

**(PALEO)BIOGEOGRAPHICAL SIGNIFICANCE OF EXTANT
RHYNCHONELLIFORM BRACHIOPODS FROM THE SOUTHERN BRAZILIAN
SHELF (SANTA CATARINA AND RIO GRANDE DO SUL STATES), WESTERN
SOUTH ATLANTIC¹**

SIMOES, M.G.²; KOTZIAN, C.B.³; NEVES, J.P.²; STÜKER, F.³; RODRIGUES, S.C.^{2,4}; LEME,
J.M.^{2,4}; CORRÊA, I.C.S.⁵

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² Depto. Zoologia, IBB-UNESP/Botucatu, CP. 510, Botucatu, SP; btsimoes@ibb.unesp.br,
dollybio@hotmail.com

³ Depto. de Biologia, UFSM, Santa Maria, RS, mickey@ccne.ufsm.br, fecasminf@yahoo.com.br

⁴ Depto. Geologia Sedimentar, USP, PG/GSA, São Paulo, SP, scoelho@usp.br, leme@usp.br

⁵ CECO, Inst. Geociências, UFRGS, Porto Alegre, RS, iran.correa@ufrgs.br

Here we report and describe for the first time the occurrences of rhynchonelliform brachiopods in the southern Brazilian Shelf (north of Santa Catarina State and Rio Grande do Sul State), western South Atlantic. Brachiopods were found during the screening for shelly microinvertebrates in the scope of the Geomar oceanographic project, during the 1980's. These occurrences are a valuable source of (paleo)biogeographical data since our knowledge of present-day Brazilian brachiopod fauna is limited to the low-latitude associations found in waters from the states of São Paulo and Paraná (Biota/FAPESP and revised data). Sampling program included 90 oceanographic stations in bottoms of the Brazilian platform and continental slope (depth range 17-2900 m) between the north of Santa Catarina State (26°32'S-48°27'5"W), and Chui (34°22'5"S- 52°08'5"W), Rio Grande do Sul State. From the 90 sampled stations, 19 yielded 1588 brachiopod shells. Brachiopods are distributed within a depth range of 23 to 180 m, in sandy bottoms. The fauna is dominated by small specimens (< 2 mm), and occurrences of shells larger than 6 mm are rare. Brachiopod diversity is extremely low (mostly represented by *Bouchardia rosea*), with the majority of sites yielding one or two taxa only. The unique exception is station 361 (156 m), Geomar 6, where shells of *B. rosea*, *Terebratulina* sp., and *Argyrotheca* sp. occur together. This fauna is essentially the same (except by the absence of *Platidia* cf. *anomoides*) as that found in waters from the states of São Paulo and Paraná, including endemic (*B. rosea*) and cosmopolitan taxa (*Argyrotheca* and *Terebratulina*). We conclude that (a) the present-day brachiopod fauna of the states of Santa Catarina and Rio Grande do Sul, western South Atlantic, is abundant locally but displays low diversity, both locally and regionally; (b) the brachiopods are patchily distributed (depth range: 126 to 156 m), (c) the fauna is dominated by *B. rosea*, followed by *Argyrotheca*, (d) the occurrence of *Terebratulina* is rare and restricted to one site only, (e) finally the fauna does not show any biogeographic affinity with that of adjacent waters of the Argentine Continental Shelf, which is dominated by cold water brachiopods, such as *Liothyrella uva*, *Magellania venosa* and *Terebratella dorsata*, of Antarctic and Subantarctic affinities. Hence, the known southward limit of *B. rosea* is probably station 11 (34°22'5"S-52°08'5"W), Geomar 13, near Chui. In other words, the biogeographic distribution of *B. rosea* - the most abundant brachiopod of the Brazilian Shelf - is not only limited to the waters from the states of Espírito Santo, Rio de Janeiro, São Paulo and Paraná.