

## SEAGRASS RESOURCES IN PENINSULAR MALAYSIA-WHAT IS NEW?

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### Introduction

There are at least 10 species of seagrasses: *Enhalus acoroides*, *Halophila ovalis*, *H. minor* (*H. ovata*), *H. spinulosa*, *Halodule tridentata* (now *Halodule uninervis*), *Cymodocea rotundata*, *C. serrulata*, *Thalassia hemprichii*, *Syringodium isoetifolium* and *Ruppia maritima*. Following surveys (1996-1998) as part of the inventory of marine plants more information is now available on seagrass resources of Malaysia. This paper summarises the information currently available with respect to geographical distribution, species composition and ecological information on the seagrass resources in Malaysia.

### Materials and Methods

Field surveys were undertaken at the various locations (Pulau Tengah, Pulau Pinang; Port Dickson, Negeri Sembilan; Sg. Pulai, Johore; Kemaman, Telaga Simpul, Paka, Merchang, Sg. Ibai, and Gong Batu Terengganu; Pantai Baru, Pantai Sri Tujuh and Pengkalan Nangka, Kelantan either by direct collection during low tide or by snorkelling and SCUBA diving over three years (1996-1998).

### Results and Discussion

**Distribution and species:** Although seagrasses occurred in the west coast, they are also found in the east coast particularly in the lagoon systems of Pantai Baru, Pengkalan Nangka, Kelantan; Kuala Setiu, Gong Batu, Merchang, Paka, Terengganu; mangrove areas of Telaga Simpul and Kemaman, Terengganu and off-shore islands with fringing coral reefs, Pulau Redang, Terengganu; Pulau Tengah, Pulau Besar, Pulau Tinggi and Pulau Sibu, Johore. The seagrass species are *Halophila beccarii*; *H. decipiens*, *H. minor*, *H. ovalis*, *H. spinulosa*, *Cymodocea serrulata*, *Halodule pinifolia*, *H. uninervis*. In southern Peninsular Malaysia, Sungai Pulai estuary, Johore, seagrasses are found growing on subtidal shoals of Merambong, Tanjung Adang and Tanjung Kupang. Other than *Enhalus acoroides*, *Halophila ovalis*, *H. spinulosa* and *Syringodium isoetifolium* (as reported by Sasekumar et al. 1989 at the banks of Sungai Pulai estuary), six species, *Thalassia hemprichii*, *Halophila minor*, *Halodule uninervis*, *H. pinifolia*, *Cymodocea serrulata* and *C. rotundata* from the 3 shoals have not been reported before. This brings the total number of seagrass species in Sungai Pulai to ten making it the highest number of seagrass species for any locality in Peninsular Malaysia (Japar Sidik et al. 1996). **New records and morphological variations:** The occurrence of *Halophila decipiens* at Teluk Kemang, Negeri

Sembilan certainly fill the disjunct of the species distribution between Peninsular Malaysia, Thailand and the Philippines (Japar Sidik et al. 1995). *Halodule uninervis* and *Halodule pinifolia* appear to be segregated with quite different ecological preferences. *Halodule uninervis* occurs around off shore islands or shoals and reef atoll. *H. pinifolia* tends to thrive in relatively calm coastal waters of the mainland, in lagoons or bays and on shoals. Two morphological variants of *Halodule uninervis* (narrow and wide leaved) and *H. pinifolia* (short and long leaved) can be distinguished (Japar Sidik et al. 1999). Similarly, *Cymodocea serrulata* can be distinguished into short and long stem forms and *Halophila ovalis* into big and small leaved forms. In addition, based on phenological studies *Halophila beccarii* can be separated into two species; the perennial (Muta Harah et al. 1999) and annual species (Manuscript in preparation). **Where are our seagrass records or specimens?:** Previously herbarium specimens for Malaysian seagrasses are found at the herbaria of Rijksherbarium, Leyden, the Netherlands, British Natural History Museum, KEW Garden, National University of Singapore, Singapore and the University of Malaya, Herbarium Bogoriense, Bogor, Indonesia. Except for *Ruppia maritima*, all seagrass species are available with the above authors.

### Conclusions

Presently in Malaysia there are 13 species: *Enhalus acoroides*, *Halophila beccarii*, *H. decipiens*, *H. ovalis*, *H. minor*, *H. spinulosa*, *Thalassia hemprichii*, *Cymodocea rotundata*, *C. serrulata*, *Halodule pinifolia*, *H. uninervis*, *Syringodium isoetifolium* and *Ruppia maritima*. *Ruppia maritima* is a rare species. Previously *Halophila beccarii* in Peninsular Malaysia were found in Sungai Tebrau and Skudai, Johore but now both areas no longer have this seagrass. New areas in Kemaman have been discovered harbouring the species (Muta Harah et al. 1999).

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