

CURRICULUM VITAE

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EDUCATION

B.S. Oceanography, Universidade do Estado do Rio de Janeiro, Brazil
M.S. Geography, Universidade Federal do Rio de Janeiro, Brazil
Ph.D. Oceanography, Texas A&M University

PROFESSIONAL BACKGROUND

July 2016 – present
Research Scientist, Fish and Wildlife Research Institute

2009 – 2015

Independent Consultant – Phytoplankton Expert, collaboration with the following laboratories:

- Department of Biology, Mount Allison University, Canada - Irena Kaczmarek
- Dept. Biologia Marinha, Universidade Federal do Rio de Janeiro, Brazil - Denise Tenenbaum
- Instituto Oceanográfico, Universidade de São Paulo, Brazil - Frederico Brandini

Faculty Positions (Teaching & Research)

2003 - 2008 (tenure)

Departamento de Biologia, Universidade de Taubaté, São Paulo, Brazil

1997 - 2002 (tenure)

Departamento de Biologia Marinha, Universidade Federal do Rio de Janeiro, Brazil

PUBLICATIONS (* peer reviewed, chronological order)

Mayr, L.M., Tenenbaum, D.R., **Villac, M.C.**, Paranhos, R., Nogueira, C.R., Bonecker, S.L. & Bonecker, A.C.T. (1989). Hydrobiological characterization of Guanabara Bay. In: Magoon, O. & Neves, C. (eds.), *Coastlines of Brazil*, p. 124-138. American Society of Civil Engineers, New York.

Villac, M.C., Mayr, L.M., Tenenbaum, D.R. & Paranhos, R. (1991). Sampling strategies proposed to monitor Guanabara Bay, RJ, Brazil. In: Magoon, O.T., Converse, H.V., Tippie, V., Tobin, L.T. & Clarck, D. (eds.), *Coastal Zone '91*, p. 1168-1182. American Society of Civil Engineers, New York.

* Buck, K.R., Uttal-Cooke, L., Pilskaln, C.H., Roelke, D.L., **Villac, M.C.**, Fryxell, G.A., Cifuentes, L.A. & Chavez, F.P. (1992). Autoecology of *Pseudonitzschia australis*, a domoic acid producer from Monterey Bay, California. *Marine Ecology Progress Series*, 84: 293-302.

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* **Villac, M.C.**, Roelke, D.L., Villareal, T.A. & Fryxell, G.A. (1993). Comparison of two domoic acid-producing diatoms: a review. *Hydrobiologia*, 269/270: 213-224.

- * Scholin, C.A., **Villac, M.C.**, Buck, K.R., Krupp, J.M., Powers, D.A., Fryxell, G.A. & Chavez, F.P. (1994). Ribosomal DNA sequences discriminate among toxic and non-toxic *Pseudonitzschia* species. *Natural Toxins*, 2: 152-165.
- * Manhart, J.R., Fryxell, G.A., **Villac, M.C.** & Segura, L. (1995). *Pseudo-nitzschia pungens* and *P. multiseriata* (Bacillariophyceae): Nuclear ribosomal DNAs and species differences. *Journal of Phycology*, 31: 421-427.
- * Fryxell, G.A., **Villac, M.C.**, Shapiro, L.P. (1997). The occurrence of the toxic diatom genus *Pseudo-nitzschia* on the West Coast of the U.S.A., 1920-1996: A review. *Phycologia*, 36 (6): 419-437.
- * **Villac, M.C.** & Fryxell, G.A. (1998). *Pseudo-nitzschia pungens* var. *cingulata*, var. nov., based on field and culture observations. *Phycologia*, 37 (4): 269-274.
- * Fryxell, G.A. & **Villac, M.C.** (1999). Toxic and Harmful Diatoms. In: Stoermer, E.F. & Smoll, J.P. (eds.), *The Diatoms, Applications for the Environmental and Earth Sciences*, p. 419-428. Cambridge University Press.
- * Valentin, J.L., Tenenbaum, D.R., Bonecker, A.C.T., Bonecker, S.L.C., Nogueira, C.R., Paranhos, R. **Villac, M.C.** (1999). Características hidrobiológicas de la Baía de Guanabara (Rio de Janeiro, Brasil). *J. Res. Oceanogr.*, 24(1): 33-41.
- * Valentin, J.L., Tenenbaum, D.R., Bonecker, A.C.T., Bonecker, S.L.C., Nogueira, C.R., **Villac, M.C.** (1999). O sistema planctônico da Baía de Guanabara: Síntese de conhecimento. *Oecologia Brasiliensis*, 7: 35-59.
- * **Villac, M.C.**, Persich, G., Fernandes, L., Paranhos, Dias, C., R., Bonecker, S., Garcia, V., Odebrecht, C., Tenenbaum, D., Tristão, M.L., Andrade, S. & Fadel, A. (2001). Ballast water exchange: Testing the dilution method (Petrobrás, Brazil). In: Hallegraeff, G.M., Blackburn, S.I., Bolch, C.J. & Lewis, R.J. (eds.), *Harmful Algal Blooms 2000*, p. 470-473. IOC, Paris.
- * **Villac, M.C.** & Tenenbaum, D.R. (2001). The coastal *Pseudo-nitzschia* from the state of Rio de Janeiro, Brazil. In: Hallegraeff, G.M., Blackburn, S.I., Bolch, C.J. & Lewis, R.J. (eds.), *Harmful Algal Blooms 2000*, p. 34-37. IOC, Paris.
- * Tenenbaum, D.R., **Villac, M.C.**, Gomes, E.A.T. Cupelo, A.C. & Santos, V.S. (2001). A new "sight" on microbial plankton: coastal vs. oceanic systems in Brazil. *Oecologia Brasiliensis*, 9:133-152.
- * Odebrecht, C., Azevedo, S.M.F., Garcia, V.L.M., Huszar, V.L.M., Proença, L.A.O., Röhrig, L.R., Tenenbaum, D.R., **Villac, M.C.** & Yunes, J.S. (2002). Floraciones de microalgas nocivas en Brasil: estado del arte y proyectos en curso. In: Sar, E., Ferrario, M. & Reguera, B. (eds.), *Microalgas Marinas Productoras de Toxinas Presentes en el Cono Sur Americano*, p. 217-233. Editora del Instituto Espanhol de Oceanografia.
- * Gollasch, S., Rosenthal, H., Botnen, H., Crncevic, M. Gilbert, M., Hamer, J., Hülsmann, N., McCann, T., Mauro, C., Minchin, D., Öztürk, B., Onofri, V., Robertson, M., Sutton, C. & **Villac, M.C.** (2003). Comparison of ballast water sampling techniques. *Biological Invasions*, 5:365-377.
- * **Villac, M.C.**, Matos, M.G. Santos, V.S., Rodrigues, A.W.L. & Viana, S.C. (2004). Composition and distribution of *Pseudo-nitzschia* from Guanabara Bay, Brazil: The role of salinity based on field and culture observations. In: Steidinger, K.A., Landsberg, J.H., Tomas, C.R. & Vargo, G.A.. (eds.), *Harmful Algae 2002*, p. 56-58, Florida Fish and Wildlife Conservation Commission, Florida Institute of Oceanography, IOC/UNESCO.
- Villac, M.C.**, Fernandes, F.C., Jablonski, S., Leal Neto, A.C. & Coutinho, B.H. (eds.) (2004). *A Biota da Área sob Influência do Porto de Sepetiba, Rio de Janeiro Brasil: Levantamento de Dados Pretéritos*. Ministério do Meio Ambiente, Brasília. 79 pp.
- Tenenbaum, D.R., **Villac, M.C.**, Viana, S.C., Matos, M., Hatherly, M., Lima, I.V. & Menezes, M. (2004). *Phytoplankton Atlas of Sepetiba Bay, Rio de Janeiro, Brazil*. GloBallast Monograph Series, 16. IMO London.

- * **Villac, M.C.**, Melo, S., Menezes, M. & Tenenbaum, D.R. (2005). *Pseudo-nitzschia brasiliiana* (Bacillariophyceae), an opportunistic diatom on the coast of the state of Rio de Janeiro, Brazil. *Revista Atlântica*, 27(2): 139-145.
- * Santos, V.S., **Villac, M.C.**, Tenenbaum, D.R. & Paranhos, R. (2007). Auto- and heterotrophic nanoplankton and filamentous bacteria of Guanabara Bay (RJ, Brazil): estimates of cell/filament numbers *versus* carbon content. *Brazilian Journal of Oceanography*, 55(2): 133-143.
- ***Villac, M.C.** & Noronha, V.A.P.C. (2008). The surf-zone phytoplankton of the State of São Paulo, Brazil. I. Trends in space-time distribution with emphasis on *Asterionellopsis glacialis* and *Anaulus australis* (Bacillariophyta). *Nova Hedwigia*, 133:115-129.
- ***Villac, M.C.**, Noronha, V.A.P.C. & Pinto, T.O. (2008). The phytoplankton biodiversity of the coast of the state of São Paulo, Brazil. *Biota Neotropica*, 8(3):151-173.
- * Ferreira, C.E.L., Junqueira, A.O.R., **Villac, M.C.** & Lopes, R.M. (2008). Marine bioinvasions in the Brazilian coast: brief report on history of events, vectors, ecology, impacts and management of non-indigenous species. In: Rilov, G. & Crooks, J. (eds.), *Marine Bioinvasions: Ecology, Conservation and Management Perspectives*. Chapter 27, p. 459-477. Ecological Studies, Springer.
- *Medlin, L.K., Doucette, G.J. & **Villac, M.C.** (2008). Phytoplankton Evolution, Taxonomy and Ecology. *Nova Hedwigia*, Beiheft., volume 133, dedicated to Greta A. Fryxell, 315p.
- *Lopes, R.M. & **Villac, M.C.** (2009). Métodos. In Lopes, R.M. (ed.), *Informe sobre Espécies Exóticas Invasoras Marinhas no Brasil*. Capítulo 2. Ministério do Meio Ambiente, Brasília.
- ***Villac, M.C.**, Lopes, R.M., Rivera, I.N.G., Bassanello, R.T., Cunha, D.R., Martinelli Filho, J.E. & Santos, D.B. (2009). Plâncton. In Lopes, R.M. (ed.), *Informe sobre Espécies Exóticas Invasoras Marinhas no Brasil*. Capítulo 4. Ministério do Meio Ambiente, Brasília
- ***Villac, M.C.** & Tenenbaum, D.R. (2010). The phytoplankton of Guanabara Bay, Brazil. I. Historical account of its biodiversity. *Biota Neotropica*, 10(2): 271-293.
- ***Villac, M.C.**, Doucette, G.J. & Kaczmarek, I. (2011). Toxic Marine Diatoms. In: Smoll, J.P. & Stoermer (eds.), *The Diatoms, Applications for the Environmental and Earth Sciences*, 2nd revised edition. Cambridge University Press.
- ***Villac, M.C.** & Kaczmarek, I. (2011). Marine planktonic diatoms, including potentially toxic species. In: Seckbach, J. & Kociolek, P. (eds.), *The Diatom World*, COLE Series, Springer.
- ***Villac, M.C.** & Kaczmarek, I. (2012). Estimating propagule pressure and viability of diatoms detected in ballast tank sediments of ships arriving at Canadian ports. *Marine Ecology Progress Series*, 425:47-61.
- * Briski, E., Bailey, S. A., Casas-Monroy, O., DiBacco, C., Kaczmarek, I., Levings, C., MacGillivray, M. L., McKindsey, C. W., Nasmith, L. E., Parenteau, M., Piercey, G. E., Rochon, A., Roy, S., Simard, N., **Villac, M. C.**, Weise, A. M., MacIsaac, H. J. (2012). Relationship between propagule pressure and colonization pressure in invasion ecology: a test with ships' ballast. *Proceeding of the Royal Society B* 279: 2990–2997
- ***Villac, M.C.**, Kaczmarek, I. & Ehrman, J. (2013). The diversity of diatom assemblages in ships' ballast sediments: colonization and propagule pressure on Canadian ports. *Journal of Plankton Research* 35(6): 1267–1282.
- ***Villac, M.C.**, Kaczmarek, I. & Ehrman, J. (2017). *Diatoms from ship ballast sediments (with consideration of a few additional species of special interest)*. Diatom Monographs 18, 557 p. (235 plates). (www.koeltz.com/product.aspx?pid=209046).