A New View of the Mass Extinctions and the Worldwide Floods

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Abstract

The reasons of mass extinction in Jurassic were investigated. It was shown that galactic compression led to the activation of terrestrial nuclear reactors, which in turn led to the changes in tectonic activity, volcano eruptions, LIPs, MORBs, paleoclimate change, drift of continents, narrowing of the Earth, worldwide floods, tsunami, changes in mantle and core structures, in magnetic fields and in sedimentary isotopes. It was shown that the mass extinctions occurred during worldwide floods, caused by the narrowing of the Earth at the time of galactic gravitational compression. It was shown that the average statistical altitude distribution of dinosaurs has a bimodal distribution and corresponds to permanent migrations between the plains and the hills. It has been suggested that the skeletons of dinosaurs are well preserved as a result of covering the bodies of dinosaurs with mud flows of coastal sediments and the soil layers at worldwide tsunami. It was formulated the requirement to paleontology, consisting in the obligatory registration of altitudes of the actual place of the fossils found. The simple explanation of the presence of boundaries in the structure of the Earth is given: the 40K nuclear layer corresponds to the boundary between upper and lower mantle; the 137Cs layer located on the boundary between the lower mantle and the outer core; the Th – U nuclear layer is a border between outer and inner core. The previously abstract theories of subduction and continents drift have a clear and obvious physical sense. It was shown that the standard geological table is a registration book of galactic events during Paleozoic. It is proposed to restore the structure of the galactic arms by the geological deposits on the Earth. It was suggested to create the stations on elevated hills for rescue and regeneration of biological forms in the future.

Milky Way Galaxy

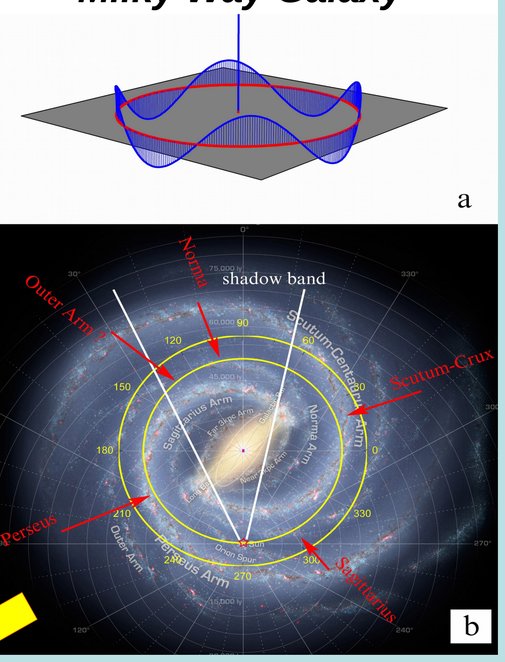

Figure 1. (a) – The "Galactic carrousel" scheme, adapted from (Rampino, 2002). Combined vertical oscillation of solar system (bold blue line) perpendicular to galactic plane (grey plane), and revolution of solar system around galaxy; (b) – The trajectory of Sun rotation around the center of the galaxy was presented as inner yellow line. The Sun position was shown as a red star. The Milky Way Galaxy arms were draw as "The NASA image of the Milky Way Galaxy". The red arrows indicate the sites, where the Sun route crosses the galaxy arms. The galaxy area invisible from Sun (shadow band), was bounded by two white lines

The general schemes

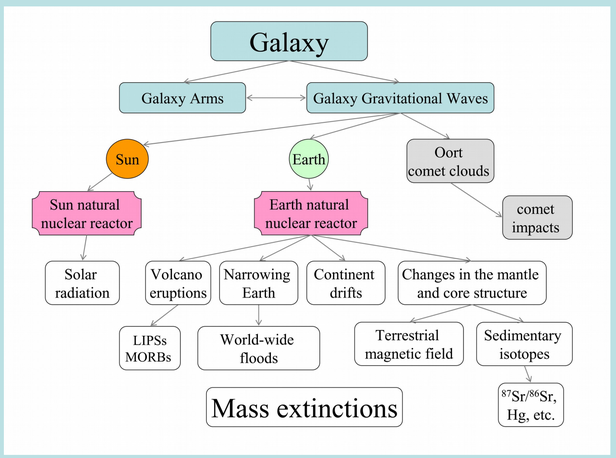

Figure 2. The common scheme, which illustrated the relation between the mass extinctions and structure of the Galaxy, is presented. The natural nuclear reactors are the author's contribution on this scheme. The terrestrial nuclear reactor (red rectangle) as a key element merged together different reasons of mass extinction.

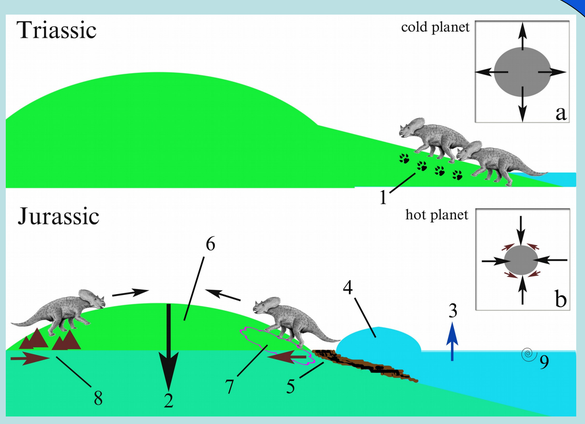

Figure 3. On a simple diagram the worldwide flood is illustrated and the sharp reduction of dinosaur areal is presented. On plates: (a) – the nuclear expansion of the Earth ("cold" planet); (b) – the nuclear narrowing ("hot" planet), when Sun crossed of the galaxy disk. Numbers indicate: 1 – the traces of dinosaur migration at the initial phase of the worldwide flood; 2 – the sharp reduction of the planet size during activation of the terrestrial nuclear reactor; 3 – the sea level has risen due to glacier melting and the sea thermal expansion; 4 – worldwide tsunami; 5 – mudslides at the shore and plain flooding; 6 – the hill, an area of survival; 7 – the mass extinction area; 8 – rock hummocking (iron-shaped) at the strong Earth crust compression and at the continent drifts; 9 – Ammonites floating in the upper sea layer.

The isotopic tracer of paleoclimate and sea level changes

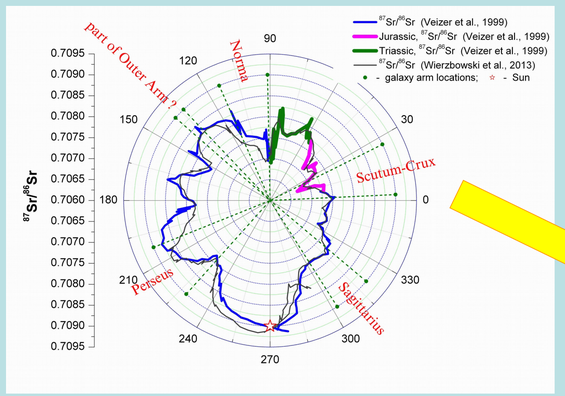

Figure 4. The "cold"–"hot" variability of our planet during Paleozoic. The $^{87}Sr/^{86}Sr$ isotope ratios as a marker of the activation of terrestrial nuclear reactor are presented in the galaxy polar coordinates. On Jurassic the $^{87}Sr/^{86}Sr$ ratio is highlighted by magenta color and on Triassic – by green ones.

The mass extinctions in Jurassic

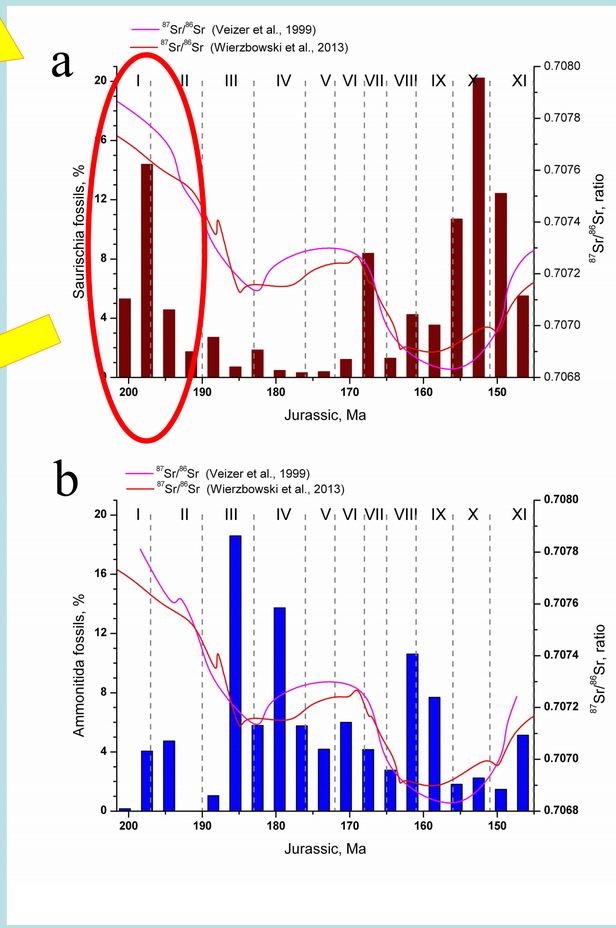

Figure 5. The statistical temporal distributions of dinosaurs Saurischia (a) and Ammonitida (b) at I – XI standard Jurassic stages. The $^{87}Sr/^{86}Sr$ isotope ratios are shown in addition, (Veizer et al., 1999), (Wierzbowski et al., 2013) and (Wierzbowski et al., 2017).

Terrestrial nuclear reactor

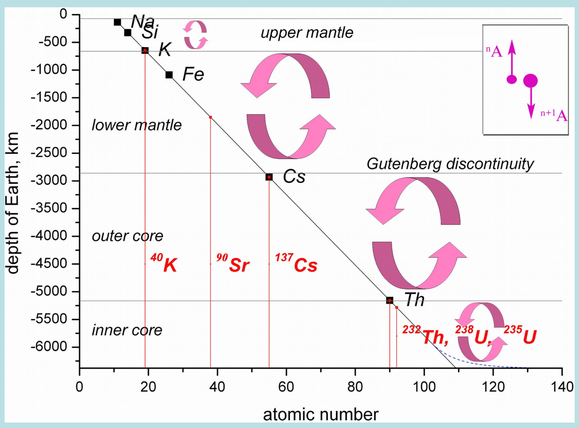

Figure 7. The scheme of terrestrial nuclear reactor ("*cold*" planet) is presented. The linear distribution of the chemical elements inside the Earth at the non-perturbed state of natural terrestrial reactor, according buoyancy theory, is drawn. The red lines show the basic fuel elements, such as ^{40}K, ^{232}Th, ^{235}U, ^{238}U and major products of decay such as ^{137}Cs and ^{90}Sr. The red circular arrows show the shallow convection processes inside the Earth. The Sr decay level is degenerated in the "cold" planet. On plate: the buoyancy theory principal: the heavy element ^{n+1}A sinks down; the light element ^{n}A floats up.

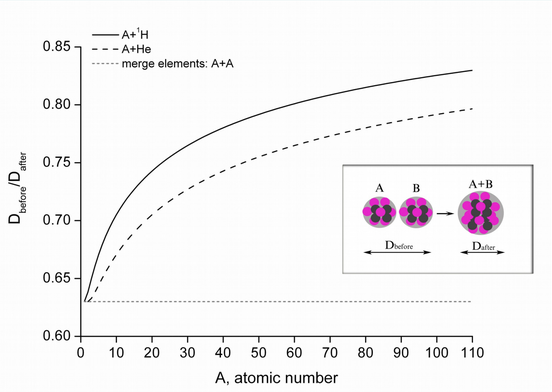

Figure 8. The D_{before}/D_{after} ratio in the case of merging between the chemical element with atomic number A and ^{1}H, He and in the case of nuclear burning (A+A) is shown. On plate: the principal of nuclear burning: the two nuclear substances have size less then merged ones.

The altitudinal distributions of fossils, 201.6 – 190 Ma

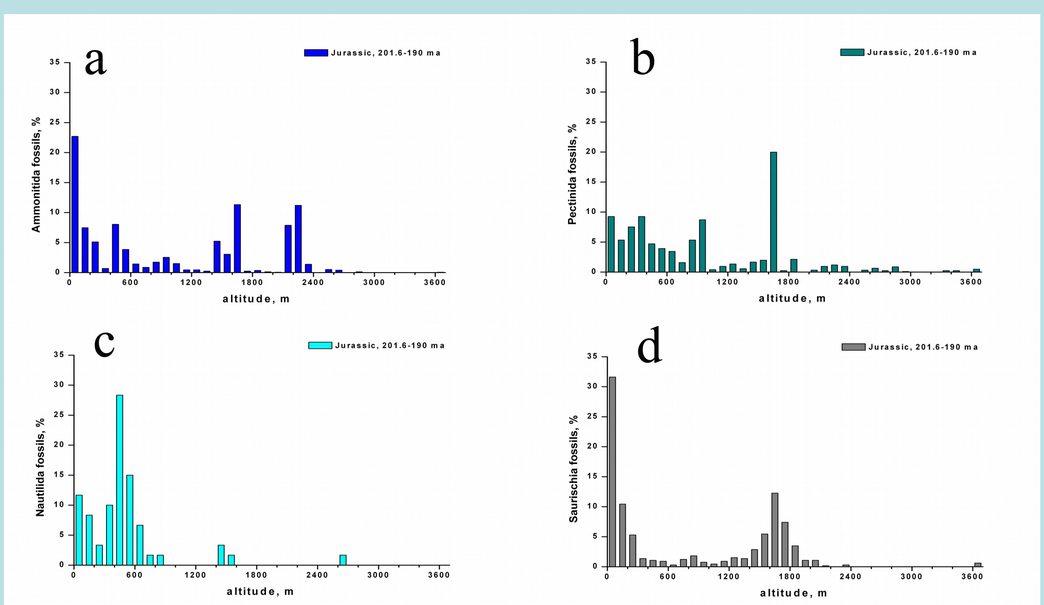

Figure 6. The statistical altitudinal distributions at Early Jurassic, 201.6 – 190 Ma for the sea inhabitants are presented: Ammonitida (a), Pectinida (b) and Nautilida (c), and for the land inhabitant: Saurischia (d).

Georeactor and geoneutrino

The main reaction of geoneutrino (antineutrino, $\bar{\nu}_e$) registration from natural sources is the inverse beta decay reaction:

$$\bar{\nu}_e + p \rightarrow e^+ + n \qquad Q = 1.806 MeV \qquad (1)$$

The significant difference consists in the following: ^{40}K and ^{235}U fuel layers cannot be determined by using inverse beta decay reactions. The lower threshold of inverse beta decay reaction is equal to 1.806 MeV, while the upper boundaries of ^{40}K and ^{235}U geoneutrino spectra are below this value. Thus, the ^{40}K yield is equal to 1.311 MeV, see Equation 2:

$$^{40}K \rightarrow {}^{40}Ca + e^- + \bar{\nu}_e \qquad Q = 1.311 MeV \qquad (2)$$

Except to neglect the decay chains of ^{40}K and ^{235}U isotopes, the natural reactor power calculation method also neglects the decays of ^{87}Rb, ^{138}La, ^{176}Lu, ^{239}Pu and ^{241}Pu.

Discussion sometimes takes forms far beyond the limits scientific knowledge. So the conflict between Herndon, the pioneer of geo reactor studying, and his NSF opponents turned into an open troublesome conflict [126]. In this study, we note that neither Herndon nor his opponents were right. The possibility of registration only minor fuel elements (^{232}Th and ^{238}U) casts doubt on advisability of carrying out the long and expensive experiments such as the KamLAND and Borexino Experiments.

Below the equations of slow neutron capture and of chemical element transformation $^{56}Fe \rightarrow {}^{63}Ni$ are presented:

$$^{56}Fe + n \rightarrow {}^{57}Fe + n \rightarrow {}^{58}Fe + n \rightarrow {}^{59}Fe \xrightarrow{-\beta}$$
$$^{59}Co + n \rightarrow {}^{60}Co \xrightarrow{-\beta} \qquad (3)$$
$$^{60}Ni + n \rightarrow {}^{61}Ni + n \rightarrow {}^{62}Ni + n \rightarrow {}^{63}Ni \xrightarrow{-\beta} \ldots$$

The spatial distributions of fossils in the Africa, Asia and North America

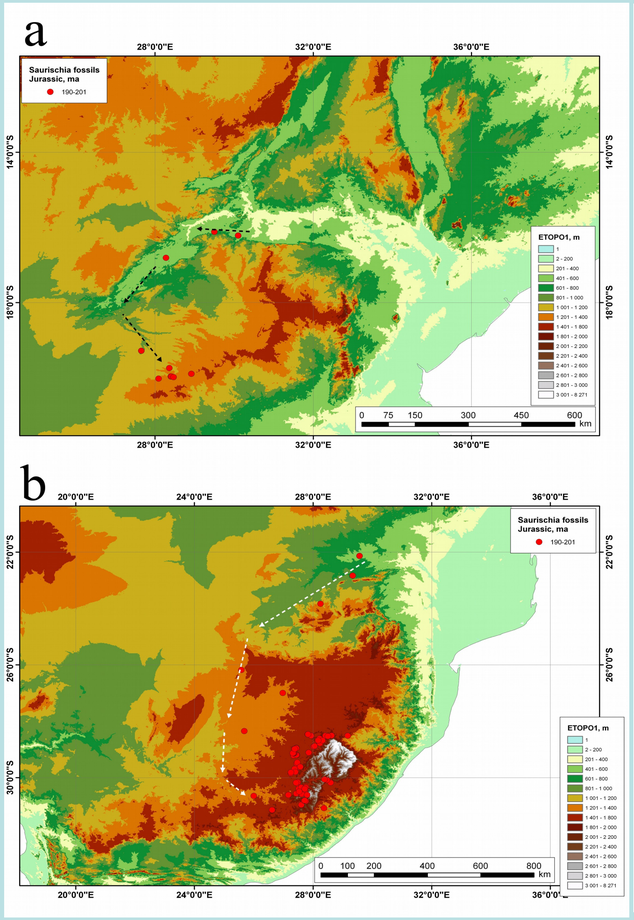

Figure 9. The Saurischia tracks and fossils (201–190 Ma) is presented near the fault that corresponds to the two parts of modern east coast of the South Africa. The topography is ETOPO1. The movement of dinosaurs occurred along the spurs of the gorge with a rise to heights of 1200 – 1400 m. The altitude of the virtual ocean level corresponds to the beginning of the first Jurassic flood, ~ 0 m asl (above present sea level).

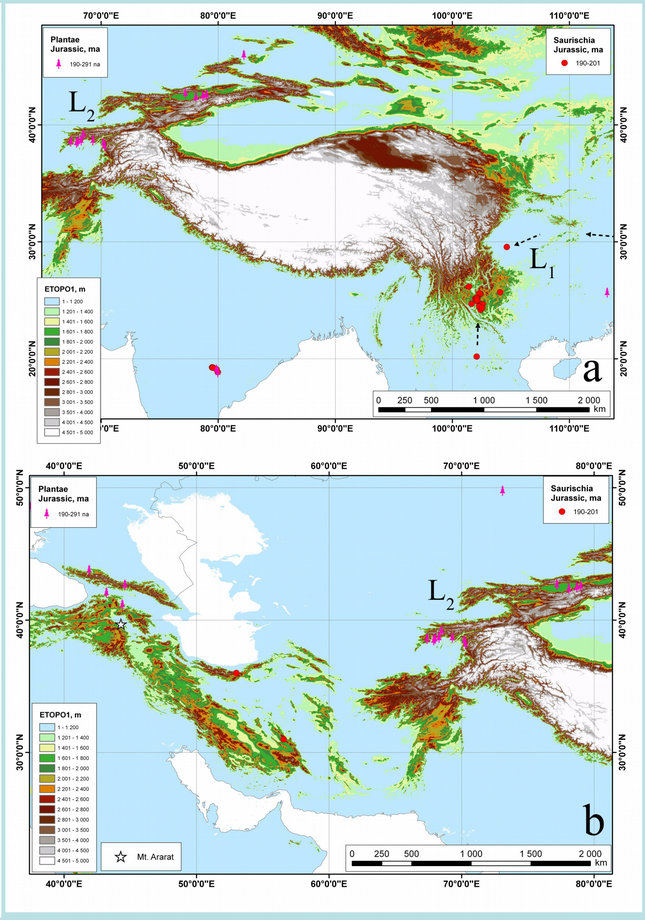

Figure 15. The spatial distribution of dinosaurs Saurischia at (201–190 ma) in southeast (a) and central Asia (b). The altitude of the virtual ocean level corresponds to the intermediate phase of the first Jurassic Flood, ~ 1200 m asl. The paths of migrations are indicated by arrows. The dinosaurs have unsuccessful attempt to escape in the lagoon–canyon elevation system (L1) to the east of Tibet. The L1 lagoon at this level of the worldwide flood was completely flooded. The altitude of the dinosaurs' areal to the south of Tibet is equal to 1600–2000 m (a); the small population escaped in central Asia, (b). The spatial distribution of Plantae at (201–190 ma) was shown in addition. The location of the Mt. Ararat was also marked.

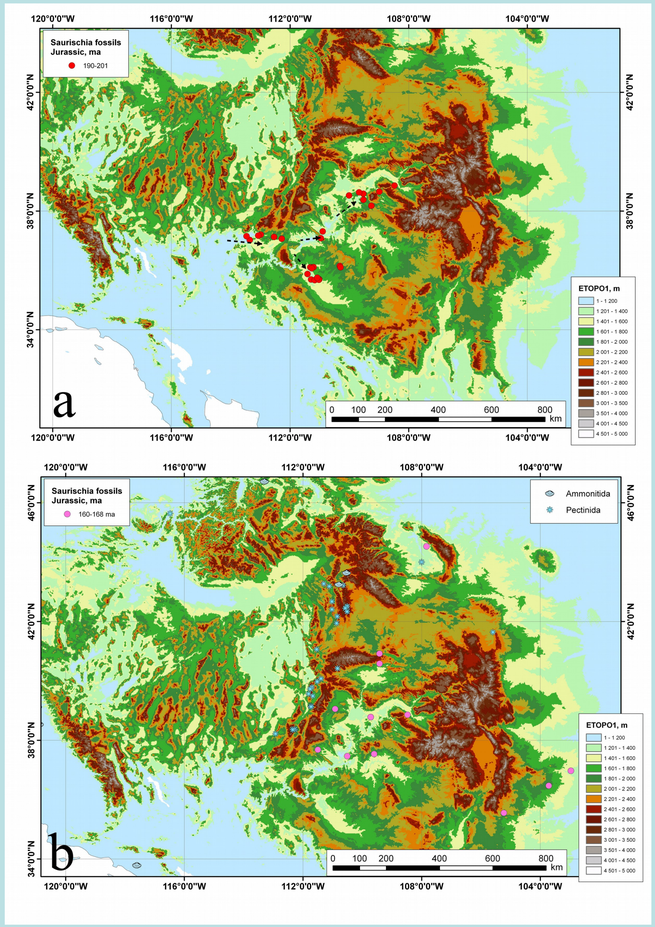

Figure 10. The spatial distribution of Saurischia near the fault, corresponding to the western coast of the North America for two periods of maximum sea level rise at 201–190 Ma (a) and at 168–160 Ma (b), are presented. The altitude of the virtual ocean level corresponds to ~ 1200 m asl. The migration of dinosaurs took place up the canyon into the high-mountain lagoon, which is the ideal place to save the population, (a). The marine inhabitants form long reef in coastal waters along the outer edge of the lagoon, (b). According of marine inhabitants' locations, the altitude of the worldwide flood at 168–160 ma could reach values of 2000 – 2200 m.

Safronov A.N., (2020) A New View of the Mass Extinctions and the Worldwide Floods. // International Journal of Geosciences, 11, 251-287. doi: 10.4236/ijg.2020.114014