



ESSP-1: El Cretácico de Chile y Sudamérica

Biostratigraphy and bioevents during the Tithonian – Hauterivian from central Chile

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Data of "relative abundance", "relative richness", "Evenness and Shannon diversity index" of Baños del Flaco and Lo Valdés formations are integrated and the data set was grouped in stratigraphic intervals, which correspond to the 9 biozones identified. The "abundance" increases gradually from the lower part of the middle Tithonian to the upper Tithonian, with the highest values reached during the upper Tithonian. From the upper Tithonian to the upper Valanginian the "relative abundance" decreases gradually. Ammonites are rare to absent in the upper Valanginian to lower Hauterivian interval and the "relative abundance" drops to low values or even zero but rises again to low "relative abundance" levels in the Upper Hauterivian. "Richness" is high during the middle and upper Tithonian and into the lower Berriasian. During this latter stage numbers decrease to the lower Valanginian. No ammonites were identified for the upper Valanginian and lower Hauterivian interval. "Richness" is low for the upper Hauterivian. Our species turn-over analysis of ammonites based on sections. Zero similarity between the lower and the middle Tithonian; from the upper Tithonian to the upper Berriasian, similarity values increase gradually, coincident with the gradual decline of the diversity. Values indicate highest similarity values during the upper Tithonian, coincident with a high diversity; similarity declines (20%) during the lower Berriasian as most taxa registered in the upper Tithonian are absent during the lower Berriasian. Ecological indices, such as "relative abundance", "relative richness", "evenness" and the "Shannon" diversity index, show that the highest relative abundance and diversity were reached during the middle to upper Tithonian, with the main bioevent at the end of the upper Tithonian. The ecological index is still high for the lower Berriasian, with the highest richness, but taxa differ between these stages, with the exception of *Substeueroceras callistoide*, and the Jaccard index is low. Relative richness and relative abundance of Baños del Flaco and Lo Valdés formations, during the Tithonian to Hauterivian, the ecological index shows similar values during the Tithonian and Berriasian; 41% and 41% richness and 43% and 42% abundance. During the Valanginian the richness and abundance decrease abruptly to values 12% and 13% respectively. During the Hauterivian the values are lower, due to low ammonites collected in the sections.