Ultra-violet irradiated larvae of Schistosoma mansoni stimulate high levels of resistance to challenge infection in experimental animals. In the experiments presented here, the binding patterns of antisera specific for the cercarial glycocalyx, and of various lectins, demonstrate that u.v. irradiation causes a pronounced modification of the carbohydrate antigens expressed at the surface of cercariae and newly transformed schistosomula. These alterations were dependent on the irradiation dose, and on the batch of cercariae used in each experiment. Our results strongly suggest that the changes in carbohydrate antigens consequent upon u.v. irradiation may be important in generating the enhanced immunogenicity of irradiated cercariae.