

Contents

553 Cytogeography of *Callisia* section *Cuthbertia* (Commelinaceae)
Iwan E. Molgo, Douglas E. Soltis, Pamela S. Soltis

579 Molecular cytogenetic characterization and comparison of the two cultivated
Canavalia species (Fabaceae)
Chao-Wen She, Lin Wei, Xiang-Hui Jiang

601 Comparative analysis of chromosomal localization of ribosomal and telomeric
DNA markers in three species of Pyrgomorphidae grasshoppers
Olesya G. Buleu, Ilyas Y. Jetbyayev, Alexander G. Bugrov

613 Heterochromatin variation and LINE-1 distribution in *Artibeus*
(Chiroptera, Phyllostomidae) from Central Amazon, Brazil
Érica Martinha Silva de Souza, Maria Claudia Gross, Carlos Eduardo Faresin e Silva,
Cibele Gomes Sotero-Caio, Eliana Feldberg

627 Cytogenetic analysis of five Ctenidae species (Araneae): detection of
heterochromatin and 18S rDNA sites
Matheus Pires Rincão, João Lucas Chavari, Antonio Domingos Brescovit, Ana Lúcia Dias

641 A chromosomal analysis of *Nepa cinerea* Linnaeus, 1758 and *Ranatra linearis*
(Linnaeus, 1758) (Heteroptera, Nepidae)
Robert B. Angus, Constance Jeangirard, Desislava Stoianova,
Snejana Grozeva, Valentina G. Kuznetsova

659 Contribution to the cytogenetics of Kuwaniini scale insects (Homoptera,
Coccoidea, Margarodidae s.l.)
Ilya Gavrilov-Zimin

665 Contributions to the cytogenetics of the Neotropical fish fauna
Luiz Antônio Carlos Bertollo, Marcelo de Bello Ciaffi,
Pedro Manoel Galetti Jr, Orlando Moreira Filho

691 Meiotic behaviour and its implication on species inter-relationship in the genus
Curcuma (Linnaeus, 1753) (Zingiberaceae)
Judith Mary Lamo, Satyawada Rama Rao

703 Comparative cytogenetics of some marsupial species (Didelphimorpha,
Didelphidae) from the Amazon basin
Carlos Eduardo Faresin e Silva, Rodrigo Amaral de Andrade, Érica Martinha Silva de Souza,
Eduardo Schmidt Eler, Maria Nazareth Ferreira da Silva, Eliana Feldberg

Continued on the back of this page

COMPARATIVE CYTOGENETICS ◆ 11(4), 2017



A peer-reviewed open-access journal

COMPARATIVE Cytogenetics

International Journal of Plant & Animal Cytogenetic, Karyosystematics,
and Molecular Systematics



PENSOFT

11(4) ◆ 2017

<http://compcytogen.pensoft.net>



Editors-in-Chief:

Prof. Dr. Valentina G. Kuznetsova
Zoological Institute, St. Petersburg
valentina_kuznetsova@yahoo.com

Dr. Ilya A. Gavrilov-Zimin
Zoological Institute, St. Petersburg
coccids@gmail.com

Managing Editor: Dr. Lyubomir Penev

Language Editors: Robert B. Angus

Editorial Board:

Robert B. Angus (University of London, r.angus@rhul.ac.uk), **Irina Yu. Baklushinskaya** (Koltzov Institute of Developmental Biology RAS, Moscow, irina.bakl@gmail.com), **Alicja Boron** (University of Warmia and Mazury, Olsztyn, alib@uwm.edu.pl), **Nina Sh. Bulatova** (Institute of Ecology and Evolution, Moscow, ninbul@mail.ru), **Julio R. Daviña** (Universidad Nacional de Misiones, Posadas, juliordavina@gmail.com), **Grazyna Furgala-Selezniow** (University of Warmia and Mazury, Olsztyn, grazska@uwm.edu.pl), **Natalia V. Golub** (Zoological Institute, St. Petersburg, psocid@zin.ru), **Vladimir E. Gokhman** (Moscow State University, gokhman@bg.msu.ru), **Veronika V. Golygina** (Institute of Cytology and Genetics, Novosibirsk, nika@bionet.nsc.ru), **Ekatерина Gornung** (University of Rome "Sapienza", ekaterina.gornung@gmail.com), **Snejana Grozeva** (Institute of Biodiversity and Ecosystem Research, Sofia, sgrozeva@yahoo.com), **Vladimir A. Lukhtanov** (St. Petersburg State University, lukhtanov@mail.ru), **Anna Maryanska-Nadachowska** (Institute of Systematics and Evolution of Animals, Krakow, maryanska@isez.pan.krakow.pl), **Seppo Nokkala** (University of Turku, seppo.nokkala@utu.fi), **Andrey Polyakov** (Institute of Cytology and Genetics SB RAS, Novosibirsk, polyakov@bionet.nsc.ru), **Petr Rab** (Institute of Animal Physiology and Genetics, Libechov, rab@iapg.cas.cz), **Nazar Shapoval** (Russian Academy of Sciences, St. Petersburg, nazaret@bk.ru), **Joan Vallès** (Universitat de Barcelona, joanvalles@ub.edu), **Jan Zima** (Institute of Vertebrate Biology, Brno, jzima@brno.cas.cz)

International Advisory Board:

Ekaterina D. Badaeva (Institute of Molecular Biology, Moscow, _badaeva@mail.ru), **Katsuhiko Kondo** (Hiroshima University, Hiroshima, kkondo@hiroshima-u.ac.jp), **Iya I. Kiknadze** (Institute of Cytology and Genetics, Novosibirsk, kiknadze@bionet.nsc.ru), **Frantisek Marec** (Institute of Entomology, Ceske Budejovice, marec@entu.cas.cz), **Jon Martin** (University of Melbourne, Melbourne, j.martin@unimelb.edu.au), **Paraskeva Michailova** (Institute of Zoology, Sofia, michailova@zoology.bas.bg), **Benjamin B. Normark** (University of Massachusetts, Amherst, bnormark@ent.umass.edu), **Walther Traut** (University of Luebeck, Luebeck, traut@molbio.uni-luebeck.de), **Ludmila V. Vysotskaya** (Novosibirsk State University, Novosibirsk, vysot@fen.nsu.ru)

All correspondence with reference to editorial matters should be addressed to: Dr. Ilya Gavrilov-Zimin by e-mail: coccids@gmail.com with subject "Comparative Cytogenetics" or to the address: Zoological Institute, Russian Academy of Sciences, Universitetskaya nab. 1, St. Petersburg 199034, Russia.

Creative Commons Attribution License. This is an open access journal distributed under the terms of the Creative Commons Attribution License 3.0 CC-BY, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Subscription for 2014:

The printed version: institutional subscription - € 145.00; individual subscription - € 70.00;
subscribers from Russia - € 120.00.

PENSOFT Publishers

Prof. Georgi Zlatarski 12, 1700 Sofia, Bulgaria
Tel. +359-2-8704281
Fax: +359-2-8704282
e-mail: info@pensoft.net
http://compcytogen.pensoft.net

Contents

- 727** Dual mechanism of chromatin remodeling in the common shrew sex trivalent (XY₁Y₂)
Sergey N. Matveevsky, Svetlana V. Pavlova, Maret M. Atsaeva, Jeremy B. Searle, Oxana L. Kolomiets
- 747** DRAWID: user-friendly java software for chromosome measurements and idiogram drawing
Ilya Kirov, Ludmila Khrustaleva, Katrijn Van Laere, Alexander Soloviev, Sofie Meeus, Dmitry Romanov, Igor Fesenko
- 759** Chromosomal identification of cryptic species sharing their DNA barcodes: *Polyommatus (Agrodiætus) antidolus* and *P. (A.) morgani* in Iran (Lepidoptera, Lycaenidae)
Vladimir A. Lukhtanov, Nazar A. Shapoval
- 769** A new butterfly species from south Russia revealed through chromosomal and molecular analysis of the *Polyommatus (Agrodiætus) damonides* complex (Lepidoptera, Lycaenidae)
Vladimir A. Lukhtanov, Alexander V. Dantchenko
- 797** "European" race-specific metacentrics in East Siberian common shrews (*Sorex araneus*): a description of two new chromosomal races, Irkutsk and Zima
Svetlana V. Pavlova, Sergei A. Borisov, Alexander F. Timoshenko, Boris I. Sheftel
- 807** Characteristics of parthenogenesis in *Cacopsylla ledi* (Flor, 1861) (Hemiptera, Sternorrhyncha, Psylloidea): cytological and molecular approaches
Seppo Nokkala, Valentina G. Kuznetsova, Christina Nokkala
- 819** Corrigenda: Genomic characterisation of *Arachis porphyrocalyx* (Valls & C.E. Simpson, 2005) (Leguminosae): multiple origin of *Arachis* species with x = 9. Comparative Cytogenetics 11(1): 29–43. doi: 10.3897/CompCytogen.v11i1.10339
Silvestri María Celeste, Alejandra Marcela Ortiz, Germán Ariel Robledo, José Francisco Montenegro Valls, Graciela Inés Lavia
- 821** Chromosomal assignment of centromere-specific histone CENH3 genes in rye (*Secale cereale* L.) and their phylogeny
Yulia A. Lipikhina, Elena V. Evtushenko, Evgeny A. Elisafenko, Alexander V. Vershinin
- 833** Advances in cytogenetics of Brazilian rodents: cytotaxonomy, chromosome evolution and new karyotypic data
Camilla Bruno Di-Nizo, Karina Rodrigues da Silva Banci, Yukie Sato-Kuwabara, Maria José de J. Silva