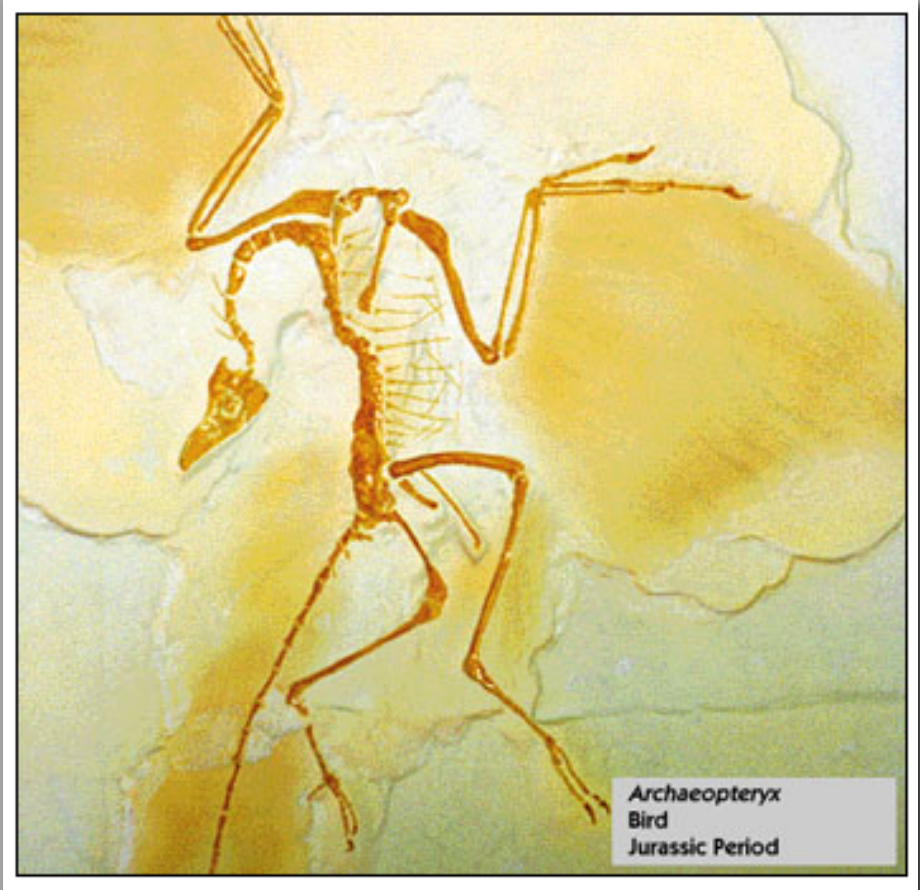


Entomology 601 - 2013
Lecture 35
Zoological Nomenclature



Zoological Nomenclature

- Stability
 - No changes to names unless necessary
- Universal
 - One system of names worldwide
- Unique
 - Each taxon has one name
 - No two different taxa have the same name

CODE
INTERNATIONAL
de
NOMENCLATURE
ZOOLOGIQUE

adopté par le
XVe CONGRÈS
INTERNATIONAL
de
ZOOLOGIE

INTERNATIONAL
CODE
of
ZOOLOGICAL
NOMENCLATURE

adopted by the
XV INTERNATIONAL
CONGRESS
of
ZOOLOGY

EDITORIAL COMMITTEE

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PUBLISHED FOR
THE INTERNATIONAL COMMISSION
ON ZOOLOGICAL NOMENCLATURE
BY THE
INTERNATIONAL TRUST FOR ZOOLOGICAL NOMENCLATURE
LONDON 1961


International Code of Zoological Nomenclature

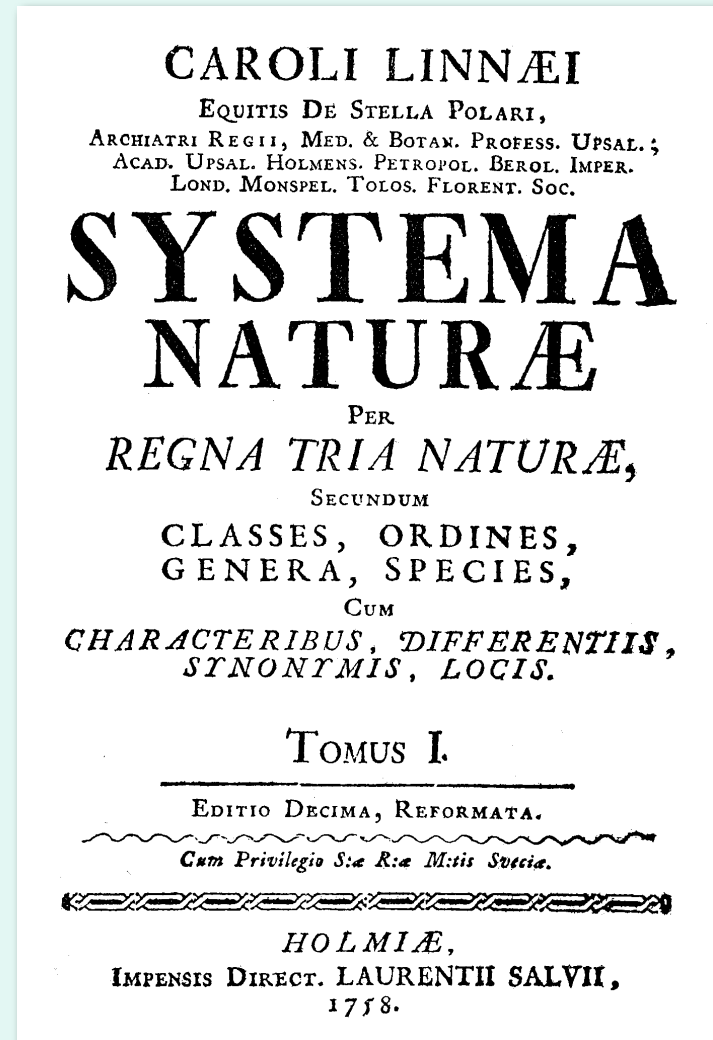
- Published
1961
- Now in 4th
Edition, 1998
- 87 articles

Power of the Code

- Depends entirely on acceptance by zoologists
- No punitive powers
- Editors and peer reviewers!

Scope of the Code

- Only scientific names
- Subspecies to superfamily
- Only animal names
 - Plants, bacteria, virus have separate codes
 - Uniqueness only within animals 
- Living and extinct
 - Begins on ...



January 1, 1758

Names in the Family-Group

- Family, subfamily, tribe, superfamily
- Single word, capitalized
- Latin or latinized
 - Add -idea, -inae, -ini, -oidea to stem
 - Stem is name of type-genus minus the gender ending
- Nouns in nominative plural

Names in the Genus-Group

- Single word, capitalized, in italics
- Noun in nominative singular
- Subgenus follows genus in parentheses
 - Always used with genus name
 - *Aedes (Aedimorphus)*
- Note:
 - Use = sign to indicate prior usage
 - *Signiphora flavella (=Thysanus flavellus)*

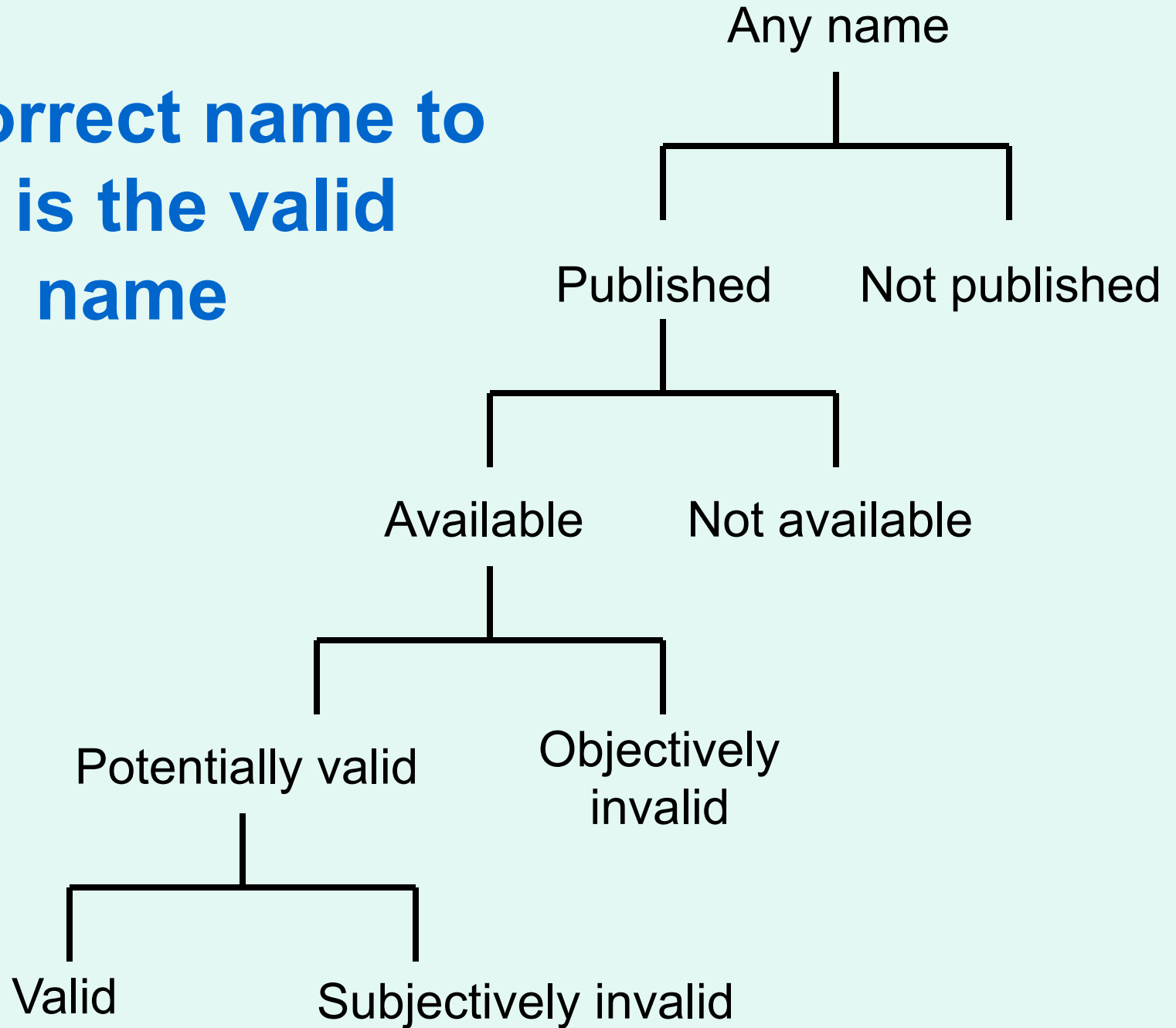
Names in the Species-Group

- Species name is a binomen, both genus and species name
 - *Signiphora flavella*
 - Must agree in gender in Latin or Greek
- Subspecies name is a trinomen
 - *Signiphora flavopalliata desantisi*

Authorship

- Name takes author and date of person that first publishes it
- *Signiphora* Ashmead, 1880
- *Signiphora flavopalliata* Ashmead, 1880
- Entomological journals generally recommend citing the author first time name is used
- Dates generally used only in taxonomic publications
- If a species was originally described in another genus, author name is in parentheses
 - *Signiphora magniclava* (Dozier) was originally described as *Thysanus magniclavus* Dozier

The correct name to use is the valid name



Publication

- Before 1986
 - Ink on paper, conventional printing
- After 1985, before 2000
 - Other methods OK if not specifically excluded in Article 9
 - Work must contain statement that any new names and nomenclatural acts are intended for publication and permanent scientific record
 - Work must contain statement that work itself is produced in an edition containing simultaneously available copies
- After 1999
 - Publication other than ink on paper (for example, CD) must contain statement that work has been deposited in at least 5 major, publicly accessible libraries, identified by names

Article 9 - What does NOT constitute publication

- After 1930, handwriting reproduced by any method
- Photographs as such
- Proof sheets
- Microfilms
- Acoustic recordings
- Labels on specimens
- Copies obtained on demand of unpublished work
- Text or illustrations distributed by electronic signal only (eg the Internet)
- Abstracts, posters, texts of lectures issued to participants of scientific meetings

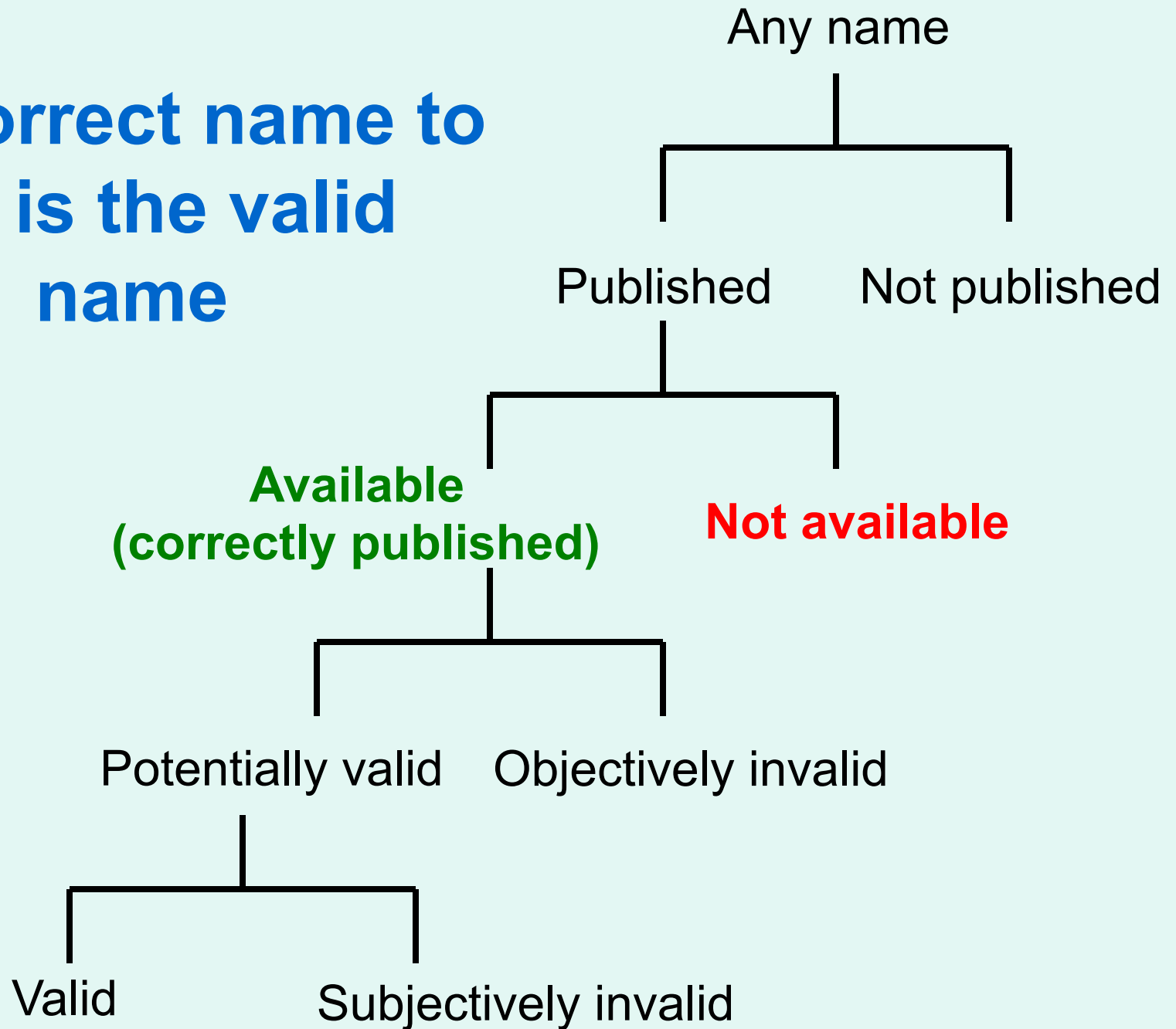
ICZN passed Amendment in 2012 allowing Electronic Publication

- Before 1986, only acceptable way to produce physical copies is ink or toner on paper
- After 1985 and before 2013, works on CD-ROM or DVD are acceptable under certain conditions

Electronic Publication

- After 2011 (ie, from beginning of 2012)
- Work is widely accessible
- Issued for permanent Scientific Record
- ISSN or ISBN
- Fixed format and content, eg. Pdf file
- Date of publication in work itself
- Must be archived with an organization other than the publisher
- Work must be registered in ZooBank and contain evidence of registration

The correct name to use is the valid name



Manner of Publication

- In Latin or treatable as such
- Must use binomenal nomenclature
- Family-group
 - Based on name then valid for a genus
- Before 1931
 - Accompanied by description, definition, or indication
 - Acceptable indications listed in Code
 - Eg, bibliographic reference, work of an animal
- After 1930
 - Must also be accompanied by statement differentiating taxon from close relatives

Loves Wooded and Won in Australia.



By H. H. Girault.

Amongst us all, I never see these small, wonderful insects loved for themselves. The excuse given is, they are parasites, and therefore valuable; they kill the tree-louse, and therefore are lovable. 'Tis become woefully true of all nature. Men love and admire Her either under excuse (as some Roman Catholics salute the Virgin under pretence of scratching their heads), or else bow to Her only because they hope to get by it.

I have wooed, won and enjoyed these worthy woodland spirits for their and Love's sweet sakes. I herewith name them that others may know what Grace and Beauty the woodland holds.

All from Queensland.

1. **COPIDOSOMA SHAKESPEAREI.** Green; forewing cloudy, bend of submarginal to apex. Ovipositor $\frac{1}{2}$ abdomen. Tegulae, legs save coxa 3, basal $\frac{1}{3}$ ovipositor, yellow. Funicles 1—2 six times longer than wide; jaw 3 not $\frac{1}{2}$ of 2; 7 lines cilia proximad hairless line. Laidley, Brigalow jungle, August 15, 1923.

2. **BORROWELLA CONSOBRINA.** As *bioculata* but all femora yellow brown save proximal half of 1; abdomen longer than wide; scutellum scaly; frons densely punctate; eyes with short hairs. Montville, jungle, Sept. 12, 1923.

3. **LEPTOMASTIX VARITHORAX.** Follows *bicoloricornis* but pedicel not elongate, ovipositor $\frac{1}{3}$ abdomen; funicle 6, apex of 5, legs beneath, bases of tibiae, apex tibia 2, tarsus 2, spur white; mouth, mesopleurum, tegula orange; funicles thrice longer than wide. Hairless line not half complete. Postmarginal subequal stigmal. Stanthorpe, forest, August 10, 1923.

4. **AUSTRALANUSIA TARSALIS.** As genotype, but tibia 2 yellow save near base, femur 2 pale brown, funicle 6 equal 1 but wider; hindwings 14 lines cilia; tarsal 1 of leg 2 equal spur. Mapleton, jungle, July 14, 1923.

5. **COCCIDENCYRTUS IPSWICHIA.** As *bicoloricornis* but funicle white, forewing infuscated, distal $\frac{1}{3}$ submarginal to apex; scape all metallic; so legs save ends tibiae. Ipswich, forest, March 22, 1923.

6. **OMPHALODIPARA.** Diparinae. Antennae at clypeus, 10 joints, 3 ring, 1 club, scape greatly flattened; furrows faint; curved lateral groove scutellum; jaw 1 not $\frac{1}{3}$ length of 2 or 3; stigmal long; postmarginal subequal it, $\frac{1}{3}$ the long marginal, latter equal submarginal. Like an *Omphaline*.

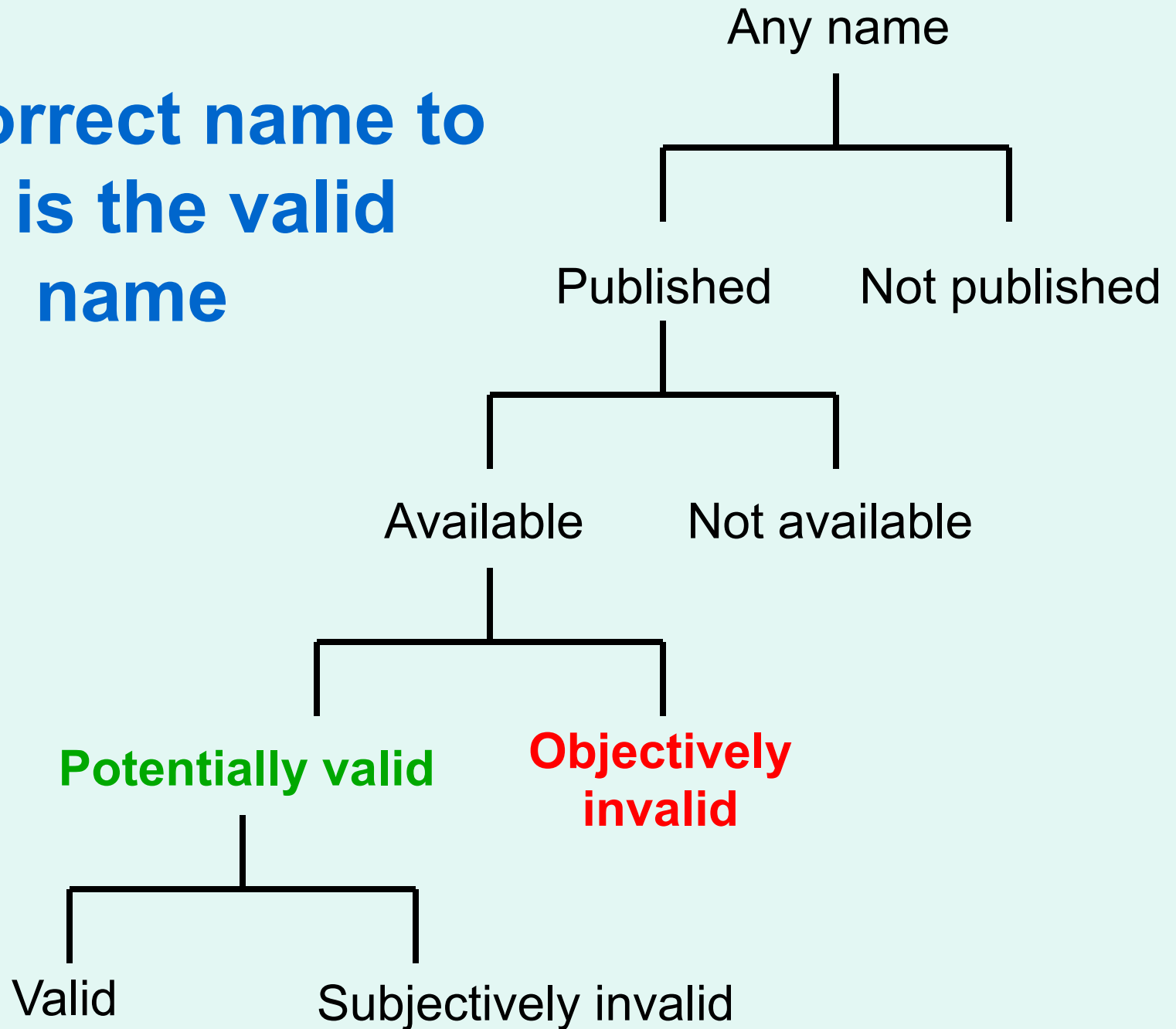




Manner of Publication

- After 1960
 - No conditional names
 - No varieties or forms
- After 1999
 - Must explicitly indicate new name by “sp. nov.”, “gen. nov .”, or “fam. nov.” or equivalent in another language
 - Species-group, must designate a holotype or syntypes
 - Must have name and location of institution in which type is deposited

The correct name to use is the valid name



Objectively Invalid

- **Junior Homonyms (pre-occupied)**
- Junior Objective Synonyms

Homonym

- Two identical names applied to two different taxa
- Junior homonym and senior homonym
- In general, junior homonyms must always be replaced
- In general, single letter difference prevents homonymy
 - Except suffix for gender ending or rank (family-group)

Homonymy

- Think of names as occupying niches in nomenclatural space, once they are published and available
- Niches are differentiated by different spellings
- If a junior name has an identical spelling to an older name, the niche was **PREOCCUPIED**
- The junior name is a **JUNIOR HOMONYM** and objectively invalid
- Generally, a single letter difference prevents homonymy
- If a name is not preoccupied, it is **AVAILABLE** for use as the name of a taxon

Objectively Invalid

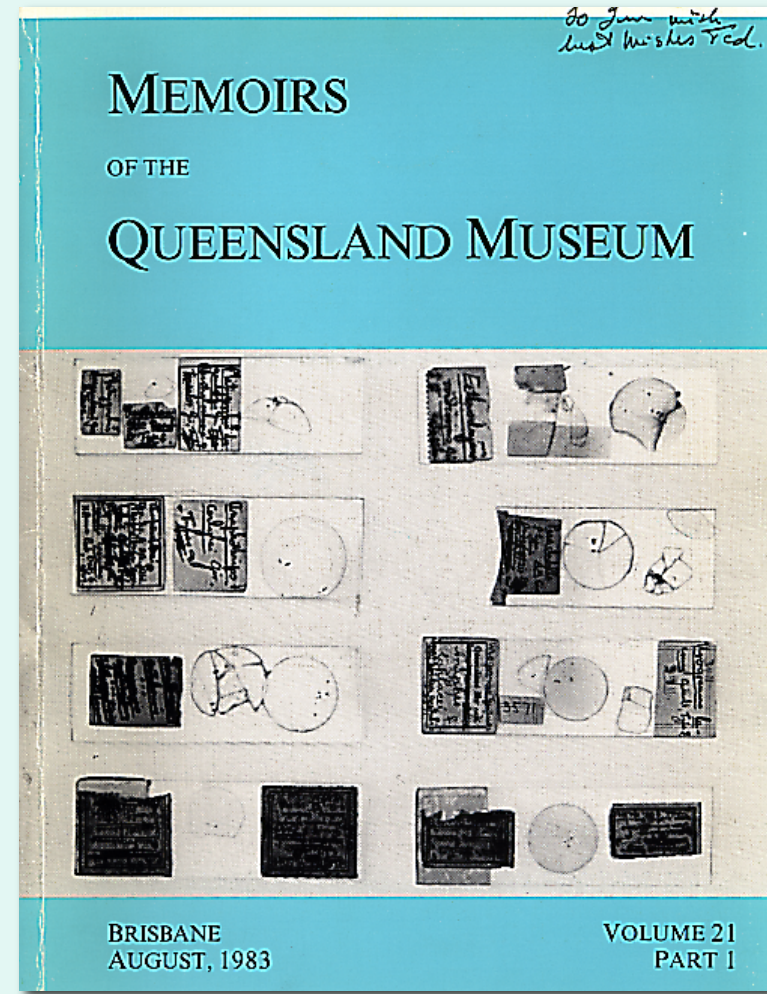
- Junior Homonyms (pre-occupied)
- **Junior Objective Synonyms**

Synonym

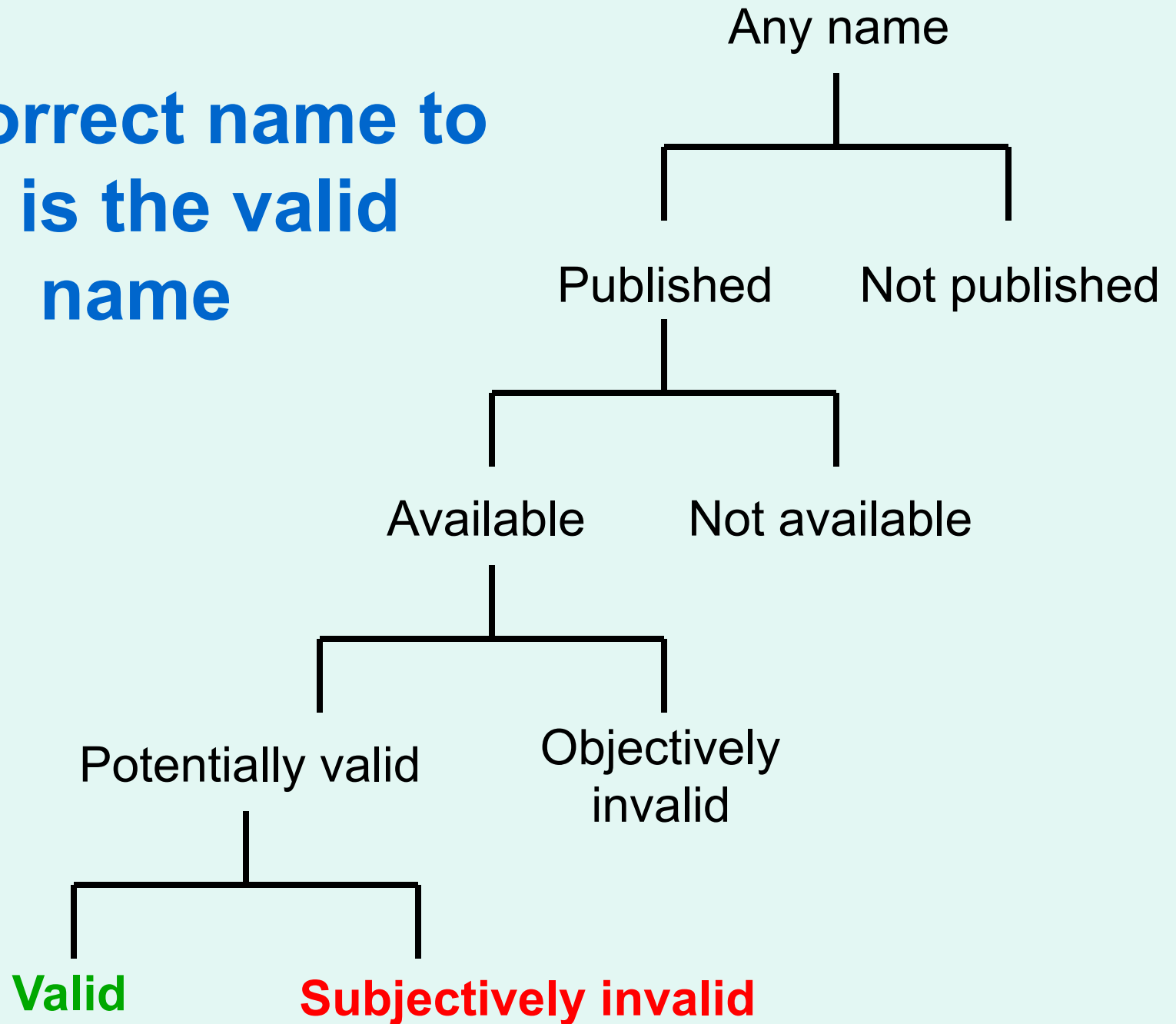
- Two different names referring to same taxon
- Names have authors and dates
 - Senior synonym (older name, published first)
 - Junior synonym (younger name, published later)

Objective Synonym

- No question about it
- For example, same specimen used as holotype for two different species



The correct name to use is the valid name



Subjectively Invalid

- **Junior Subjective Synonyms**
 - Matter of biological opinion or interpretation
 - For example, dealing with the limits or boundaries of taxa
- *Aus bus* Jones 1910 and *Aus yus* Smith 1950
 - You decide that they refer to same species
 - I decide that they refer to two different species
 - Decision is subjective, but may be based on interpretation of rigorous scientific evidence and analysis

Validity

- Several subjective synonyms may be **AVAILABLE** to use for a taxon
- **LAW OF PRIORITY**
- **The valid name is the oldest available name**

The correct name to use is the valid name

