Undersea seed dispersal reported in ScienceDaily 19 December 2012. Seagrasses live in the water and are flowering plants that reproduce by seeds, and like all seeds, these need to be dispersed away from the parent plants. It has been assumed that seagrass seeds were simply dispersed by currents and winds. Land plant seeds are often distributed by animals and birds that eat fruit containing the seeds, and some of the seeds are passed through the animal's digestive system and are deposited in the animal's droppings. By the time the seeds have completed their passage the animal has moved on, so the seeds are spread out away from the parent plants.

Sarah E. Sumoski and Robert J. Orth of Virginia Institute of Marine Science have carried out a study of eelgrass (a species of seagrass) seed dispersal to see if animals could disperse ingested seeds. They noted that fish, terrapins and birds have been observed to feed in eelgrass beds, so they fed seeds to three species of fish, diamondback terrapins, a seabird, the lesser scaup, and collected the seeds that passed out in their droppings. They cultivated the seeds to see how viable they were, and found that a significant proportion of them were able to germinate and grow. They then calculated how far the creatures could distribute seeds using their records of how long it took the seeds to pass through their digestive system combined with data about how far they move. They calculated "the fishes could disperse eelgrass seeds 10s to 100s of meters, while the maximum dispersal distance for terrapins is around 1,500 meters, or about a mile. The scaup was the champ, with a maximum dispersal distance of more than 10 miles." Seeds could be carried similar distances by flowing water but, as Sarah Sumoski explained, "the animals are likely to be more effective dispersal agents, as they prefer to live under the conditions that favour seagrass growth and thus will tend to carry seeds to areas where they'll germinate. Wind and currents can easily disperse seeds into areas unsuitable for seagrass growth".

ScienceDaily

Editorial Comment: Here is another reminder that the living world really works by co-operation, not by competition, struggle and chance random processes. Sarah Sumoski's comments remind us that chance random processes are inefficient. Seed dispersal by animals and birds that live in conditions favourable to seagrasses and, therefore, will spread seeds in new areas also suitable for the seagrass to grow, is good evidence of plan and purpose, and good provision for both the grasses, and for the animals and birds. God is so clever don't you think, and blind evolution so stupid and inefficient. (Ref. marine biology, ecology, reproduction, botany)

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