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# Photorepair activity and protective compounds in two freshwater zooplankton species (*Daphnia menucoensis* and *Metacyclops mendocinus*) from Patagonia, Argentina

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The impact of ultraviolet-B radiation (UV-B, 280–315 nm) on the cladoceran *Daphnia menucoensis* Paggi and the copepod *Metacyclops mendocinus* (Wierzejski) was determined in experiments designed to evaluate the effectiveness of the photorepair mechanism and the role of UV-absorbing compounds. In both species UV-B caused significant mortality at doses of ~40 kJ m<sup>-2</sup> or higher. At lower UV-B doses, however, no significant mortality was detected in *M. mendocinus*; moreover, this species seems to have a threshold below which no UV-B induced mortality is determined. *D. menucoensis*, on the other hand, was very sensitive to UV-B, and significant mortality of 15% ( $p < 0.05$ ) was observed when doses were as low as 10 kJ m<sup>-2</sup>. Both species showed high efficiency for photorepairing UV-B-induced damage to the DNA molecule, with a significant decrease of mortality when the species were exposed to visible radiation, PAR (55 W m<sup>-2</sup>), in addition to UV-B. The higher resistance of *M. mendocinus* to UV-B as compared to that of *D. menucoensis* might be also related to the presence of mycosporine-like amino acids, MAAs (*i.e.*, shinorine and porphyra-334), and carotenoids, which would add an adaptive advantage to the copepod.