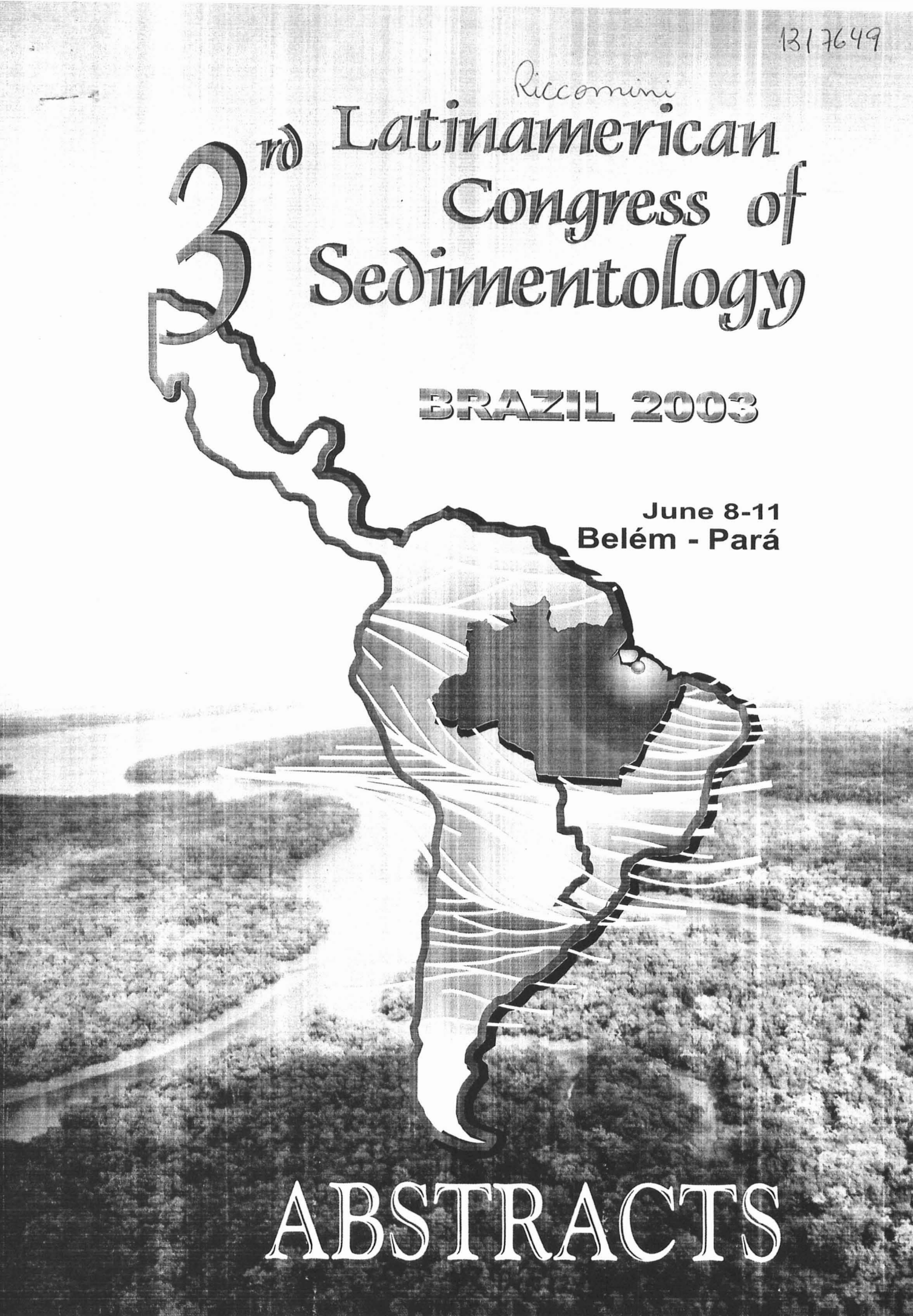
3rd Latinamerican Congress of Sedimentology

BRAZIL 2003

June 8-11
Belém - Pará



ABSTRACTS

INTRAFORMATIONAL BRECCIAS IN THE TOMBADOR FORMATION (MESOPROTEROZOIC), CHAPADA DIAMANTINA, BAHIA

Marília R. de CASTRO[1], Claudio RICCOMINI[2] & Joel C. de CASTRO[3]
[1]ANP/SDB, Rua Senador Dantas 105, 11º, 20031-201, Rio de Janeiro/RJ, Brazil; mcastro@anp.gov.br
[2]USP/IG/GSA, Rua do Lago, 562, 05508-900, São Paulo/SP, Brazil; riccomin@usp.br
[3]UNESP/IGCE, Av. 24A, 1515, 13506-900, Rio Claro/SP, Brazil; jocastro@rc.unesp.br

Breccias are common features in the Tombador Formation (Mesoproterozoic), a thick siliciclastic unit that crops out in the Chapada Diamantina National Park, Bahia State. Most commonly, breccias are associated with conglomerates (BC) and form alluvial fan systems, which are characteristic of the base of tectonosequences in the upper portion of Tombador Formation (Fig. 1, Photo A). In the Capivara river valley, two other breccia-bearing facies are present: meter-thick strata of breccia grading to sandstone (BA), and sandstone-siltstone marine system with localized breccia-sandstone beds (BA, Fig. 1, Photo B).

In the first facies association (BC), breccias may be individualized in the upper part of the section: it is formed by angular, up to one meter-long sandstone and quartzite blocks, which may present imbrication. Another evidence of short transport is displayed at the channelized base of the sequence, where the large clasts were provided by erosion of the substrate.

The next two facies are restricted to Capivara river section. The breccia-sandstone facies (BA) is formed by massive breccia-conglomerate grading to undulating or horizontal parallel lamination, sometimes suggesting hummocky cross-stratification. Localized scour-and-fill structures and cross-bedding indicate traction processes of transport for the large clasts, and the facies is assigned to a subaqueous fan environment.

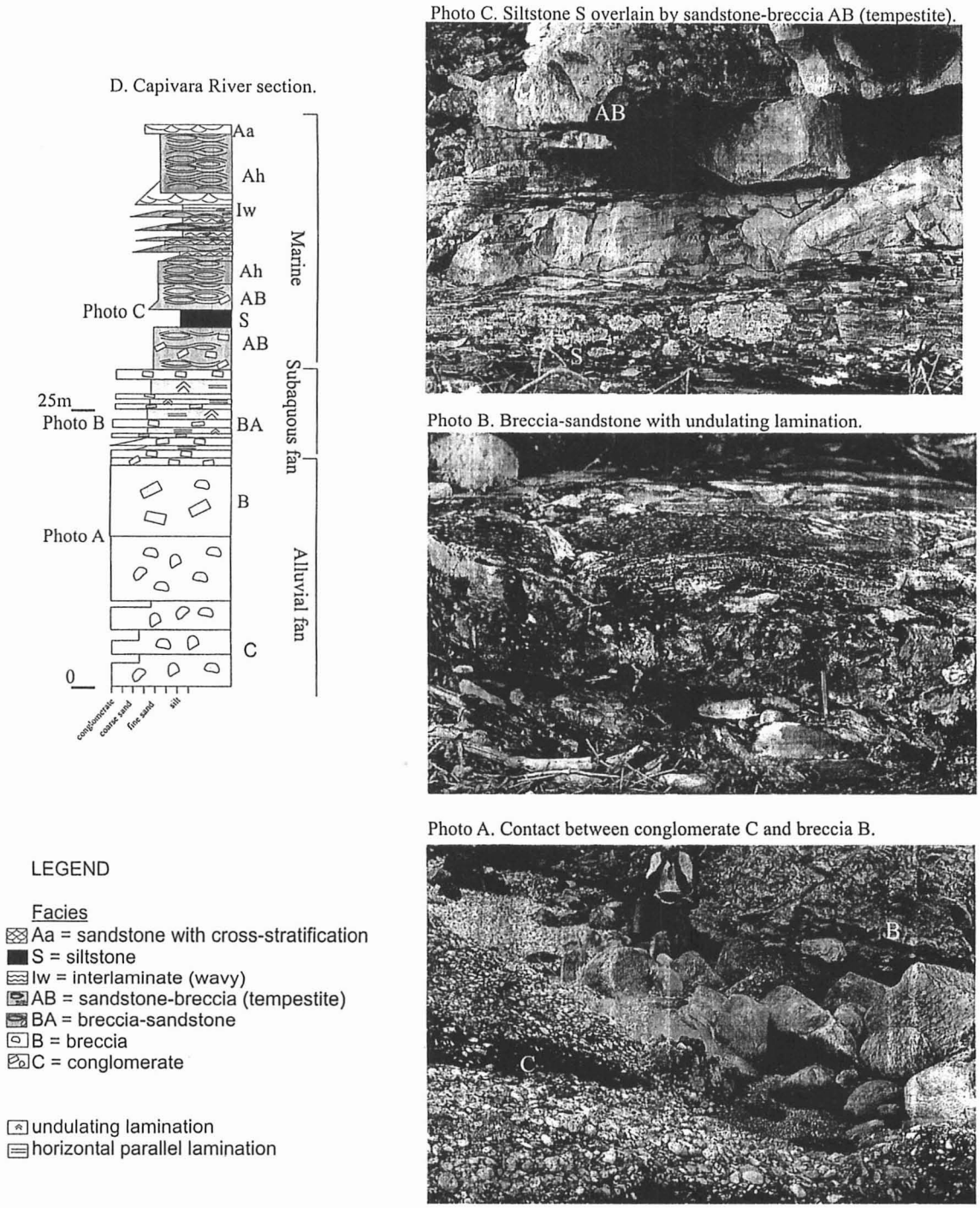


Fig. 1: Sedimentary facies (A-C) and vertical profile (D) of the Tombador Formation.

The third breccia occurrence develops within shallow marine sandstone to siltstone beds, where hummocky cross-stratification, micro-hummocky cross-lamination and wavy bedding attest storm processes. Intercalated in these beds are large clasts encased in a sandstone matrix (Facies AB, Fig. 1, Photo C): these sandstones exhibit scoured bases, local cross bedding and pockets of pebbles. Also it can be observed breccias related to break-up, fragmentation of adjacent tempestite beds, probably by seismic shocks, followed by very short transport and deposition of the clasts also by storm-induced currents. This depositional process can be interpreted from some beds, which display a succession of traction followed by oscillation structures, in a manner similar to the well-known coarse-grained sandy storm beds.

Financial supported by FAPESP (process number: 99/00313-0)

ORGANIZATION

MCT / MUSEU PARAENSE EMÍLIO GOELDI

Universidade Federal de Pará

SPONSORS

Main sponsor

PETROBRAS

CAPES

CNPq
Conselho Nacional de Desenvolvimento Científico e Tecnológico

Companhia Vale do Rio Doce

BANCO DA AMAZÔNIA

CT BRASIL PROSUL
PROGRAMA SUL-AMERICANO

SECTAM
Secretaria de Estado de Ciência, Tecnologia e Meio Ambiente

CPRM
Serviço Geológico do Brasil

IAS
International Association of Sedimentologists

1926 SEPM
Society for Sedimentary Geology

Universidade Federal de Pará

FADESP
FUNDAÇÃO DE AMPARO E DESENVOLVIMENTO DA PESQUISA

Fundação FIDESA
INSTITUTO PARA O DESENVOLVIMENTO DA AMAZÔNIA

IESAM
INSTITUTO DE ESTUDOS SUPERIORES DA AMAZÔNIA

UNAMAZ

Blackwell Publishing