## **Japan Geoscience Union Meeting 2011**

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



PPS020-15 Room:103 Time:May 24 14:15-14:30

# A satellite impact created Chicxulub crater

Shinichiro Mado1\*

<sup>1</sup>MAROSA

#### 1. Introduction

It is a well known hypothesis that the Chicxulub crater was created by an asteroid impact and the impact caused the extinction of dinosaurs about 65 million years ago. However, this hypothesis has difficulty to explain the extinction of dinosaurs. The most persuasive hypothesis is 'the gravity increase hypothesis'. Although only a very large scale celestial impact can explain such a great increase of the earth's gravity, but the Chicxulub asteroid is too small to increase the earth's gravity enough. Therefore, we must assume much larger celestial body impact than the Chicxulub asteroid. In truth we can explain consistently the Chicxulub crater with such a huge scale celestial impact that is enough to increase vastly the earth's gravity.

### 2. Difficulty in the hypothesis of the Chicxulub asteroid impact

The huge impact which created the Chicxulub crater at Yucatan peninsula about 65 million years ago, caused a global scale serious climate change that brought dinosaurs their extinction. The Chicxulub asteroid is estimated to be about 10 kilometers in diameter. However, that hypothesis has serious difficulty to explain the extinction of dinosaurs, because remained reptiles had to evolved to be dinosaurs again unless another reason to prevent them from such evolution. The most persuasive hypothesis is the gravity increase hypothesis.

## 3. The gravity increase hypothesis

The gravity increase hypothesis says that a sudden and large scale increase of the earth's gravity caused the extinction of dinosaurs. This hypothesis is plausible because the main feature of dinosaurs is their large body. The largest dinosaur was more than about 10 meters tall. Now the largest animal on the ground except for snakes is a giraffe which is about 5 meters tall. The tallest dinosaur was at least twice taller than the tallest animal on the ground is today. A considerable increase of the earth's gravity prevented remained reptiles from their evolution to become as large size as dinosaurs again. Except for a tremendous scale celestial impact which caused such increase in mass of the earth, no reason can explain such a large scale increase in the earth's gravity. The Chicxulub asteroid is too small to explain such a great scale increase in the earth's mass. Therefore, we must assume much greater scale celestial impact. It is plausible to think that such a great scale celestial impact must be a planetary collision between two planets of the solar system.

### 4. Chicxulub crater and satellites of Mars

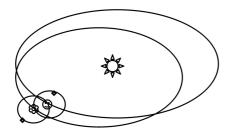
Mars has two satellites. Phobos is about 26.8 kilometers in diameter. Deimos is about 15 kilometers in diameter. The scale of martian moons are similar to the Chicxulub asteroid. Therefore, we can say that 'the Chicxulub asteroid' is a satellite of a terrestrial planet of the solar system, in its scale.

### 5. Conclusion

We are able to give a rational explanation to the Chicxulub crater as follows. The hitting celestial body had been a satellite of another planet. The planet also hit the old earth later and enlarged the new earth greatly. Therefore, we are able to think the Chicxulub crater to be one of proofs of the planetary collision between the old earth and the other planet of the solar system.

## References

- 1. Thompson & Turk, (2005), "Earth Science and the Environment", Third Edition, Thomson, Broooks/Cole.
- 2. Faure & Mensing, (2007), "Introduction to Planetary Science: The Geological Perspective", Springer.
- **3.** Barlow, N. G., (2008), "Mars: An Introduction to its Interior, Surface and Atmosphere", Cambridge Planetary Science, CAMBRIDGE UNIVERSITY PRESS.
- **4.** Schlte, P., et al., (2010), 'The Chicxulub Asteroid Impact and Mass Extinction at the Cretaceous-Paleogene Boundary', "SCIENCE", Vol. 327, 5 March 2010.
- **5.** Mado, S., (2010), 'On the Cause of the Continental Drift', "ABSTRACT Japan Geoscience Union Meeting 2010", Japan Geoscience Union.



Keywords: extinction of dinosours, celestial impact, planet, satellite, gravity, Chicxulub crater