2011 GSA Annual Meeting in Minneapolis (9–12 October 2011)

Paper No. 174-15

Presentation Time: 9:00 AM-6:00 PM

AN UNUSUAL OCCURRENCE OF THE *GLOSSIFUNGITES* ICHNOFACIES ON SUBMARINE CANYON WALLS – AN EXAMPLE FROM PLIOCENE PALEO-ORINOCO SHELF-EDGE DELTAIC SEDIMENTS OF THE MAYARO FORMATION, SOUTHEAST TRINIDAD ISLAND, TRINIDAD AND TOBAGO

DASGUPTA, Sudipta[1], BUATOIS, Luis A.[1], and ZAVALA, Carlos A.[2], (1) Geological Sciences, University of Saskatchewan, 114 Science Place, Saskatoon, SK S7N 5E2, Canada, sudipta.dasgupta@usask.ca, (2) Departamento de Geología, Universidad Nacional del Sur, GCS Argentina, Haití 123, Bahía Blanca, Buenos Aires, 8000, Argentina

Upper-slope shelf-edge delta deposits of the Paleo-Orinoco River are present at the southeast coastline of Trinidad towards the east of Cedar Grove growth fault. The Pliocene Mayaro Formation, exposed as foreshore cliffs, represents the wave-influenced delta-front of this system. These deposits consist of thick to very thick sandy hummocky beds and thin-bedded / laminated heterolithics. These deposits contain abundant soft-sediment deformation structures and well-preserved three-dimensional burrows assigned to *Ophiomorpha nodosa*. Towards the north-central part of the outcrop, the deltaic sediments are cut across by a paleo-canyon filled with younger mud-dominated prodeltaic sediments of this shelf margin system. The rare exposure of the canyon wall exhibits an unusual occurrence of the *Glossifungites* ichnofacies. Unlike in archetypical examples, this monospecific ichnocoenosis consists of relatively few firmground *Thalassinoides* burrows (Bioturbation Index 2) filled with mud rather than sand. The tracemakers burrowed into the relatively consolidated medium-grained sand beds of the delta front, and the burrows were later passively filled by the fine-grained mud from the overlying canyon-fill prodelta. The contact was previously described as a growth fault scarp possibly based on shear fabric and slickensides, which, however, characterize the entire canyon-filling prodeltaic couplets, consisting of alternate sheared debris-flow deposits and undeformed laminated mud, which in turn are locally cut by mostly bypassing turbidite chutes. The presence of the firmground *Thalassinoides* confirms the erosional nature of the contact, as a result of incision of the submarine canyon. The contact also serves as a major surface of sequence-stratigraphic importance, whereby the loci of coarser-grained clastic deposition conceivably shift basinward throughout the incision period and landward during the filling of canyon.

2011 GSA Annual Meeting in Minneapolis (9–12 October 2011)
General Information for this Meeting

Session No. 174--Booth# 117
Sediments, Clastic (Posters)
Minneapolis Convention Center: Hall C
9:00 AM-6:00 PM, Tuesday, 11 October 2011

Geological Society of America *Abstracts with Programs*, Vol. 43, No. 5, p. 432