

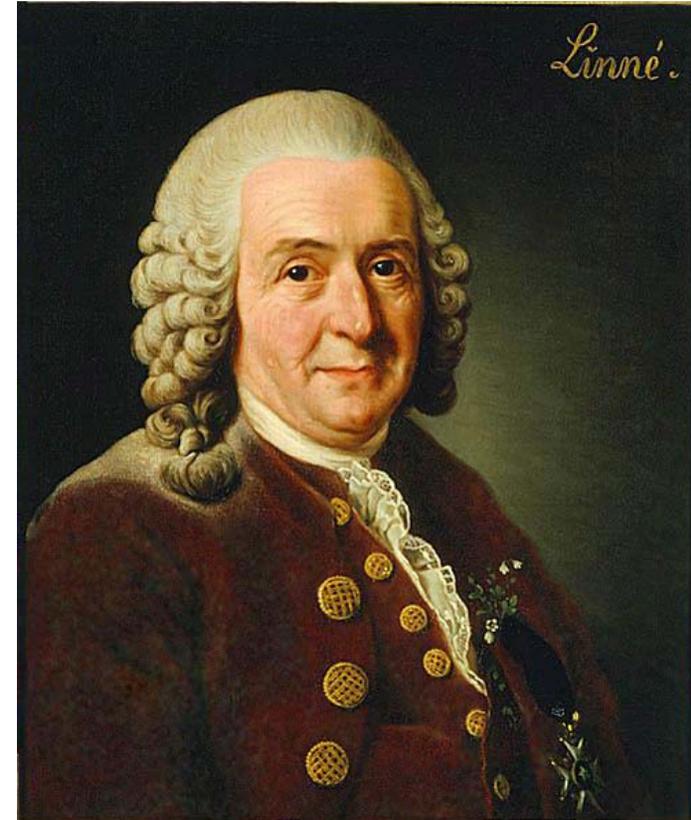
Nomenclature : the art of naming organisms

- Historical perspective
 - Classification – Taxonomy – Nomenclature
- The CODE
 - different codes
 - principles and rules
 - problems with the CODE
- Other codes: the Biocode, the Phylocode, ...

18th century: Carolus Linnaeus

- historically: evolutionary thinking ~ classification
- Weltanschauung ~ creation
 - GOD // CREATION // PLAN
 - every organism has its own place in god's creation
 - duty to discover "the idea" behind the creation
- Linnaeus
 - Swedish biologist

" Nobody has practised his profession with more eagerness or has had more students attending his lectures at our university. ... No-one was a greater botanist or zoologist. Nobody has written more works, better, more precise, of his own experience. No-one has so completely reformed a whole science and thus started a new epoch ... Nobody was more famous all over the world. " [Koerner 1999]



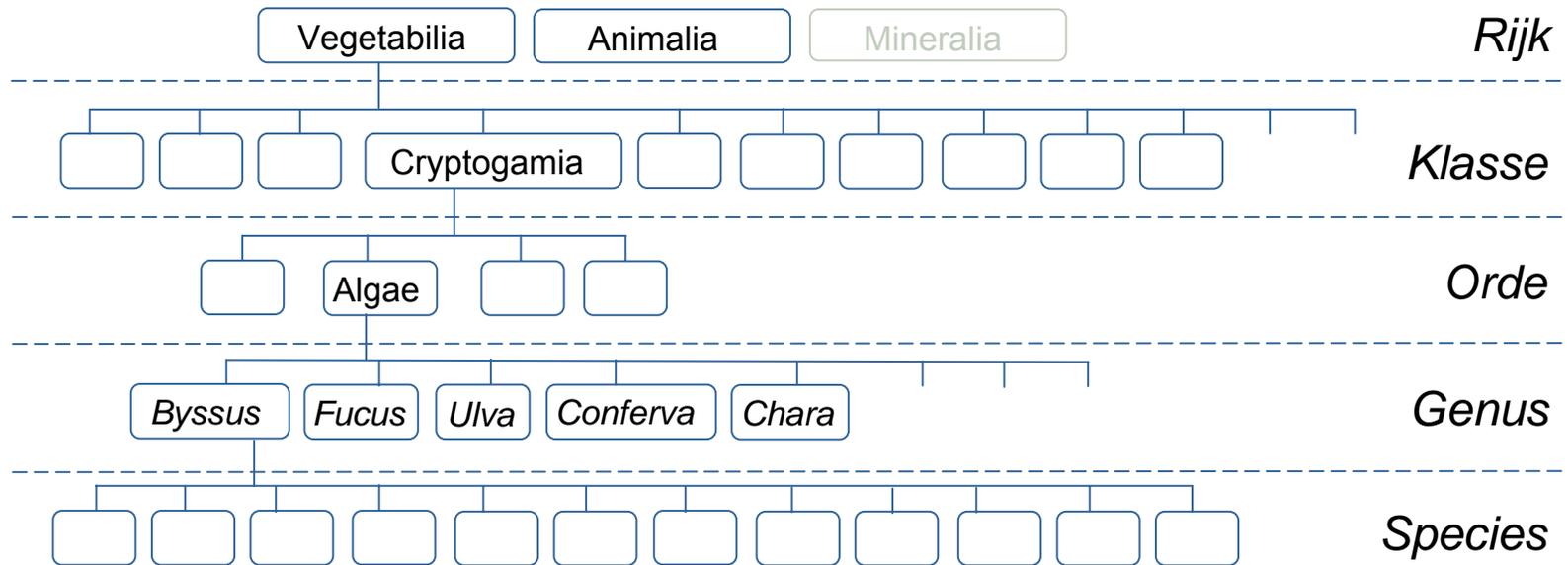
18th century: Carolus Linnaeus

- Founding father of modern taxonomy

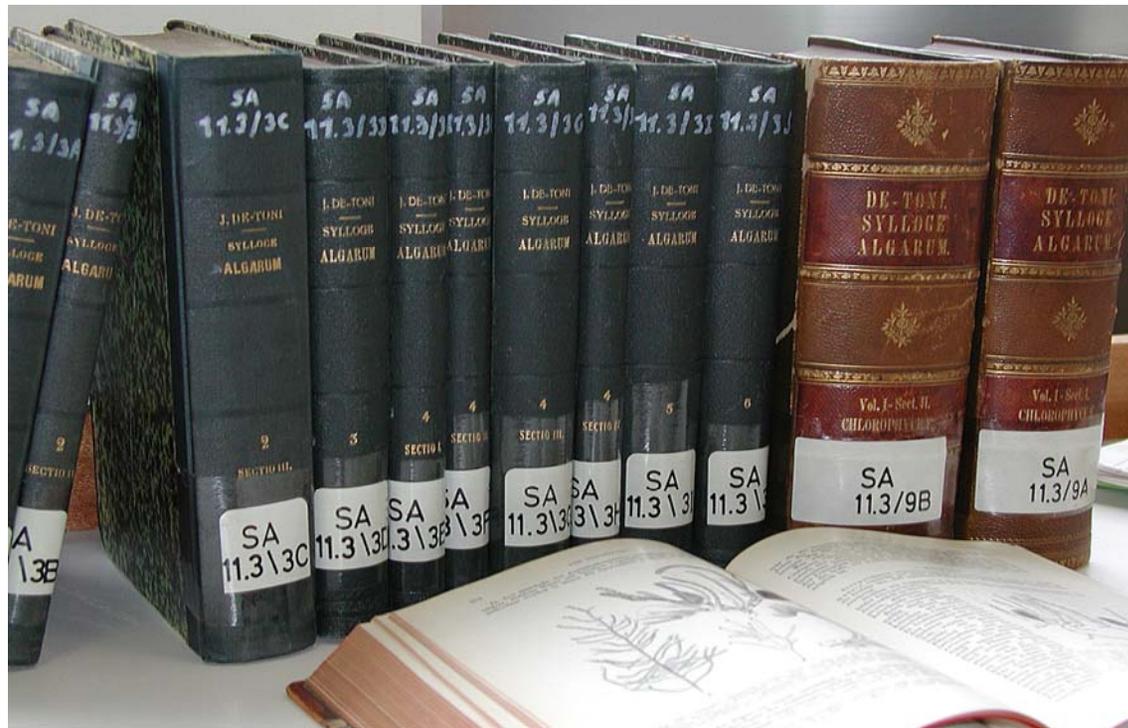
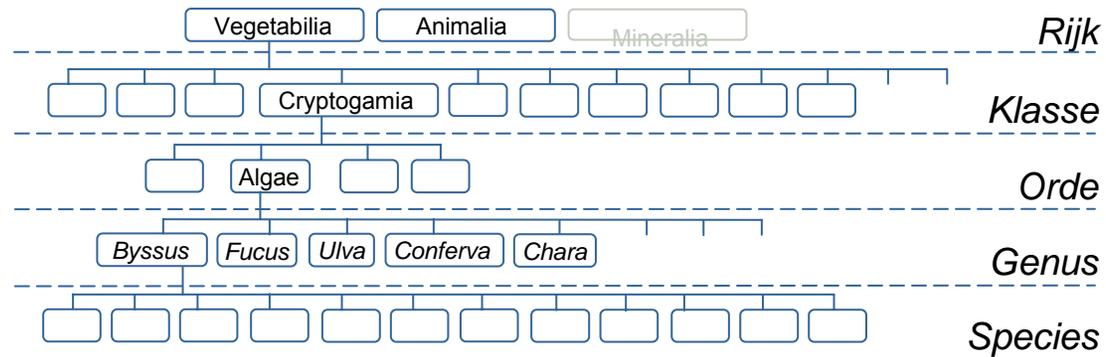


18th century: Carolus Linnaeus

- Binomial nomenclature
 - [genus] + [species epithet]
 - replaces the traditional polynomial 'system'
- Hierarchical classification



19th century: taxonomic refinement

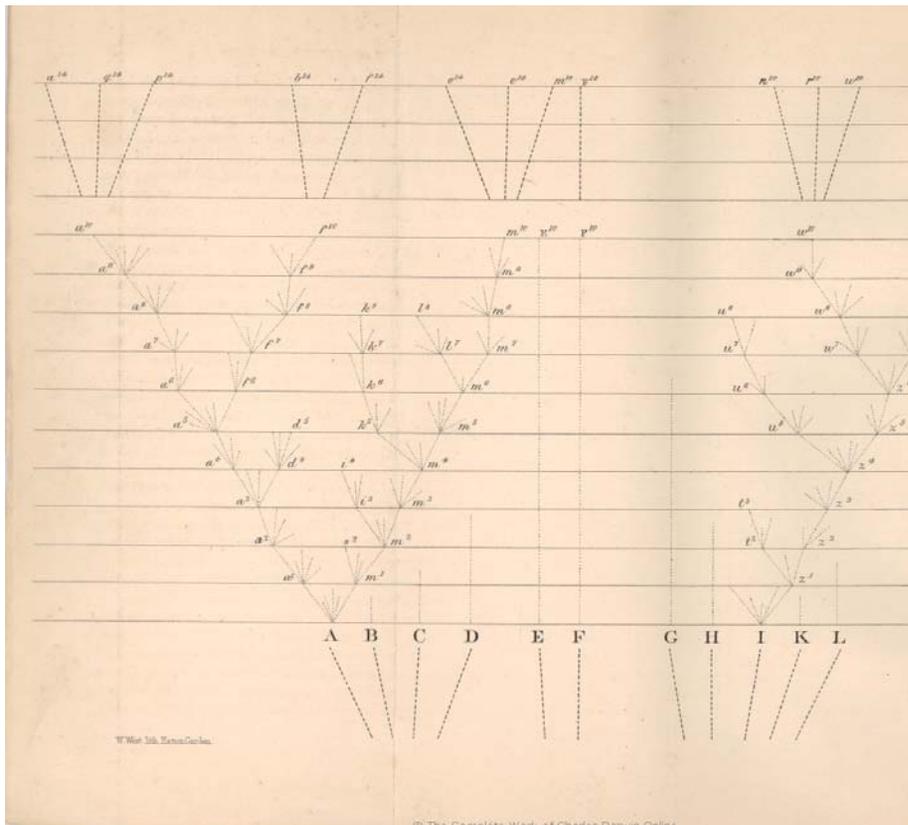
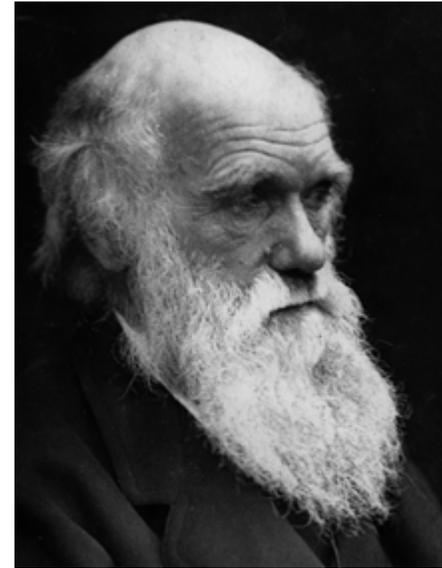


[De Toni 1889 – 1924]

Darwin: 'On the origin of species ...' 1859.

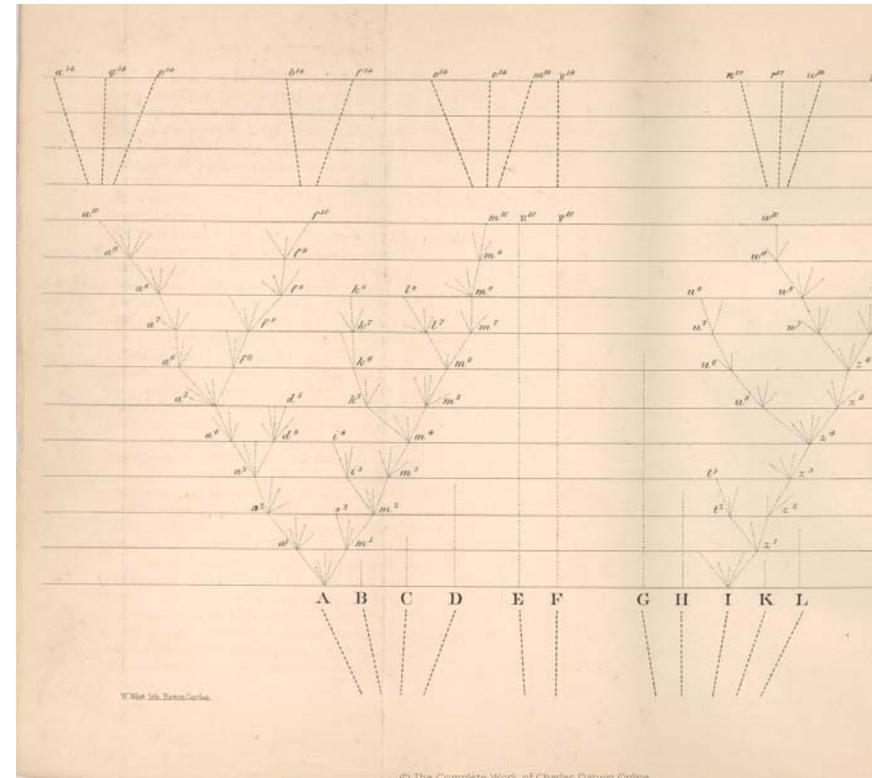
- Evolution: introduces a new dimension to biodiversity
 - Species are not static (invariable in time) entities
 - Similarity among organisms is caused by common descent

→ classification should reflect natural relationships



Darwin: 'On the origin of species ...' 1859.

- The problem of classification
 - classification system predates evolutionary theory
 - was not made to incorporate evolutionary ideas
 - highlight a 'plant' – 'animal' distinction



Nomenclature

- = giving names

Systematics: the study of the diversity of life on the planet Earth

Taxonomy: describing, identifying, classifying, and naming of organisms

Classification: placing taxa in a classification system

Nomenclature: naming of taxa

Phylogenetics: inference of relationships

Speciation: study of species formation

Biogeography: geographic distribution of species

Paleontology: fossil diversity

Nomenclature

- = giving names

Taxonomie wordt soms omschreven als een wetenschap en soms als een kunst, maar in werkelijkheid is het een slagveld. Zelfs nu nog is er meer wanorde in het systeem dan de meeste mensen zich realiseren.

[B. Bryson]

NOMENCLATURE follows TAXONOMY

Nomenclature

Nomenclature: naming of taxa

- Advantages of a stable nomenclature
 - names are the key
 - unequivocal communication
 - International system transcending language differences

example:

Common whitlowgrass (Eng.), Drave printanière (Fr.), Hungerblümchen (Ger.)

Nomenclature

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example:

Common whitlowgrass (Eng.), Drave printanière (Fr.), Hungerblümchen (Ger.)



Vroegeling
Erophila verna

Nomenclature

Nomenclature: naming of taxa

- Advantages of a stable nomenclature
 - names are the key
 - unequivocal communication
 - stability in time (>< vernacular names)

example: Bieteut, plakker, biemees, biemus, biemuis, blokvinkje, grote mees, biepikker, koordemus,



Koolmees
Great tit
Parus major

Nomenclature

Nomenclature: naming of taxa

- Advantages of a stable nomenclature
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 - stability in time (>< vernacular names)



TS=(parus major)

DocType=All document types; Language=All languages; Databases=SCI-EXPANDED, SSCI, A&HCI; Timespan=1972-2007

CrossSearch: [View additional results in other databases](#) 

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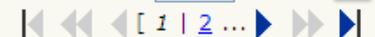
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JOURNAL OF ANIMAL ECOLOGY 76 (5): 866-872 SEP 2007
Times Cited: 0

- 2. Surmacki A, Nowakowski JK
[Soil and preen waxes influence the expression of carotenoid-based plumage coloration](#)
NATURWISSENSCHAFTEN 94 (10): 829-835 OCT 2007
Times Cited: 0


Nomenclature

Nomenclature: naming of taxa

- Advantages of a stable nomenclature
 - names are the key
 - unequivocal communication
 - stability in time (>< vernacular names)



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- 1. van Heteren G
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BULLETIN OF THE HISTORY OF MEDICINE 72 (4): 771-772 WIN 1998
Times Cited: 0
- 2. Wachelder J
[Beasts and books - Essays on the history of veterinary medicine and books on the retirement of Guus Mathijssen, librarian of the Faculty of Veterinary Medicine in Utrecht](#)
SOCIAL HISTORY OF MEDICINE 10 (3): 492-493 DEC 1997
Times Cited: 0

Nomenclature

Nomenclature: prelinnean

- vernacular names (folk taxonomy)
- scientific names ~ latin phrases (polynomials)

Rosa sylvestris alba cum rubrore, folio glabro

or

“The white rose with a bit of red, and leaves lacking hairs”

*Apis pubescens thorace subgriseo abdomen fusco pedipus posticus glabris
utrinque margine ciliatis*

or

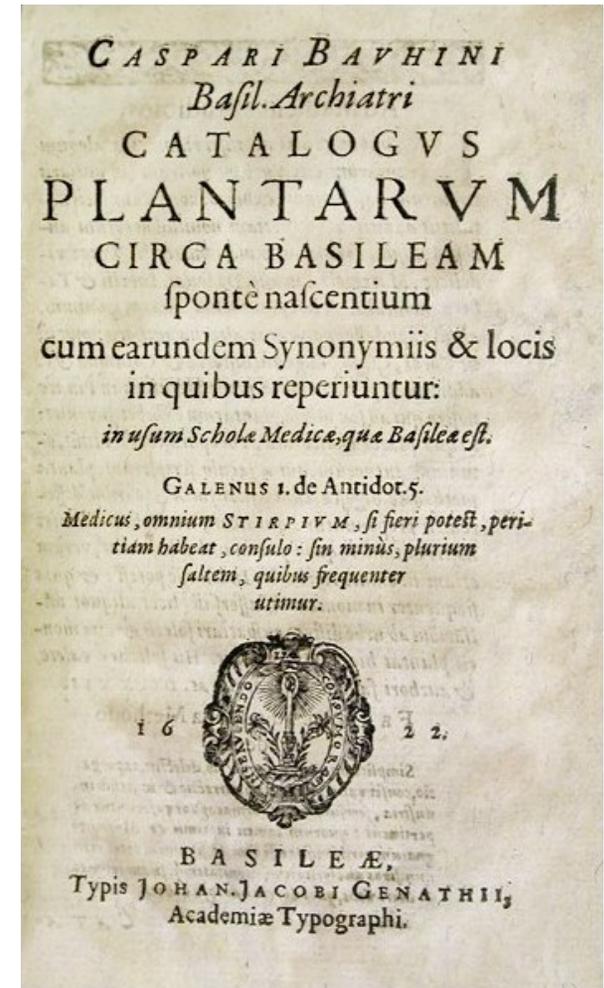
Apis mellifera Linnaeus

- room for interpretation !!!
- not equivocal !!!

Nomenclature

Nomenclature: “Linnean” binomials

- Caspar Bauhin *Pinax theatri botanici* (1596) !!!
>< Linnaeus (1750's)



Nomenclature

Nomenclature: "Linnean" binomials

Successive Pages in Linnaeus' *Species plantarum* (1753)
selected to show original publication of *Zea mays* L.

1. MONOCIA TRIANDRIA. 971

Lenticula patulifris major. Raj. angl. 3. p. 129. t. 4. f. 2.
Habitat in Europæ paludibus fœtis.

2. TRIANDRIA.

3. TYPHA.

1. TYPHA foliis subeniformibus, spica mascula semi-lactifera, neque approximatis. *It. Jean. 168.*
Typha palustris major. Bauh. pin. 20. Morif. hist. 3. p. 246. f. 8. t. 13. f. 1.
Habitat in paludibus Europæ.
2. TYPHA foliis semicylindricis, spica mascula feminea-angustifolia, que remotis. *It. Jean. 168.*
Typha. Hort. cliff. 439. Fl. succ. 772. Roy. lugdb. 73. Gmel. fib. 1. p. 133. Fuchs. hist. 822.
Typha palustris, cithra gracilis. Bauh. pin. 20.
Typha palustris media. Morif. hist. 3. p. 246. f. 8. t. 13. f. 2.
Habitat in Europæ paludibus. 2

3. SPARGANIUM.

1. SPARGANIUM. foliis erectis triquetris. *Fl. lapp. eretum. 345. Fl. succ. 770. Hort. cliff. 439. Roy. lugdb. 73. Gron. virg. 114. Gmel. fib. 1. p. 133.*
Sparganium ramulosum. Bauh. pin. 15. theatr. 228.
Plantana f. Botomou. Dod. penps. 601.
2. Sparganium non ramulosum. *Bauh. pin. 15. theatr. 231.*
Habitat in Zonæ frigida septentrionalis aquosis. 2
2. SPARGANIUM foliis decumbentibus planis. *notou.*
Sparganium foliis natantibus plano-convexis. Fl. lapp. 345. Fl. succ. 771.
Sparganium non ramulosum minus. Dill. giff. 130. spec. 58.
Sparganium minimum. Raj. hist. 1910. angl. 3. p. 437.
Habitat in Europæ vorecis lacubus, paludibus. 2

3. ZEA.

1. ZEA. *Hort. cliff. 437. Hort. nupl. 281. Roy. lugdb. 73. Mayr. Frumentum indicum Mays dictum. Bauh. pin. 25. theatr. 490.*

Fru-

972 MONOCIA TRIANDRIA.

Frumentum indicum. Cam. apit. 186. Dod. penps. 507.
Habitat in America. 2
Varietates hujus plurimæ existunt.

3. COIX.

- Lacryma Jobi. 201.*
1. COIX seminibus ovatis. *Hort. cliff. 437. Hort. nupl. 281. Fl. zeyl. 330. Gron. virg. 114. Roy. lugdb. 72. Lithospermum arundinaceum Bauh. pin. 248.*
Lacryma Jobi. Clus. hist. 2. p. 216.
Habitat in India. 2
- Didymochloa.*
2. COIX seminibus angulatis. *Hort. cliff. 438. Roy. lugdb. 72.*
Gramen Dactylon maximum americanum. Pluk. alm. 178. t. 190. f. 2.
Gramen Dactylon indicum esulentum, spica articulata. Aubr. phys. 1. p. 545. t. 546. 547. Morif. hist. 3. p. 187. f. 8. t. 3. f. 11. Schreb. gram. 108.
Sesamum perenne indicum, spica frumentacea. Zam. hist. 181. t. 68.
Habitat in America. 2

3. CAREX.

* *Spica unica simplicis.*

- Diola.*
1. CAREX spica simplicis diola. *Hort. cliff. 438. Fl. succ. 746.*
Cyperoides parvum, caulibus & foliis tenuissimis triangularibus, spica longiore (& subrotunda), capsulis oblongis. Mich. gen. 56. t. 72. f. 1. 2.
Gramen cyperoides minimum, spica simplicis cassa. Morif. hist. 3. p. 244. f. 8. t. 12. f. ult. (mas). Schreb. gram. 297. t. 11.
Gramen cyperoides minimum, runcunculi capitulo simplicis asperiore rotundo. Morif. hist. 3. p. 245. f. 8. t. 12. f. 36.
Habitat in Europæ pratis humidis. 2
- palustris.*
2. CAREX spica simplicis androgyna: superne mascula, capsulis divaricatis retroflexis.
Carex spica simplicis androgyna. Hort. cliff. 438. Fl. succ. 747. It. gail. 240. Dalib. parif. 287. Gmel. fib. 1. p. 144.
Carex spica unica. Fl. lapp. 747.
Carex minima, caulibus & foliis capillacis, capitulo-lingulari

CAROLI LINNÆI
S:Æ R:IGIÆ M:ITIS SVECIÆ ARCHIATRI; MEDIC. & BOTAN.
PROFESS. UPSAL; EQUITIS AUR. DE STELLA POLARI;
REC NON ACAD. IMPER. MONSPÆL. BEROL. TOLOS.
UPSAL. STOCKH. SOC. & PARIS. CORESP.

SPECIES PLANTARUM,

EXHIBENTES

PLANTAS RITE COGNITAS,

AD

GENERA RELATAS,

CUM

DIFFERENTIIS SPECIFICIS,

NOMINIBUS TRIVIALIBUS,

SYNONYMIS SELECTIS,

LOCIS NATALIBUS,

SECUNDUM

SYSTEMA SEXUALE

DIGESTAS.

TOMUS I.

Cum Privilegio S. R. Mitis Sveciæ & S. R. Mitis Poloniæ ac Electoris Saxon.

HOLMIÆ,
IMPENSIS LAURENTII SALVII.

1753.

C. Appelgren

Nomenclature

Nomenclature: "Linnean" binomials

- Genus name + species epitheton (+ authors)
- The author's name (and date of publication in case of animals) are typically given after the scientific name.
- The names are often abbreviated; in particular, "L." is Linnaeus.
- If a name is later changed (e.g., moved to a new genus), The original author is given in parentheses.
 - e.g. *Ectocarpus mucronatus* Saunders was transferred to *Giffordia* by Phinney (1973). The name of the taxon therefore became *Giffordia mucronatus* (Saunders) Phinney.
 - The type of the taxon is the type of *Ectocarpus mucronatus* Saunders
 - We refer to *Ectocarpus mucronatus* Saunders as the basionym.

Nomenclature

Nomenclature: “Linnean” binomials

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 - The type of the taxon is the type of *Ectocarpus mucronatus* Saunders
 - We refer to *Ectocarpus mucronatus* Saunders as the basionym.
-
- It is obvious that *E. mucronatus* and *G. mucronatus* refer to the same taxon (the species). The two names are a result of differing taxonomic opinion.
 - Both names are **homotypic** or **objective synonymes** !!!
 - they refer to the same type.
 - The original name, the name of the type specimen, is termed **basionym**.

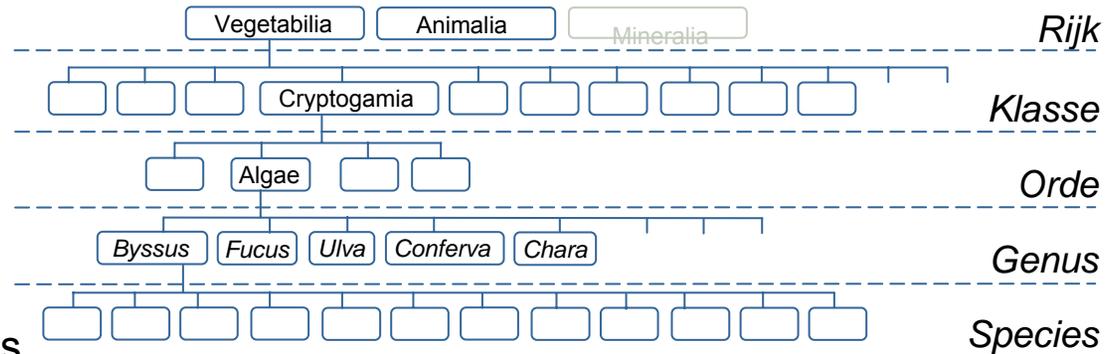
Nomenclature

Nomenclature: “Linnean” binomials

- Both names are **homotypic** or **objective synonymes** !!!
 - they refer to the same type
- Heterotypic or subjective synonyms refer to different types.
 - *C. bifurca* Schrank (1789), *C. ampullacea* Goodenough (1794) are considered synonyms of *Carex rostrata* Stokes (1787); all three names have different types.

Nomenclature

Hierarchical classification



Ranks and endings

Orde	-ales	Rosales
Familie	-aceae	Rosaceae
Onderfamilie	-oideae	Rosoideae
Tribus	-eae	Roseae
Genus + species		Rosa canina

Nomenclature

- Initially very few rules
 - Linnean classification system
 - Taxonomists described new taxa within this system
- Elementary guidance: short rules (aforismae)
 - e.g. Alphonse de Candolle (1867)
 - Latin // hierarchical // binomial species names
- Start of the 20th century need for a formal code: 1930 (plants) en 1961 (animals)
 - formalisation and uniformisation of 'habits'

Nomenclature

. McNeill, F. R. et al. 2007. International Code of Botanical Nomenclature (Vienna Code) adopted by the Seventeenth International Botanical Congress Vienna, Austria, July 2005. Publ. 2007. Gantner, Ruggell. (Regnum Vegetabile, 146). XVIII, 568 p.

Treharne, P., et al. (eds). 1995. *International Code of Nomenclature for Cultivated Plants*. Adapted by the International Committee for the Nomenclature of Cultivated Plants of the I.U.B.S. Regn. Veget. 133.

Sneath, P.H.A., et al. (eds), 1992. *International Code of Nomenclature of Bacteria*. Washington (+ : Skerman, V.D.B. et al., 1980. Approved Lists of Bacterial Names).

International Commission on Zoological Nomenclature, 1999. *International Code of Zoological Nomenclature*, 4th edition. Adopted by the I.U.B.S. The International Trust for Zoological Nomenclature, London.

Aim: stability and uniformity of names

The International Code of Botanical Nomenclature

- 6 Principles
- Rules (62) + Recommendations
- 'Governance of the Code'

Last Code = Vienna Code
[<http://ibot.sav.sk/icbn/main.htm>]

International Code of Botanical Nomenclature

(VIENNA CODE)

Electronic version of the original English text.

adopted by the Seventeenth International Botanical Congress
Vienna, Austria, July 2005

prepared and edited by

J. MCNEILL, Chairman
F. R. BARRIE, H. M. BURDET, V. DEMOULIN,
D. L. HAWKSWORTH, K. MARHOLD, D. H. NICOLSON,
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2006

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ISBN 0080-0694

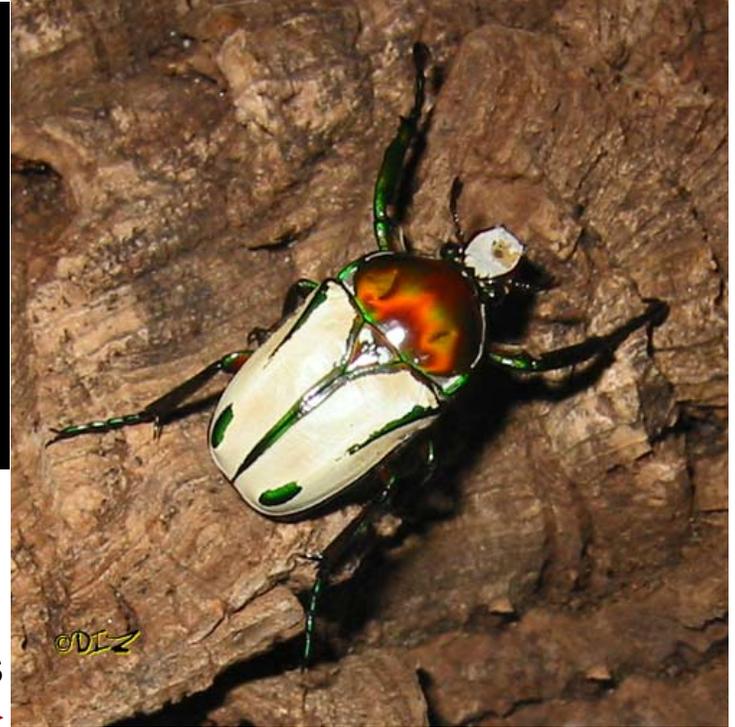
The International Code of Botanical Nomenclature

Principle I: Botanical nomenclature is separate from zoological (or bacterial), so the same name can be given to plants and animals

- Therefore the same name can apply to an animal and a plant and a bacterium



←
Ranzania japonica
Ranzania splendens
→



The International Code of Botanical Nomenclature

Principle I: Botanical nomenclature is separate from zoological (or bacterial), so the same name can be given to plants and animals

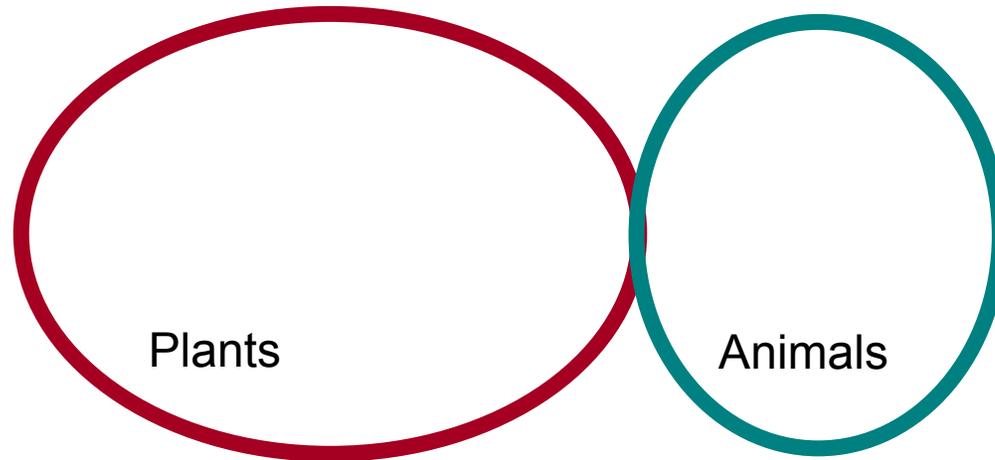
- Therefore the same name can apply to an animal and a plant and a bacterium

<i>Oenanthe</i>	=	Torkruid	Tapuit
<i>Pieris</i>	=	Witje	Amerikaanse Ericaceae
<i>Prunella</i>	=	Brunel	Heggemus
<i>Cereus</i>	=	Cactus	Kwal
<i>Digenea</i>	=	Roodwier	Polychaete
<i>Crambe</i>	=	Zeekool	Spons
.....			

The International Code of Botanical Nomenclature

Principle I: Botanical nomenclature is separate from zoological (or bacterial), so the same name can be given to plants and animals

- Classification was designed for plants and animals separately

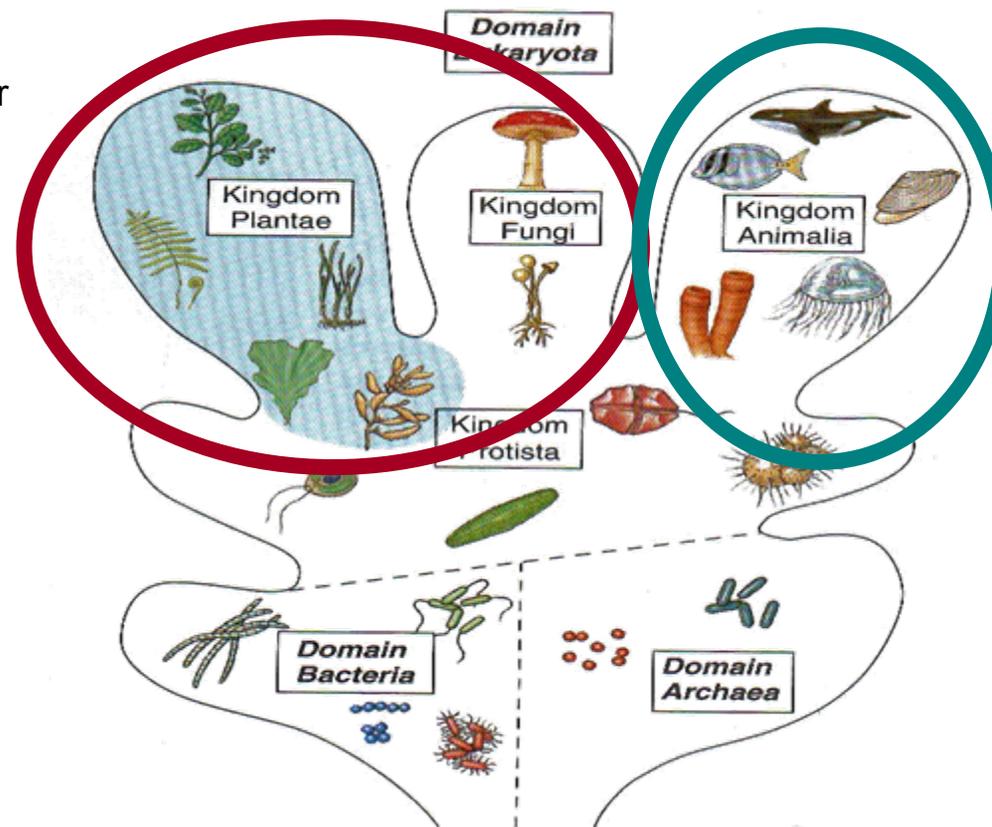


The International Code of Botanical Nomenclature

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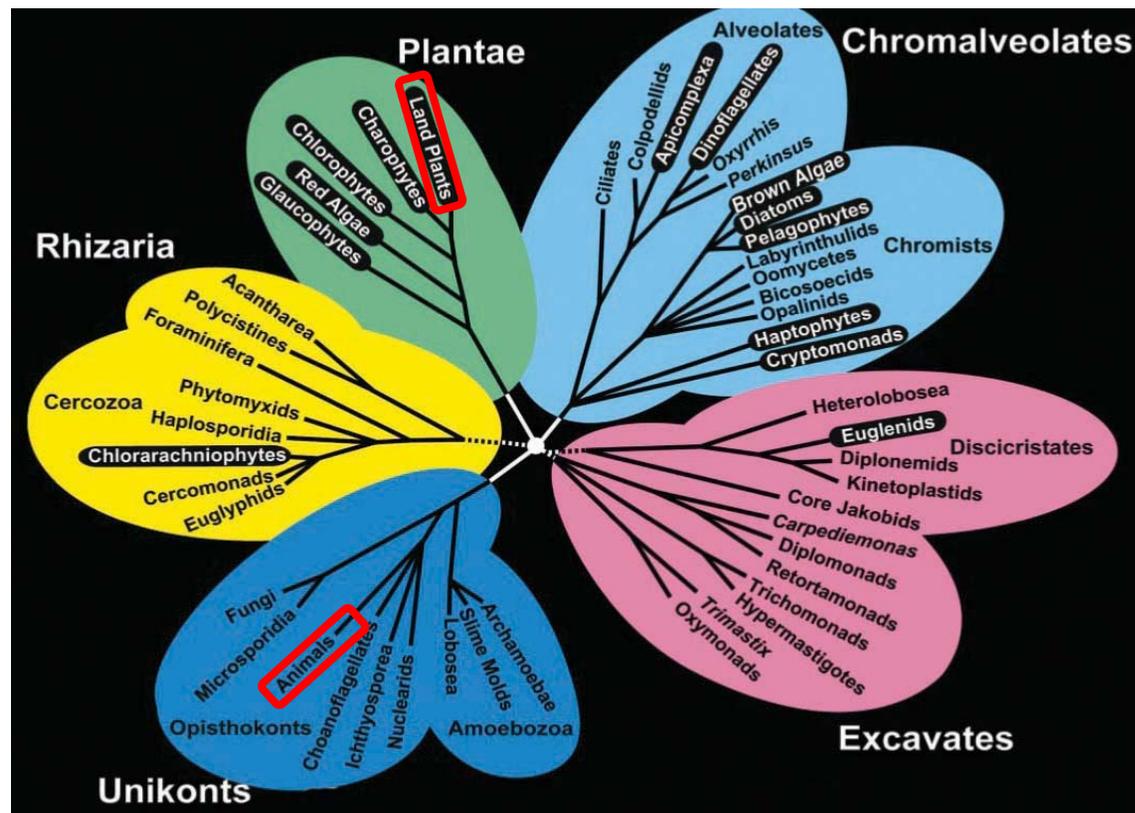
For historical reasons, protists traditionally fell under the jurisdiction of the ICBN if they were “algae” or “fungi” and under the jurisdiction of the ICZN if they were “protozoa.”



The International Code of Botanical Nomenclature

Principle I: Botanical nomenclature is separate from zoological (or bacterial), so the same name can be given to plants and animals

- Classification was designed for plants and animals

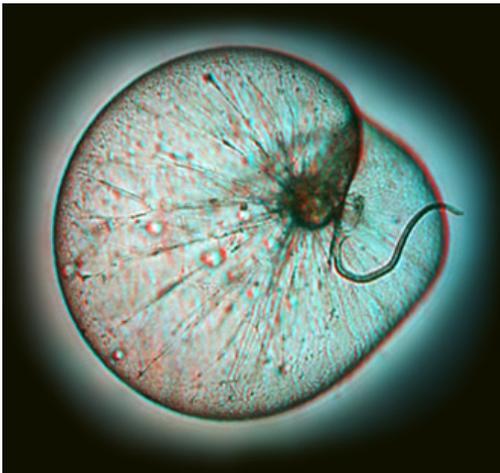


The International Code of Botanical Nomenclature

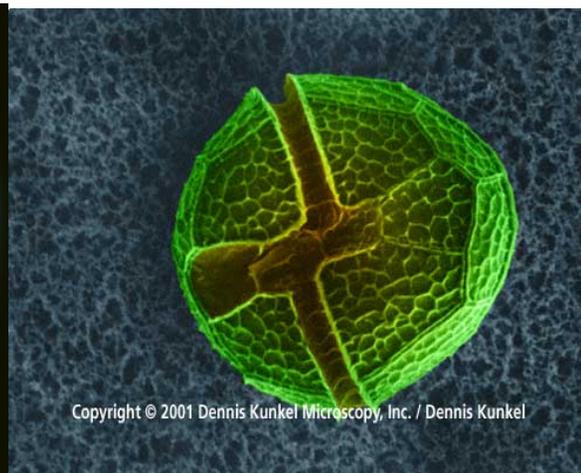
Principle I: Botanical nomenclature is separate from zoological (or bacterial), so the same name can be given to plants and animals

- The problem of ambireginal classification
 - Classification was designed for plants and animals
 - Often protists are described in more than one code

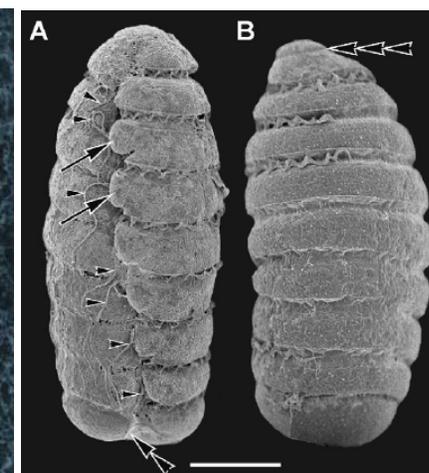
Dinozoa and Dinoflagellata
Euglenozoa and Euglenophyta



Noctiluca (heterotrophic)



Peridinium (autotrophic)



Polykrikos (kleptoplastids)

The International Code of Botanical Nomenclature

Principle I: Botanical nomenclature is separate from zoological (or bacterial), so the same name can be given to plants and animals

- The problem of ambireginal classification
 - In publications dealing with the cellular slime molds, Lindsay Olive used the zoological code OR the botanical code, dictated by the journal in which he was publishing

The International Code of Botanical Nomenclature

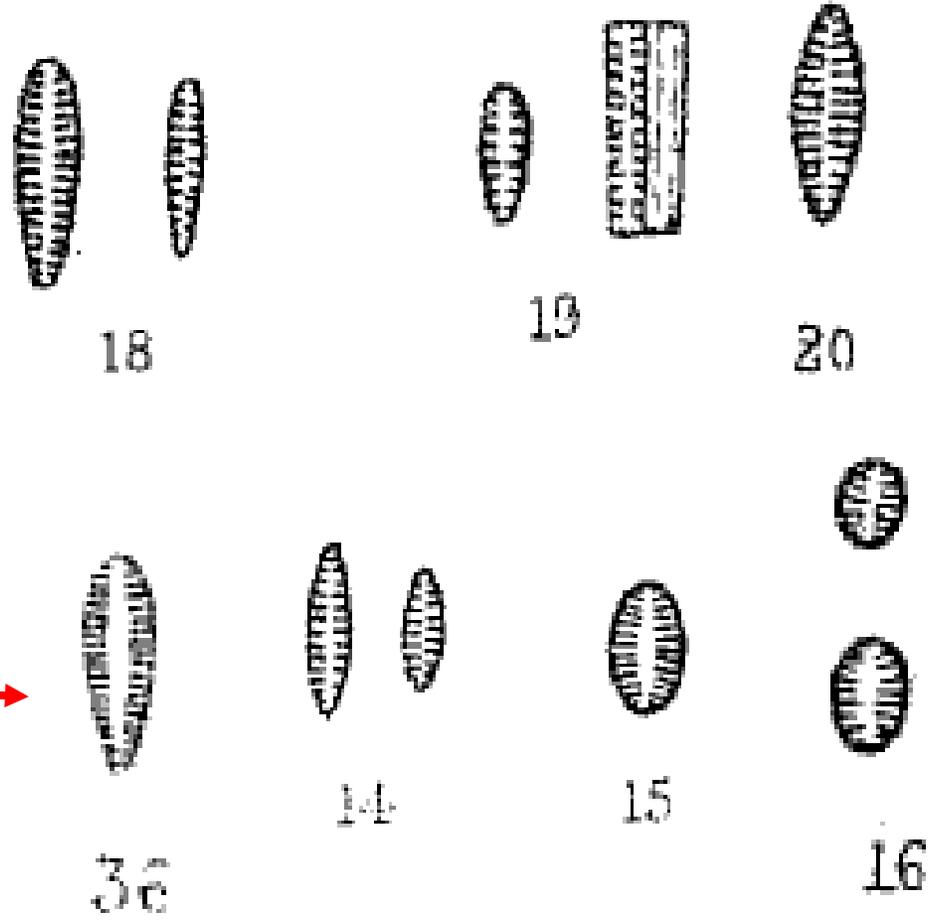
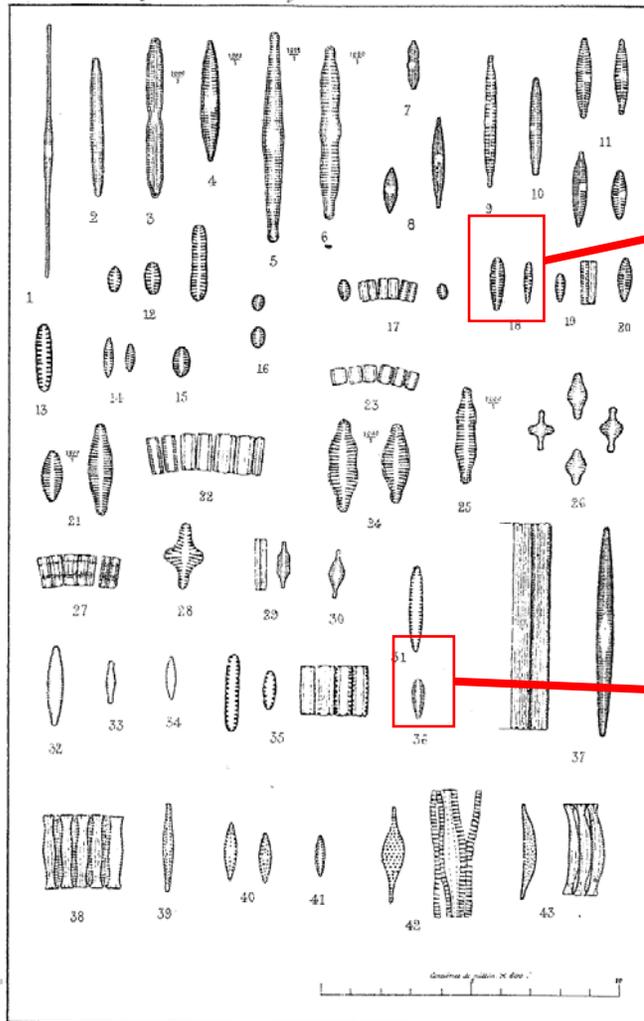
Principle II: The application of names of taxonomic groups is determined by means of nomenclatural types.

- The type is the only reference to establish the identity of the taxon !!!
 - description, diagnoses are helpful but actually irrelevant.

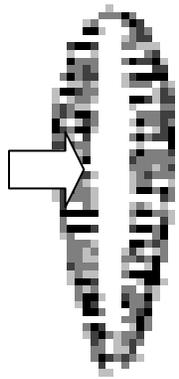
e.g. Microscopic organisms and subsequent technical progress (SEM, TEM, DNA)

18. SCEPTRONEIS MARINA VAR ?? PARVA.* (*Fragilaria mutabilis* var ? *cuneata* Grun; serait d'après ARNOTT une forme du *Meridion marinum* Greg. Comparez Pl. 37 fig. 2 et 8.) Hourdel et Lamash Bay. 9 à 10 stries en 0,01 mm.

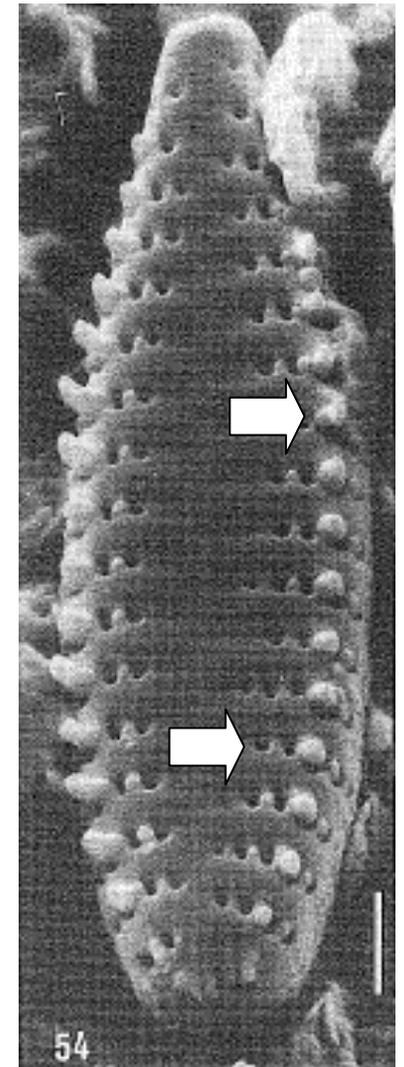
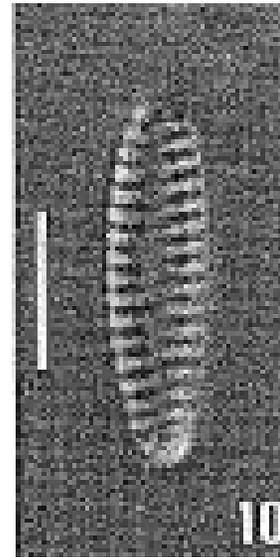
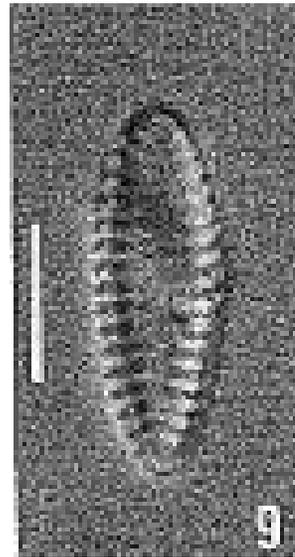
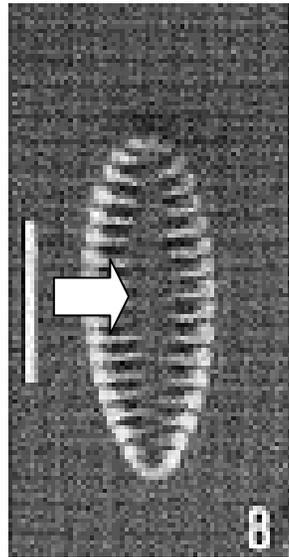
36. SCEPTRONEIS ? MARINA VAR ?? PERMINUTA GRUN.* Hourdel. 15 stries en 0,01 mm.
Vit mêlé au type de la fig. 18.



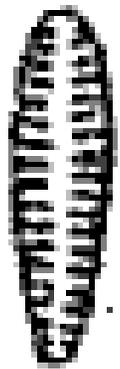
36. SCEPTRONEIS ? MARINA VAR ?? PERMINUTA GRUN.* Hourdel. 15 stries en 0,01 mm,
Vit mélé an type de la fig. 18.



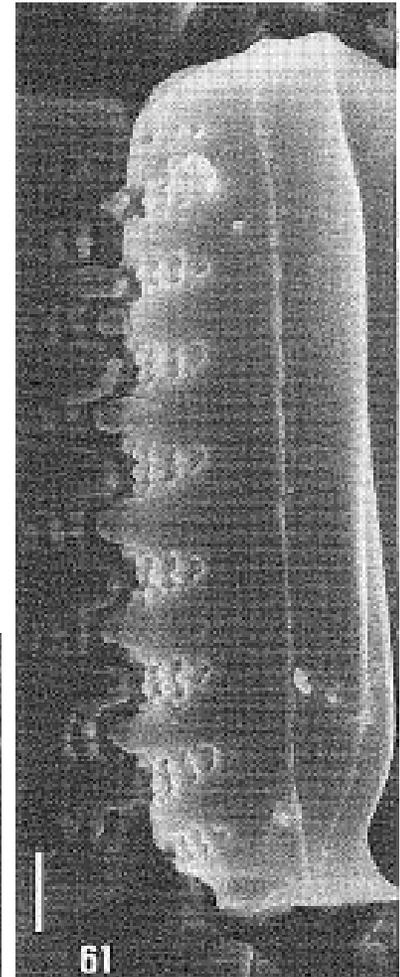
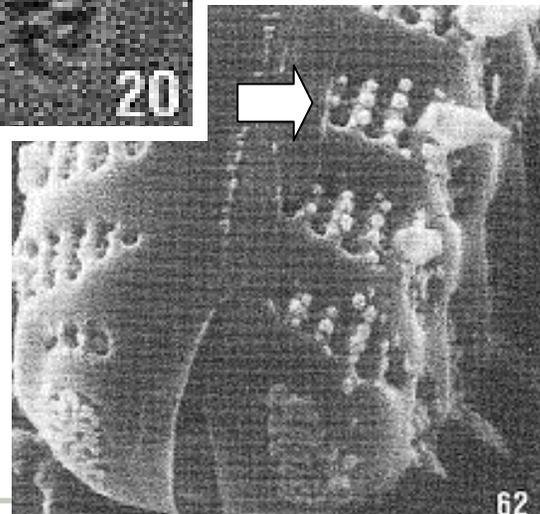
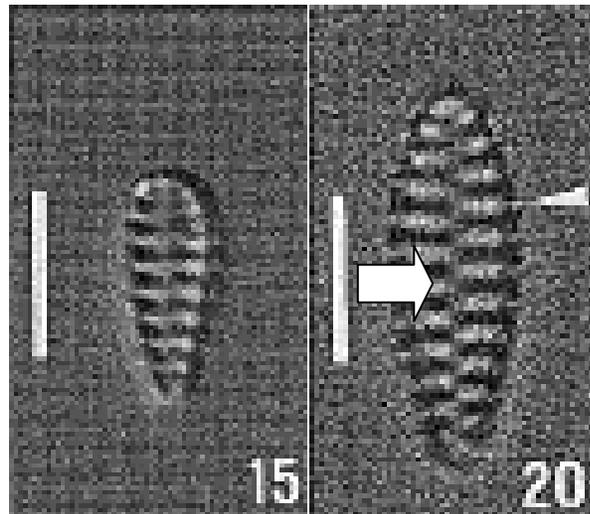
36

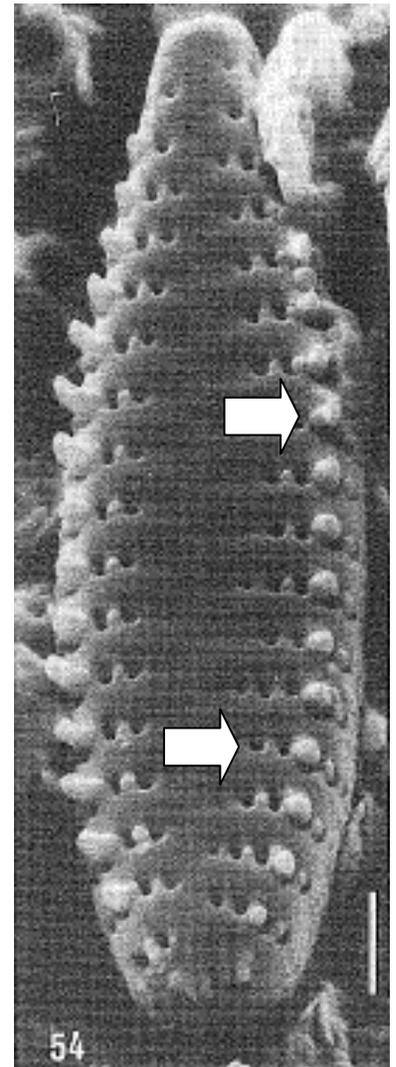
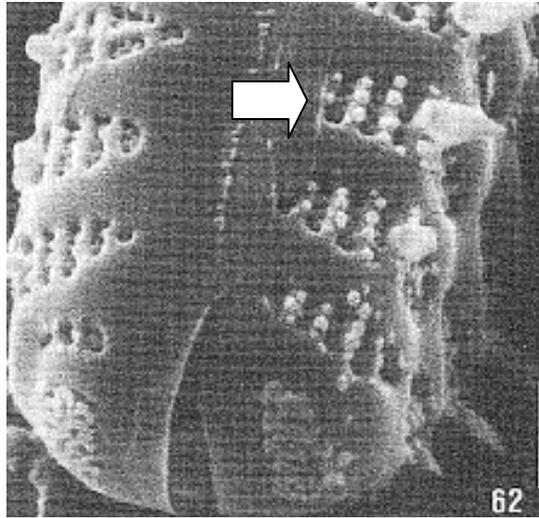
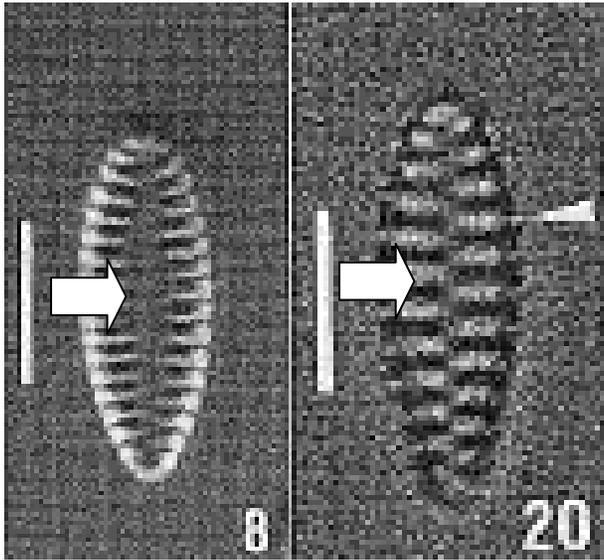


18. SCEPTRONEIS MARINA var ?? PARVA.* (*Fragilaria mutabilis* var ? *cuneata* Grun; serait d'après ARNOTT une forme du *Meridion marinum* Greg. Comparez Pl. 37 fig. 2 et 8.) Hourdel et Lamdash Bay. 9 à 10 stries en 0,01 mm.



18

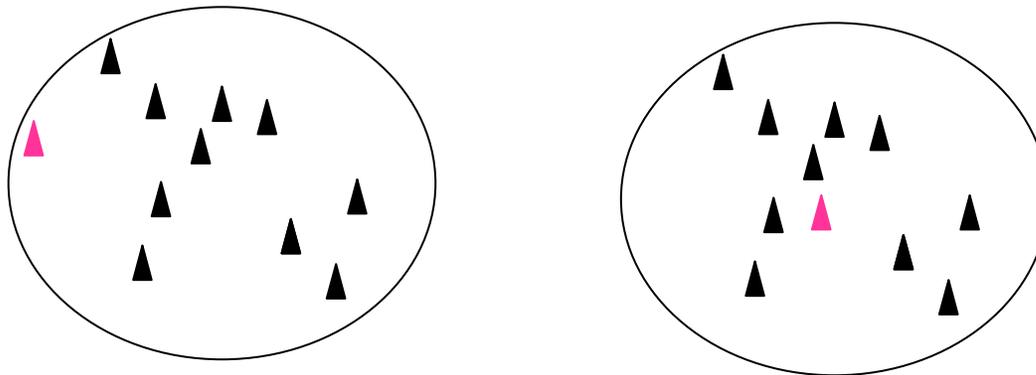




The International Code of Botanical Nomenclature

Principle II: The application of names of taxonomic groups is determined by means of nomenclatural types.

- A type is not meant to be 'typical' or the 'most representative' for the species
 - Which specimens belong to a species is a taxonomic decision !!!
 - The code (rules for naming species) does not interfere.



Typification

Principle II: The application of names of taxonomic groups is determined by means of nomenclatural types.

- A type is either a specimen or an illustration. A specimen is a real organism (or one or more parts of a plant or animal or a lot of small specimens), dead and kept safe, "curated", in a herbarium.
- Sometimes a type may also be a culture in case of fungi and algae.
Art.8.4. Type specimens of names of taxa must be preserved permanently and may not be living plants or cultures. However, cultures of fungi and algae, if preserved in a metabolically inactive state (e.g. by lyophilization or deep-freezing), are acceptable as types.
- Type of a species = specimen.
- Type of a genus = species (= specimen)

Different name-bearing types

Originally designated

Holotype: unique specimen (see also **isotype**)

Paratypes: " Each specimen of a type series other than the holotype"
Additional specimens mentioned in the original description (~allotype)

Isotype: duplicate of the holotype

Hapantotype: (Special case ~ life history change)

Subsequently designated

(not in the original publication)

Lectotype: A specimen selected to serve as the single type specimen for species originally described from a set of syntypes.

Syntypes: specimens of a type series when no holotype was designated

Neotype: A specimen later selected to serve as the type specimen when an type has been lost or destroyed, or where the original author never cited a specimen.

Typification

Sciurothamnion stegengae De Clerck et Kraft, sp. nov.

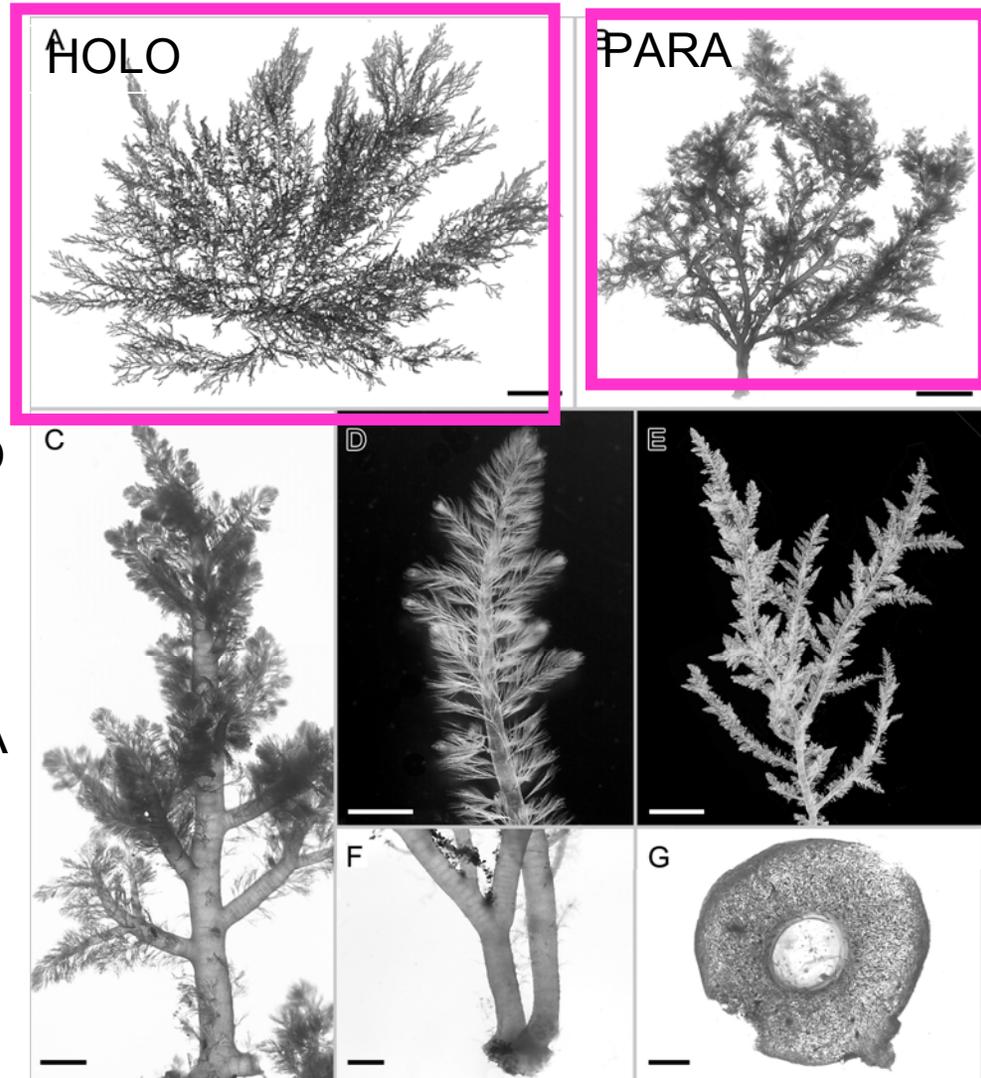
Thalli erecti, singuli vel caespitosi ex haptero discoideo, usque ad 15 cm longi, rosaceo-rubri, splendide iridescentes in vivo; axes primarii irregulariter dichotomi, valde corticati a filamentis descendantibus e cellulis proximalibus lateralium determinantum, prope basin ad 1.5 mm in diametro; lateralia determinata ad 700–800 μm longa; lateralia adventitia e cellulis corticalibus superficialibus axium determinantum exorientia, plerumque rudimentalia remanentia. Structurae reproductionis ut in genere.

Holotype: GENT, KZN 695, collected by E. Coppens, O. De Clerck, J. J. Bolton, R. J. Anderson, F. Leliert, J. Muvle and J. De Smet on 15 August 1999 (Fig. 1A). *Isotypes* are deposited in BOL and MELU.

Type locality: Linkia Reef, Ingwavuma District, Kwazulu-Natal, South Africa.

Distribution: At present, known from Tanzania, Kwazulu-Natal (South Africa), and the island of Luzon in the Philippines.

Material examined: South Africa, Kwazulu-Natal. Ingwavuma District, Sodwana Bay, 1/4 Mile Reef, epilithic on scattered rocky outcrops at –9 m, O. De Clerck and E. Cocquyt, 15.viii.2000, GENT KZN 1717; Ingwavuma District, Sodwana Bay, 9 Mile Reef, epilithic on coral debris at –4 to –11 m, O. De Clerck, H. Engledow, S. Fredericq, W. Freshwater, F. Leliert, A. Millar, T. Schils, and E. Tronchin, 12.ii.2001, GENT KZN 2160; Port Shepston



HOLO

ISO

PARA

Typification

Art 9.9. If no holotype was indicated by the author of a name of a species or infraspecific taxon, or when the holotype has been lost or destroyed, or when the material designated as type is found to belong to more than one taxon, a lectotype or, if permissible (Art. 9.6), a neotype as a substitute for it may be designated ([Art. 7.10](#) and [7.11](#)).

Art 9.12. When a type specimen (herbarium sheet or equivalent preparation) contains parts belonging to more than one taxon (see Art. [9.9](#)), the name must remain attached to that part which corresponds most nearly with the original description or diagnosis.

Typification

Phyllymenia belangeri (Bory) J.Agardh

The type of *P. belangeri* (*Iridaea belangeri* Bory) is housed in the Bornet & Thuret Herbarium (PC TA14583). However, the sheet carries three specimens representing three different species from two red algal families. The voucher on the top left corresponds to a young specimen of *Gigartina polycarpa* (Kützinger) Setchell & Gardner (Gigartinaceae); the specimen on the bottom left represents an interesting collage; the basal part is *Sarcothalia striata* (Turner) Leister (Gigartinaceae) and the distal blade belongs to *P. belangeri* (Fig. 1 insert). As the specimen on the right represents a female gametophyte of *P. belangeri*, it is designated as the lectotype in accordance with ICBN Art. 9.12 (Greuter et al., 2000). Although the external morphology of the lectotype is not fully representative of *P. belangeri*, the corrugated thallus surface and presence of gonimoblasts in diagnostic ampullae provide unequivocal evidence of its identity.



Typification

- 9.10. In lectotype designation, an isotype must be chosen if such exists, or otherwise a syntype if such exists. If no isotype, syntype or isosyntype (duplicate of syntype) is extant, the lectotype must be chosen from among the paratypes if such exist. If no cited specimens exist, the lectotype must be chosen from among the uncited specimens and cited and uncited illustrations which comprise the remaining original material, if such exist.
- 9.11. If no original material is extant or as long as it is missing, a neotype may be selected. A lectotype always takes precedence over a neotype, except as provided by Art. [9.14.](#)

Lectotypification: ISO → SYN → PARA → other specimen → illustration

Neotypification

Type-less taxa

**PAUL HORN PRESENTS:
TYPE CASTING!**

FELLOW SCIENTISTS, WE'RE GATHERED HERE TO DETERMINE WHO SHOULD REPRESENT THE HOMO SAPIENS TYPE SPECIMENS.



WHEN CAROLUS LINNAEUS - THE FATHER OF TAXONOMY - WAS ALIVE, HE KINDA FORGOT TO CHOOSE THE IDEAL MALE AND FEMALE.

NOW HERE'S THE RUB:

SINCE THERE ARE SO MANY RACES AND ETHNICITIES, IT'LL BE ALMOST IMPOSSIBLE TO CHOOSE A SINGLE HUMAN REPRESENTATIVE.

RIGHT. SO, WHO SHOULD REPRESENT THE MALE IDEAL?



TYSON BECKFORD!

WHAT. HAVE YOU SEEN HIM? HE'S HOT!



TYSON
VH1's Model of the Year, 1995

SOMEONE OUT THERE VOTED FOR BOB HOPE...



WHAT?
NO! BOO!
OUTRAGE! HISS!

...AND RAQUEL WELCH.



RAQUEL
Fairest of the Fair, 1958



uh. HOLD IT THE TYPE

WELL, LET'S JUST MAKE A

Type-less taxa

The [ICZN](#) has not always required a type specimen, and many "type-less" species exist, perhaps the most notable being [Homo sapiens](#). This example is instructive: the current edition of the [Code](#), Article 75.3, prohibits the designation of a [neotype](#) unless there is "an exceptional need" for "clarifying the taxonomic status" of a species.

As the status and identity of *H. sapiens* is not questioned, there is no exceptional need for clarification, and "any such neotype designation is invalid" (Article 75.2).

Recently some species have been described where the type specimen was released alive back into the wild, such as the Bulo Burti Bush-shrike ([Laniarius liberatus](#)), in which the species description included DNA sequences from blood and feather samples. Assuming there is no future question as to the status of such a species, the absence of the type specimen does not invalidate the name, but it may be necessary in the future to designate a neotype for such a taxon, should any questions arise.

One taxon, one name

Principle III: The nomenclature of a taxonomic group is based upon priority of publication.

“the oldest fool is always right”

Principle IV: Each taxonomic group with a particular circumscription, position, and rank can bear only one correct name, the earliest that is in accordance with the Rules, except in specified cases

- Art 11.1. Each family or taxon of lower rank ... can bear only one correct name, special exceptions being made for 9 families and 1 subfamily for which alternative names are permitted ...
 - *Compositae* (*Asteraceae*; type, *Aster* L.)
 - *Cruciferae* (*Brassicaceae*; type, *Brassica* L.)
 - *Gramineae* (*Poaceae*; type, *Poa* L.)
 - *Guttiferae* (*Clusiaceae*; type, *Clusia* L.)
 - *Labiatae* (*Lamiaceae*; type, *Lamium* L.)
 - *Leguminosae* (*Fabaceae*; type, *Faba* Mill. [= *Vicia* L.])
 - *Palmae* (*Arecaceae*; type, *Areca* L.)
 - *Umbelliferae* (*Apiaceae*; type, *Apium* L.).

One taxon, one name

Art. 11.3. For any taxon from family to genus inclusive, the correct name is the earliest legitimate one with the same rank, except in cases of limitation of priority by conservation.

Art 11.2. In no case does a name have priority outside the rank in which it is published.

- Examples.
 1. When *Aesculus* L. (1753), *Pavia* Mill. (1754), *Macrothyrsus* Spach (1834) and *Calothyrsus* Spach (1834) are referred to a single genus, its name is *Aesculus* L.

One taxon, one name

Art. 11.3. For any taxon from family to genus inclusive, the correct name is the earliest legitimate one with the same rank, except in cases of limitation of priority by conservation.

Art 11.2. In no case does a name have priority outside the rank in which it is published.

- Examples.
- 1. Correct name for Herbstschroeforchis
Spiranthes autumnalis (Balbis) L.C. Richard (1817)
Basionym : *Ophrys autumnalis* Balbis (1801)

of

Spiranthes spiralis (L.) Chevallier (1836)
Basionym : *Ophrys spiralis* L. (1753)



One taxon, one name

Art. 11.3. For any taxon from family to genus inclusive, the correct name is the earliest legitimate one with the same rank, except in cases of limitation of priority by conservation.

Art 11.2. In no case does a name have priority outside the rank in which it is published.

- Examples.
 1. *Phyllymenia belangeri* (Bory) Setchell & Gardner (1936) is the correct name for the species if *Iridaea belangeri* Bory (1834) is considered conspecific with *Phyllymenia hieroglyphica* J. Agardh (1846)

**A PLEA TO LET STABILITY TAKE
PRECEDENCE OVER PRIORITY WHERE DESIRABLE,
REASONABLE, AND POSSIBLE FOR GENERIC NAMES**

C. G. G. J. van Steenis (Leiden)

One taxon, one name

Art. 11.3. For any taxon from family to genus inclusive, the correct name is the earliest legitimate one with the same rank, except in cases of limitation of priority by conservation.

Art 11.2. In no case does a name have priority outside the rank in which it is published.

Absolute toepassing van de prioriteitsregel, met uitschakeling van vertrouwde namen, heeft men in een beperkt aantal gevallen vermeden door jongere namen te plaatsen op de lijsten van de **nomina conservanda**. Deze lijsten vormen Appendix 2 (nomina familiarum conservanda) en Appendix 3 (nomina generica & specifica conservanda), en deze kunnen worden aangevuld.

Bambusa Schreb., Gen. Pl.: 236. Apr 1789 [*Gram.*].
Typus: *B. arundinacea* (Retz.) Willd. (Sp. Pl. 2: 245.
Mar 1799) (*Bambos arundinacea* Retz.)

(≡) *Bambos* Retz., Observ. Bot. 5: 24. Sep 1788.