

Structural alterations of the larval radula induced by ^{60}Co gamma radiation in *Biomphalaria glabrata* (Say, 1818)

^{1,2}Am. M. A. Melo¹, K. Okazaki¹, and T. Kawano²

¹Divisão de Radiobiologia, IPEN, São Paulo, SP, Brazil,
amdemelo@net.ipen.br

²Laboratório de Biologia Celular, Instituto Butantan, São Paulo,
SP, Brazil, tkawano@usp.br

Biomphalaria glabrata (Gastropoda: Planorbidae) is one of the principal vectors of schistosomiasis, an endemic disease affecting about 200 million people in approximately 70 countries. In view of its medical and sanitary relevance, studies on biology of this species are of great value. In this work, *B. glabrata* larvae submitted to ^{60}Co gamma radiation were analyzed to elucidate some aspects of the hatching mechanism. Since there are few data in the literature on this subject, the purpose was to achieve a better understanding of the mollusk's biology that might help in the control of the species in reservoirs. Larvae in the early veliger stage were submitted to gamma radiation doses of 20, 25, and 30 Gy (311 Gy/hour) in a ^{60}Co irradiator Panoramic type, from Yoshizawa Kiloc Company - LTD, at IPEN (Nuclear Energy Research Institute). Larvae analyzed 8 days after irradiation did not hatch, although apparently looking normal [unhatching rate = 1.8 (control) 73.6 (20 Gy) and 84.4% (30 Gy)]. Radulae were observed under scanning electronic microscopy (Zeiss- DMS 940). When compared to the control group, structural alterations were observed in the lateral, marginal, and central denticules. This may be one indication that inhibition of hatching in larvae submitted to 20, 25, and 30 Gy of radiation is the result of structural alterations in the larval radula. [Supported by CAPES; FAPESP].