

## An analysis of “Hydrophytologiae Regni Neapolitani” (Delle Chiaje, 1829)

Michael J. Wynne<sup>1</sup>, Mario Cormaci<sup>2</sup>, Giovanni Furnari<sup>2\*</sup>

<sup>1</sup> University of Michigan Herbarium, 3600 Varsity Drive, Ann Arbor, Michigan 48108, USA.

<sup>2</sup> Laboratorio di Algologia, Sezione di Biologia Vegetale del Dipartimento di Scienze Biologiche, Geologiche e Ambientali dell'Università di Catania, Via A. Longo 19, 95125 Catania, Italia

### Summary

In the volume “Hydrophytologiae Regni Neapolitani”, published by Delle Chiaje in 1829, 100 species of benthic marine algae of the Gulf of Naples (Mediterranean Sea, Italy) are described and illustrated with colored images. In this study the marine algae depicted in the 100 plates are analyzed with the goal of identifying them in terms of present-day taxonomy and nomenclature. Of each plate, observations and comments dealing also with taxonomic opinions published by earlier authors on Delle Chiaje’s plates, are also given.

### Riassunto

*Analisi del volume “Hydrophytologiae Regni Neapolitani” di Delle Chiaje (1829)*

Nel volume “Hydrophytologiae Regni Neapolitani”, pubblicato da Delle Chiaje nel 1829, vengono descritte e illustrate con immagini a colori 100 specie di alghe marine bentoniche del Golfo di Napoli (Mar Mediterraneo, Italia). In questo studio vengono analizzate le alghe marine raffigurate nelle 100 tavole con l'obiettivo di identificarle secondo la tassonomia e la nomenclatura attuale. Di ciascuna tavola sono riportate anche osservazioni e commenti riguardanti anche pareri tassonomici pubblicati da autori precedenti sulle tavole di Delle Chiaje.

### Introduction

Stefano Delle Chiaje (**Fig. 1**) was born in Teano, Italy, on 24 April 1794, and died in Naples on 22 July 1860 (Pritzel, 1872). Professor of anatomy in Naples, he was primarily a marine zoologist and parasitologist and responsible for the description of hundreds of marine invertebrates belonging to many phyla. He was also the author of an important botanical work on medicinal plants ‘Iconography and use of medicinal plants...’ and the author of the third volume of Giuseppe Poli’s famous work on shells “*Testacea utriusque Siciliae*”. He was also a pioneer of the paleopathology (a branch of medicine which studies diseases directly in past human remains, whether skeletal or mummified), having studied the human bones brought to light in the excavations of Pompei, the city buried, together with Ercolano, under the lava of Vesuvius in 79 AD (Pasero & Marson, 2006). Also he was interested in marine algae publishing



Fig. 1 – Stefano Delle Chiaje

\* Nota inviata dal socio emerito Giovanni Furnari.  
Corresponding author: furnari.giovanni41@gmail.com

in 1829 the book “Hydrophytologiae Regni Neapolitani”, considered as “one of the rarest and finest books on algae” (Weldon & Wesley Catalogue No. 184, Jan. 1989).

Such a volume, object of this study, was published by Typographia Cataneo et Fernandes Neapoli with the size of 408 x 255 mm. It includes a hand-coloured engraved cover (Fig. 2),



Fig. 2 – Book cover. [x 0.60]. The allegorical imagine is by M. di Pietro. The detailed engravings are finely hand-coloured.

an **Introduction** (pp. 1-6), then a first list (*Distributio I*, pp. 7-16) of algae with their descriptions and a second list (*Distributio II* pp. 5-11) followed by an **Index** (1 page) and 100 hand-coloured engraved **Plates** illustrating the treated species.

Actually, as reported in the extensive and detailed biography of this illustrious scientist on the website: ([https://www.treccani.it/enciclopedia/stefano-delle-chiaie\\_%28Dizionario-Biografico%29/](https://www.treccani.it/enciclopedia/stefano-delle-chiaie_%28Dizionario-Biografico%29/)), Delle Chiaje had planned to describe and iconograph all the species of "hydrophytes" of the Gulf of Naples, but he stopped after realizing only one hundred.

Delle Chiaje's volume may be freely downloaded at the BHL site: <https://www.biodiversitylibrary.org/item/150969#page/49/mode> [note that both the “Text & Plates” and “Plates (1829)” can be downloaded] and may be viewed from the copies in the LuEsther T. Mertz Library of the New York Botanical Garden and in the Harvard University Botany Libraries.

Our study analyzes the marine algae depicted in the 100 plates of Delle Chiaje's book with the goal of identifying them in terms of present-day taxonomy and nomenclature. It should be noted that sometimes in the Index Delle Chiaje referred the species reported in the text and illustrated in the corresponding plates to a different *taxon* with respect to the names published in the text and printed in the corresponding plates. This leads us to suppose that after the text and plates were printed, in writing the Index, Delle Chiaje changed his taxonomic opinion on some of the species that had been illustrated.

Of each “Tab.”, that is, plate, reported below we indicate the name of the species illustrated as reported in Delle Chiaje's text, the name reported in the Index, if different from that reported in the text and in the plate, our comments including the taxonomic opinion of earlier authors (such as Falkenberg, 1879, 1901; Bertoloni, 1862a, b; Ardisson, 1883, 1886; and De Toni, 1889, 1895, 1900, 1903) on the species illustrated by Delle Chiaje, and the current name (in boldface) of the species illustrated, if identifiable.

Our identifications are based only on the Delle Chiaje's illustrations because unfortunately, as stated by Gasparini in Zanardini (1864: 157), “[Delle Chiaje] non aveva il costume di porre in serbo gli oggetti da lui descritti...” “[Delle Chiaje] was not in the habit of storing the objects he described...”. Authors of species treated by Delle Chiaje are put within square brackets because he did not indicate them. Moreover, because Delle Chiaje never expressly indicated whether he intended to describe new species, we credited to Delle Chiaje only species previously not described.

Despite the great interest shown by Delle Chiaje for algae, only one species [*Chrysomenia chiajeana* Meneghini, now *Irvinea chiajeana* (Meneghini) Cormaci, Alongi *et* G. Furnari] was dedicated to him. Finally, it should be noted that Funk (1955: 3) explicitly stated he did not intend to compare from a taxonomic point of view the species he treated with those previously reported from the Gulf of Naples by different authors including Delle Chiaje (1829).

## Materials and methods

The plates, in PDF format, were downloaded from the BHL website above indicated and were subsequently converted into single images in JPG format. These were redefined at 300 dpi, processed (using Adobe® Photoshop® 6.0 image management software) essentially modifying the brightness, contrast and focus, then the letters and numbers present in each plate were restored. No changes were made to the images of the algae and their details.

For typographical reasons they have been reduced compared to the original by a variable percentage from plate to plate as specifically indicated in the text for each plate.

## Results



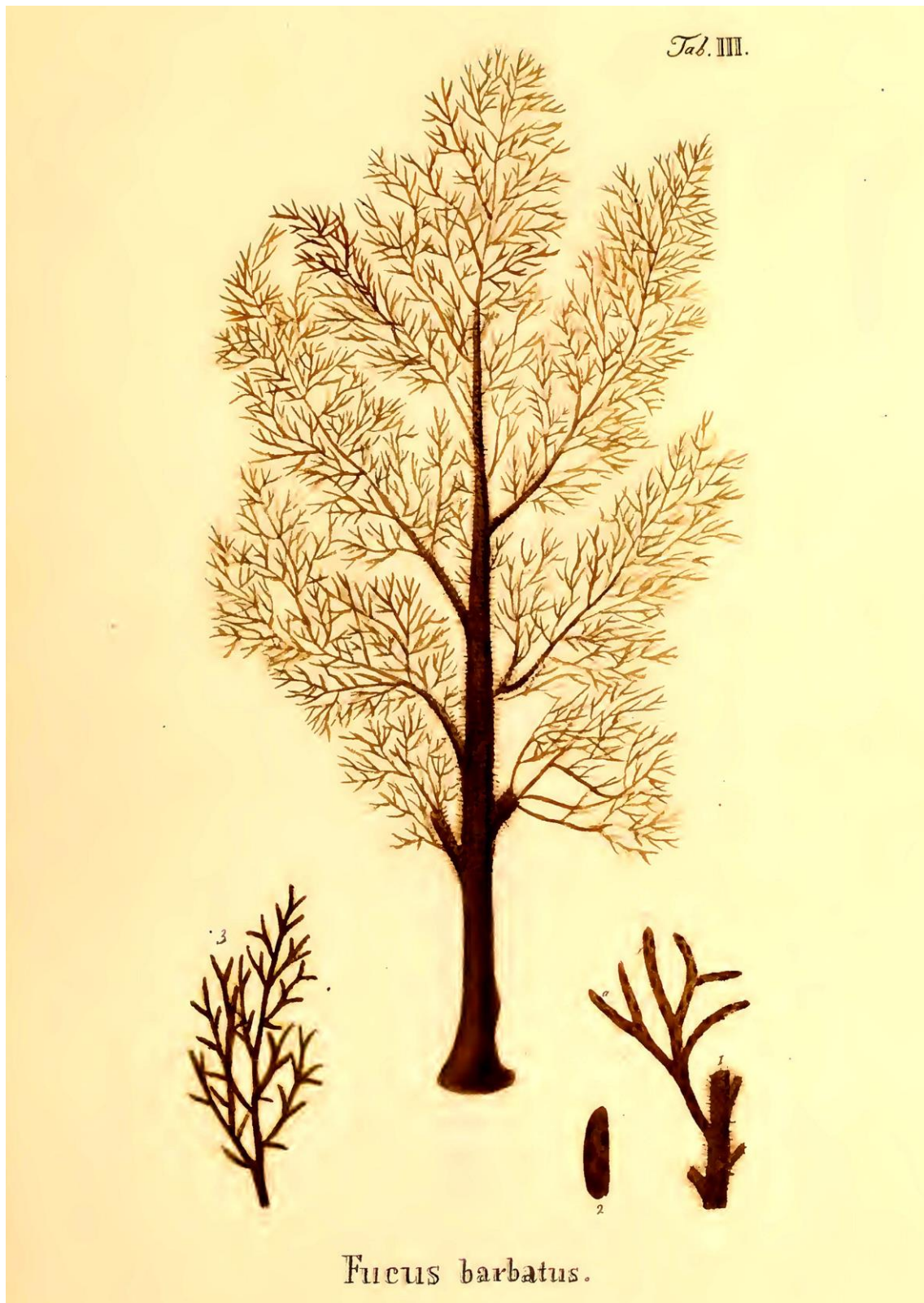
**Plate I.** *Fucus vesiculosus* [Linnaeus]. "*Halysaris polypodioides* Ag." in the Index. The plate shows two distinct species both referred by Delle Chiaje in the Index to as *Halysaris polypodioides* Ag. (synonym of *Dictyopteris polypodioides*).

In the middle and below right there is illustrated *Dictyopteris polypodioides* (De Candolle) J.V. Lamouroux. Below left is illustrated the basal part of *Ericaria zosteroides* (C. Agardh) Molinari & Guiry. [x 0.68].



**Plate II.** *Fucus abrotanifolius* [Linnaeus]. ["*Cystoseira*" in the Index] = *Cystoseira concatenata* (Linnaeus) C. Agardh *vide* Bertoloni (1862a: 12); = *Cystoseira abrotanifolia* J. Agardh *vide* Falkenberg (1879: 246) and Berthold (1882: 509); = *Cystoseira fimbriata* (Desfontaines) Bory *vide* Ardissonne (1886: 24).

Although *Fucus abrotanifolius* is a heterotypic synonym of *Cystoseira foeniculacea* (Linnaeus) Greville, Delle Chiaje's plate represents *Cystoseira compressa* (Esper) Gerloff & Nizamuddin. [x 0.66].



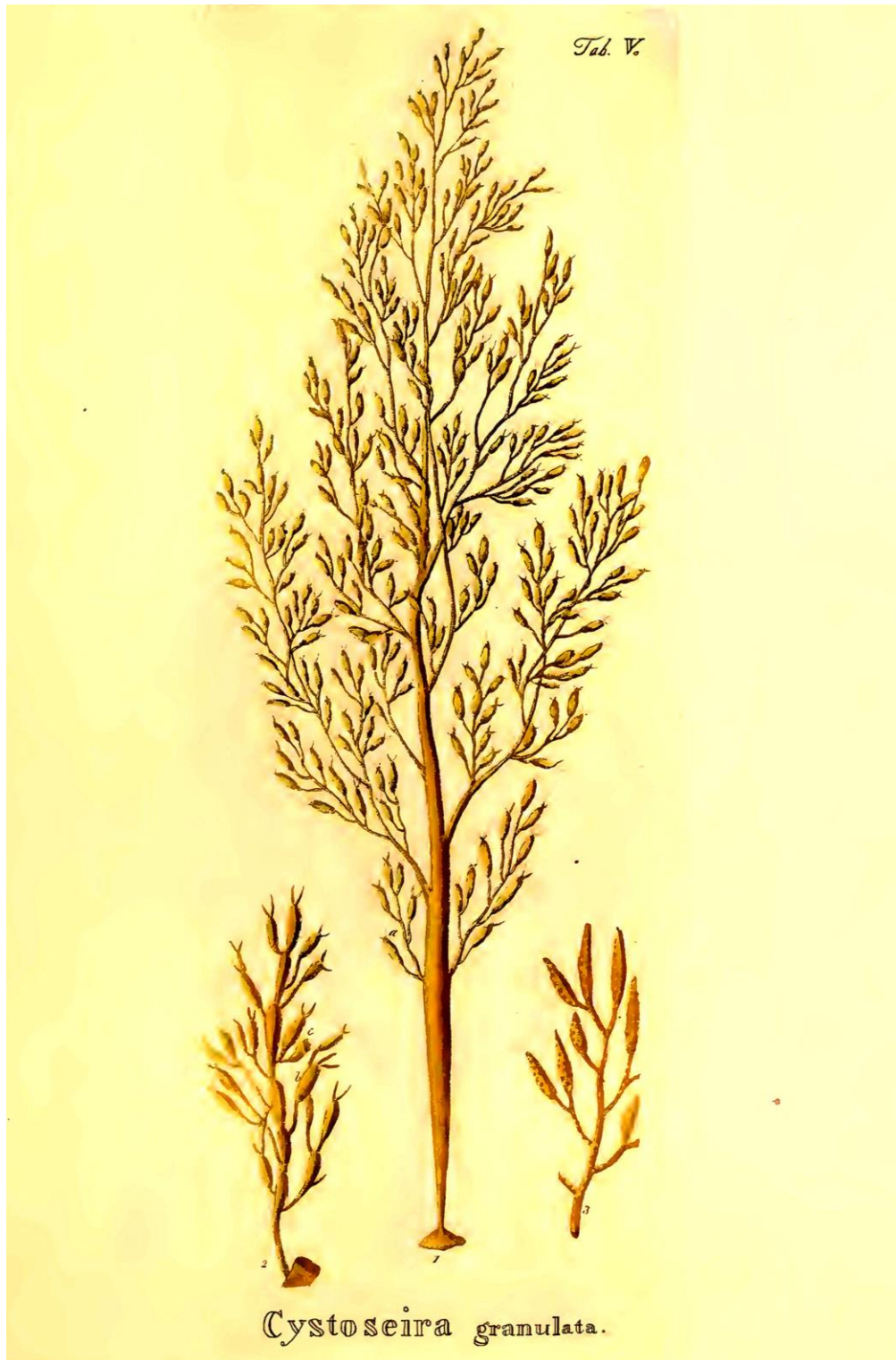
**Plate III.** *Fucus barbatus* [Linnaeus]. Delle Chiaje's plate represents *Fucus barbatus* Goodenough & Woodward *nom. illeg.* = *Cystoseira barbata* J. Agardh *fide* Falkenberg (1879: 246) and Berthold (1882: 509): = *Cystoseira hoppei* "hoppii" C. Agardh *fide* Ardissonne (1886: 26).

Current name: *Gongolaria barbata* (Stackhouse) Kuntze. [x 0.75].



**Plate IV.** *Cystoseira ericoides* [(Linnaeus) C. Agardh] = *Cystoseira amentacea* C. Agardh *fide* Bertoloni (1862a: 22); = *Cystoseira amentacea* Bory *fide* Ardissonne (1886: 36); = *Cystoseira ericoides* J. Agardh *fide* Falkenberg (1879: 246).

Although *C. ericoides* is a heterotypic synonym of *Ericaria selaginoides* (Linnaeus) Molinari & Guiry, Delle Chiaje's plate represents *Ericaria amentacea* (C. Agardh) Molinari & Guiry. [X 0.66].



**Plate V.** *Cystoseira granulata* [(Linnaeus) C. Agardh] = *Cystoseira hoppei* "hoppii" C. Agardh *fide* Ardissonne (1886: 26); = *Cystoseira barbata* (Goodenough & Woodward) C. Agardh *fide* De Toni (1895: 160).

Although *C. granulata* is a heterotypic synonym of *Gongolaria usneoides* (Linnaeus) Molinari & Guiry, Delle Chiaje's plate represents *Gongolaria barbata* (Stackhouse) Kuntze. (X 0.65).





**Plate VI.** *Sargassum vulgare* [C. Agardh *nom. illeg.*] [not reported in the Index where Plate VI is instead referred to as “*Sargassum salicifolium* (*S. linifolium*  $\beta$  *serratum* Ag.)”] = *Sargassum salicifolium* C. Agardh *fide* Bertoloni (1862a: 5); = *Sargassum linifolium* J. Agardh *fide* Falkenberg (1879: 245); = *Sargassum linifolium* (Turner) C. Agardh var. *salicifolium* J. Agardh *fide* Ardissonne (1886: 15). Notwithstanding earlier authors’ opinions, we think that Delle Chiaje’s plate, due to the length of the leaves and aerocysts with a short pedicel, most probably represents *Sargassum vulgare* C. Agardh *nom. illeg.* (x 0.63).



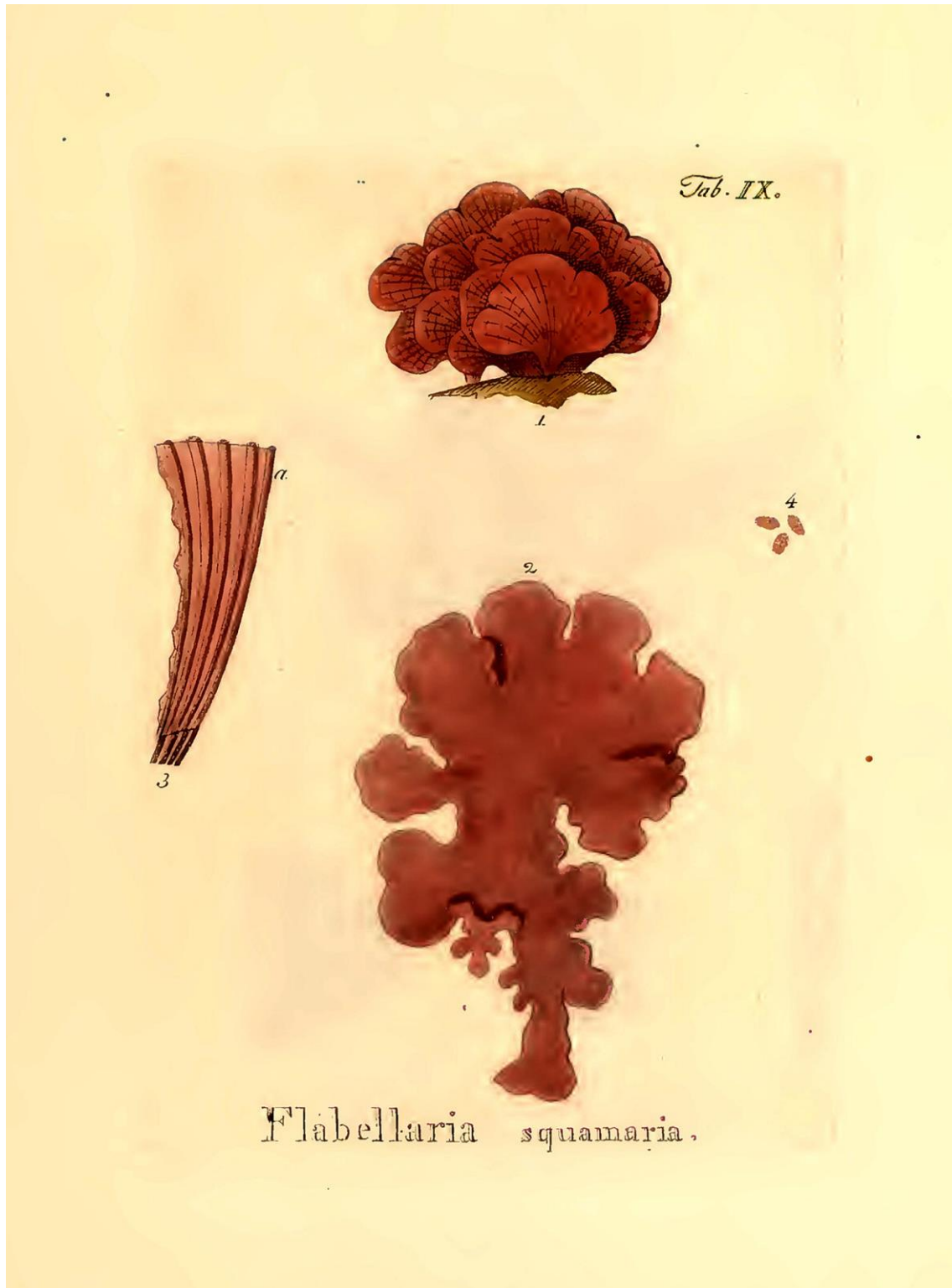
**Plate VII.** *Sargassum linifolium* [C. Agardh] ["*S. vulgare* Ag." in the Index] = *Sargassum linifolium* *fide* Bertoloni (1862a: 6); = *S. linifolium fide* Falkenberg (1879: 245) and *S. linifolium* (Turner) C. Agardh var. *linifolium fide* Ardissonne (1886: 16). Because the intended basionym *Fucus linifolius* Turner is illegitimate, *Sargassum linifolium* should be credited to C. Agardh only.

Current name: *Sargassum acinarium* (Linnaeus) Setchell. (x 0.68).



**Plate VIII.** *Flabellaria desfontainii* [J.V. Lamouroux *nom. illeg.*] [*Codium membranceum* Ag." in the Index] = *Udotea desfontainii* Decaisne *fide* Falkenberg (1879: 229) and Ardissonne (1886: 173).

The current name of both *Flabellaria desfontainii* and *Codium membranceum* is *Flabellia petiolata* (Turra) Nizamuddin. (x 0.85).



**Plate IX.** *Flabellaria squamaria* [(S.G. Gmelin) Delle Chiaje. Bas. *Fucus squamarius* S.G. Gmelin (Gmelin, 1768: 171)] ["*Zonaria squamaria* Ag." in the Index] = *Peyssonnelia squamaria* (S.G. Gmelin) Decaisne *vide* Falkenberg (1879: 264) and Ardissonne (1883: 227).

Delle Chiaje's plate probably represents *Peyssonnelia squamaria* (S.G. Gmelin) Decaisne *ex* J. Agardh of which both *F. squamaria* and *Zonaria squamaria* are considered as synonyms. (X 85).



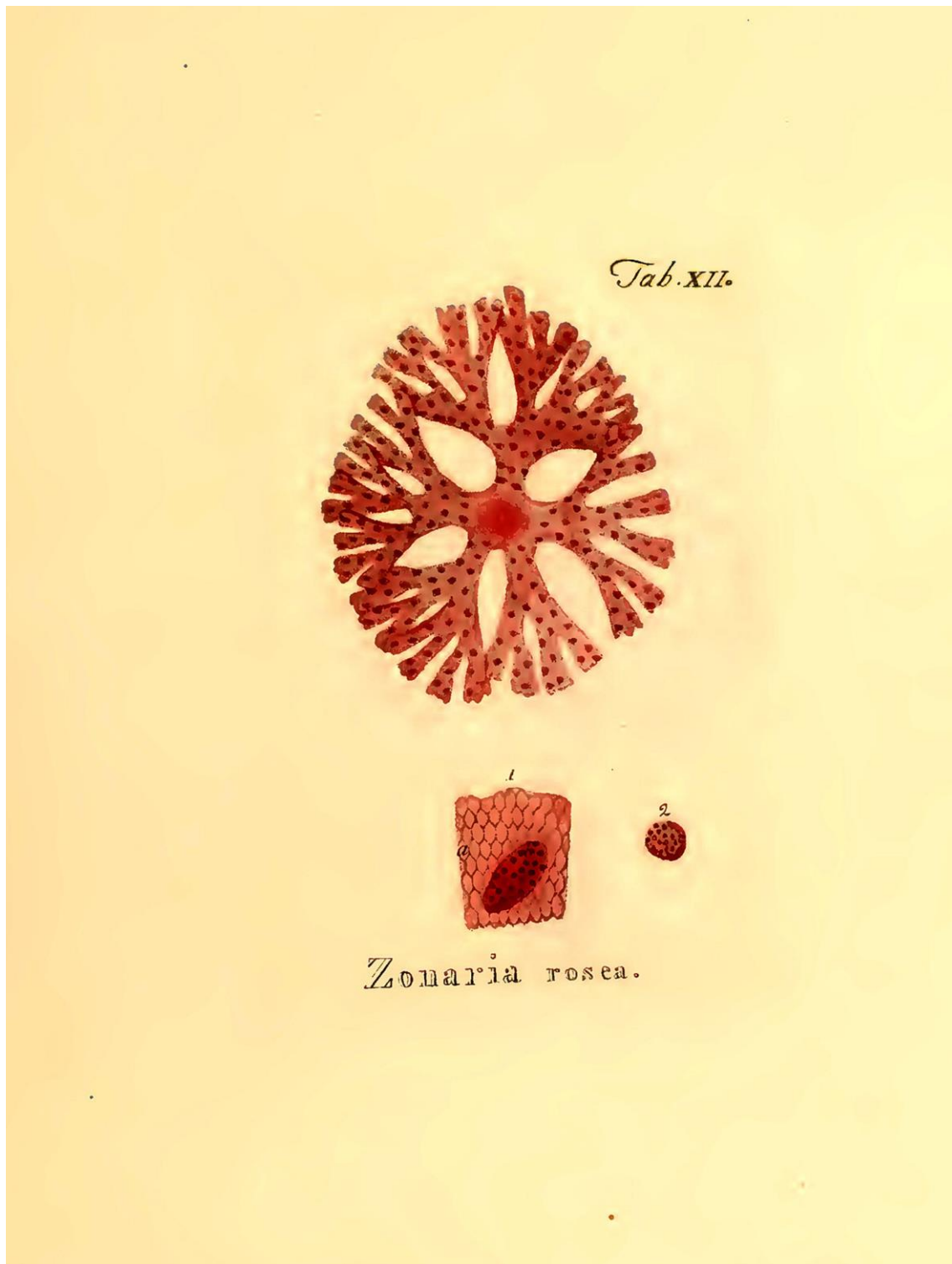
**Plate X.** *Flabellaria opuntia* [(Linnaeus) Lamarck] ["*Codium opuntia* Spr." in the Index] = *Halimeda tuna* (J. Ellis & Solander) J.V. Lamouroux *vide* Ardissonne (1886: 175) and De Toni (1889: 519).

Both *F. opuntia* and *Codium opuntia* (Linnaeus) Schousboe are homotypic synonyms of *Halimeda opuntia* (Linnaeus) J.V. Lamouroux, but agreeing with both Ardissonne and De Toni, we think that Delle Chiaje's plate represents *Halimeda tuna* (J. Ellis & Solander) J.V. Lamouroux. (x 0.80).



**Plate XI.** *Zonaria pavonia* [C. Agardh] = *Padina pavonia* fide Bertoloni (1862: 50) and Falkenberg (1879: 247).

Current name: *Padina pavonica* (Linnaeus) Thivy. (x 0.73).



**Plate XII.** *Zonaria rosea* [C. Agardh] ["*Delesseria ocellata* Lamx." in the Index] = *Nitophyllum ocellatum* fide J. Agardh (1842: 156); = *Nitophyllum punctatum* fide Falkenberg (1879: 269); = *Nitophyllum punctatum* (Stackhouse) Harvey var. *ocellatum* J. Agardh fide Ardissonne (1883: 253).

From a nomenclatural point of view *Zonaria rosea* is the basionym of *Mastophora rosea* (C. Agardh) Setchell, but Delle Chiaje's plate represents *Nitophyllum punctatum* (Stackhouse) Greville. *Delesseria ocellata* is its taxonomic synonym. Scattered tetrasporangial sori are also depicted. (x 0.85).



**Plate XIII.** *Zonaria dichotoma* [(Hudson) C. Agardh] = *Dictyota dichotoma* J.V. Lamouroux *vide* Bertoloni (1862a: 38) and Falkenberg (1876: 247).

Current name: *Dictyota dichotoma* (Hudson) J.V. Lamouroux. (x 0.85).





**Plate XIV.** *Zonaria linearis* [C. Agardh] ["*Zonaria fasciola* Ag." in the Index] = *Dictyota linearis* (C. Agardh) Greville.

We agree with Cormaci *et al.* (2012: 52 Note) in recognizing this as a species distinct from *D. dichotoma* (Hudson) J.V. Lamouroux var. *intricata* (C. Agardh) Greville [= *Dictyota implexa* (Desfontaines) J.V. Lamouroux].

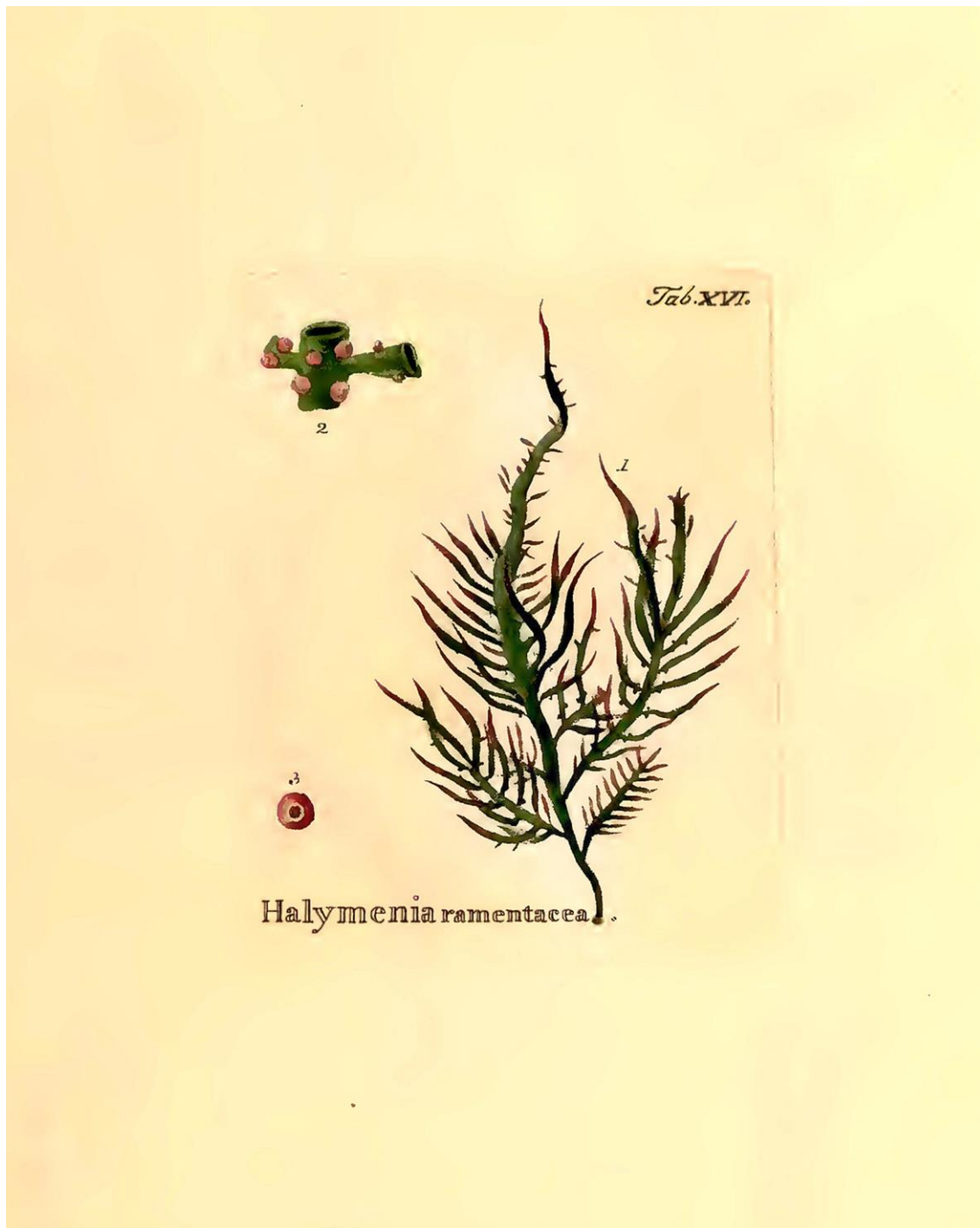
It should be noted that *Zonaria fasciola* published in the Index is instead a synonym of *Dictyota fasciola* (Roth) C. Agardh. (x 0.73).



**Plate XV.** *Halymenia palmata* [(Linnaeus) C. Agardh] = *Halymenia monardiana* *fide* Falkenberg (1879: 262) and *H. monardiana* Montagne *fide* Ardissonne (1883: 149).

*H. palmata* is a homotypic synonym of *Palmaria palmata* (Linnaeus) F. Weber & D. Mohr, a species not present in the Mediterranean Sea.

But, Delle Chiaje's plate represents *Sebdenia monardiana* (Montagne) Berthold. We agree with Cormaci *et al.* (2021: 300) in considering correct the specific epithet *monardiana* instead of *monardiana*. (x 0.66).

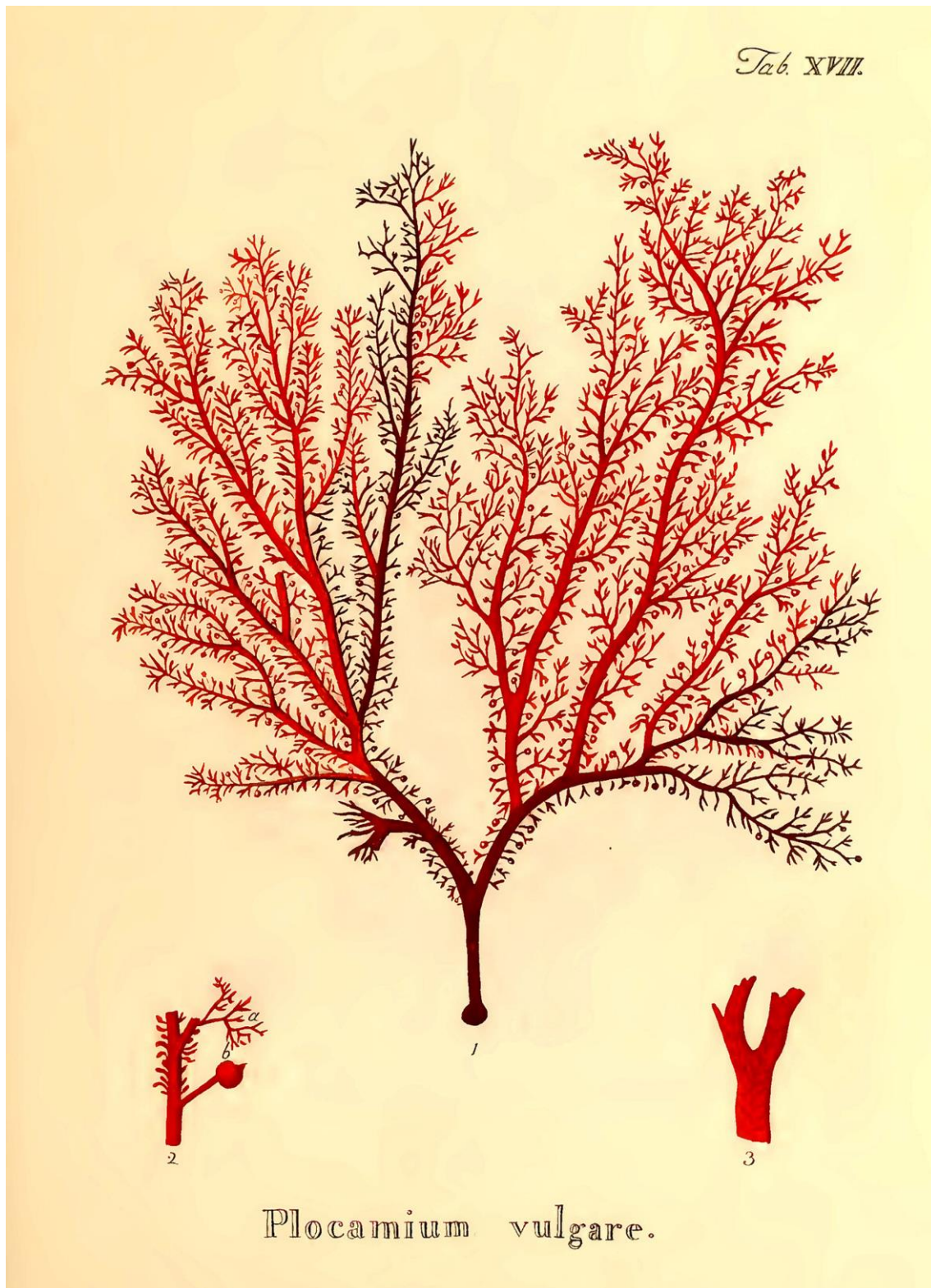


**Plate XVI.** *Halymenia ramentacea* [(Linnaeus) C. Agardh] = *Grateloupia filicina* fide J. Agardh (1842: 103), Bertoloni (1862a: 80); *G. filicina* (Wulfen) C. Agardh fide Ardissonne (1883: 139).

Although *H. ramentacea* (Linnaeus) C. Agardh is a homotypic synonym of *Devaleraea ramentacea* (Linnaeus) Guiry, Delle Chiaje's plate represents *Grateloupia filicina* (J.V. Lamouroux) C. Agardh.

It should be noted that the prominent protruding spherical structures illustrated by Delle Chiaje do not match the internal cystocarps of *G. filicina*.

Cormaci *et al.* (2021: 65) in considering *Halymenia ramentacea* as a synonym of *G. filicina* (J.V. Lamouroux) C. Agardh, erroneously credited the former to Delle Chiaje *nom. illeg.*, instead of “*sensu* Delle Chiaje”. (x 0.85).



**Plate XVII.** *Plocamium vulgare* [J.V. Lamouroux] [*Plocamium cristatum* Lamx." in the Index] = *Sphaerococcus coronopifolius* *fide* Bertoloni (1862a: 103).

The alga depicted is neither *Plocamium cartilagineum* (Linnaeus) P.S. Dixon of which *P. vulgare* is a synonym, nor *Pterosiphonia complanata* (Clemente) Falkenberg of which *Plocamium cristatum* *fide* De Toni (1903: 993) is a synonym, but ***Sphaerococcus coronopifolius* (Goodenough & Woodward) Stackhouse.** (x 0.73).



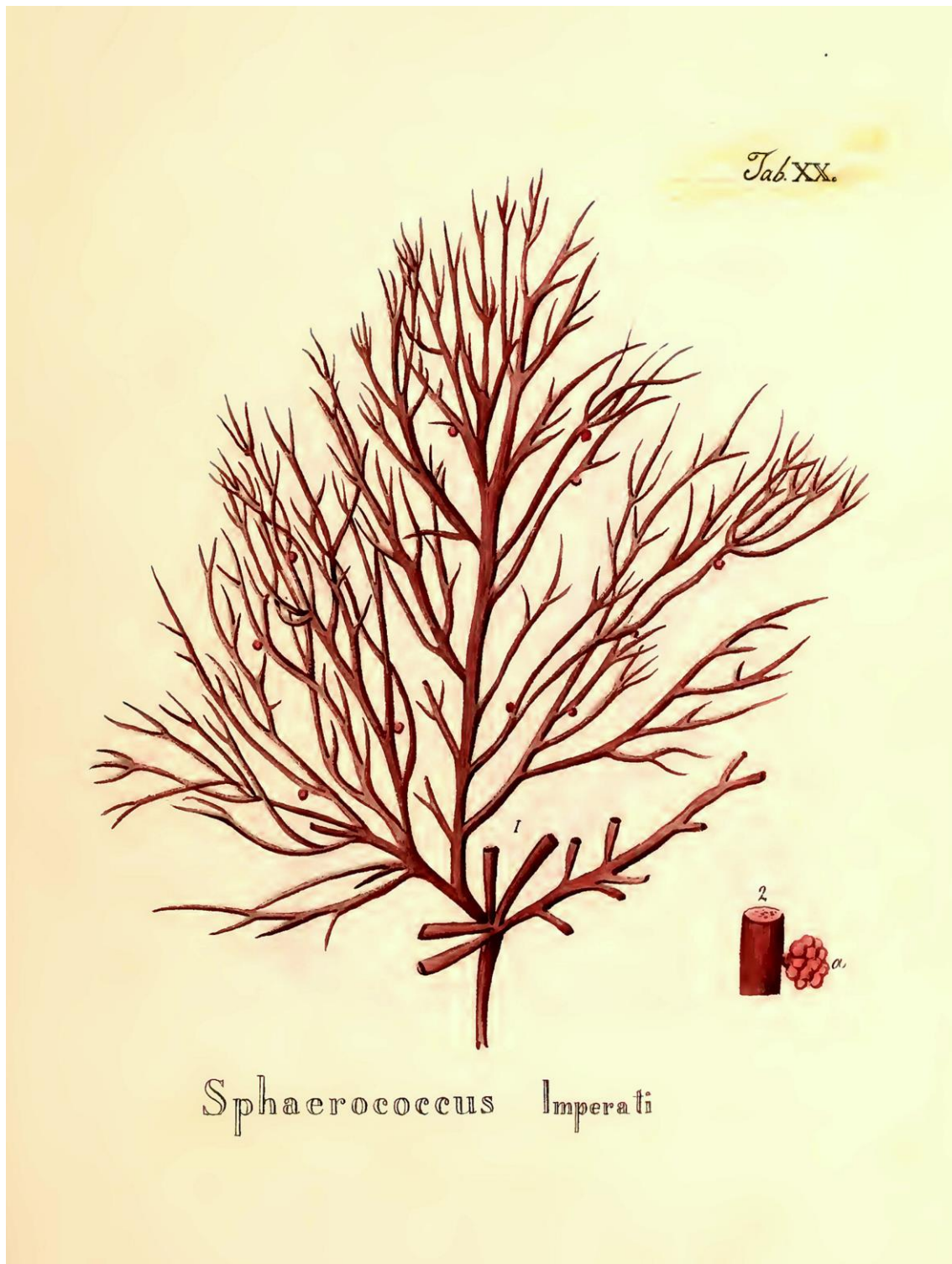
**Plate XVIII.** *Sphaerococcus elongatus* [Delle Chiaje] = *Gigartina acicularis* (Roth) J.V. Lamouroux *vide* J. Agardh (1842: 105), Falkenberg (1879: 267), Ardissonne (1883: 167) and De Toni (1897: 198) and erroneously considered by Bertoloni (1862a: 99) as *Sphaerococcus confervoides* [= *Gracilariopsis longissima* (S.G. Gmelin) M. Steentoft, L.M. Irvine, & W.F. Farnham].

Delle Chiaje's plate represents *Chondracanthus acicularis* (Roth) Fredericq. (x 0.70).



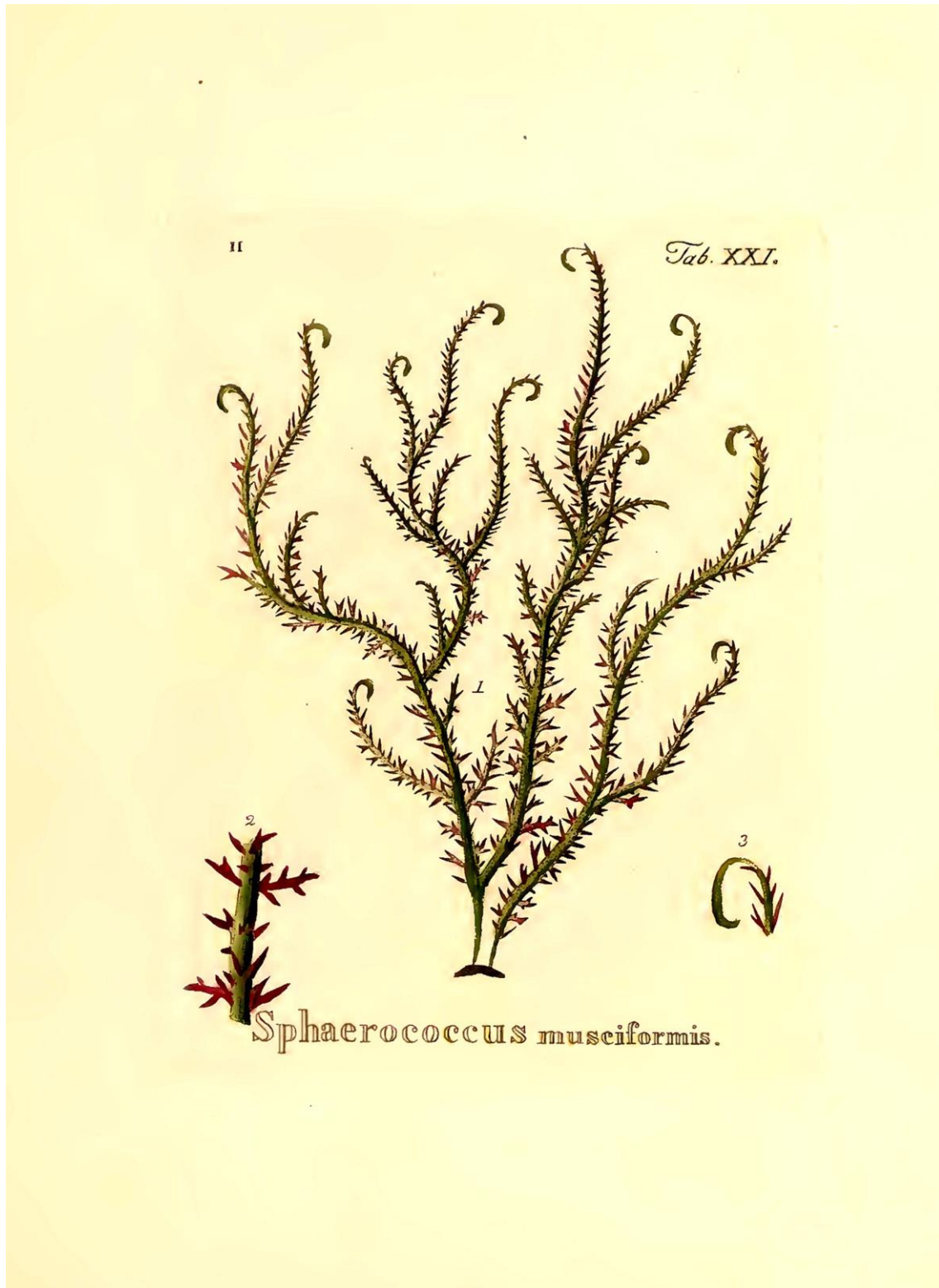
**Plate XIX.** *Sphaerococcus confervoides* [(Linnaeus) Stackhouse] = *Sphaerococcus confervoides* *fide* Bertoloni (1862a: 98); = *Gracilaria confervoides* (Linnaeus) Greville *fide* Ardissonne (1883: 237).

*S. confervoides* is a synonym of *Gracilariopsis longissima* (S.G. Gmelin) M. Steentoft, L.M. Irvine & W.F. Farnham. But, due to the taxonomic complexity of the *Gracilaria* complex it is impossible to state with certainty to which species specimens depicted by Delle Chiaje correspond. (x 0.73).



**Plate XX.** *Sphaerococcus imperati* [Delle Chiaje] = *Sphaerococcus compressus* C. Agardh *vide* Bertoloni (1862a: 101); = *Gracilaria compressa* (C. Agardh) Greville *vide* J. Agardh (1852: 593-594), Ardissonne (1883: 241), and De Toni (1900: 438).

Both *S. compressus* and *G. compressa* are heterotypic synonyms of *Gracilaria bursa-pastoris* (S.G. Gmelin) P.C. Silva. In our opinion Delle Chiaje's species could belong to the genus *Gracilaria*. But, due to the taxonomic complexity of the *Gracilaria* complex it is impossible to state with certainty to which species corresponds. It is here considered as a *taxon inquirendum* (X 0.73).



**Plate XXI.** *Sphaerococcus musciformis* [(Wulfen) C. Agardh] = *Hypnea musciformis* (Wulfen) J.V. Lamouroux *fide* Falkenberg (1879: 260) and Ardissonne (1883: 281).

Current name: *Hypnea musciformis* (Wulfen) J.V. Lamouroux. (x 0.80).





**Plate XXII.** *Sphaerococcus fastigiatus* (Linnaeus) Stackhouse. *S. fastigiatus* is a heterotypic synonym of *Furcellaria lumbricalis* (Hudson) J.V. Lamouroux. But in the absence of a cross section showing its internal structure, it is impossible to establish to which species Delle Chiaje's plate could be referred to. (x 0.75).



**Plate XXIII.** *Sphaerococcus tentaculatus* [(Bertoloni) Delle Chiaje. Bas. *Fucus tentaculatus* Bertoloni (Bertoloni, 1818: 292)].

*S. tentaculatus* was later transferred to the genus *Gymnogongrus* by Kützing (1849: 788) as *Gymnogongrus tentaculatus* (Bertoloni) Kützing, which was in turn treated by De Toni (1897: 242) as a taxonomic synonym of *Gymnogongrus griffithsiae* (Turner) Martius. The alga depicted agrees with this judgment. (x 0.75).



**Plate XXIV.** *Sphaerococcus lycopodioides* [Delle Chiaje] [*licopodioides* in both the text (p. 11) and in the Index].

This species described and illustrated by Delle Chiaje and not quoted by earlier authors represents *Gelidium pectinatum* (Montagne) Montagne. (x 0.80).



**Plate XXV.** *Sphaerococcus kaliformis* [(Goodenough *et* Woodward) Stackhouse]. This species, not quoted by earlier authors, could represent *Chylocladia verticillata* (Lightfoot) Bliding of which *S. kaliformis* is a synonym.

Due to the existence of *S. kaliformis* (Goodenough *et* Woodward) Stackhouse, we do not think that the species was also described by Delle Chiaje. It should be noted that in the Index Nominum Algarum card of *S. kaliformis* Delle Chiaje is reported the following note: "Looks like *Chondria* with a parasite". (x 0.80).



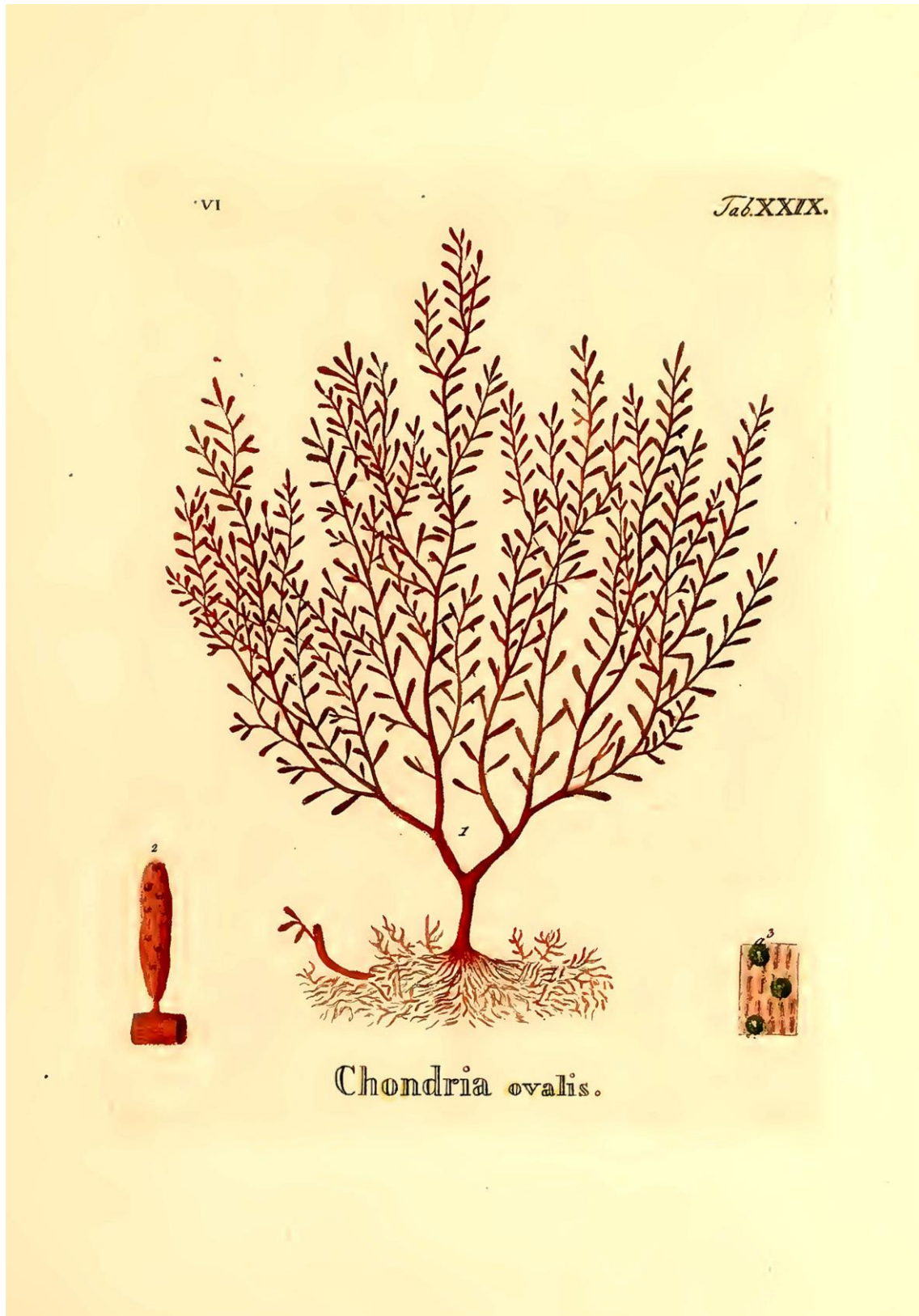
**Tab XXVI.** *Sphaerococcus corneus* [(Hudson) Stackhouse]. *S. corneus* is a synonym of *Gelidium corneum* (Hudson) J.V. Lamouroux. The specimen depicted by Delle Chiaje, however, cannot be referred to that species with certainty. (X 80).



**Plate XXVII.** *Sphaerococcus coronopifolius* [(Goodenough *et* Woodward) Stackhouse] [*S. corneus* Ag." in the Index]. The specimen depicted by Delle Chiaje seems to represent the same species of Plate XXVI whose identification is uncertain. (X 0.85).

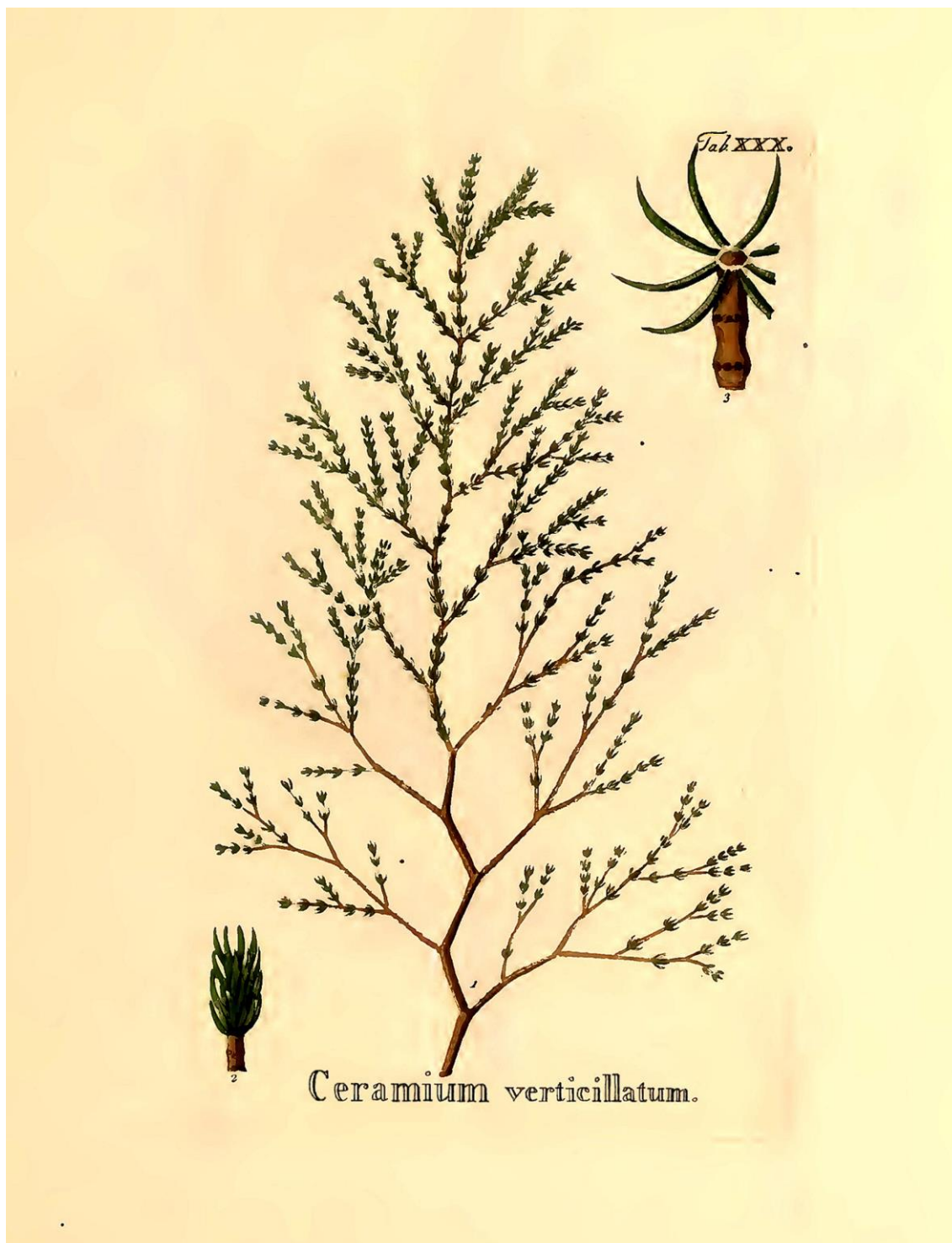


**Plate XXVIII.** *Chondria obtusa* [(Hudson) C. Agardh]. *C. obtusa* is a homotypic synonym of *Laurencia obtusa* (Hudson) J.V. Lamouroux. However, due to the taxonomic complexity of the *Laurencia* complex a certain identification cannot be made. (x 0.80).



**Plate XXIX.** *Chondria ovalis* [(Hudson) C. Agardh]. Delle Chiaje's picture does not represent *Gastroclonium ovatum* (Hudson) Papenfuss of which *C. ovalis* is a synonym. But it seems to represent a species of Lomentariaceae. (x 0.80).

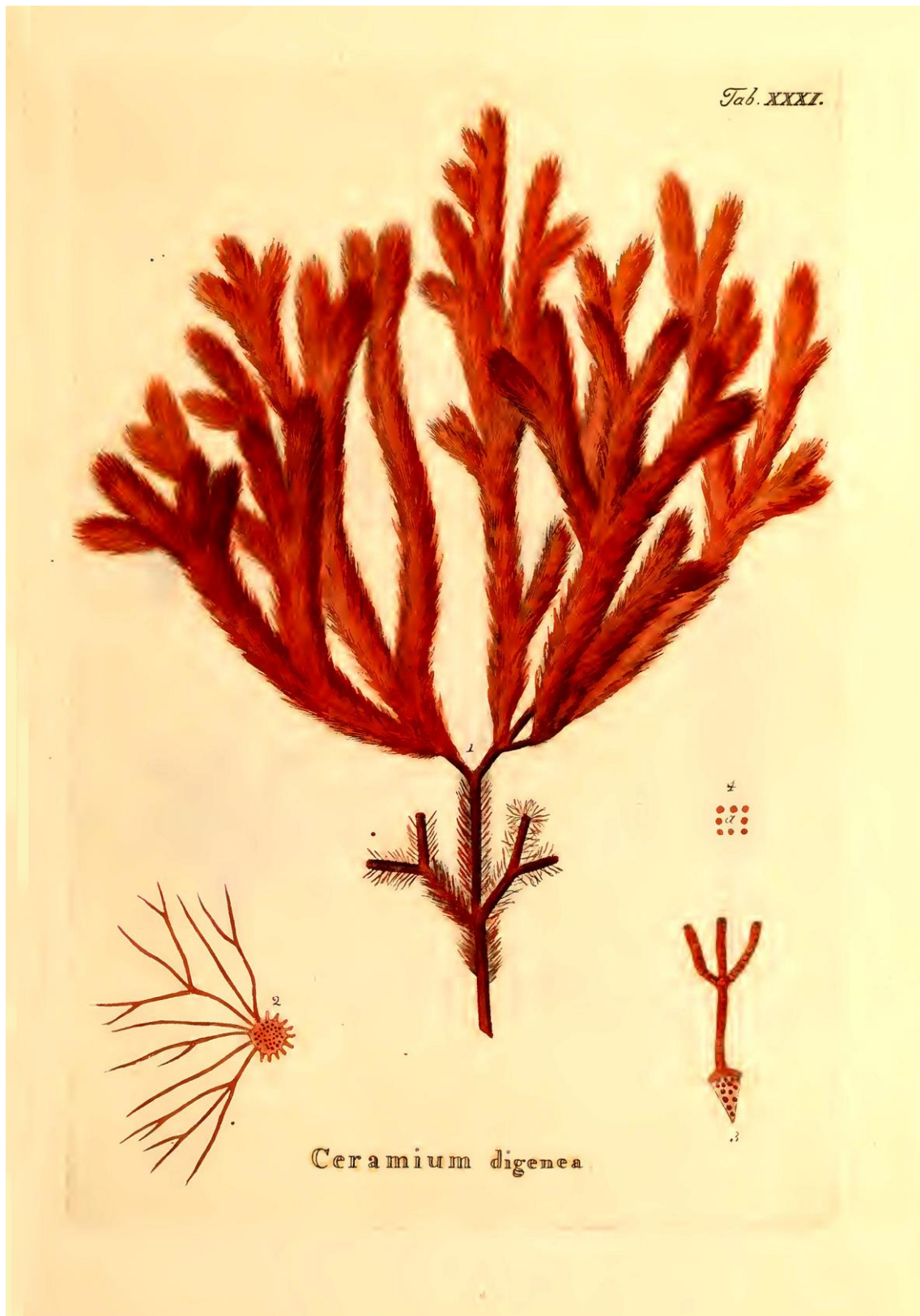




**Plate XXX.** *Ceramium verticillatum* [(Lightfoot) De Candolle] ["*Cladostephus spongiosus* Ag." in the Index] = *Cladostephus verticillatus* (Lightfoot) J. Agardh *vide* Falkenberg (1879: 243), Ardissonne (1886: 94) and De Toni (1895: 513).

Current name: *Cladostephus hirsutus* (Linnaeus) Boudouresque & M. Perret *ex* Heesch, Rindi, Guiry & W. Nelson of which *C. verticillatum* is a synonym.

Given the existence of *C. verticillatum* (Lightfoot) De Candolle, we believe, as explained at the end of the Introduction, that Delle Chiaje has not described a new species. (x 0.80).



**Plate XXXI.** *Ceramium digenea* [Delle Chiaje *nom. illeg.* because of its superfluity on the basis that the Author quoted "*Digenea simplex* Ag." as a synonym in the Index] = *Digenea simplex* (Wulfen) C. Agardh *fide* Falkenberg (1879: 276) and Ardissonne (1883: 356).

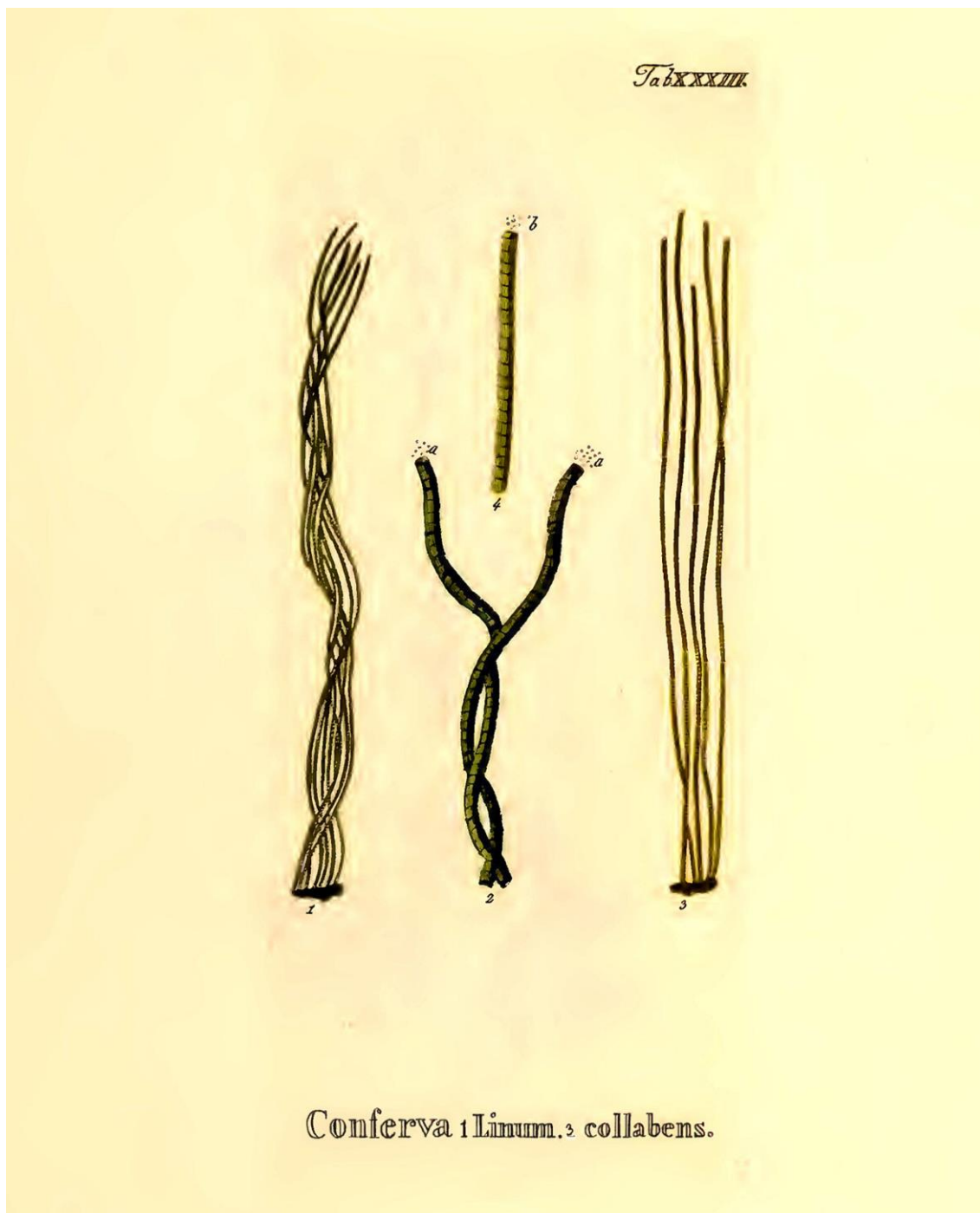
Current name: *Digenea simplex* (Wulfen) C. Agardh. (x 0.65).



**Plate XXXII.** *Ceramium pennatum* [(Hudson) Roth] [*Sphacelaria scoparia* in the Index].

Notwithstanding that Delle Chiaje did not illustrate any propagules, his specimen could be referred to as *Sphacelaria plumula Zanardini*.

Given the existence of *C. pennatum* [(Hudson) Roth (*taxon inquirendum*)], we believe, as explained at the end of the Introduction, that Delle Chiaje has not described a new species. (X 0.75).



**Plate XXXIII. Figs 1-2.** *Conferva linum* [O.F. Müller] = *Chaetomorpha crassa* fide Bertoloni (1862b: 182). *Chaetomorpha crassa* (C. Agardh) Kützing has been treated by Leliaert & Boedeker (2007) as conspecific with *C. linum* (O.F. Müller) Kützing.

Current name: ***Chaetomorpha linum* (O.F. Müller) Kützing** (x 0.80).

**Idem. Figs 3-4.** *Conferva collabens* [C. Agardh] ["*Conferva crassa* Ag." in the Index] = *Chaetomorpha crassa* fide Bertoloni (1862b: 182).

*Conferva collabens* is a heterotypic synonym of *Urospora wormskioldii* (Mertens ex Hornemann) Rosenvinge, a species not known to be present in the Mediterranean.

Because Delle Chiaje referred it in the Index to as "*Conferva crassa* Ag.", it is here referred to as ***Chaetomorpha linum***. (x 0.80).

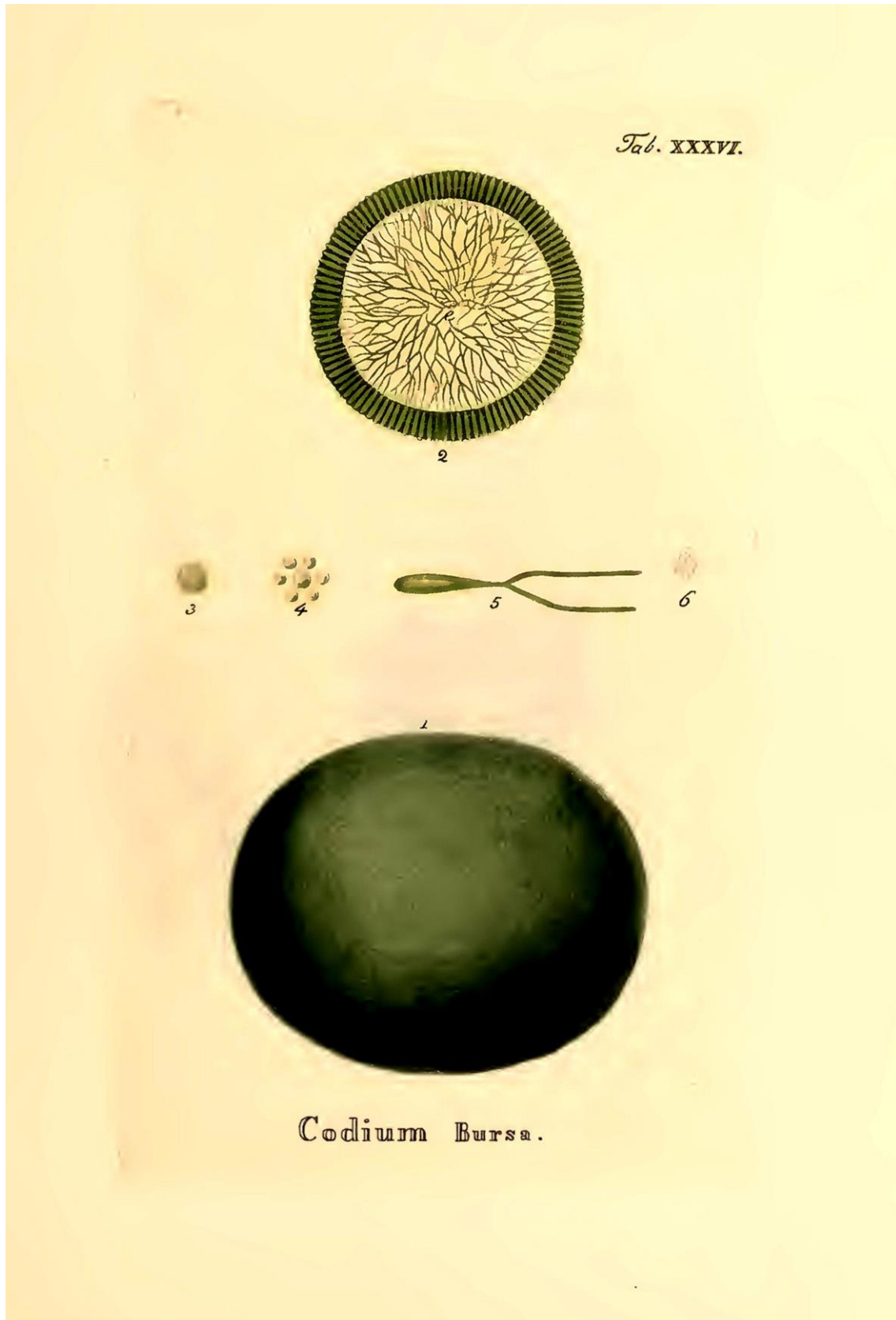


**Plate XXXIV.** *Conferva ruchingeri* [C. Agardh] ["*Conferva rupestris* Lin." in the Index]

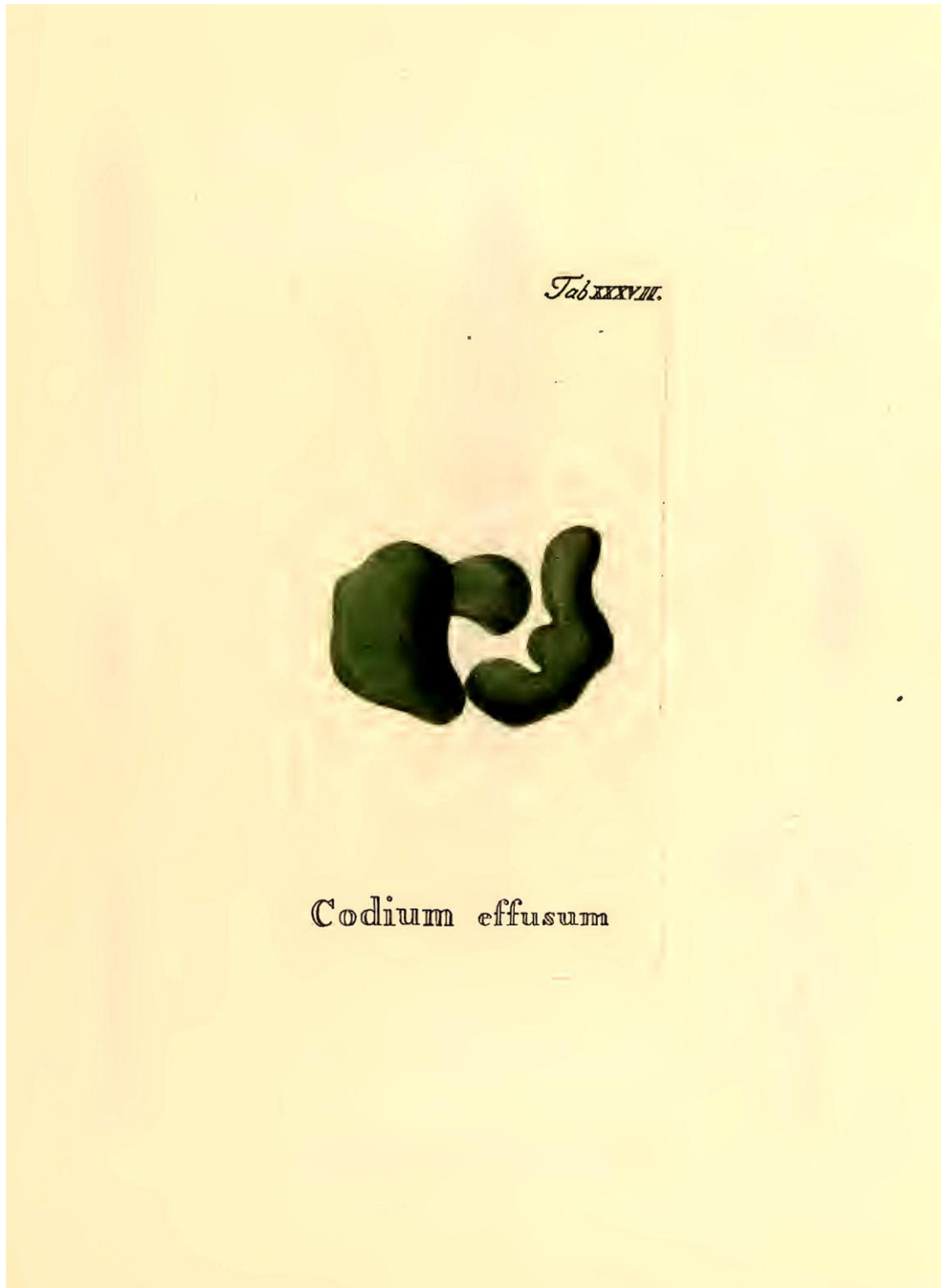
*C. ruchingeri* is a homotypic synonym of *Cladophora ruchingeri* (C. Agardh) Kützing. But, due to the taxonomic complexity of the genus *Cladophora* a certain identification of Delle Chiaje's plate cannot be made. (x 0.80).



**Plate XXXV.** *Bryopsis plumosa* [(Hudson) C. Agardh] = *B. plumosa* according to earlier authors.  
Current name: *Bryopsis plumosa* (Hudson) C. Agardh. (x 0.80).



**Plate XXXVI.** *Codium bursa* [(Olivi) C. Agardh] = *C. bursa* according to earlier authors.  
Current name: *Codium bursa* (Olivi) C. Agardh. (x 0.85).



**Plate XXXVII.** *Codium effusum* [(Rafinesque) Delle Chiaje. Bas. *Myrsidrum effusum* Rafinesque (Rafinesque, 1810: 98)]. ["*Codium adhaerens* Ag." in the Index] = *Codium adhaerens* C. Agardh *vide* Bertoloni (1862b: 139) and Falkenberg (1879: 229).

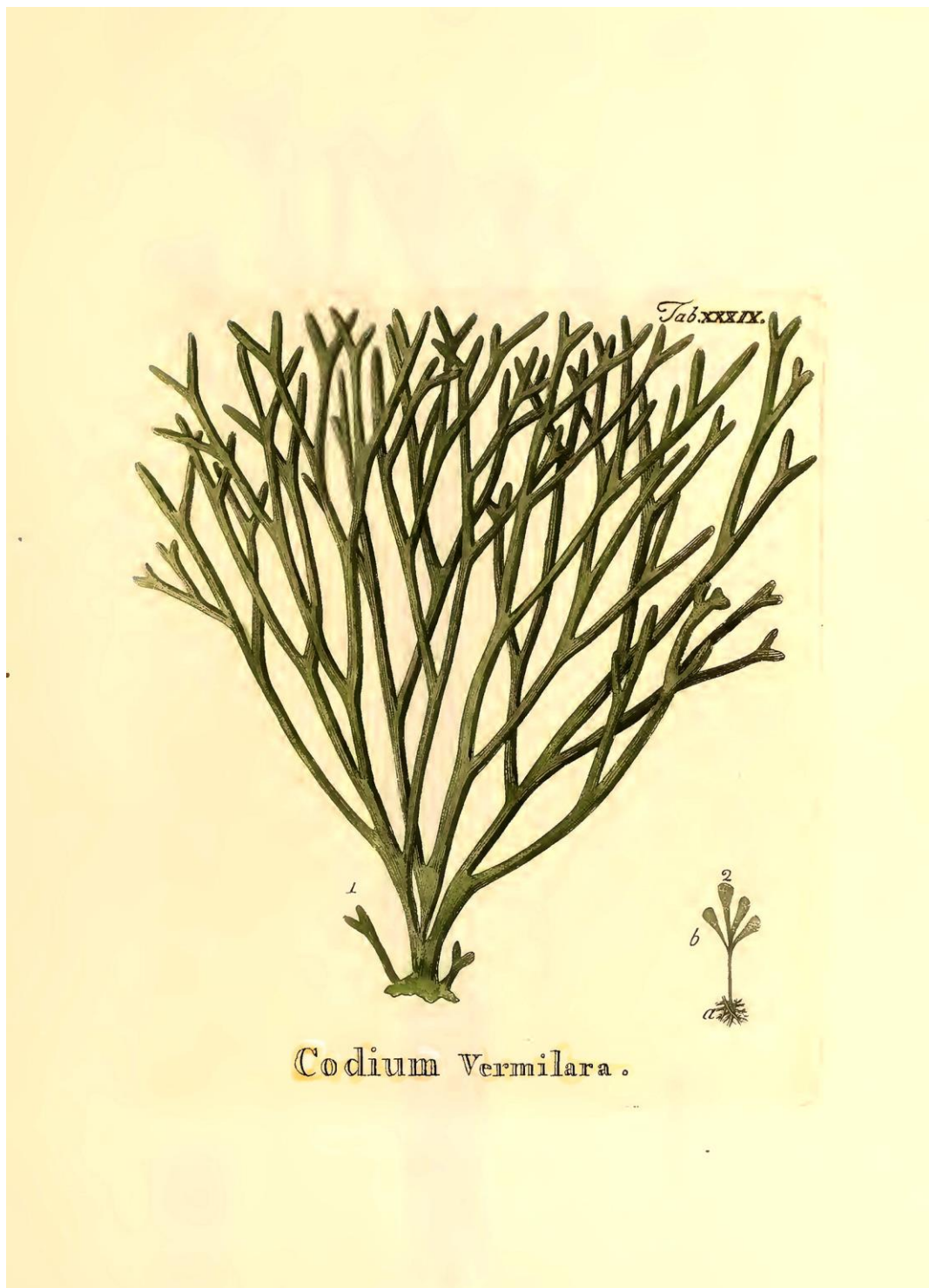
Based only on the habit, it is impossible to state with certainty if Delle Chiaje's plate corresponds to *Codium effusum*. (X 1).





**Plate XXXVIII.** *Codium claviforme* “clavaeforme” [Delle Chiaje *nom. illeg.* because of its superfluity because in the Index the Author quoted as a synonym *Dasycladus claviformis* “clavaeformis” Ag.] = *Dasycladus claviformis* “clavaeformis” (Roth) C. Agardh *vide* Falkenberg (1879: 232) and Ardissonne (1886: 180).

Current name: *Dasycladus vermicularis* (Scopoli) Krasser. (x 0.85).



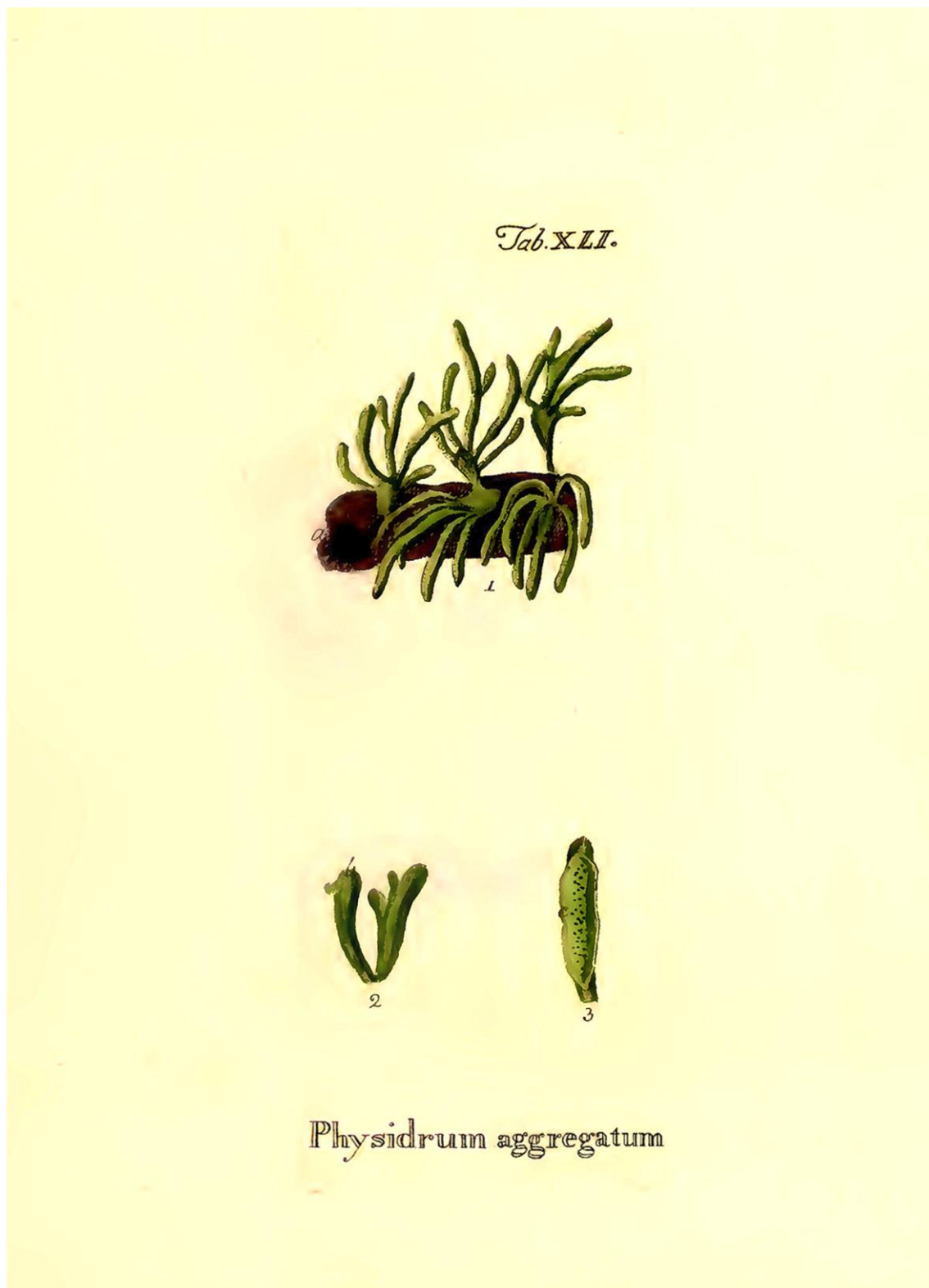
**Plate XXXIX.** *Codium vermilara* [(Olivi) Delle Chiaje. Bas. *Lamarckia vermilara* Olivi (Olivi, 1792: 258)] ["*Codium tomentosum*" in the Index] = *Codium vermilara* *fide* Bertoloni (1862: 137); *Codium tomentosum* *fide* Falkenberg (1879: 228) and *C. tomentosum* (Hudson) Stackhouse) *fide* Ardissonne (1886: 171).

Taking into account the different taxonomic opinion expressed by Delle Chiaje in the Index, based on habit only, it is impossible to state with certainty if Delle Chiaje's plate corresponds to either *Codium tomentosum* Stackhouse or *Codium vermilara*. (x 0.75).



**Plate XL.** *Codium dilatatum* [(Rafinesque) Delle Chiaje] ["*Codium elongatum* Ag." in the Index] = *Codium tomentosum* *fide* Falkenberg (1879: 228). Delle Chiaje's picture does not allow a certain identification. But, based on Rafinesque's (1810: 99) diagnosis of *Myrsidrum dilatatum*, the basionym of *Codium dilatatum* (Rafinesque) Delle Chiaje, and taking into account that Delle Chiaje in the Index named his plate as *C. elongatum* [synonym of *C. decorticatum* (Woodward) Howe], we consider *C. dilatatum* as a synonym of ***Codium decorticatum* (Woodward) Howe** to which Delle Chiaje's plate can be referred to.

It should be noted that *C. dilatatum* was not treated in the paper by Cormaci *et al.* (2014). (x 0.60).



**Plate XLI.** *Physidrum aggregatum* [Rafinesque]. From the diagnosis, *P. aggregatum* could be referred to as a species of *Valonia* C. Agardh, but Delle Chiaje's plate represents an unidentifiable species of *Codium*.

According to the Index Nominum Algarum (cardnote), Rafinesque's (1810) work includes "mostly unidentifiable genera & species of marine algae". (x 0.90).



**Plate XLII.** *Physidrum ovale* [Delle Chiaje] = *Chrysomenia chiajeana* Meneghini *vide* Berthold (1882: 526); Ardissonne (1883: 211)] and De Toni (1900: 544), both with doubt on the synonymy.

Delle Chiaje's plate looks similar to *C. chiajeana* [= *Irvinea chiajeana* (Meneghini) Cormaci *et al.*]; but because the description by Delle Chiaje does not correspond to that taxon, we agree with Cormaci *et al.* (2021: 272), in considering *Physidrum ovale* as a *taxon inquirendum*. (x 0.80).



**Plate XLIII.** *Physidrum uvarium* [(J.A. Murray) Delle Chiaje. Bas. *Fucus uvarius* J.A. Murray (Murray, 1774: 811)] ["*Chondria uvaria* Ag." in the Index] = *Gastridium uvarium* [(J.A. Murray) Greville] *fide* Bertoloni (1862a: 86); = *Chrysomenia uvaria* (Linnaeus) J. Agardh *fide* Falkenberg (1879: 271) and Ardissonne (1883: 211)].

Current name: ***Botryocladia botryoides* (Wulfen) Feldmann**, of which *Physidrum uvarium* is a synonym. (x 0.90).



**Plate XLIV.** *Solenia plantaginifolia* [Delle Chiaje] ["*Ulva*" in the Index]. The name reported in the Index, allows us to consider that Delle Chiaje had realized that his species was a synonym of *Ulva* [*plantaginifolia*] Wulfen.

Even though, according to Ardissonne (1886: 115) *U. plantaginifolia* corresponds to *Punctaria latifolia* Greville [= *Punctaria tenuissima* (C. Agardh) Greville], from both the picture and the description (...*marginibus tubulosis*... = tubular margins] given by Delle Chiaje, *S. plantaginifolia* does not correspond to a species of *Punctaria*, but rather to a species of *Ulva*. Therefore, it is a *taxon inquirendum*. (X 1).



**Plate XLV.** *Solenia compressa* [(Linnaeus) C. Agardh]. Most probably this plate corresponds to *Ulva compressa* Linnaeus. (x 0.90).





*Solenia erecta.*

**Plate XLVI.** *Solenia erecta* [Delle Chiaje]. The genus *Solenia* is considered as a synonym of *Ulva* Linnaeus. But, from both description and illustrations it is impossible to ascertain the identity of Delle Chiaje's species, which is here considered as a *taxon inquirendum*. (X 0.90).

Tab. XLVII.



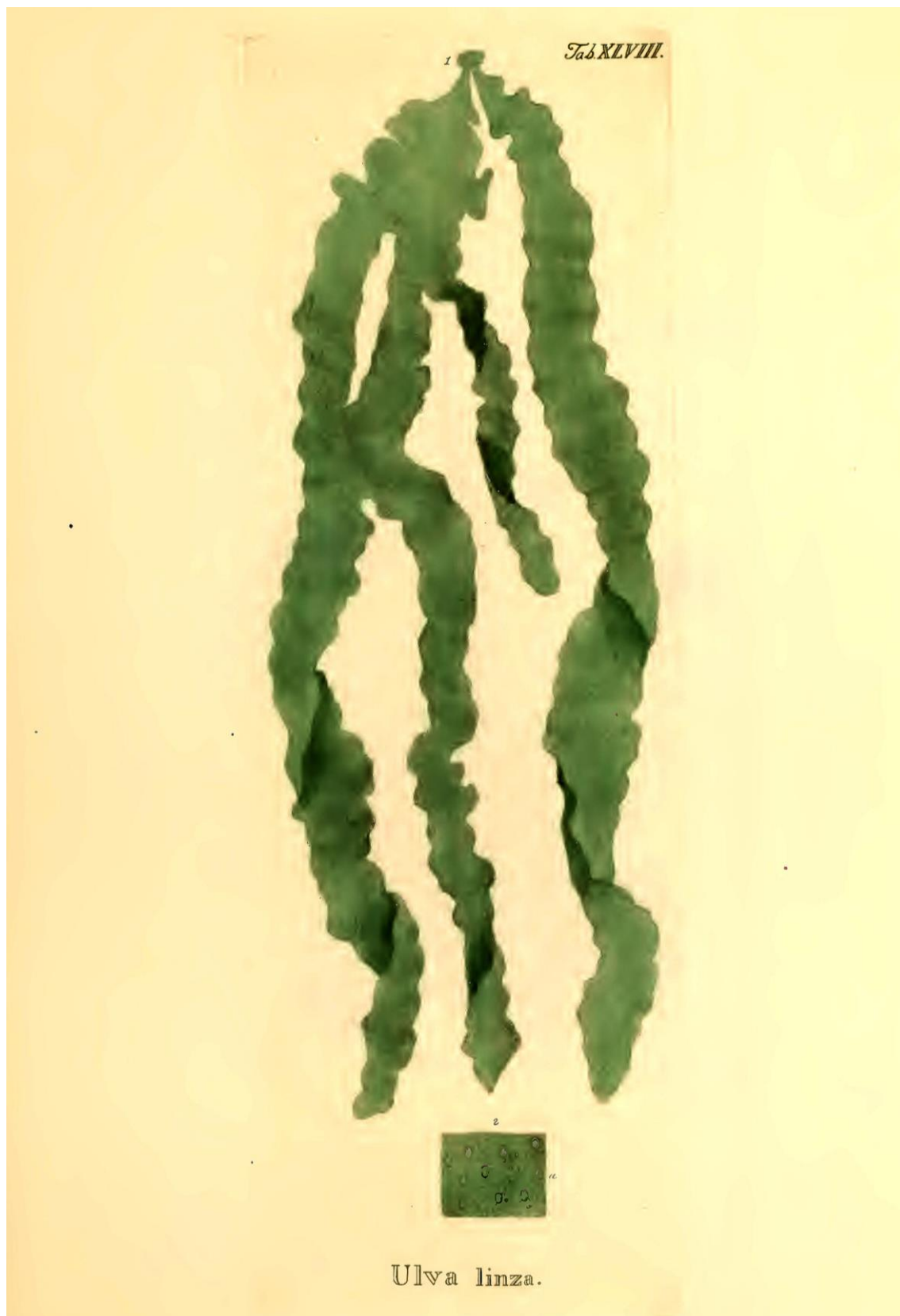
*Ulva latissima.*

**Plate XLVII.** *Ulva latissima* [Linnaeus] = *Ulva lactuca* [Linnaeus] *fide* Bertoloni (1862: 148). *Ulva latissima* has traditionally been used for large, sheet-like blades of *Ulva*. But it was shown by Silva (1952) and Papenfuss (1960) that the type of this species is a brown alga referable to *Laminaria saccharina* (Linnaeus) J.V. Lamouroux; the current name of that brown algal species is *Saccharina latissima* (Linnaeus) C.E. Lane, C. Mayes, Druehl & G.W. Saunders (Lane *et al.*, 2006).

Spencer *et al.* (2009) discussed how Athanasiadis had questioned the validity of Papenfuss' choice of the type of *Ulva latissima*, but that such a basis for rejecting Papenfuss' choice appears to be weak and that there has been widespread acceptance of *Ulva latissima* to serve as basionym for *Saccharina latissima*.

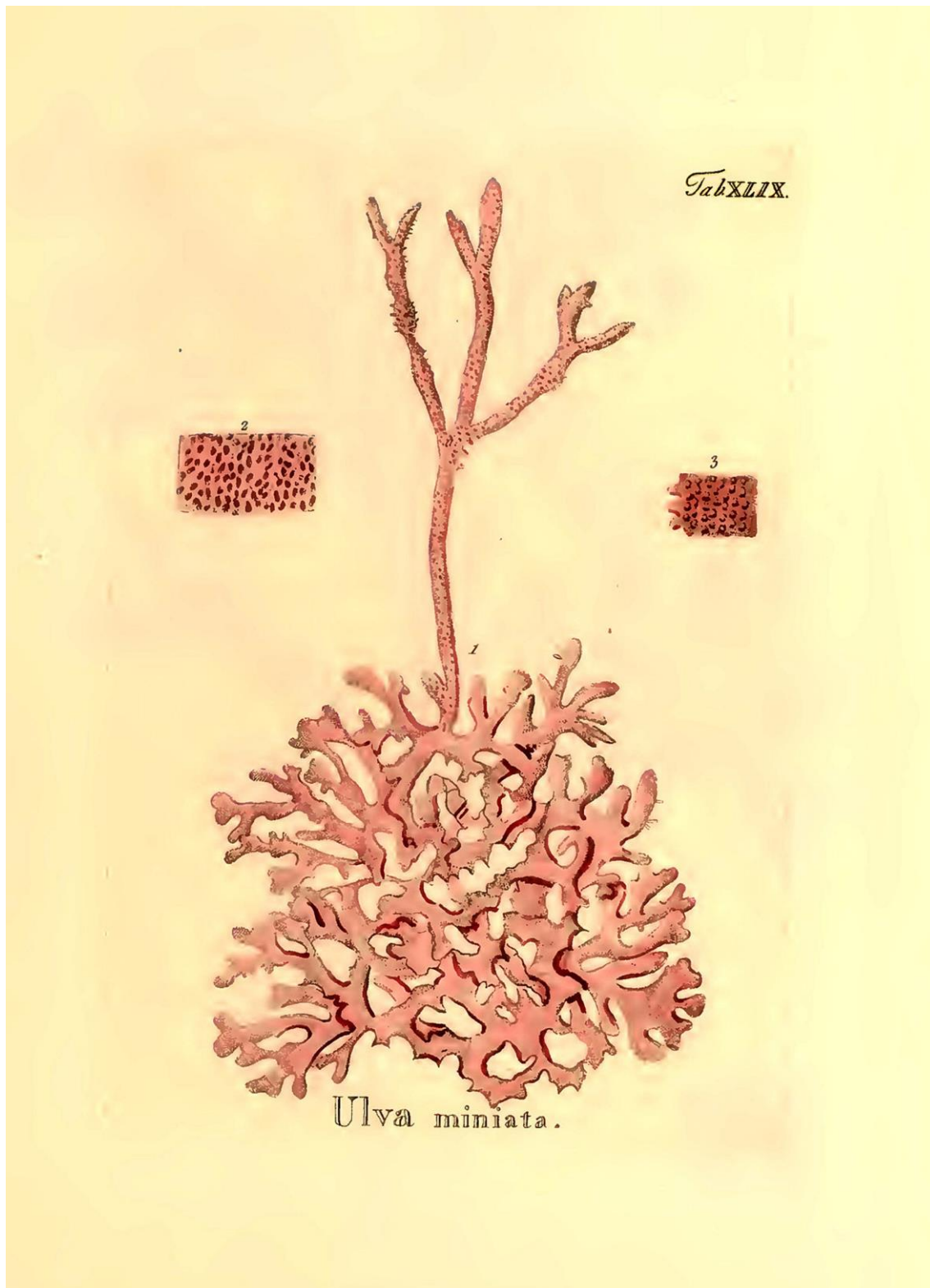
According to Silva *et al.* (1996: 748), “European records apparently are referable to *Ulva gigantea* (Kützing) Bliding (1969: 558-562)...”. But, according to Cormaci *et al.* (2014: 109-110) *U. gigantea* is a *taxon excludendum* from the Mediterranean Sea.

Due to the taxonomic complexity of the genus *Ulva* Linnaeus, it is very hazardous to refer Delle Chiaje's picture to a determinate species of *Ulva*. (x 0.77).



**Plate XLVIII.** *Ulva linza* [Linnaeus] = *Ulva linza* [Linnaeus] *fide* Bertoloni (1862b: 150).

Due to the taxonomic complexity of the genus *Ulva* Linnaeus, it is very hazardous to refer Delle Chiaje's plate to a determinate species of *Ulva*. (x 0.70).



**Plate XLIX.** *Ulva miniata* [(C. Agardh) Lyngbye] ["*Delesseria lacerata* Ag." in the Index]. The alga depicted could represent *Nitophyllum punctatum* (Stackhouse) Greville (except for the elongate branch).

It should be noted that both *U. miniata* [synonym of the Bangiales *Wildemania miniata* (C. Agardh) Foslie] and *Delesseria lacerata* [synonym of *Cryptopleura ramosa* (Hudson) Newton] are species much different from that illustrated in Delle Chiaje's plate. (x 0.85).



**Plate L.** *Ulva crista* [Lightfoot]. In the text (Contributio I: 15) Delle Chiaje stated that his specimen corresponds to *Fucus palmetta* S.G. Gmelin as well to a species of either *Delesseria* or *Ulva* *fide* De Candolle ["*Sphaerococcus lactuca* Ag." in the Index] = *Cryptonemia lomation* (Bertoloni) J. Agardh *fide* Falkenberg (1879: 263) and Ardissonne (1883: 1160).

Nomenclaturally, *U. crista* is the basionym of *Prasiola crista* (Lightfoot) Kützing, but Delle Chiaje's plate represents ***Cryptonemia palmetta* (S.G. Gmelin) Woelkerling, G. Furnari, Cormaci & J. McNeill.** of which *F. palmetta* and *S. lactuca* are synonyms (Woelkerling *et al.*, 2019, No. 113). (x 0.68).



**Plate LI.** *Cystoseira sedoides* [C. Agardh] [= *Cystoseira ericoides* (Linnaeus) C. Agardh *fide* Bertoloni (1862: 19) = *Cystoseira amentacea* Bory *fide* Ardissonne (1886: 36)].

*C. sedoides* is a synonym of *Ericaria sedoides* Neiva & Serrão, but Delle Chiaje's plate represents *Ericaria amentacea* (C. Agardh) Molinari & Guiry. (x 0.75).



**Plate LII.** *Cystoseira discors* [(Linnaeus) C. Agardh] [= *Cystoseira discors* (Linnaeus) C. Agardh *fide* Bertoloni (1862a: 10) and Falkenberg (1879: 245).

*C. discors* is a synonym of *C. foeniculacea* (Linnaeus) Greville *f. foeniculacea*, but the plate represents *Cystoseira foeniculacea* (Linnaeus) Greville *f. latiramosa* (Ercegovič) A. Gómez Garreta, M.C. Barceló, M.A. Ribera & J.R. Lluch. (x 0.75).





**Plate LIII.** *Sargassum anceps* [Delle Chiaje] [= *Sargassum hornschuchii* C. Agardh *vide* Bertoloni (1862a: 4), Falkenberg (1879: 245) and Ardissonne (1886: 19)].  
Current name: *Sargassum hornschuchii* C. Agardh. (x 0.70).



**Plate LIV.** *Flabellaria anadyomena* [Delle Chiaje *nom. illeg.* because of its superfluity in the Index the Author quoted as a synonym "*Anadyomene stellata* Ag."]. Ardissonne (1886: 182) considered Delle Chiaje's species as a synonym of *Anadyomene stellata*.

Current name: *Anadyomene stellata* (Wulfen) C. Agardh. (x 0.80).



**Plate LV.** *Halymenia proteus* [(Delile) Sprengel] = *Sphaerococcus compressus* C. Agardh *fide* Bertoloni (1862a: 101); = *Gracilaria compressa* (C. Agardh) Greville *fide* De Toni (1900: 438) and J. Agardh (1852: 593-594, with a query); = *Grateloupia filicina* J. Agardh *fide* Falkenberg (1879: 263)].

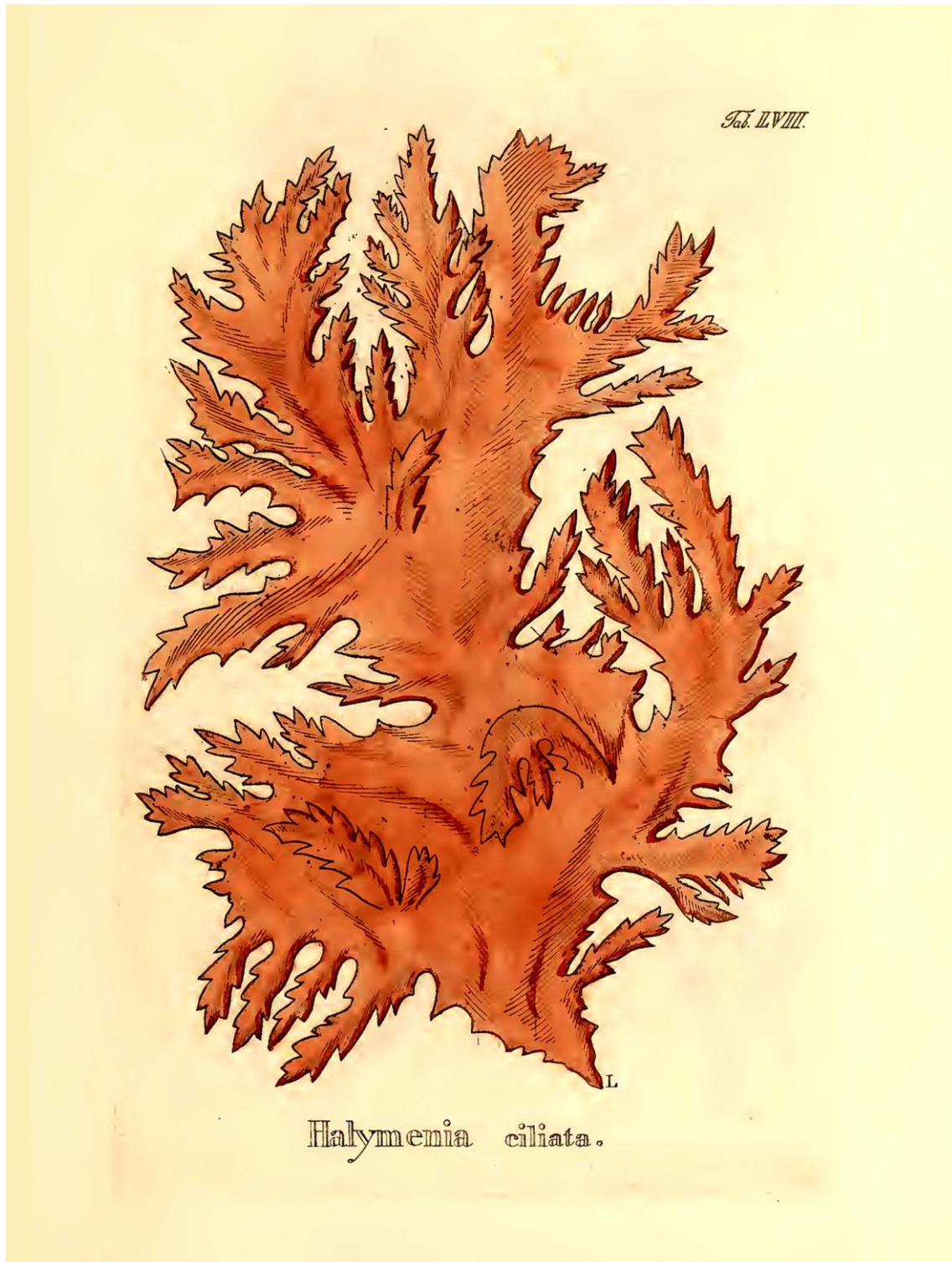
From both Delle Chiaje’s description and plate it looks to be a member of the genus *Gracilaria* rather than *Grateloupia*. Due to the taxonomic complexity of the genus *Gracilaria* it is nearly impossible to indicate the species.

Given the existence of *H. proteus* [(Delile) Sprengel [= *H. floresii* (Clemente) C. Agardh], we believe, as explained at the end of the Introduction, that Delle Chiaje has not described a new species. (X 0.68).



**Plate LVI.** *Halymenia nervosa* [(DC) Delle Chiaje. Bas. *Fucus nervosus* A.P. De Candolle (Lamarck & De Candolle, 1805: 29)] [*Sphaerococcus nervosus* Ag." in the Index] = *Phyllophora nervosa* (De Candolle) Greville *vide* Falkenberg (1879: 268) and Ardissonne (1883: 182).

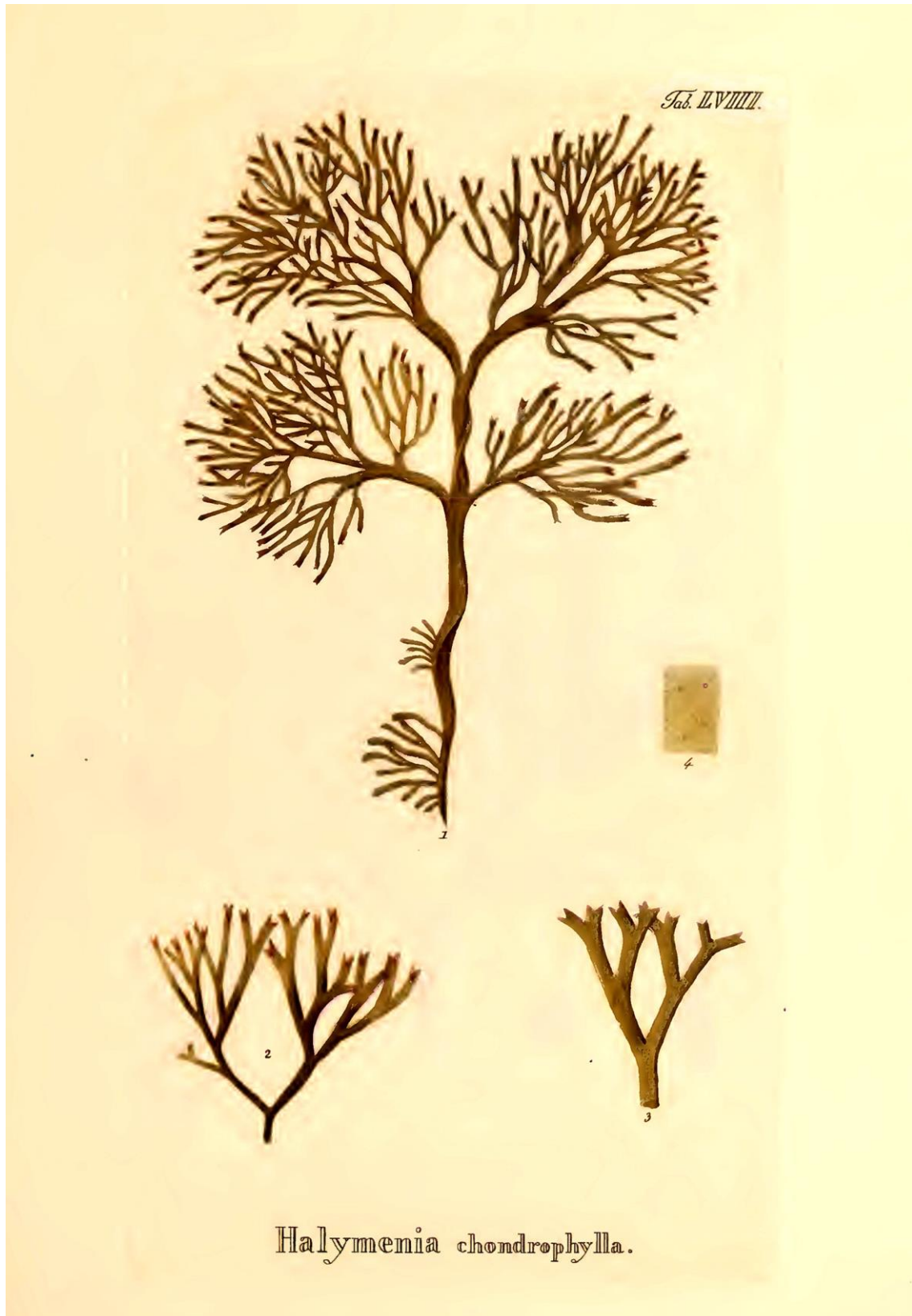
Current name: *Phyllophora crispa* (Hudson) P.S. Dixon of which *H. nervosa* is a synonym. (X 0.68).



**Plate LVII.** *Halymenia ciliata* [(Hudson) J.V. Lamouroux] [it lacks in the Index].

Current name: *Halymenia floresii* (Clemente) C. Agardh. Considered as such also by Ardissonne (1883: 146), Falkenberg (1879: 262) and Cormaci *et al.* (2021: 87), who erroneously credited it to Delle Chiaje.

Given the existence of *H. ciliata* [(Hudson) J.V. Lamouroux [= *Calliblepharis ciliata* (Hudson) Kützing], we believe, as explained at the end of the Introduction, that Delle Chiaje has not described a new species. (x 0.75).



**Plate LVIII.** *Halymenia chondrophylla* [Delle Chiaje *nom. illeg.* because of its superfluity, since in the Index the Author quoted as a synonym "*H. ligulata* Ag."'] (see Cormaci *et al.*, 2021: 75).

Current name: *Halarachnion ligulatum* (Woodward) Kützing. (x 0.72).



**Plate LIX.** *Sphaerococcus teedii* [(Mertens ex Roth) C. Agardh] = *Sphaerococcus teedii* C. Agardh *fide* Bertoloni (1862a: 104); = *Gigartina teedii* (Roth) J.V. Lamouroux *fide* Falkenberg (1879: 267) and Ardissonne (1883: 168).

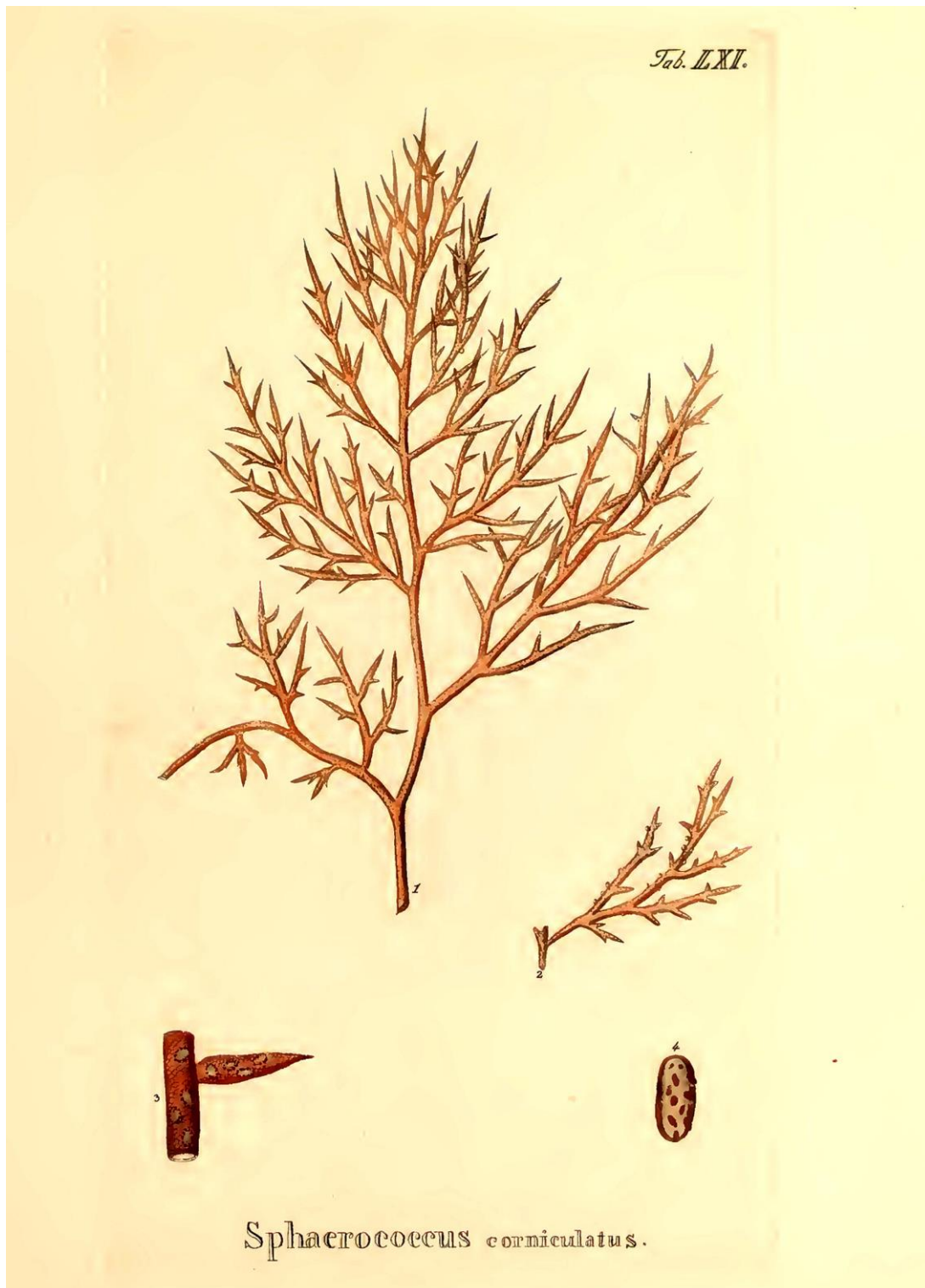
Current name: ***Chondracanthus teedei* (Mertens ex Roth) Kützing** of which *S. teedei* is a synonym. (x 0.75).



**Plate LX.** *Sphaerococcus gigartinus* [(Linnaeus) Stackhouse] = *Sphaerococcus armatus* Agardh *fide* Bertoloni (1862a: 102)].

*S. gigartinus* is a heterotypic synonym of *Gigartina pistillata* (S.G. Gmelin) Stackhouse, but based on the taxonomic opinion of Bertoloni, Delle Chiaje's plate could represent *Gracilaria armata* (C. Agardh) Greville. However, due to the taxonomic complexity of the *Gracilaria* complex, it is impossible to confirm such an opinion. (x 0.75).





**Plate LXI.** *Sphaerococcus corniculatus* [C. Agardh]. The intended basionym of this species (*Fucus corniculatus* R. Brown *ex* Turner *nom. illeg.*) was considered as belonging, besides the genus *Sphaerococcus*, also to *Gigartina*, *Gracilaria*, *Gelidium*, *Hypnea*, and *Chondroclonium* (see Index Nominum Algarum). But Edyvane & Womersley (1994: 299), based on May (1948: 59), pointed out that the type specimen of *Fucus corniculatus* is a *Gigartina*.

Unfortunately, neither Delle Chiaje's picture nor the description allows us to state to which taxon that specimen could be referred to. (X 0.72).



**Plate LXII.** *Sphaerococcus vermicularis* [C. Agardh]. *S. vermicularis* is considered as a synonym of *Ahnfeltiopsis vermicularis* (C. Agardh) P.C. Silva & De Cew, a species not present in the Mediterranean Sea.

Delle Chiaje's plate looks to be *Gymnogongrus griffithsiae* (Turner) Martius in its habit, but the protruding ostiolate cystocarps allow us to consider that it could be a member of the *Gracilaria* complex. (x 0.90).



**Plate LXIII.** *Chondria articulata* ("articolata") [(Turner) C. Agardh] [*Chondria kaliformis*, b *torulosa* Ag." in the Index].

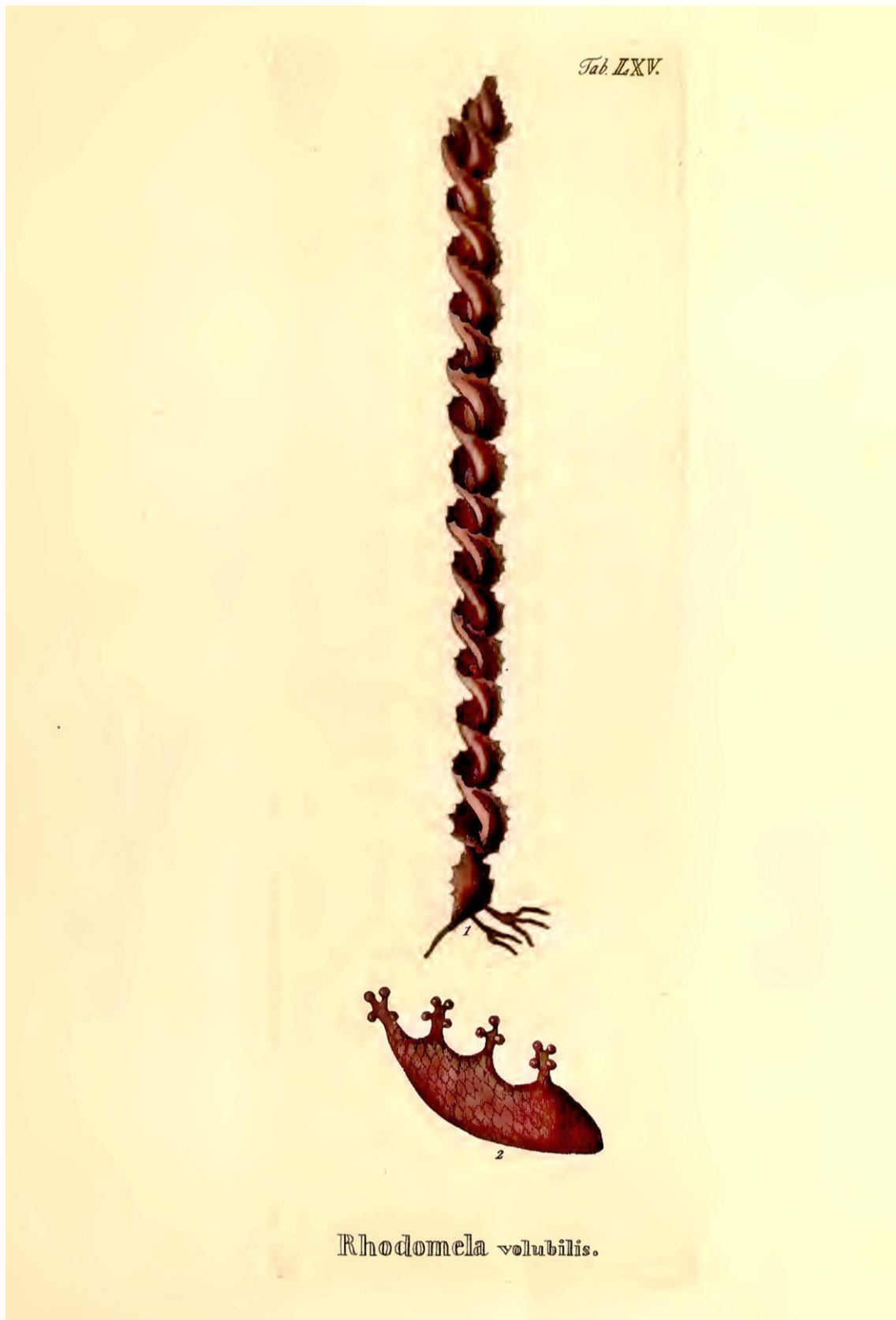
*Chondria articulata* is a synonym of *Lomentaria articulata* (Hudson) Lyngbye, while *C. kaliformis* var. *torulosa* is a synonym of *Chylocladia verticillata* (Lightfoot) Bliding (see Cormaci *et al.*, 2021: 196).

In the absence of information on characteristics of diaphragms (if uni- or pluristromatic) the correct identification of Delle Chiaje's plate is impossible. (X 1).



**Plate LXIV.** *Chondria pusilla* [(Stackhouse) W.J. Hooker]. *C. pusilla* is a homotypic synonym of *Gelidium pusillum* (Stackhouse) Le Jolis.

The identity of the alga depicted here by Delle Chiaje, covered by an epiphytic crustose Corallinacean species, is uncertain. Given the existence of *C. pusilla* (Stackhouse) W.J. Hooker, we believe, as explained at the end of the Introduction, that Delle Chiaje has not described a new species. (X 1).

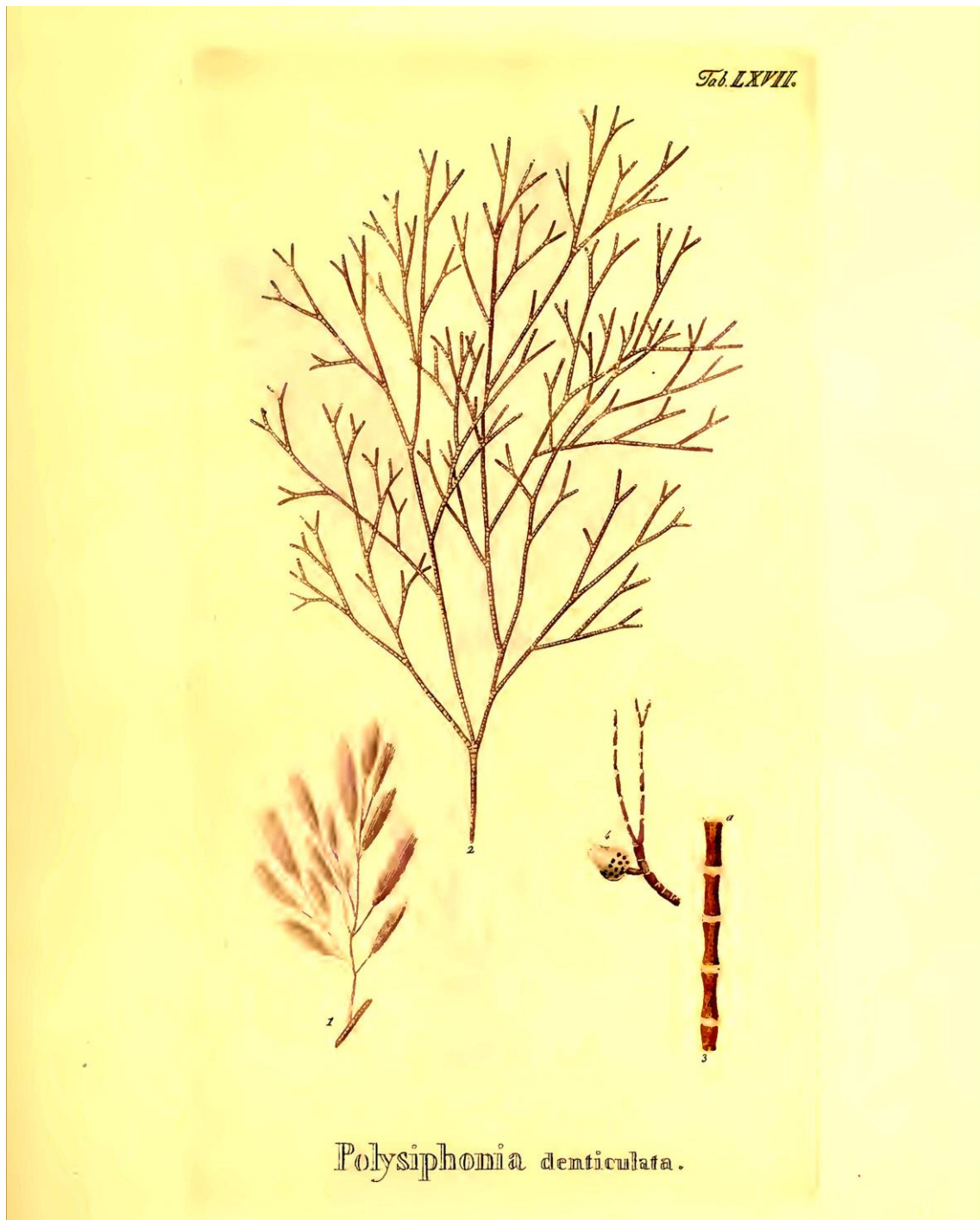


**Plate LXXV.** *Rhodomela volubilis* [(Linnaeus) C. Agardh].

Current name: *Osmundaria volubilis* (Linnaeus) R.E. Norris of which *R. volubilis* is a synonym. (x 0.80).



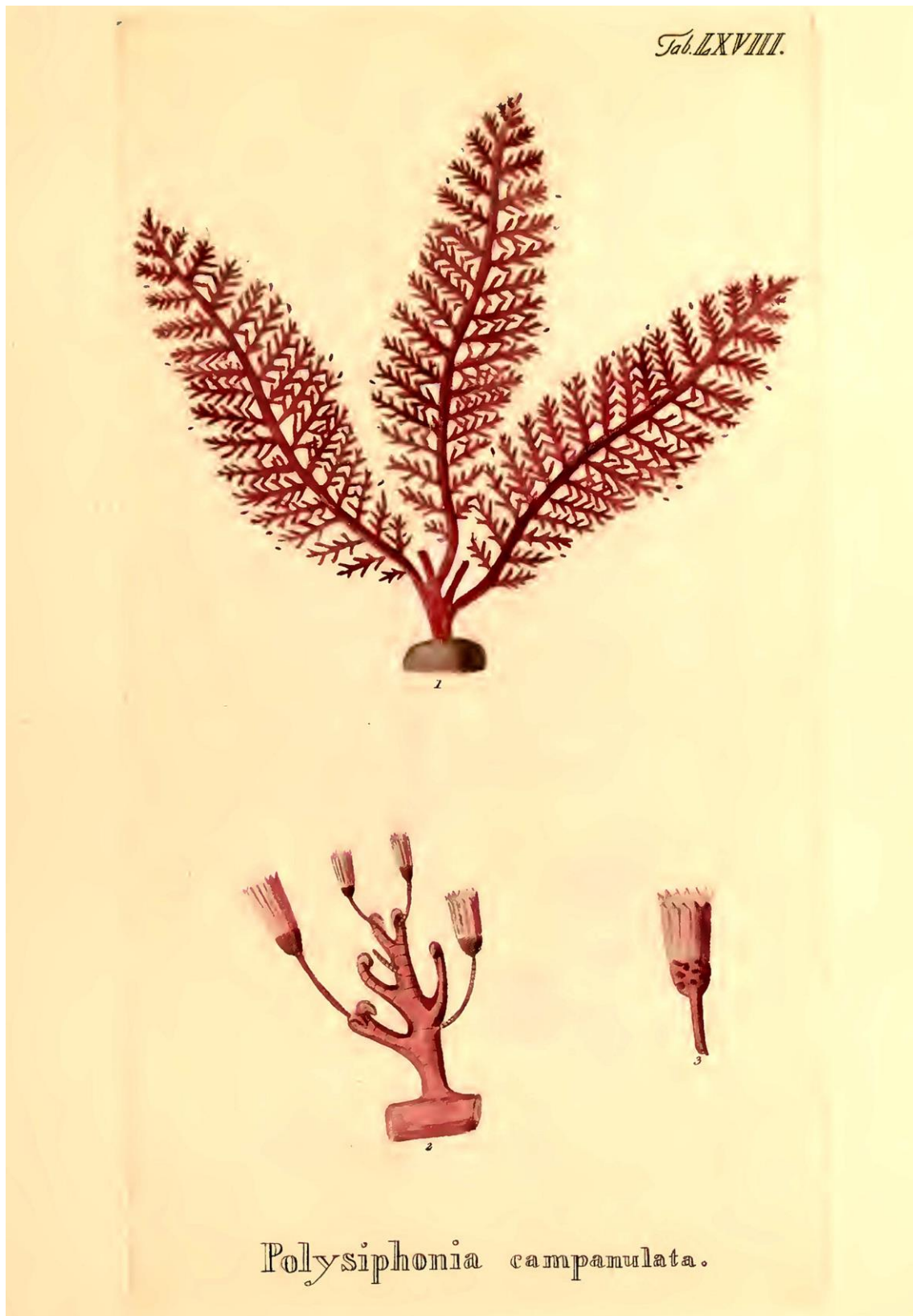
**Plate LXVI.** *Griffithsia corallina* [C. Agardh]. *G. corallina* is considered to be a synonym of *Griffithsia corallinoides* (Linnaeus) Trevisan, but the identity of the alga depicted here by Delle Chiaje remains uncertain. (X 0.75).



**Plate LXVII.** *Polysiphonia denticulata* [Delle Chiaje]. This species was not again cited after its description.

We consider it as a *taxon inquirendum* taking also into account that Delle Chiaje himself, in the text, stated that he had thought for a long time whether his species should be referred to as either *P. brodiei* [(Dillwyn) Sprengel] [= *Leptosiphonia brodiei* (Dillwyn) Savoie & G.W. Saunders], *P. violacea* [(Roth) Sprengel] [= *Vertebrata fucoides* (Hudson) Kuntze], *P. urceolata* [= *P. stricta*] or whether it was a new species, as it seemed to him at that time.

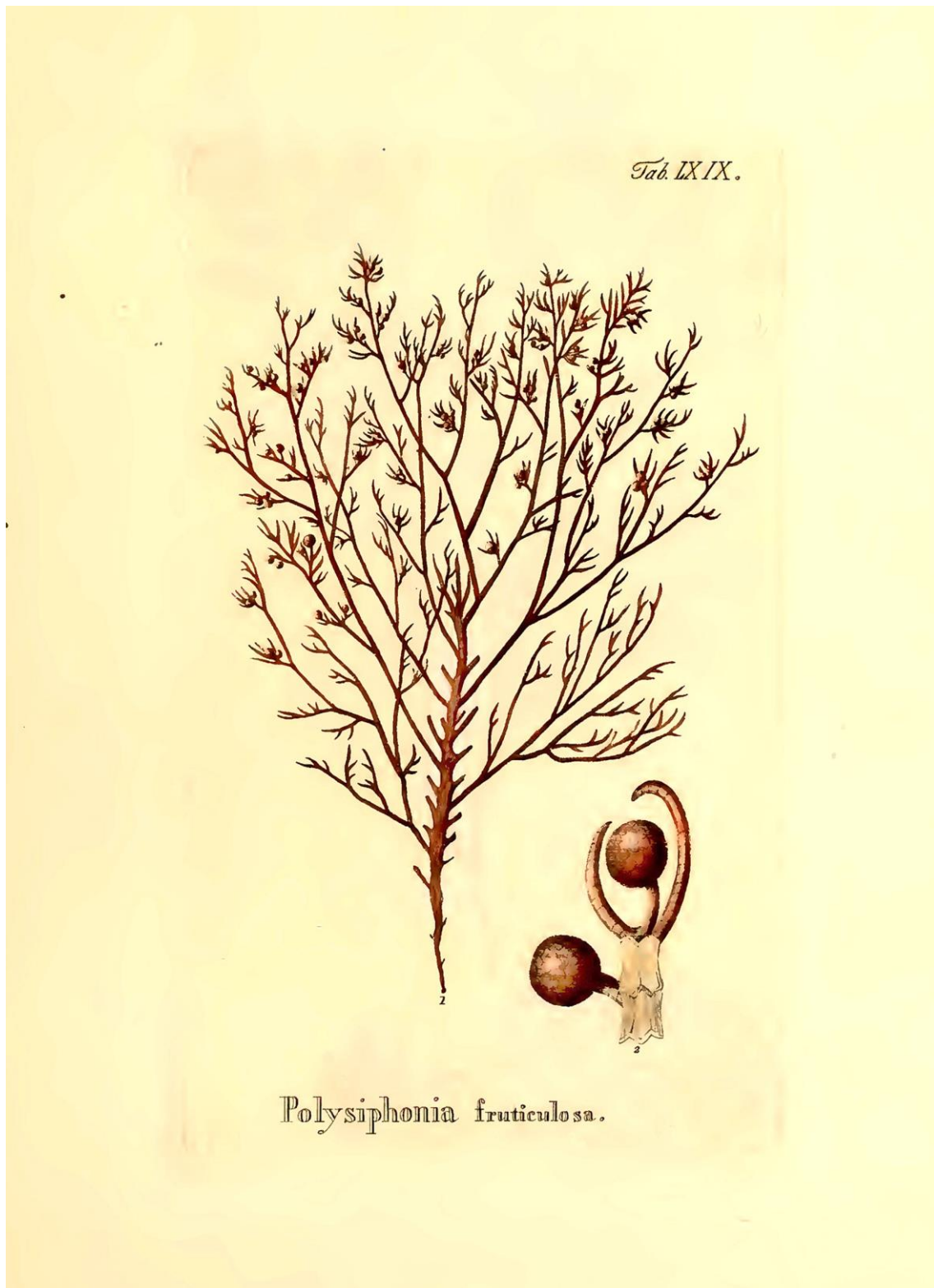
It should be noted that Kützing (1843: 425) described from Helgoland *P. denticulata* Kützing *nom. illeg.*, a species considered by De Toni (1903: 875) as a synonym of *P. urceolata* (Lightfoot ex Dillwyn) Greville (now *Polysiphonia stricta* (Mertens ex Dillwyn) Greville). (x 0.65).



**Plate LXVIII.** *Polysiphonia campanulata* [Delle Chiaje] = *Rhytiphloea tinctoria* J. Agardh *vide* Falkenberg (1879: 272; 1901: 438), De Toni (1903: 1095) and Phillips & De Clerck (2005: 15). In fig. 2 there are represented attached hydroids, detailed in fig. 3.

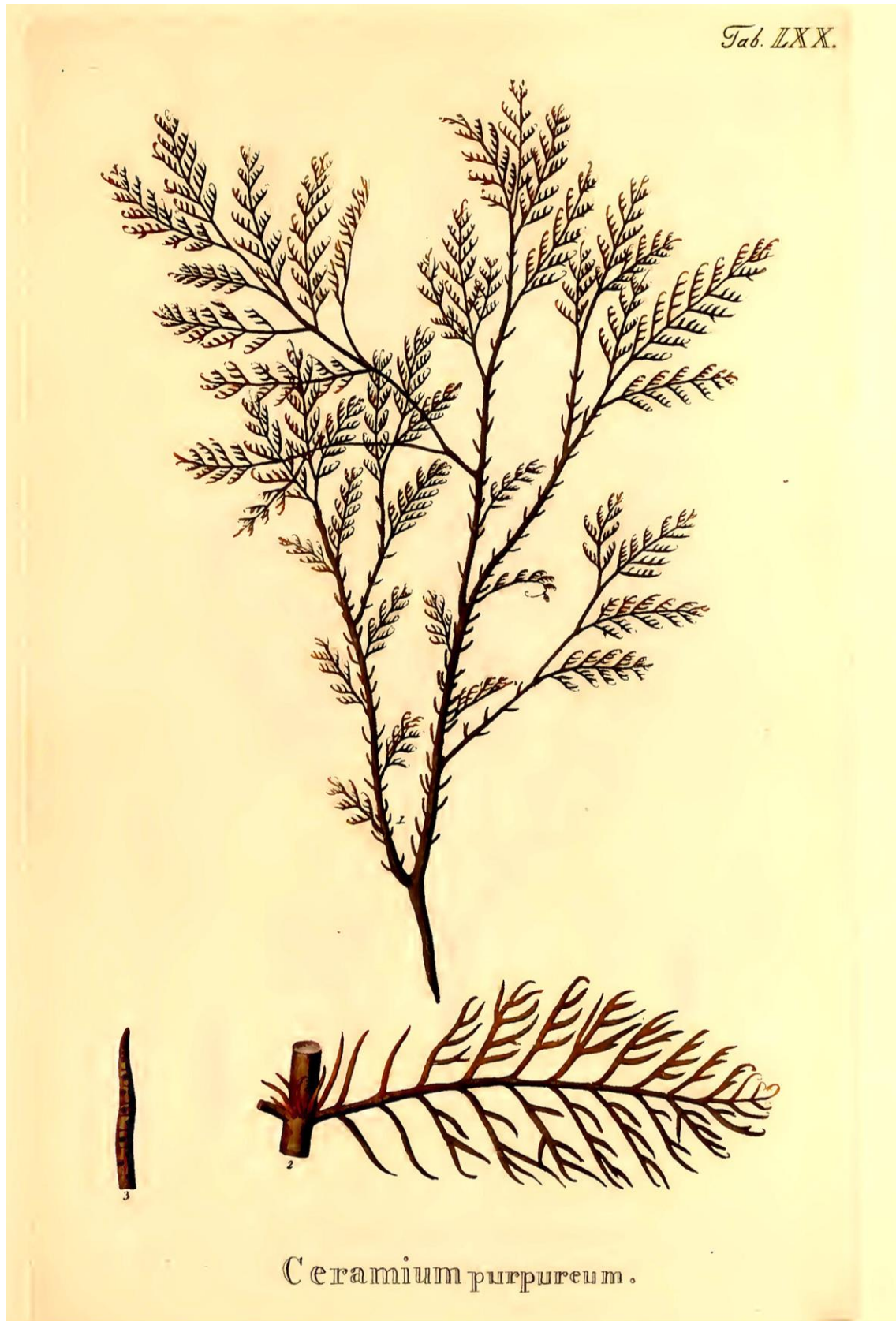
Current name: *Rhytiphloea tinctoria* (Clemente) C. Agardh. (x 0.80).



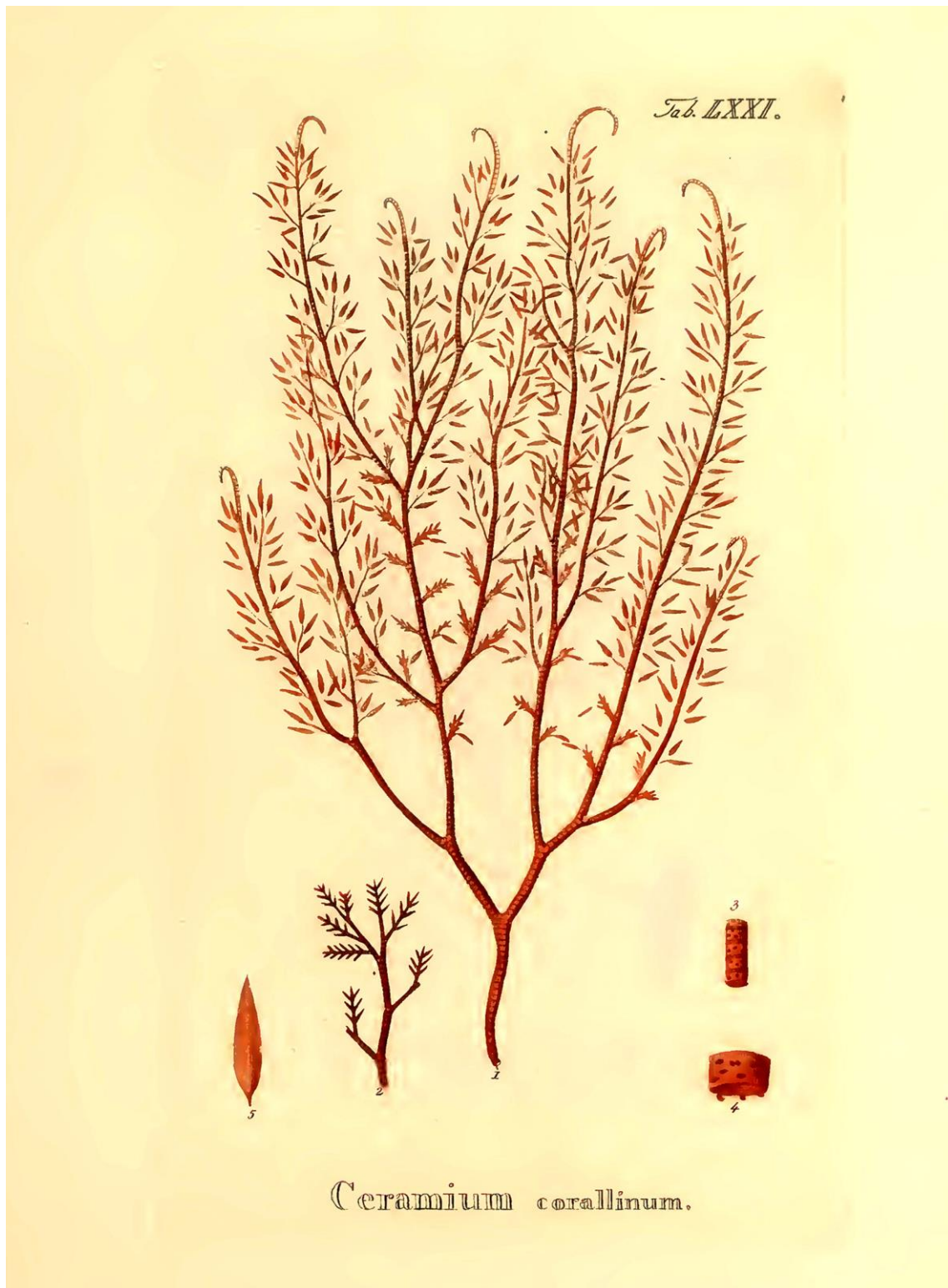


**Plate LXIX.** *Polysiphonia fruticulosa* [(Wulfen) Sprengel] [*Hutchinsia Wulfeni* Ag." in the Index].

Both *P. fruticulosa* and *H. wulfenii* are heterotypic synonyms of *Vertebrata fruticulosa* (Wulfen) Kuntze. But, due to the taxonomic complexity of the *Polysiphonia* complex, it is impossible to identify Delle Chiaje's plate. (x 0.75).

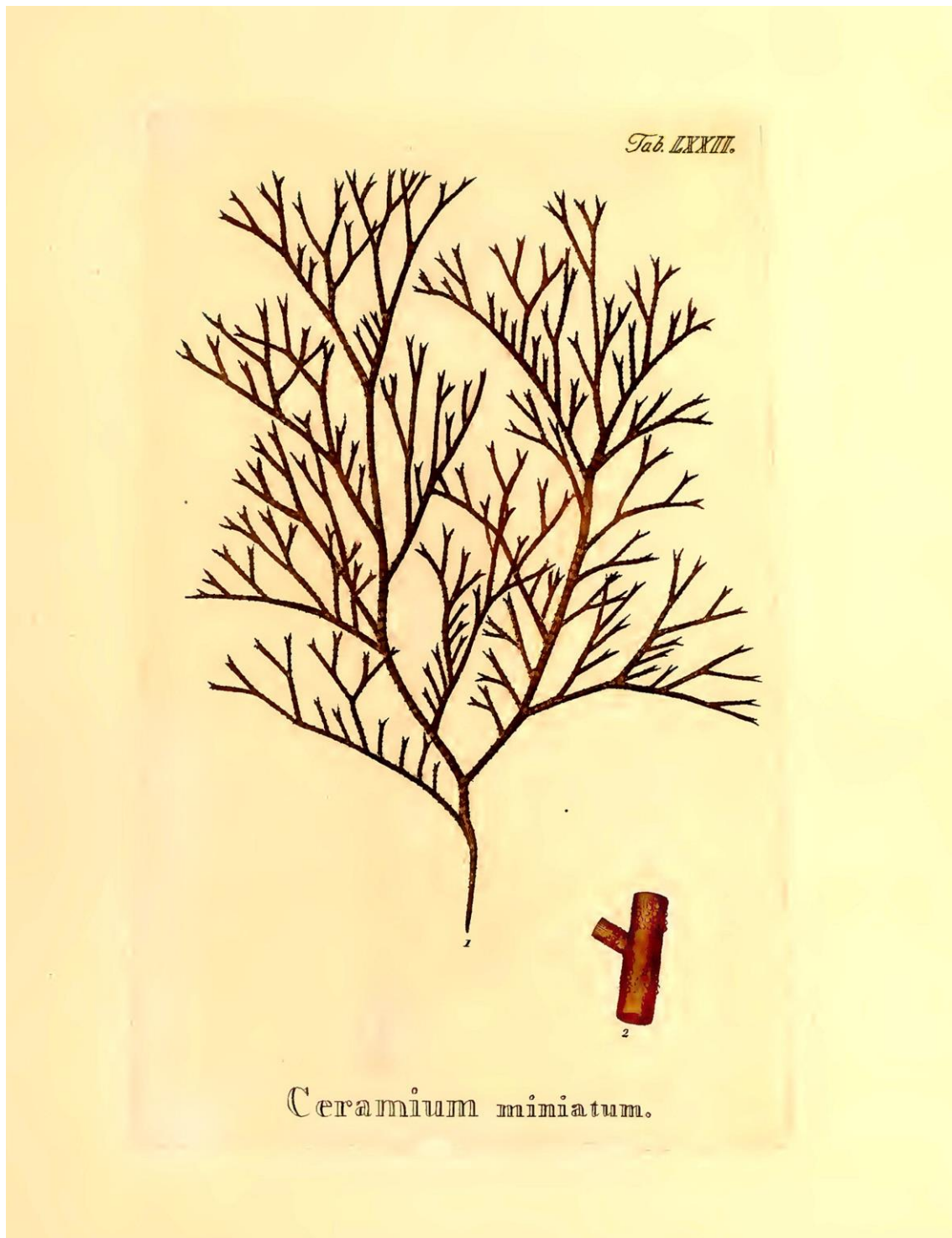


**Plate LXX.** *Ceramium purpureum* [Delle Chiaje]. This species was not cited again after its description. Its identity is uncertain. According to Cormaci *et al.* (2023: 155) it is a *taxon inquirendum*. (x 0.75).



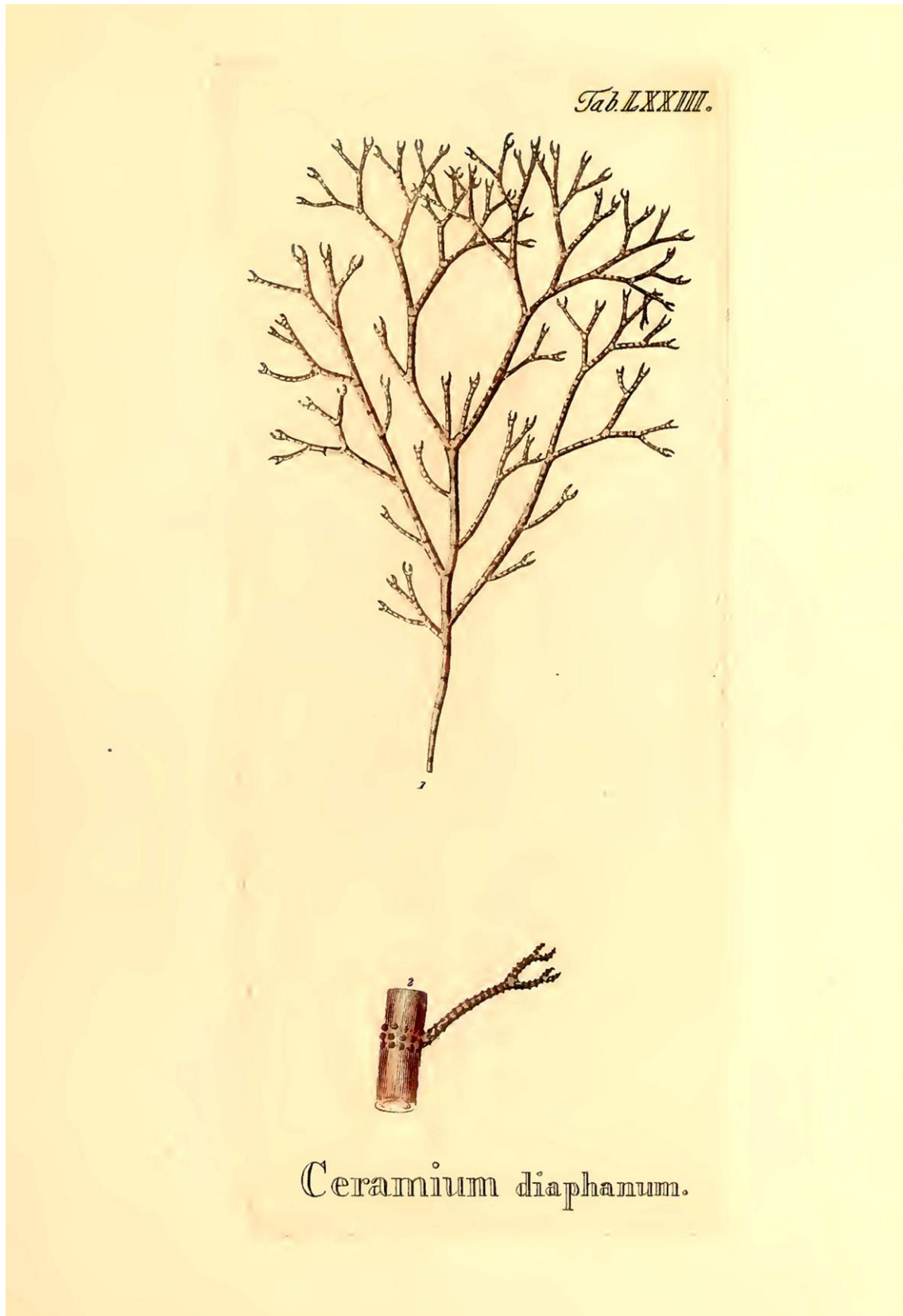
**Plate LXXI.** *Ceramium corallinum* [Bory nom. illeg.] = *Alsidium corallinum* C. Agardh *vide* Bertoloni (1862: 144), Falkenberg (1879: 276) and Ardissonne (1883: 353).

Current name: ***Alsidium corallinum* C. Agardh**. Given the existence of *C. corallinum* (Bory nom. illeg.) [= *Griffithsia corallinoides* (Linnaeus) Trevisan], we believe, as explained at the end of the Introduction, that Delle Chiaje has not described a new species. (x 0.75).

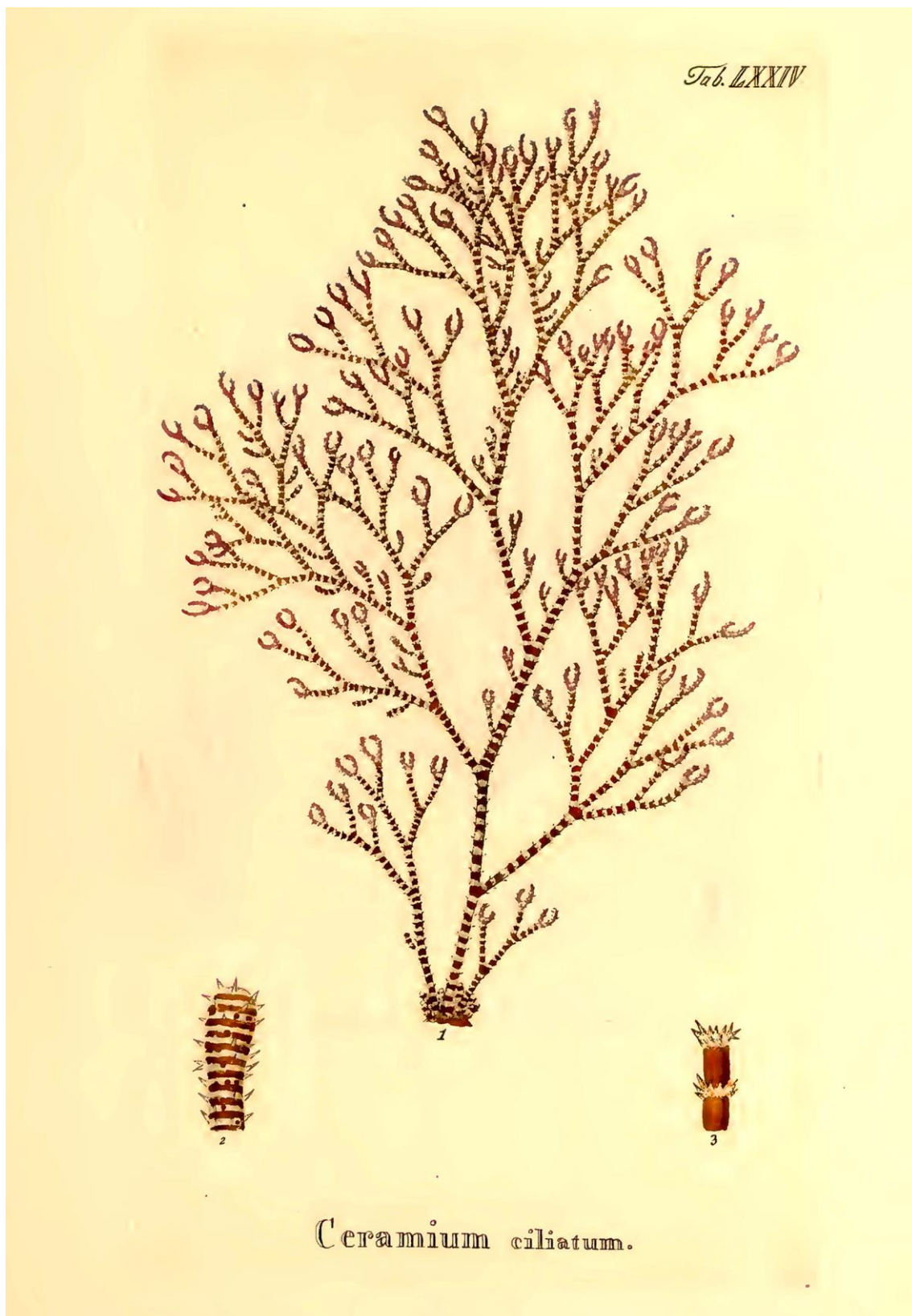


**Plate LXXII.** *Ceramium miniatum* [C. Agardh] ["*Ceramium rubrum* Ag". in the Index] = *Ceramium rubrum* Agardh *fide* Bertoloni (1862b: 216); = *Callithamnion borneri* (Smith) Harvey [now *Pleonosporium borneri* (J.E. Smith) Nägeli] *fide* Ardissonne (1883: 60) (who, however, did not cite Delle Chiaje's specimen).

Although *C. miniatum* is a heterotypic synonym of *P. borneri*, the specimen depicted by Delle Chiaje is an unidentifiable species of *Ceramium*. (x 0.75).



**Plate LXXIII.** *Ceramium diaphanum* [(Lightfoot) Roth] = *Ceramium diaphanum* *fide* Bertoloni (1862b: 218). The specimen depicted by Delle Chiaje is an unidentifiable species of *Ceramium*. (x 0.90).



**Plate LXXIV.** *Ceramium ciliatum* [(J. Ellis) Ducluzeau] = *Ceramium ciliatum* *fide* Bertoloni (1862b: 219).

Current name: *Ceramium ciliatum* (J. Ellis) Ducluzeau (most probably var. *ciliatum*). (x 0.75).



**Plate LXXV.** *Conferva mertensii* [Turner]. Delle Chiaje's plate was ignored by early authors.

Nomenclaturally, *C. mertensii* is the basionym of *Tilopteris mertensii* (Turner) Kützing, a species never recorded from the Mediterranean Sea. From both the description and the plate it is impossible to identify Delle Chiaje's specimen. (X 0.85).



**Plate LXXVI.** *Conferva capillaris* [Linnaeus], but in the text (Distributio II: 8) to Plate LXXVI is referred *Conferva crocata* [Delle Chiaje].

*Conferva capillaris* is a heterotypic synonym of *Cladophora glomerata* (Linnaeus) Kützing. Moreover, since from both the description and the plate, it is impossible to identify Delle Chiaje's specimen, *Conferva crocata* is here considered as a *taxon inquirendum*.

It should be noted that the generic name *Conferva* Linnaeus (1753) is a *nomen rejiciendum*. (X 0.80).





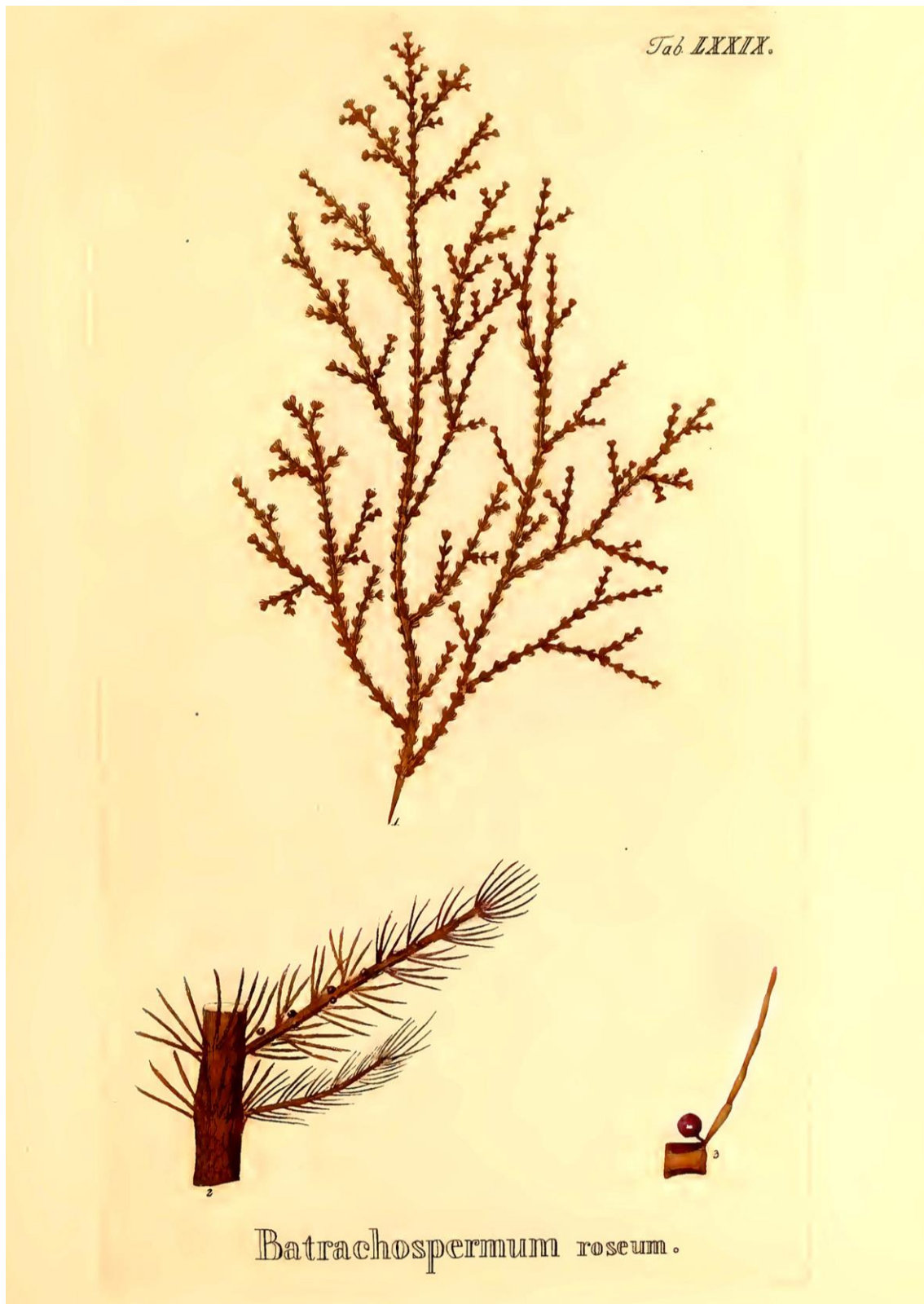
**Plate LXXVII.** *Bryopsis Balbisiana* [J.V. Lamouroux] [*Conferva prolifera* Roth" in the Index].

Wynne (2005) discussed unresolved issues whether Lamouroux's original material of *Bryopsis balbisiana* belongs to *Derbesia* in the opinion of Hamel (1931) or to *Bryopsis* in the opinion of Feldmann (1937). But, from the detailed illustration by Delle Chiaje (Plate LXXVII fig. 2), the specimen illustrated belongs to a species of ***Cladophora* Kützing**. Delle Chiaje in the Index referred it to as *Conferva prolifera* [now *Cladophora prolifera* (Roth) Kützing], but from the illustrations it is not possible to confirm Delle Chiaje's opinion. (x 0.90).



**Plate LXXVIII.** *Draparnaldia tenuis* [C. Agardh] ["*Callithamnion versicolor* Ag." in the Index].

*D. tenuis* is the basionym of the freshwater green alga *Stigeoclonium tenue* (C. Agardh) Kützing, while *C. versicolor* C. Agardh is a heterotypic synonym of *Callithamnion corymbosum* (J.E. Smith) Lyngbye. But, from both description and illustrations by Delle Chiaje, the identity of the alga depicted in Plate LXXVIII remains uncertain. (x 0.80).



**Plate LXXIX.** *Batrachospermum roseum* [Delle Chiaje] ["*Callithamnion vesiculosum* Ag." in the Index]. As far as we know there is not any "*Callithamnion vesiculosum* Agardh" in the literature.

The red alga depicted most probably represents *Sphondylothamnion multifidum* (Hudson) Nägeli. (x 0.75).

Tab. LXXX.



*Nostoc mesentericum.*

**Plate LXXX.** *Nostoc* “*Nostoch*” *mesentericum* [Delle Chiaje] [“*Encoelium sinuosum* Ag.” in the Index] = *Encoelium* “*Encelium*” *sinuosum* [(Mertens *ex* Roth) C. Agardh] *fide* Bertoloni (1862a: 55); *Colpomenia sinuata* Derbès & Solier *fide* Falkenberg (1879: 235); *Hydroclathrus sinuosus* (Mertens *ex* Roth) Thuret *fide* Ardissonne (1886: 123).

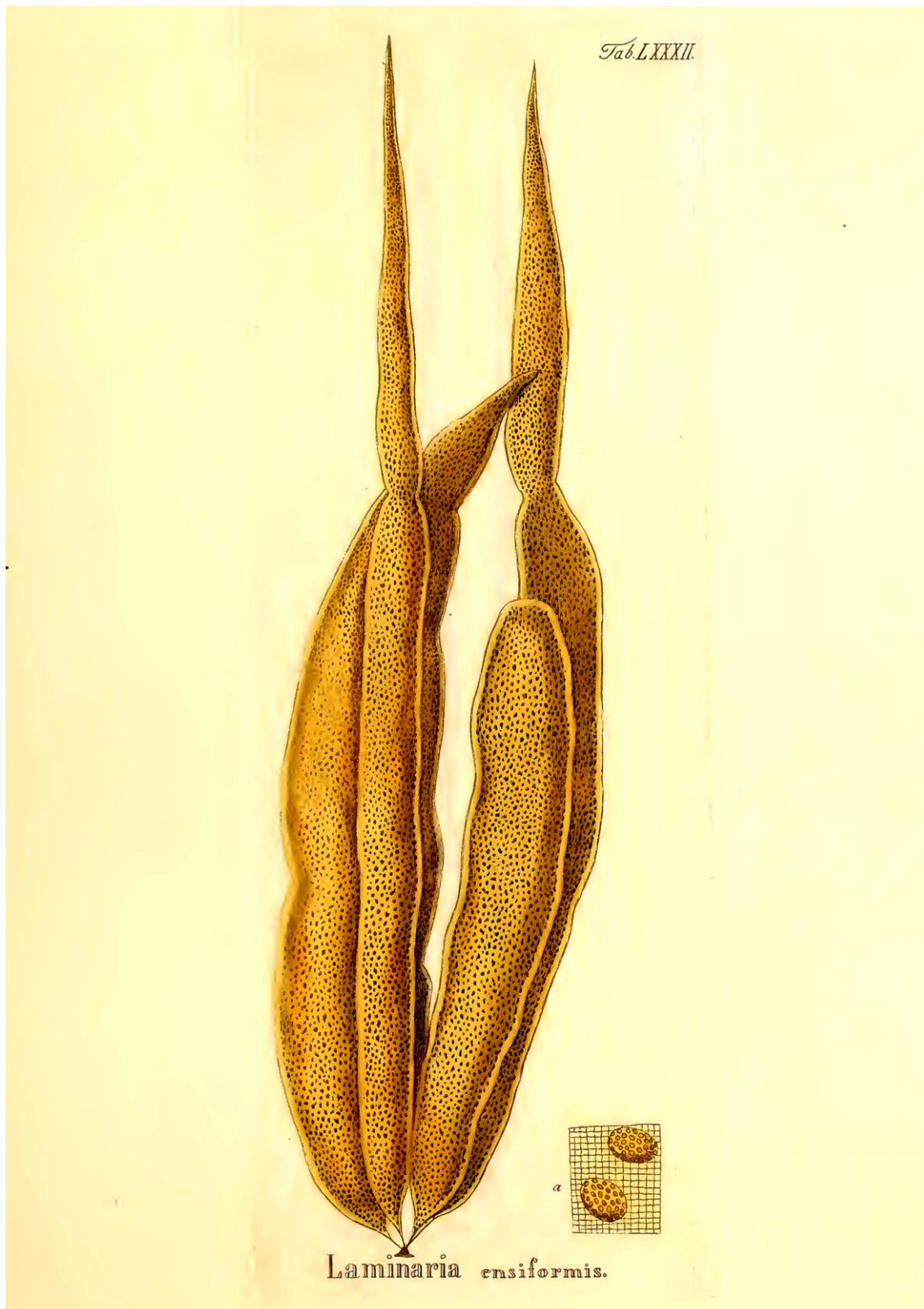
*N. mesentericum* is credited to Delle Chiaje even though it was earlier published by Agardh (1824: 21), but invalidly (Guiry & Guiry, 2023).

In the habit, the specimen depicted by Delle Chiaje resembles to both *Leathesia marina* (Lyngbye) Decaisne and *Colpomenia sinuosa* (Mertens *ex* Roth) Derbès & Solier. But, based on Delle Chiaje’s statement who describes it as “*Mesentericum coriaceum viridi-olivaceum...*”, and agreeing with the later Delle Chiaje’s opinion who in the Index referred his specimen to *Encoelium sinuosum* (now *Colpomenia sinuosa*), we refer that specimen to ***Colpomenia sinuosa* (Mertens *ex* Roth) Derbès & Solier.**

Also the intended basionym of *Nostoc mesentericum* C. Agardh: *Ulva mesenterica* Bonnemaison *nom. illeg.* (superfluous because *Ulva ampullacea* Poiret was cited), shows “...*substance épaisse et un peu coriace...*” as reported by Bonnemaison (1814: 130). As well also *Ulva ampullacea* was described by Poiret (1808: 171) as “*Ulva membranaceo-coriacea...*”. Therefore, *Ulva ampullacea* and *U. mesenterica* are also synonyms of *Ulva sinuosa* Mertens *ex* Roth (basionym of *Colpomenia sinuosa*). (x 0.75).



**Plate LXXXI.** *Sargassum salicifolium*  $\beta$  [(J. Agardh) J. Agardh *nom. illeg.*].  
Most probably it represents *Sargassum acinarium* (Linnaeus) Setchell. (x 0.70).



**Plate LXXXII.** *Laminaria ensiformis* [Delle Chiaje] [= *Asperococcus compressus* Griffiths ex Hooker, *fide* Falkenberg (1879: 235) and Ardissonne (1886: 135)].

Wynne (2003) proposed that *Laminaria ensiformis* Delle Chiaje predates *Asperococcus compressus* Hooker (1833).

Current name: *Asperococcus ensiformis* (Delle Chiaje) M.J. Wynne. (x 0.68).



**Plate LXXXIII.** *Laminaria lomentaria* [Delle Chiaje] = *Scytosiphon lomentarium* J. Agardh *fide* Falkenberg (1879: 235).

Current name: *Scytosiphon lomentaria* (Lyngbye) Link. (x 0.68).





**Plate LXXXIV.** *Scytosiphon Filum* [(Linnaeus) C. Agardh]. *S. filum* is a homotypic synonym of *Chorda filum* (Linnaeus) Stackhouse], but the identity of the specimen depicted by Delle Chiaje is uncertain.

According to Athanasiadis (1987: 121), this circumboreal, cold-temperate species does not occur in the Mediterranean Sea. Earlier, it was reported from the Thau Lagoon, France (Riouall, 1985), considered to have been accidentally introduced with mollusc culture (Cormaci *et al.*, 2004, 2012). Hamel (1938) cited specimens of this species that were collected near Nice (France) and held in PC. (x 0.80).

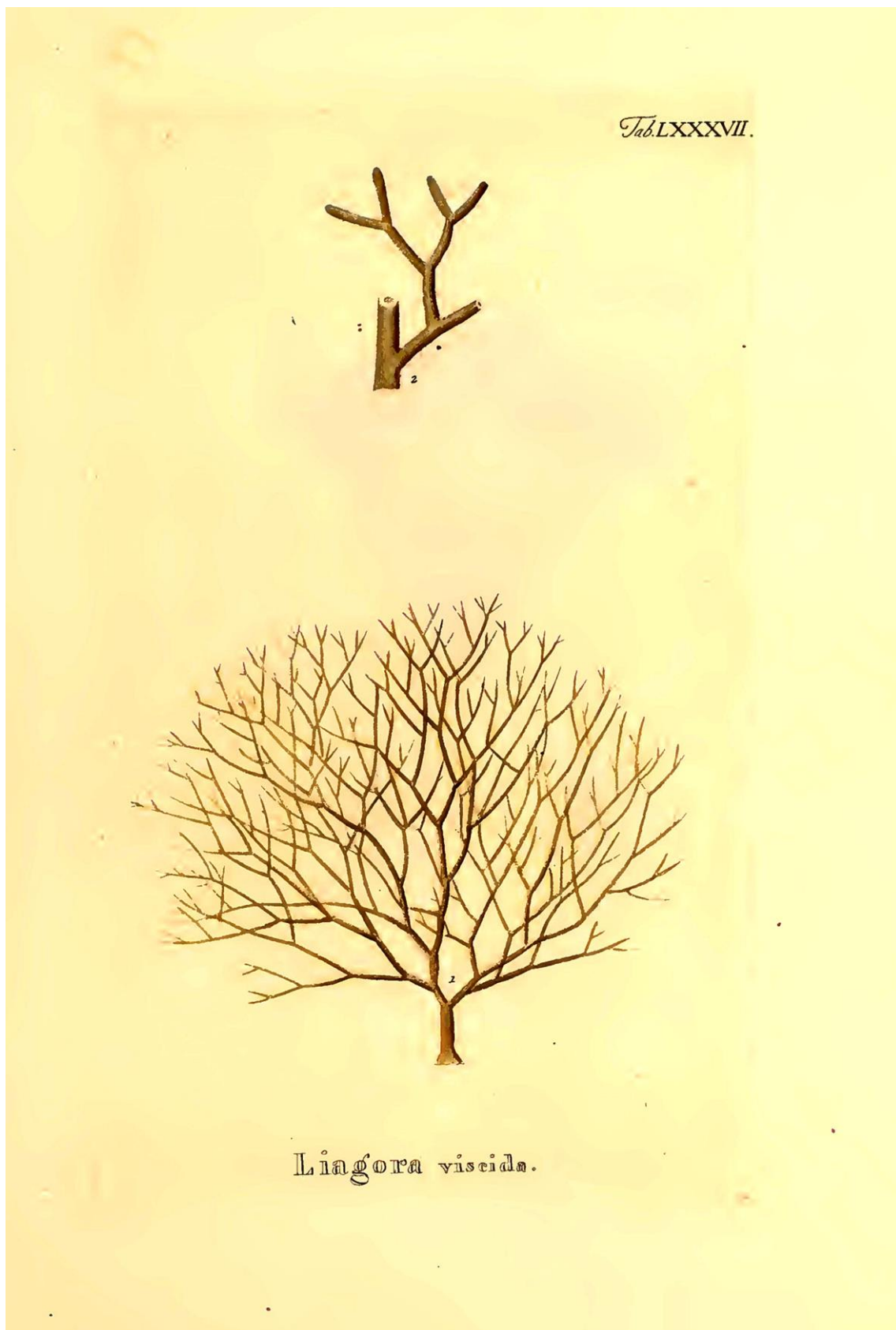


**Plate LXXXV.** *Delesseria Plocanium* [(S. G. Gmelin) C. Agardh] = *Plocanium coccineum* J. Agardh *fide* Falkenberg (1879: 270).

Current name: *Plocanium cartilagineum* (Linnaeus) P.S. Dixon of which *D. plocanium* is a synonym. (x 0.78).

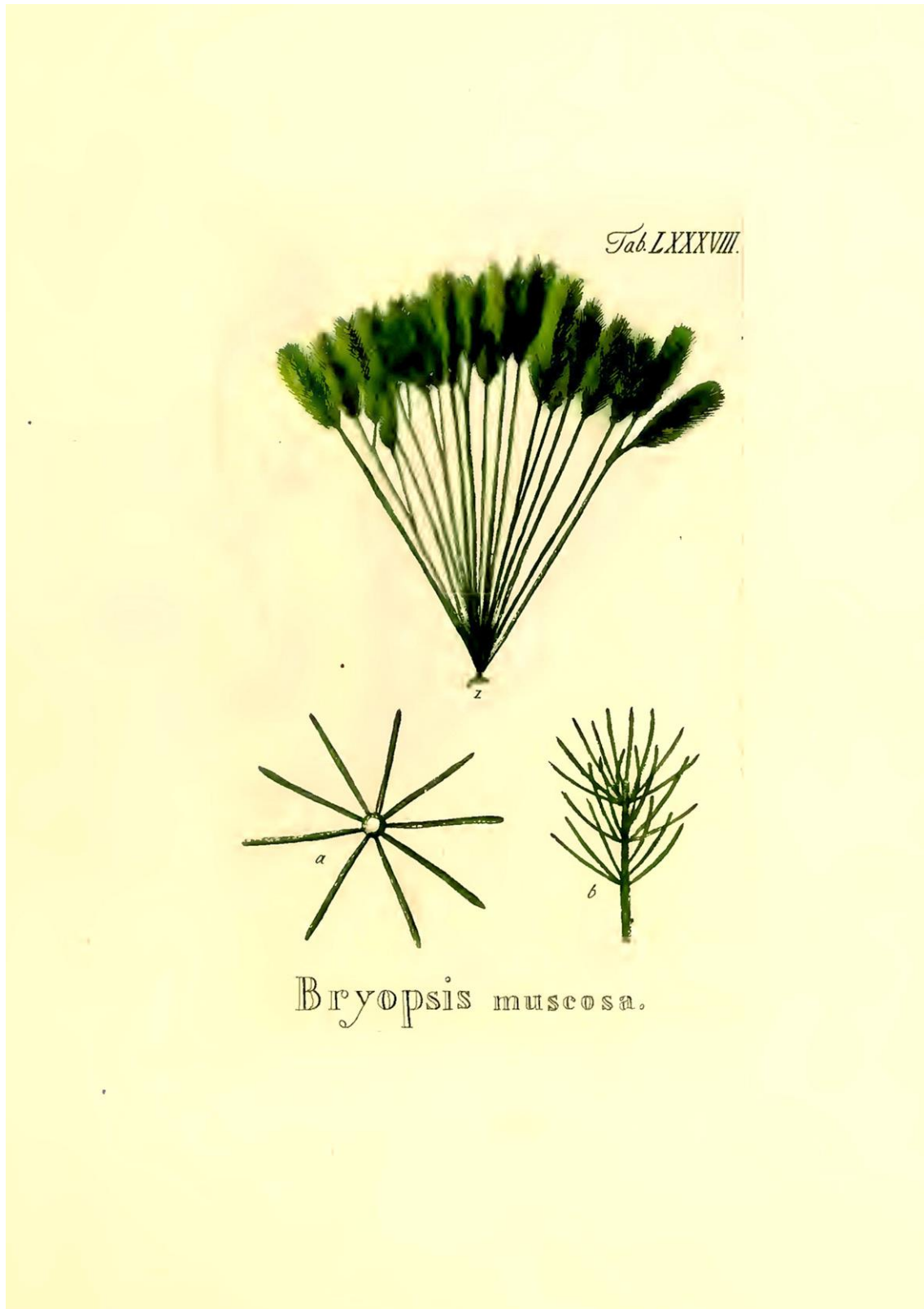


**Plate LXXXVI.** *Sphaerococcus crispus* [(Linnaeus) C. Agardh]. *S. crispus* is a heterotypic synonym of *Chondrus crispus* Stackhouse, a species not known to occur in the Mediterranean Sea. From the habit, it resembles *Phyllophora herediae* (Clemente) J. Agardh, but its identification is rather uncertain. (x 0.85).



**Plate LXXXVII.** *Liagora viscida* [(Forsskål) C. Agardh].

Current name: *Liagora viscida* (Forsskål) C. Agardh. (x 0.80).



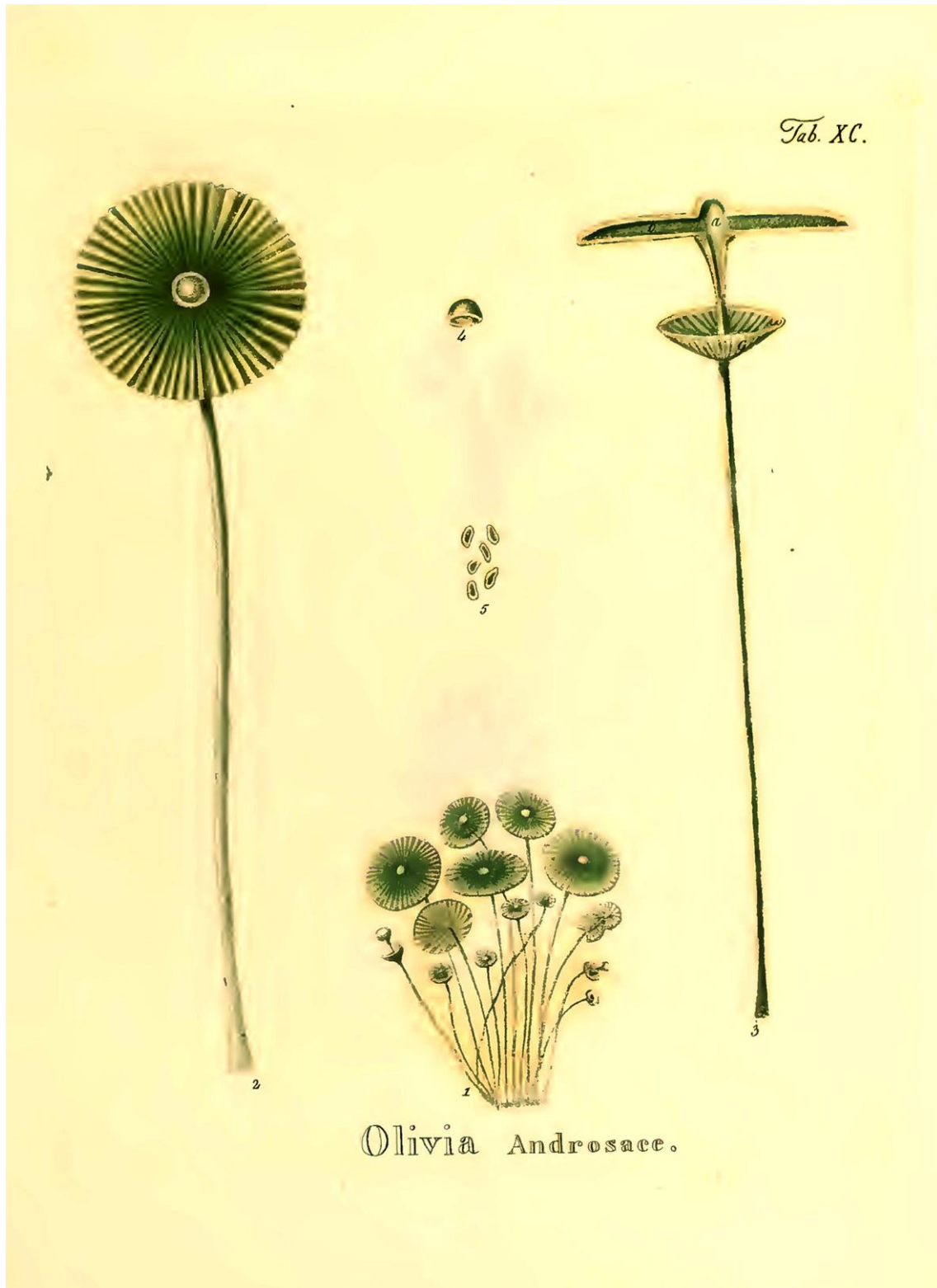
**Plate LXXXVIII.** *Bryopsis muscosa?* [J.V. Lamouroux] = *Bryopsis muscosa* J.V. Lamouroux *vide* Bertoloni (1862b: 165] and Ardissonne 1886: 153).

From the habit it could represent *Bryopsis muscosa* J.V. Lamouroux. (x 0.90).



**Plate LXXXIX.** *Ulva purpurea* [Roth] [*Porphyra vulgaris* Ag." (*nom. illeg.*) in the Index and in the plate].

*U. purpurea* and *P. vulgaris* are the basionym and a heterotypic synonym of *Porphyra purpurea* (Roth) C. Agardh, respectively. But due to the taxonomic complexity of the *Porphyra* complex, it is impossible to identify Delle Chiaje's plate. (x 0.75).



**Plate XC.** *Olivia androsace* [Bertoloni, *nom. illeg.*] ["*Acetabulum mediterraneum* Lam." in the Index] = *Acetabularia mediterranea* J.V. Lamouroux (*nom. illeg.*) *fide* Falkenberg (1879: 232 and Ardissonne (1886: 178)].

Current name: *Acetabularia acetabulum* (Linnaeus) P.C. Silva of which *O. androsace* is a synonym. (X 0.78).



**Plate XCI.** *Lichina pygmaea* [(Lightfoot) C. Agardh]. *L. pygmaea* (Lightfoot) C. Agardh is an intertidal marine lichen, never recorded from the Mediterranean Sea (Guiry in Guiry & Guiry, 2023). From both Delle Chiaje's description and illustration we exclude it is *L. pygmaea*, but the identification of Delle Chiaje's plate is not possible. (x 0.90).





**Plate XCII.** *Cystoseira acanthophora* [(J.V. Lamouroux) Delle Chiaje. Bas. *Fucus acanthophorus* J.V. Lamouroux (Lamouroux, 1805: 61)] [*Chondria Delilei* et *Acanthophora* Ag." in the Index] = *Acanthophora delilei* J. Agardh *vide* Falkenberg (1879: 275), Ardissoni (1883: 352) and De Toni (1903: 819).

*Cystoseira acanthophora* is a heterotypic synonym of *Acanthophora spicifera* (M. Vahl) Børgesen, a species not known to occur in the Mediterranean Sea.

*Chondria delilei* C. Agardh, *A. delilei* J.V. Lamouroux and *Cystoseira acanthophora* are heterotypic synonyms of *Acanthophora nayadiformis* (Delile) Papenfuss.

It should be noted that Jong *et al.* (1999: 218, tab. 1) listed *Cystoseira acanthophora* (credited to Delle Chiaje), among heterotypic synonyms of *A. nayadiformis*.

Current name: ***Acanthophora nayadiformis* (Delile) Papenfuss.** (x 0.74).



**Plate XCIII.** *Sargassum diversifolium*? [(Turner) C. Agardh]. According to Ardissonne (1886: 17) *S. diversifolium* is a synonym of *S. linifolium* (Turner) C. Agardh var. *pinnatifolium* J. Agardh, a *taxon* of uncertain taxonomy.

In the absence of information of reproductive structures, Delle Chiaje's specimen is an unidentifiable species of *Sargassum*. (x 0.80).



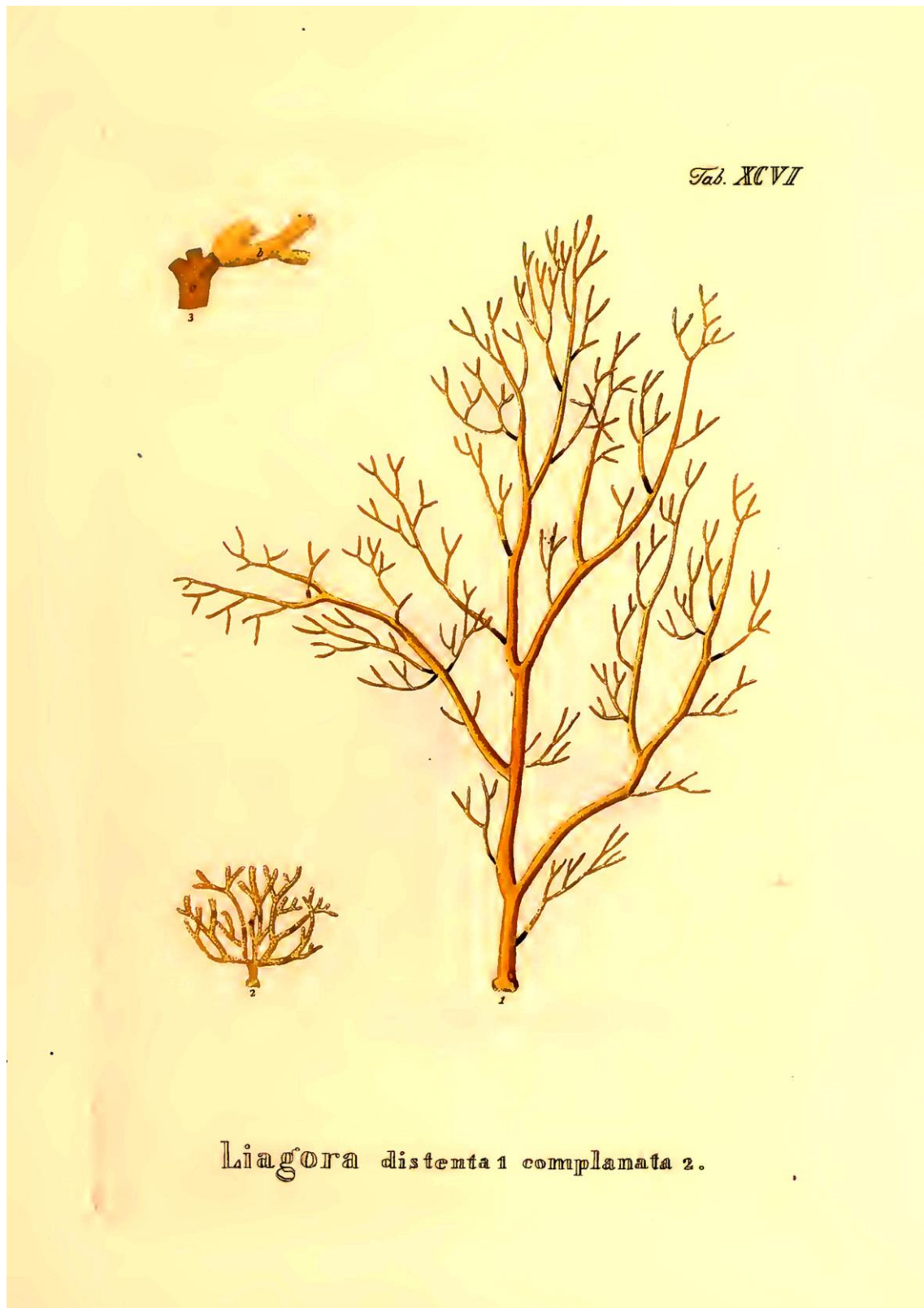
**Plate XCIV.** *Laminaria phyllitis* [(Stackhouse) J.V. Lamouroux] = *Phyllitis debilis* Le Jolis *fide* Falkenberg (1879: 234); = *Phyllitis fascia* (Fl. Dan.) Kützing *fide* Ardissonne (1886: 121).

*L. phyllitis* is a heterotypic synonym of *Saccharina latissimima* (Linnaeus) C.E. Lane, C. Mayes, Druehl & G.W. Saunders, but Delle Chiaje's specimen represents *Petalonia fascia* (O.F. Müller) Kuntze. (x 0.70).



**Plate XCV.** *Chondria pinnatifida* [(Hudson) C. Agardh] = *Laurencia pinnatifida* [(Hudson) J.V. Lamouroux] *vide* Falkenberg (1879: 275).

Nomenclaturally, *C. pinnatifida* is the basionym of *Osmundea pinnatifida* (Hudson) Stackhouse), but Delle Chiaje's specimen most probably represents *Osmundea truncata* (Kützing) K.W. Nam *et* C.A. Maggs. (x 0.80).



**Plate XCVI.** *Liagora distenta* [(Mertens ex Roth) J.V. Lamouroux]. This plate in the Index is erroneously indicated as "XCVII". In the text figs 2-3 are referred to *L. complanata* [C. Agardh, a synonym of *L. distenta*] with doubt.

Current name: *Liagora distenta* (Mertens ex Roth) J.V. Lamouroux. (x 0.80).



**Plate XCVII.** *Physidium bullosum* [(J.V. Lamouroux) Delle Chiaje] [*Encoelium bullosum* Ag. in the Index].

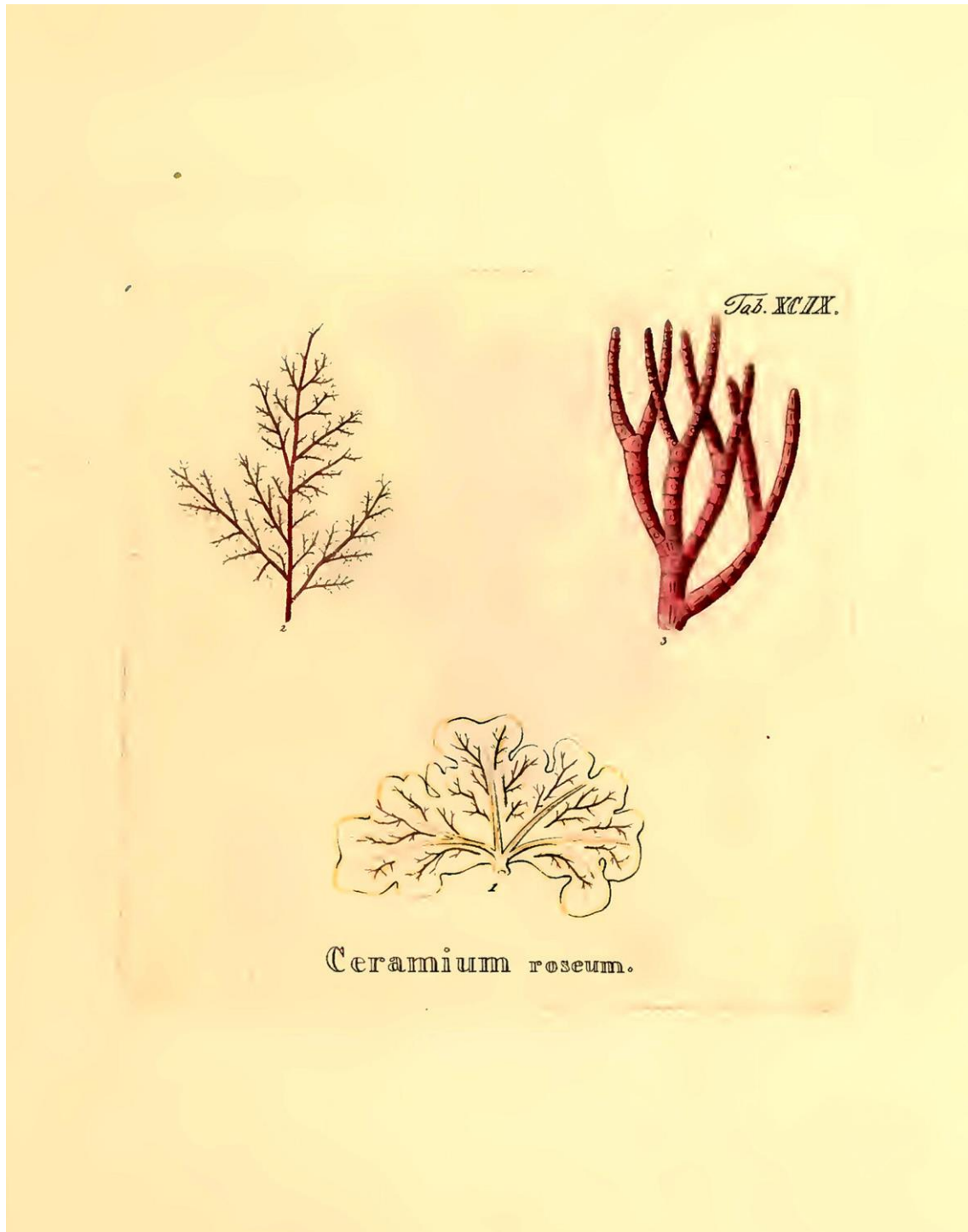
Both *P. bullosum* and *E. bullosum* (J.V. Lamouroux) C. Agardh are synonyms of ***Asperococcus bullosus* J.V. Lamouroux.**

In Delle Chiaje's plate are shown some young thalli of that species. (x 0.85).



**Plate XCVIII.** *Ceramium scoparium* [(Linnaeus) De Candolle] = *Stypocaulon scoparium* [(Linnaeus) Kützing] *fide* Bertoloni (1862b: 215); = *Sphacelaria scoparia* [(Linnaeus) Lyngbye] *fide* Ardissonne (1886: 86)].

Only the specimen illustrated in fig. 2 can be referred to as *Halopteris scoparia* (Linnaeus) Sauvageau (of which *C. scoparium* is a synonym) for the habit, while specimens illustrated by figs 1 and 3 should be referred to as a species of *Sphacelaria* due to their hemiblastic branching (particularly evident in fig. 3). (x 0.75).



**Plate XCIX.** *Ceramium roseum* [Roth]. Nomenclaturally, *C. roseum* is the basionym of *Gaillona rosea* (Roth) Athanasiadis. But what is illustrated in this plate by Delle Chiaje is an unidentifiable red alga. (x 0.85).





**Plate C.** *Conferva alcyonidium* [Delle Chiaje] ["*Alcyonidium*" in the Index] (Note: The generic name *Conferva* Linnaeus is a *nomen rejiciendum* and replaced by *Cladophora* Kützing). From the habit (fig. 1) it could represent either *Palmophyllum crassum* (Naccari) Rabenhorst or an encrusting species of the genus *Codium* Stackhouse, but the details illustrated in figs 2 and 3 suggest that it might represent a member of the Cyanophyceae. Therefore, it is a *taxon inquirendum*. (X 0.90).

## Conclusions

Of the 100 species reported in the text and illustrated in the respective plates, 18 are newly described by Delle Chiaje. Of them, 10 are synonymous of taxonomically accepted species and 8 are *taxa inquirenda*. Moreover, Delle Chiaje proposed 9 new combinations, 7 of which are synonyms of taxonomically accepted species and 2 are accepted species. It was possible to identify with certainty the species represented in 59 plates, with doubt those represented in 16 plates, while those represented in 25 plates were found to be unidentifiable.

Finally, from the study of the tables emerged some curiosities below reported:

- i. In the online "copy" downloadable as "Plates (1829)" from the BHL website, after "Plate. XCIII" there are two plates in succession, both numbered "Tab.XCV" and with a wrong pagination too not consistent with the text. In fact, in the sequence we find first the plate labelled "*Chondria pinnatifida*" which in the text (*Contributio II*: 10) is reported as "Tab. XCV", and then the plate labelled "*Laminaria phyllitis*" which in the text (*Contributio II*: 9) is indicated as "Tab. XCIV".
- ii. In the online "copy" downloadable as "Text & Plates" from the BHL website, the pagination is instead correct. In fact, the "Tab. XCIII", consistently with the text, is followed by the plate XCIV named *Laminaria phyllitis*. However, the number XCIV derives from an evident correction (made by Delle Chiaje or more probably by an unknown person) of the original incorrect number "XCV".
- iii. In the "copy" indicated in the previous point, the "Tab. VIII (*Flabellaria desfontainii*)" is lacking.

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