

*Bryopsis pennata*

J.V.Lamouroux 1809

*Bryopsis pennata* is a small feather alga often found in the reef flat community. The opportunistic green alga has the potential to become invasive with supportive environmental conditions.

Division Chlorophyta  
 Class Chlorophyceae  
 Order Bryopsidales  
 Family Bryopsidaceae  
 Genus *Bryopsis*



PHOTO BY L. PRESKITT

## IDENTIFYING FEATURES

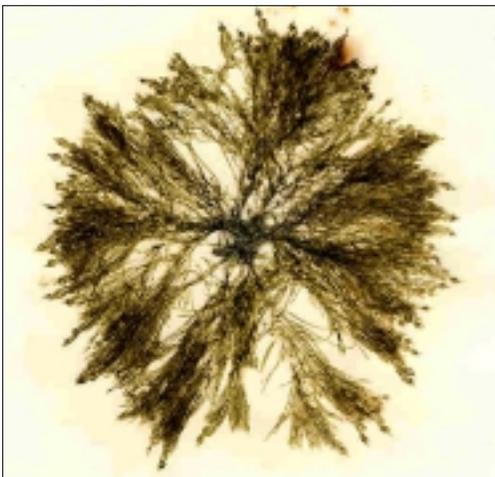
## DESCRIPTION

Thallus filamentous, bushy, in tuft-like mats, to 10 cm high. Fronds feather-like, 8 - 15 mm wide, pinnately branched; lateral branches of uniform length, constricted at base where joined to main axes. Branchlets in two opposite rows on upper half of branch, lower half of branch is bare.

Rhizoidal system is fibrous, tightly interwoven.

## COLOR

Glossy dark green, often with light blue iridescence.



*Bryopsis pennata*  
herbarium sheet

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## HABITAT

*Bryopsis pennata* forms soft, feathery clumps attached to basalt rocks and rubble on shallow reef flats, in tidepools, and in lower intertidal habitats of coastlines with low wave action.



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## STRUCTURAL FEATURES

Main axes 240-360  $\mu\text{m}$  diam; lateral branchlets 75-150  $\mu\text{m}$  diameter. Vegetative pennae function as the gametangia. Plants are dioecious, with male plants becoming yellowish-green and female plants turning dark green.

## DISTRIBUTION

### HAWAI'I

Northwest Hawaiian Islands, O'ahu, Maui, Kaua'i, Lana'i, Moloka'i and Hawai'i Island.

### WORLDWIDE

World-wide distribution: Australia, Atlantic Ocean, Mediterranean, Caribbean, Indian and Pacific Oceans.

### MECHANISM OF INTRODUCTION

Indigenous to Hawai'i.

## ECOLOGY/IMPACT

*Bryopsis pennata* is usually only a small part of the biomass of the diverse, highly competitive reef flat community. Soft, feathery clumps of this alga are often found attached to rocks among species of turfs and other low growing macroalgae. Like most green algae, *Bryopsis* species are highly opportunistic in eutrophic conditions. Communities will have a higher biomass of this fast growing green alga are when located near fresh water output that is nutrient rich, or where water temperatures fluctuate.

*Bryopsis* species are potentially invasive. Like the troublesome *Caulerpa taxifolia*, the genus produces chemical defenses that are toxic to most herbivorous organisms and easily reproduces vegetatively from the smallest fragments. Therefore, if environmental conditions occur that support fast growth of this species, it may become more competitive and possibly dominant.

*Bryopsis pennata* is a well-known pest alga species in commercial aquariums and the aquarium trade. Often referred to as Sea Ferns, the soft feathery alga are usually introduced to aquariums on live rock. The nutrient rich water in aquariums provide the perfect habitat for the fast growth of *B. pennata*, and control in the aquarium habitat is a constant challenge. The unchecked growth that occurs in the nutrient rich water of an aquarium with no predators can easily be expected under similar conditions on our reefs.

## REFERENCES

- Littler, D.S. and Mark M., 2000. Caribbean Reef Plants. OffShore Graphics, Washington, D.C.
- Magruder, W.H. and J.W. Hunt, 1979. Seaweeds of Hawai'i. Oriental Publ.Co., Honolulu, Hawai'i.
- Russell, D. J. and G. H. Balazs, 2000. Identification manual for dietary vegetation of the Hawaiian green turtle, *Chelonia mydas*. NOAA TM-NMFS-SWFSC-294. 49 pp.

### WEB LINKS

Virtual Herbarium. <http://www.botany.hawaii.edu/reefalgae/greenskey.htm>