

## SCIENTIFIC PROGRAMME

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### Sunday, September 3<sup>rd</sup> (in hotel Clarion České Budějovice)

17:00 – 20:00 Registration

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### Monday, September 4<sup>th</sup> (in hotel Clarion České Budějovice)

08:00 – 09:00 Registration

09:00 – 09:10 Welcome speech (Hotel Clarion)

#### SESSION I. SPERMATOGENESIS AND SPERM QUALITY

Chairmen: Jacky Cosson, Otomar Linhart

- 09:10 – 09:50 Plenary lecture – Rüdiger Schulz**, Diego Crespo, Diego Safian, Roberto Morais, Luiz Assis, Eva Andersson, Geir Lasse Taranger, Anna Wargelius, Jan Bogerd  
ENDOCRINE AND PARACRINE REGULATION OF ZEBRAFISH SPERMATOGENESIS p. 24
- 09:50 – 10:10 Kaoru Yoshida**, Kogiku Shiba, Junpei Ikenaga, Kazuo Inaba, and **Manabu Yoshida**  
SPERM CHEMOTAXIS IS MEDIATED BY CALCIUM EFFLUX VIA PLASMA MEMBRANE-TYPE CALCIUM PUMP p. 25
- 10:10 – 10:30 Beata I. Cejko**, Beata Sarosiek, Sławomir Krejszeff, Radosław K. Kowalski  
SEASONAL DIFFERENCES IN SPERM QUALITY PARAMETERS OF THE COMMON CARP *CYPRINUS CARPIO* L. p. 26
- 10:30 – 10:50 Vitaliy Kholodnyy**, Jacky Cosson, Serhii Boryshpolets  
DOES OVARIAN FLUID AFFECT THE FERTILIZATION IN FRESH WATER FISH? p. 27
- 10:50 – 11:10 Carina Caldeira**, Borys Dzyuba, Boryshpolets Serhii, Daznia Bompert, Jacky Cosson, Carles Soler  
IS OSMOTIC PRESSURE THE ONLY FACTOR TO INDUCE SPERM MOTILITY ON COMMON CARP? p. 28
- 11:10 – 11:30 Coffee break**

- 11:30 – 11:50** **Víctor Gallego**, J. Germán Herranz-Jusdado, Christoffer Rozenfeld, David S. Peñaranda, Luz Pérez, Juan F. Asturiano  
EUROPEAN EEL (*ANGUILLA ANGUILLA*) MALES REPRODUCTIVE PERFORMANCE DURING INDUCED SEXUAL MATURATION: EFFECT OF DIFFERENT HORMONAL TREATMENTS p. 29
- 11:50 – 12:10** Alexandra Depincé, Chloé Bertin, **Catherine Labbé**  
EPIGENETIC STABILITY IN GOLDFISH SPERM UPON HORMONAL INDUCTION AND OVER THE BREEDING SEASON p. 30
- 12:10 – 12:30** **José Beirão**, Margaret A. Litt, Craig F. Purchase  
CHEMICALLY DISPERSED CRUDE OIL AFFECTS SPERM FERTILIZING ABILITY BUT NOT SPERM SWIMMING IN CAPELIN (*MALLOTUS VILLOSUS*) p. 31
- 12:30 – 12:50** **Ping Li**, Wei Guo, Huamei Yue, Chuangju Li, Hao Du, Xinmei Qiao, Zhigang Liu, Zhou Qiong and Qiwei Wei,xi  
PREDICTIVE BIOMARKERS OF SPERM QUALITY IN STURGEON SPERMATOOZOA p. 32
- 12:50 – 13:10** **Marco Graziano**, Craig F. Purchase  
NON-NEWTONIAN PHYSICAL PROPERTIES OF OVARIAN FLUID MAY BE IMPORTANT FOR POST-COPULATORY CRYPTIC FEMALE CHOICE IN ATLANTIC SALMON (*SALMO SALAR*) p. 33
- 13:10 – 14:10** **Lunch**
- 14:10 – 14:30** Borys Dzyuba, Marc Legendre, Jean François Baroiller, **Jacky Cosson**  
SPERM MOTILITY OF THE NILE TILAPIA (*OREOCHROMIS NILOTICUS*): EFFECTS OF TEMPERATURE ON THE SWIMMING CHARACTERISTICS p. 34
- 14:30 – 14:50** Fallah HP, Tovo Neto A., **Habibi HR**  
PARACRINE CONTROL OF TESTICULAR DEVELOPMENT AND SPERMATOGENESIS IN ZEBRAFISH (*DANIO RERIO*) p. 35
- 14:50 – 15:10** **François Chauvigné**, Alba Ferré, Roderick Nigel Finn, Joan Cerdà  
SPECIFIC REGULATORY ROLES OF AQUAPORINS IN MARINE TELEOST SPERMATOOZOA p. 36
- 15:10 – 15:30** **Güneş Yamaner**, Gökhan Tunçelli, Momin Momin, Devrim Memiş  
COMPARISON OF RAINBOW TROUT (*ONCORHYNCHUS MYKISS*) SPERM MOTILITY PARAMETERS AND FERTILIZATION RESULT BETWEEN DIFFERENT CHAMBERS IN CASA SYSTEM p. 37

- 15:30 – 15:50** **Víctor Gallego**, Juan F. Asturiano  
FISH SPERM MOTILITY: A USEFUL TOOL FOR MULTIDISCIPLINARY  
STUDIES IN AQUACULTURE RESEARCH, A HISTORICAL APPROACH p. 38
- 15:50 – 16:10** **Coffee break**
- 16:10 – 16:30** **Katarzyna Dziewulska**, Malwina Pilarska  
INHIBITORY EFFECT OF K<sup>+</sup> IONS ON THE SPERMATOZOA MOTILITY OF  
EUROPEAN BURBOT (*LOTA LOTA* L.) p. 39
- 16:30 – 16:50** **Pavlo Fedorov**, J. Germán Herranz-Jusdado, Víctor Gallego, Christoffer  
Rozenfeld, David S. Peñaranda, Luz Pérez, Ganna Fedorova, Roman  
Grabic, Borys Dzyuba, Juan F. Asturiano  
BIOENERGETICS OF EUROPEAN EEL SPERMATOZOA FOLLOWING  
HORMONAL TREATMENT, POST ACTIVATION, AND DURING SHORT-  
TERM STORAGE p. 40
- 16:50 – 17:10** **François Chauvigné**, Wendy González, Neil Duncan, Ignacio Giménez,  
Joan Cerdà  
USING RECOMBINANT GONADOTROPIN-BASED HORMONE  
THERAPIES TO IMPROVE SPERM PRODUCTION IN THE FLATFISH  
*SOLEA SENEGALENSIS* p. 41
- 17:10 – 18:50** **Poster session I.**
- 19:20 – ?** **Welcome beer**

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## Tuesday, September 5<sup>th</sup> (in hotel Clarion České Budějovice)

### SESSION II. OOGENESIS AND EGG QUALITY

Chairmen: Pascal Fontaine, Ozlem Yilmaz

- 9:00 – 9:40** **Plenary lecture – Julien Bobe**, Violette Thermes  
MATERNAL-EFFECT GENES AND EGG QUALITY: USUAL SUSPECTS  
AND NEW PLAYERS p. 44
- 9:40 – 10:00** **Azin Mohagheghi Samarin**, Azadeh Mohagheghi Samarin, Tone-Kari  
Knutsdatter Østbye, Øivind Andersen, Bente Ruyter, Sabine Sampels,  
Miroslav Blecha, David Gela, Tomas Policar  
GENE EXPRESSION CHANGES ASSOCIATED WITH POST-OVULATORY  
AND POST-STRIPPING OOCYTE AGEING IN COMMON CARP,  
*CYPRINUS CARPIO* p. 45

- 10:00 – 10:20** **Tainá Rocha de Almeida**, Bérénice Schaerlinger, Aurélie Le Cam, Maud Alix, Jérôme Montfort, Julien Bobe, Dominique Chardard, Pascal Fontaine  
TRANSCRIPTOMIC ANALYSIS OF EURASIAN PERCH (*PERCA FLUVIATILIS*) EGGS ASSIGNED TO DISTINCT GROUPS OF QUALITY p. 46
- 10:20 – 10:40** **Karel Janko**, Jan Pačes, Hilde Wilkinson-Herbots, Rui J Costa, Jan Roslein, Pavel Drozd, Nataliia Iakovenko, Jakub Rídl, Miluše Hroudová, Jan Kočí, Radka Reifová, Věra Šlechtová, Lukáš Choleva  
WHY SEX TURNS TO ASEXUALITY: THE INTERCONNECTION BETWEEN ASEXUALITY, HYBRIDIZATION AND SPECIATION p. 47
- 10:40 – 11:00** **Danielle Zanerato Damasceno**, Fábio Bittencourt, Elizabeth Romagosa  
ARGININE INFLUENCES FEMALE REPRODUCTIVE PERFORMANCE AND OFFSPRING GROWTH OF *RHAMDIA QUELEN* p. 48
- 11:00 – 11:20** **Coffee break**

### SESSION III. GERM CELLS: FROM BASIC SCIENCES TO APPLIED BIOTECHNOLOGIES

Chairmen: Taiju Saito, Jean-Jacques Lareyre

- 11:20 – 12:00** **Plenary lecture – Luiz Renato de Franca**  
SPERMATOGENIAL STEM CELLS TRANSPLANTATION AND TRANSGENESIS IN FISH p. 50
- 12:00 – 12:20** Anne-Sophie Goupil, Ahmed Maouche, Alexandra Depincé, Lionel Goardon, Marjorie Bideau, Nicolas Dechamp, Edwige Quillet, **Jean-Jacques Lareyre**, Francine Krieg and Florence Le Gac  
IMPLEMENTATION OF A GERM STEM CELL TRANSPLANTATION PROCEDURE FOR THE REGENERATION OF ISOGENIC TROUT LINES p. 51
- 12:20 – 12:40** **Jelena Lujić**, Zoran Marinović, Simona Sušnik Bajec, Ida Djurdjevič, Aleš Snoj, Béla Urbányi, Ákos Horváth  
INTERSPECIFIC TRANSPLANTATION OF BROWN TROUT AND GRAYLING GERM CELLS INTO RAINBOW TROUT: CONSERVATION OF VALUABLE BALKAN TROUT GENETIC RESOURCES p. 52
- 12:40 – 13:00** **Alexandra Depincé**, Pierre-Yves Le Bail, Catherine Labbé  
EPIGENETIC REPROGRAMMING AFTER NUCLEAR TRANSFER IN FISH p. 53
- 13:00 – 13:20** **Viktoriia Iegorova**, Martin Psenicka, Taiju Saito  
STURGEON PHENOMENON: FIRST EVIDENCE OF PROGENY FROM THREE PARENTS p. 54

- 13:20 – 13:40** **Diógenes Henrique de Siqueira-Silva**, Lucas Henrique Piva, Caio Augusto Gomes Goes, Takafumi Fujimoto, Taiju Saito, Letícia Veroni Dragone, José Augusto Senhorini, Fabio Porto-Foresti, José Bento Stermann Ferraz, George Shigueki Yasui  
TRIPLOID OR HYBRID FISH: WHICH IS THE BEST HOST FOR STEM GERM CELLS? p. 55
- 13:40 – 14:40** **Lunch**
- 14:40 – 15:00** **Mitsuru Endoh**, Takafumi Fujimoto, Etsuro Yamaha, Katsutoshi Arai  
EMBRYONIC DEVELOPMENT OF NUCLEO-CYTOPLASMIC HYBRIDS INDUCED BY INTERSPECIFIC ANDROGENESIS AMONG SPECIES IN CYPRINIFORMES p. 56
- 15:00 – 15:20** **Taiju Saito**, Rie Goto, Takahiro Matsubara  
DEVELOPMENT OF PRIOMORDIAL GERM CELLS AND PIGMENT CELLS IN EASTERN LITTLE TUNA, *EUTHYNNUS AFFINIS*, EMBRYOS p. 57
- 15:20 – 15:40** **Ahmed Maouche**, Edouard Curran, Aude Gautier, Anne-Sophie Goupil, Elisabeth Sambroni, Elodie Dupin de Breyssat, Yann Guiguen, Taiju Saito, Florence Le Gac, Jean-Jacques Lareyre  
EXPRESSION PROFILING OF NEW GERMLINE MARKERS SUGGESTS SUCCESSIVE WAVES OF DIFFERENT SPERMATOGONIAL STEM CELL SUBPOPULATIONS DURING RAINBOW TROUT ONTOGENESIS p. 58
- 15:40 – 16:00** **Charlène Rouillon**, Alexandra Depincé, Pierre-Yves Le-Bail and Catherine Labbé  
MEIOSIS RESUMPTION AND EARLY MITOSIS PATTERN AFTER SOMATIC CELL NUCLEAR TRANSFER IN GOLDFISH p. 59
- 16:00 – 16:20** Kota Yokoyama, Takafumi Fujimoto, **Katsutoshi Arai**  
INDUCED POLYSPERMY IN POND LOACH, MISGURNUS ANGUILLICAUDATUS: CYTOLOGICAL BEHAVIOR OF SPERM NUCLEI INTRUDED INTO DECHORIONATED EGGS p. 60
- 16:20 – 16:40** **Coffee break**
- 16:40 – 17:00** **Effrosyni Fatira**, Catherine Labbe, Alexandra Depince, Victoriia Iegorova, Kseniia Pocherniaieva, Hilal Güralp, Miloš Havelka, Martin Psenicka, Taiju Saito  
SINGLE AND MULTIPLE SOMATIC CELLS NUCLEAR TRANSFER IN CRITICALLY ENDANGERED SPECIES, STURGEON p. 61

- 17:00 – 17:20** **Ana Carina Nogueira Vasconcelos**, Anna Octavera, Danilo Pedro Streit Jr., Goro Yoshizaki  
FIRST EVIDENCE IN FISH OF ALTERNATIVE DEAD END GENE SPLICING p. 62
- 17:20 – 17:40** Laura Gribouval, Aude Gautier, Pierrick Auvray, **Pascal Sourdain**  
SPERMATOGONIAL STEM CELLS TRANSPLANTATION IN A LITTLE SHARK, THE DOGFISH *SCYLIORHINUS CANICULA* L. p. 63
- 17:40 – 18:00** **Xuan Xie**, Ping Li, Martin Pšenička, Huan Ye, Kseniia Pocherniaieva, Jie Ma, Lingbing Zeng, Chuangju Li and Qiwei Wei  
ESTABLISHMENT OF *IN VITRO* CULTURE CONDITIONS OF STURGEON GERM CELLS p. 64
- 18:00 – 19:50** **Poster session II.**

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### Wednesday, September 6<sup>th</sup> (in Vodňany)

- 08:00** Departure from hotel Clarion to Vodňany for excursion of local facilities (bus 1)
- 10:40** Departure from hotel Clarion to Vodňany (bus 2)
- 08:45 – 11:20** Excursion
- 11:20 – 11:40** Coffee break

### SESSION IV. GAMETE “OMICS”

Chairmen: Julien Bobe, Aude Gautier

- 11:40 – 12:20** **Plenary lecture – Igor Babiak**, Teshome Tilahun Bizuayehu, Christopher Presslauer, Asan Meera Sahib, Haja Mohideen  
SMALL REGULATORY TRANSCRIPTOME IN FISH GONADS, GAMETES AND EARLY EMBRYOS p. 66
- 12:20 – 12:40** **Elisabeth Sambroni**, Amélie Patinote, Florence Le Gac, Jean-Jacques Lareyre  
THE INVALIDATION OF THE FSHR GENE IN ZEBRAFISH LEADS TO A GAIN OF BODY WEIGHT, A BIASED SEX-RATIO AND A DECREASE IN SPERM QUALITY p. 67
- 12:40 – 13:00** **Ozlem Yilmaz**, Amelie Patinote, Thaovi Nguyen, Emmanuelle Com, Charles Pineau, Amaury Herpin, Julien Bobe.  
CRISPR/Cas9 DISTURBANCE OF THE MULTIPLE VITELLOGENIN (VTG) SYSTEM: ESSENTIAL FUNCTIONS OF DIFFERENT VTG TYPES DURING ZEBRAFISH EGG, EMBRYO AND LARVAL DEVELOPMENT p. 68

- 13:00 – 13:20** Laura Gribouval, Pascal Sourdain, Jean-Jacques Lareyre, Johanna Bellaiche, Florence Le Gac, Sylvie Mazan, **Aude Gautier**  
DUPLICATION OF NANOS1 GENE AND EXPRESSION IN DOGFISH GONADS p. 69
- 13:20 – 13:40** Caroline T. Cheung, Thaovi Nguyen, Aurélie Le Cam, Jérôme Montfort, **Julien Bobe**  
NOVEL MATERNAL-EFFECT GENES SHED NEW LIGHT ON THE MOLECULAR MECHANISMS CONTROLLING FISH EGG QUALITY p. 70
- 13:40– 14:00** **Cinta Zapater**, Berta Crespo, Iciar Muñoz, Patricia Pinto, Silvia Zanuy, Ana Gómez  
INVOLVEMENT OF THE TRANSCRIPTIONAL COACTIVATOR NCOA7 DURING INITIAL STAGES OF GAMETOGENESIS IN EUROPEAN SEA BASS (*DICENTRARCHUS LABRAX*) p. 71
- 14:00 – 15:00** **Lunch**

## **SESSION V. GAMETE STORAGE AND PRESERVATION**

**Chairmen: Catherine Labbe, Juan F. Asturiano**

- 15:00 – 15:40** **Plenary lecture – Ákos Horváth**  
GAMETE AND GERM CELL PRESERVATION AND STORAGE: PERSPECTIVES AND THE REALITY p. 74
- 15:40 – 16:00** **J. Germán Herranz-Jusdado**, Victor Gallego, David S. Peñaranda, Christoffer Rozenfeld, Luz Pérez, Juan F. Asturiano  
OPTIMIZATION AND STANDARDIZATION OF PROTOCOLS FOR EUROPEAN EEL SPERM SHORT-TERM STORAGE AND CRYOPRESERVATION OF LARGE SPERM VOLUMES p. 75
- 16:00 – 16:20** **Miaomiao Xin**, Anna Shaliutina-Kolešová, Mohammad Abdul Momin Siddique, Jan Štěrbá, Borys Dzyuba, Sergii Boryshpolets, Vitaliy Kholodnyy, Otomar Linhart, Li Ping  
PROTECTIVE ROLE OF ANTIFREEZE PROTEINS DURING CRYOPRESERVATION OF STERLET (*ACIPENSER RUTHENUS*) SPERMATOZOA p. 76
- 16:20 – 16:40** **Eszter Kása**, Gergely Bernáth, Zoltán Bokor, Béla Urbányi, Kinga Katalin Lefler, Dušan Jesenšek, Ákos Horváth  
DEVELOPMENT OF SPERM VITRIFICATION PROTOCOLS FOR ENDANGERED SALMONIDS: ADRIATIC GRAYLING (*THYMALLUS THYMALLUS*) and MARBLE TROUT (*SALMO MARMORATUS*) p. 77

- 16:40 – 17:00** **Patricia Diogo**, Gil Martins, Ana Eufrásio, Rita Nogueira, Isa Quinzico, Tomé Silva, Elsa Cabrita, Paulo Gavaia  
GUIDELINES FOR ZEBRAFISH SPERM CRYOPRESERVATION AND STORAGE p. 78
- 17:00 – 17:20** **Coffee break**
- 17:20 – 17:40** **Ákos Horváth**, Tímea Kollár, Gergely Bernáth, Béla Urbányi, Zsolt Csenki-Bakos, Bernadett Faragó, Katalin Szabó, Csilla Budai, Eszter Losonczy, Judit Cserepes  
PTAT PRECONDITIONING OF ZEBRAFISH EMBRYOS IN ORDER TO INCREASE THEIR CHILLING RESISTANCE p. 79
- 17:40 – 18:00** **Leandro Godoy**, Henrique Dias, Jôsie Caldas, Nayara Cruz  
SPERM FROM THE ENDANGERED AMAZONIAN FISH *HYPANCISTRUS ZEBRA* CAN BE SUCCESSFULLY COLLECTED AND CRYOPRESERVED p. 80
- 18:00 – 18:20** **Gergely Bernáth**, Zsolt Csenki-Bakos, Zoltán Bokor, Levente Várkonyi, József Molnár, Alexandra Kajtár, Tamás Szabó, Ádám Staszny, Árpád Ferincz, Krisztián Szabó, Béla Urbányi, Balázs Csorbai  
THE EFFECTS OF DIFFERENT PRESERVATION METHODS ON IDE (*LEUCISCUS IDUS*) SPERM AND THE LONGEVITY OF SPERM MOVEMENT p. 81
- 18:20 – 18:40** **Taís Silva Lopes**, Eduardo Antonio Sanches, Danilo Caneppele, Elizabeth Romagosa  
FREEZING SENSITIVITY OF SURUBIM-DO-PARAÍBA, *STEINDACHNERIDION PARAHYBAE* OOCYTES p. 82
- 18:40 – 19:00** İlker Yavaş, **Yusuf Bozkurt**, Zafer Cantekin, Tuğba Korkmaz Yavaş  
EFFECT OF EXTENDER SUPPLEMENTED WITH DIFFERENT ANTIOXIDANTS ON MOTILITY, DNA DAMAGE AND FERTILIZING ABILITY OF WILD AFRICAN CATFISH (*CLARIAS GARIEPINUS*) SPERM p. 83
- 19:00 – ?** **Dinner (shuttle service will be operating from 21:00 until the end)**

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## Thursday, September 7<sup>th</sup> (in hotel Clarion České Budějovice)

- 09:00 – 09:20** **Yevhen Horokhovatskyi**, Mariola A. Dietrich, Ievgen Lebeda, Sergii Boryshpolets, Pavlo Fedorov, Marek Rodina, Borys Dzyuba  
CRYOPRESERVATION EFFECT ON STERLET SPERM VIABILITY AND PROTEIN CONTENT AFTER LIVE/DEAD CELLS SEPARATION BY PERCOLL DENSITY GRADIENT p. 84

- 09:20 – 09:40** **Zoran Marinović**, Qian Li, Jelena Lujić, Eszter Kása, Yoshiko Iwasaki, Béla Urbányi, Ákos Horváth, Goro Yoshizaki  
CRYOPRESERVATION OF ZEBRAFISH SPERMATOGONIA: SLOW-RATE  
FREEZING VS VITRIFICATION p. 85

## **SESSION VI. ANTHROPOGENIC CONTAMINANTS AND FISH GAMETES**

Chairmen: Hamid Habibi, Patrick Kestemont

- 09:40 – 10:20** **Plenary lecture – Oliana Carnevali**, Stefania Santangeli, Isabel Forner Piquer, Francesca Maradonna  
ENDOCRINE DISRUPTING CHEMICALS IN AQUATIC ENVIRONMENTS:  
EFFECTS ON FISH GAMETES p. 88
- 10:20 – 10:40** **Ina Wagenaar** and Irene Barnhoorn  
HISTOPATHOLOGICAL ASSESSMENT OF GONADAL TISSUE  
OF FISH EXPOSED TO ANTHROPOGENIC CONTAMINANTS, SOUTH  
AFRICA p. 89
- 10:40 – 11:00** **Hana Kocour Kroupová**, Pavel Šauer, Jitka Tumová, Christoph Steinbach, Oksana Golovko, Jana Máchová, Hans Komen, Vít Profant, Roman Grabic  
SIMULTANEOUS EXPOSURE TO ENVIRONMENTALLY RELEVANT  
CONCENTRATIONS OF DROSPIRENONE AND GESTODENE CAUSED  
INTERSEX IN COMMON CARP, *CYPRINUS CARPIO* L. p. 90
- 11:00 – 11:20** **Tímea Kollár**, Eszter Kása, Árpád Ferincz, Balázs Csorbai, Béla Urbányi, Zsolt Csenki-Bakos, Ákos Horváth  
IN VITRO TOXICOLOGY TEST SYSTEM BASED ON COMMON CARP  
(*CYPRINUS CARPIO*) SPERM ANALYSIS p. 91
- 11:20 – 11:40** **Coffee break**
- 11:40 – 12:00** **Closing ceremony**
- 12:30 – 13:30** **Lunch**
- 13:45** **Bus departure – guide tour in Český Krumlov with dinner**
- 21:00** **Coming back to the hotel Clarion**

## POSTER PRESENTATIONS

### SESSION I. SPERMATOGENESIS AND SPERM QUALITY

**Zoltán Bokor**, József Molnár, Árpád Ferincz, Levente Várkonyi, Zsolt Szári, Ferenc Fodor, Tibor Tulipán, Gábor Nagy, Béla Urbányi, Gergely Bernáth  
INVESTIGATION OF MALE MATURATION OUT-OF- AND DURING THE SPAWNING SEASON IN  
SICHEL (*PELECUS CULTRATUS*) p. 94

**Olga Bondarenko**, I. López-González, A. Darszon  
SPERMATOGENIC CELL T-TYPE  $Ca^{2+}$  CURRENTS ARE POTENTIALLY REGULATED BY  
ARACHIDONIC ACID (AA) p. 95

**Volodymyr Bondarenko**, Miroslav Blecha, Tomas Policar  
CHANGES OF SPERM MORPHOLOGY, VOLUME, DENSITY AND MOTILITY PARAMETERS IN  
NORTHERN PIKE DURING THE SPAWNING PERIOD p. 96

**Ian Anthony Ernest Butts**, Galina Prokopchuk, Vojtěch Kašpar, Jacky Cosson, Trevor Edgar Pitcher  
OVARIAN FLUID IMPACTS FLAGELLA BEATING AND BIOMECHANICAL METRICS OF SPERM  
BETWEEN ALTERNATIVE REPRODUCTIVE TACTICS p. 97

**Beata I. Cejko**, Ákos Horváth, Radosław K. Kowalski  
OPTIMIZATION OF SODIUM AND POTASSIUM CONTENT AND PH IN COMMON CARP  
*CYPRINUS CARPIO* L. ARTIFICIAL SEMINAL PLASMA p. 98

**Hadiseh Dadras**, Sabine Sample, Tomas Policar, Miroslav Blecha, Borys Dzyuba  
CHANGES OF SPERMATOZOA LIPID COMPOSITION IN RELATION TO THERMO-ACTIVATION  
PROCESS IN BURBOT, *LOTA LOTA* p. 99

**Borys Dzyuba**, Sabine Sampels, Viktoriya Dzyuba, Alexandre Ninhaus Silveira, Martin Kahanec, Rosicleire Veríssimo Silveira, Vitaliy Kholodnyy, Marek Rodina, Sergii Boryshpolets  
SPERMATOZOOM STRUCTURE, LIPID COMPOSITION AND MOTILITY IN RELATION TO  
INTERNAL FERTILIZATION IN FRESHWATER STINGRAY *POTAMOTRYGON MOTORO* p. 100

**Viktoriya Dzyuba**, Alexandre Ninhaus Silveira, Martin Kahanec, Rosicleire Veríssimo Silveira, Jan Sterba, Marek Rodina and Borys Dzyuba  
EVIDENCE OF SPERM MATURATION IN FRESHWATER STINGRAYS *POTAMOTRYGON MOTORO* p. 101

**İlker Keskin**, Sude Atmaca, **Aygül Ekici**  
THE EFFECTS OF GINGER ON ZEBRAFISH SPERM MOTILITY p. 102

**Amin Golpour**, Martin Psenička, Hamid Niksirat  
ULTRASTRUCTURAL DISTRIBUTION OF CALCIUM DURING SPERMATOGENESIS OF ZEBRAFISH,  
*DANIO RERIO* p. 103

**Jiri Kristan**, Daniel Zarski, Miroslav Blecha, Tomas Policar, Oleksandr Malinovskiy, Azin Mohagheghi Samarin, Katarzyna Palinska-Zarska, Joanna Nowosad, Slawomir Krejszeff, Dariusz Kucharczyk  
FERTILIZING ABILITY OF GAMETES AT DIFFERENT POST-ACTIVATION TIMES AND THE SPERM-EGG-RATIO IN THE ARTIFICIAL REPRODUCTION OF PIKEPERCH SANDER *LUCIOPERCA* p. 104

**Levente Várkonyi**, Zoltán Bokor, Balázs Csorbai, Zsolt Szári, István Ittész, Zoltán Szabó, Daniel Zarski, Béla Urbányi, Gergely Bernáth  
THE EFFECTS OF CHILLED STORAGE AND THE pH OF THE ACTIVATING SOLUTION ON DIFFERENT MOTILITY PARAMETERS IN BURBOT (*LOTA LOTA*) SPERM p. 105

Momin Momin, **Devrim Memiş**  
SPERM QUALITY ANALYSIS OF NORMAL SEASON AND OUT-SEASON BY PHOTOPERIOD MANIPULATION OF MALE RAINBOW TROUT BROODSTOCK (*ONCORHYNCHUS MYKISS*) p. 106

**Gregorio Molés**, Cinta Zapater, Silvia Zanuy, Ana Goméz  
GONADOTROPIN SIALYLATION IN EUROPEAN SEA BASS (*DICENTRARCHUS LABRAX*), ANOTHER WAY OF ACTIVITY REGULATION? p. 107

**Gregorio Molés**, Cinta Zapater, Patricia Pinto, Soledad Ibañez, Ana Goméz  
IMPACT OF GONADAL STEROIDS ON PITUITARY GONADOTROPINS IN MALE EUROPEAN SEA BASS (*DICENTRARCHUS LABRAX*) p. 108

**Beata Sarosiek**, Katarzyna Dryl, Joanna Nowosad, Dariusz Kucharczyk  
THE INFLUENCE OF SPERM ENZYMES INHIBITION ON THE PERCENTAGE OF FERTILIZED CARP EGGS p. 109

**Danilo Pedro Streit Jr.**, Éverton Luís Zardo, Daniel Antônio Rotili, Lis Santos Marques, Itamar Cossina Gomes, Marcelo Bernardi, Damião Guedes, Júlia Giora  
REPRODUCTIVE CYCLE AND SPERMATOGENESIS OF PIRACANJUBA (*BRYCON ORBIGNYANUS*) IN CAPTIVITY p. 110

**Michelle Thönnnes**, Marlen Kotte, Katja Steinborn, Alexander Froschauer, Frank Pfennig  
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