

# First report of *Craspedacusta sowerbii* (Cnidaria) (Lankester, 1880) for Patagonian waters (38° S, Chile): a possible presence of invasive species and its potential ecological implications

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The freshwater jellyfish *Craspedacusta sowerbii* (Lankester, 1880) is a cosmopolite species that is distributed in all continents with the exception of Antarctica (Jankowski, 2001; Silva and Roche, 2007; Zhang et al., 2009). Its habitats are streams, pools and lagoons (Jankowski et al., 2008). This species is an active zooplankton predator, and its prey consists mainly of small microcrustaceans and rotifers (Jankowski, 2004). This species is distributed across South American tropical and subtropical latitudes (Jankowski, 2001; Silva and Roche, 2007). It was reported for the first time for Chilean inland waters lagoons in the Valparaíso region (Silva and Roche, 2007), and other zones in central Chile, but there are not geographic details about its occurrence (Dumont, 1994). On an ecological note, this zone has numerous small mesotrophic and eutrophic lagoons located in agricultural zones (Schmid-Araya and Zúñiga 1992).

Zooplankton samples and jellyfish were collected in Carilafquén lagoon (39° 00' 41.4" S and 72° 08' 50.8" W; Araucanía region, Chile), and the jellyfish specimens were identified in accordance with the descriptions of Jankowski (2001). The zooplankton samples were examined under the microscope, but specimens were not found. These results would agree with descriptions in the literature about the predatory activity of this species on zooplankton (von Wieser, 1993; Jankowski, 2001; Silva and Roche, 2007). From a biogeographic viewpoint, this species was reported originally for the Valparaíso region, and this report is probably the most southern report of this species (Silva and Roche, 2007). The cause of this new report was probably an invasive event, because this species has undergone notorious dispersion during the 20<sup>th</sup> century due probably to intercontinental human mediated co-transportation of drought-resistant resting stages with plants and fishes as well as climate changes (Jankowski et al., 2008). This scenario – that this species is an invasive species – is probably similar to that of the pelagic oceanic environment scenario called “ocean of jelly”, which means a marked dominance of marine jellyfish that can predate zooplankton, generating competition with fishes that would be displaced due to jellyfish grazing activity (Dumont, 2007). In lakes and other similar freshwater environments, jellyfish are active graz-

ers (Wieser, 1993; Jankowski, 2001; Silva and Roche, 2007), but the “ocean of jelly” would not occur, because in freshwaters, the crustacean zooplankton would develop protective strategies against jellyfish depredation (Dumont, 2007). These protective strategies would be increase in size and fecundity, as was described for small cladocerans *Bosmina longirostris* (Jankowski, 2004).

From a limnological viewpoint, *C. sowerbii* is distributed mainly in tropical and subtropical latitudes (Leveque et al., 2005; Silva and Roche, 2007; Moreno-León and Ortega-Rubio, in press), and mesotrophic to eutrophic water bodies (Jankowski, 2001; Silva and Roche, 2007). In this scenario, probably it would agree with the first report of this species for Central Chilean water bodies, considering that these water bodies are mesotrophic (Schmid-Araya and Zúñiga 1992). If the existence of meso and eutrophic shallow water bodies in the Araucanía region is considered (Hauenstein et al., 2002), and the dispersion of this species due to natural and/or human mediated causes, the presence of this species in the Araucanía region would be explained, and it would be probable that this species invades other similar water bodies.

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