

# THE RED SEA MACROALGA *PALISADA MARIS-RUBRI* (RHODOBIONTA, ARCHAEOPLASTIDA): FIRST RECORD IN TUNISIA

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## Abstract

The Red Sea macroalga *Palisada maris-rubri* has already been reported from the Mediterranean Sea: Mar Minor Lagoon (Murcia, Spain) and Lachea Island (Italy). Here, we describe a specimen from a third locality, the hypersaline El-Biban Lagoon (Tunisia) and confirm its occurrence in the Mediterranean.

**Keywords:** *Alien species, Algae, Tunisian Plateau, Lagoons, Lessepsian migration*

The red macroalga *Palisada maris-rubri* (K.W. Nam et Saito) K.W. Nam (Florideophyceae, Rhodobionta, kingdom Archaeplastida) has been described from the northern Red Sea (Ras Muhammed, Sinai, Egypt), as *Laurencia maris-rubri* K.W. Nam et Saito [1, 2]. Subsequently, *P. maris-rubri* has been reported from 2 localities in the Mediterranean Sea: the hypersaline lagoon of Mar Menor (Spain) and Lachea Island (Italy) [3]. Red Sea species that entered the Mediterranean via the Suez Canal are called 'Lessepsian species' or 'Lessepsian migrants' [4, 5].

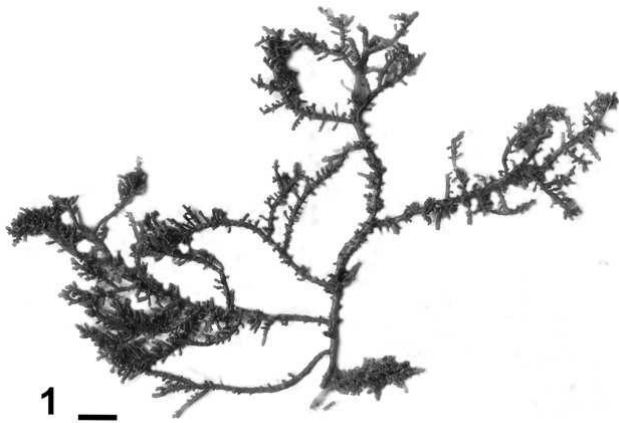


Fig. 1. Habit of the specimen of *Palisada maris-rubri* collected at Jdaria (El-Biban Lagoon, Tunisia). Preserved (H8310) in the Herbarium Verlaque (HCOM) at Aix-Marseille University. Scale bar = 1 cm.

On December 2015, we (CFB, JBS) collected a large specimen (~10 cm in diameter) of *P. maris-rubri* at Jdaria, in El-Biban Lagoon (southern Tunisia) (Fig. 1). El-Biban Lagoon is a hypersaline lagoon [6]. The collected specimen was dwelling on a rope, along a fishing pier, just below sea-level. The distinguishing characters of the species, which are exhibited by the collected specimen, are as follows:

- Axes cylindrical, up to 10-15 cm high, robust, rigid, cartilaginous, dark in color, attached to the substratum by a discoid holdfast;
- Main axes percurrent, 1-3 mm broad in the median parts, irregularly ramified, denuded in the proximal region but often with fascicles of young branches;
- Branching sparse, up to 3 to 4 orders of branches, irregularly alternate, subopposite, frequently subverticillate in medium parts, with the branches of a third order often unilateral;
- Ultimate branchlets cylindrical with truncate apices, (1) 2-3 mm long and 0.6-1 mm broad;
- Cortical cells palisade-like in transverse section and without secondary pit connections;
- Medullary cells in transverse section rounded without lenticular thickening.

*Palisada maris-rubri* has not been included in the CIESM Atlas of exotic species in the Mediterranean [7], because of minor differences in vegetative features between the Mediterranean material and the type material [3]. Here, we confirm the presence of this Lessepsian migrant within the Mediterranean Sea.

Because of the recent enlargement of the Suez Canal, the flow of Red Sea species (Lessepsian migrants) to the Mediterranean is expected to dramatically intensify [8].

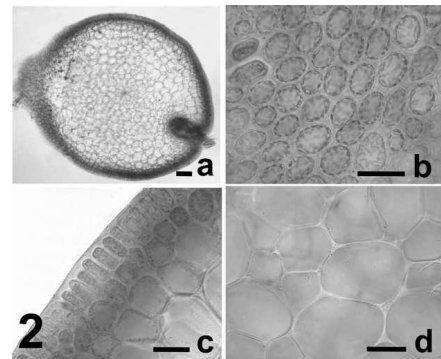


Fig. 2. a: Transverse section. b: Cortex in surface view. c: Transverse section, detail of palisade-like cortical cells. d: Transverse section, detail of medullary cells. Scale bars. a = 100 µm; b-d = 50 µm.

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