

Publications

1. Annual reproductive cycle of a spring-spawning bitterling *Acheilognathus tabira*. Shimizu, A., Hanyu, Y. (1981). (in Japanese with English summary) *Bull. Japan. Soc. Sci. Fish.* **47**. 333-339.
2. Environmental regulation of annual reproductive cycle in a spring-spawning bitterling *Acheilognathus tabira*. Shimizu, A., Hanyu, Y. (1982). *Bull. Japan. Soc. Sci. Fish.* **48**. 1563-1568.
3. Environmental regulation of spawning-period in an autumn-spawning bitterling *Pseudoperilampus typus*. Shimizu, A., Hanyu, Y. (1983). *Bull. Japan. Soc. Sci. Fish.* **49**. 895-900.
4. Endocrine profiles during the short reproductive cycle of an autumn-spawning bitterling, *Acheilognathus rhombea*. Shimizu, A., Aida, K., Hanyu, Y. (1985). *Gen. Comp. Endocrinol.* **60**. 361-371.
5. Annual reproductive cycle in an autumn-spawning bitterling, *Acheilognathus rhombea*. Shimizu, A., Aida, K., Hanyu, Y. (1987). *Bull. Japan. Soc. Sci. Fish.* **53**. 529-536.
6. Effects of bis (tributyltin) oxide on gonadal development of a salt-water goby, *Chasmichthys dolichognathus*: exposure during maturing period. (in Japanese with English summary) Shimizu, A., Kimura, S. (1987). *Bull. Tokai Reg. Fish. Res. Lab.* **123**. 45-49.
7. Changes in photoperiodism involved in the gonadal development of a spring-spawning bitterling *Acheilognathus tabira*. Shimizu, A., Hanyu, Y. (1991). *Nippon Suisan Gakkaishi* **57**. 177.
8. Acute toxicity of triphenyltin chloride (TPTC) to the saltwater goby, *Chasmichthys dolichognathus* in natural seawater and artificial seawater. (in Japanese with English summary) Shimizu, A., Kimura, S. (1991). *Bull. Natl. Res. Inst. Fish. Sci.* **2**. 33-39.
9. Long-term effects of bis (n-tributyltin) oxide (TBTO) on salt-water goby *Chasmichthys dolichognathus*. Shimizu, A., Kimura, S. (1992). *Nippon Suisan Gakkaishi* **58**. 1595-1602.
10. Factors involved in the development of and decline in photoperiodism as it relates to the gonadal activity of a spring-spawning bitterling, *Acheilognathus tabira*. Shimizu, A., Hanyu, Y. (1993). *J. Exp. Zool.* **265**. 134-143.
11. Effects of photoperiod and temperature on gonadal activity and plasma steroid levels in an autumn-spawning bitterling, *Acheilognathus rhombea*, during different phases of its annual reproductive cycle. Shimizu, A., Aida, K., Hanyu, Y. (1994). *Gen. Comp. Endocrinol.* **93**. 137-150.
12. Long-term effects of bis(tri-n-butyltin) oxide on the histology of various organs in the red sea bream, *Pagrus major*. (in Japanese with English summary) Shimizu, A., Kakuno, A. (1994). *Bull. Natl. Res. Inst. Fish. Sci.* **6**. 47-55.
13. Long-term effects of a luteinizing hormone-releasing hormone analogue and/or a dopamine antagonist, pimozide, on gonadal activity in an autumn-spawning bitterling, *Acheilognathus rhombea*, during various phases of the annual reproductive cycle. Shimizu, A. (1996). *J.*

Exp. Zool. **276**. 279-286.

14. Reproductive cycles in a reared strain of the mummichog, a daily spawner. Shimizu, A. (1997). *J. Fish Biol.* **51**. 724-737.
15. Effects of environmental estrogens on fish reproduction. (in Japanese with English summary) Shimizu, A. (1999). *Bull. Natl. Res. Inst. Fish. Sci.* **13**. 79-97.
16. Shift of chloride cell distribution during early life stages in seawater-adapted killifish, *Fundulus heteroclitus*. Kato, F., Shimizu, A., Uchida, K., Kaneko, T. (2000). *Zool. Sci.* **17**. 11-18.
17. Purification of mummichog (*Fundulus heteroclitus*) gonadotropins and their subunits, using an immunochemical assay with antisera raised against synthetic peptides. Shimizu, A., Yamashita, M. (2002). *Gen. Comp. Endocrinol.* **125**. 79-91.
18. Early estrogen exposure induces abnormal development of *Fundulus heteroclitus*. Urushitani, H., Shimizu, A., Katsu, Y., Iguchi, T. (2002). *J. Exp. Zool.* **293**. 693-702.
19. Cloning and characterization of estrogen receptor α in mummichog, *Fundulus heteroclitus*. Urushitani, H., Nakai, M., Inanaga, E., Shimihigashi, Y., Shimizu, A., Katsu, Y., Iguchi, T. (2003). *Mol. Cell. Endocrinol.* **203**. 41-50.
20. Effect of photoperiod and temperature on gonadal activity and plasma steroid levels in a reared strain of the mummichog (*Fundulus heteroclitus*) during different phases of its annual reproductive cycle. Shimizu, A. (2003). *Gen. Com. Endocrinol.* **131**. 310-324.
21. Immunocytochemical applications of specific antisera raised against synthetic fragment peptides of mummichog GtH subunits: examining seasonal variations of gonadotrophs (FSH cells and LH cells) in the mummichog and applications to other acanthopterygian fishes. Shimizu, A., Tanaka, H., Kagawa, H. (2003). *Gen. Comp. Endocrinol.* **132**. 35-45.
22. Algal succession corresponding with the upstream migration of ayu *Plecoglossus altivelis* in the Nezugaseki River. Abe, S., Uchida, K., Shimizu, A., Nagumo, T., Tanaka, J. (2004). *Jpn. J. Phycol.* **52(Suppl.)**. 11-15.
23. Endocrine changes during the onset of vitellogenesis in spring in the mosquitofish. Koya, Y., Sawaguchi, S., Shimizu, K., Shimizu, K. (2004). *Fish Physiol. Biochem.* **28**. 349-350.
24. Immunocytochemical identification of gonadotrophs (FSH cells and LH cells) in various perciform fishes using antisera raised against synthetic peptides. Shimizu, A., Kagawa, H., Tanaka, H. (2004). *Fish Physiol. Biochem.* **28**. 109-110.
25. Cytological observations of *Porphyra* (Rhodophyta) thalli with confocal laser scanning microscopy. Shimizu, A., Morishima, K., Nakayama, I. (2004). *Mar. Biotechnol.* **6(Suppl.)**. 37-39.
26. Universal antisera for immunocytochemical identification of two different gonadotrophs in acanthopterygian fishes. Shimizu, A., Sakai, T., Nashida, K., Honda, H. (2005). *Fish Physiol. Biochem.* **29**. 275-287.
27. Confocal microscopic observation of *Porphyra* thalli stained with various fluorescent dyes. (in Japanese with English summary) Shimizu, A., Morishima, K., Nakayama, I. (2005). *Jpn. J.*

Phycol. **53**. 145-146.

28. Purification and gene cloning of *Fundulus heteroclitus* hatching enzyme. Kawaguchi, M., Yasumasu, S., Shimizu, A., Hiroi, J., Yoshizaki, N., Nagata, K., Tanokura, M. Iuchi, I. (2005). *FEBS Journal* **272**. 4315-4326.
29. Evidence of multiple spawning in wild amphidromous type ayu. Shimizu, A., Uchida, K., Abe, S., Udagawa, M., Sato, T., Katsura, K. (2005). *Fish. Sci.* **71**. 1379-1381.
30. Application on physiological and biochemical methods to the advanced study of reproductive biology in resource fishes. (in Japanese with English summary) Shimizu, A. (2006). *Bull. Fish. Res. Agen. (Suppl.)* **4**. 63-70.
31. Estimation of population number of ayu in the Nezugaseki River. (in Japanese with English summary). Uchida, K., Shimizu, A., Abe, S., Sato, T., Katsura, K., Sakano, H. (2006). *Bull. Fish. Res. Agen. (Suppl.)* **5**. 197-202.
32. Identification of immunoreactive FSH and LH cells in the cichlid fish *Cichlasoma dimerus* during the ontogeny and sexual differentiation. Pandorfi, M., Shimizu, A., Nostro, L.L., Pozzi, A.G., Meijide, J.J., Vazquez, G.R., Maggese, M.C. (2006). *Anat. Embryol.* **211**. 355-365.
33. Multiple spawning and related variations in female reproductive parameters of amphidromous type ayu. Shimizu, A., Uchida K., Inoue, I., Udagawa M., Sato T., Katsura K. (2007). *Fish. Sci.* **73**. 9-18.
34. Immunohistochemical localization of three GnRH systems in the brain and pituitary of Japanese flounder. Pham, K.X., Amano, M., Amiya, N., Kurita, Y., Shimizu, A., Yamamori K. (2007). *Fish. Sci.* **73**. 1113-1122.
35. PCR-RFLP genotype associated with quinolone resistance in isolates of *Flavobacterium psychrophilum*. Izumi, S., Ouchi, S., Kuge, T., Arai, H., Mito, T., Fujii, H., Aranishi, F., Shimizu, A. (2007). *J. Fish Disease* **30**. 141-147.
36. Identification of *Porphyra yezoensis* (Rhodophyta) meiosis by DNA quantification using confocal laser scanning microscopy. Shimizu, A., Morishima, K., Kobayashi, M., Kunimoto, M., Nakayama, I. (2008). *J. Applied Phycol.* **20**. 83-88.
37. Appearances and chronological changes of mummichog *Fundulus heteroclitus* FSH cells and LH cells during ontogeny, sexual differentiation, and gonadal development. Shimizu, A., Hamaguchi, M., Ito, H., Ohkubo, M., Udagawa, M., Fujii, K., Kobayashi, T., Nakamura, M. (2008). *Gen. Com. Endocrinol.* **156**. 312-322.
38. Haplotype of the mitochondrial DNA control region of a neonatal finless porpoise stranded around the Yokohama Port. Ohkubo, M., Tokutake, K., Itoh, H., Yoshida, K., Shimizu, A. (2008). *Mammal Study* **33**. 83-86.
39. Multiple spawning of amphidromous type ayu *Plecoglossus altivelis* in a large river, the Mogami River System. Shimizu, A., Uchida, K., Udagawa, M., Ohkubo, M., Ito, H., Yamamoto, S., Takasawa, T. (2008). *Fish. Sci.* **74**. 1283-1289.
40. Changes in the immunostaining intensities of follicle-stimulating hormone and luteinizing

hormone during ovarian maturation in the female Japanese flounder. Pham, K.X., Amano, M., Kurita, Y., Shimizu, A., Fujinami, Y., Amiya, N., Yamamori, K. (2008). *Fish Physiol. Biochem.* **34**. 357-365.

41. "Mummichog, a saltwater model fish". (in Japanese) Ohkubo, M., Shimizu, A. (2008). *Comp. Endocrinol.* **34**. 222-226.
42. Improvements of identification and evaluation of chronological changes of post-ovulatory follicles using various staining methods. Shimizu, A., Yoneda, M., Ito, H., Ohkubo, M. (2009). Proceedings of the WFC 2008.
43. Molecular cloning of cDNA encoding metallothionein from mummichog *Fundulus heteroclitus*. Ohkubo, M., Shimizu, A. (2009). Proceedings of the WFC 2008.
44. Comparison of acute-to-chronic toxicity ratios of four chemicals between red sea bream (*Pagrus major*) and mummichog (*Fundulus heteroclitus*). Kakuno, A., Shimizu, A., Koyama, J., Onduka, T., Mochida, K., Fujii, K. (2009). *Aquaculture Sci.* **57**. 201-209.
45. A novel mitochondrial sphingomyelinase in zebrafish cells. Yabu, T., Shimizu, A., Yamashita, M. (2009). *J. Biol. Chem.* **284**. 20349-20363.
46. Presence of β -FSH and β -LH transcripts in the brain of *Cichlasoma dimerus* (Perciformes; Cichlidae): effect of brain-derived gonadotropins on pituitary hormone release. Pandolfi, M., Pozzi, A.G., Cepa, M., Vissio, P.G., Shimizu, A., Maggese, M.C., Lobo, G. (2009). *Neuroendocrinology* **89**. 27-37.
47. Seasonal change of oocyte size and maturity of giant jellyfish, *Nemopilema nomurai*. Toyokawa, M., Shimizu, A., Sugimoto, K., Nishiuchi, K., Yasuda, T. (2009). *Fish. Sci.* **76**. 55-62.
48. Immunological characterization and distribution of three GnRH forms in the brain and pituitary gland of chub mackerel (*Scomber japonicus*). Selvaraj, S., Kitano, H., Fujinaga, Y., Amano, M., Takahashi, A., Shimizu, A., Yoneda, M., Yamaguchi, A., Matsuyama, M. (2009). *Zool. Sci.* **26**. 828-839.
49. Environmental regulations of reproductive cycles in teleosts. (in Japanese with English summary) Shimizu, A. (2010). *Bull. Jpn. Soc. Fish. Oceanogr.* **74**. 58-65.
50. Molecular cloning and brain distribution of three types of gonadotropin-releasing hormone from mummichog *Fundulus heteroclitus*. Ohkubo, M., Aranishi, F., Shimizu, A. (2010). *J. Fish Biol.* **76**. 379-394.
51. Sexually dimorphic expression of gonadotropin subunits in the pituitary of protogynous honeycomb grouper (*Epinephelus merra*): Evidence that follicle-stimulating hormone (FSH) induces gonadal sex change. Kobayashi, Y., Alam, M.H., Horiguchi, R., Shimizu, A., Nakamura, M. (2010). *Biol. Reprod.* **82**. 1030-1036.
52. Molecular cloning and localization of the luteinizing hormone β subunit and glycoprotein α subunit from Japanese anchovy *Engraulis japonicas*. Ohkubo, M., Katayama, S., Shimizu, A. (2010). *J. Fish Biol.* **77**. 372-387.

53. Molecular characterization, tissue distribution, and mRNA expression profiles of two Kiss genes in the adult female chub mackerel (*Scomber japonicus*) during different gonadal stages. Selvaraj, S., Kitano, H., Fujinaga, Y., Ohga, H., Yoneda, M., Yamaguchi, A., Shimizu, A., Matsuyama, M. (2010). *Gen. Comp. Endocrinol.* **169**. 28-38.
54. Immunoreactive changes in pituitary FSH and LH cells during seasonal reproductive and spawning cycles of female chub mackerel *Scomber japonicus*. Nyuji, M., Shiraishi, T., Selvaraj, S., In, V.V., Kitano, H., Yamaguchi, A., Okamoto, K., Onoue, S., Shimizu, A., Matsuyama, M. (2011). *Fish. Sci.* **77**. 731-739.
55. Conservation of the egg envelope digestion mechanism of hatching enzyme in euteleostean fishes. Kawaguchi, M., Yasumasu, S., Shimizu, A., Sano, K., Iuchi, I., Nisida, M. (2011). *FEBS Journal* **277**. 4973-4987.
56. Verification of growth dependent survival in early life stage of Pacific saury *Cololabis saira* using laboratory experiment. Nakaya, M., Morioka, T., Fukunaga, K., Murakami, N., Ichikawa T., Sekiya, S., Suyama, S., Ueno, Y., Shimizu, A. (2011). *Environ. Biol. Fish.* **92**. 113-123.
57. Development of the detection methods of growth-hormone recombinant fish. (in Japanese) Oohara, I., Ojima, N., Mekuchi, M., Yasuike, M., Shimizu, A. (2012). *DNA Polymorphism Research* **20**. 127-131.
58. Immunoreactivity of gonadotrophs (FSH and LH Cells) and gonadotropin subunit gene expression in the male chub mackerel *Scomber japonicus* pituitary during the reproductive cycle. Nyuji, M., Selvaraj, S., Kitano, H., Ooga, H., Yoneda, M., Shimizu, A., Kaneko, K., Yamaguchi, A., Matsuyama, M. (2012). *Zool. Sci.* **29**. 623-629.
59. Development of non-competitive enzyme-linked immunosorbent assays for mummichog *Fundulus heteroclitus* gonadotropins - examining seasonal variations in plasma FSH and LH levels in both sexes. Shimizu, A., Ohkubo, M., Hamaguchi, M. (2012). *Gen. Comp. Endocrinol.* **178**. 463-469.
60. Steroidogenic and maturation-inducing potency of native gonadotropic hormones in female chub mackerel, *Scomber japonicas*. Ooga, H., Kaneko, K., Shimizu, A., Kitano, H., Selvaraj, S., Nyuji, M., Adachi, H., Yamaguchi, A., Matsuyama, M. (2012). *Reprod. Biol. Endocrinol.* **10**. 71.
61. The role of pituitary gonadotropins in gonadal sex differentiation in the protogynous Malabar grouper, *Epinephelus malabaricus*. Murata, R., Kobayashi, Y., Karimata, H., Kishimoto, K., Kimura, M., Shimizu, A., Nakamura, M. (2012). *Gen. Comp. Endocrinol.* **178**. 587-592.
62. Increased expression of kisspeptin and GnRH forms in the brain of scombroid fish during final ovarian maturation and ovulation. Selvaraj, S., Kitano, H., Amano, M., Ooga, H., Yoneda, M., Yamaguchi, A., Shimizu, A., Matsuyama, M. (2012). *Reprod. Biol. Endocrinol.* **10**. 1-10.
63. Molecular cloning of two gonadotropin receptors in mummichog *Fundulus heteroclitus* and their gene expression during follicular development and maturation. Ohkubo, M., Yabu, T.,

- Yamashita, M., Shimizu, A. (2013). *Gen. Comp. Endocrinol.* **184**. 75-86.
64. Adaptive evolution of fish hatching enzyme: one amino acid substitution results in differential salt dependency of the enzyme. Kawaguchi, M., Yasumasu, S., Shimizu, A., Kudo, N., Sano, K., Iuchi, I., Nishida, M. (2013). *J. Exp. Biol.* **216**. 1609-1615.
 65. Sexual maturation, spawning period and batch fecundity of Japanese sardine *Sardinops melanostictus* in the coastal waters off western Japan in 2008-2010. (in Japanese with English summary) Yoneda, M., Tanaka, H., Honda, S., Nishida, H., Nashida, K., Hirota, Y., Ishida, M., Ohshimo, S., Miyabe, S., Ito, H., Shimizu, A. (2013). *Bull. Jpn. Soc. Fish. Oceanogr.* **77**. 59-67.
 66. Development of the detection method of fluorescent protein genes mStrawberry, mCherry and mOrange in order to discriminate LMOs. (in Japanese) Oohara, I., Ojima, N., Mekuchi, M., Yasuike, M., Shimizu, A., Masaoka, T. (2013). *DNA Polymorphism Research* **21**. 102-107.
 67. Characterization, localization, and stage-dependent gene expression of gonadotropin receptors in chub mackerel (*Scomber japonicus*) ovarian follicles. Nyuj, M., Kitano, H., Shimizu, A., Lee, J.M., Kusakabe, T., Yamaguchi A, Matsuyama M. (2013). *Biol. Reprod.* **88**. 148-148.
 68. Dynamics of gonadosomatic index of fish with indeterminate fecundity between subsequent egg batches: application to Japanese anchovy *Engraulis japonicus* under captive conditions. Yoneda, M., Kitano, H., Selvaraj, S., Matsuyama, M., Shimizu, A. (2013). *Marine Biol.* **160**. 2733-2741.
 69. Immunohistochemical study of pituitary cells in wild and captive *Salminus hilarii* (*Characiformes: Characidae*) females during the annual reproductive cycle. Honji, R.M., Nobrega, R.H., Pandolfi, M., Shimizu, A. (2013). *SpringerPlus* **2**. 1-7.
 70. Expression and localization of gonadotropic hormone subunits (Gpa, Fshb, and Lhb) in the pituitary during gonadal differentiation in medaka. Horie, Y., Shimizu, A., Adachi, S., Kobayashi, T. (2014). *Gen. Comp. Endocrinol.* **204**. 173-180.
 71. Temperature and income resource availability mediated variation in reproductive investment in a multiple-batch-spawning Japanese anchovy. Yoneda, M., Kitano, H., Tanaka, H., Kawamura, K., Selvaraj, S., Ohshimo, S., Matsuyama, M., Shimizu, A. (2014). *Marine Ecology Progress Series* In press.
1. Gonadotropin Secretion during the Ovulation Process in Cyprinid Fish. Aida, K., Kobayashi, M., Shimizu, A., Santos, A., Furukawa, K., Hanyu, Y. (1986). in "Pars Distalis of the Pituitary Gland-Structure, Function and Regulation" Elsevier, Holland. (pp.481-485).
 2. Effects on Fishes. (in Japanese) Koyama, J., Shimizu, A. (1992). in "Organotin Pollution and its Effects on Aquatic Organisms" (Satomi, Y. & Shimizu, M. Eds.) Koseisha-Koseikaku, Tokyo. (pp. 86-98).
 3. Effect of Photoperiod and Temperature on Reproductive Activity of the Mummichog *Fundulus heteroclitus* during Various Seasons. Shimizu, A. (1995). in "Reproductive Physiology of

Fish” (Goetz, F.W. & Thomas, P Eds.) Fish Symposium 95, Austin. (pp. 197).

4. Development Effect on Gonadal Differentiation and Bones in *Fundulus heteroclitus*. Urushitani, H., Shimizu, A., Fukazawa, Y., Satoh, T., Iguchi, T. (1997). in “Advances in Comparative Endocrinology” (Kawashima, S. & Kikuyama, S. Eds.) Monduzzi Editore, Bologna. (pp. 311-315).