Sea grapes, *Caulerpa racemosa*

**Overview**

Short description of *Caulerpa racemosa*, Sea grapes

A green seaweed with fairly short, erect fronds (<15 cm) bearing un-crowded, vesiculate ramuli (short branchlets) which are radially or distichously arranged. Branchlets are spherical, club-shaped or disc shaped. Grape alga often forms a dense mat of branching stolons (creeping horizontal shoots).

**Description of *Caulerpa racemosa*, Sea grapes status in GB**

No records exist from Britain.

**Habitat summary: *Caulerpa racemosa*, Sea grapes**

Occurs on most types of substrate, from the intertidal to depths of 70 m in very clear water, but is most often found between 10-35 m. It can colonize seagrass meadows and areas already occupied by other seaweeds.

**Overview table**

<table>
<thead>
<tr>
<th>Environment:</th>
<th>Marine</th>
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</thead>
<tbody>
<tr>
<td>Species status:</td>
<td>Non-Native</td>
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<tr>
<td>Native range:</td>
<td>Australia</td>
</tr>
<tr>
<td>Functional type:</td>
<td>Algae (macroalgae)</td>
</tr>
<tr>
<td>Status in England:</td>
<td>Non-Native</td>
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<tr>
<td>Status in Scotland:</td>
<td>Non-Native</td>
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<tr>
<td>Status in Wales:</td>
<td>Non-Native</td>
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<tr>
<td>Location of first record:</td>
<td>No British records to date.</td>
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<tr>
<td>Date of first record:</td>
<td>Unknown</td>
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</tbody>
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**Invasion history: *Caulerpa racemosa*, Sea grapes**

**Origin**

Grape alga is native to South-western Australia.

**First Record**

In Europe, grape alga was first observed in the Mediterranean Sea in 1990. Not currently known in Great Britain.

**Pathway and Method**

It is unclear how grape alga arrived in the Mediterranean Sea, but transport within ships’ ballast water or fouling on ships’ hulls are possible vectors. Grape alga is sold for use in aquaria and may have been released into the wild from such a source, as is thought to have occurred with another *Caulerpa* species *C. taxifolia* or ‘killer alga’.

**Species Status**

Grape alga has been spreading rapidly in the Mediterranean since 1990 and is now reported from at least eleven countries, all of the major Mediterranean islands and from the Canary Islands in the Atlantic Ocean. In France, it had spread along 83 km of coastline within ten years.
**Ecology & Habitat: Caulerpa racemosa, Sea grapes**

**Dispersal Mechanisms**

Zygotes (fertilized cells), fragments and propagules of the alga are dispersed naturally by surface currents. Fragments of the alga may be dislodged by dredging, trawling, bottom nets or anchor gear, and may be transported within ships' ballast water or carried with ships' anchors or fishing equipment.

**Reproduction**

Grape alga reproduces sexually or asexually. During sexual reproduction, gametes are released approximately 14 minutes before sunrise, forming a green cloud. Mass spawning events have been observed in Greece during the summer. Asexual or vegetative reproduction occurs both through fragmentation and by the detachment of propagules. Fragments may be broken off naturally through wave action or by grazing, or by human activity, for example trawling or dropping anchors. On settling, fragments can re-establish within days. Propagules are globular, cylindrical or club-shaped branchlets which detach and grow into new plants.

**Known Predators/Herbivores**

Herbivorous fish, sea urchins, sea slugs and other gastropods.

**Resistant Stages**

None known.

**Habitat Occupied in GB**

Not currently known in GB.

**Distribution: Caulerpa racemosa, Sea grapes**

Native to southwest Australia. Not currently known in the wild in GB, but this plant is very popular in the marine aquarium trade in Great Britain.

**Impacts: Caulerpa racemosa, Sea grapes**

**Environmental Impact**

Grape alga is able to grow on other seaweeds and can completely cover the invaded area with a dense mat of branching stolons which trap sediment, may result in an anoxic layer and could potentially smother sessile benthic species, including maerl beds. This species is capable of forming dense, monospecific meadows, and decreasing species diversity. Pressure may be exerted on seagrass meadows through light interception, overgrowth of the alga’s stolons on the seagrasses rhizomes and nutrient utilization.

**Health and Social Impact**

Monospecific algal assemblages may reduce the attractiveness of the underwater environment for divers.

**Economic Impact**

No evidence of economic impacts was found, but it has been suggested that fishing gear may become clogged with the algae where dense meadows occur.

**References & Links: Caulerpa racemosa, Sea grapes**

**Identification**


**Biology, ecology, spread, vectors**


**Management and impact**


**General**