GUIDELINES FOR AUTHORS

Abstracts may be written in Spanish or English and must have a maximum length of 500 words. In addition, they must contain, in order of appearance:

1) **TITLE** (font Arial No. 12, bold, uppercase, centered alignment).

2) **List of authors** (font Arial No. 11, bold, uppercase and lowercase letters, centered alignment).

3) *Affiliations* (font Arial No. 10, italics, uppercase and lowercase letters, centered alignment, INDICATE THE MAIL OF THE AUTHOR WHO WILL SUBMIT THE WORK THROUGH AN ASTERISK (*) AND PLACE THE ADDRESS AND ZIP CODE OF THE ADSCRIPTION).

4) Abstract (Arial font No. 11, uppercase and lowercase, justified alignment).

5) **Keywords** (Arial font No. 11, bold, uppercase and lowercase, alignment to the left). Place 4 to 5 non-bold keywords (Arial font No. 11, uppercase and lowercase, alignment to the left).

IMPORTANT ELEMENTS ABOUT ABSTRACTS

It is necessary to keep in mind that an abstract is a clear and concise exposition that will allow the reader to determine if they are interested in reading the article or not. It can be read independently from the article and it will inform the reader about the subject of the research. Knowing the necessary parts of an abstract will help to write one more fluently.

The most used structure to create a scientific summary is known as IMRyD: Introduction, Methodology, Results and Discussion. Each of these elements is granted a different percentage, and they form the entirety of the abstract.

When we write the introduction, we must take into account that it will occupy 25% of the available space. We will begin by explaining to the readers what the problem or the subject of study is, and with this, we will make clear the importance of the text. In said introduction, other studies about the same subject can be addressed briefly through a discussion. Subsequently, the methodology will occupy another 25% of space. In this section it is elaborated the way in which the results of the study were formulated; generally, it is written in past tense and passive voice. Eventually, we will describe the results using 35% of the available space; here we can rely on the question: what did we find? The answer to this, therefore, can be developed by exposing the results. Finally, the discussion will use the remaining 15% and will focus on encouraging the creation of new studies and connecting the results obtained with other investigations.

PROVENANCE ANALYSIS AND AFT THERMOCHRONOLOGY OF THE TRIASSIC MATZITZI AND TIANGUISTENGO FORMATIONS:

IMPLICATIONS FOR THE TECTONIC RECONSTRUCTION OF SOUTHERN MÉXICO

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The geological evolution of southern Mexico during the Paleozoic-Mesozoic was characterizedby tectonic processes related to the assembly and fragmentation of Pangea.

In this contribution, petrographic analysis, U-Pb detrital zircon geochronology, U-Pb detrital apatite thermochronology, geochemistry, and fission tracks analysis were integrated from late Paleozoic-Early Triassic sedimentary successions of the Matzitzi and Tianguistengo Formations, located in southern Mexico. Those data allow to constrain the provenance and tectono-thermal record of the geological history of southern Mexico between the amalgamation and fragmentation of Pangea. New U-Pb geochronological data in the igneous Atolotitlán felsite suggest a Middle Triassic deposition age for the Matzitzi Formation, due to their syndepositional character. A Triassic deposition age is also proposed for the Tianguistengo Formation. Sandstone provenance analysis shows a metamorphic Grenvillian main source for the Matzitzi Formation, with a reduced Late Paleozoic, arc-related source. For the Tianguistengo Formation we identified a plutonic granitic Carboniferous-Permian main source and minor Grenvillian to Earl Paleozoic sources. Detrital apatite U-Pb thermochronology and geochemistry suggested the same main sources for both clastic successions. For the Matzitzi Formation a main Early Neoproterozoic subpopulation shows a geochemistry signature similar to metamorphic rocks of the Oaxacan Complex. An Upper Carboniferous main subpopulation in the Tianguistengo Formation is revealed by apatite microanalysis, with a geochemical signature similar to Carboniferous-Permian arc-related rocks of southern Mexico, likely the Totoltepec pluton. These new results suggest a continental sedimentary accumulation during EarlyMiddle Triassic time, controlled by basement blocks and Carboniferous-Permian magmatic arc roots exhumation/uplift, as well as an arc activity waning during this period. Apatite fission track data show inheritances ages ~240 Ma for the Tianguistengo Formation, suggesting an accumulation age and the cooling of the source identified in the Totoltepec pluton. A Late Cretaceous–Paleocene exhumation pulse is recorded in sandstones of the Matzitzi Formation, correlated with Cretaceous-Eocene compressive deformational history in southern Mexico, known as the Laramide Orogeny.

Keywords: Matzitzi Formation, Apatite, Triassic, Atolotitlán, Southern México.