



-Letter-

A revision of *Artemia persimilis* Piccinelli & Prosdocimi, 1968 (Crustacea: Anostraca) in Southern Chilean saline lakes: a comparison with their northern Chilean counterparts

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The literature about Chilean *Artemia* strains described mainly the presence of *A. franciscana* that is distributed in coastal ponds, salt works and mountain saline lakes between 18° S and 33° S, based in the first descriptions before 1996 (Gajardo et al., 1998, 2004; De los Ríos & Zúñiga, 2000). Nevertheless, recently, was reported the presence of *A. persimilis* in saline lakes of Magallanes region, specifically in Amarga lagoon, located in Torres del Paine National Park (51° S; Gajardo et al., 1998, 2004; De los Ríos & Zúñiga, 2000), and Cisnes lagoon, in Tierra del Fuego island (53° S, De los Ríos, 2005). The literature about *Artemia* habitats was restricted mainly to northern Chile, and *Artemia* inhabits at salinity upper than 90 g/L and it does not coexist with other crustaceans, whereas at salinities lower than 90 g/L, inhabits the halophilic copepod *Boeckella poopoensis* (Marsh, 1906) (De los Ríos & Gajardo, 2010), and it was supposed similar trends in southern saline and sub-saline lakes (De los Ríos, 2005). Nevertheless, recent findings reported that the southern Chilean saline and subsaline lakes would have a different

structure in comparison to their northern Chilean counterparts, first in Amarga lagoon, the *Artemia* population is exclusive and permanent, whereas for Cisnes lagoon, the *Artemia* population can coexist with harpacticoids copepods and *B. poopoensis*, and finally it was reported the presence of Ana lagoon only with *B. poopoensis* (De los Ríos-Escalante & Gajardo, 2010).

This last result is markedly different in comparison to the descriptions of Altiplano of South America, where *Artemia* and *B. poopoensis* do not coexist (Hurlbert et al., 1984, 1986; Willams et al., 1995; De los Ríos, 2005) and central Argentinean plateau (Echaniz et al., 2006; Vignatti et al., 2007), the non coexistence would be due a potential depredation on *B. poopoensis* on *Artemia* nauplius (Hurlbert et al., 1986). This possible prey-predation interactions for other halophilic species that can be some interaction with *Artemia* has been proposed by Hammer & Hurlbert (1992), nevertheless it has not confirmed or rejected for South American saline lakes (De los Ríos & Gajardo, 2010). The presence of *Artemia* with copepods (*B. poopoensis*) for Cisnes lagoon

would reject the theory of predation of *B. poopoensis* on *Artemia* nauplius (De los Ríos-Escalante and Gajardo, 2010).

Also, the species reported for southern Chilean saline lakes is *A. persimilis* (De los Ríos-Escalante and Gajardo, 2010), that has big size, and high tolerance to low temperature and low salinity in comparison to *A. franciscana* (Sorgeloos et al. 1986). Also, if we compared the zooplankton assemblages in southern Chilean saline lakes with their northern Chilean counterparts, in southern Chilean saline lakes, it is possible found one species at salinities upper than 50 g/L that can be *A. persimilis* or *B. poopoensis* (De los Ríos-Escalante and Gajardo, 2010). Whereas in northern Chile and surrounding regions, *B. poopoensis* is the exclusive component in zooplankton assemblages between 50-90 g/L, and at salinities upper than 90 g/L, only *A. franciscana* inhabits the zooplankton assemblages (De los Ríos and Gajardo, 2010). In northern Chile, in spite of the salinity variations of the water bodies there is not reported a succession between *A. franciscana* and *B. poopoensis* (Zúñiga et al., 1991, 1994, 1999). This situation is markedly different in comparison with reports for Cisnes lagoon, where it was reported *A. persimilis* with harpacticoids copepods in a first description (De los Ríos, 2005), nevertheless in second description was reported the presence of *A. persimilis* with *B. poopoensis* and harpacticoids copepods (De los Ríos-Escalante and Gajardo, 2010). These antecedents would indicate that would be necessary more studies that involve ecological aspects about populational and communities level of zooplankton assemblages in Southern Chilean saline lakes, and comparative biology between different *A. persimilis* populations.

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