that are cited in the text should be listed in alphabetical order under the first author's name. Journal titles should be abbreviated in accordance with the rules set by *Chemical Abstracts*.

Examples:

APG IV 2016 An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV *Bot J Linn Soc* **181** 1–20

GRIMALDI D & ENGEL M S 2005 *Evolution of the insects* Cambridge University Press Cambridge

BURES P, ZEDEK F & MARIKOVA M 2013 Holocentric chromosomes *In* Leitch I J Greilhuber J Dolezel J & Wendel J F (eds) *Plant Genome diversity* Vol 2 Springer-Verlag Vienna pp 187–208

SCHUBERT V, RUBANA A & HOUBEN A 2016 Chromatin ring formation at plant centromeres *Front Plant Sci* **7** 28 doi:10.3389/fpls.2016.00028

Page proofs will be emailed to contributors for correction of typographical errors and should be returned within 3 days by email. **No offprints are supplied gratis.** However, 25 offprints will invariably be supplied at cost price. All payments towards reprints, extra pagination, plates, tables etc. should be made in advance through NEFT in favour of the **Treasurer, Society of Cytologists and Geneticists** payable to **State Bank of India, Nagarabhavi Branch, Bengaluru. S.B.A/c No. 54047022485. IFSC : SBI0040211. Branch code: 40211.**

THE JOURNAL OF CYTOLOGY AND GENETICS

Editor

B. H. M. Nijalingappa, Bengaluru

Joint Editor

P. M. Mathew, Thiruvananthapuram

Associate Editor

D. C. Gautam, Shimla

Members of the Editorial Board

Ashalatha S. Nair, Thiruvananthapuram

P. Jyothilekshmi, Nemmara

Manoj M. Lekhak, Kolhapur

B. Vasanthakumari, Chunkankadai

EDITORIAL OFFICE

261, 7th Main Road, Hampinagara, Vijayanagar II Stage, Bengaluru 560 104, India.

Ph : 080-23387421, +91 98451 08449.

Email: bhmnij@gmail.com

All articles published in the journal are freely accessible on Society's website : <http://www.socg.in>

The Journal of Cytology and Genetics, founded in 1966, welcomes original research articles in any area of plant and animal cytogenetics, cell and molecular biology including molecular systematics of plants and animals and biotechnology including those of interdisciplinary nature. Two issues form one volume published in June and December every year. All articles published in the journal have been reviewed by the referees and are deemed to reflect the individual opinions of authors and not of the publisher.

SOCIETY OF CYTOLOGISTS AND GENETICISTS, INDIA (FOUNDED 1965)

EXECUTIVE COUNCIL (2017 - 2020)

President

R. C. Verma, Ujjain

Vice-Presidents

B. H. M. Nijalingappa, Bengaluru

A. K. Srivastava, Meerut (Ex-Officio)

Secretary

M. C. Gayatri, Bengaluru

Joint Secretaries

L. Rajanna, Bengaluru

B. E. Rangaswamy, Davangere

Treasurer

H. M. Revanasiddaiah, Bengaluru

Members

N. B. Gaikwad, Kolhapur

S. Suhara Beevy, Thiruvananthapuram

V. Devipriya, Thiruvananthapuram

C. G. Patil, Dharwad

P. G. Pillai, Thiruvananthapuram

R. P. Saharan, Hissar

S. R. Yadav, Kolhapur

Jasmine M. Shah, Kasaragod

Anjali Agarwal, Nainital

SECRETARIAT

Prof. M. C. Gayatri, Hon. Secretary, Society of Cytologists and Geneticists,

1387, 'Gayatri Nilaya', I 'D' Main, Eleventh Cross, Kengeri Upanagara,

Bengaluru 560 060, India. Email: gayatrimc2011@gmail.com

Ph : +91 98455 08622

All correspondence concerning individual membership of the Society and journal subscription should be addressed to the Hon. Secretary, SCG.