*Turkish Journal of Fisheries and Aquatic Sciences 9: 231-232 (2009)* DOI: 10.4194/trjfas.2009.0217

*SHORT PAPER*

# New Record for the East Mediterranean, Dardanelles (Turkey) and its Distribution: *Polysiphonia morrowii* Harvey (Ceramiales, Rhodophyta)

**Hüseyin Erduğan[1,*], Cüneyt Akı[1], Okan Acar[1], Berrin Dural[2], Veysel Aysel[1]**
[1] Çanakkale Onsekiz Mart University, Faculty of Sciences and Arts, Department of Biology, 17020 Çanakkale, Turkey.
[2] Ege Univeristy, Faculty of Science, Department pf Biology, 35100, İzmir, Turkey.

* Corresponding Author: Tel.: +9 0286 2180018; Fax:
E-mail: herdugan@comu.edu.tr

Received 20 January 2009
Accepted 22 May 2009

**Abstract**

In this study, *Polysiphonia morrowii* Harvey *was* reported in the east Mediterranean and the coasts of Turkey for the first time.

*Keywords*: *Polysiphonia morrowii*, East Mediterranean, first recorder.

## Introduction

This taxon that was also in the Mediterranean reported firstly in 2001 (Marzocchi *et al*., 2001) and secondly in 2002 (Curiel *et al*., 2002). The homeland of this taxon is Japan. This taxon is reported in this study for the first time along the coasts of the Mediterranean including Turkey. The detailed studies were carried out on *Polysiphonia* species along the coasts of Turkey (Aysel, 1979; 1980; 1984; 1989).

*P. morrowii* Harvey had a prolonged spread starting from the rocky fields particularly in the tidal area of the water to the rocks at the bottom. This species, *P. morrowii* Harvey, is determined to spread around Gelibolu, Eceabat, Kilitbahir, Abide, Kepez, Dardanelles Center, Lapseki and Şevketiye. This species was determined to have more intensity at 0.1 m when compared to the deep waters. It was also revealed that it had a more intense spread on a wider area along Eceabat and Gelibolu coasts, where rocky territory is abundant.

The appearance of *P. morrowii* tallus is blackish or red and in intense clusters. When touched, it is easily felt that they have a delicate structure. Tallus is 3-25 cm and lives on the rocks (Figure 1a). The dried samples can typically stick to the paper. They cling to the environment with the rhizoid (Figure 1b). This rhizoid occurs with the developmental growth of the pericentral cells at the center or at the tip. They have mostly irregular segments ranging from 1 to 4 and the segment is 50-70 µm thick as it is 100-1000 µm long and surrounded by haptera disc and cannot generally be edged latitudinally. Pervasive filaments, webbed or sometimes developing from perpendicular filaments are 150-250 µm diameters. These rhizoid, with their 0.3 µm breadth and 0.7 µm length, go through an infertile phase that later vanishes: the perpendicular filaments consisting endogenically of pervasive filaments are 3-10 segments and even the perpendicular filaments in the basal part have a changing diameter and the proportion of the breath to its length is 150-300 µm and the breadth and length proportion at the bottom is 0.2–0.5 L/B (length/breadth), but in the middle 2-13 L/B and at the upper part of the filaments 2-13 L/B. Most of those developing from perpendicular endogen filaments rather than the interval axis are located in the lower branches. They are restricted vertically with the numerous webbed rhizoid but the perpendicular branches are sometimes not restricted. The lateral branches occur at 3-8 segments intervals densely successively, grow longer, and separate into branches once or a few times, and its hooks receding at the lower part are centered in the middle diversely. They are plumy at the maturity phase; then at the last phase they are sharp pointed and this sharpness is distinct at the tip. Those developing at the tip grew weaker at the bottom; the endogen branches occurring at the axis are exceptional.

Trichoblasts occur rarely close to the tip of the branches at the infertile phase and the left part of the pylotaxis is spiral by 1/4 (Figure 1c). These cells, which are separated into branches a few times and then become rare and go unnoticed, completely fall out. There are four pericentral cells at the semi-transparent nodes together (Figure 1d). The spiral branches occurring continuously consist of granular axis when they are completely matured. And these granular axis are of 70-80 µm diameters and their swelling like a sphere is quite distinct. The numerous spermatangial branches separated into three through the tips of the branches are replaced with all the trichoblasts in the form of lanceolate and these trichoblasts are of 40-70 µm diameter.

In addition, the infertile species have 3-4 cells and cystocarps are numerous, are 250-500 µm and spread in the middle and on the upper part of the branches in the form of a jug. In summary *pedicellate*

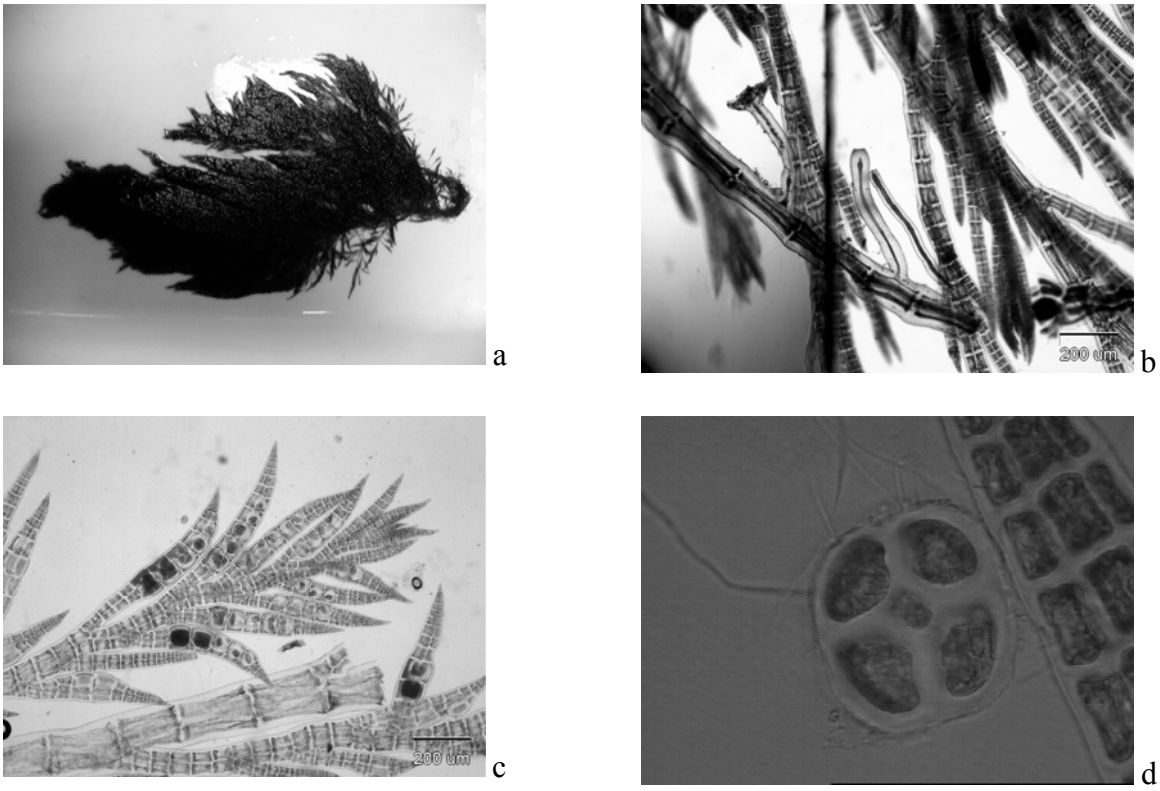


**Figure 1.** *P.morrowii Harvey* (a) General view, (b) rhizoids, (c) tetraspores, (d) pericentral cells in cross section.

is a narrow-nodded (single celled) and have wide spaces (Yoon, 1986). Despite the algae difficulty in catching hold of the environment and finding a chance to survive as a result of the continuous and strong flow, we are of the idea that interesting taxa such as *Polysiphonia morrowii* Harvey can always be found in the rocky areas where the strong flow has little effect.

## References

Aysel, V. 1979. İzmir Körfezi'ndeki bazı *Polysiphonia* Grev. (*Rhodomelaceae*, *Rhodophyta*) türleri üzerinde çalışmalar. E.Ü. Fen Fakültesi Dergisi, 3 (1–4): 19–42

Aysel, V. 1980. Türkiye'nin Ege Denizi kıyılarındaki bazı *Polysiphonia* (*Rhodophyta*, *Rhodomelaceae*) türleri. TÜBİTAK VII. Bilim Kongr. Biy. Seksiyonu Tebliğleri Kuşadası-Aydın: 841-855.

Aysel, V. 1984. Türkiye'nin Ege Denizi'ndeki *Polysiphonia* Grev. (*Rhodomelaceae*, *Ceramiales*) türleri I. Bölüm *Oligosiphonia*, Doğa Bilim Dergisi, 8(1): 29–42.

Aysel, V. 1989. Türkiye'nin Ege Denizi'ndeki *Polysiphonia* Grev. (*Rhodomelaceae*, *Ceramiales*) türleri II. Bölüm: *Polysiphonia*. Doğa Türk Botanik Dergisi, 13 (3): 488–501.

Curiel, D., Bellemo, G., Rocca, B.L., Scattolin, M. and Marzocchi, M. 2002. First report of *Polysiphonia morrowii* Harvey (*Ceramiales*, *Rhodophyta*) in the Mediterranean Sea. Bot. Mar., 45: 66-70.

Marzocchi, M., Bellemo, G., Miotti, C., Curiel, D. and Scattolin, M. 2001. Le Macroalghe Dei Substrati Duri Del Canal Grande (Centro Storico Di Venezia): Prime Considerazioni. BolL Mus. civ. St. Nat. Venezia, 52 (2): 1

Yoon, H.Y. 1986. A taxonomic study of genus *Polysiphonia* (*Rhodophyta*) from Korea. The Korean Journal of Phycology. 1(1): 3-86