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Quaternary deep-sea benthic foraminifera from the southeast Pacific Ocean: Distribution and dominance

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The Southeast Pacific Ocean is one of the lesser known regions in the present day world ocean. In this paper, the Quaternary deep-sea benthic foraminifera fauna is studied in this area, between 18°S – 55°S and 72°W – 77°W. Seven Eltanin cores were studied from the Chile Basin, Peru-Chile Trench, Chile Ridge, Southeast Pacific Basin and Chilean continental slope, between 1,223 and 4,841 meters of water depth. Ninety seven benthic deep-sea species were identified. The Quaternary faunal dominance in the region is compounded by *Eponides weddellensis* and *Epistominella exigua* at depths between 3,000 and 4,000 meters, with *Osangulariella umbonifera* as accompanying species. In several sites, the stratigraphic distribution of *E. weddellensis* and *E. exigua* show a negative correlation or an alternate faunal dominance during the middle and upper Pleistocene. This suggests different ecological characteristics for each species. In the actual biogeographical distribution, both species are assigned as “opportunistic phytodetritivorous species”. In one site at the Chile Basin (E3-9 core), *E. weddellensis* and *E. exigua* lose their alternate and dominant faunal characteristics just below the *Stilostomella* extinction event level. A relationship between the stratigraphic behavior of both species and the extinction event is suggested for this region. In the Chile Basin, north of the region at depths greater than 4,000 meters, only a poor agglutinated benthic foraminiferal fauna is present in a top core sample (E3-7). It is characterized by *Psammosphaera* sp. and *Glomospira gordialis*, with low percentages of *Adercotryma glomeratum*, *Ammobaculites filiformis*, *Reophax* sp., *Pelosina* sp. and *Karrierella* sp. The CCD in this region is at 4,000 meters. In the south, on the Chilean continental slope at depths of about 1,200 meters (E5-4 core), the faunal in lower Pleistocene sediments is dominated by *Cassidulina reniforme* and *Trifarina angulosa*, with *C. subglobosa* and *Uvigerina hollicki* occurring as accompanying species. *Cassidulina reniforme* is a typical glaciomarine species. The latitude of site E5-4 (48°S) coincides with the region where the Patagonian Ice Sheet extended to the Chilean shelf-break during the Pleistocene. Benthic foraminiferal faunas from the Southeast Pacific present several features that add new insight to environmental controls on foraminiferal species distributions.