



## Typification of the marine siphonous green algae *Caulerpa prolifera* (Bryopsidales, Chlorophyta)

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### Abstract

The typification of the marine siphonous green algae *Caulerpa prolifera* (Forsskål) J.V. Lamouroux ( $\equiv$  *Fucus prolifer* Forsskål) (Caulerpaceae), including f. *obovata* (J. Agardh) Weber-van Bosse and f. *zosterifolia* Børgesen, is discussed. Original material conserved in the Natural History Museum of Denmark (Copenhagen) at C (Herbarium Forsskålii) and in the Botanical Museum of Lund University at LD are designated as the corresponding lectotypes.

**Key words:** Caulerpaceae, *Caulerpa prolifera*, Flora Aegyptiaco-Arabica, *Fucus prolifer*, lectotype, marine algae, nomenclature

### Introduction

*Caulerpa* J.V. Lamouroux (1809a: 332) (Caulerpaceae, Chlorophyta) is one of the most diverse, conspicuous and widespread genera of marine green algae. It is widely distributed in tropical and subtropical waters, with some species extending into the Mediterranean Sea and temperate regions of Australia (Silva 2003; Guiry & Guiry 2015). The distinctive habit of *Caulerpa* is the siphonous thallus strengthened by an internal network of anastomosing trabeculae formed from wall material, which provide structural support. All species show the same morphological clonal scheme that includes prostrate indeterminate axes (creeping stolons), numerous branched colorless rhizoids downward, and upright fronds (laminae or assimilators) that bear branchlets (ramuli), notorious by its diverse morphology (Fritsch 1935; Silva 2003). *Caulerpa* is also known by the invasive behavior shown by some species (Meinesz *et al.* 2001; Verlaque *et al.* 2003; Williams 2007; Guiry & Guiry 2015).

The taxonomy of *Caulerpa* is complex (including numerous varieties and forms) and until recently, it was exclusively based on morphological similarities. The genus *Caulerpa* was initially subdivided by Agardh (1873) in thirteen tribes. De Toni (1889) validated them as sections and later Weber-van-Bosse (1898) accepted twelve of them (Draisma *et al.* 2014). Recent molecular works have shown that the DNA sequence data are a powerful tool for clarifying the taxonomy and phylogeny of the genus (Famá *et al.* 2002; Stam *et al.* 2006; Sauvage *et al.* 2013; Belton *et al.* 2013; Draisma *et al.* 2014). Recently, up to six Caulerpaceae lineages has been revealed and subgenus status has been proposed to them (*Cliftonii* Draisma, Prud'homme & G. Belton, *Hedleyi* G. Belton, *Caulerpella* (Prud'homme & Lokhorst) Draisma, Prud'homme & Sauvage, *Araucarioideae* (J. Agardh ex De Toni) Draisma, Prud'homme, Sauvage & G. Belton, *Charoideae* (J. Agardh ex De Toni) Draisma, Prud'homme, Sauvage & G. Belton and *Caulerpa*) (Draisma *et al.* 2014).

*Caulerpa prolifera* (Forsskål) J.V. Lamouroux (1809a: 332) belongs to the subgenus *Caulerpa* section *Caulerpa* and is the type of the genus *Caulerpa*, lectotypified by Eubank Egerod (1952) (Draisma *et al.* 2014). Morphologically, *C. prolifera* is characterized by its linear-lanceolate lamina, simple or proliferous, to 25 cm high and 0.5–2 cm wide. The genetic data have confirmed the monophyly of the species (Famá *et al.* 2002). Biogeographically, *C. prolifera* is distributed in the tropical and subtropical West and East Atlantic, Mediterranean and Indo-Pacific Ocean (Børgesen