Origin of sedimentary organic matter and its fate upon decomposition: A first step to defining species-specific characteristics of mangrove sediments

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-Mangrove Ecology-
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Zimmer et al. 2005, Ecol Ecol

2-4 times higher...

Mews et al. 2006, Mar Ecol Progr Ser
2-4 times higher...

T. Bakkar, M. Krajina, V. Helfer & M. Zimmer

Bruguiera gymnorrhiza
- 9 mangrove species ("A"..."I"), N = 5
- microbial sediment activity (cellulases, phenol oxidases)
- sediment organic matter content (muffle furnace)
- sediment organic matter C:N (element analyzer)
- sediment organic matter composition ([py-]GC/MS)
Next steps (partly ongoing):

- improve resolution and separation techniques

- identify species-specific compounds in tissues and sediment

- lab studies on OM-transformation into SOM (e.g., Maroje Krajina (MSc thesis))

- lab studies on changes in chemistry upon digestion by detritivores (e.g., Sesarma bidens: Tarek Bakkar (BSc thesis)) and subsequent microbial decay of feces

- data base on OM-signatures of (as many as possible) different species from (as many as possible) different regions (leaves/wood/roots and sediments)

  ->identify sources and paths of turnover of SOM from field samples...
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