

Vol. XLVIII, (2024)

SERIE QUARTA

IL NATURALISTA SICILIANO

Organo della Società Siciliana di Scienze Naturali



ABSTRACT BOOK

Pubblicato il 16 settembre 2024

TIPOGRAFIA PUBLISTAMPA S.N.C.
PALERMO
2024

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OSTRACOD BIOSTRATIGRAPHY AND ITS INTEGRATION
WITH OTHER INDEX FOSSILS IN THE MIOCENE OF WESTERN
AMAZONIA. PRELIMINARY RESULTS AND PERSPECTIVES

The Amazon tropical rainforest is one of the most biodiverse areas on the planet (MUTKE & BARTHLOTT, 2005; JENKINS *et al.*, 2013). This vast biotic richness has its roots throughout the Cenozoic due to the influence of several climatic, tectonic, and biological migration events, especially in the Neogene, when several animal and plant taxa diversified considerably (WESSELINGH & SALO, 2006; HOORN *et al.*, 2010).

Thus, Miocene fossils of Amazonia contain crucial evidence for the understanding of these evolutionary processes. However, the stratigraphy of Neogene deposits in Amazonia is a challenge due to several factors. The lack of infrastructure and the dense vegetation limit access of the outcrops over large areas. In addition, there are no volcanic layers suitable for radiometric dating of these deposits, except for the maximum depositional ages provided by detrital zircon geochronology (e.g. KERN *et al.*, 2020). Therefore, the key element for dating these rocks remains palynostratigraphy with regional biozones (HOORN, 1994). These biozonations were subsequently underpinned using molluscs (WESSELINGH *et al.*, 2006) and ostracods (MUÑOZ-TORRES *et al.*, 2006). The faster evolution of these biota and their wide distribution throughout the Western Amazonian basins are assumed to offer a higher temporal resolution than the pollen zonation.

In this report, we cross-check the biostratigraphic indication of these three groups of index fossils by means of micropaleontological analyses of 73 samples in 13 stratigraphic sections from the Iquitos region (Peru). Based on the existing mollusc biostratigraphy (WESSELINGH *et al.*, 2006) and new palynological data, our preliminary results point to a temporal range expansion of several ostracod species such as *Cyprideis* aff. *Graciosa* (Purper, 1979), *Cyprideis caraionae* Purper & Pinto, 1985 and *Cyprideis cyrtoma* Muñoz-Tor-

res, Whatley & van Harten, 1998 (the last two species are of great interest as they are indicators of an ostracod biozone). In addition, we add to the updated stratigraphic distribution some *Cyprideis* species with a previously unknown range (e.g., *C. krsticae* Purper & Pinto, 1985 and *C. retrobispinosa* Purper & Pinto, 1983) as well as species of marine origin (e.g., *Pellucistoma curupira* Gross, Ramos & Piller, 2015).

Currently, the use of ostracods as index fossils appears to be limited due to the detected extension of the temporal range of several species. However, a clearer chronologic record of species could provide important clues for paleoecological reconstructions and/or the understanding of unique adaptations to the particular aquatic environments of Western Amazonia in the Miocene.

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