Mermaids Purses as Dispersers of Seed

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During the summer 1969 the shores of Surtsey were regularly searched and records made of the drifting diaspores. The results obtained indicated that rather few seeds were carried by sea currents during the summer months. It was however, noted that during May a number of "mermaids' purses", the capsulated egg of the skate *Raja batis,* drifted ashore. When these were inspected a number of seed were observed attached to the rought outer surface of the "purses". The chitinous material of the purses was somewhat shedded into thin bristles which the seeds stuck to. Some of the seed were hairy which even increased the adhesion effect. The seed discovered on the purses were identified and counted. They are listed in table 1 according to species and quantity of seed per purse.

Except for one infertile fruit of *Carex* the seed found attached to the mermaid purses were all of grass species, which are common in Iceland. These were *Agropyron repens, Elymus arenarius, Phleum commutatum,* and *Alopecurus geniculatus,* However, only *Elymus arenarius* is found growing on the smaller islands of the Westman archipelago (Fridriksson and Johnsen, 1967). But all are found growing on the largest island, Heimaey (Johnsen, 1939) as well as on the mainland of Iceland. All but *Phleum commutatum* are, for example, found on the southern coast near the village Stokkseyri (Fridriksson et al. 1970).

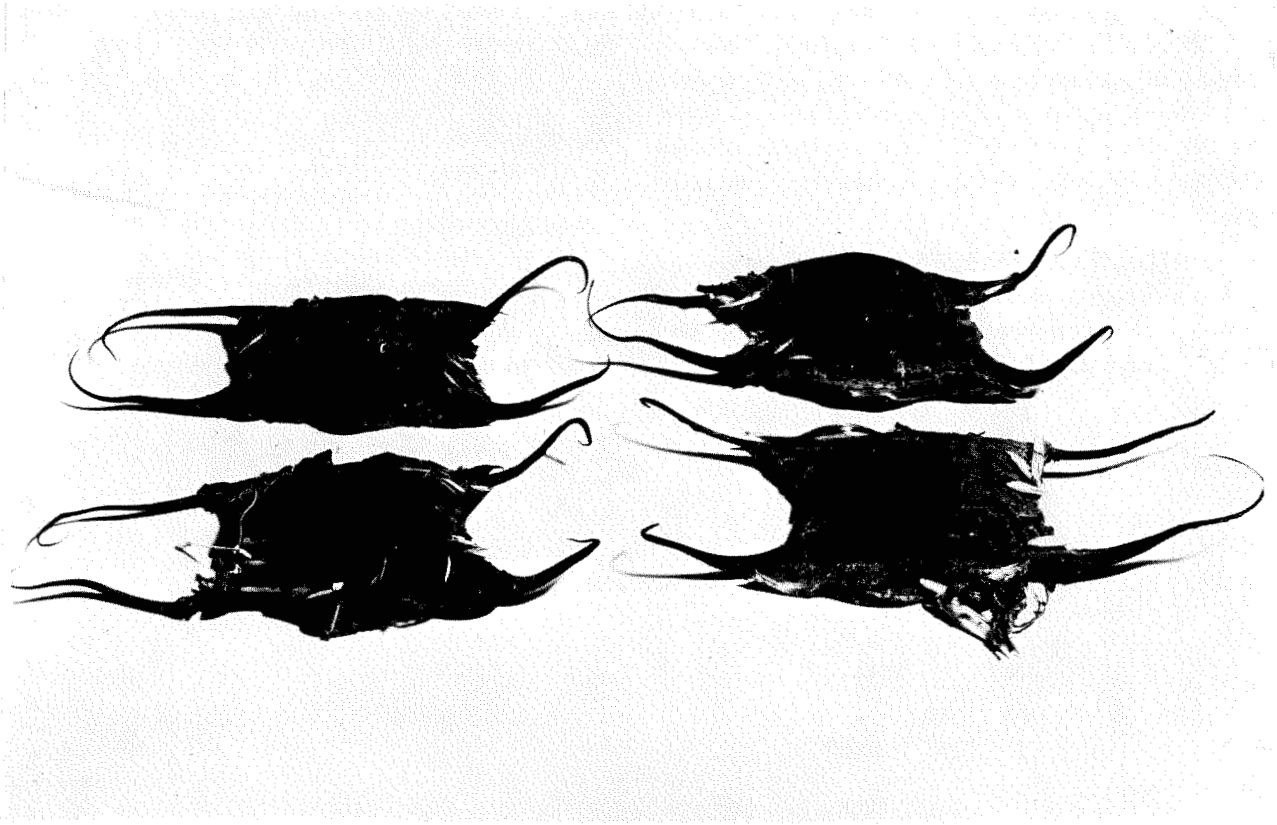
It must be presumed that the seeds and purses got in contact on some neighbouring coast, where the seed got attached, and where from they were dispersed to Surtsey by the "mermaid purses".

The shortest possible distance of dispersal for this collection of seed, which were attached to the purses, is that from Heimaey to Surtsey, a distance of 20 km.

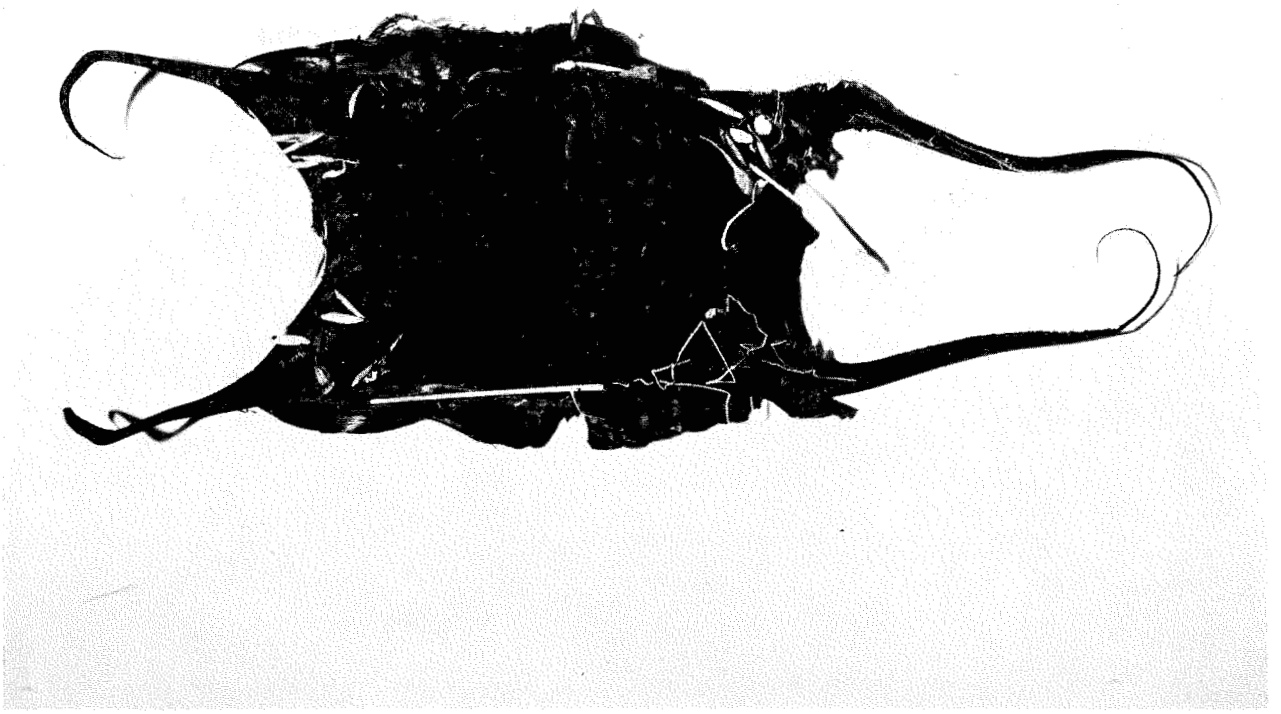
TABLE 1
Seeds from mermaid purses of the skate Raja batis

Sample no. of Purses	Species of Seed	Quantity of Seed per Purse	Notations
1	*Agropyron repens* (L) Beauv.*	6	
2	— — Malte	8	
3	— —	2	
4	— —	6	
5	— —	1	
6	— —	3	
6	*Elymus arenarius* L	1	
7	*Agropyron repens*	1	empty spikelet
—	*Phelum alpinum* (syn. *commutatum*)	1	
8	*Elymus arenarius*	1	
9	*Agropyron repens*	1	
10	*Elymus arenarius*	1	immature caryopsis
11	*Agropyron repens*	1	
12	— —	3	
13	*Elymus arenarius*	2	
14	*Agropyron repens*	35	
—	*Elymus arenarius*	3	
15	*Agropyron repens*	1	
16	— —	2	
17	— —	1	
—	*Alopecurus geniculatus* L.	1	
18	*Agropyron repens*	4	
19	— —	4	
—	*Elymus arenarius*	2	
20	*Agropyron repens*	4	
21	— —	18	
—	*Carex* sp.	1	infertile seed
22	*Agropyron repens*	14	
—	*Elymus arenarius*	4	
—	*Alopecurus geniculatus*	1	
23	*Agropyron repens*	3	
—	*Elymus arenarius*	7	
—	*Alopecurus geniculatus*	1	
	Total number of seeds	131	
	Average number of seed per purse	5—6	

* Some of the *Agropyron* seed resemble that of *A. trachycaulum* (Link), but they are probably all *A. repens* (L) Beauv.



Mermaid purses from Surtsey covered with seed.



A mermaid purse from Surtsey, covered with seed.

It has long been known that fishes may eat seed and thus take part in their dispersal. Darwin already experimented with feeding seed to fish, and some seed are used as bait to lure fish with. On the other hand, it is not previously known that fish eggs can also act as dispersers of seed.

ACKNOWLEDGEMENTS

The work on which this paper is based was sponsored by the Surtsey Research Society with a grant from the U.S. Atomic Energy Commission, Division of Biology and Medicine, under contract No. AT (30–1) – 3549.

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