

CORAL BIOSTROMES FROM THE HAUTERIVIAN OF THE SOUTHEASTERN PACIFIC, NEUQUÉN BASIN, WEST-CENTRAL ARGENTINA

Ricardo M. Garberoglio¹ and Darío G. Lazo¹

1. Instituto de Estudios Andinos "Don Pablo Groeber" (UBA-CONICET), Departamento de Ciencias Geológicas, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Pabellón II, Ciudad Universitaria, 1428 Buenos Aires, Argentina. rmg@gl.fcen.uba.ar

Scleractinian corals flourished in the Jurassic when they reached a maximum diversity of around 500 genera. During the Berriasian-Valanginian the environmental conditions would not have been optimal for their development and thus a significant decline is recorded. The Hauterivian was a transitional interval between Jurassic and Cretaceous for the coral faunas worldwide. There was a rise in eustatic sea level in the early Hauterivian and scleractinian corals communities started to recover and reached a diversity of 54 genera of which 48 genera were new. Hauterivian coral faunas have been reported mainly from carbonate platforms of the Tethys region (Tunisia, Portugal, Spain, France, Italy, Germany, Poland, Carpathians, east of Balkans, Crimea, Georgia, Azerbaijan, Turkmenistan), with more than 100 species reported from the Paris Basin and Georgia. Low diversity coral faunas with less than 20 species predominated outside the Tethys region, mainly recorded from Tanzania, Jamaica, Peru and northern Chile. The Hauterivian of the Neuquén Basin (west-central Argentina) has yielded an abundant but low diversity coral faunas composed of six species that were described almost 100 years ago. However, new field works and detailed collections have added at least five species, which are currently under study. These corals are colonial forms and they developed on soft consistency seafloors under moderate siliciclastic input. Isolated coral biostromes are recorded at the base of shallowing upwards cycles that are composed by three successive facies: a basal transgressive mixed carbonate-siliciclastic facies that reach the maximum flooding zone and include the studied coral biostromes, followed by fine-grained clastic facies and capped by amalgamated sandstones showing a coarsening upwards trend. Biostromes have a few meters in thickness and can be followed laterally for several hundreds of meters. They are composed by ramose colonies, similar to those recorded in the Lower Cretaceous of Peru and Turkmenistan; or instead they are composed of short-termed coral successions composed of basal massive and platy corals succeeded by phaceloid and ramose forms, which resemble those recorded in some unfavorable regions of the Tethys such as Southeastern France, Eastern Spain or Bulgaria. Biostromes harbor a diverse encrusting and boring fauna and usually alternate with mollusk-dominated biofacies. The studied coral taxa show close affinities with Tethys coral faunas and suggest an open seaway through the Caribbean.

