8. REFERENCES

Abbink, W.; Bevelander, G. S.;Hang, X.; Lu, W.; Guerreiro, P. M.; Spanings, T.; Canario, A. V. M.; Flik, G.; (2006); *PTHrP regulation and calcium balance in sea bream (Sparus auratus L.) under calcium constraint;* The Journal of Experimental Biology; 209, 3550-3557.

AFNOR; (1992); *Détermination de l'indice biologique global normalisé (IBGN);* Association française de normalization; (AFNOR), pp. 9.

Aerni P., (2004) *Risk, regulation and innovation: The case of aquaculture and transgenic fish,* Aquatic Science; 66; 327–341.

Beardmore, J. A., and Porter, J. S.; (2003); *Genetically Modified Organisms and Aquaculture* (FAO); Food and Agriculture Organization of the United Nations, Rome; University of Wales Swansea, United Kingdom.

Blair, H. C.; Zaidi, M.; Huang, C. L.-H.; Sun, L.; (2008) *The Developmental Basis of Skeletal Cell Differentiation and the Molecular Basis of Major Skeletal Defects*; Biological Reviews; Cambridge Philosophical Society; 83; 401–415.

Buonanno, A. and Rosenthal, N. (1996); *Molecular Control of Muscle Diversity and Plasticity*; Developmental Genetics 1995-107 (1996).

Boyle, W. J.; Simonet, W. S.; Lacey D. L.; (2003); *Osteoclast differentiation and activation*; Nature 423:337–342.

Cohen, J. M. M.; (2006); *The new bone biology: pathologic, molecular, and clinical correlates;* American Journal of Medical Genetics; Part A Vol.140A:2646–2706.

Cowx, I. G.; (2005); In: *FAO Fisheries and Aquaculture Department* [online]. Rome.

Creighton, T. E.; (1999); *Europeans Molecular Biology Laboratory, Encyclopedia of Molecular Biology* (Vol. 1 – 4); A Wiley-lnterscience Publication, John Wiley & Sons, Inc.; London, England.

Devlin, R. H.; Biagi, C. A.; Yesaki, T. Y.; Smailus, D. E.; Byatt, J. C.; (2001); *Growth of domesticated transgenic fish _ A growth-hormone transgene boosts the size of wild but not domesticated trout;* Nature – brief communication; Vol 409.

Devlin, R.H.; and Nagahama, Y.; (2002); *Sex determination and sex differentiation in fish: an overview of genetic, physiological and environmental influences*. Aquaculture 208, 191–364.

Devlin, R. H.; Biagi, C. A.; Yesaki, T. Y.; (2004); *Growth, viability and genetic characteristics of GH transgenic coho salmon strains;* Aquaculture 236; 607–632

Devlin, R. H.; Sundström, L. F.; Muir, W. M.; (2006); *Interface of Biotechnology and ecology for environmental risk assessments of transgenic fish;* Trends in Biotech.; vol.24; nº2

Devoto, S. H., Melançon, E., Eisen J. S., Westerfield M.; (1996); *Identification of separate slow and fast muscle precursor cells in vivo, prior to somite formation;* Development 122, 3371-3380.

Ducy, P.; Desbois, C.; Boyce, B.; Pinero, G.; Story, B.; Dunstan, C.; Smith, E.; Bonadio, J.; Goldstein, S.; Gundberg, C.; Bradley, A.; Karsenty, G.; (1996); *Increased bone formation in osteocalcin-deficient mice; Nature* Vol.**382**, 448 - 452.

Eccles, D. H.; (1992); *FAO species identification sheets for fishery purposes. Field guide to the freshwater fishes of Tanzania*; FAO, Rome, 145 pp.

Faustino, M.; and Power, D. M.; (1998); *Developmental of osteological structures in the sea bream: vertebral column and caudal fin complex*; J. Fish Biol.; Vol 52, pp. 11–22

Fast, A.W.; Pewnim, T.; Keawtabtim, R.; Saijit, R.; Te, F.T; Vejaratpimol, R.; (1995); *Comparative growth of diploid and triploid Asian catfish Clarias macrocephalus in Thailand*; J. World Aquacult. Soc.; Vol. 26: 390-395.

Fish base - Gall, G.A.E. and P.A. Crandell. 1992 . (Ref. 4706).

Folch, J.; Lees, M.; Sloane-Stanley, G. H. A; (1957) Simple method for the isolation and purification of total lipids from animal tissue. Journal of Biological Chemistry, Baltimore, v. 226, n. 1, p. 497-509.

Fuentes ,J.; Figueiredo, J.; Power, D. M.;Canário, A. V. M.; (2006); *Parathyroid hormone-related protein regulates intestinal calcium transport in sea bream (Sparus auratus); The American Journal of Physiology - Regulatory, Integrative and Comparative Physiology* 291: R1499–R1506.

Gadeau, A. P.; Chaulet, H.; Daret, D.; Kockx, M.; Lamazière, J. M .D.; Desgranges, C.; (2001); *Time course of osteopontin, osteocalcin, and osteonectin accumulation and calcification after acute vessel wall injury*; The Journal of Histochemistry & Cytochemistry; Vol. 49(1): 79–86.

Guerreiro, P. M., Renfro, L.,Power, D. M., Canário, A. V. M.; (2007); *The parathyroid hormone family of peptides: structure, tissue distribution, regulation, and potential functional roles in calcium and phosphate balance in fish;* The American Journal of Physiology - Regulatory, Integrative and Comparative Physiology; Vol. 292, R679–R696.

Grey A.; Bolland M.; Gamble G.; Wattie D.; Horne A.; Davidson J. & Reid I. R.; (2007); *The peroxisome proliferatoractivated receptor-gamma agonist rosiglitazone decreases bone formation and bone mineral density in healthy postmenopausal women: a randomized, controlled trial*; Journal of Clinical Endocrinology and Metabolism 92, 1305–1310.

Goldspink, G.; (1972); *Postembryonic growth and differentiation of striated muscle*. In *The Structure and Function of Muscle*, Vol. 1 (Bourne, G. H., ed.), pp. 179–236. New York: Academic Press.

Hall, B.K.; (2005); *Bones and Cartilage: Developmental Skeletal Biology;* Academic Press, London. Acceded by: books.google.com.

Hill, J. A.; Kiessling, A.; Devlin, R. H.; (2000); *Coho salmon (Oncorhynchus kisutch) transgenic for a growth hormone gene construct exhibit increased rates of muscle hyperplasia and detectable levels of differential gene expression;* Can. J. Fish. Aquat. Sci. 57(5): 939–950

Huysseune, A.; (2000); *Skeletal system*. In: Ostrander, G.K. (Ed.), The Laboratory Fish. Part 4. Microscopic Functional Anatomy. Academic Press, San Diego, pp. 307–317.

Irwin, R.; Lin, H. V.; Motyl; K. J. & Mccabe; L. R.; (2006); *Normal bone density obtained in the absence of insulin receptor expression in bone*. Endocrinology 147, 5760–5767.

Johnston, Ian A.; (2006); *Environment and plasticity of myogenesis in teleost fish*; Jounal of Experimental Biology.;209(Pt 12):2249-64.

Johnston, Ian A.; (1999) *Muscle development and growth: potential implications for flesh quality in fish*; *in* Aquaculture 177_99–115.

Johnstone, R.; Knott, R.M.; McDonald, A.G.; Walsingham, M.V.; (1989); *Triploidy induction in recently fertilized Atlantic salmon ova using anaesthetics*; Aquaculture vol. 78, 229–236.

Kacem A., Meunier F. J., Aubin J., Haffray P.; (2003); *Caractérization hist-morphologique des malformations du squelette vertebral chez la truite arc-en-ciel (Oncorhyncus mykiss) après différets traitements de triploïdisation;* Cybium, 27(4) suppl.1-9.

Karsenty, G.; (1999); *The genetic transformation of bone biology;* Genes & Development, 13: 3037-3051.

Karsenty, G. and Wagner, E. F.; (2002); *Reaching a Genetic and Molecular Understanding of Skeletal Development patterning were not really involved in the control of cell differentiation*. Review; Developmental Cell, Vol. 2, 389–406.

Karsenty, G.; (2003); *The complexities of skeletal biology.* Nature Publising Group, Vol 423, 15.

Koumans, J. T. M., and Akster, H. A., (1995) *Myogenic cells in development and growth of fish,* Comp. Biochem. Physio. Vol. 110 A, N°1 pp.3-20**.**

Lall, S. P. and Lewis-McCrea, L. M. (2007) *Role of nutrients in skeletal metabolism and pathology in fish — an overview*; Aquaculture 267, pp. 3–19.

Lall, S.P. (2002) *The minerals*, In: Halver, J.E., Hardy, R.W. (Eds.), Fish Nutrition, 3rd Edition. Academic Press Inc., San Diego, pp. 259–308.

Lassar, A. B.; Munsterberg, A. E.; (1996)*; The role of positive and negative signals in somite patterning*. Current Opinion in Neurobiology *6* 57-63.

Maxime V. (2008) *The physiology of triploid fish: current knowledge and comparisons with diploid fish;* Fish and Fisheries, 9, 67–78.

Maclean N. and Laight R.J.; (2000); *Transgenic fish: an evaluation of benefits and risks*; Fish and Fisheries, Volume 1, Number 2, pp. 146-172 (27).

Melamed, P.; Gong, Z.; Fletcher, G.; Hew, C. L.; (2002); *The potential impact of modern biotechnology on fish aquaculture;* Aquaculture 204; 255–269

Meunier and Huysseune, A.; (1992); *The concept of bone tissue in osteichthyes*. Netherlands Journal of Zoology. 42, 445–458.

Mohan, S. & Baylink, D. J.; (2005); *Impaired skeletal growth in mice with insufficiency of IGF-1: genetic evidence that differences in IGF-1 expression could contribute to peak bone mass differences.* Journal of Endocrinology.185, 415–420.

Mommsen, Thomas P.; (2001); *Paradigms of growth in fish_ Review*; Journal of Fish Biology 52, 588–599 Aquatic Biotechnology.

Moody, S. A.; (2007); *Principles of developmental Genetics*; George Washington University; Elsevier Inc.; United States of America - Chap. 12 ; Chap. 34 *Blood induction and embryonic formation*; Chap 39 *Skeletal development*.

Moss, M.L. (1961) *Studies of the acellular bone of teleost fish*; 1. Morphological and systematic variations. Acta Anatomica. 46, 343–462.

Nakashima K, de Crombrugghe B.; (2003); *Transcriptional mechanisms in osteoblast differentiation and bone formation*. Trends in Genetics 19:458–466.

Nolan, T.; Hands, R. E.; Bustin, S. A.; (2006); *Quantification of mRNA using real-time RT-PCR;* Nature Publising Group, protocol, Sigma-Aldrich, Homefield Road, Haverhill, UK.

Ogata N.; Chikazu D.; Kubota N.; Terauchi Y.; Tobe K.; Azuma Y.; Ohta T.; Kadowaki T.; Nakamura K. & Kawaguchi H.; (2000); *Insulin receptor substrate-1 in osteoblast is indispensable for maintaining bone turnover.* Journal of Clinical Investigation 105, 935–943.

Palmiter, R.D.; Brinster, R.L.; Hammer, R. E.; Trumbauer, M. E.; Rosenfeld, M. G.; Birnberg, N. C.; Evans, R. M.; (1982); *Dramatic growth of mice that develop from eggs microinjected with metallothionein-growth hormone fusion gene*; Nature; Vol. 16: 611-5.

Quarles, D. L.; (2008); *Endocrine functions of bone in mineral metabolism regulation*; Journal of Clinical Investigation Volume 118 Number 12 December.

Rasmussen R. S. and Morrissey M.T.; (2007)*; Biotechnology in Aquaculture: Transgenics and Polyploidy*; Comprehensive Reviews in Food Science and Food Safety.

Redruello, B.; Estevao, M. D.; Rotllant, J.; Guerreiro, P. M.; Anjos, L. I.; Canario, A. V.; Power, D. Mm; (2005); *Isolation and characterization of piscine osteonectin and downregulation of its expression by PTH-related protein*; J. Bone Miner. Res.; Vol. 20, 682-692

Refstie,T.; Vaasvic, V.; Gjedrem, T.; (1977); *Induction of polyploidy in salmonids by Cytochalasin B;* Aquaculture; vol.10, 65–74.

Roy, P. K.; Witten, P. E.; Hall, B. K.; Lall, S. P.; (2002); Effects of dietary phosphorus on bone growth and mineralization of vertebrae in haddock (*Melanogrammus aeglefinus L.*); Fish Physiology and Biochemistry 27: 35-48.

Rowe, R.W.D.; Goldspink, G.; (1969); *Muscle fibre growth in five different muscles in both sexes of mice: I. Normal mice*. Journal of Anatomy 104, 519–530.

Schmittgen, T. D.; Zakrajsek, B. A.; (2000); *Effect of experimental treatment on housekeeping gene expression: validation by real-time, quantitative RT-PCR*; Journal of Biochemical and Biophysical Methods; 46:69-81.

Schier, A. F. and Talbot, W. T. (2005); *Molecular genetics of axis formation in zebrafish;* Annual Review of Genetics; Vol. 39: 561-613.

Sigma-Aldrich C.; (2008); *qPCR Technical Guide*; In. St. Louis, MO, USA: Co Sigma Aldrich.

Simkiss, K., Wilbur, K.M.; (1989); *Vertebrates—phosphatic endoskeltons*. In Simkiss, K. (Ed) Biomineralization: Cell Biology and Mineral Deposition. Academic Press, San Diego, pp. 274–295.

Stickland, N.C.; (1983); *Growth and development of muscle fibres in the rainbow trout_Salmo gairdneri*; Journal of Anatomy 137, 323–333.

Stickney, H. L.; Barresi, M. J. F.; Devoto S. H.; (2000): *Somite Development in Zebrafish*, Developmental Dynamics 219:287–303.

Smith, L.T. and Lemoine, H.L.; (1979); *Colchicine-induced polyploidy in brook trout;* Prog. Fish-Cult.; Vol.41, 86–88.

Streisinger, G.; Walker, C.; Dower, N.; Knauber, D.; Singer, F.; (1981); *Production of clones of homozygous diploid zebra fish (Brachydanio rerio);* Nature vol.291, 293–296.

Solnica-Krezel, L.; (2005); *Conserved Patterns of Cell Movements during Vertebrate Gastrulation;* Current Biology, Vol. 15, R213–R228.

Suresh A. V. and Sheehan R. J.; (1998); *Muscle fibre growth dynamics in diploid and triploid rainbow trout*; Journal of Fish Biology 52, 570–587.

Suresh A. V. and Sheehan R. J.; (1998); *Biochemical and morphological correlates of growth in diploid and triploid rainbow trout*; Journal of Fish Biology **52,** 588–599.

Swarup, H. ;(1959a); *Production of triploidy in Gasterosteus aculeatus (L);* Journal of Genetics 56, 129–141.

Swarup, H.; (1959b); *Effect of triploidy on the body size, general organization and cellular structure in Gasterosteus aculeatus (L.)*; Journal of Genetics 56, 141–155.

Tave, D.; (1993); *Growth of triploid and diploid bighead carp, Hypophthalmichthys nobilis;* J. Appl. Aquacult.; Vol.2; 13-25.

Taylor W. R.; and Van Dyke G. C.; (1985); *Revised procedures for staining and clearing small fishes and other vertebrates for bone and cartilage study*; Cybium; Vol. 9, 107–119.

Teufel, J.; Pätzold, F.; Potthof, C.; (2002); *Specific research on transgenic fish considering especially the biology of trout and salmon;* Research Report 360 05 023; Texte 64/02; ISSN_0722-186X

Thorgaard, G. H. and Gall, G. A. E.; (1979); *Adult triploids in a rainbow trout family*; Genetics; Vol. 93, 961–973.

Tiwary, B. K.; Kirubagaran R.; Ray, A. K.; (2005); *The biology of triploid fish review*, Reviews in Fish Biology and Fisheries 14: 391–402.

Ueda, T.; Sato, R.; Kobayashi, J.; (1988); *Triploid rainbow trout induced by high pH multiplied by high calcium;* Nippon Suisan Gakkaishi vol. 54, 2045.

Varadaraj, K. and Pandian, T.J.; (1988); *Induction of triploids in Oreochromis mossambicus by thermal, hydrostatic pressure and chemical shocks;* Proc. Aquacult. Inter. Congress Expo; 531–535.

Vielma, J., Lall, S.P.; (1998); *Control of phosphorus homeostasis of Atlantic salmon (Salmo salar) in fresh water*; Fish Physiology and Biochemistry. 19, 83–93.

Wells, J. M. and Melton, D. A.; (1999); *Vertebrate endoderm development;* Annual Review of Cell and Developmental Biology; Vol. 15: 393-410.

Witten, P.E.; Huysseune, A.; Franz-Odendaal, T.; Fedak, T.; Vickaryous, M.; Cole, A.; Hall, B. K.; (2004); *Acellular teleost bone: primitive or derived, dead or alive?*; Palaeontology Newsletter 55, 37–41.

Wong, A. C.; Van Eenennaam, A. L.; (2008) *Transgenic approaches for the reproductive containment of genetically engineered fish;* Aquaculture 275; 1–12

Yakar, S.; Rosen, C. J.; Beamer, W. G.; Ackert-Bicknell, C. L.; Wu, Y.; Liu J. L.; Ooi, G. T.; Setser, J.; Frystyk, J.; Boisclair, Y. R. & Leroith, D.; (2002); *Circulating levels of IGF-1 directly regulate bone growth and density*; Journal of Clinical Investigation 110, 771–781.

Zhu, Z.; Li, G.; He, L.; Chen, S.; (1985); *Novel gene transfer into the fertilized eggs of gold fish (Carassius auratus L. 1758);* Journal of applied Ichthyology; Vol. 1, Issue 1, Pages 31 – 34.