

Charophytes collected on Rhodes and Kos, Greece in 2011

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Abstract: In this article three charophytes are reported from the two Dodecanesian islands Rhodes and Kos. The species are *Lamprothamnium papulosum*, *Chara vulgaris* and *C. globularis*.

Keywords: *Lamprothamnium papulosum*, *Chara vulgaris*, *Chara globularis*.

Introduction

In 2011 I visited four Dodecanesian islands, Rhodos, Kos, Kalymnos and Patmos in the Aegean Sea. Charophytes were only found on Rhodos and Kos, and the localities are listed in Tab. 1. In Rhodes several visited localities as Valley of Butterfly, Epta Pighes, Apolakkia dam and Lake Kalokerino were without charophytes. This article is a part of my investigation of the charophyte flora of the Greece islands (LANGANGEN 2004, 2007, 2008, 2009, 2010, 2012)

Methods

This work is based on material collected in the given localities in 2011. The specific conductivity was measured with a Milwaukee, SM 301 EC meter and Martini EC 60 meter and the calcium content with LaMotte, calcium hard test.

The coordinates are from Google Earth and are given in degrees, minutes and seconds.

Specimens collected are deposited at the Botanical Museum, University of Oslo (Herb. O), Norway.

Results

The visited localities with charophytes are summarized in Tab. 1.

Tab. 1. The visited localities in Rhodes and Kos, coordinates from Google Earth, specific conductivity, calcium and charophytes found in each locality.(Loc. 1-2 Rhodes, Loc. 3-7 Kos).

Locality	Coordinates	Conductivity uS/cm	Ca mg/l	Charophytes
1. North Apolakkia. Small ponds	36°04'15"N, 27°47'30"E	690	52	<i>Chara vulgaris</i>
2. NW Kalathos. Brook	36°09'47"N, 28°00'10"E	1130	64	<i>Chara vulgaris</i>
3. Lake Pylikos. Small dam	36°51'53"N, 27°09'35"E	1250	80	<i>Chara globularis</i>
4. Linopotis. Brook.	36°51'59"N, 27°09'27"E	1440	88	<i>Chara vulgaris</i>
5. Masserias. Small reservoir	36°52'08"N, 27°13'32"E	860	96	<i>Chara vulgaris</i>
6. Psalidi beach. Brook	36°53'05"N. 27°19'24"E	970	80	<i>Chara vulgaris</i>
7. Alykes. Salt lake	36°52'60"N. 27°09'58"E	18,7 mS/cm	-	<i>Lamprothamnium papulosum</i>



Fig. 1. Loc. 2. Nearly dry brook with *Chara vulgaris* (marked with x). Photo 23.4.2011



Fig. 2. The visited islands and the localities on Rhodes and Kos.

The charophytes

Lamprothamnium papulosum was only found in Alykes salt lake in Kos. Only few specimens were found in shallow water together with *Scirpus* sp. The specimens were small, 4-5 cm long and very rich fertile with well developed gametangia.

Chara globularis was found in one locality in Kos, Lake Pylikos. This lake is a small artificial dam with unclear water and black, loose soil bottom. The vegetation consisted only of filamentous algae and scattered colonies of *Chara globularis*. The charophyte found is not typical as many branchlets developed ecarticated segments. It is plenty of ducks and geese in the pond.

Chara vulgaris is found in five localities in Rhodes and Kos. In height the collected specimens vary from short (8-10 cm) to long (30 – 40 cm). The species is generally rich fertile, and ripe, black oospores are often found. In Linopotis (loc 4) the species grew on bottom of a fast running stream, which is not common. In Apolakkia (loc. 1) the pond was filled up with two phenotypic different populations, one with short specimens (8-10 cm) and the other with long specimens (30-40 cm). Many of the inspected specimens had poorly developed branchlet cortex, in some plants it was missing and in some other only developed on the first segment, and of this reason similar to *Chara gymnophylla*.

Discussion

In the two Greece islands of Rhodes and Kos I found charophytes in seven localities out of eleven surveyed water bodies. One of them is brackish (loc. 7) which favours the occurrence of *Lamprothamnium papulosum*. This species is widespread in Greece (KOUMPLI-SOVANTZI 1997, LANGANGEN 2004, 2007, 2008, 2010) and is relatively common.

Chara vulgaris which has been reported from five localities is a common species in Europe (KRAUSE 1997). Although It is unusual to find *Chara vulgaris* in fast running water as in Kos (loc. 4).

Chara globularis has been reported from several localities in Greece (KOUMPLI-SOVANTZI 1997, LANGANGEN 2004, 2007, 2009), but seems not to be common.

The water bodies in Rhodes and Kos are eutrophic to highly eutrophic (table1). The values of specific conductivity and calcium content support the fact that the localities are rich in ionic components.

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