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Enhalus acoroides (L.f.) Royle fruits observed in Gulf of Mannar

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E. acoroides growing among *C. serrulata*
and *H. pinifolia*



Seagrass are angiospermous plants adapted to grow in marine environment. Seagrass meadows are the nursery ground for many commercially important shrimps, crabs and fishes. Its root mat adds stability to the sediments of coastal zone and the leaves help filter the water of suspended particles. There are 13 genera and about 52 species of seagrass distributed throughout the world.

The Gulf of Mannar Marine Biosphere Reserve (GOMBR) harbours 12 species of seagrass namely *Cymodocea rotundata*, *C. serrulata*, *Enhalus acoroides*, *Halodule pinifolia*, *H. uninervis* (broad and

narrow leaved forms), *H. beccarii*, *H. decipiens*, *H. ovalis*, *H. ovata*, *H. stipulacea*, *Thalassia hemprichii* and *Syringodium isoetifolium*.

Of these, *Enhalus acoroides* (L. f.) Royle is the largest seagrass species in the Gulf of Mannar reaching to a height of more than a meter. This seagrass prefers sheltered marine environment where substratum is fine sand to clay. Normally it occurs in the tidal and subtidal zones. Some of the plants are seen established in Thonithurai (Gulf of Mannar) among *Cymodocea serrulata* and *Halodule pinifolia* seagrass species in depth of 40 cm during low tide. It is the only species which shows aerial

surface pollination. It has 3 - 4 linear leaf blades produced directly from the rhizome, although shoots with 7 - 9 leaves were also observed. Its leaf tips are rounded and with minute serrate projections when young. The underground rhizomes are stout (1-2 cm diameter) and branched which can penetrate up to 50 cm deep. The roots are also well developed, both of which provide concrete anchoring system. The *E. acoroides* male flower is small, contains large pollen grains and has pendunculate spathe consisting of two connate blades, the inner and the outer. The female flower has ovary rostrate, six parietal placentas protruding far towards the centre and with long pendunculate spathe consisting also of two free blades. The fruit of *E. acoroides* (Fig. 1) is ovoid or globular in shape with acuminate tips and

the entire surface is covered by dense bifid projections.

Large number of the fruits of this plant was observed in Thonithurai, Pamban and Kundugal point in Gulf of Mannar during June 2008 (south-west monsoon season). During this season the Gulf of Mannar current is in the direction of south-east and south-west. The average wind velocity during June was 13.12 km/hr. This causes the fruits to dislodge from the plants in Pamban and Krusadai Island to reach the shores of Kundugal point in Rameswaram Island and Thonithurai in Mandapam mainland. The fruits collected from the shores opened after 4-5 h. in the laboratory due to the rise in temperature (Fig. 2). The length of the fruits varied between 5.7 to 6.5 cm and diameter 8.9 to 12.3 cm. The number

of seeds per fruit varied between 4 to 11. Seeds were in the length range of 0.6 to 1.3 cm and diameter 0.6 to 1.5 cm (Fig. 3). The seeds are edible and are eaten by the local people at Pamban. Some of the seeds were observed to be germinating within the fruit.

The seeds of *E. acoroides* are more viable when compared to other seagrass species; seed production, seed dispersal and seedling recruitment serve as important mechanism in maintaining the genetic



Fig. 1. *Enhalus acoroides* fruit



Fig. 2. Open fruit of *E. acoroides*



Fig. 3. Seeds of *E. acoroides*

diversity of the plant. Dispersal distances of seagrass seeds are usually limited to a few meters and seeds settle rapidly into the sediment surface except during seasons of high wind velocity and consequent tidal

current. Seed deposition is more advantageous over vegetative propagation of new shoots for maintenance of seagrass meadows frequently subjected to environmental stress.