Genesis and Morphology of Soils Associated with Laguna Bocana in Palo Verde National Park, Costa Rica. (S05-stiles192933-Oral)

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Abstract:

Soils near Laguna Bocana, Palo Verde Park, Costa Rica, have remarkable amounts of gypsum at 40-80 cm depth (5-20 wt%). Low H2O pH (mean = 4.8) and reduced matrix colors suggest these soils undergo seasonal redox fluctuations, and sulfur occurs either as gypsum in the dry season (maximum evapotranspiration), or as mixed reductive phases during flooding. Previously classified as Vertisols, we found vertic fabrics disrupted by displacive gypsum growth, and ostensibly re-classified them as Inceptisols, although taxon may be seasonally changeable. Paddy irrigation exacerbates salt accumulation near wetlands and strongly influences soil quality and vegetational communities in the park.

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