

Tuna Research

Stein, M., D. Margulies, J.B. Wexler, V.P. Scholey, R. Katagiri, T. Honryo, T. Sasaki, A. Guillen, Y. Agawa and Y. Sawada. 2018. [A comparison of the effects of two prey enrichment media on growth and survival of Pacific bluefin tuna, *Thunnus orientalis*, larvae.](#) J. World Aquaculture Society, 49 (1): 240-255.

Honryo, T., M. Kurata, A. Guillen, Y. Tamura, A. Cano, M. S Stein, D Margulies, V. P. Scholey, and Y. Sawada. 2017. [Optimal period for the effective promotion of initial swim bladder inflation in yellowfin tuna, *Thunnus albacares* \(Temminck and Schlegel\), larvae.](#) Aquaculture Research, 2017 1-4.

Katagiri, R., T. Sasaki, A. Diaz, M. Ando, D. Margulies, V.P. Scholey, and Y. Sawada. 2017. [Effect of taurine enrichment in rotifer \(*Brachionus* sp.\) on growth of larvae of Pacific bluefin tuna *Thunnus orientalis* \(Temminck & Schlegel\) and yellowfin tuna *T. albacares* \(Temminck & Schlegel\).](#) Aquaculture Research, 48: 3013-3031.

Frommel, A.Y., D. Margulies, J.B. Wexler, M.S. Stein, V.P. Scholey, J.E. Williamson, D. Bromhead, S. Nicol, and J. Havenhand. 2016. [Ocean acidification has lethal and sub-lethal effects on larval development of yellowfin tuna, *Thunnus albacares*.](#) J. Exp. Mar. Biol. Ecol. 482: 18-24.

Margulies, Daniel, Vernon P. Scholey, Jeanne B. Wexler, and Maria S. Stein. 2016. [Research on the reproductive biology and early life history of yellowfin tuna *Thunnus albacares* in Panama.](#) Pages 77-144 In: Advances in Tuna Aquaculture, Daniel Benetti, Gavin Partridge, and Alejandro Buentello (editors), Elsevier-Academic Press.

Kobayashi, T., T. Honryo, Y. Agawa, Y. Sawada, I. Tapia, K.A. Macias, A. Cano, V.P. Scholey, D. Margulies, and N. Yagishita. 2015. Gonadogenesis and slow proliferation of germ cells in juveniles of cultured yellowfin tuna, *Thunnus albacares*. Reproductive Biology, 15: 106-112.

Bromhead, D., V. Scholey, S. Nicol, D. Margulies, J. Wexler, M. Stein, S. Hoyle, C. Lennert-Cody, J. Williamson, J. Havenhand, T. Ilyina, and P. Lehodey. 2015. The potential impact of ocean acidification upon eggs and larvae of yellowfin tuna (*Thunnus albacares*). [Deep Sea Res. Part II, Top. Stud. Oceanogr. 113: 268-279.](#)

Honryo, T., T. Tanaka, A. Guillen, J.B. Wexler, A. Cano, D. Margulies, V.P. Scholey, M.S. Stein, and Y. Sawada. 2014. Effect of water surface condition on survival, growth and swim bladder inflation of yellowfin tuna, *Thunnus albacares* (Temminck and Schlegel), larvae. Aquaculture Research, 47: 1832-1840.

Guillen, A., T. Honryo, J. Ibarra, A. Cano, D. Margulies, V.P. Scholey, J.B. Wexler, M.S. Stein, T. Kobayashi, and Y. Sawada. 2014. Effect of water temperature on embryonic development of yellowfin tuna *Thunnus albacares* inhabiting the eastern Pacific Ocean. Aquaculture Science 62(3): 319-322.

Nomura, S., T. Kobayashi, Y. Agawa, D. Margulies, V. Scholey, Y. Sawada, and N. Yagishita. 2014. Genetic population structure of the Pacific bluefin tuna *Thunnus orientalis* and the yellowfin tuna *Thunnus albacares* in the North Pacific Ocean. [Fish. Sci. 80: 1193-1204.](#)

Sawada, Y., T. Kaga, Y. Agawa, T. Honryo, Y. Kim, M. Nakatani, T. Okada, A. Cano, D. Margulies, and V. Scholey. 2013. Growth analysis in artificially hatched Pacific bluefin tuna *Thunnus orientalis*. Aquaculture Science 61: 315-319.

- Margulies, Daniel, Vernon P. Scholey, Jeanne B. Wexler, Maria S. Stein, Richard B. Deriso, and Guillermo A. Compeán. 2013. The IATTC Achotines Laboratory—a world leader in tuna research. *INFOFISH International*, (2): 24-28.
- Margulies, Daniel, Vernon P. Scholey, Jeanne B. Wexler, and Maria S. Stein. 2013. Achotines Laboratory home to continuing studies of tuna early life history. *Global Aquaculture Advocate*, March-April 2013: 72-73.
- Nakase, G., T. Honryo, L. Guerra, D. Perez, A. Cano, D. Margulies, V.P. Scholey, and Y. Sawada. 2013. Addition of *Nannochloropsis* sp. to pre-rearing water improves survival of yellowfin tuna *Thunnus albacares* larvae. *Aquaculture Science*, 61(4): 395-398.
- Scholey, V.P., D. Margulies, J.B. Wexler, and M.S. Stein. 2013. Captive culture of yellowfin tuna *Thunnus albacares* for research and investigation. *World Aquaculture Society, World Aquaculture Magazine*, 44(3): 55-58.
- Stein, Maria S., Daniel Margulies, Vernon P. Scholey, and Jeanne B. Wexler. 2013. El Laboratorio de Achotines: atunes aleta amarilla cautivos en Panamá. *Panorama Acuicola* 18(3): 26-32.
- Wexler, Jeanne B., Daniel Margulies, Vernon P. Scholey, y Maria S. Stein. 2013. El Laboratorio de Achotines. *Panama Fishing Magazine*, March 29, 2013: 6-8.
- Margulies, Daniel, Vernon P. Scholey, Jeanne B. Wexler, Maria S. Stein, Richard B. Deriso, and Guillermo A. Compeán. 2012. Cría de atunes: el laboratorio de la CIAT en Achotines, Panamá. *INFOPECA Internacional*, 52: 26-29.
- Scholey, V., D. Bromhead, D. Margulies, S. Nicol, J. Wexler, M. Santiago, J.E. Williamson, S. Hoyle, P. Schlegel, J. Havenhand, T. Ilyina, and P. Lehodey. 2012. Novel research into the impacts of ocean acidification upon tropical tuna. *Pelagic Fisheries Research Program Newsletter* 16(1): 1-8.
- Partridge, G.J., D.D. Benetti, J.D. Stieglitz, J. Hutapea, A. McIntyre, B. Chen, W. Hutchinson, and V.P. Scholey. 2011. The effect of a 24-hour photoperiod on the survival, growth and swim bladder inflation of pre-flexion yellowfin tuna (*Thunnus albacares*) larvae. *Aquaculture*, 318 (3-4): 471-474.
- Wexler, J.B., D. Margulies, and V.P. Scholey. 2011. Temperature and dissolved oxygen requirements for survival of yellowfin tuna, *Thunnus albacares*, larvae. *J. Exp. Mar. Biol. Ecol.* 404: 63-72
- Zink, Ian C., Daniel D. Benetti, Philippe A. Douillet, Daniel Margulies, and Vernon P. Scholey. 2011. Improvement of water chemistry with *Bacillus* probiotics inclusion during simulated transport of yellowfin tuna yolk sac larvae. *North Amer. Jour. Aquaculture*, 73 (1): 42-48.
- Buentello, J. A., C. Pohlenz, D. Margulies, V. P. Scholey, J. B. Wexler, D. Tovar-Ramírez, W. H. Neill, P. Hinojosa-Baltazar, and D. M. Gatlin, III. 2011. A preliminary study of digestive enzyme activities and amino acid composition of early juvenile yellowfin tuna (*Thunnus albacares*). *Aquaculture*, 312 (1): 205-211.
- Wexler, J.B., S. Chow, T. Wakabayashi, K. Nohara, and D. Margulies. 2007. Temporal variation in growth of yellowfin tuna (*Thunnus albacares*) larvae in the Panama Bight, 1990-97. *Fish. Bull., U.S.* 105: 1-18.

- Margulies, D., J.M. Suter, S.L. Hunt, R.J. Olson, V.P. Scholey, J.B. Wexler, and A. Nakazawa. 2007. Spawning and early development of captive yellowfin tuna (*Thunnus albacares*). Fish. Bull., U.S. 105: 249-265.
- Margulies, D., V.P. Scholey, J.B. Wexler, R.J. Olson, J.M. Suter, and S.L. Hunt. 2007. A review of IATTC research on the early life history and reproductive biology of scombrids conducted at the Achotines Laboratory from 1985 to 2005. Inter-Am. Trop. Tuna Comm., Special Report 16: 63 pp.
- Garcia, A., A. Bakun, and D. Margulies. 2007. Report of CLIOTOP workshop of Working Group 1 on early life history of top predators. ICCAT Col. Vol. Sci. Pap. 60(4): 1312-1327.
- Margulies, D., V. Scholey, S. Hunt, and J. Wexler. 2005. Achotines Lab studies diets for larval, juvenile yellowfin tuna. Global Aquacul. Advocate, 8(2): 87.
- Scholey, V., D. Margulies, J. Wexler, and S. Hunt. 2004. Larval tuna research mimics ocean conditions in lab. Global Aquacul. Advocate, 7(1): 38.
- Kimura, S., H. Nakata, D. Margulies, J. M. Suter, and S. L. Hunt. 2004. Effect of oceanic turbulence on the survival of yellowfin tuna larvae. Nippon Suisan Gakkaishi, 70: 175-178 (In Japanese with English abstract).
- Takagi, M., S. Chow, T. Okamura, V.P. Scholey, A. Nakazawa, D. Margulies, J.B. Wexler, and N. Taniguchi. 2003. Mendelian inheritance and variation of four microsatellite DNA markers in the yellowfin tuna *Thunnus albacares*. Fisheries Science, 69: 1306-1308.
- Niwa, Y., A. Nakazawa, D. Margulies, V. P. Scholey, J. B. Wexler, and S. Chow. 2003. Genetic monitoring for spawning ecology of captive yellowfin tuna (*Thunnus albacares*) using mitochondrial DNA variation. Aquaculture, 218: 387-395.
- Wexler, J.B., V.P. Scholey, R.J. Olson, D. Margulies, A. Nakazawa, and J.M. Suter. 2003. Tank culture of yellowfin tuna, *Thunnus albacares*: developing a spawning population for research purposes. Aquaculture, 220: 327-353.
- Scholey, V., D. Margulies, J. Wexler, and S. Hunt. 2003. Panamanian lab hosts research on tuna, other marine species. Global Aquacult. Advocate, 6(1): 75-76.
- Loew, E. R., W. N. McFarland, and D. Margulies. 2002. Developmental changes in the visual pigments of the yellowfin tuna, *Thunnus albacares*. Mar. Fresh. Behav. Physiol., 35 (4): 235-246.
- Margulies, D., J.B. Wexler, K.T. Bentler, J.M. Suter, S. Masuma, N. Tezuka, K. Teruya, M. Oka, M. Kanematsu, and H. Nikaido. 2001. Food selection of yellowfin tuna, *Thunnus albacares*, larvae reared in the laboratory. Inter-Am. Trop. Tuna Comm., Bull. 22: 9-51.
- Wexler, J.B., D. Margulies, S. Masuma, N. Tezuka, K. Teruya, M. Oka, M. Kanematsu, and H. Nikaido. 2001. Age validation and growth of yellowfin tuna, *Thunnus albacares*, larvae reared in the laboratory. Inter-Am. Trop. Tuna Comm., Bull. 22: 52-91.
- Chow, S., V.P. Scholey, A. Nakazawa, D. Margulies, J.B. Wexler, R.J. Olson, and K. Hazama. 2001. Direct evidence for Mendelian inheritance of the variations in the ribosomal protein gene introns in yellowfin tuna (*Thunnus albacares*). Mar. Biotechnol., 3: 22-26.

- Scholey, V.P., D. Margulies, R.J. Olson, J.B. Wexler, J.M. Suter, and S. Hunt. 2001. Lab culture and reproduction of yellowfin tuna in Panama. *Global Aquacult. Advocate*, 4(2): 17-18.
- Dickson, K.A., N.M. Johnson, J.M. Donley, J.A. Hoskinson, M.W. Hansen, and J.D. Tessier. 2000. Ontogenetic changes in characteristics required for endothermy in juvenile black skipjack tuna (*Euthynnus lineatus*). *J. Exper. Biol.*, 203: 3077-3087.
- Margulies, D. 1997. Development of the visual system and inferred performance capabilities of larval and early juvenile scombrids. *Mar. Freshw. Behav. Physiol.*, 30: 75-98.
- Margulies, D., V.P. Scholey, J.B. Wexler, R.J. Olson, A. Nakazawa, and J.M. Suter. 1997. Captive spawning of yellowfin tuna and the development of their eggs and larvae. *Tuna Newsletter*, (U.S. Nat. Mar. Fish. Serv., Southwest Fish. Center) 126: 4-5.
- Dickson, K. A., J. M. Donley, J. A. Hoskinson, and N. Johnson. 1997. The development of endothermy in juvenile black skipjack tuna (*Euthynnus lineatus*) [abstract]. *Amer. Zool.*, 37: 151A.
- Owen, R.W. 1997. Oceanographic atlas of habitats of larval tunas in the Pacific Ocean off the Azuero Peninsula, Panama. *Inter-Am. Trop. Tuna Comm., Data Report 9*: 31 pp.
- Lauth, R.R., and R.J. Olson. 1996. Distribution and abundance of larval scombridae in relation to the physical environment in the northwestern Panama Bight. *Inter-Am. Trop. Tuna Comm., Bull.* 21: 127-167.
- Dickson, K.A., J. Daniels, L. Enge, R. Fox, and N. Johnson. 1994. How hearts, percentage of red muscle, and heat exchangers vary with fish size in juvenile black skipjack tuna (*Euthynnus lineatus*) [abstract]. *The Physiologist*, 37 (5): A76.
- Dickson, K.A. 1994. Tunas as small as 207 mm fork length can elevate muscle temperatures significantly above ambient water temperature. *J. Exp. Biol.*, 190: 79-93.
- Margulies, D. 1993. Assessment of the nutritional condition of larval and early juvenile tuna and Spanish mackerel (Pisces: Scombridae) in the Panama Bight. *Mar. Biol.*, 115: 317-330.
- Wexler, J.B. 1993. Validation of daily growth increments and estimation of growth rates of larval and early-juvenile black skipjack, *Euthynnus lineatus*, using otoliths. *Inter-Am. Trop. Tuna Comm., Bull.* 20: 399-440.
- Scholey, V.P. 1993. Effects of temperature and food concentration on growth and survival of late-larval and early-juvenile black skipjack, *Euthynnus lineatus*. Masters Thesis, University of Washington, Seattle, Washington: 54 pp.
- Dickson, K.A. 1993. Minimum size for endothermy in tuna [abstract]. *Amer. Zool.*, 33(5): 41A.
- Olson, R.J., and V.P. Scholey. 1990. Captive tunas in a tropical marine research laboratory: growth of late-larval and early-juvenile black skipjack *Euthynnus lineatus*. *Fish. Bull*, U.S. 88: 821-828.
- Dickson, K.A. 1988. At what size are tunas able to elevate muscle temperatures significantly? [abstract]. *Amer. Zool.*, 28(4): 46A.