Bulletin of the National Salmon
Resources Center, No. 5: 37-45
December 2002

さけ・ます資源管理センター
研究報告　第 5 号　37-45頁
2002年12月

INFORMATION

Bibliography of Salmonids published in Japan (16): 2001

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This current salmonid bibliography, distributed yearly since 1988, covers scientific publications in Japan. The former thirteen issues were published in Technical Reports of Hokkaido Salmon Hatchery (Fish and Eggs), No. 157-163, Scientific Reports of Hokkaido Salmon Hatchery, No. 49-50, and Bulletin of National Salmon Resources Center, No. 1-4. Titles are given in English for all articles. A reprint of article may be available from the author. An author's address is shown in square brackets following the citation. This 16th issue has covered literature published in 2001. The bibliography is divided into the following sections:

Key words : salmonid fish, bibliography, Japan

Aquaculture

01-001 History of the trout culture and transplantation in mountains of Aichi Prefecture: the role of Hourai fish-culture station in the trout culture. Koyama, S. 2001. Bull. Aichi Fish. Res. Inst., 8: 41-46. In Japanese. [Mikawa Ichinomiya Station, Freshwater Resources Research Center, Aichi Fisheries Research Institute, Ichinomiya, Hoi, Aichi 441-1222, Japan]

Distribution and Migrations

01-002 Vertical movement of a chum salmon *Oncorhynchus keta* in the western North Pacific Ocean as determined by a depth-recording archival tag. Ishida, Y., A. Yano, M. Ban, and M. Ogura. 2001. Fish. Sci., 67: 1030-1035. [Hokkaido National Fisheries Research Institute, Kushiro, Hokkaido 085-0802, Japan (ishiday@fra.affrc.go.jp)]

01-003 Number, dispersal and growth of juvenile Japanese charr and masu salmon in a small tributary of a Japanese mountain stream. Kubota, H., T. Nakamura, T. Maruyama, and S. Watanabe. 2001. Nippon Suisan Gakkaishi, 67: 703-709. In Japanese with English summary. [Tochigi Prefectural Fisheries Experiment Station, Tochigi 324-0404, Japan (kubota@jb3.so-net.ne.jp)]

01-004 Freshwater fishes of the Minami River System in Reinan Region, Fukui Prefecture, Japan. Mat-

Contribution A No. 33 from the National Salmon Resources Center.

sumiya, Y., K. Watanabe, K. Iguchi, H. Iwata, G. Yamamoto, and M. Nishida. 2001. Japan. J. Ichthyol., 48: 93-107. In Japanese with English summary. [Department of Marine Bioscience, Fukui Prefectural University, 1-1 Gakuencho, Obama, Fukui 917-0003, Japan (watanak@cc.nara-wu.ac.jp)]

01-005 Comparison of recapture rates of wild and hatchery-reared masu salmon smolts by a rotary-screw trap. Miyakoshi, Y., H. Hayano, M. Fujiwara, K. Sugiwaka, and M. Nagata. 2001. Suisanzoshoku, 49: 445-450. In Japanese with English summary. [Hokkaido Fish Hatchery, Kitakashiwagi, Eniwa, Hokkaido 061-1433, Japan]

01-006 The distribution of the freshwater fishes, especially endangered fishes in Mie Prefecture. Miyamoto, A., Y. Mizuno, and T. Mizuno. 2001. Bull. Fish. Res. Inst. Mie, 9: 57-67. In Japanese. [Fisheries Research Institute of Mie, 3564-3 Hamajima, Hamajima-cho, Shima-gun, Mie 517-0404, Japan]

01-007 Contrasts in movement behavior of juvenile white-spotted charr between stocks above and below a dam. Morita, K., and S. Yamamoto. 2001. Fish. Sci., 67: 179-181. [Faculty of Fisheries, Hokkaido University, Hakodate, Hokkaido 041-8611, Japan (morita@fish.hokudai.ac,jp)]

01-008 Application of otolith microchemistry to reconstruct for migration history of amago salmon *Oncorhynchus masou ishikawai*, captured at the Ohta River. Umino, T., S. Seike, T. Otake, F. Nishiyama, Y. Sibata, and H. Nakagawa. 2001. Nippon Suisan Gakkaishi, 67: 647-657. In Japanese with English summary. [Faculty of Applied Biological Science, Hiroshima University, Hiroshima 739-8528, Japan (umino@hiroshima-u.ac.jp)]

Feeding, Diets, and Growth

01-009 New species of *Tortanus* (Copepoda; Calanoida) from stomach contents of chum salmon juveniles collected from the Sea of Japan. Itoh, H., S. Ohtsuka, and T. Sato. 2001. Plankton Biol. Ecol., 48: 59-67. [Suidosha Co. Ltd., 8-11-11 Ikuta, Tama, Kawasaki 214-0038, Japan (itohfam@pastel.ocn.ne.jp)]

01-010 Relationships between reproductive characters and growth history in female masu salmon *Oncorhynchus masou*. Shimoda, K. 2001. Sci. Rep. Hokkaido Fish Hatchery, 55: 1-6. In Japanese with English summary. [Hokkaido Fish Hatchery, Kitakashiwagi 3-373, Eniwa, Hokkaido 061-1433, Japan]

01-011 Effects of growth and sire type on the divergence of jack in masu salmon *Oncorhynchus masou*. Shimoda, K. 2001. Sci. Rep. Hokkaido Fish Hatchery, 55: 13-17. In Japanese with English summary. [Hokkaido Fish Hatchery, Kitakashiwagi 3-373, Eniwa, Hokkaido 061-1433, Japan]

Population and Management

01-012 Relationship between survival rates of pink salmon (*Oncorhynchus gorbuscha*) and sea surface temperatures. Azumaya, T., Y. Ishida, Y. Ueno, and T. Watanabe. 2001. Bull. Hokkaido Natl. Fish. Res. Inst., 65: 9-14. In Japanese with English summary. [Hokkaido National Fisheries Research Institute, 116, Katsurakoi, Kushiro, Hokkaido 085-0802, Japan]

01-013 Application of the stratified-Petersen estimator to estimate numbers of masu salmon *Oncorhynchus masou* smolts. Miyakoshi, Y., H. Hayano, M. Nagata, and J. R. Irvine. 2001. Nippon Suisan Gakkaishi, 67: 231-237. In Japanese with English summary. [Hokkaido Fish Hatchery, Hokkaido 061-1433, Japan (miyakoshiy@fishexp.pref.hokkaido.jp)]

01-014 Effect of smolt size on postrelease survival of hatchery-reared masu salmon *Oncorhynchus masou*. Miyakoshi, Y., M. Nagata, and S. Kitada. 2001. Fish. Sci., 67: 134-137. [Hokkaido Fish Hatchery, Eniwa, Hokkaido 061-1433, Japan (miyakoshiy@fishexp.pref.hokkaido.jp)]

01-015 Commercial harvest of hatchery-reared masu salmon *Oncorhynchus masou* estimated by a coast-wide sampling program in Hokkaido, northern Japan, and the two-stage sampling schemes of landings. Miyakoshi, Y., M. Nagata, K. Sugiwaka, and S. Kitada. 2001. Fish. Sci., 67: 126-133. [Hokkaido Fish Hatchery, Eniwa, Hokkaido 061-1433, Japan (miyakoshiy@fishexp.pref.hokkaido.jp)]

01-016 Effectiveness of stocking masu salmon *Oncorhynchus masou* fry as a means of increasing commercial catches. Miyakoshi, Y., M. Nagata, K. Takeuchi, K. Sugiwaka, and S. Kitada. 2001. Fish. Sci., 67: 1184-1186. [Hokkaido Fish Hatchery, Eniwa, Hokkaido 061-1433, Japan (miyakoshiy@fishexp.pref.hokkaido.jp)

01-017 The passing year change between pool area and number of Japanese char (iwana) *Salvelinus leucomaenis* and landlock salmon (yamame) *Oncorhynchus masou* inhabited in Nakatsu River. Ohtomo, Y. 2001. Bull. Saitama Pref. Agri. Forest. Res. Ctr., 1: 171-180. In Japanese. [Saitama Prefectural Fisheries Experiment Station, Kitakohama 1060, Kazo, Saitama 347-0011, Japan]

01-018 Changes of CPUE and population size on wild white spotted charr, *Salvelinus leucomaenis* under catch-and-release regulations using fly-fishing. Yamamoto, S., M. Kohara, N. Kohno, M. Kawanobe, and M. Moteki. 2001. Suisanzoshoku, 49: 425-429. In Japanese with English summary. [Saku Branch, Nagano Prefectural Fisheries Experimental Station, 282, Takayagi, Saku, Nagano 385-0042, Japan]

Morphology, Taxonomy and Phylogeny

01-019 Morphometric discrimination between Japanese charr and brook trout. Iguchi, K., S. Kitano, and N. Matsubara. 2001. Bull. Fish. Res. Agen., 1: 1-5. In Japanese with English summary. [National Research Institute of Fisheries Science, Komaki 1088, Ueda, Nagano 386-0031, Japan]

01-020 Biological characteristics of summer chum salmon in the Amur River. Ishida, Y., T. Takahashi, T. Tagaki, S. F. Zolotukin, Y. S. Rosly, and V. G. Markovtsev. 2001. Bull. Hokkaido Natl. Fish. Res. Inst., 65: 1-7. [Hokkaido National Fisheries Research Institute, 116 Katsurakoi, Kushiro, Hokkaido 085-0802, Japan]

Physiology and Endocrinology

01-021 Effects of handling stress on osmoregulation of juvenile sockeye salmon (*Oncorhynchus nerka*) in seawater. Ban, M. 2001. Bull. Natl. Salmon Resources Center, 4: 1-5. [Research Division, National Salmon Resources Center, 2-2 Nakanoshima, Toyohira-ku, Sapporo 062-0922, Japan (dukeban@salmon.affrc.go.jp)]

01-022 Serum immunoglobulin M (IgM) in Sakhalin taimen (*Hucho perryi*): purification, characterization, circulating levels, and specific IgM production by the parasitic *Salmincola stellatus*. Hiramatsu , N., H. Fukada, M. Kitamura, M. Shimizu, H. Fuda, K. Kobayashi, and A. Hara. 2001. Suisanzoshoku, 49: 347-355. [Division of Marine Bioscience, Graduate School of Fisheries Sciences, Hokkaido University, Hokkaido 041-8611, Japan (aki@pop.fish.hokudai.ac.jp)]

01-023 Simple and sensitive detection of vitellogenin receptor(s) in Sakhalin taimen (*Hucho perryi*). Hiramatsu, N., H. Fukada, C. V. Sullivan, and A. Hara. 2001. Bull. Fish. Sci. Hokkaido Univ., 52: 5-9. [Division of Marine Biosciences, Graduate School of Fisheries Sciences, Hokkaido University, Hokkaido 041-8611, Japan]

01-024 Morphological changes in juxtaglomerular cells of the kidney during smoltification in masu salmon *Oncorhynchus masou*. Mizuno, S., N. Misaka, and N. Kasahara. 2001. Fish. Sci., 67: 538-540. [Erimo Research Branch, Hokkaido Fish Hatchery, Utabetsu 434-1, Erimo, Hokkaido 058-0202, Japan (mizunos@fishexp.pref.hokkaido.jp)]

01-025 Changes in transcript levels of gill cortisol receptor during smoltification in wild masu salmon, *Oncorhynchus masou*. Mizuno, S., K. Ura, Y. Onodera, H. Fukada, N. Misaka, A. Hara, S. Adachi, and K. Yamauchi. 2001. Zool. Sci., 18: 853-860. [Erimo Research Branch, Hokkaido Fish Hatchery, Utabetsu 434-1, Erimo, Hokkaido 058-0202, Japan (mizunos@fishexp.pref.hokkaido.jp)]

01-026 Effect of oceanographic environments on sexual maturation, salinity tolerance, and vasotocin gene expression in homing chum salmon. Saito, D., Y. Ota, S. Hiraoka, S. Hyodo, H. Ando, and A. Urano. 2001. Zool. Sci., 18: 389-396. [Division of Biological Sciences, Graduate School of Science, Hokkaido University, Sapporo, Hokkaido 060-0810, Japan (djsaito@sci.hokudai.ac.jp)]

01-027 Vacuolar-type H^+-ATPase and Na^+, K^+-

ATPase expression in gills of Atlantic salmon (*Salmo salar*) during isolated and combined exposure to hyperoxia and hypercapnia in fresh water. Seidelin, M., C. J. Brauner, F. B. Jensen, and S. S. Madsen. 2001. Zool. Sci., 18: 1199-1205. [Institute of Biology, University of Southern Denmark-Main Campus: Odense University, Campusvej 55, DK-5230 Odense M, Denmark (steffen@biology.sdu.dk)]

01-028 Immunohistochemical localization of rainbow trout androgen receptors in the testis. Takeo, J., and S. Yamashita. 2001. Fish. Sci., 67: 518-523. [Central Research Laboratory, Nippon Suisan Kaisha Ltd., Hachioji, Tokyo 192-0906, Japan (j-takeo@nissui.co.jp)]

Biochemistry

01-029 Analysis on serum proteins from rainbow trout *Oncorhynchus mykiss* exposed to high temperature. Itoi, S., T. Ineno, S. Kinoshita, Y. Hirayama, M. Nakaya, M. Kakinuma, and S. Watabe. 2001. Fish. Sci., 67: 191-193. [Laboratory of Aquatic Molecular Biology and Biotechnology, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Bunkyo, Tokyo 113-8657, Japan (awatabe@mail.ecc.u-tokyo.ac.jp)]

01-030 Compositions of fatty acid hydroperoxide positional isomers in sweet smelt, yellowtail and rainbow trout livers phosphatidylcholine. Kaewsrithong, J., H. Ushio, and T. Ohshima. 2001. Fish. Sci., 67: 975-982. [Department of Food Science and Technology, Tokyo University of Fisheries, Minato, Tokyo 108-8477, Japan (tohshima@tokyo-u-fish.ac.jp)]

01-031 Free amino acid and proximate composition and its seasonal variation of the muscular tissue from cultured all female all triploid "Nijiama". Kashima, T., N. Tuzuku, and T. Kuwada. 2001. Rep. Gifu Pref. Freshwater Fish Res. Inst., 46: 23-26. In Japanese. [Gifu Prefectural Freshwater Fish Research Institute, 2605 Hane, Hagiwara, Mashita-gun, Gifu 509-2592, Japan]

01-032 Preliminary studies on effect of the supplementation of raw squid liver to extruded pellet on the digestibility of dietary nutrients and the feed performance for rainbow trout. Matsuda, Y., A. Hayashi, B. Yoshitomi, and T. Takeuchi. 2001. Suisanzoshoku, 49: 377-381. In Japanese with English summary. [Central Research Laboratory, Nippon Suisan Kaisha, Ltd., Kitano, Hachiouji, Tokyo 192-0906, Japan]

01-033 Effect of the combination of raw coho salmon-bowels to extruded pellet on the digestibility of dietary nutrients for coho salmon. Matsuda, Y., T. Ootaka, B. Yoshitomi, and T. Takeuchi. 2001. Suisanzoshoku, 49: 515-516. In Japanese with English summary. [Central Research Laboratory, Nippon Suisan Kaisha, Ltd., Kitano, Hachiouji, Tokyo 192-0906, Japan]

01-034 Variation in lipid content in the muscle of chum and pink salmon in the Gulf of Alaska in May 1999. Nomura, T., K. W. Myers, C. M. Kondzela, J. M. Murphy, H. Honma, and H. R. Carlson. 2001. Bull. Natl. Salmon Resources Center, 4: 13-18. [Research Division, National Salmon Resources Center, 2-2 Nakanoshima, Toyohira-ku, Sapporo 062-0922, Japan (nomura@salmon.affrc.go.jp)]

01-035 Influence of heating temperature on gel-forming property and rheological improvement of salt-ground meat from pink salmon. Takeda, H., T. Iida, S. Nobuta, and T. Nishikiori. 2001. Sci. Rep. Hokkaido Fish. Exp. Stn., 59: 43-48. In Japanese with English summary. [Hokkaido Kushiro Fisheries Experimental Station, Hama-cho, Kushiro, Hokkaido 085-0024, Japan]

01-036 Influence of dietary fat and carbohydrate levels on growth and body composition of rainbow trout *Oncorhynchus mykiss* under self-feeding conditions. Yamamoto, T., K. Konishi, T. Shima, H. Furuita, N. Suzuki, and M. Tabata. 2001. Fish. Sci., 67: 221-227. [Feed Section, Inland Station, National Research Institute of Aquaculture, Tamaki, Mie 519-0423, Japan (takejpn@nria-tmk.affrc.go.jp)]

01-037 Nutrient digestibility values of a test diet determined by manual feeding and self-feeding in rainbow trout and common carp. Yamamoto, T., T. Shima, H. Furuita, N. Suzuki, and M. Shiraishi. 2001. Fish. Sci., 67: 355-357. [Inland Station, National Research Institute of Aquaculture, Tamaki, Mie 519-0423, Japan (takejpn@nria-tmk.affrc.go.jp)]

Genetics

01-038 Role of chromosome research in aquagenomics. Fujiwara, A. 2001. Fish Gen. Breed. Sci., 30: 69-78. In Japanese with English summary. [Department of Aquatic Biosciences, Tokyo University of Fisheries, 4-5-7 Konan, Minato, Tokyo 108-8477, Japan]

01-039 Studies on the breeding of amago salmon, *Oncorhynchus masou ishikawae*-VII. Effect of precocious matured male on phase differentiation of amago salmon-2. Ichiyanagi, T., and T. Kuwada. 2001. Rep. Gifu Pref. Freshwater Fish Res. Inst., 46: 1-7. In Japanese. [Gifu Prefectural Freshwater Fish Research Institute, 2605 Hane, Hagiwara, Mashita-gun, Gifu 509-2592, Japan]

01-040 Genetic conservation management of freshwater salmonid fishes in the United States. Kanda, N. 2001. Fish Gen. Breed . Sci., 31: 1-4. In Japanese with English summary. [Institute of Cetacean Research, 4-5 Toyomi-cho, Chuo-ku, Tokyo 104-0055, Japan]

01-041 Estimation of heritability for growth by single pair mating system in kokanee salmon (*Oncorhynchus nerka*). Kudo, H., N. Inoguchi, and A. Kijima. 2001. Fish Gen. Breed. Sci., 31: 17-23. In Japanese with English summary. [Iwate Prefectural Inland Fisheries Technology Center, 1-474 Yoriki, Matsuo, Iwate-gun, Iwate 028-7302, Japan]

01-042 Estimation of broad sense heritability and degree of fluctuation for toralence to sea water and high water temperature by single pair mating system in kokanee salmon (*Oncorhyncus nerka*). Kudo, H., N. Inoguchi, and A. Kijima. 2001. Fish Gen. Breed . Sci., 31: 25-31. In Japanese with English summary. [Iwate Prefectural Inland Fisheries Technology Center, 1-474 Yoriki, Matsuo, Iwate-gun, Iwate 028-7302, Japan]

01-043 Estimation of heritability for growth by factorial mating system in rainbow trout (*Oncorhynchus mykiss*). Kudo, H., N. Inoguchi, and A. Kijima. 2001. Suisanzoshoku, 49: 243-251. In Japanese with English summary. [Iwate Prefectural Inland Fisheries Technology Center, 1-474 Yoriki, Matsuo, Iwate-gun, Iwate 028-7302, Japan]

01-044 Estimation of heritability for tolerance to sea water by factorial mating system in rainbow trout (*Oncorhynchus mykiss*). Kudo, H., N. Inoguchi, and A. Kijima. 2001. Suisanzoshoku, 49: 253-260. In Japanese with English summary. [Iwate Prefectural Inland Fisheries Technology Center, 1-474 Yoriki, Matsuo, Iwate-gun, Iwate 028-7302, Japan]

01-045 Estimation of heritability for tolerance to high water temperature by factorial mating system in rainbow trout (*Oncorhynchus mykiss*). Kudo, H., N. Inoguchi, and A. Kijima. 2001. Suisanzoshoku, 49: 405-411. In Japanese with English summary. [Iwate Prefectural Inland Fisheries Technology Center, 1-474 Yoriki, Matsuo, Iwate-gun, Iwate 028-7302, Japan]

01-046 Hybridization and introgression in the speciation process of fishes. Mukai, T. 2001. Japan. J. Ichthyol., 48: 1-18. In Japanese with English summary. [Ocean Research Institute, University of Tokyo, 1-15-1 Minamidai, Nakano-ku, Tokyo 164-8639, Japan (tmukai@ori.u-tokyo.ac.jp)]

01-047 Microsatellite linkage map of rainbow trout and its application for QTL analysis. Sakamoto, T. 2001. Fish Gen. Breed. Sci., 30: 79-88. In Japanese with English summary. [Department of Aquatic Biosciences, Tokyo University of Fisheries, 4-5-7 Konan, Minato, Tokyo 108-8477, Japan]

01-048 Genetic variation among Japanese populations of chum salmon inferred from the nucleotide sequences of the mitochondrial DNA control region. Sato, S., J. Ando, H. Ando, S. Urawa, A. Urano, and S. Abe. 2001. Zool. Sci., 18: 99-106. [Division of Biological Sciences, Graduate School of Science, Hokkaido University, Sapporo, Hokkaido 060-0810, Japan (abesyu@fish.hokudai.ac.jp)]

01-049 The effects of artificial selection on the increase of mature body size in masu salmon *Oncorhynchus masou*. Shimoda, K., K. Yamashita, and M. Kobayashi. 2001. Sci. Rep. Hokkaido Fish Hatchery, 55: 7-12. In Japanese with English summary. [Hokkaido Fish Hatchery, Kitakashiwagi 3-373, Eniwa, Hokkaido 061-1433, Japan]

01-050 Application of DNA database to DNA polymorphic analysis. Takagi, M. 2001. Fish Gen. Breed. Sci., 30: 3-13. In Japanese with English summary. [Ono Limnological Station, National Fisheries University, 8319-2 Ono, Ube, Yamaguchi 754-1311, Japan]

01-051 Gene transfer in Salmonidae: applications to aquaculture. Yoshizaki, G. 2001. Suisanzoshoku, 49: 137-142. [Laboratory of Aquaculture, Department of Aquatic Biosciences, Tokyo University of Fisheries, 4-5-7 Konan, Minato-ku, Tokyo 108-8477, Japan]

Diseases and Parasites

01-052 Detection and identification of *Oncorhynchus masou* virus (OMV) by polymerase chain reaction (PCR). Aso, Y., J. Wani, D. A. S. Klenner, and M. Yoshimizu. 2001. Bull. Fac. Fish. Hokkaido Univ., 52: 111-116. [Laboratory of Biochemistry and Biotechnology, Graduate School of Fisheries Sciences, Hokkaido University, Hokkaido 041-8611, Japan]

01-053 Inheritance of resistance to *Ceratomyxa shasta* in progeny from crosses between high-and low- susceptibility strains of rainbow trout (*Oncorhynchus mykiss*). Bartholomew, J. L., M. J. Whipple, and D. Campton. 2001. Bull. Natl. Res. Inst. Aquacult., Suppl., 5: 71-75. [Center for Salmon Disease Research Department of Microbiology, Oregon State University, Corvallis, OR 97331 USA (bartholj@orst.edu)]

01-054 Induction of apoptosis by infectious hematopoietic necrosis virus. Hatakeyama, M., and D. K. Sakai. 2001. Sci. Rep. Hokkaido Fish Hatchery, 55: 27-33. [Hokkaido Fish Hatchery, Kitakashiwagi 3-373, Eniwa, Hokkaido 061-1433, Japan]

01-055 *In vitro* inhibition of *Saprolegnia* by bacteria isolated from lesions of salmonids with saprolegniasis. Hussein, M. M. A., and K. Hatai. 2001. Fish Pathol., 36: 73-78. [Division of Fish Diseases, Nippon Veterinary and Animal Science University, Tokyo 180-8602, Japan (hatai@scan-net.ne.jp)]

01-056 Cold-water disease of coho salmon in Japan. Kumagai, A. 2001. Bull. Natl. Res. Inst. Aquacult., Suppl., 5: 45-48. [National Research Institute of Aquaculture, Nansei, Mie 516-0193, Japan (akumagai@fra.affrc.go.jp)]

01-057 Efficacy of a DNA vaccine against infectious hematopoietic necrosis virus. Kurath, G., S. Corbeil, E. D. Anderson, and S. E. LaPatra. 2001. Bull. Natl. Res. Inst. Aquacult., Suppl., 5: 27-33. [USGS Western Fisheries Research Center, 6505 NE 65th St., Seattle, WA 98115, USA (gael-kurath@usgs.gov)]

01-058 Virulence of *Flavobacterium psychrophilum* strains from ayu (*Plecoglossus altivelis*) and rainbow trout (*Oncorhynchus mykiss*) to rainbow trout. Nakai, Y. 2001. Rep. Gifu Pref. Freshwater Fish Res. Inst., 46: 17-21. In Japanese. [Gifu Prefectural Freshwater Fish Research Institute, 2605 Hane, Hagiwara, Mashita-gun, Gifu 509-2592, Japan]

01-059 Antibacterial activity of ionized silver to four bacterial pathogens of freshwater fish. Nakatsugawa, T., and S. Yamada. 2001. Bull. Kyoto Inst. Ocean. Fish. Sci., 23: 7-9. In Japanese. [Kyoto Institute of Oceanic and Fishery Science, Odashukuno, Miyazu, Kyoto 626-0052, Japan]

01-060 Detection of infections pancreatic necrosis virus (IPNV) from leukocytes of carrier rainbow trout *Oncorhynchus mykiss*. Rodríguez, S., M. Alonso, and S. I. Pérez-Prieto. 2001. Fish Pathol., 36: 139-146. [Centro de Investigaciones Biológicas, Departamento de Microbiología Molecular, C/Velázquez 144, 28006 Madrid, Spain (saraip@cib.csic.es)]

01-061 Occurrence of *Kabatana takedai* (Microspora) in juvenile masu salmon (*Oncorhynchus masou*) reared at varying water temperatures in a hatchery. Urawa, S. 2001. Bull. Natl. Salmon Resources Center, 4: 7-11. [Research Division, National Salmon Resources Center, 2-2 Nakanoshima, Toyohira-ku, Sapporo 062-0922, Japan (urawa@salmon.affrc.go.jp)]

01-062 Potential impact of *Renibacterium salmoninarum* on adult returns of Snake River spring/summer chinook salmon. Williams, J. G. 2001. Bull. Natl. Res. Inst. Aquacult., Suppl., 5: 55-59. [National Marine Fisheries Service, Northwest Fisheries Science Center, Fish Ecology Division, 2725 Montlake Boulevard East, Seattle, WA 98112-2097, USA (john.g.williams@noaa.gov)]

01-063 Control of fungal infection of salmonid eggs by hydrogen peroxide. Yamamoto, A., S. Toyomura, M. Saneyoshi, and K. Hatai. 2001. Fish Pathol., 36: 241-246. In Japanese with English summary. [Oshino Trout Hatchery, Yamanashi Prefectural Fisheries Technology Center, Shibokusa 3098-1, Yamanashi 401-0511, Japan (ayam@fish.kagoshima-u.ac.jp)]

01-064 *Oncorhynchus masou* virus (OMV) epidemiology and its control strategy. Yoshimizu, M., and T. Nomura. 2001. Bull. Natl. Res. Inst. Aquacult., Suppl., 5: 11-14. [Graduate School of Fisheries Sciences, Hokkaido University, Minato 3-1-1, Hakodate, Hokkaido 041-8611, Japan (yosimizu@fish.hokudai.ac.jp)]

Toxicology

01-065 Toxicity of agricultural chemicals to fish-XXIV. Kuge, T., Y. Kobayashi, K. Sudou, Y. Kakita, A. Nakano, and K. Nobusawa. 2001. Rep. Gunma Fish. Exp. Stat., 7: 1-3. In Japanese. [Gunma Fisheries Experiment Station, 13 Shikishima-cho, Maebashi, Gunma 371-0036, Japan]

Economy

01-066 Structural factors on changes in the supply and demand of salmon in Japan. Shimizu, I. 2001. Bull. Natl. Salmon Resources Center, 4: 19-29. In Japanese with English summary. [Research Division, National Salmon Resources Center, 2-2 Nakanoshima, Toyohira-ku, Sapporo 062-0922, Japan (shimizu.ikutaro@salmon.affrc.go.jp)]

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