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To whom it may concerns

COMMENTS ON THE DIPLOMA THESIS IN GEOLOGY –  
CHARLES UNIVERSITY, PRAGUE –

***“Fossil marlins (family Istiophoridae) from the Piña locality (Panama; Chagres Formation, Miocene) – morphology and comparison with related forms”***

BY CARLOS DE GRACIA

The systematics of fossil marlins has been traditionally considered as very difficult, primarily because of the problematic definition of valuable skeletal features and morphometric parameters useful to discriminate between the genera and within them to recognize the limits between the species-level taxa. About 20 years H.L. Fierstine (and his co-authors) introduced a morphometric method that contributed to reduce the problems in taxonomic studies of fossil marlins. However, a number of ambiguous interpretations persisted and in many cases the resolution of species-level taxonomy of fossil marlins remains elusive.

The study realized by Carlos De Gracia on fossil marlins from the Chagres Formation for his Diploma Thesis in Geology certainly provides a substantial advancement in the resolution of the genus- and species-level taxonomy of fossil marlins. In his analysis, De Gracia recognized the phylogenetic relevance of certain cranial features in different ways involved in the feeding activities. Overall, the use of these features apparently allows to resolve a number of taxonomic issues that traditionally emerged during the analysis of fossil marlin remains. It is my opinion that this is a very important achievement!

In general, the text is well written and presented in a straight forward style. The descriptions of the specimens are fully informative and the pertinent features are well illustrated. The rationale for the nomenclatural decision about the taxa are well founded and reasonable. The anatomical features of the described specimens are thoroughly discussed and documented. Moreover, the Thesis is completed by a very interesting chapter with the paleoecological and paleobiogeographical consequences emerging from the analysis of these new fossil marlins.

In summary, I am fully convinced that the scientific content of this Thesis is of high standards and considerable quality.

Please, do not hesitate to contact me for any additional question.

Sincerely,

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