

Сведения об официальном оппоненте

Трифонов Владимир Александрович, доктор биологических наук, специальность 03.01.07 – молекулярная генетика, зав. лабораторией, Федеральное государственное бюджетное учреждение науки Институт молекулярной и клеточной биологии Сибирского отделения Российской академии наук, г. Новосибирск

Список основных публикаций по теме диссертации за последние 5 лет:

1. Trifonov VA, Paoletti A, Caputo Barucchi V, Kalinina T, O'Brien PCM, Ferguson-Smith MA, et al. (2015) Comparative Chromosome Painting and NOR Distribution Suggest a Complex Hybrid Origin of Triploid *Lepidodactylus lugubris* (Gekkonidae). PLoS ONE 10(7): e0132380. doi:10.1371/journal.pone.0132380
2. Romanenko SA, Biltueva LS, Serdyukova NA, Kulemzina AI, Beklemisheva VR, Gladkikh OL, Lemskaya NA, Interesova EA, Korentovich MA, Vorobieva NV, Graphodatsky AS, Trifonov VA Segmental paleotetraploidy revealed in sterlet (*Acipenser ruthenus*) genome by chromosome painting. Mol Cytogenet. 2015;8: 90. doi:10.1186/s13039-015-0194-8
3. Utsunomia, R., Silva, D. M. Z. A., Ruiz-Ruano, F. J., Araya-Jayme, C., Pansonato-Alves, J. C., Scacchetti, P. C., Hashimoto, D. T., Oliveira, C., Trifonov. V. A., Porto-Foresti, F., Camacho J. P. M., Foresti, F. Uncovering the ancestry of B chromosomes in *Moenkhausia sanctaefilomenae* (Teleostei, Characidae). PLoS One 2016 11(3): e0150573.
4. Giovannotti M., Trifonov V.A., Paoletti A., Kichigin I.G., O'Brien P.C.M., Kasai F., Giovagnoli G., Ng B.L., Ruggeri P., Nisi Cerioni P., Splendiani A. , Pereira J.C, Olmo E., Rens W., Caputo Barucchi V, Ferguson-Smith M.A. New insights into sex chromosome evolution in anole lizards (Reptilia, Dactyloidae) Chromosoma 2016 DOI 10.1007/s00412-016-0585-6
5. Bian C, Hu Y, Ravi V, Kuznetsova IS, Shen X, Mu X, Sun Y, You X, Li J, Li X, Qiu Y, Tay B , Thevasagayam NM, Komissarov AS, Trifonov V, Kabilov M , Tupikin A et al The Asian arowana (*Scleropages formosus*) genome provides new 2 insights into the evolution of an early lineage of teleosts Scientific Reports 2016 2016 Apr 19;6:24501. doi: 10.1038/srep24501.
6. Vij S, Kuhl H, Kuznetsova IS, Komissarov A, Yurchenko AA, van Heusden P, Singh S, Thevasagayam NM, Prakki SRS, Purushothaman K, Saju JM, Jiang J, Mbandi SK, Jonas M, Tong, AHY, Mwangi S, Lau D, Ngoh SY, Liew WC, Shen XY, Hon LS, Drake JP, Boitano M, Hall R, Chin C-S, Lachumanan R, Korlach J, Trifonov V, Kabilov M, Tupikin A, Green D, Moxon S, Garvin T, Sedlazeck FJ, Vurture GW, Gopikrishna G, Kumar KV, Noble TH, Scaria V, Sivasubbu S, Jerry DR, O'Brien SJ, Schatz MC, Dalmay T, Turner S, Lok S, Christoffels A, Orbán L. (2016) Chromosome-level assembly of the Asian seabass genome using multi-layered scaffolding of long sequence reads. PLoS Genetics. 2016 DOI:10.1371/journal.pgen.1005954
7. Kichigin IG, Giovannotti M, Makunin AI, Ng BL, Kabilov MR, Tupikin AE, Caputo Barucchi V, Splendiani A, Ruggeri P, Rens W, O'Brien PCM, Ferguson-Smith MA, Graphodatsky AS, Trifonov VA Evolutionary dynamics of *Anolis* sex chromosomes revealed

by sequencing of flow sorting derived microchromosome-specific DNA 2016 Mol Genet Genomics DOI 10.1007/s00438-016-1230-z

8. Makunin AI, Kichigin IG, Larkin DM, O'Brien PCM, Ferguson-Smith MA, Yang F, Proskuryakova AA, Vorobieva NV, Chernyaeva E, O'Brien SJ, Graphodatsky AS, Trifonov VA Contrasting origin of B chromosomes in two cervids (Siberian roe deer and grey brocket deer) unraveled by chromosome-specific DNA sequencing BMC Genomics 2016 7:618 DOI: 10.1186/s12864-016-2933-6
9. IS Kuznetsova; DI Ostromyshenskii; AS Komissarov; AN Prusov; IS Waisertreiger; AV Gorbunova; VA Trifonov; MA Ferguson-Smith; OI Podgornaya LINE related component of mouse heterochromatin and complex chromocenters' composition 2016 Chromosome Research 24:309–323. [Epub ahead of print] DOI: 10.1007/s10577-016-9525-9
10. Vladimir A. Trifonov, Svetlana S. Romanenko, Violetta R. Beklemisheva, Larisa S. Biltueva, Alexey I. Makunin, Natalia A. Lemskaya, Anastasia I. Kulemzina, Roscoe Stanyon, and Alexander S. Graphodatsky Evolutionary plasticity of acipenseriform genomes Chromosoma 2016 125(4):661-8 DOI 10.1007/s00412-016-0609-2
11. Yano CF, Bertollo LAC, Ezaz T, Trifonov V, Sember A, Liehr T Cioffi M Highly conserved Z and molecularly diverged W chromosomes in the fish genus *Triportheus* (Characiformes, Triportheidae) 2017 Heredity 118: 276-283, doi:10.1038/hdy.2016.83
12. Olga L. Gladkikh, Svetlana A. Romanenko, Natalya A. Lemskaya, Natalya A. Serdyukova, Patricia C.M. O'Brien, Julia M. Kovalskaya, Antonina V. Smorkatcheva, Feodor N. Golenishchev, Polina L. Perelman, Vladimir A. Trifonov, Malcolm A. Ferguson-Smith, Fengtang Yang , Alexander S. Graphodatsky Rapid karyotype evolution in *Lasiopodomys* involves both autosomes and sex chromosomes 2016 Plos one Volume 11, Number 12, Page e0167653
13. Marija Rajicic; Svetlana Romanenko; Tatyana Karamysheva; Jelena Blagojevic; Tanja Adnadjevic; Ivana Budinski; Aleksey Bogdanov; Vladimir Trifonov; Nikolay Rubtsov; Mladen Vujosevic The origin of B chromosomes in yellow-necked mice (*Apodemus flavicollis*) break rules but keep playing the game PLOS One Published: March 22, 2017 <https://doi.org/10.1371/journal.pone.0172704>
14. Druzhkova A.S. , Makunin A.I. , Vorobieva N.V. , Vasiliev S.K. , Shunkov M.V. , Trifonov V.A. , Graphodatsky A.S. Complete mitochondrial genome of an extinct *Equus ovodovi* specimen from Denisova cave (Altai, Russia) Mitochondrial DNA part B 2017 Mitochondrial DNA Part B 2(1): 79-81.
15. Oliveira, E. A., Sember, A., Bertollo, L. A. C., Yano, C. F., Ezaz, T., Moreira-Filho, O., Hatanaka T, Trifonov V, Liehr T, Al-Rikabi ABH, Ráb P, Pains H, Cioffi M et al. (2018). Tracking the evolutionary pathway of sex chromosomes among fishes: characterizing the unique XX/XY1Y2 system in *Hoplias malabaricus* (Teleostei, Characiformes). 2018 Chromosoma 127, 115–128. doi: 10.1007/s00412-017-0648-3
16. Andreyushkova DA, Makunin AI, Beklemisheva VR, Romanenko SA, Druzhkova AS, Biltueva LB, Serdyukova NA, Graphodatsky AS, Trifonov VA. Next generation sequencing of chromosome-specific libraries sheds light on genome evolution in paleotetraploid sterlet (*Acipenser ruthenus*). Genes 8(11): 318, 2017

17. Makunin AI, Rajičić M, Karamysheva TV, Romanenko SA, Druzhkova AS, Blagojević J, Vujošević M, Rubtsov NB, Graphodatsky AS, Trifonov VA. Low-pass single-chromosome sequencing of human small supernumerary marker chromosomes (sSMCs) and Apodemus B chromosomes. *Chromosoma*, 2018, Sep;127(3):301-311.doi: 10.1007/s00412-018-0662-0
18. Guselnikov SV, Baranov KO, Najakshin AM, Mechetina LV, Chikaev NA, Makunin AI, Kulemzin SV, Andreyushkova DA, Stöck M, Wuertz S, Gessner J, Warren WC, Schartl M, Trifonov VA, Taranin AV Diversity of immunoglobulin light chain genes in non-teleost ray-finned fish uncovers IgL subdivision into five ancient isotypes *Front. Immunol.* 2018;9: 1079. doi: 10.3389/fimmu.2018.01079
19. Evdokimov A, Kutuzov M, Petruseva I, Lukjanchikova N, Kashina E, Kolova E, Zemerova T, Romanenko S, Perelman P, Prokopov D, Seluanov A, Gorbunova V, Graphodatsky A, Trifonov V, Khodyreva S, Lavrik O. Naked mole rat cells display more efficient excision repair than mouse cells. *Aging (Albany NY)*. 2018 Jun 20. doi: 10.18632/aging.101482. [Epub ahead of print]
20. Makunin AI, Romanenko SA, Beklemisheva VR, Perelman PL, Druzhkova AS, Petrova KO, Chernyaeva EN, Johnson JL, Kukekova AV, Yang F, Ferguson-Smith MA, Graphodatsky AS, Trifonov VA. Sequencing of Supernumerary Chromosomes of Red Fox and Raccoon Dog Confirms a Non-Random Gene Acquisition by B Chromosomes. *Genes* 2018 9(8): 405.
21. Komissarov A, Vij S, Yurchenko A, Trifonov V, Thevasagayam N, Saju J, Sridatta PSR, Purushothaman K, Graphodatsky A, Orbán L, Kuznetsova I. B Chromosomes of the Asian Seabass (*Lates calcarifer*) Contribute to Genome Variations at the Level of Individuals and Populations. *Genes* 2018, 9(10), 464; <https://doi.org/10.3390/genes9100464>
22. Romanenko S, Serdyukova N, Perelman P, Trifonov V, Golenishchev F, Bulatova N, Stanyon R., Graphodatsky A. Multiple intrasynthetic rearrangements and rapid speciation in voles *Scientific Reports* volume 8, Article number: 14980 (2018)
23. Ilya G. Kichigin, Artem P. Lisachov, Massimo Giovannotti, Alex I. Makunin, Marsel R. Kabilov, Patricia CM O'Brien, Malcolm A. Ferguson-Smith, Alexander S. Graphodatsky, Vladimir A. Trifonov First report on B chromosome content in a reptilian species: the case of *Anolis carolinensis* *MGG* 2019 doi: 10.1007/s00438-018-1483-9.
24. Kosova AA, Kutuzov MM, Evdokimov AN, Ilina ES, Belousova EA, Romanenko SA, Trifonov VA, Khodyreva SN, Lavrik OI Poly(ADP-ribosyl)ation and DNA repair synthesis in the extracts of naked mole rat, mouse, and human cells. *Aging (Albany NY)*. 2019 May 13;11(9):2852-2873. doi: 10.18632/aging.101959.
25. Lind, A.L., Lai, Y.Y.Y., Mostovoy, Y., Holloway, A.K., Iannucci, A., Mak, A.C.Y., Fondi, M., Orlandini, V., Eckalbar, W.L., Milan, M., Rovatsos M, Kichigin IG, Makunin AI, Johnson Pokorná M, Altmanová M, Trifonov VA, Schijlen E, Kratochvíl L, Fani R, Velenský P, Rehák I, Patarnello T, Jessop TS, Hicks JW, Ryder OA, Mendelson JR, Ciofi C, Kwok P, Pollard KS, Bruneau BG (2019). Genome of the Komodo dragon reveals adaptations in the cardiovascular and chemosensory systems of monitor lizards. *Nat. Ecol. Evol.* 3, 1241–1252.