Explosions of Intragalactic Supernovae as Importante External Factor for Macroevolution of Organisms on the Earth

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Taking in account 20,000 explosions of intragalactic supernovae per million years, the sources estimated at 10^{56} –10^{57} MeV producing the high intensity of gamma and X-radiation even after its reduction through the Earth atmosphere, may have a significant mutagenic action. During the time period of the last 4 billion years not less than one hundred explosions up to the mean distance 126 pc from the Earth. All such explosions were able to evoke a genetic revolution among most taxonomic groups of terrestrial organisms. For montane organisms, the more frequent supernova explosions in distance up to 400-900 pc are of importance Maritime organisms could be influenced mainly by secondary radiation products, rather than directly by the gamma and X-rays from the supernovae. The mechanisms of macroevolution depending on supernovae is elucidated. Smaller genetical revolutions in the macroevolutional process (formation of genera) took place on the average once every 10 millions or more years, fundamental genetic revolutions once in 100 millions or more years. Also other newly discovered astronomic gamma-ray sources have to be taken in account.