

Phyton (Horn, Austria)	Vol. 34	Fasc. 2	243–246	29. 12. 1994
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***Myriophyllum alterniflorum* DC. (*Haloragaceae*), a New Record for the Greek Flora**

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With 1 Figure

Received August 3, 1993

Key words: *Haloragaceae*, *Myriophyllum alterniflorum* DC. – Aquatic macrophytes, ecology, distribution. – Flora of Greece.

Summary

SARIKA-HATZINIKOLAOU M., KOUMPLI-SOVANTZI L. & YANNITSAROS A. 1994. *Myriophyllum alterniflorum* DC. (*Haloragaceae*), a new record for the Greek flora. – *Phyton* (Horn, Austria) 34 (2): 243–246, 1 figure. – English with German summary.

Myriophyllum alterniflorum DC. in LAM. & DC. has been found in the lake Kalodhiki (Nomos Thesprotias, Ipiros, NW Greece). This finding is a new record for the Greek flora. The species habitat in Greece is shortly described.

Zusammenfassung

SARIKA-HATZINIKOLAOU M., KOUMPLI-SOVANTZI L. YANNITSAROS A. 1994. *Myriophyllum alterniflorum* DC. (*Haloragaceae*), ein Neufund für die griechische Flora. – *Phyton* (Horn, Austria) 34(2): 243–246, 1 Abbildung. – Englisch mit deutscher Zusammenfassung.

Myriophyllum alterniflorum DC. in LAM. & DC. wurde im Kalodhiki-See (Nomos Thesprotias, Epirus, NW-Griechenland) gefunden. Es handelt sich um einen Erstfund für Griechenland. Der Standort der Art in dem starke Wasserstandsschwankungen aufweisenden See wird kurz beschrieben.

Myriophyllum is one of the three largest genera of the family *Haloragaceae* (LAWRENCE 1955). The nearly 45 species of the genus are almost cosmopolitan (lacking in the Arctic and rare in Africa). Most species are aquatic or amphibious found in a variety of habitats (COOK & al. 1974).

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The species *M. alterniflorum* occurs mainly in W., N. & C. Europe, but it is extending south-eastwards to Sicily and W. Ukraine. It is rare in the Mediterranean area and N. W. Africa (COOK 1968, CASPER & KRAUSCH 1981). It inhabits stagnated and flowing waters, at a depth of 0.2–3.0 m (CASPER & KRAUSCH 1981). It is associated mainly with mineral, sandy gravel substrates, although it may also occur on distinctly organic ones (KLOSOWSKI & TOMASZEWICZ 1989). It is restricted to soft oligotrophic-mesotrophic waters, relatively poor in calcium, magnesium – its substrates are also poor in these two elements –, ammonium nitrogen and phosphate, whilst an obviously higher phosphate content there is in the interstitial water (KLOSOWSKI & TOMASZEWICZ 1989, WIEGLEB 1984).

The species of *Myriophyllum* presently known to occur in Greece are four, *M. spicatum* L. the most common, *M. verticillatum* L. collected from several localities, *M. heterophyllum* MICHX. and *M. exalbescens* FERNALD. The last two are reported only once, to our knowledge, by PAVLIDES 1985 and KOUSOURIS & al. 1987 respectively. But the occurrence of *M. exalbescens* in Greece needs confirmation as no specimens and other data are cited in the relevant bibliography. In this study the presence of a fifth species is indicated for Greece, that is *M. alterniflorum*. This also seems to be a new record for the Balkan Peninsula as a whole.

M. alterniflorum was recently found in the lake Kalodhiki (Fig. 1). The lake extends between 20°26'46" E and 20°28'14" E longitude and 39°19'20" N and 39°17'53" N latitude. It is situated in W Ipiros (Nomos Thesprotias), c. 13 km NW of Parga and at an altitude of 110 m. The lake is consisting of a main water body and a smaller one lying side by side. The water level of the main body fluctuates seasonally (depth = 0.5–5 m) while the small body is always almost drying up during the dry season. The two water bodies are separated, even under flooding situations, by an earth ridge with a maximum width of about 200 m and a highest elevation of c. 2 m above the water level of the lake. The lake is fed by some small torrents and it is drained by a ditch during overflowing periods. The lake has a surface of 1–3 km² and the following physicochemical characteristics: temperature = 13° C (29. 3. 1991), 28.4° C (20. 6. 1991), 27° C (9. 10. 1991); pH = 7.69–8.18 and conductivity = 330–440 µmhos (20. 6. 1991).

M. alterniflorum was collected first in the NEE part of the lake (site 1 in Fig. 1), 29. 3. 1990, M. SARIKA-HATZINIKOLAOU no 141 (ATHU and herb. M. SARIKA-HATZINIKOLAOU). The specimen was consisted of juvenile individuals with stems about 20 cm long, without flowers and fruits. They were found growing at a depth of 0.5 m in a scattered manner.

The species was twice collected again in an adjacent site (site 2 in Fig. 1), 20. 6. 1991, M. SARIKA-HATZINIKOLAOU no 176 and 9. 10. 1991, M. SARIKA-HATZINIKOLAOU no 863 (ATHU and herb. M. SARIKA-HATZINIKOLAOU). The specimen no 176 was composed of adult individuals with stems

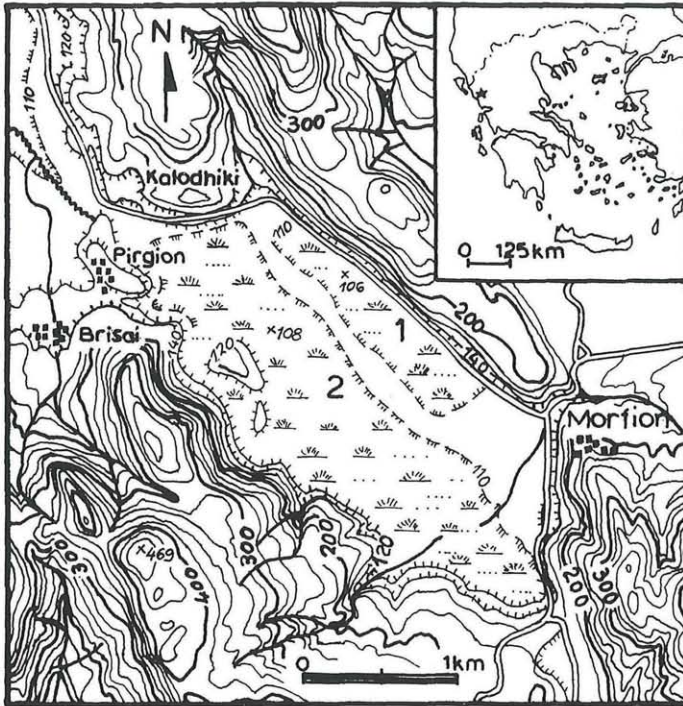


Fig. 1. Map of the lake Kalodhiki in NW Greece showing the collection sites of *Myriophyllum alterniflorum*.

about 35 cm long, flowers and fruits, living in a depth of 0.5 m. The specimen no 863 was coming from plants growing at a depth of 0.2 m and they had started to decay. At the time of collections it was observed that the surface covered by the *M. alterniflorum* plants had been increased from 4 m² (in June) to 10–15 m² (in October).

The species *M. alterniflorum* was found living in the water of the lake together with *Ludwigia palustris* (L.) ELLIOTT, *Elatine alsinastrum* L., *Apium inundatum* (L.) REICHENB. fil., *Ranunculus rionii* LAGGER, *Potamogeton natans* L., *P. trichoides* CHAM. & SCHLECHT., *Callitriche pedunculata* DC. and *Utricularia* sp. It must be noted that during the collecting time in June 1991 *M. alterniflorum* was the dominant species, while during a next visit in June 1992 the species was not observed. This extinction is due to the fact that the area where the species was growing during the previous year was dried up. However in May 1993 the species was found again growing in the same sites of the lake (7. 5. 1993, M. SARIKA-HATZINIKOLAOU, no 1152 and 7. 5. 1993, M. SARIKA-HATZINIKOLAOU no 1155, ATHU and herb. M. SARIKA-HATZINIKOLAOU).

The measured pH values in the sites of the lake Kalodhiki where *M. alterniflorum* was found growing are in accordance with those cited in HUTCHINSON 1970 for central Sweden although the species pH range is going from slightly alkaline to acid waters (HUTCHINSON 1970, HEITTO 1990a, b, ARTS & al. 1990). As it concerns conductivity, *M. alterniflorum* is common in waters of conductivity well below 100 μmhos , but it is also capable of living in waters of conductivity over 200 μmhos (Seddon 1972).

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Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Phyton, Annales Rei Botanicae, Horn](#)

Jahr/Year: 1994

Band/Volume: [34_2](#)

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Artikel/Article: [Myriophyllum alterniflorum DC. \(Haloragaceae\). 243-246](#)