

A Checklist of the Seaweeds of the Mediterranean and Atlantic Coasts of Morocco.

IV. Rhodophyceae – Ceramiales

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A checklist of Moroccan Ceramiales (Rhodophyceae), based on both literature records and some original data, is presented. The distribution of each taxon for this region (12 Mediterranean and 26 Atlantic localities) is given. Using present-day taxonomy, 161 species and infraspecific taxa of this order are accepted for the Moroccan coasts.

Introduction

Several attempts have been made to produce a checklist of Moroccan marine seaweeds. Some of these are considerably outdated (*e.g.* Bornet 1892, Debray 1897, Gattefossé and Werner 1935, Gayral 1961). Others only concern the Mediterranean coast (Navarro and Gallardo 1989, González-García and Conde-Poyales 1994, Gómez Garreta *et al.* 2001), while the recent checklist of Kazzaz and Riadi (2000) is incomplete and uncritical.

If biogeographical comparisons are to be made between Moroccan provinces, as well as between Morocco and neighboring countries, on the basis of recent studies (*e.g.* South and Tittley 1986, Lawson and John 1987, Maggs and Hommersand 1993 and Gómez Garreta *et al.* 2001), an updated, complete and critical checklist needs to be drawn up for the coast.

The present paper is the fourth and last part of a checklist intended to be a catalogue of benthic multicellular marine algae of the Moroccan coasts, which includes the Chlorophyceae *sensu lato* (Benhissoune *et al.* 2001), Phaeophyceae (= Fucophyceae) (Benhissoune *et al.* 2002a), Rhodophyceae (excluding Ceramiales) (Benhissoune *et al.* 2002b) and Rhodophyceae – Ceramiales (present study).

Material and Methods

In this paper, the Moroccan coasts correspond to the geographical concept of Morocco, in other words, the Spanish territories of Ceuta, Melilla and the Chafarinas Islands are included. We have considered 38 localities (see fig. 1 and table I in Benhissoune *et al.* 2002a), of which 12 are in the Mediterranean (**M**; from East to West: Saaidia, Chafarinas Islands,

Nador, Melilla, Al Hoceima, Jabha, Tamernoute, M'diq, Cabo Negro, Tetouan, Ceuta and Ksar-Sghir) and 26 are found along the Atlantic coast (**A**; from North to South: Tanger, Cap Spartel, Azilah, Larache, Kenitra, Salé, Rabat, Temara, Bouznika, Mohammedia, Casablanca, El Jadida, Oualidia, Safi, Djorf el Yhoudi, Sidi Boulbra, Essaouira, Imessouane, Cap Ghir, Agadir, Tifnit, Mirhleleft, Sidi Ifni, Tan Tan, Moroccan Sahara and Cap Blanc). The toponymy is that of the MARCUS map (1/1 400 000) published in 1980 by the National Topographical Center of Morocco.

The accepted taxon name is followed (between square brackets) by the basionym and by the other synonyms used by the authors of Moroccan citations. The taxa (families, genera and species) are arranged alphabetically. When infraspecific taxa are listed, the autonym, if present in Morocco, is cited first. For taxonomic purposes, the database of Guiry and Nic Dhonncha (2002) has also been a valuable source of information. As far as possible, the taxonomic treatment of species, which are present in the Mediterranean, is consistent with that of Gómez Garreta *et al.* (2001), so as to facilitate further comparisons. For each taxon and each locality, the numbers between brackets refer to the references. A question mark after the reference number signifies that the taxon was mentioned with doubt. An asterisk (*) indicates that the taxon was collected by one of the authors of the present study (S. B.). The liquid-preserved specimens and dried herbarium specimens are deposited in the private herbarium of S. Benhissoune, Département de Biologie, Faculté des Sciences, Agadir.

Results

The present checklist encompasses 161 items (species and infraspecific taxa). Some of the listed and cited taxa require further investigation (see the Notes section). Five taxa are considered as taxa excludenda and 7 as taxa inquirenda. In addition, a number of taxa: *Anotrichium barbatum*, *Boergeseniella deludens*, *Ceramium deslongchampsii*, *Ceramium rubrum* var. *implexo-contortum*, *Chondrophycus perforatus*, *Corallophila cinnabarina*, *Eupogodon planus*, *Griffithsia corallinoides*, *Halydictyon mirabile*, *Lejolisia mediterranea*, *Lophosiphonia obscura*, *Polysiphonia arachnoidea*, *P. brodiei*, *P. paradoxa*, *P. subulata*, *Seirospora giraudyi*, *Spermothamnion johannis* and *Tiffaniella saccorhiza* have been only reported in one reference, and their occurrence would require confirmation.

Florideophyceae

Ceramiales

Ceramiaceae

Aglaothamnion cordatum (Børgesen) Feldmann-Mazoyer [= *Callithamnion cordatum* Børgesen, *Aglaothamnion neglectum* Feldmann-Mazoyer, *Callithamnion neglectum* (Feldmann-Mazoyer) M. J. Wynne]. **M:** Nador (44, 46, 47, *), Melilla (46), Al Hoceima (46), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Temara (4), Mohammedia (4, 61).

Aglaothamnion hookeri (Dillwyn) Maggs et Hommersand [= *Conferva hookeri* Dillwyn, *Aglaothamnion polyspermum* (C. Agardh) Parke]. **M:** Saaidia (*), Al Hoceima (46), Jabha (*), Tamernoute (52), M'diq (*), Ksar-Sghir (52). **A:** Temara (4), Mohammedia (4, 61).

Aglaothamnion scopulorum (C. Agardh) Feldmann-Mazoyer¹ [= *Callithamnion scopulorum* C. Agardh]. Without locality (11). **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 71, *), Rabat (24), Temara (4, 16), Mohammedia (4, 61, 62), Casablanca (23, 35, 71), El Jadida (8, *), Sidi Boulbra (9, 10), Essaouira (23, 24, 36, 71, *), Agadir (*), common (23, 37).

Aglaothamnion tenuissimum (Bonnemaison) Feldmann-Mazoyer² [= *Ceramium tenuissimum* Bonnemaison, *Aglaothamnion byssoides* (Arnott ex Harvey) Boudouresque et Perret-Boudouresque, *A. furcellariae* (J. Agardh) Feldmann-Mazoyer, *Callithamnion byssoides* Arnott ex Harvey]. **M:** Saaidia (*), Chafarinas Islands (60), Nador (46), Melilla (46), Al Hoceima (46), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52). **A:** Tanger (13, 25, 35, 71).

Anotrichium barbatum (C. Agardh) Nägeli [= *Griffithsia barbata* C. Agardh]. **M:** Cabo Negro (52).

Anotrichium furcellatum (J. Agardh) Baldock [=

Griffithsia furcellata J. Agardh, *Neomonospora furcellata* (J. Agardh) Feldmann-Mazoyer et Meslin]. **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Azilah (*), Larache (*), Temara (4, 16), Mohammedia (4, 61), El Jadida (8, *), Oualidia (*), Essaouira (*), Agadir (23, 71, *), common (37).

Anotrichium tenue (C. Agardh) Nägeli [= *Griffithsia tenuis* C. Agardh]. **M:** Saaidia (*), Nador (44, 46, 47), Melilla (46), M'diq (*), Ksar-Sghir (*). **A:** Azilah (*), Temara (4), Mohammedia (4, 61).

Antithamnion amphigeneum A. J. K. Millar [= *A. algeriense* M. Verlaque et Seridi ('algeriensis')]. **M:** Saaidia (*), Nador (45, 46), Melilla (45, 46), Al Hoceima (45, 46), Jabha (*), M'diq (*).

Antithamnion cruciatum (C. Agardh) Nägeli [= *Callithamnion cruciatum* C. Agardh]. Without locality (11). **M:** Saaidia (*), Nador (44, 47), Melilla (45), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, *), Azilah (*), Mohammedia (*), Casablanca (35, 66), El Jadida (*), Sidi Boulbra (9, 10), Agadir (*), Sidi Ifni (*).

Antithamnionella elegans (Berthold) J. H. Price et D. M. John var. *elegans* [= *Antithamnion elegans* Berthold]. **M:** Saaidia (46, *), Nador (44, 46, 47), Melilla (46), Al Hoceima (46), Jabha (*), M'diq (*). **A:** Rabat (23, 71).

Antithamnionella spirographidis (Schiffner) E. M. Wollaston [= *Antithamnion spirographidis* Schiffner]. **M:** Saaidia (*), Melilla (46), Jabha (*), M'diq (*).

Bornetia secundiflora (J. Agardh) Thuret [= *Griffithsia secundiflora* J. Agardh]. Without locality (11). **M:** Tamernoute (52). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Larache (*), Rabat (28, 35, 66, 71), Temara (4, 16, 71), Bouznika (70, 71), Mohammedia (4, 61, 70, 71), Casablanca (35, 66, 71), El Jadida (8, *), Sidi Boulbra (9, 10), Essaouira (35, 66, 71, *), Agadir (*), Sidi Ifni (*), Tan Tan (*), common (23, 37).

Callithamniella tingitana (Schousboe ex Bornet) Feldmann-Mazoyer [= *Callithamnion tingitanum* Schousboe ex Bornet]. **M:** Melilla (46), Al Hoceima (46). **A:** Tanger (13, 25, 35, 71).

Callithamnion corymbosum (J. E. Smith) Lyngbye [= *Conferva corymbosa* J. E. Smith]. **M:** Saaidia (46, *), Nador (46), Melilla (45, 46), Al Hoceima (46), Jabha (*), Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Azilah (*), Temara (4), Mohammedia (4, 61).

Callithamnion granulatum (Ducluzeau) C. Agardh [= *Ceramium granulatum* Ducluzeau]. Without locality (11). **M:** Saaidia (*), Chafarinas Islands (17, 46, 60), Nador (46), Melilla (45, 46), Al Hoceima (46), Tamernoute (52), M'diq (*), Cabo Negro (52, 60), Tetouan (46, *), Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Larache (*), Rabat (23, 28, 71), Temara (4, 16, 35, 71), Mohammedia (4, 35, 61, 62), Casablanca (23, 71), El Jadida (8, *), Essaouira (42, 71), Mhrleft (*), common (37).

- Callithamnion tetragonum* (Withering) S. F. Gray [= *Conferva tetragona* Withering, *Callithamnion tetragonum* var. *brachiatum* J. Agardh]. Without locality (35). **M:** Saaidia (*), Chafarinas Islands (17, 46, 60), Melilla (45, 46), Al Hoceima (46), Jabha (*), Tamernoute (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 71, *), Larache (*), Rabat (28), Temara (4), Mohammedia (4, 61, 62), El Jadida (*), Sidi Boulbra (9, 10), Cap Ghir (42), Agadir (*), Tifnit (*), Mïhrleft (*), Tan Tan (*).
- Callithamnion tetricum* (Dillwyn) S. F. Gray [= *Conferva tetrica* Dillwyn]. Without locality (11). **M:** Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Larache (*), Salé (23), Rabat (23, 28, 35, 71), Temara (16, 71, *), Mohammedia (4, 61, 62), Casablanca (23, 71), El Jadida (8, 71, *), Oualidia (70, 71, *), Sidi Boulbra (9, 10), Essaouira (23, 71, *), Agadir (35, 71, *), Sidi Ifni (*), Tan Tan (*), common (37).
- Centroceras clavulatum* (C. Agardh) Montagne [= *Ceramium clavulatum* C. Agardh]. Without locality (35). **M:** Saaidia (46, *), Nador (46, 47), Melilla (45, 46), Al Hoceima (46), Jabha (*), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13?), Azilah (*), Rabat (35, 57, 59, 66, 71), Temara (4, 16, 34), Mohammedia (4, 61), Casablanca (35, 59, 66, 71), El Jadida (8, 13, 25, 35, 59, 71, *), Sidi Boulbra (9, 10), Essaouira (*), Sidi Ifni (*), Tan Tan (*), common (23, 37).
- Ceramium callipterum* Mazoyer. **A:** El Jadida (58, 59), without locality (23).
- Ceramium ciliatum* (J. Ellis) Ducluzeau var. *ciliatum* [= *Conferva ciliata* J. Ellis]. Without locality (11). **M:** Saaidia (46, *), Chafarinas Islands (17, 46, 60), Nador (44), Melilla (45), Al Hoceima (46), Tamernoute (52), Jabha (*), Cabo Negro (52, 60), Tetouan (*), Ksar-Sghir (52). **A:** Tanger (13, 19, 25, 35, 59, 71, *), Azilah (*), Larache (*), Salé (23), Rabat (27, 71), Temara (4, 16, 23, 71), Mohammedia (4, 23, 61, 71), Casablanca (35, 66, 71), El Jadida (8, *), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (42, *), Cap Ghir (70, 71), Agadir (23, 59, 71, *), Tifnit (*), Mïhrleft (*), Tan Tan (*), common (37), without locality (31).
- Ceramium ciliatum* (J. Ellis) Ducluzeau var. *robustum* (J. Agardh) Mazoyer [= *Ceramium robustum* J. Agardh]. **M:** Saaidia (46), Chafarinas Islands (17, 46, 60), Melilla (46), Al Hoceima (46).
- Ceramium circinatum* (Kützing) J. Agardh [= *Hor-moceras circinatum* Kützing]. **M:** Al Hoceima (46). **A:** Rabat (23, 71), Temara (23, 71).
- Ceramium codii* (H. Richards) Mazoyer [= *Ceramothamnion codii* H. Richards]. **M:** Nador (46), Melilla (46).
- Ceramium deslongchampsii* Chauvin ex Duby [= *Ceramium strictum* (Kützing) Harvey, *nom. illeg.*]. Without locality (59).
- Ceramium diaphanum* (Lightfoot) Roth³ [= *Conferva diaphana* Lightfoot, *Ceramium nodosum sensu* Griffiths et Harvey, *C. tenuissimum* (Roth) J. Agardh, *nom. illeg.*]. **M:** Chafarinas Islands (46, 60), Nador (44, 46), Melilla (45, 46). **A:** Rabat (23, 57, 71), Temara (70, 71), Casablanca (23, 71).
- Ceramium echionotum* J. Agardh [= *Ceramium echionotum* J. Agardh var. *corticatum* Mazoyer]. Without locality (11). **M:** Saaidia (*), Chafarinas Islands (17, 46, 60), Melilla (46), Al Hoceima (46), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52, 60), Tetouan (*), Ceuta (46), Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 59, 71, *), Azilah (*), Salé (23), Rabat (71), Temara (4, 16, 23, 70, 71), Mohammedia (4, 59, 61, 70, 71), El Jadida (*), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (59, *), Agadir (23, 71, *), Mïhrleft (*), Tan Tan (*), common (37), without locality (22).
- Ceramium flaccidum* (Kützing) Ardissonne [= *Hor-moceras flaccidum* Kützing, *Ceramium gracillimum sensu* Griffiths et Harvey, *C. gracillimum* var. *byssoides* Mazoyer]. **M:** Saaidia (46, *), Chafarinas Islands (17, 46, 60), Nador (44, 46, 47), Melilla (46), Al Hoceima (46), Jabha (*). **A:** Temara (23), Safi (23), Cap Blanc (54, 63).
- Ceramium gaditanum* (Clemente) Cremades var. *gaditanum* [= *Conferva gaditana* Clemente, *Ceramium flabelligerum* J. Agardh]. Without locality (11). **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 59, 71, *), Kenitra (23, 71), Salé (23), Rabat (23, 27, 28, 57, 71), Temara (4), Mohammedia (4, 61, 62), El Jadida (13, 23, 25, 35, 59, 71, *), Sidi Boulbra (9, 10), Essaouira (*), Cap Ghir (23, 71), Agadir (*), Sidi Ifni (*), common (37).
- Ceramium giacconeii* Cormaci et G. Furnari⁴ [reported as *C. cingulatum* Weber-van Bosse (misapplied name)]. **M:** Nador (44, 46, 47), Al Hoceima (46, *).
- Ceramium penicillatum* Areschoug, *nom. illeg.*⁵ [= *Ceramium fruticosum* (Kützing) J. Agardh, *nom. illeg.*⁵]. **A:** Mohammedia (*), El Jadida (*), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (*), Mïhrleft (*), Sidi Ifni (*).
- Ceramium rubrum auctorum*⁶ var. *rubrum* [= *Ceramium rubrum* var. *tenuis* C. Agardh, *C. nodulosum* Ducluzeau *nom. illeg.*, *C. nodulosum* var. *tenuis* (C. Agardh) Serio]. Without locality (11). **M:** Saaidia (46, *), Chafarinas Islands (17, 46, 60), Nador (44, 47), Melilla (45), Al Hoceima (*), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *), common (46). **A:** Tanger (13, 25, 35, 59, 71, *), Larache (*), Rabat (15, 27, 28, 39, 40, 57), Temara (4, 16, 70, 71), Bouznika (70, 71), Mohammedia (4, 61), Casablanca (35, 66, 71), El Jadida (8, 13, 25, 59, 71, *), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (13, 25, 35, 36, 59, 71), Cap Ghir (42), Agadir (*), Sidi Ifni (*), Tan Tan (*), Cap Blanc (54, 63), common (23, 37).
- Ceramium rubrum* var. *implexo-contortum* Solier. **M:** Melilla (46), Al Hoceima (46).
- Ceramium secundatum* Lyngbye [= *Ceramium barba-*

- tum* Kützing, *nom. illeg.*, *Ceramium rubrum* var. *barbatum* Ardissonne, *C. nodulosum* var. *barbatum* (Ardissonne) Furnari et Serio]. **M:** Melilla (46), Al Hoceima (46). **A:** Rabat (59), Casablanca (59), Essaouira (59), common (59).
- Ceramium siliquosum* (Kützing) Maggs et Hommersand var. *siliquosum*⁷ [= *Homoceras siliquosum* Kützing, reported as *Ceramium diaphanum* (Lightfoot) Roth (misapplied name)]. Without locality (11). **M:** Chafarinas Islands (17, 60), Nador (44, 47), Melilla (45), Tamernoute (52), Cabo-negro (52, 60), Ksar-Sghir (52), common (46). **A:** Tanger (13), Rabat (57), Temara (4, 16), Mohammedia (4, 61), Casablanca (23), El Jadida (8), Sidi Boulbra (9, 10), Essaouira (23, 25, 35, 59), common (37), Without locality (35).
- Ceramium siliquosum* (Kützing) Maggs et Hommersand var. *lophophorum* (Feldmann-Mazoyer) Serio [= *Ceramium diaphanum* var. *lophophorum* Feldmann-Mazoyer]. **M:** Melilla (46), Al Hoceima (46).
- Ceramium tenerrimum* (G. Martens) Okamura var. *tenerrimum* [= *Hormoceras tenerrimum* G. Martens]. **M:** Saaidia (*), Chafarinas Islands (46, 60), Nador (44, 46, 47), Melilla (45, 46), Al Hoceima (46, *). **A:** Temara (23, 70), Bouznika (71), El Jadida (23, 71), Agadir (70, 71).
- Compsothamnion gracillimum* De Toni. **A:** Temara (23, 71).
- Compsothamnion thuyoides* (J. E. Smith) Nägeli [= *Conferva thuyoides* J. E. Smith]. Without locality (11). **M:** Melilla (46), Al Hoceima (46), Ksar-Sghir (52). **A:** Tanger (*), Azilah (*), Larache (*), Rabat (23, 71), Temara (4, 35, 71), Mohammedia (4, 61, 62), Casablanca (23, 71), El Jadida (*), Sidi Boulbra (9, 10), Agadir (23, 71, *), Mhrleft (*), Tan Tan (*), common (23).
- Corallophila cinnabarina* (Grateloup ex Bory de Saint-Vincent) R. E. Norris [= *Boryna cinnabarina* Grateloup ex Bory de Saint-Vincent, *Ceramium cinnabarinum* (Grateloup ex Bory de Saint-Vincent) Hauck]. **M:** Melilla (46).
- Crouania attenuata* (C. Agardh) J. Agardh var. *attenuata* [= *Mesogloia attenuata* C. Agardh]. **M:** Saaidia (46, *), Chafarinas Islands (17, 46, 60), Nador (46), Melilla (46), Al Hoceima (46, *), Jabha (*), Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Tanger (13?, *), Azilah (*), Rabat (23, 71), Temara (23, 71), without locality (22).
- Dohrniella neapolitana* Funk. **M:** Nador (46, 47).
- Griffithsia corallinoides* (Linnaeus) Trevisan [= *Conferva corallinoides* Linnaeus, *Griffithsia corallina* C. Agardh, *nom. illeg.*]. **A:** Agadir (23?).
- Griffithsia opuntioides* J. Agardh. Without locality (11). **M:** Saaidia (*), Chafarinas Islands (60), Nador (46), Melilla (45), Al Hoceima (46, *), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52, *), Ksar-Sghir (52, *). **A:** Rabat (23, 28, 71), Temara (4, 16), Mohammedia (4, 61, 62), El Jadida (8, *), Agadir (23, 71, *), Sidi Ifni (*), Tan Tan (*), Cap Blanc (64), common (37), without locality (22).
- Griffithsia phyllamphora* J. Agardh. **M:** Melilla (45, 46). **A:** Tanger (13, 25, 35, 71), Temara (4), Mohammedia (4, 61), El Jadida (8, *), Essaouira (*), Agadir (23, 71, *), Mhrleft (23, 71).
- Griffithsia schousboei* Montagne var. *schousboei*. **M:** Melilla (46). **A:** Tanger (13, 25, 35, 71), Cap Blanc (64?).
- Gymnothamnion elegans* (Schousboe ex C. Agardh) J. Agardh [= *Callithamnion elegans* Schousboe ex C. Agardh, *Plumaria schousboei* (Bornet) F. Schmitz ex Bornet]. **M:** Saaidia (*), Melilla (46), M'diq (*), Ksar-Sghir (52). **A:** Tanger (13, 25, 35), Azilah (*), Temara (4), Mohammedia (4, 61).
- Gymnothamnion pteroton* (Schousboe ex Bornet) Athanasiadis [= *Antithamnion pteroton* Schousboe ex Bornet]. **A:** Tanger (13, 25, 35, 71).
- Halurus equisetifolius* (Lightfoot) Kützing [= *Conferva equisetifolia* Lightfoot, *Halurus equisetifolius* var. *simplicifolius* (A. P. De Candolle) J. Agardh]. Without locality (11). **M:** M'diq (*), Ksar-Sghir (*). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Rabat (28, 35, 71), Temara (4, 16, 70, 71), Bouznika (70, 71), Mohammedia (4, 61, 66), Casablanca (35, 66, 71), El Jadida (*), Sidi Boulbra (9, 10), Essaouira (*), Sidi Ifni (*), Tan Tan (*), Cap Blanc (68), common (23, 37).
- Halurus flosculosus* (J. Ellis) Maggs et Hommersand var. *flosculosus* [= *Conferva flosculosa* J. Ellis, *Griffithsia flosculosa* (J. Ellis) Batters]. **M:** Al Hoceima (46), Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Tanger (71), Essaouira (71), without locality (23).
- Halurus flosculosus* (J. Ellis) Maggs et Hommersand var. *sphaericus* (Schousboe ex C. Agardh) Gómez Garreta et al. [= *Griffithsia sphaerica* Schousboe ex C. Agardh, *G. flosculosa* var. *sphaerica* (Schousboe ex C. Agardh) Feldmann-Mazoyer, *G. setacea* (Hudson) C. Agardh var. *sphaerica* (Schousboe ex C. Agardh) J. Agardh]. **A:** Tanger (13, 25, 35), Essaouira (23).
- Lejolisia mediterranea* Bornet. **M:** Al Hoceima (46).
- Microcladia glandulosa* (Solander ex Turner) Greville [= *Fucus glandulosus* Solander ex Turner]. **A:** Tanger (13, 25, 35, 59), Rabat (35, 59, 66), Casablanca (35, 59, 66).
- Monosporus pedicellatus* (J. E. Smith) Solier var. *pedicellatus* [= *Conferva pedicellata* J. E. Smith, *Neomonospora pedicellata* (J. E. Smith) Feldmann-Mazoyer et Meslin]. **M:** Nador (47). **A:** Tanger (13, 25, 35, 71), Casablanca (23, 71), Safi (23, 71), without locality (22).
- Monosporus pedicellatus* (J. E. Smith) Solier var. *tenuis* (Feldmann-Mazoyer) Huisman et Kraft [= *Neomonospora pedicellata* var. *tenuis* Feldmann-Mazoyer]. **M:** Nador (44, 46).
- Pleonosporium borreri* (J. E. Smith) Nägeli ex Hauck [= *Conferva borreri* J. E. Smith]. **M:** Saaidia (*),

- Melilla (46), Al Hoceima (46, *), Tamernoute (52), M'diq (*), Cabo Negro (52), Tetouan (*), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Larache (*), Rabat (23, 28, 40, 57, 71), Temara (4, 23, 71), Mohammedia (4, 61), El Jadida (*), Oualidia (*), Essaouira (23, 71, *), Agadir (23, 71), Mahrleft (23, 71).
- Pleonosporium flexuosum* (C. Agardh) Bornet ex De Toni [= *Ceramium flexuosum* C. Agardh]. **A:** Tanger (13, 25, 35, 71, *), Rabat (23, 28, 71), Temara (4), Mohammedia (4, 61), Cap Ghir (71), Mahrleft (23, 71), Sidi Ifni (*), common (23), without locality (22).
- Pterothamnion crispum* (Ducluzeau) Nägeli [= *Ceramium crispum* Ducluzeau, *Antithamnion plumula* var. *crispum* (Ducluzeau) Hauck, *Pterothamnion plumula* var. *bebbii* (Reinsch) Cormaci et G. Furnari]. **M:** Saaidia (46, *), Chafarinas Islands (17, 60), Melilla (46), Al Hoceima (46, *), M'diq (*). **A:** Tanger (13, 25, 35), Rabat (28), common (23).
- Pterothamnion plumula* (J. Ellis) Nägeli subsp. *plumula* [= *Conferva plumula* J. Ellis, *Antithamnion plumula* (J. Ellis) Thuret]. Without locality (11). **M:** Saaidia (46, *), Chafarinas Islands (60), Melilla (45, 46), Al Hoceima (46, *), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (71), Azilah (*), Larache (*), Rabat (23, 28), Temara (4, 16, 71), Mohammedia (4, 61, 62), Casablanca (23, 71), El Jadida (*), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (*), Agadir (*), common (37), without locality (22).
- Ptilothamnion pluma* (Dillwyn) Thuret⁸ [= *Conferva pluma* Dillwyn, *Spermothamnion barbatum* (C. Agardh) Bornet]. **M:** Saaidia (*), Melilla (46), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, *), Azilah (*), Casablanca (23, 71), Essaouira (23, 71), Agadir (71), without locality (22).
- Seirospora giraudyi* (Kützing) De Toni [= *Phlebothamnion giraudyi* Kützing]. **M:** Al Hoceima (46).
- Spermothamnion flabellatum* Bornet f. *flabellatum*. **M:** Saaidia (46, *), Melilla (46), Al Hoceima (46), M'diq (*). **A:** Rabat (23).
- Spermothamnion irregulare* (J. Agardh) Ardissonne [= *Callithamnion irregulare* J. Agardh]. **A:** Tanger (13, 25, 35, 71).
- Spermothamnion johannis* Feldmann-Mazoyer. **M:** Melilla (46).
- Spermothamnion repens* (Dillwyn) Rosenvinge var. *repens* [= *Conferva repens* Dillwyn]. **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Casablanca (23).
- Spermothamnion strictum* (C. Agardh) Ardissonne [= *Callithamnion strictum* C. Agardh]. **A:** Tanger (13, 25, 35).
- Sphondylothamnion multifidum* (Hudson) Nägeli f. *multifidum* [= *Conferva multifida* Hudson]. **M:** Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 71), Temara (4, 16), Mohammedia (4, 61), El Jadida (13, 25, 35, 71, *), Essaouira (*), Agadir (*), common (37).
- Spyridia filamentosa* (Wulfen) Harvey [= *Fucus filamentosus* Wulfen]. **M:** Saaidia (*), Chafarinas Islands (17, 46, 60), Nador (44, 46, 47), Melilla (14, 45, 46), Al Hoceima (46, *), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, *), Casablanca (13, 23, 25, 35), Essaouira (13, 23, 25, 35).
- Spyridia hypnoides* (Bory de Saint-Vincent) Papenfuss [= *Thamnophora hypnoides* Bory de Saint-Vincent, *Spyridia aculeata* (C. Agardh ex Decaisne) Kützing]. **A:** Tanger (13?), Larache (*), Temara (4, 16), Mohammedia (4, 61), Casablanca (23, 70, 71), El Jadida (*), Oualidia (*), Agadir (23, 71), Mahrleft (*), without locality (22).
- Tiffaniella capitata* (Schousboe ex Bornet) Doty et Meñez [= *Spermothamnion capitatum* Schousboe ex Bornet]. **A:** Tanger (13, 25, 35), Rabat (38), El Jadida (38), without locality (22).
- Tiffaniella gorgonea* (Montagne) Doty et Meñez [= *Callithamnion gorgoneum* Montagne, *Spermothamnion gorgoneum* (Montagne) Bornet]. **A:** Temara (4), Mohammedia (4, 61), El Jadida (*).
- Tiffaniella saccorhiza* (Setchell et N. L. Gardner) Doty et Meñez [= *Pleonosporium saccorhiza* Setchell et N. L. Gardner, *Spermothamnion saccorhiza* (Setchell et N. L. Gardner) Feldmann-Mazoyer]. **A:** Temara (23), Agadir (23).
- Vickersia baccata* (J. Agardh) Karsakoff [= *Callithamnion baccatum* J. Agardh]. **M:** Nador (46), Tamernoute (52), Ksar-Sghir (52). **A:** Temara (4), Mohammedia (4, 61), El Jadida (*), Essaouira (*), Agadir (23, 71), Mahrleft (*), Sidi Ifni (*).
- Wrangelia penicillata* (C. Agardh) C. Agardh [= *Griffithsia penicillata* C. Agardh]. **A:** Tanger (13, 25, 35, 71).

Dasyaceae

- Dasya baillouviana* (S. G. Gmelin) Montagne [= *Fucus baillouvianus* S. G. Gmelin, *Dasya elegans* (G. Martens) C. Agardh, *D. pedicellata* (C. Agardh) C. Agardh]. **M:** Saaidia (*), Nador (44, 46, 47), Melilla (45, 46), Jabha (*), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *).
- Dasya corymbifera* J. Agardh. **A:** Tanger (13, 25, 35, 71), Larache (*), Temara (4), Mohammedia (4), El Jadida (*).
- Dasya hutchinsiae* Harvey [= *Dasya arbuscula sensu* Harvey]. **M:** Saaidia (46, *), Melilla (45, 46), Al Hoceima (46), Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (*), Azilah (*), Larache (*), Temara (4), Mohammedia (4, 61), El Jadida (8, *), Mahrleft (23, 71, *).
- Dasya ocellata* (Grateloup) Harvey [= *Ceramium ocellatum* Grateloup]. **M:** Saaidia (*), Melilla (46), Al Hoceima (46, *), M'diq (*), Ksar-Sghir (*). **A:** Tanger (13, 35, 71, *), Azilah (*), Temara (*), El Jadida (*), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (*).

- Dasya rigidula* (Kützing) Ardissonne [= *Eupogonium rigidulum* Kützing]. **M:** Saaidia (*), Chafarinas Islands (46, 60), Nador (46), Melilla (46), Al Hoceima (46, *), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *).
- Eupogodon planus* (C. Agardh) Kützing [= *Dasya plana* C. Agardh, *Dasyopsis plana* (C. Agardh) Falkenberg]. **M:** Melilla (46).
- Eupogodon spinellus* (C. Agardh) Kützing [= *Dasya spinella* C. Agardh, *D. cervicornis* J. Agardh, *Dasyopsis cervicornis* (J. Agardh) F. Schmitz]. **A:** Tanger (13, 25, 35).
- Halydictyon mirabile* Zanardini. **A:** Tanger (13?).
- Heterosiphonia crispella* (C. Agardh) M. J. Wynne [= *Callithamnion crispellum* C. Agardh, *Dasya wurdemannii* Bailey ex Harvey, *Heterosiphonia wurdemannii* (Bailey ex Harvey) Falkenberg]. **M:** Saaidia (*), Nador (44, 47), Melilla (45), Jabha (*), M'diq (*), common (46). **A:** Tanger (13, 25, 35, 71), Temara (23, 71), Casablanca (23, 71), without locality (22).
- Heterosiphonia plumosa* (J. Ellis) Batters [= *Conferva plumosa* J. Ellis, *Dasya coccinea* (Hudson) C. Agardh, *Heterosiphonia coccinea* (Hudson) Falkenberg]. **M:** M'diq (*), Ceuta (35, 46, 60). **A:** Tanger (13, 25, 35, *), Azilah (*), Temara (4), Mohammedia (4, 61, 66), Casablanca (23, 35), El Jadida (23, *), Essaouira (35, 66), common (37).
- Delesseriaceae**
- Acrosorium venulosum* (Zanardini) Kylin⁹ [= *Nitophyllum venulosum* Zanardini, *Acrosorium uncinatum sensu* Kylin, reported as *Nitophyllum uncinatum* (Turner) J. Agardh or *Acrosorium uncinatum* (Turner) Kylin (misapplied names)]. Without locality (11). **M:** Saaidia (*), Chafarinas Islands (17, 60), Nador (44, 47), Melilla (45), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *), common (46). **A:** Tanger (13, 25, 35, 53, 71, *), Azilah (*), Larache (*), Salé (23), Rabat (35, 71), Temara (4, 16, 66, 71), Mohammedia (4, 61, 66, 70, 71), Casablanca (13, 25, 35, 66), El Jadida (8, 35, 66, 71, *), Oualidia (*), Safi (23, 71), Djorf el Yhoudi (71), Sidi Boulbra (9, 10), Essaouira (13, 25, 35, 66, 71, *), Cap Ghir (71), Agadir (71, *), Tifnit (*), Mahrleft (*), Tan Tan (*), common (23, 37).
- Apoglossum ruscifolium* (Turner) J. Agardh [= *Fucus ruscifolius* Turner, *Delesseria ruscifolia* (Turner) J. V. Lamouroux]. Without locality (11). **M:** Saaidia (46, *), Chafarinas Islands (46, 60), Nador (46), Melilla (45, 46), Al Hoceima (46, *), Tamernoute (52), M'diq (*), Tetouan (*). **A:** Tanger (13, 25, 35, 53, 71), Azilah (*), Rabat (23, 28, 35, 71), Temara (4, 16, 71), Mohammedia (4, 61, 62), Casablanca (23, 71), El Jadida (8, *), Oualidia (70, 71), Essaouira (23, 71, *), Tifnit (*), Sidi Ifni (*), Tan Tan (*), common (37).
- Cottoniella filamentosa* (M. Howe) Børgesen var. *algeriensis* (Schotter) Cormaci et G. Furnari¹⁰ [= *Cottoniella arcuata* Børgesen var. *algeriensis* Schotter]. **M:** Saaidia (46, *), Melilla (45, 46), Al Hoceima (46, *).
- Cottoniella filamentosa* (M. Howe) Børgesen var. *fusiformis* (Børgesen) Cormaci et G. Furnari¹¹ [= *Cottoniella fusiformis* Børgesen]. **A:** Temara (4), Mohammedia (4, 61).
- Cryptopleura ramosa* (Hudson) Kylin ex L. Newton [= *Ulva ramosa* Hudson, *Cryptopleura lacerata* (S. G. Gmelin) Kützing, *Nitophyllum laceratum* (S. G. Gmelin) Greville]. Without locality (11). **M:** Saaidia (*), Melilla (46), Al Hoceima (46, *), M'diq (*). **A:** Tanger (13, 25, 35, 71, *), Larache (*), Rabat (23, 28), Temara (4, 16), Bouznika (70), Mohammedia (4, 61, 70, 71), Casablanca (23, 71), El Jadida (8, *), Oualidia (*), Safi (23), Sidi Boulbra (9, 10), Essaouira (13, 23, 25, 35, 71, *), Agadir (*), Tifnit (*), Sidi Ifni (*), Cap Blanc (63), common (37).
- Drachiella minuta* (Kylin) Maggs et Hommersand¹² [= *Myriogramme minuta* Kylin, *M. gaiolae* (Funk) Funk¹³]. **M:** Al Hoceima (46). **A:** Larache (*), Rabat (23, 28), Temara (*), Casablanca (23), El Jadida (*), Sidi Boulbra (9, 10), Essaouira (23, *), Cap Ghir (23), Mahrleft (*), common (23), without locality (22).
- Erythroglossum laciniatum* (Lightfoot) Maggs et Hommersand¹⁴ [= *Ulva laciniata* Lightfoot, reported as *Erythroglossum sandrianum* (Zanardini) Kylin]. **A:** Tanger (13, 25, 35), Temara (4), Mohammedia (4, 61).
- Erythroglossum lusitanicum* Ardré. **A:** Azilah (*), Larache (*), Temara (*), El Jadida (*), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (*), Mahrleft (*), Tan Tan (*).
- Erythroglossum schousboei* (J. Agardh) J. Agardh¹⁵ [= *Delesseria schousboei* J. Agardh]. **A:** Tanger (13, 23, 25, 35, 71), Essaouira (23, 71), Cap Blanc (54, 63).
- Erythroglossum subcostatum* (J. Agardh) Ardré¹⁶ [= *Nitophyllum subcostatum* J. Agardh, *Delesseria subcostata* (J. Agardh) J. Agardh]. **A:** Tanger (13, 25, 35, 66), Casablanca (35, 66).
- Haraldia lenormandii* (Derbès et Solier) J. Feldmann [= *Aglaophyllum lenormandii* Derbès et Solier, *Nitophyllum ciliatum* Schousboe ex Bornet]. **M:** Saaidia (*), Melilla (46), M'diq (*). **A:** Tanger (13, 25, 35).
- Hypoglossum hypoglossoides* (Stackhouse) Collins et Hervey [= *Fucus hypoglossoides* Stackhouse, *Delesseria hypoglossum* (Woodward) J. V. Lamouroux, *Hypoglossum woodwardii* Kützing]. Without locality (11). **M:** Chafarinas Islands (60), Melilla (45), Tamernoute (52), M'diq (*), Cabo Negro (52), Tetouan (*), Ksar-Sghir (52), common (46). **A:** Tanger (13, 25, 35, 53, 71), Azilah (*), Rabat (35, 66, 71), Temara (4, 16, 23, 71), Mohammedia (4, 61, 66), Casablanca (35, 66, 71), El Jadida (8, 23, 71, *), Oualidia (*), Sidi Boulbra (9, 10), Es-

- saouira (13, 25, 35, 71, *), Agadir (23, 71), Tifnit (*), Sidi Ifni (*), common (37).
- Myriogramme costata* P. Dangeard. Without locality (11). **A:** Tanger (*), Larache (*), Rabat (37), Temara (4, 16), Mohammedia (4, 61), Casablanca (23, 71), El Jadida (8, *), Oualidia (*), Cap Ghir (23, 37, 71), common (37).
- Nitophyllum albidum* Ardissonne. **M:** Melilla (46), M'diq (*).
- Nitophyllum punctatum* (Stackhouse) Greville [= *Fucus punctatus* Stackhouse]. Without locality (11). **M:** Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 53, 71), Azilah (*), Rabat (35), Temara (4, 16, 23, 71), Mohammedia (4, 61), Casablanca (23, 71), El Jadida (8, *), Oualidia (*), Essaouira (13, 25, 35, 66, 71, *), Cap Ghir (23, 71), Tifnit (*), common (37).
- Platysiphonia delicata* (Clemente) Cremades [= *Conferva delicata* Clemente, *Platysiphonia miniata* (C. Agardh) Børgesen]. **A:** Bouznika (23), without locality (22).
- Taenioma nanum* (Kützinger) Papenfuss [= *Polysiphonia nana* Kützinger, *Taenioma macrourum* Thuret]. **M:** Saaidia (*), Nador (46, 47), Melilla (46), Al Hoceima (*), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (*), Larache (*), Temara (4), Mohammedia (4, 61), El Jadida (*).
- Taenioma perpusillum* (J. Agardh) J. Agardh [= *Polysiphonia perpusilla* J. Agardh]. **M:** M'diq (*), Ksar-Sghir (*). **A:** Tanger (13, 25, 35, 71).
- Rhodomelaceae**
- Alsidium corallinum* C. Agardh. **M:** Saaidia (46, *), Nador (44, 46, 47), Melilla (45, 46), M'diq (*).
- Aphanocladia stichidiosa* (Funk) Ardré [= *Polysiphonia stichidiosa* Funk]. **M:** Saaidia (*), Chafarinas Islands (60), Melilla (45), Jabha (*), M'diq (*), common (46).
- Boergesenella deludens* (Falkenberg) Kylin [= *Polysiphonia deludens* Falkenberg]. **M:** Melilla (46).
- Boergesenella fruticulosa* (Wulfen) Kylin [= *Fucus fruticulosus* Wulfen, *Polysiphonia fruticulosa* (Wulfen) Sprengel, *P. fruticulosa* var. *genuina*, *P. fruticulosa* var. *wulfenii* (Roth) Rodriguez y Fernéias]. Without locality (11). **M:** Saaidia (*), Chafarinas Islands (17, 60), Nador (44, 47), Melilla (45), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Tetouan (*), Ksar-Sghir (52, *), common (46). **A:** Tanger (13, 25, 35, 71), Larache (*), Rabat (23, 28, 35, 71), Temara (4, 16, 23, 71), Mohammedia (4, 61), Casablanca (13, 23, 25, 35, 66, 71), El Jadida (8, 13, 23, 25, 35, 66, 71, *), Safi (66), Essaouira (13, 23, 25, 35, 66, 71, *), common (37).
- Boergesenella thuyoides* (Harvey) Kylin [= *Polysiphonia thuyoides* Harvey, *Pterosiphonia thuyoides* (Harvey) F. Schmitz]. Without locality (11). **M:** Saaidia (*), Melilla (46), Al Hoceima (46, *), Jabha (*), Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Rabat (23, 28, 71), Temara (4, 16), Mohammedia (4, 61), El Jadida (8, *), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (42, *), Agadir (*), Mahrleft (*), common (37), without locality (22).
- Bostrychia scorpioides* (Hudson) Montagne ex Kützinger [= *Fucus scorpioides* Hudson]. **A:** Tanger (13, 25, 35, 71), Rabat (40, 57, 71), Temara (4), Mohammedia (4, 61, 62), El Jadida (*), Oualidia (23, 35, 66, 71), common (37).
- Brongniartella byssoides* (Goodenough et Woodward) F. Schmitz [= *Fucus byssoides* Goodenough et Woodward, *Polysiphonia solieri* J. Agardh]. **A:** Tanger (13?, 25, 35, 71).
- Chondria arcuata* Hollenberg¹⁷. **A:** Agadir (23, 71), Mahrleft (23, 71), without locality (22).
- Chondria boryana* (J. Agardh) De Toni¹⁸ [= *Chondriopsis boryana* J. Agardh]. **A:** Essaouira (35, 66).
- Chondria capillaris* (Hudson) M. J. Wynne [= *Ulva capillaris* Hudson, *Chondria tenuissima* C. Agardh, *nom. illeg.*]. **M:** Saaidia (46, *), Chafarinas Islands (17, 46, 60), Nador (44, 46, 47), Melilla (14, 45, 46), Al Hoceima (46, *), Jabha (*), M'diq (*). **A:** Tanger (13?), El Jadida (35, 66), Cap Blanc (63).
- Chondria coerulescens* (J. Agardh) Falkenberg [= *Chondriopsis coerulescens* J. Agardh]. Without locality (11). **M:** Saaidia (46, *), Nador (46), Melilla (46), Al Hoceima (46, *), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52). **A:** Larache (*), Rabat (23, 28, 35, 57, 66, 71), Temara (4, 16), Mohammedia (4, 61), Casablanca (35, 66, 71), El Jadida (8, *), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (23, 35, 66, 71, *), Agadir (*), Mahrleft (*), Tan Tan (*), common (23, 37).
- Chondria dasyphylla* (Woodward) C. Agardh [= *Fucus dasyphyllus* Woodward]. Without locality (11). **M:** Saaidia (*), Nador (44, 46, 47), Melilla (45, 46), Al Hoceima (46, *), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Larache (*), Rabat (35, 71), Temara (4, 16, 66, 70, 71), Mohammedia (4, 61), Casablanca (35, 66, 71), El Jadida (8, 23, 71, *), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (13, 23, 25, 35, 66, 71, *), Tifnit (*), Mahrleft (71, *), Sidi Ifni (*), common (23, 37).
- Chondria mairei* Feldmann-Mazoyer. **M:** Saaidia (*), Nador (44, 46, 47), Melilla (45, 46), Al Hoceima (46, *), M'diq (*).
- Chondria scintillans* G. Feldmann. **A:** Essaouira (29).
- Chondrophycus papillosus* (C. Agardh) Garbary et J. Harper [= *Chondria papillosa* C. Agardh, *Laurencia papillosa* (C. Agardh) Greville]. **M:** Saaidia (46, *), Chafarinas Islands (46), Nador (46), Melilla (46), Al Hoceima (46, *), M'diq (*). **A:** Tanger (50).
- Chondrophycus perforatus* (Bory de Saint-Vincent) K. W. Nam [= *Fucus perforatus* Bory de Saint-Vincent, *Laurencia perforata* (Bory de Saint-Vincent) Montagne]. **A:** Imessouane (35).

- Chondrophycus thuyoides* (Kützing) G. Furnari¹⁹ [= *Laurencia thuyoides* Kützing, *Chondria obtusa* var. *paniculata* C. Agardh, *Chondrophycus paniculatus* (C. Agardh) G. Furnari, *Laurencia paniculata* (C. Agardh) J. Agardh, *nom. illeg.*]. **M:** Saaidia (46, *), Nador (46), Melilla (46).
- Ctenosiphonia hypnoides* (Welwitsch ex J. Agardh) Falkenberg [= *Polysiphonia hypnoides* Welwitsch ex J. Agardh]. **A:** Tanger (13, 25, 35), Larache (*), Rabat (23), Temara (4, 16), Mohammedia (4, 61), El Jadida (*), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (23, 24, *), M'hirleft (*), common (23), without locality (22).
- Dipterosiphonia rigens* (Schousboe ex C. Agardh) Falkenberg [= *Hutchinsia rigens* Schousboe ex C. Agardh, *Polysiphonia rigens* (Schousboe ex C. Agardh) Zanardini]. **A:** Tanger (13, 25, 35, 71), Larache (*), Temara (4), Mohammedia (4, 61), El Jadida (8, *).
- Halopithys incurva* (Hudson) Batters [= *Fucus incurvus* Hudson, *Halopithys pinastroides* Kützing, *nom. illeg.*]. Without locality (11). **M:** Saaidia (*), Melilla (14, 45), Tamernoute (52), M'diq (*), Cabo Negro (52), Tetouan (60, *), Ksar-Sghir (52, *), common (46). **A:** Tanger (13, 25, 35, 71, *), Larache (*), Rabat (23, 35, 71), Temara (4, 16, 71), Mohammedia (4, 61, 62, 70, 71), Casablanca (23, 35, 66, 71), El Jadida (8, 13, 23, 25, 35, 71, *), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (23, 35, 36, 66, 71, *), Cap Ghir (42), Agadir (*), common (37), without locality (51).
- Herposiphonia secunda* (C. Agardh) Ambronn [= *Hutchinsia secunda* C. Agardh, *Polysiphonia secunda* (C. Agardh) Zanardini]. **M:** Saaidia (*), Chafarinas Islands (17, 60), Nador (44, 47), Melilla (45), Jabha (*), Tamernoute (52), M'diq (*), Cabo Negro (52), Tetouan (*), Ksar-Sghir (52), common (46). **A:** Tanger (13, 25, 35), Larache (*), Temara (4), Mohammedia (4, 61), El Jadida (8, 23, *), Oualidia (*), Essaouira (23, 24, *), Tifnit (*), Sidi Ifni (*), Tan Tan (*).
- Herposiphonia tenella* (C. Agardh) Ambronn [= *Hutchinsia tenella* C. Agardh, *Polysiphonia tenella* (C. Agardh) Moris et De Notaris, *Herposiphonia secunda* f. *tenella* (C. Agardh) M. J. Wynne]. Without locality (13?). **M:** Saaidia (*), Chafarinas Islands (17, 46), Nador (44, 46, 47), Melilla (46), Al Hoceima (46, *), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52). **A:** Tanger (*), Azilah (*), Larache (*), Temara (4), Mohammedia (4, 23, 61), El Jadida (8, *), Oualidia (*), Sidi Boulbra (9, 10), Agadir (*), Sidi Ifni (*).
- Janczewskia verruciformis* Solms-Laubach. **A:** El Jadida (23), Essaouira (23).
- Laurencia microcladia* Kützing. **M:** Saaidia (46), Melilla (46), M'diq (*).
- Laurencia obtusa* (Hudson) J. V. Lamouroux [= *Fucus obtusus* Hudson]. Without locality (11). **M:** Saaidia (46, *), Nador (44, 46, 47), Melilla (14, 45, 46), Al Hoceima (46, *), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 71, *), Rabat (28), Temara (4), Bouznika (66, 71), Mohammedia (4, 66), Casablanca (13, 25, 35, 66, 71), El Jadida (8, 13, 23, 25, 35, 66, 71, *), Oualidia (*), Essaouira (13, 23, 25, 35, 71, *), common (37), without locality (51).
- Laurencia pyramidalis* Bory de Saint-Vincent ex Kützing [= *Laurencia obtusa* var. *pyramidata* Bory de Saint-Vincent ex J. Agardh]. **A:** Rabat (35, 66), Temara (16), Mohammedia (61), Casablanca (35, 66), El Jadida (23), Essaouira (23, 36).
- Leptosiphonia schousboei* (Thuret) Kylin [= *Polysiphonia schousboei* Thuret, *Ophidocladus schousboei* (Thuret) Falkenberg]. Without locality (11). **M:** Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 71, *), Cap Spartel (13, 25), Larache (*), Rabat (23, 28, 71), Temara (4, 16, 71), Mohammedia (4, 61), El Jadida (8, *), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (*), common (37), without locality (22).
- Lophosiphonia cristata* Falkenberg. **M:** Saaidia (46, *), Melilla (46), M'diq (*).
- Lophosiphonia obscura* (C. Agardh) Falkenberg *nom. illeg.* [= *Hutchinsia obscura* C. Agardh, *Polysiphonia obscura* (C. Agardh) J. Agardh]. **A:** Tanger (13?).
- Lophosiphonia reptabunda* (Suhr) Kylin [= *Hutchinsia reptabunda* Suhr]. **M:** Saaidia (46, *), Nador (46), Melilla (46), Al Hoceima (46, *), Jabha (*), M'diq (*).
- Ophidocladus simpliciusculus* (P. L. Crouan et H. M. Crouan) Falkenberg [= *Polysiphonia simpliciuscula* P. L. Crouan et H. M. Crouan]. Without locality (11). **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 71), Larache (*), Rabat (39), Temara (4, 16, 23, 70, 71), Mohammedia (4, 35, 61), Casablanca (23, 71), El Jadida (8, *), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (*), Agadir (23, 71, *), Sidi Ifni (*), Cap Blanc (54), common (37).
- Osmundaria volubilis* (Linnaeus) R. E. Norris [= *Fucus volubilis* Linnaeus, *Vidalia volubilis* (Linnaeus) J. Agardh]. **M:** Nador (46), Melilla (45). **A:** Tanger (13, 25, 35, 71), Cap Spartel (13, 25).
- Osmundea hybrida* (A. P. De Candolle) K. W. Nam²⁰ [= *Fucus hybridus* A. P. De Candolle, *L. hybrida* (A. P. De Candolle) T. Lestiboudois, reported as *Laurencia caespitosa* J. V. Lamouroux *nom. nud.*]. **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Temara (4, 16), Mohammedia (4, 61, 66), Casablanca (13, 23, 25, 35, 66, 71), El Jadida (8, 23, 71, *), Sidi Boulbra (9, 10), Essaouira (23, 71, *), Tifnit (*), Tan Tan (*), common (23, 37).
- Osmundea pinnatifida* (Hudson) Stackhouse²¹ [= *Fucus pinnatifidus* Hudson, *Laurencia pinnatifida* (Hudson) J. V. Lamouroux]. Without locality (11). **M:** Chafarinas Islands (17, 60), Nador (44, 47), Melilla (14, 45), Tamernoute (52), Cabo Negro

- (52), Ksar-Sghir (52), common (46). **A:** Tanger (13, 25, 35, 53, 71, *), Cap spartel (13, 25), Azilah (*), Larache (53, *), Salé (66), Rabat (15, 23, 27, 28, 39, 57, 66, 71), Temara (4, 16, 34, 66, 70, 71), Mohammedia (4, 61, 62, 70, 71), Casablanca (66, 71), El Jadida (8, 13, 25, 31, 35, 66, 71, *), Oualidia (70, 71, *), Safi (71), Djorf el Yhoudi (71), Sidi Boulbra (9, 10), Essaouira (31, 35, 36, 42, 66, 71, *), Cap Ghir (42), Agadir (23, 71, *), Mhrleft (*), Tan Tan (*), Cap Blanc (54, 68), common (23, 37), without locality (51).
- Polysiphonia arachnoidea* (C. Agardh) Zanardini [= *Hutchinsia arachnoidea* C. Agardh]. **A:** Mohammedia (35).
- Polysiphonia atlantica* Kapraun et J. N. Norris [= *Polysiphonia macrocarpa* Harvey, *nom. illeg.*]. Without locality (11). **M:** Tamernoute (52), M'diq (*), Cabo Negro (52, 60), Ksar-Sghir (52). **A:** Tanger (13, 25, 35, 71, *), Cap Spartel (13, 25), Larache (*), Rabat (15, 23, 28, 71), Temara (4, 16), Mohammedia (4, 61, 62), El Jadida (8, *), Oualidia (*), Safi (23, 71), Sidi Boulbra (9, 10), Essaouira (42, *), Agadir (*), Sidi Ifni (*), Tan Tan (*), Cap Blanc (54), common (37).
- Polysiphonia breviararticulata* (C. Agardh) Zanardini [= *Hutchinsia breviararticulata* C. Agardh]. **M:** Saaidia (46), Nador (46), Melilla (46).
- Polysiphonia brodiei* (Dillwyn) Sprengel [= *Conferva brodiei* Dillwyn]. **M:** Melilla (46).
- Polysiphonia denudata* (Dillwyn) Greville ex Harvey [= *Conferva denudata* Dillwyn]. **M:** common (46). **A:** El Jadida (*), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (*), Tan Tan (*), Cap Blanc (54).
- Polysiphonia dichotoma* Kützing. **M:** Saaidia (46, *), Nador (46), Melilla (46), Al Hoceima (46, *), M'diq (*).
- Polysiphonia elongata* (Hudson) Sprengel [= *Conferva elongata* Hudson]. **M:** Saaidia (*), Nador (44, 47), Melilla (45, 46), M'diq (*). **A:** Tanger (13, 25, 35, 71), Rabat (15).
- Polysiphonia erythraea* Schousboe ex J. Agardh. **A:** Tanger (13, 25, 35, 71).
- Polysiphonia fibrillosa* (Dillwyn) Sprengel [= *Conferva fibrillosa* Dillwyn]. **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52).
- Polysiphonia flexella* (C. Agardh) J. Agardh [= *Hutchinsia flexella* C. Agardh]. **A:** Tanger (13, 25, 35).
- Polysiphonia fucoides* (Hudson) Greville [= *Conferva fucoides* Hudson, *Polysiphonia nigrescens* (Hudson) Greville, *P. violacea* (Roth) Sprengel]. **M:** Nador (44, 46), Melilla (45, 46), Al Hoceima (46, *), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 71, *), Azilah (*), Larache (*), Rabat (23), Temara (4), Mohammedia (4, 61).
- Polysiphonia furcellata* (C. Agardh) Harvey [= *Hutchinsia furcellata* C. Agardh]. **M:** Chafarinas Islands (46, 60), M'diq (*), Tetouan (*). **A:** Tanger (13?), Larache (*), Temara (4), Mohammedia (4, 35).
- Polysiphonia nigra* (Hudson) Batters [= *Conferva nigra* Hudson, *Polysiphonia atrorubescens* (Dillwyn) Greville]. **A:** Tanger (1, 13).
- Polysiphonia opaca* (C. Agardh) Moris et De Notaris [= *Hutchinsia opaca* C. Agardh]. **M:** Melilla (45), common (46). **A:** Rabat (35, 66).
- Polysiphonia paradoxa* Thuret. **A:** Rabat (15).
- Polysiphonia polyspora* (C. Agardh) Montagne [= *Hutchinsia polyspora* C. Agardh]. **M:** Nador (46), Melilla (45).
- Polysiphonia scopulorum* Harvey [= *Lophosiphonia scopulorum* (Harvey) Womersley]. **A:** El Jadida (*), Oualidia (*), Sidi Boulbra (9, 10), Essaouira (*).
- Polysiphonia sertularioides* (Grateloup) J. Agardh [= *Ceramium sertularioides* Grateloup]. **M:** Melilla (46), Al Hoceima (46). **A:** Rabat (23), Bouznika (70).
- Polysiphonia stricta* (Dillwyn) Greville [= *Conferva stricta* Dillwyn, *Polysiphonia urceolata* (Lightfoot ex Dillwyn) Greville]. **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52).
- Polysiphonia subulata* (Ducluzeau) P. L. et H. M. Crouan [= *Ceramium subulatum* Ducluzeau]. **M:** Nador (47).
- Polysiphonia tripinnata* J. Agardh. **M:** Saaidia (46, *), Melilla (46), M'diq (*).
- Pterosiphonia complanata* (Clemente) Falkenberg [= *Fucus complanatus* Clemente, *Polysiphonia complanata* (Clemente) J. Agardh, *nom. illeg.*]. Without locality (11). **M:** Saaidia (*), Melilla (45, 46), Al Hoceima (46, *), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 71, *), Larache (*), Rabat (23, 28, 35, 71), Temara (4, 16, 34, 71), Bouznika (70, 71), Mohammedia (4, 61, 66, 70, 71), Casablanca (23, 35, 66, 71), El Jadida (8, 13, 23, 25, 35, 66, 71, *), Oualidia (70, 71, *), Safi (71), Djorf el Yhoudi (71), Sidi Boulbra (9, 10), Essaouira (23, 25, 35, 71, *), Cap Ghir (71), Agadir (*), Tifnit (*), Sidi Ifni (*), Moroccan Sahara (65), Cap Blanc (68), common (23, 37).
- Pterosiphonia parasitica* (Hudson) Falkenberg [= *Conferva parasitica* Hudson, *Polysiphonia parasitica* (Hudson) Greville]. Without locality (11). **M:** Saaidia (*), Melilla (46), Al Hoceima (46, *), Tamernoute (52), M'diq (*), Ksar-Sghir (52). **A:** Azilah (*), Rabat (23, 71), Temara (4, 16), Mohammedia (4, 61), El Jadida (8, *), Essaouira (13, 25, 35, 71, *), Agadir (23, 71, *), Tifnit (*), common (37), without locality (22).
- Pterosiphonia pennata* (C. Agardh) Sauvageau [= *Hutchinsia pennata* C. Agardh, *Polysiphonia pennata* (C. Agardh) Montagne]. Without locality (11). **M:** Melilla (45), Tamernoute (52), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *), common (46). **A:** Tanger (13, *), Rabat (23, 71), Temara (4, 16, 35, 71), Mohammedia (4, 61), Casablanca (23, 71), El Jadida (8, 13, 23, 25, 35, 71, *), Oualidia (*), Sidi

Boulbra (9, 10), Agadir (71, *), Sidi Ifni (*), Cap Blanc (54), common (37).

Rytiphlaea tinctoria (Clemente) C. Agardh [= *Fucus tinctorius* Clemente]. Without locality (11). **M:** Nador (46), M'diq (*), Cabo Negro (52), Ksar-Sghir (52, *). **A:** Tanger (13, 25, 35, 71, *), Cap Spartel (25), Larache (*), Rabat (35), Temara (4, 16, 23, 71), Bouznika (23, 35, 71), Mohammedia (4, 61), Casablanca (35, 71), El Jadida (71, *), Safi (71), Essaouira (71), Cap Ghir (42), Agadir (71, *), Sidi Ifni (*), common (37).

Streblocladia collabens (C. Agardh) Falkenberg [= *Hutchinsia collabens* C. Agardh, *Polysiphonia collabens* (C. Agardh) J. Agardh]. Without locality (35). **A:** Tanger (13), Rabat (28), El Jadida (*), Sidi Boulbra (9, 10), Essaouira (13, 25, 35, *), Tifnit (*), Tan Tan (*), common (38).

Excludenda

Chondrophycus undulatus (Yamada) Garbary *et al.* Harper [= *Laurencia undulata* Yamada]. **M:** Nador (46), Melilla (46), Al Hoceima (46). According to Cormaci *et al.* (1994), Mediterranean reports of this species should be referred to either *Osmundea pelagiensis* G. Furnari or *O. verlaquei* G. Furnari.

Haraldiophyllum bonnemaisonii (Kylin) A. D. Zinova [= *Myriogramme bonnemaisonii* Kylin, *Nitophyllum bonnemaisonii sensu* Greville]. **A:** Tanger (13, 35), Cap Spartel (25). The presence of this species as far south as Morocco is doubtful. It is also placed among taxa excludenda in the Mediterranean by Gómez Garreta *et al.* (2001).

Hypoglossum tenuifolium (Harvey) J. Agardh [= *Dellesseria tenuifolia* Harvey]. **A:** Agadir (23?), without locality (22). Dangeard (1948, 1949) is the only author who cites this north-western Atlantic species from the eastern Atlantic. In addition, he emphasizes (Dangeard 1949) that the material at hand hardly supports this identification.

Odonthalia dentata (Linnaeus) Lyngbye [= *Fucus dentatus* Linnaeus]. **A:** Tanger (13?). Bornet (1892) emphasizes that the only specimen of this northern Atlantic species, in Schousboe's herbarium, is of doubtful origin.

Osmundea osmunda (S. G. Gmelin) K. W. Nam *et al.* Maggs [= *Fucus osmundus* S. G. Gmelin, *Laurencia pinnatifida* var. *osmunda* (S. G. Gmelin) Greville]. **A:** Rabat (15?). The occurrence of this northern species as far south as Morocco is unlikely. It is also placed among taxa excludenda in the Mediterranean by Gómez Garreta *et al.* (2001).

Inquirenda

Antithamnion densum (Suhr) M. Howe [= *Callithamnion densum* Suhr, *Antithamnion defectum* Kylin]. Without locality (11). This taxon is considered to be introduced in Europe, possibly from the south-

ern Atlantic (Athanasiadis 1990). Due to possible confusion with *Pterothamnion plumula* (J. Ellis) Nägeli, its presence as far south as Morocco requires confirmation.

Laurencia obtusa Lamouroux f. *pulvinata* G. Hamel *ex* P. Dangeard, *nom. nudum*. **A:** Casablanca (23), Essaouira (23). Dangeard (1949: 182) refers his specimens to an undescribed dried specimen from 'Antilles' deposited in the Hamel herbarium, probably different from the *Laurencia obtusa* Lamouroux var. *pulvinata* J. Feldmann subsequently described by Feldmann (1931) from Algeria.

Nitophyllum dentatum Schousboe *ex* Bornet. **A:** Tanger (13, 25, 35). According to Dangeard (1949: 186–187), this poorly known entity appears to be close to *Myriogramme costata* P. Dangeard; its status requires further investigation.

Polysiphonia brodiei (Dillwyn) Sprengel var. *tingitana* Bornet. **A:** Tanger (13, 25, 35). The status of this entity, with 11 pericentral cells (Bornet 1892: 308), in contrast with 6–8 pericentral cells in *P. brodiei* (Dillwyn) Sprengel var. *brodiei*, requires further investigation.

Polysiphonia codii **M:** Tamernoute (52), Cabo Negro (52), Ksar-Sghir (52). As far as we know, this entity has never been described. It may be a misprint.

Polysiphonia guernisacii (P. L. Crouan *et* H. M. Crouan) J. Agardh [= *Grammitella guernisacii* P. L. Crouan *et* H. M. Crouan]. **A:** Tanger (13?). The possible occurrence of this species, only known from Brittany, in Morocco is only based on an unlabelled specimen of doubtful origin.

Polysiphonia simulans Harvey. **A:** Tanger (13, 25, 35, 71). This species is only known from British Isles and north-western France. The citation of Bornet (1892) from Cádiz (Spain) is placed among taxa inquirenda by Conde *et al.* (1996). As far as the Bornet's citation from Morocco is concerned, it is based on an unlabelled specimen of doubtful origin.

Notes

¹ Some authors, following Dixon and Price (1981), consider *Aglaothamnion scopulorum* (Børgesen) Feldmann-Mazoyer to be a heterotypic synonym of *Aglaothamnion hookeri* (Dillwyn) Maggs *et* Hommersand.

² According to Gómez Garreta *et al.* (2001), Mediterranean citations of *A. tenuissimum sensu* Feldmann-Mazoyer are to be referred to *A. tenuissimum* var. *mazoyerae* G. Furnari, L'Hardy-Halos *et* Rueness.

³ Literature records of *C. diaphanum* (Lightfoot) Roth are based upon taxonomic confusion (see Maggs and Hommersand 1993) and here are referred to as *C. siliquosum* (Kützing) Maggs *et* Hommersand (see also Note 5). The only citations here referred to *C. diaphanum* are those under *C. nodosum sensu* Griffiths *et* Harvey and *C. tenuissimum* (Roth) J. Agardh, *nom. illeg.* (see Maggs and Hommersand 1993).

⁴ *Ceramium giacconeii* Cormaci *et* G. Furnari was described to accommodate erroneous Mediterranean reports of *C.*

cingulatum Weber-van Bosse, an Indo-Pacific species (Cormaci and Furnari 1991). We therefore consider Mediterranean reports of the latter as misidentifications.

- 5 According to G. Furnari and M. Cormaci (pers. com.), *Ceramium penicillatum* Areschoug is a *nom. illeg.* Since it is a later homonym of three taxa previously described: *C. penicillatum* De Candolle, *C. penicillatum* Ducluzeau and *C. penicillatum* Bory. As well, *C. fruticosum* (Kütz- ing) J. Agardh is a *nom. illeg.* since it is a later homonym of two taxa previously described: *C. fruticosum* Roth and *C. fruticosum* (Wulfen) Stackhouse. As a result, the correct name for this entity must be clarified.
- 6 Silva *et al.* (1996) point out that *C. nodulosum* Ducluzeau, the name proposed by Maggs and Hommersand (1993) to accommodate the species commonly reported as *C. rubrum* (Hudson) C. Agardh, cannot be used.
- 7 Literature records of *C. diaphanum* (without indication of variety) and var. *diaphanum* are difficult to assess owing to taxonomic confusion. We consider that they were probably based upon Harvey's specimens and illustration (*C. diaphanum sensu* Harvey) and on Feldmann- Mazoyer's (1941) concept of *C. diaphanum* var. *diaphanum*. Here, they are therefore referred to as *C. siliquosum* (Kütz- ing) Maggs *et* Hommersand (see Maggs and Hommersand 1993).
- 8 According to Maggs and Hommersand (1993), *Spermothamnion barbatum* (C. Agardh) Nägeli is a heterotypic synonym of *Ptilothamnion pluma* (Dillwyn) Thuret.
- 9 As shown by Wynne (1989), the epithet *uncinatum* Turner actually refers to a form of *Cryptopleura ramosa* (Hudson) Kylin *ex* L. Newton, but has been misapplied by Mediterranean authors to what is currently known as *Acrosorium venulosum* (Zanardini) Kylin. For this reason, Moroccan citations of the epithet *uncinatum* were referred here, with doubt, to *A. venulosum*.
- 10 We follow Gómez Garreta *et al.* (2001) in referring reports by González-García (1994) and González-García and Conde-Poyales (1994) as *Cottoniella filamentosa* var. *filamentosa*, to *Cottoniella filamentosa* var. *algeriensis* (Schotter) Cormaci *et* G. Furnari.
- 11 We consider that reports of *Cottoniella filamentosa* (M. Howe) Børgesen from the Atlantic coast of Morocco, without indication of the variety (Benhissoune 1995, Ouahi 1987), probably refer to the variety *fusiformis* (Børgesen) Cormaci *et* G. Furnari (see Gil-Rodríguez *et al.* 1985).
- 12 According to Wynne (1994), the transfer of *Myriogramme minuta* Kylin to the genus *Drachiella* by Maggs and Hommersand (1993: 236) appears rather tenuous.
- 13 We follow Gómez Garreta *et al.* (2001) in considering *Myriogramme gaiolae* as a later heterotypic synonym of *M. minuta* Kylin.
- 14 All citations are under the name *Erythrogllossum sandrianum* (Zanardini) Kylin [= *Delesseria sandriana* Zanardini, *Nitophyllum sandrianum* (Zanardini) Zanardini]. According to Maggs and Hommersand (1993), Atlantic records of this species actually refer to *E. laciniatum*. Further studies of Mediterranean populations of *E. sandrianum* (Zanardini) Kylin are required to assess their specific status.
- 15 The taxonomic status of *Erythrogllossum schousboei* (J. Agardh) J. Agardh, which is probably closely related to

E. sandrianum (Meneghini *ex* Kütz- ing) Kylin, requires further investigation.

- 16 *Erythrogllossum subcostatum* (J. Agardh) Ardré is closely related to *Erythrogllossum sandrianum* (Zanardini) Kylin, and may be conspecific (Ardré 1970). Should this be the case, the former specific name would have priority over the latter.
- 17 Citations of *Chondria arcuata* Hollenberg (Dangeard 1948, 1949), later reported by Werner (1962), are the only ones from the Atlantic of this Pacific species. Its occurrence therefore requires confirmation.
- 18 The occurrence of *Chondria boryana* (J. Agardh) De Toni, a Mediterranean species, at Essaouira, a locality characterized by usually cold waters (upwelling), requires further study.
- 19 The use of the name *Chondrophyucus thuyoides* (Kütz- ing) G. Furnari for this entity results from the strict application of the Art. 11.2 of the ICBN (Greuter *et al.* 2000) (see Furnari *et al.* 2001: 341).
- 20 Mediterranean citations of *Osmundea hybrida* (A. P. De Candolle) K. W. Nam from Morocco (Kazzaz 1989) require confirmation (see Gómez Garreta *et al.* 2001).
- 21 Most Mediterranean records of *Osmundea pinnatifida* (Hudson) Stackhouse must be referred to *Osmundea truncata* (Kütz- ing) K. W. Nam *et* Maggs. The only confirmed record of *Osmundea pinnatifida* in the Mediterranean Sea is by Boisset *et al.* (1995), from the Alboran Sea, i. e. close to the Mediterranean coast of Morocco. We therefore cannot assess the taxonomic status of citations from Mediterranean Morocco (see Gómez Garreta *et al.* 2001).

Discussion and Conclusion

Although the marine flora of Morocco has not been extensively studied, as compared to that of Britain and Ireland or Spain, the diversity of the Moroccan macroalgae appears to be rather high with 102 Chlorophyceae (Benhissoune *et al.* 2001), 131 Phaeophyceae (Benhissoune *et al.* 2002a), 379 Rhodophyceae (Benhissoune *et al.* 2002b and this present study), i. e. a total of 612 species, infraspecific taxa and life-history phases. The reason for this could reside in the fact that the Moroccan coasts belong to three biogeographical provinces: the western Mediterranean, the temperate Atlantic and the tropical Atlantic (Moroccan Sahara), the marine algae of last of which remaining poorly studied.

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