Posidoniaceae

Members of the genus *Posidonia* have been recognised as belonging to their own family since Cronquist's revision of flowering plant families in 1981. Prior to this, including in den Hartog's 1970 *The sea-grasses of the world*, *Posidonia* had been considered to be a part of the Potamogetonaceae along with the majority of other seagrass genera outside of the Hydrocharitaceae. Here we recognise the family Posidoniaceae, broadly following the work of Cronquist.

Recent molecular analyses demonstrate that the Cymodoceaceae, Ruppiaceae and Posidoniaceae represent an independent evolutionary lineage. The Posidoniaceae are the sister family to the Ruppiaceae and the Cymodoceaceae contains only one genus and up to nine species. Only one species occurs outside of Australia, *Posidonia oceanica*, which is widespread but restricted to the Mediterranean Sea. The Australian species occur as two clearly distinguishable groups: the *Posidonia australis* 'complex', comprising *P. australis, P. sinuosa* and *P. angustifolia*—these species occur in relatively sheltered locations; and the *Posidonia ostenfeldii* 'complex' comprising *P. ostenfeldii, P. coriacea, P. robertsoniae, P. denhartogii* and *P. kirkmanii*—all of which are found in more exposed, higher-energy locations. The morphology of this group follows a basic form with strap-like leaves and a buried meristem directly attached to buried rhizomes. Members of the *P. ostenfeldii* 'complex' have leathery, tough leaves with deep rhizomes, helping them cope with the high-energy environments they occupy.

Recent analysis of the currently recognised species in these two groups have demonstrated that members of the *P. australis* 'complex' are reasonably distinct taxa although *P. angustifolia* may be of hybrid origin—we treat all three separately in this guide. In contrast, there is little support for continuing to recognise the different species in the *P. ostenfeldii* 'complex' despite a lot of variability in leaf width—we treat these as a single taxon although we outline the differences among the currently recognised species.

Opposite top: *Posidonia australis*.
Opposite bottom: *Posidonia sinuosa*.