

# Perfil de susceptibilidad de *Caligus rogercresseyi* enfrentando diferentes temperaturas y condiciones de luminosidad durante la incubación

M. González<sup>1</sup>, C. Spinetto<sup>2</sup>, M. Menanteau<sup>2</sup>, C. Oyarzo<sup>2</sup>, D. Álvarez<sup>2</sup>, M. Rivas<sup>1</sup>, R. Oyarzún<sup>1</sup> y S. Contreras<sup>1</sup>

<sup>1</sup> Hydrobiological Health Department, Aquaculture Research Division, Instituto de Fomento Pesquero (Ifop), Puerto Montt, Chile.

<sup>2</sup> Hueihue Mariculture Center, Aquaculture Research Division, Instituto de Fomento Pesquero (Ifop), Ancud-Chiloé, Chile.

\*margarita.gonzalez@ifop.cl

- Bell-Pedersen, D., Cassone, V.M., Earnest, D.J., Golden, S.S., Hardin, P.E., Thomas, T.L., Zoran, M., 2005. Circadian rhythms from multiple oscillators: lessons from diverse organisms. *Nat Rev Genet.* 6, 544-556.
- Carvajal, J., González, L., George-Nascimento, M., 1998. Native sea lice (Copepoda: Caligidae) infestation of salmonids reared in netpen systems in southern Chile. *Aquaculture.* 166, 241-246.
- González, L., Carvajal, J., 2003. Life cycle of *Caligus rogercresseyi*, (Copepoda: Caligidae) parasite of Chilean reared salmonids. *Aquaculture.* 220, 101-117.
- González, M., Vargas-Chacoff, L., Marín, S., 2015a. Stress response of *Salmo salar* (Linnaeus 1758) when heavily infested by *Caligus rogercresseyi* (Boxshall & Bravo 2000) copepodids. *Fish Physiol Biochem.* 1-12.
- González, M.P., Marín, S.L., Vargas-Chacoff, L., 2015b. Effects of *Caligus rogercresseyi* (Boxshall and Bravo, 2000) infestation on physiological response of host *Salmo salar* (Linnaeus 1758): Establishing physiological thresholds. *Aquaculture.* 438, 47-54.
- González, M.P., Marín, S.L., Vargas-Chacoff, L., 2015c. Stress response of *Salmo salar* (Linnaeus 1758) facing low abundance infestation of *Caligus rogercresseyi* (Boxshall & Bravo 2000), an object in the tank, and handling. *J Fish Dis.* 39, 853 - 865.
- González, M.P., Muñoz, J.L.P., Valerio, V., Vargas-Chacoff, L., 2016. Effects of the ectoparasite *Caligus rogercresseyi* on *Salmo salar* blood parameters under farm conditions. *Aquaculture.* 457, 29-34.
- Hunt, R., Cable, J., Ellison, A., 2021. Shining a light on parasite behaviour: daily patterns of *Argulus* fish lice. *J Parasitol.* 148, 850-856.
- Hunt, R., Cable, J., Ellison, A., 2022. Daily patterns in parasite processes: diel variation in fish louse transcriptomes. *Int J Parasitol.* in press.
- Johnson, S.C., Treasurer, J., Bravo, S., Nagasawa, K., Kabata, Z., 2004. A Review of the Impact of Parasitic Copepods on Marine Aquaculture. *Zool Stud.* 43, 229-243.
- Marín, S., Martín, R., Lewis, R., 2015. Effects of *Caligus rogercresseyi* (Boxshall & Bravo 2000) chalimus stage condition (dead, moribund, live) on the estimates of Cypermethrin BETAMAX® efficacy. *Aquac Res.* 46, 30-36.
- Montory, J.A., Cumillaf, J.P., Cubillos, V.M., Paschke, K., Urbina, M.A., Gebauer, P., 2018. Early development of the ectoparasite *Caligus rogercresseyi* under combined salinity and temperature gradients. *Aquaculture.* 486, 68-74.
- Montory, J.A., Cumillaf, J.P., Gebauer, P., Urbina, M., Cubillos, V.M., Navarro, J.M., Marín, S.L., Cruces, E., 2020. Early development and metabolic rate of the sea louse *Caligus rogercresseyi* under different scenarios of temperature and pCO<sub>2</sub>. *Mar Environ Res.* 162, 105154.
- Muñoz, G., Olmos, V., 2007. Revisión bibliográfica de especies ectoparásitas y hospedadoras de sistemas acuáticos de Chile. *Rev Biol Mar Oceanogr.* 42, 89-148.
- Sepúlveda, F., Marín, S.L., Carvajal, J., 2004. Metazoan parasites in wild fish and farmed salmon from aquaculture sites in southern Chile. *Aquaculture.* 235, 89-100.
- Vasemägi, A., Visse, M., Kisand, V.J.M., 2017. Effect of environmental factors and an emerging parasitic disease on gut microbiome of wild salmonid fish. 2, e00418-00417.