



# CAULERPA

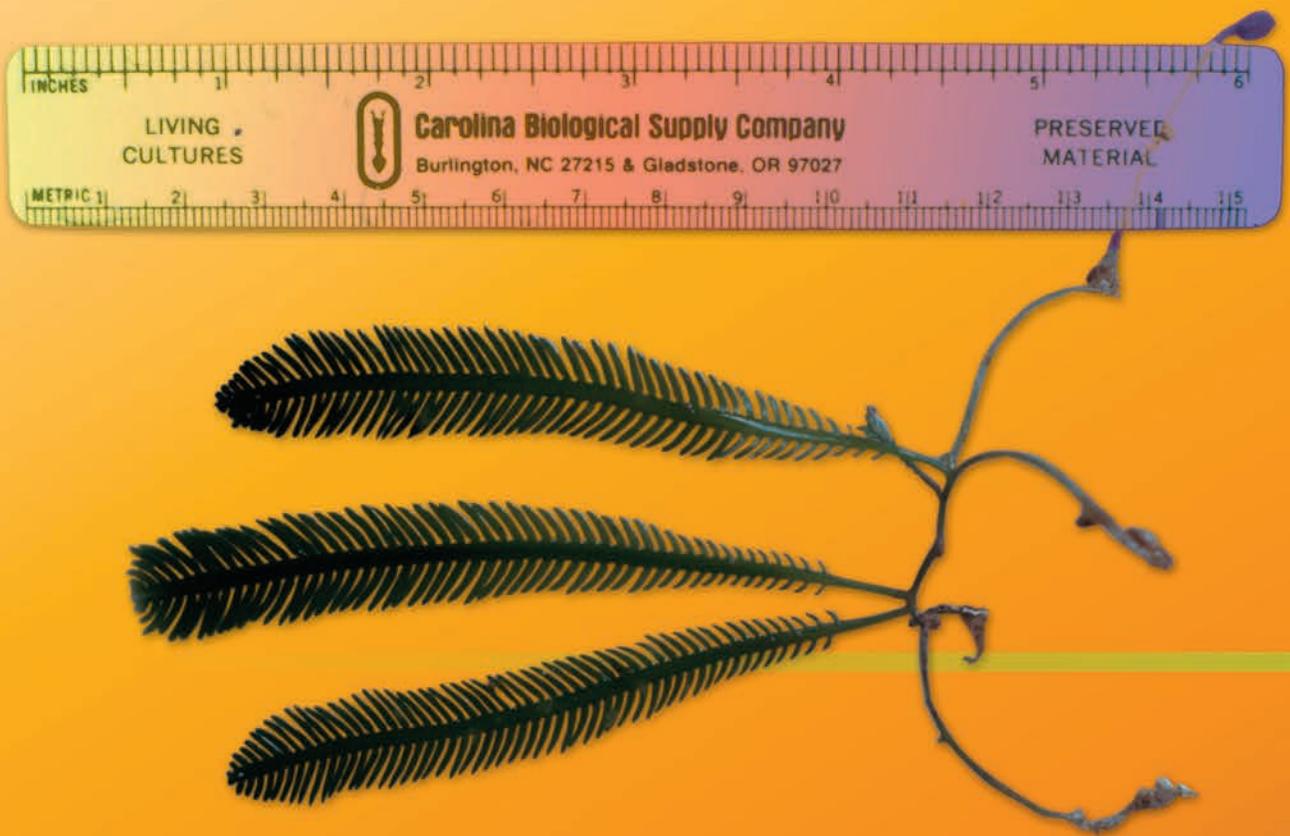
## SPECIES IDENTIFICATION KEY

**United States Law:** It is illegal to import or transport *Caulerpa taxifolia* aquarium strain across state lines including internet sale (Federal Noxious Weed Act, 1999; and Federal Plant Protection Act, 2000).

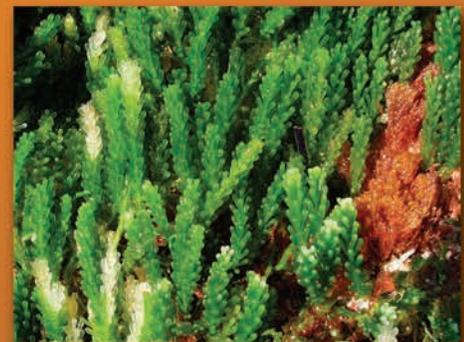
**California State Law:** It is illegal to possess, transport, transfer, release alive, import, or sell *Caulerpa taxifolia*, *Caulerpa sertularioides*, *Caulerpa mexicana*, *Caulerpa ashmeadii*, *Caulerpa scalpelliformis*, *Caulerpa racemosa* (and all varieties of *C. racemosa*), *Caulerpa cupressoides*, *Caulerpa verticillata*, *Caulerpa floridana* (California Fish and Game Code 2300).

**City of San Diego Law:** Bans the possession, sale, and transport of all *Caulerpa* species within city limits (City of San Diego Ordinance 18967)

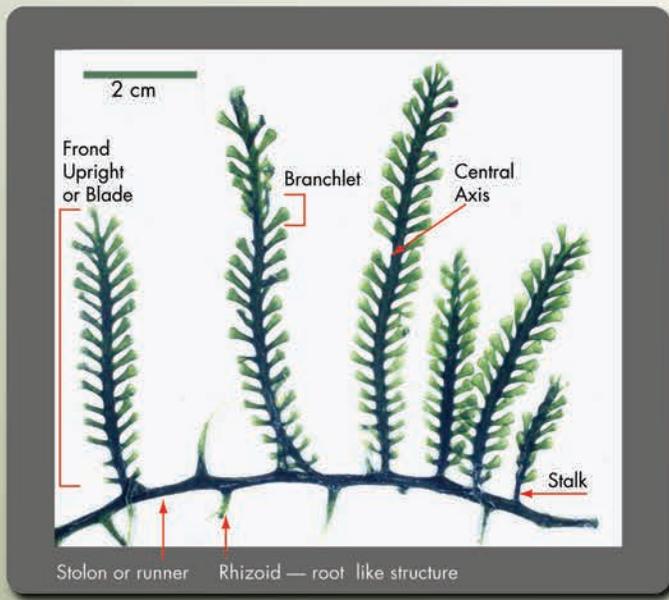
We designed this key to distinguish between *Caulerpa* species commonly found in the aquarium trade. Many *Caulerpa* species found in the wild were not included in this publication.



Have you seen these invaders?



Red borders around photographs note species banned in the state of California



**FEATHER**



Photo: Dr. Linda Walters

**Caulerpa ashmeadii**  
**Frond:** feather-like (up to 20cm tall)  
**Branchlet:** cylindrical with blunt tips (7-18mm long), opposite each other along central axis  
**Central Axis:** cylindrical



Photo: Katherine Grablow

**Caulerpa mexicana**  
**Frond:** feather-like (2-25cm tall)  
**Branchlets:** opposite each other; flattened, curve upward, pointed tip (2-4mm wide, 2-10mm long)  
**Central Axis:** flat (1-3mm wide)



Photo: Dr. Linda Walters

**Caulerpa sertularioides**  
**Frond:** feather-like (up to 20cm tall)  
**Branchlets:** opposite each other; needle shaped, pointed at the tip (3-11mm long)  
**Central Axis:** cylindrical (1-1.5mm in diameter)

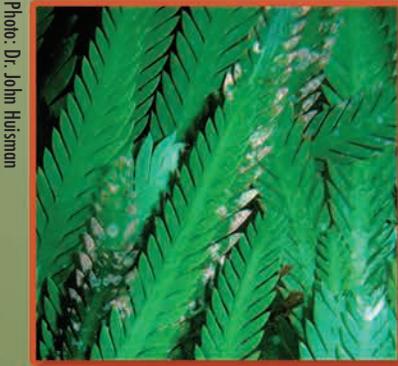


Photo: Dr. John Huismann

**Caulerpa scalpelliformis**  
 Cold water southern Australian species not found in the aquarium trade, but is included in this key because it is banned in the state of California



Photo: Rachel Woodfield



Photo: Dr. Linda Walters

**Caulerpa taxifolia**  
**Frond:** feather-like, flattened (3-15cm tall)  
**Branchlets:** opposite each other; flat, up curved at tip, base sometimes constricted at central axis (up to 6mm long, 0.6-1mm wide)  
**Central Axis:** slightly compressed to oval (1-1.5mm wide)

**GRAPE**



Photo: Dr. Linda Walters

**Caulerpa racemosa**  
**Frond:** grape-like (1-5cm tall)  
**Branchlets:** spherical to club shaped, sometimes crowded along central axis (2-4mm in diameter), does not have constriction at base  
**Stalk:** (2-5mm long)



Photo: Dr. Ante Žuljević

**Caulerpa racemosa var. cylindracea**  
**Frond:** grape-like (up to 10cm tall, but can be found as tall as 20cm)  
**Branchlets:** radially distributed to alternately opposite



Photo: Rachel Woodfield



Photo: Dr. John Huismann

**Caulerpa racemosa var. lamourouxii**  
**Fronds:** grape-like to flat (10-15cm tall)  
**Branchlets:** club shaped (2-7mm diameter) to no branchlets  
**Central Axis:** flattened  
**Stalk:** (2-3mm long)



Photo: Dr. Lynn Hodgson

**Caulerpa macrophysa**  
**Frond:** grape-like (up to 6cm tall)  
**Branchlets:** spherical (3-7mm in diameter), often in clusters



Photo: Susan Zaleski

**Caulerpa microphysa**  
**Frond:** grape-like (up to 30mm tall)  
**Branchlets:** bead shaped, spherical (1.5-2.3 mm wide), base is constricted



## FLAT

Photo: Dr. John Huismann



***Caulerpa racemosa* var. *lamourouxii***  
**FronD:** flat to grape-like (10-15cm tall), smooth to bumpy margins bearing no branchlets to club shaped branchlets  
**Central Axis:** flattened  
**Branchlets:** club shaped (2-7mm diameter)  
**Stalk:** (2-3mm)

Photo: Geoff Oldfather



***Caulerpa brachypus***  
**FronD:** flat, small delicate blades (1-3cm tall, 3-5mm wide), edges of blades can be smooth or finely toothed (need to look closely to see) Blade is tapered at the base where it connects to the stalk

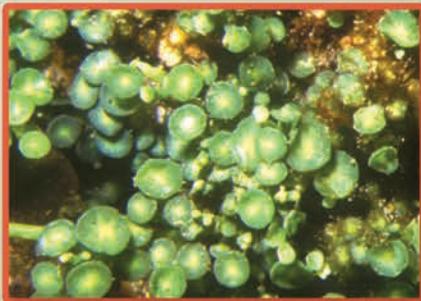
Photo: Katherine Grablow



***Caulerpa prolifera***  
**FronD:** flat, erect, elongate to oval in shape (6-15cm tall) Blade is tapered at the base where it connects to the stalk  
**Stalk:** (1-2cm tall)

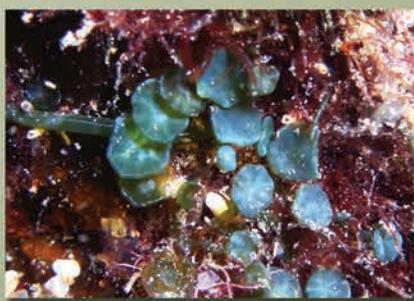
## DISC

Photo: Dr. John Huismann



***Caulerpa racemosa* var. *peltata***  
**FronD:** grape-like to disc-like (up to 5cm tall)  
**Branchlets:** mushroom shaped to flattened discs (3-4mm in diameter), can have both types of branchlets on one individual or just one type

Photo: Keeki Stender



***Caulerpa nummularia***  
**FronD:** disc-like  
**Branchlets:** flattened, disc-like, margins sometimes scalloped (1-3mm in diameter)

## TOOTHED MARGINS

Photo: Dr. John Huismann



***Caulerpa cupressoides***  
**FronD:** 4 parallel columns of branchlets (up to 25cm tall)  
**Branchlets:** cone shaped, pointed tip, curved upward (1-2mm long)

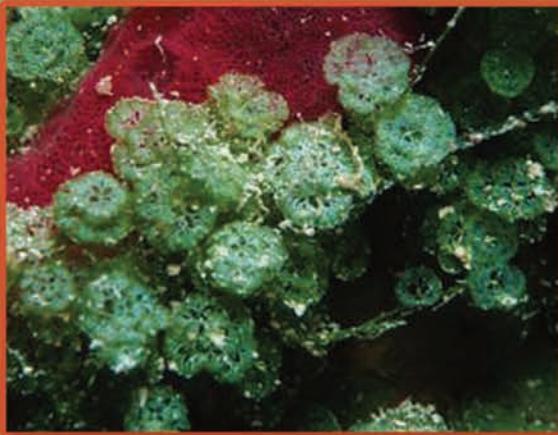
Photo: Susan Zaleski



***Caulerpa serrulata***  
**FronD:** Flat, forked branching, can be twisted or spiraling (4-7cm tall, 2-4mm wide), margins have teeth that are wedge shape with a pointed tip (1mm long)

## FUZZY

Photo: John Reed



***Caulerpa verticilata***  
**FronD:** finely branched and form fuzzy mats (1-3cm tall) fine branchlets are organized into circular whorls around the stalk

Photo: D.S. Littler & M.M. Littler 2000



***Caulerpa paspaloides***  
**FronD:** dense clusters of branchlets (7-25cm tall), seaweed resembles shape of a test tube brush or feather duster  
**Stalk:** cylindrical, supports frond and does not have any branchlets



**Disposal of *Caulerpa*:**  
Freeze *Caulerpa* for a minimum of 24 hours and then place in trash.



**To Learn More:**

<http://www.usc.edu/org/seagrant/caulerpa/index.html>

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**Questions? Need copies of key?**

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References: Littler & Littler 2000, Caribbean Reef Plants, OffShore Graphics, Inc.  
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Huisman, J.M. (2000) Marine Plants of Australia. Nedlands, Western Australia: University of Western Australia Press. pp. ix + 300

