Contents

Part I  Systematics, Ecology, and Evolution of Percids

1 Taxonomy, Distribution, and Evolution of the Percidae ......................... 3
   Carol A. Stepien and Amanda E. Haponski

2 Environmental Biology of Percid Fishes ........................................... 61
   Zachary S. Feiner and Tomas O. Höök

Part II  Reproductive Biology

3 Broodstock Management and Control of the Reproductive Cycle .............................................. 103
   P. Fontaine, N. Wang, and B. Hermelink

4 Artificial Reproduction of Percid Fishes ........................................ 123
   D. Żarski, A. Horváth, J.A. Held, and D. Kucharczyk

5 Sperm Morphology, Physiology, Motility, and Cryopreservation in Percidae .............................................. 163
   Sayyed Mohammad Hadi Alavi, Andrzej Ciereszko, Azadeh Hatef, Jiří Křišťan, Boris Dzyuba, Sergei Boryshpolets, Marek Rodina, Jacky Cosson, and Otomar Linhart

6 Evaluation and Improvements of Egg and Larval Quality in Percid Fishes .............................................. 193
   B. Schaarlinger and D. Żarski

Part III  Early Life Stages: Development, Metabolism, and Husbandry

7 Development of the Sense Organs in Percid Fishes .............................. 227
   M. Kamaszewski and T. Ostaszewska
8 Development and Functionality of the Digestive System in Percid Fishes Early Life Stages ....................................................... 239
Neila Hamza, Teresa Ostaszewska, and Patrick Kestemont

9 Culture Methods of Eurasian Perch and Yellow Perch Early Life Stages ........................................................................... 265
P. Kestemont, C. Mélard, J.A. Held, and K. Dabrowski

10 Culture Methods of Pikeperch Early Life Stages ...................... 295
Svend Steenfeldt

11 Intensive Culture of Walleye from Egg Incubation to Juvenile .......... 313
Robert C. Summerfelt and J. Alan Johnson

Part IV Juvenile and Grow-Out Stages: Growth, Metabolism, Behavior and Husbandry

12 Muscle Protein Characteristic and Its Association with Faster Growth in Percids and Other Teleosts .......................... 339
Karolina Kwasek, Macdonald Wick, and Konrad Dabrowski

13 The Energy Requirements of Percid Fish in Culture .................... 353
Anders Alanärä and Åsa Strand

14 Bioenergetics Modeling of Percid Fishes .................................... 369
Charles P. Madenjian

15 Behaviour of Percid Fishes in the Wild and Its Relevance for Culture ................................................................. 399
Carin Magnhagen

16 Culture Methods of Eurasian Perch During Ongrowing ............ 417
Tomáš Policar, Azin Mohagheghi Samarin, and Charles Mélard

17 Intensive Culture Methods of Walleye During Ongrowing ........... 437
J. Alan Johnson and Robert C. Summerfelt

18 Large-Scale Production of Yellow Perch, Walleye, and Hybrid Walleye in Ponds ......................................................... 469
Ruth D. Briland, Cathleen M. Doyle, and David A. Culver

19 The Ecology of Lifetime Growth in Percid Fishes .................... 499
Michael D. Rennie and Paul A. Venturelli

Part V Nutrition, Feeds and Feeding Practices

20 Nutritional Requirements and Feeding of Broodstock and Early Life Stages of Eurasian Perch and Pikeperch .................. 539
Patrick Kestemont and Emilie Henrotte
21 Effects of Dietary Levels of PUFA Fed to Adult Yellow Perch on the Fatty Acid Composition of Eggs and Larvae Characteristics: New Research Directions ........................................... 565
Konrad Dabrowski, Jacques Rinchard, Sergiusz Czesny, and Małgorzata Korzeniowska

22 Feeding and Nutrition of Percid Fishes During Ongrowing Stages ................................................................. 587
Florian Geay and Patrick Kestemont

Part VI Genetic Improvement and Domestication

23 Sex and Ploidy Manipulation in Percid Fishes............................ 625
Carole Rougeot

24 Performance of Hybrid Percids ............................................. 635
James A. Held, Syaghalirwa N.M. Mandiki, Carole Rougeot, and Patrick Kestemont

25 Comparative Genetic Diversity, Population Structure, and Adaptations of Walleye and Yellow Perch Across North America .................................................. 643
Carol A. Stepień, Osvaldo J. Sepulveda-Villet, and Amanda E. Haponski

26 Production of Genetically Defined Perch Broodstocks and Their Selection for Fast Growth ........................................ 691
Frederick W. Goetz, Daniel R. Rosauer, Michael Grzybowski, Frederick P. Binkowski, and Brian S. Shepherd

27 Genetic Improvement of Percids ............................................. 699
R.J.W. Blonk and J. Komen

Part VII Stress, Immunology, Diseases and Health Management

28 Corticosteroids and the Stress Response in Percid Fish .............. 725
S. Milla, J. Douxfils, S.N.M. Mandiki, and M. Saroglia

29 Domestication and Responses to Stress .................................... 743
J. Douxfils, S.N.M. Mandiki, C. Mathieu, S. Milla, and P. Kestemont

30 Immune Status and Immunomodulation in Percid Fish ............... 761
S.N.M. Mandiki, J. Douxfils, C. Mathieu, S. Milla, E. Henrotte, H. Jansen, and P. Kestemont

31 Percid Fish Health and Disease ............................................. 799
H.D. Rodger and N.B.D. Phelps
Part VIII  Commercial Production, Quality, Marketing and Economics

32  Current Status of Eurasian Percid Fishes Aquaculture .................. 817
Svend Steenfeldt, Pascal Fontaine, Julia Lynne Overton,
Tomáš Policar, Damien Toner, Bahram Falahatkar,
Ákos Horváth, Ines Ben Khemis, Neila Hamza,
and Mohammed Mhetli

33  Concept and Determinism of Quality in Percid Fishes .................. 843
Marielle Thomas, Guillaume Mairesse, Jean-Noël Gardeur,
and Jean Brun-Bellut

34  The Market for Eurasian Perch ............................................. 865
Damien Toner

35  Commercial Production: Factors for Success
and Limitations in European Percid Fish Culture ....................... 881
Julia L. Overton, Damien Toner, Tomáš Policar,
and Dariusz Kucharczyk

Index ............................................................................................................. 891
Biology and Culture of Percid Fishes
Principles and Practices
Kestemont, P.; Dabrowski, K.; Summerfelt, R.C. (Eds.)
2015, XVIII, 901 p., Hardcover
ISBN: 978-94-017-7226-6