

Academy authority on delta bulrush says 'his' plant could help ease oil spill crisis

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Dr. Alfred Ernest Schuyler, curator emeritus of botany at the Academy of Natural Sciences in Philadelphia says the delta bulrush could help ease the Gulf oil spill crisis. Schuyler, a prominent botanist who first profiled and then named the delta bulrush, says the plant has natural properties that could help reduce the impact of the spill on the Mississippi delta. He is urging all sides involved in the crisis to give this slender sedge family member a hard look as they weigh their spill-fighting strategies. Schuyler, holding the type specimen from the Academy's botany collection, described and named *Scirpus deltarum*, now known as *Schoenoplectus deltarum*. Credit: Katie Clark/ANSP

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Dr. Alfred Ernest Schuyler, the Academy's curator emeritus of botany and a prominent botanist in the international science community, is urging all sides involved in the crisis to give this slender sedge family member a hard look as they weigh their spill-fighting strategies.

Schuyler described and named *Scirpus deltarum*, now known as *Schoenoplectus deltarum* the delta bulrush, in 1970 after doing field research in the Mississippi delta. Based on the detoxification properties of similar bulrush species, Schuyler thinks the delta bulrush could be instrumental in decomposing the [oil](#) and reducing its impact on other threatened marsh plants.

He says a close relative of the delta bulrush, the common three-square (*Schoenoplectus pungens*), can transmit oxygen to underwater microorganisms capable of decomposing oil. "Presumably, the closely-related delta bulrush can do the same thing," Schuyler explains.

Schuyler says the fascinating marsh plant he named more than three decades ago now urgently deserves further study of its potential to decompose oil.

Abundant in the Mobile, Mississippi, and Atchafalaya deltas, plants such as the delta bulrush will be the first that the oil will encounter, and may act as a buffer for the rest of the wetlands, says Schuyler.

"Bulrushes are environmental workhorses, effectively used in sewage lagoons to purify water," Schuyler explains. "Air cavities in the stems transport oxygen to underwater portions of the plants, making the oxygen available to microbes capable of decomposing pollutants in the sewage." He theorizes that this same capacity to decompose pollutants in sewage most likely would come into play in decomposing some chemicals in the oil, thereby reducing the impact of the spill to the delta area.

"Bulrushes are also more tolerant of oil than many other marsh plants. This suggests that the delta bulrush will persist regardless of the oil and continue to stabilize the marshes in the delta," Schuyler says.

Schuyler says it is too soon to estimate how much oil is too much for the delta bulrushes.

"I hope we don't get to find out, but based on my experience, I think these plants can tolerate a lot of oil," he says. If the oil were to cover the plants, Schuyler recommends harvesting them just below the oil line. "This will protect waterfowl from the oil and also will allow regrowth from their basal portions," adding that the bulrush seeds can be removed from the harvested plants and put back into the substrate.

Provided by The Academy of Natural Sciences

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