

**BARCODES AND THE
BOTANICAL CODE:
HANGING OUR HATS
ON THE RIGHT PEGS**

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HERBARIUM
UNIVERSITY OF CALIFORNIA
BERKELEY, CA

GOAL OF TAXONOMY

HANGING OUR HATS ON THE RIGHT PEGS

CHOOSING THE RIGHT PEG

ILLUSTRATIONS



Text-fig. 47. "Kalli" = *Salicornia*, Glasswort [Prospero Alpino, *De plantis Ægypti*, 1592].

E. Bibl. Linn. propria. 1784. J. P. Smith.

CAROLI LINNÆI

S:Æ REGIÆ MITIS SVÆCIÆ ARCHIATRI; MEDIC. & BOTAN.
PROFESS. UPSAL; EQUITIS DE STELLA POLARI;

SPECIES
PLANTARUM,

EXHIBENTES

PLANTAS RITE COGNITAS,

AD

GENERA RELATAS,

CUM

DIFFERENTIIS SPECIFICIS,
NOMINIBUS TRIVIALIBUS,
SYNONYMIS SELECTIS,
LOCIS NATALIBUS,

SECUNDUM

SYSTEMA SEXUALE

DIGESTAS.

TOMUS II.

Cum Privilegio S. R. Mitis Sueciæ & S. R. Mitis Poloniae ac Electoris Saxon.

HOLMIÆ,
IMPENSIS LAURENTII SALVII.
1753.

CRYPTOGAMIA ALGÆ. 1163

ULVA.

1. ULVA tubulosa simplex. *Fl. lapp.* 458. *Fl. suec.* 1013. *intestinalis.*
It. ol. 33. *Hort. cliff.* 478. *Roy. lugdb.* 515. *Gron.*
virg. 204. 128.
Tremella marina tubulosa intestinalorum figura. *Dill. musc.* 47. t. 9. f. 7.
Fagus cavus. *Bauh. pin.* 364.
Habitat in Mari omni.
2. ULVA tubulosa ramosa compressa. *It. gotl.* 262. *Fl. compressa.*
suec. 1014. *
Tremella marina tenuissima & compressa. *Dill. musc.*
48. t. 9. f. 8.
Habitat in Europæ mari & tellis maritimis.
3. ULVA filiformis articulata: articulis alternatim com- *confervoides*
pressis. *Hort. cliff.* 478. *
Conferva marina nitulosa. *Dill. musc.* 34. t. 6. f. 39.
Habitat in Mari.
4. ULVA oblonga plana undulata membranacea viridis. *latissima.*
It. wigol. 160
Fucus longissimo latissimo tenuique folio. *Bauh. prodr.*
154.
Habitat in Mari Europæ.
5. ULVA palmata prolifera membranacea: ramentis in- *Lactuca*
ferne angustatis.
Ulva marina lactucæ similis. *Raj. angl.* 3. p. 62.
Tremella marina vulgaris, lactucæ similis. *Dill. musc.*
42. t. 8. f. 1.
Mucus marinus lactucæ similis. *Bauh. pin.* 364.
Habitat in Oceano.
Frondes aggregatæ, membranacæ, pallidæ, palmatæ: se-
gmentis singulis iterum in frondes palmatas enatis,
undatis, obovatis, obtusis, pellucidis.
6. ULVA fronde dilatata subinuata, centro radicata. *umbilicatis.*
Tremella marina umbilicata. *Dill. musc.* 45. t. 8. f. 3.
Fucus umbilicus marinus dictus. *Bauh. pin.* 364.
Habitat in Oceano.
7. ULVA fronde oblonga bullata. *Linna.*
Tremella marina fasciata. *Dill. musc.* 46. t. 9. f. 6.
Fucus Linza dictus, lactucæ marinæ similis. *Bauh.*
hist. 3. p. 81.
Mucus lactucæ marinæ similis. *Bauh. pin.* 364.
Habitat in Oceano. 8. UL-

HISTORIA MUSCORUM

IN QUA CIRCAITER *16-1-54*
SEXCENTÆ SPECIES
VETERES ET NOVÆ
AD SUA GENERA RELATÆ
DESCRIBUNTUR

ET
ICONIBUS GENUINIS
ILLUSTRANTUR:

CUM
APPENDICE
ET
INDICE SYNONYMORUM.

Opera JO. JAC. DILLENII, M.D. in Universitate OXONIENSI
Botanices Professoris Sberardini.

OXONII
E THEATRO SHELDONIANO.
MDCCXXI.



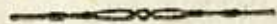
WILLIAM A. SETCHELL,
UNIV. OF CALIFORNIA,
BERKELEY, - - - CALIF.

Caroli A. Agardh

Ph. D. in Acad. Carolina Bot. et Oec. Pr. Prof. R. O.
Reg. Acad. Scient. Holmiensis, atque Reg. Soc. Scient.
Litterarumq. Eleg. Gothob. Membro,
Reg. Soc. Physiogr. Secret.

SYNOPSIS ALGARUM
SCANDINAVIÆ,

adjecta dispositione universali Algarum.



LUNDÆ MDCCCXVII. 1817

Ex Officina BERLINGIANA.

) XII (

ta, spinosæ, approximatae, in totam superficiem foliorum sparsæ". Lamour.

1 Prolifera. Lam. eff. t. 1. f. 4.

Speciem non vidi. — An e Tribu F. Phyllanthi?

III. LICHINA. Ag.

Tuberculum poro pertusum tandem scutelliforme.

1 Pygmaea Ag.

Habitus fruticulosus, lichenosus. In systemate ut & loco natali ambigit inter Fucoideas & Lichenosus.

IV. SPOROCHNUS. Ag.

Tubercula fructifera penicillo pilorum terminata.

1 Radiciformis T. t. 189. 3 Aculeatus T. t. 187.
2 Pedunculatus T. t. 188. 4 Inermis T. t. 186.

Typus hujus generis est F. Pedunculatus T. — Frons filiformis cartilaginea. Fructus ovalis vel globosus, apice penicillo filozum confervoideorum articulatoz dec duo, intus e filis concentricis globulo terminatis constitutus.

V. FURCELLARIA. Lamour.

Frondis apices in pericarpia clausa intumescentes.

1 Lumbicalis T. t. 6. 2 Lycopodioides T. t. 12.
Frondes filiformes.

VI. CHORDARIA. Link.

Fructus: fila clavata articulata concentrica immersa in semina secedentia.

*
1 Rotunda T. t. 5. 4 Cabrera T. t. 140.
2 Divaricata Ag. 5 Filum T. t. 86.
3 Flagelliformis T. t. 85.

** Ge-

FUCI
SIVE
PLANTARUM FUCORUM GENERI
A
BOTANICIS ASCRIPTARUM
ICONES DESCRIPTIONES ET HISTORIA.

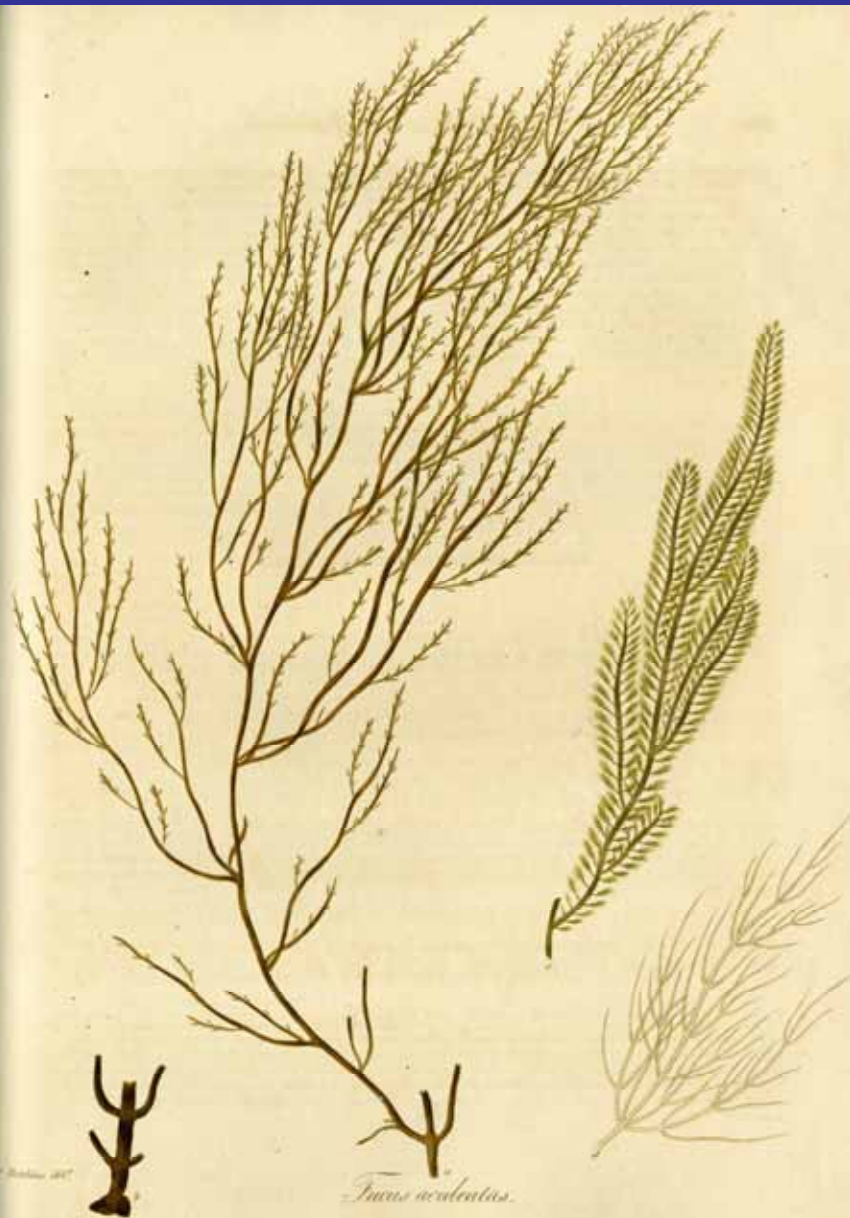
AUCTORE
DAWSON TURNER, ARM. M.A.
REG. ANT. ET LINN. SOC. NECNON IMP. AC. NAT. CUR. REG. AC. IRE. ET
ALIAM SOCIETATUM SOCIO.

LONDINI:
TYPIS J. MCCREERY.
IMPENSIS J. ET A. ARCH, IN VICO CORNHILL DICTO.
MDCCCXI.

FUCI;
OR,
COLORED FIGURES AND DESCRIPTIONS
OF THE PLANTS
REFERRED BY BOTANISTS TO THE GENUS FUCUS.

By DAWSON TURNER, Esq. A. M. F. R. A. & L. S.
HONORARY MEMBER OF THE IMPERIAL ACADEMY NATURE CURIOSORUM, OF THE ROYAL IRISH ACADEMY,
OF THE HONORABLE DUBLIN SOCIETY, OF THE NATURAL HISTORY AND WERNERIAN SOCIETIES
OF EDINBURGH, OF THE PHYSICAL SOCIETY OF GOTTINGEN, &c. &c.

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1811.



GOAL OF TAXONOMY

HANGING OUR HATS ON THE RIGHT PEGS

CHOOSING THE RIGHT PEG

ILLUSTRATIONS

THE TYPE METHOD

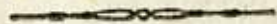
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GOAL OF TAXONOMY

HANGING OUR HATS ON THE RIGHT PEGS

CHOOSING THE RIGHT PEG

ILLUSTRATIONS

THE TYPE METHOD

INCREASING DESCRIPTIVE CHARACTERS

CULTURE

ELECTRON MICROSCOPY

GENOMIC ANALYSIS

ACKNOWLEDGMENTS

GEORGE F. (“FRIKKIE”) PAPENFUSS

KATHY ANN MILLER

SLOAN FOUNDATION



TYPE METHOD

PROTOLOGUE

DESCRIPTION
ILLUSTRATIONS
REFERENCES
SYNONYMY
GEOGRAPHICAL DISTRIBUTION
CITED SPECIMENS
DISCUSSION
COMMENTS

TYPE METHOD

PRIOR TO 1958

IF HOLOTYPE IS DESIGNATED:

Other cited collections = PARATYPES
Duplicates of holotype = ISOTYPES

IF HOLOTYPE IS NOT DESIGNATED:

Types = SYNTYPES

One syntype designated as LECTOTYPE
Remaining syntypes = PARATYPES

TYPE METHOD

AFTER 1 JANUARY 1958:

HOLOTYPE MUST BE DESIGNATED

IN ANY CASE:

IF NO ORIGINAL MATERIAL EXTANT

Designate **NEOTYPE**

IF HOLOTYPE, LECTOTYPE, OR NEOTYPE IS PROBLEMATIC

Designate **EPITYPE**

The Role of Extrinsic Factors in the Past
and Future
of Green Algal Systematics

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Abstract: Taxonomy is an art that involves subjective interpretation of objective data. The subjectivity of interpretation is influenced by factors related to the context (time, place, taxonomic group, historical precedents, historical sequence) or inherent in the interpreter (ability, training, experience, personality, interests, goals). Although appraisal of specific interpretations is itself subjective, it seems likely that an appreciation of factors influencing past and present taxonomic judgment would improve future interpretation. The innate ability of investigators to make durable taxonomic judgments is handicapped by increased specialization, unbalanced emphasis on new technology, and diminished ties with classical taxonomy. Moreover, some judgments are more appropriate to phylogenetics than to taxonomy. Aesthetics—especially the sense of form and balance—play a role in formulating and assessing taxonomic judgments. Didactics play an even greater role, with special favor being accorded those taxonomic conclusions that support alleged phylogenetic trends and generalizations useful in teaching. Current taxonomic practice is often strongly influenced by tradition, which in some instances may be traced to a single investigator. Historical precedents and historical sequence profoundly affect taxonomic decisions. Paradigms can be useful, but may also impede correct interpretation. The concept of any taxon is biased by the element that was first made known, despite conscious efforts to distinguish between biological and nomenclatural types.

RELATIONSHIP BETWEEN SCIENTIFIC METHOD AND SYSTEMATICS

The teaching of the scientific method to youngsters is considered in most quarters to be a good thing. Teachers feel virtuous in having opened new

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EXTRINSIC FACTORS

TEMPORAL CONTEXT

HISTORICAL SEQUENCE

ABILITY OF TAXONOMIST

PRESTIGE OF TAXONOMIST

ESTHETICS

TRADITION

DIDACTICS