

Investigación de los atunes

- Buchalla, Y., D. Margulies, V. Scholey, S. Cusatti, and M.S. Stein. **2025**. [Food selectivity, diel feeding, and effect of light intensity on prey consumption, growth and survival of yellowfin tuna *Thunnus albacares* larvae](#). *Mar. Ecol. Prog. Ser.*, 757: 161-179. DOI: doi.org/10.3354/meps14799.
- Buchalla, Y., D. Margulies, S. Cusatti, E. Pereira, V. Scholey. **2024**. [Inter-American Tropical Tuna Commission and the Achotines Laboratory: four decades of continuous research on tropical tunas](#). *World Aquaculture Society, World Aquaculture Magazine*, (55)3: 22-29.
- Dimens, P.V., Kenneth L. Jones, Daniel Margulies, Vernon Scholey, Susana Cusatti, Brooke McPeak, Tami E. Hildahl & Eric A. E. Saillant **2024**. [Genomic resources for the Yellowfin tuna *Thunnus albacares*](#). *Molecular Biology Reports* 10.1007/s11033-023-09117-6
- Heuer, R.M., Y. Wang, C. Pasparakis, W. Zhang, V. Scholey, D. Margulies and M. Grosell. **2023**. [Effects of elevated CO₂ on metabolic rate and nitrogenous waste handling in the early life stages of yellowfin tuna \(*Thunnus albacares*\)](#). *Comparative Biochemistry and Physiology*, Part A 280: 111398.
- Wexler, J.B., Daniel Margulies, Vernon Scholey, Cleridy E. Lennert-Cody, Don Bromhead, Simon Nicol, Simon D. Hoyle, Maria Stein, Jane E. Williamson, Jon Havenhand **2023**. [The effect of ocean acidification on otolith morphology in larvae of a tropical, epipelagic fish species, yellowfin tuna \(*Thunnus albacares*\)](#). *Journal of Experimental Marine Biology and Ecology* 10.1016/j.jembe.2023.151949
- Cusatti, S., D. Margulies, V. Scholey, Y. Sawada and Y. Agawa **2022**. [Spawning ecology of captive yellowfin tuna broodstock inferred by the use of mitochondrial DNA sequencing analysis](#). *Aquaculture Science* 70(4): 331-342.
- Tanaka, T., Honryo, T., Sawada, Y., Margulies, D., Scholey, V., Wexler, J., Stein, M., Biswas, A., Takii, K. **2022**. [Biochemical changes occurring in yellowfin tuna eggs during embryonic development](#). *Fishes* 10.3390/fishes7020062
- Nicol, S., P. Lehodey, I. Senina, D. Bromhead, A. Frommel, J. Hampton, J. Havenhand, D. Margulies, P. Munday, V. Scholey, J. Williamson, and N. Smith. 2022. Ocean futures for the world's largest yellowfin tuna population under the combined effects of ocean warming and acidification. [Frontiers in Marine Science](#) 9: 816772. doi: 10.3389/fmars.2022.816772.
- Pasparakis, C., Y. Wang, R.M. Heuer, W. Zhang, J.D. Stieglitz, C.J. McGuigan, D.D. Benetti, V.P. Scholey, D. Margulies, and M. Grosell. 2021. Ultraviolet avoidance by embryonic buoyancy control in three species of marine fish. *Science of the Total Environment*, <https://doi.org/10.1016/j.scitotenv.2021.150542>
- Heuer, R.M., Y. Wang, C. Pasparakis, V. Scholey, D. Margulies and M. Grosell. 2020. Effects of elevated CO₂ on yellowfin tuna (*Thunnus albacares*) early life stage respiration and ammonia excretion. [Journal of the Federation of American Societies for Experimental Biology](#) 34(S1): 1-1. 10.1096/fasebj.2020.34.s1.09653.
- Dickson, J.M. and K.A. Dickson. 2019. Ontogenetic change in the amount and position of slow-oxidative myotomal muscle in relationship to regional endothermy in juvenile yellowfin tuna *Thunnus albacares*. *J. Fish Biology* 95: 940-951.
- Tanaka, T., N. Morales, T. Honryo, Y. Sawada, D. Margulies, V.P. Scholey, J.B. Wexler, M.S. Stein, A.K. Biswas, and K. Takii. 2019. Changes in RNA, DNA, and protein contents in laboratory-reared yellowfin tuna, *Thunnus albacares*. *Aquaculture Science* 67(1): 33-40.

- 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.