VYBRANÉ PUBLIKACE ÚŽFG ZA ROK 2021

Abramyan, A., Geetha-Loganathan, P., **Šulcová, M., Buchtová, M.** Role of Cell Death in Cellular Processes During Odontogenesis. *Frontiers in Cell and Developmental Biology.* 2021, 9(JUN 18), 671475. IF 6,684

Alccayhuaman, K. A. A., Heimel, P., Lee, J. S., Tangl, S., Strauss, F., Stahli, A., **Matalová, E**., Gruber, R. FasL Is Required for Osseous Healing in Extraction Sockets in Mice. *Frontiers in Immunology.* 2021, 12(MAY 31), 678873. IF 7,561

Aleshkina, D., Iyyappan, R., Lin, C. J., Mašek, T., Pospíšek, M., **Šušor, A.** ncRNA BC1 influences translation in the oocyte. *RNA biology.* 2021, 18(11), 1893-1904. ISSN 1547-6286. IF 4,652

Ananbeh, H., Vodička, P., Kupcová Skalníková, H. Emerging Roles of Exosomes in Huntington's Disease. *International Journal of Molecular Sciences.* 2021, 22(8), 4085 IF 5,923

Balcar, V. J., Zeman, T., Janout, V., Janoutová, J., **Lochman, J., Šerý, O.** Single Nucleotide Polymorphism rs11136000 of CLU Gene (Clusterin, ApoJ) and the Risk of Late-Onset Alzheimer's Disease in a Central European Population. *Neurochemical Research.* 2021, 46(2), 411-422. IF 3,996

Benc, M., Strejček, F., Morovič, M., **Bártková, A., Murín, M., Gad, A**., Bonnet-Garnier, A., Popovska, F., Laurinčík, J. Improving the Quality of Oocytes with the Help of Nucleolotransfer Therapy. *Pharmaceuticals.* 2021, 14(4), 328. IF 5,863

Blengini, C. S., Ibrahimian, P., **Vaškovičová, M., Drutovič, D., Šolc, P.,** Schindler, K. Aurora kinase A is essential for meiosis in mouse oocytes. *PLoS Genetics.* 2021, 17(4), e1009327. IF 5,917

Bora, P., **Gahurová, L**., Hauserová, A., Stiborová, M., Collier, R., Potěšil, D., Zdráhal, Z., Bruce, A. W. DDX21 is a p38-MAPK-sensitive nucleolar protein necessary for mouse preimplantation embryo development and cell-fate specification. *Open Biology.* 2021, 11(7), 210092. IF 6,411

Bora, P., **Gahurová, L.**, Mašek, T., Hauserová, A., Potěšil, D., **Jansová, D., Šušor, A.,** Zdráhal, Z., Ajduk, A., Pospíšek, M., Bruce, A. W. p38-MAPK-mediated translation regulation during early blastocyst development is required for primitive endoderm differentiation in mice. *Communications Biology.* 2021, 4(1), 788. IF 6,268

Březina, J., Bajer, L., Wohl, P., Ďuricová, D., Hrabák, P., Novotný, A., Koželuhová, J., **Lukáš, M., Mrázek, J., Olša Fliegerová, K., Kvasnová, S., Mekadim, C.**, Mareš, J., Špičák, J., Drastich, P. Fecal Microbial Transplantation versus Mesalamine Enema for Treatment of Active Left-Sided Ulcerative Colitis-Results of a Randomized Controlled Trial. *Journal of Clinical Medicine.* 2021, 10(13), 2753. IF 4,241

Buday, J., Pořízka, P., **Buchtová, M.**, Kaiser, J. Determination of initial expansion energy with shadowgraphy in laser-induced breakdown spectroscopy. *Spectrochimica Acta Part B: Atomic Spectroscopy.* 2021, 182(AUG 21), 106254 IF 3,752

Cakil, Z. V., Garlasché, G., **Iakovenko, N**., Di Cesare, A., Eckert, E.M., Guidetti, R., Hamdan, L., **Janko,**

K., Lukashanets, D., Rebecchi, L., Schiaparelli, S., Sforzi, T., **Štefková Kašparová, E**., Velasco-Castrillón, A., Walsh, E.J., Fontaneto, D. Comparative phylogeography reveals consistently shallow genetic diversity in a mitochondrial marker in Antarctic bdelloid rotifers. *Journal of Biogeography.* 2021, 48(7), 1797-1809. IF 4,324

Čechová, M., Beinhauerová, M., Babák, V., Slaná, I., **Králík, P.** A Novel Approach to the Viability Determination of Mycobacterium avium subsp. paratuberculosis Using Platinum Compounds in Combination With Quantitative PCR. *Frontiers in Microbiology.* 2021, 12(NOV 24), 748337. IF 5,640

Červenka, J., Tylečková, J., Kupcová Skalníková, H., Vodičková Kepková, K., Poliakh, I., Valeková, I., Pfeiferová, L., Kolář, M., **Vaškovičová, M., Pánková, T., Vodička, P.** Proteomic Characterization of Human Neural Stem Cells and Their Secretome During in vitro Differentiation. *Frontiers in Cellular Neuroscience.* 2021, 14(JAN 28), 612560. IF 5,505

Dohnálek, J., Dušková, J., Tishchenko, G., Kolenko, P., Skálová, T., Novák, P., Fejfarová, K., **Šimůnek, J.** Chitinase Chit62J4 essential for chitin processing by human microbiome bacterium clostridium paraputrificum J4. *Molecules.* 2021, 26(19), 5978. IF 4,411

Doležálková-Kaštánková, M., Mazepa, G., Jeffries, D. L., Perrin, N., Plötner, M., Guex, G. D., Mikulíček, P., Poustka, A. J., Grau, J., **Choleva, L.** Capture and return of sexual genomes by hybridogenetic frogs provide clonal genome enrichment in a sexual species. *Scientific Reports.* 2021, 11(1), 1633. IF 4,379

Dziedzinská, R., Králík, P., Šerý, O. Occurrence of SARS-CoV-2 in Indoor Environments With Increased Circulation and Gathering of People. *Frontiers in Public Health.* 2021, 9(NOV 22), 787841. IF 3,709

Faheem, M. S., Ghanem, N., **Gad, A., Procházka, R**., Dessouki, S. M. Adaptive and Biological Responses of Buffalo Granulosa Cells Exposed to Heat Stress under In Vitro Condition. *Animals.* 2021, 11(3), 794. IF 2,752

Fornůsková, A., **Hiadlovská, Z., Macholán, M**., Piálek, J., Goüy de Bellocq, J. New perspective on the geographic distribution and evolution of lymphocytic choriomeningitis virus, Central Europe. *Emerging Infectious Diseases.* 2021, 27(10), 2638-2647. IF 6,883

Hrubá, E., Kavková, M., Dalecká, L., **Macholán, M**., Zikmund, T., Vařecha, M., **Bosáková, M**., Kaiser, J., **Krejčí, P**., Hovoráková, M., **Buchtová, M.** Loss of Sprouty Produces a Ciliopathic Skeletal Phenotype in Mice Through Upregulation of Hedgehog Signaling. *Journal of Bone and Mineral Research.* 2021, 36(11), 2258-2274. IF 6,741

Imarazene, B., Du, K., Beille, S., Jouanno, E., Feron, R., Pan, Q., Torres-Paz, J., Lopez-Roques, C., Castinel, A., Gil, L., Kuchly, C., Donnadieu, C., Parrinello, H., Journot, L., Cabau, C., Zahm, M., Klopp, C., Pavlica, T., Al-Rikabi, A. B. H., Liehr, T., Simanovsky, S. A., **Bohlen, J., Sember, A**., Perez, J., Veyrunes, F., Mueller, T. D., Postlethwait, J. H., Schartl, M., Herpin, A., Rétaux, S., Guiguen, Y. A supernumerary "B-sex" chromosome drives male sex determination in the Pachon cavefish, Astyanax mexicanus. *Current Biology.* 2021, 31(21), 4800-+. IF 10,834

Janko, K., Bartoš, O., Kočí, J., Röslein, J., Drdová, E., Kotusz, J., **Eisner, J**., Mokrejš, M., **Štefková**

Kašparová, E. Genome Fractionation and Loss of Heterozygosity in Hybrids and Polyploids: Mechanisms, Consequences for Selection, and Link to Gene Function. *Molecular Biology and Evolution.* 2021, 38(12), 5255-5274. IF 16,240

Jansová, D., Aleshkina, D., Jindrová, A., Iyyappan, R., An, Q., Fan, G., **Šušor, A.** Single Molecule RNA Localization and Translation in the Mammalian Oocyte and Embryo. *Journal of Molecular Biology.* 2021, 433(19), 167166. IF 5,469

Johnson Pokorná, M., Reifová, R. Evolution of B Chromosomes: From Dispensable Parasitic Chromosomes to Essential Genomic Players. *Frontiers in genetics.* 2021, 12(DEC 9), 727570. IF 4,599

Kashem, M. A., **Šerý, O.,** Pow, D. V., Rowlands, B. D., Rae, C. D., **Balcar, V. J.** Actions of alcohol in brain: Genetics, metabolomics, gaba receptors, proteomics and glutamate transporter glast/eaat1. *Current Molecular Pharmacology.* 2021, 14(2), 138-149. IF 3,339

Killinger, M., Veselá, B., Procházková, M., **Matalová, E.,** Klepárník, K. A single-cell analytical approach to quantify activated caspase-3/7 during osteoblast proliferation, differentiation, and apoptosis. *Analytical and Bioanalytical Chemistry.* 2021, 413(20), 5085-5093. IF 4,142

Kimura, T., **Bosáková, M**., Nonaka, Y., **Hrubá, E**., Yasuda, K., Futakawa, S., Kubota, T., Fafílek, B., Gregor, T., Abraham, S. P., Gomolková, R., Belasková, S., Pešl, M., Csukasi, F., Duran, I., Fujiwara, M., **Kavková, M.,** Zikmund, T., Kaiser, J., **Buchtová, M.,** Krakow, D., Nakamura, Y., Ozono, K., **Krejčí, P.** An RNA aptamer restores defective bone growth in FGFR3-related skeletal dysplasia in mice. *Science Translational Medicine.* 2021, 13(592), eaba4226. IF 17,956

Krásová, J., **Mikula, O., Bryja,** J., Baptista, N. L., Antonio, T., Aghová, T., Šumbera, R. Biogeography of Angolan rodents: The first glimpse based on phylogenetic evidence. *Diversity and Distributions.* 2021, 27(12), 2571-2583. IF 5,139

Kratochvíl, L., Stöck, M., Rovatsos, M., Bullejos, M., Herpin, A., Jeffries, D. L., Peichel, C. L., Perrin, N., Valenzuela, N., **Johnson Pokorná, M.** Expanding the classical paradigm: what we have learnt from vertebrates about sex chromosome evolution. *Philosophical Transactions of the Royal Society B-Biological Sciences.* 2021, 376(1833), 20200097. IF 6,237

Kratochvílová, A., Ramešová, A., Veselá, B., Švandová, E., Lesot, H., Gruber, R., **Matalová, E.** Impact of FasL Stimulation on Sclerostin Expression and Osteogenic Profile in IDG-SW3 Osteocytes. *Biology.* 2021, 10(8), 757. IF 5,079

Lukáš, M., Kolář, M., Ryska, O., Juhás, Š., Juhásová, J., Kalvach, J., Pažin, J., Kočišová, T., Foltán, O., Kristianová, J., Ptáčník, J., Vítková, I., Bortlík, M., Lukáš, M. A novel postgraduate endoscopic course using a large animal model of secondary Crohn's disease stricture. *Surgical Endoscopy and Other Interventional Techniques.* 2021, 35(6), 3199-3204. IF 4,584

Lukáš, M., Kolář, M., Ryska, O., Juhás, Š., Juhásová, J., Kalvach, J., Pažin, J., Kočišová, T., Foltán, O., Kristiánová, H., Ptáčník, J., Vítková, I., Bortlík, M., Lukáš, M. Novel porcine model of Crohn's disease anastomotic stricture suitable for evaluation and training of advanced endoscopic techniques. *Gastrointestinal Endoscopy.* 2021, 93(1), 250-256. IF 9,427

Mikula, O., Nicolas, V., Šumbera, R., Konečný, A., Denys, C., Verheyen, E., Bryjová, A., Lemmon, A. R.,

Lemmon, E. M., Bryja, J. Nuclear phylogenomics, but not mitogenomics, resolves the most successful Late Miocene radiation of African mammals (Rodentia: Muridae: Arvicanthini). *Molecular Phylogenetics and Evolution.* 2021, 157(APR), 107069. IF 4,286

Modráčková, N., Copová, I., Šťovíček, A., Makovská, M., **Schierová, D., Mrázek, J**., Sabolová, M., Vlková, E., Hradský, O., Bronský, J., Nevoral, J., Neužil-Bunešová, V. Microbial shifts of faecal microbiota using enteral nutrition in vitro. *Journal of Functional Foods.* 2021, 77(FEB 2021), 104330. IF 4,451

Modráčková, N., Šťovíček, A., Burtscher, J., Bolechová, P., **Killer, J.**, Domig, K. J., Neužil Bunešová, V. The bifidobacterial distribution in the microbiome of captive primates reflects parvorder and feed specialization of the host. *Scientific Reports.* 2021, 11(1), 15273. IF 4,379

Murtaza, B., Hichami, A., Khan, A. S., Plesník, J., **Šerý, O.**, Dietrich, A., Birnbaumer, L., Khan, N. A. Implication of TRPC3 channel in gustatory perception of dietary lipids. *Acta Physiologica.* 2021, 231(2), e13554. IF 6,311

Nita, A., Abraham, S. P., **Krejčí, P., Bosáková, M**. Oncogenic FGFR Fusions Produce Centrosome and Cilia Defects by Ectopic Signaling. *Cells.* 2021, 10(6), 1445. IF 6,600

Oliveira, V. C. S., **Altmanová, M**., Viana, P. F., Ezaz, T., Bertollo, L.A.C., **Ráb, P**., Liehr, T., Al-Rikabi, A. B. H., Feldberg, E., Hatanaka, T., Scholz, S., Meurer, A., de Bello Cioffi, M. Revisiting the Karyotypes of Alligators and Caimans (Crocodylia, Alligatoridae) after a Half-Century Delay: Bridging the Gap in the Chromosomal Evolution of Reptiles. *Cells.* 2021, 10(6), 1397. IF 6,600

Olša Fliegerová, K., Páleníček, T., Vochosková, K., **Kvasnová, S**. Patients with schizophrenia have significantly different stool bacteriome. *European Neuropsychopharmacology.* 2021, 53(Suppl 1), S353-S354. IF 4,600

Olša Fliegerová, K., Podmirseg, S.M., Vinzelj, J., Grilli, D. J., **Kvasnová, S., Schierová, D., Sechovcová, H., Mrázek, J.**, Siddi, G., Arenas, G. N., Moniello, G. The Effect of a High-Grain Diet on the Rumen Microbiome of Goats with a Special Focus on Anaerobic Fungi. *Microorganisms.* 2021, 9(1), 157. IF 4,128

Poignet, M., **Johnson Pokorná, M., Altmanová, M., Majtánová, Z., Dedukh, D.,** Albrecht, T., Reif, J., Osiejuk, T. S., Reifová, R. Comparison of Karyotypes in Two Hybridizing Passerine Species: Conserved Chromosomal Structure but Divergence in Centromeric Repeats. *Frontiers in genetics.* 2021, 12(DEC 6), 768987. IF 4,599

Procházka, R., Bartková, A., Němcová, L., Murín, M., Gad, A., Marcollová, K., Kinterová, V., Lucas-Hahn, A., **Laurinčík, J.** The Role of MAPK3/1 and AKT in the Acquisition of High Meiotic and Developmental Competence of Porcine Oocytes Cultured In Vitro in FLI Medium. *International Journal of Molecular Sciences.* 2021, 22(20), 11148 IF 5,923

Putnová, B., Putnová, I., Škorič, M., **Buchtová, M.** The Expression of Selected Wnt Pathway Members (FZD6, AXIN2 and beta-Catenin) in Canine Oral Squamous Cell Carcinoma and Acanthomatous Ameloblastoma. *Animals.* 2021, 11(6), 1615. IF 2,752

Ramešová, A., Veselá, B., Švandová, E., Lesot, H., Matalová, E. Caspase-1 Inhibition Impacts the

Formation of Chondrogenic Nodules, and the Expression of Markers Related to Osteogenic Differentiation and Lipid Metabolism. *International Journal of Molecular Sciences.* 2021, 22(17), 9576. IF 5,923

Reyes Lerma, A. C., Šťáhlavský, F., Seiter, M., Carabajal Paladino, L. Z., Divišová, K., Forman, M., **Sember, A**., Král, J. Insights into the karyotype evolution of Charinidae, the early-diverging clade of whip spiders (Arachnida: Amblypygi). *Animals.* 2021, 11(11), 3233. IF 2,752

Rohiwal, S. S., Ellederová, Z., Ardan, T., Klíma, J. Advancement in Nanostructure-Based Tissue-Engineered Biomaterials for Retinal Degenerative Diseases. *Biomedicines.* 2021, 9(8), 1005. IF 6,081

Ruth, K. S., Day, F. R., Hussain, J., **Knoblochová, L., Šolc, P**. Genetic insights into biological mechanisms governing human ovarian ageing. *Nature.* 2021, 596(7872), 393-397. IF 49,962

Sassi, M. C., Moreira-Filho, O., Deon, G. A., **Sember, A**., Bertollo, L.A.C., Liehr, T., Oliveira, V. C. S., Viana, P. F., Feldberg, E., Vicari, M. R., Cioffi, M. d. B. Adding New Pieces to the Puzzle of Karyotype Evolution in Harttia (Siluriformes, Loricariidae): Investigation of Amazonian Species. *Biology.* 2021, 10(9), 922. IF 5,079

Sember, A., Nguyen, P., Perez, M. F., **Altmanová, M., Ráb, P**., de Bello Cioffi, M. Multiple sex chromosomes in teleost fishes from a cytogenetic perspective: state of the art and future challenges. *Philosophical Transactions of the Royal Society B-Biological Sciences.* 2021**,** 376(1833), 20200098. IF 6,237

Stöck, M., **Dedukh, D.**, Reifová, R., Lamatsch, D. K., Starostová, Z., **Janko, K**. Sex chromosomes in meiotic, hemiclonal, clonal and polyploid hybrid vertebrates: along the 'extended speciation continuum'. *Philosophical Transactions of the Royal Society B-Biological Sciences.* 2021, 376(1833), 20200103. IF 6,237

Suchý, T., Vištejnová, L., Šupová, M., Klein, P., Bartoš, M., Kolinko, Y., Blassová, T., Tonar, Z., Pokorný, M., Sucharda, Z., Žaloudková, M., Denk, F., Ballay, R., **Juhás, Š., Juhásová, J**., Klapková, E., Horný, L., Sedláček, R., Grus, T., Čejka jr., Z., Čejka, Z., Chudějová, K., Hrabák, J. Vancomycin-Loaded Collagen/Hydroxyapatite Layers Electrospun on 3D Printed Titanium Implants Prevent Bone Destruction Associated with S. epidermidis Infection and Enhance Osseointegration. *Biomedicines.* 2021, 9(5), 531. IF 6,081

Sztacho, M., Šalovská, B., **Červenka, J.,** Balaban, C., Hoboth, P., Hozák, P. Limited Proteolysis-Coupled Mass Spectrometry Identifies Phosphatidylinositol 4,5-Bisphosphate Effectors in Human Nuclear Proteome. *Cells.* 2021, 10(1), 68. IF 6,600

Šigutová, H., Harabiš, F., Šigut, M., Vojar, J., **Choleva,** L., Dolný, A. Specialization directs habitat selection responses to a top predator in semiaquatic but not aquatic taxa. *Scientific Reports.* 2021, 11(1), 18928. IF 4,379

Šlechtová, V., Musilová, Z., Tan, H. H., Kottelat, M., **Bohlen, J**. One northward, one southward: Contrasting biogeographical history in two benthic freshwater fish genera across Southeast Asia (Teleostei: Cobitoidea: Nemacheilus, Pangio). *Molecular Phylogenetics and Evolution.* 2021, 161(AUG 2021), 107139. IF 4,286

Šonský, I., **Vodička, P., Vodičková Kepková, K**., Hansíková, H. Mitophagy in Huntington's disease. *Neurochemistry International.* 2021, 149(OCT 2021), 105147. IF 3,921

Tiwari, A. P., Thorat, N. D., Pricl, S., Patil, M. R., **Rohiwal, S. S**., Townley, H. Bioink: a 3D-bioprinting tool for anticancer drug discovery and cancer management. *Drug Discovery Today.* 2021, 26(7), 1574-1590. IF 7,851

Vallés, A., Evers, M., Stam, A., Sogorb-Gonzales, M., Brouwers, C., Vendrell-Tornero, C., Acar-Broekmans, S., Paerels, L., **Klíma, J., Bohuslavová, B**., Pintauro, R., Fodale, V., Bresciani, A., Liščák, R., Urgošík, D., Stárek, Z., Crha, M., Blits, B., Petry, H., **Ellederová, Z., Motlík, J.,** van Deventer, S., Konstantinová, P. Widespread and sustained target engagement in Huntington's disease minipigs upon intrastriatal microRNA-based gene therapy. *Science Translational Medicine.* 2021, 13(588), eabb8920. IF: 17,956

Veselá, B., Švandová, E., Ramešová, A., Kratochvílová, A., Tucker, A. S., **Matalová, E**. Caspase Inhibition Affects the Expression of Autophagy-Related Molecules in Chondrocytes. *Cartilage.* 2021, 13(2 Suppl), 956S-968S. IF 4,634

Veselá, B., Zapletalová, M., **Švandová, E., Ramešová, A**., Doubek, J., **Lesot, H., Matalová, E**. General Caspase Inhibition in Primary Chondrogenic Cultures Impacts Their Transcription Profile Including Osteoarthritis-Related Factors. *Cartilage.* 2021, 13(Suppl 2), 1144S-1154S. IF 4,634

Wagner, A. O., Westerholm, M., Stres, B., **Kopečný, J.** Editorial: Exploring the Role and Function of the Microbiota in Terrestrial Anaerobic Environments and Their Potential Biotechnological Application. *Frontiers in Microbiology.* 2021, 12(JUL 27), 722268. IF 5,640

Yano, C. F., Sember, A., Kretschmer, R., Bertollo, L.A.C., Ezaz, T., Hatanaka, T., Liehr, T., **Ráb, P**., Al-Rikabi, A. B. H., Viana, P. F., Feldberg, E., de Oliveira, E. A., Toma, G. A., de Bello Cioffi, M. Against the mainstream: exceptional evolutionary stability of ZW sex chromosomes across the fish families Triportheidae and Gasteropelecidae (Teleostei: Characiformes). *Chromosome Research.* 2021, 29(3-4), 391-416. IF 5,239

Zeman, T., Balcar, V. J., Cahová, K., Janoutová, J., Janout, V., **Lochman, J., Šerý, O**. Polymorphism rs11867353 of Tyrosine Kinase Non-Receptor 1 (TNK1) Gene Is a Novel Genetic Marker for Alzheimer's Disease. *Molecular Neurobiology.* 2021, 58(3), 996-1005. IF 5,590