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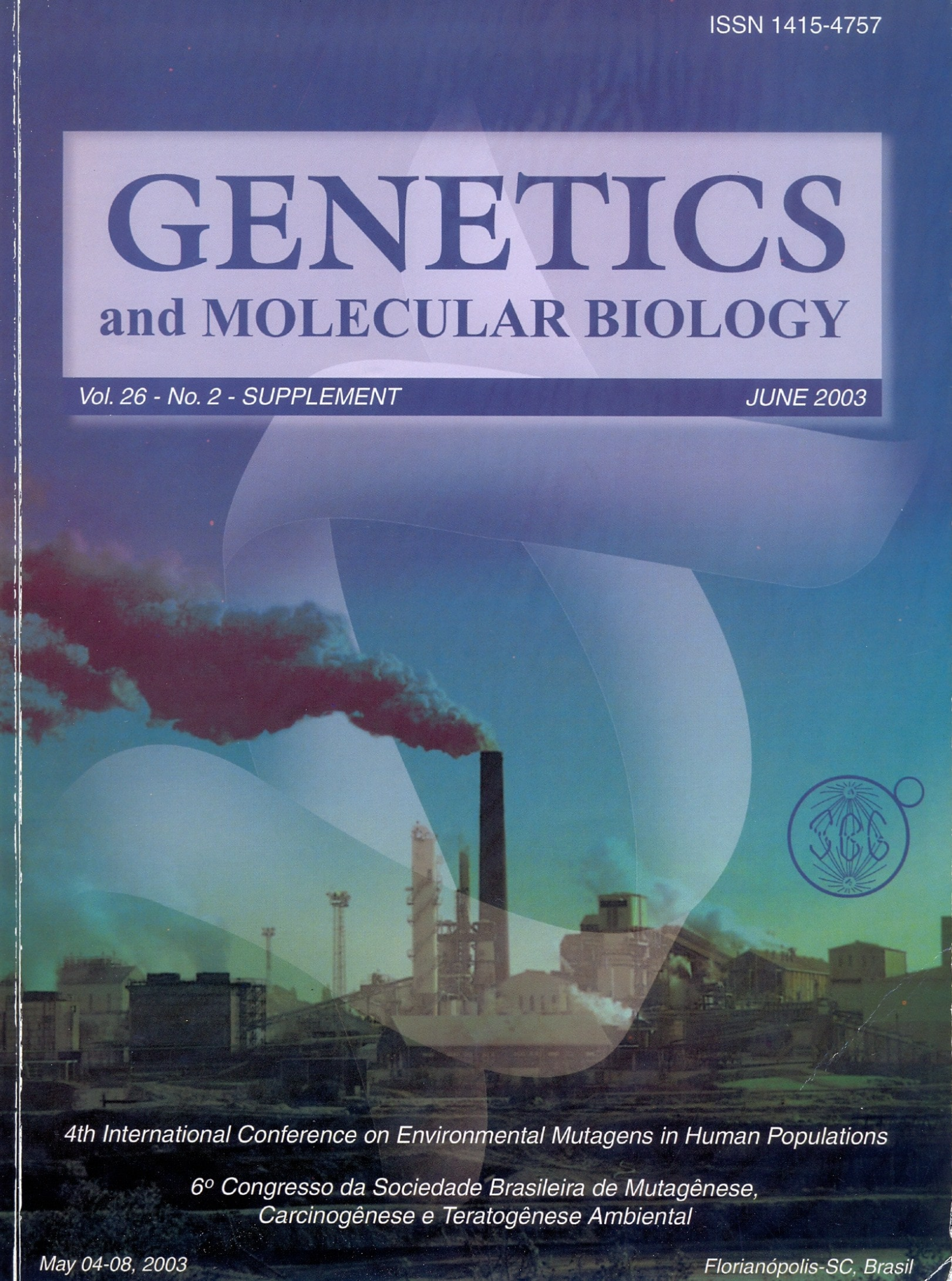

4th International Conference on Environmental Mutagens in Human Populations

6º Congresso da Sociedade Brasileira de Mutagênese, Carcinogênese e Teratogênese Ambiental

May 04-08, 2003 Florianópolis-SC, Brasil

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EMC 92 EFFECT OF THE *FOENICULUM VULGARE* MILL. SEED INFUSION AND LEAF EXTRACT ON SPERMATOGENESIS

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Foeniculum vulgare Mill. (Apiaceae) or fennel has been used as an estrogenic agent for millenia. It has been reputed to increase milk secretion, promote menstruation, facilitate birth and increase libido. Seed and leaf infusions are also used for their antispasmodic and carminative effects, and the seeds or their essencial oils are used as flavoring agents in food. Due to the presence of estrogenic substances and its common use in herbal medicine, the seed infusion and the leaf lyophilized hydroalcoholic extract were administered to mice CF1 to study its effect on spermatogenesis. The animals received orally 1000 mg/kg/day of the infusion and 500 mg/kg/day of the extract, for 69 days (about two spermatogenic cycles). The reproductive organs were dissected, weighted, and processed for histological studies. The seminiferous tubules of the treated animals showed apparently normal spermatogenesis, and many spermatozoa were seen in the lumen of the ductus epidiymides. Some apoptotic germ cells and exfoliated spermatids were observed in treated and control animals. Some vacuolized tubules were found, however they might be a transition to the rete testis. The characteristic aspect of the Leydig cells and the weight and the morphology of the seminal vesicles suggest that the production of testosterone has not been affected. Supported by: FAPERGS and PROPESQ/UFRGS.

EMC 93 ANTIMUTAGENICITY OF TWO ORGANIC EXTRACTS OBTAINED FROM THE SUN MUSHROOM BY THE HGPRT TEST, IN VITRO

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Agaricus blazei Murill (ABM), an edible mushroom native to Brazil, is used in popular medicine in the treatment of many diseases, including cancer. The Sun mushroom, as it is known, has been consumed as capsules, powder mixed in food and as tea. In the present study, organic extracts of the ABM97/11 ABM line were tested in mammal cell culture to ascertain their mutagenic and/or antimutagenic capacity and prove the viability and reproducibility of the CHO/HGPRT assay. The mutagenic and antimutagenic potential of the above mentioned extract on Chinese hamster CHO-K[1] cells, incubated in complete D-MEM/F12 culture medium, supplemented with 10% fetal bovine serum, was assessed by submitting them to direct contact with the mushroom basidiocarp prepared from absolute ethyl (EtOH) and chloroform/methanol 3:1 (MetOH). These extracts were applied in three-hour long treatments, associated or not with the direct action damage inducer agent, ethylmethanesulphonate (EMS) at 620g/ml concentration. After fixing and staining the colonies, they were counted by the naked eye and the Tukey statistical test was applied to the means. Under the experimental conditions used it was observed: a) cytotoxic effect of MetOH extract, when compared in the number of colonies formed, to the control without treatment (Control = 82.3; MetOH = 59.3); b) absence of mutagenic effect by both the extracts that presented means of formed colonies after mutant phenotype selection statistically equal to the negative control (Control = 2; EtOH = 1.8; MetOH = 1.2); c) significant antimutagenic effect of the EtOH extract and very significant effect in the MetOH extract in treatments associated to EMS compared to the isolated damage inducer (EMS = 34.5; EtOH = 24.4; MetOH = 20.8); d) cloning efficiency (absolute EC) of the negative controls, greater than 50% both in the cytotoxicity and after phenotype selection. The results obtained, under the conditions tested, indicated that the *A. blazei* line AB97/11 organic extracts do not present mutagenic activity. Regarding antimutagenicity, they have a protective effect against the action of the alkylating agent EMS.. Thus as the CHO/HGPRT assay proved its efficiency in the analysis of point mutations and probable antimutagenic effects of the compounds tested.