

BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS

BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS



MINISTRY OF HIGHER EDUCATION



TOPIC 4 :

INTERNATIONAL CODE FOR ZOOLOGICAL NOMENCLATURE (ICZN)



BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS

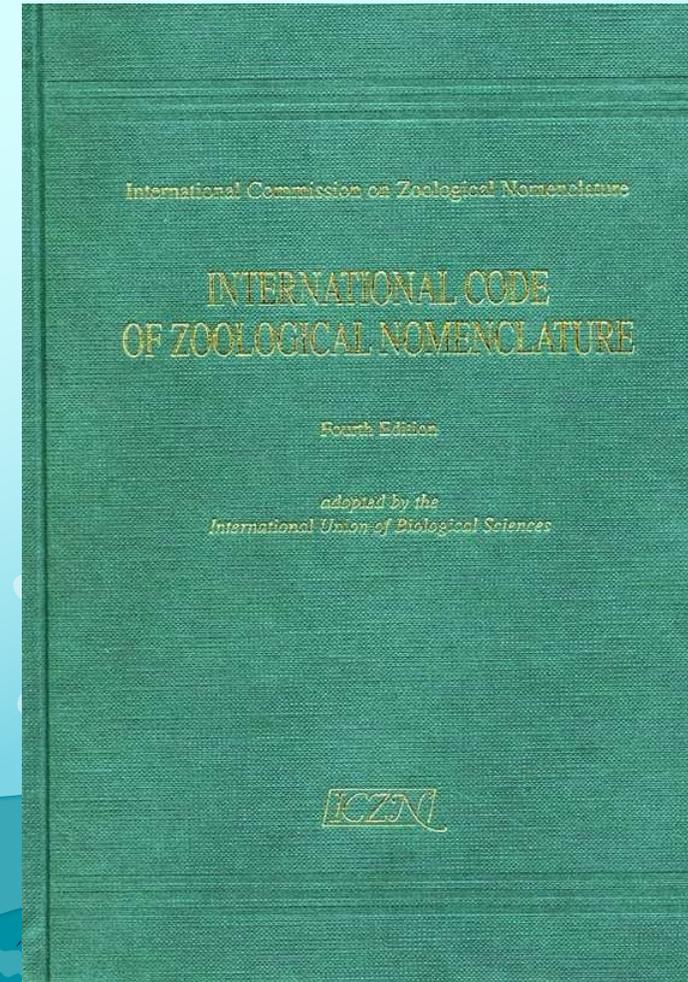
ICZN AND ITS ROLE



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- International Code for Zoological Nomenclature
 - ensure that names are unique
 - manages and resolves disagreements pertaining to zoological nomenclature
 - discuss cases, address concerns, listen to pleas and arguments from scientists, managers and public, and vote on the cases.



WHAT ORGANISMS DOES ICZN COVER



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- ICZN only applies to animal names, and not to names of plants, fungi, bacteria or viruses
 - [International Code of Nomenclature for algae, fungi, and plants](#)
 - [International Code of Nomenclature of Bacteria](#)
 - [International Code of Virus Classification and Nomenclature](#)
- Animal names include
 - metazoans and protists
 - fossil animal taxa and animal trace fossils
 - collective groups of animals
- Animal names does not include
 - hypothetical concepts
 - teratological specimens

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WHAT THE ICZN DOESN'T DO



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- Make taxonomic decisions
- Give names to organisms or govern vernacular names
- Enforce correct use of names
- Change names

BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS

A UNIVERSAL CODE FOR ALL ANIMALS:

- Commission established: 1895
- Publication of the “Règles”: 1905
- 1st International Code: 1961
- 2nd International Code: 1964
- 3rd International Code: 1985
- 4th International Code: 1999
- 5th in the works: 2012

WHEN TROUBLE STRIKES!



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**Take a case to the Commission 26
distinguished scientists from 20
countries and sit judgment on
cases**



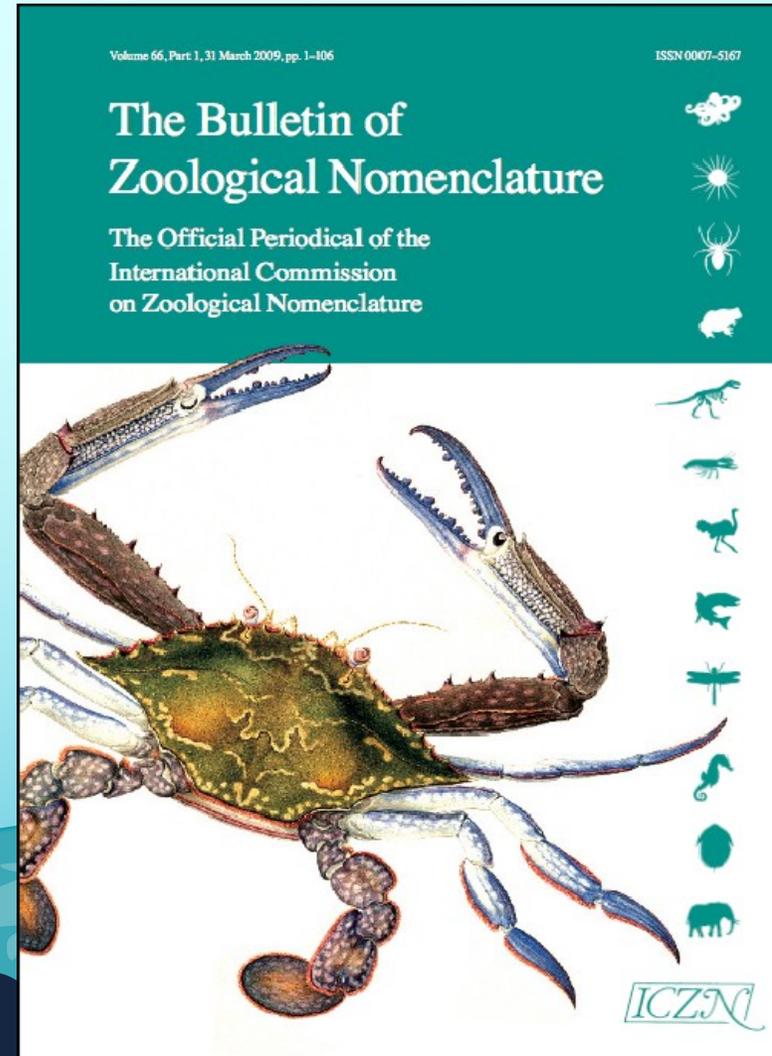
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Where a problem is discovered concerning the naming of animals which can not be dealt with by direct application of the rules of the Code, applicants present an argument, a “**Case**” which is published in BZN



BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS

PARTS OF ICZN



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- This code consists of three parts
 - The Code proper
 - It includes 'preambles' followed by 87 consecutive numbered Articles which grouped in 18 chapters.
 - The Articles are composed of mandatory rules to which in some cases are attached the Recommendations.
 - The use of recommendations is not mandatory but lays down the best procedure for cases not strictly covered by the application of rules.
 - These are designated by the number of the article with which they are associated, followed by appropriate capital letter, e.g., Recommendations 10A, 72B, 74D etc. 2.
 - Appendices
 - Glossary





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- Chapter 8:** Family-group nominal taxa and their names
- Chapter 9:** Genus-group nominal taxa and their names
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International Commission on Zoological Nomenclature

**INTERNATIONAL CODE
OF ZOOLOGICAL NOMENCLATURE**

Fourth Edition

*adopted by the
International Union of Biological Sciences*

The provisions of this Code supersede those of the previous editions with effect from 1 January 2000



ISBN 0 85301 006 4

The author of this Code is the International Commission on Zoological Nomenclature

Editorial Committee
W.D.L. Ride, Chairman
H.G. Cogger
C. Durbin

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Chapter 4: Criteria of availability

Chapter 5: Date of publication

Chapter 6: Validity of names and nomenclatural acts

Chapter 7: Formation and treatment of names

Chapter 8: Family-group nominal taxa and their names

Chapter 9: Genus-group nominal taxa and their names

Chapter 10: Species-group nomenclotypical taxa and their names

8.1. Criteria to be met. A work must satisfy the following criteria:

- 8.1.1. it must be issued for the purpose of providing a public and permanent scientific record,
- 8.1.2. it must be obtainable, when first issued, free of charge or by purchase, and
- 8.1.3. it must have been produced in an edition containing simultaneously obtainable copies by a method that assures numerous identical and durable copies.

8.2. Publication may be disclaimed. A work that contains a statement to the effect that it is not issued for public and permanent scientific record, or for purposes of zoological nomenclature, is not published within the meaning of the Code.

8.3. Names and acts may be disclaimed. If a work contains a statement to the effect that all or any of the names or nomenclatural acts in it are disclaimed for nomenclatural purposes, the disclaimed names or acts are not available. Such a work may be a published work (i.e. taxonomic information in it may have the same nomenclatural status as the taxonomic information in a published but suppressed work: see [Article 8.7.1](#)).

8.4. Works produced before 1986. To be published, a work produced before 1986 must have been produced on paper, by a printing method then conventional (such as letterpress, offset printing) or by hectographing or mimeographing.

8.5. Works produced after 1985 and before 2000. A work produced between 1985 and 2000 by a method other than conventional printing may be accepted as published within the meaning of the Code if

- 8.5.1. it meets the other requirements of this Article and is not excluded by the provisions of [Article 9](#), and





24.2.5. Unnecessary action by a First Reviser. If it is shown subsequently that the precedence of names, spellings or acts can be objectively determined, the action of the First Reviser is nullified.

Recommendation 24A. Action of First Reviser. In acting as First Reviser in the meaning of this Article, an author should select the name, spelling or nomenclatural act that will best serve stability and universality of nomenclature.

Recommendation 24B. First Revisers choosing between identical names should follow contemporary attributions of authorship. Zoologists acting as First Revisers to determine the precedence of identical names published in the same or different works, and on the same day, are advised to follow attributions by the authors concerned if these are known (see Article 50.6).

CHAPTER 7 FORMATION AND TREATMENT OF NAMES

Article 25. Formation and treatment of names. A scientific name must be formed and treated in accordance with the relevant provisions of Article 11 and Articles 26 to 34 (also see Appendix B, General Recommendations).

Recommendation 25A. Abbreviations. On first mention of a scientific name in a published work all components should be printed in full. Subsequently, if an abbreviation is used for any part of a binomen or a trinomen, the abbreviation should be unambiguous and it should always be followed by a full stop (period) to avoid it being thought to be a complete word.

Example. The mosquito name *Aedes aegypti* should be so printed on first mention, but subsequently may be given as *A. aegypti* (and *A. a. aegypti* for *Aedes aegypti aegypti*) but in a case where confusion is likely (e.g. with *Anopheles*), *Aedes aegypti* might be abbreviated to *Ae. aegypti* (and *An. maculipennis* used without ambiguity for a species of *Anopheles*).

Recommendation 25B. Derivation. In publishing a new scientific name an author should state its derivation.

Recommendation 25C. Responsibility of authors forming new names. Authors should exercise reasonable care and consideration in forming new names to ensure that they are chosen with their subsequent users in mind and that, as far as possible, they are appropriate, compact, euphonious, memorable, and do not cause offence.

Article 26. Assumption of Greek or Latin in scientific names. If the





- Criteria
 - Criteria of Publication
 - Criteria of Availability
- Principles
 - Principle of Priority
 - Principle of Coordination
 - Principle of Homonymy
 - Principle of Typification
- Code of Ethics
- General Recommendations





• Uniqueness

- A classification is a filing system, an information retrieval system.
- Every name has to be unique because it is the key to entire literature relating to this species or higher taxon.
- If several names have been given to the same taxon, there must be a clear cut method of determining which of them has validity.
- In case Zoological nomenclature, priority usually decides in case of conflict.



• Universality

• Stability



- **Uniqueness**

- **Universality**

- Scientific communication would be very difficult if there were only vernacular names for animals.
- In that case specialists would have to learn the names of taxa in innumerable languages in order to communicate each other.
- To avoid this, a single set of names for animals to be used worldwide.



- **Stability**



- **Uniqueness**
- **Universality**
- **Stability**

- As recognition symbols the names of object would lose much of their usefulness if they are changed frequently and arbitrarily.
- It would certainly create confusion if we were to call an object a spoon today but an apple next week.

Code of Ethics

- No author should propose a name that, to his or her knowledge or reasonable belief, would be likely to give **offence on any grounds**.
- **Intemperate** language should not be used in any discussion which involves zoological nomenclature, and all debates should be conducted in a **courteous** and **friendly** manner”

General Recommendation

- “New names should be in latin form; they should be euphonious and easily memorable.....”

CAROLUS LINNAEUS 1707-1778



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- The founder of binominal / binomial organismal nomenclature
- Primarily a botanist
- Set a bad example for generations of biologists?
- Principles of orderliness



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Phallus impudicus Linnaeus, 1753



Stanksopp (*Phallus impudicus*)
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Clitoria ternatea Linnaeus, 1753



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RETALIATION?



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- Johan Sigesbeck published a diatribe criticising Linnaeus
- Linnaeus's chose a small- flowered weedy composite to bear the name "*Sigesbeckia*"



OFFENSIVE NAMES?

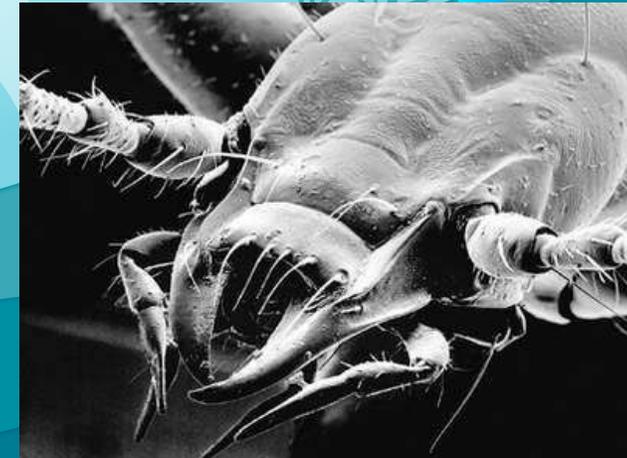
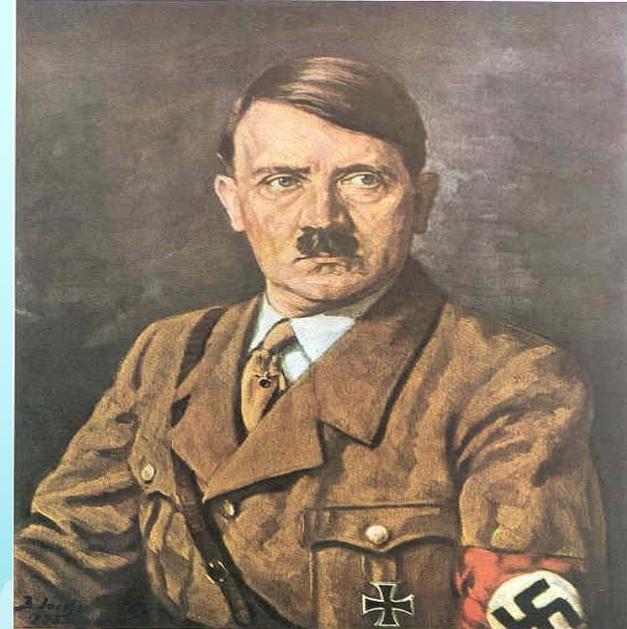


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Anophthalmus hitleri Scheibel, 1937

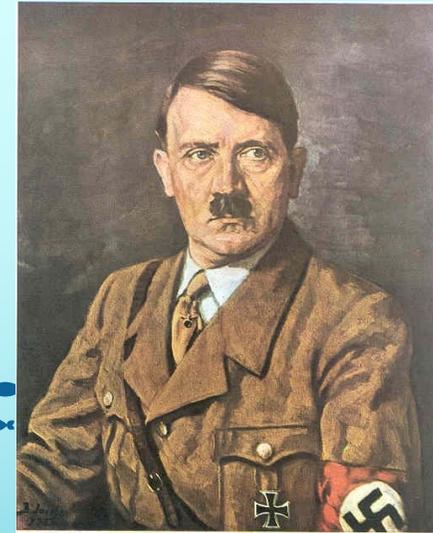
- a blind cave-dwelling beetle
- named as an honorific by a Nazi taxonomist



OFFENSIVE NAMES?

- Followers of Hitler are hunting them so vigorously for mementos that the species is like to become extinct.
- Martin Bähr, an entomologist at the Zoological State Collection in Munich, said: “There has been a run on these creatures.
- Collectors are scouring their natural habitat for them.
- Almost all of our specimens at the museum have been stolen.

Telegraph, November 2006





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Holotype of *Homo sapiens*?



BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS

THE CODE: CRITERIA & PRINCIPLES

- Criteria
 - Criteria of Publication
 - Criteria of Availability
- Principles
 - **Principle of Priority**
 - Principle of Coordination
 - Principle of Homonymy
 - Principle of Typification
- Code of Ethics
- General Recommendations



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BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS

Principle of Priority



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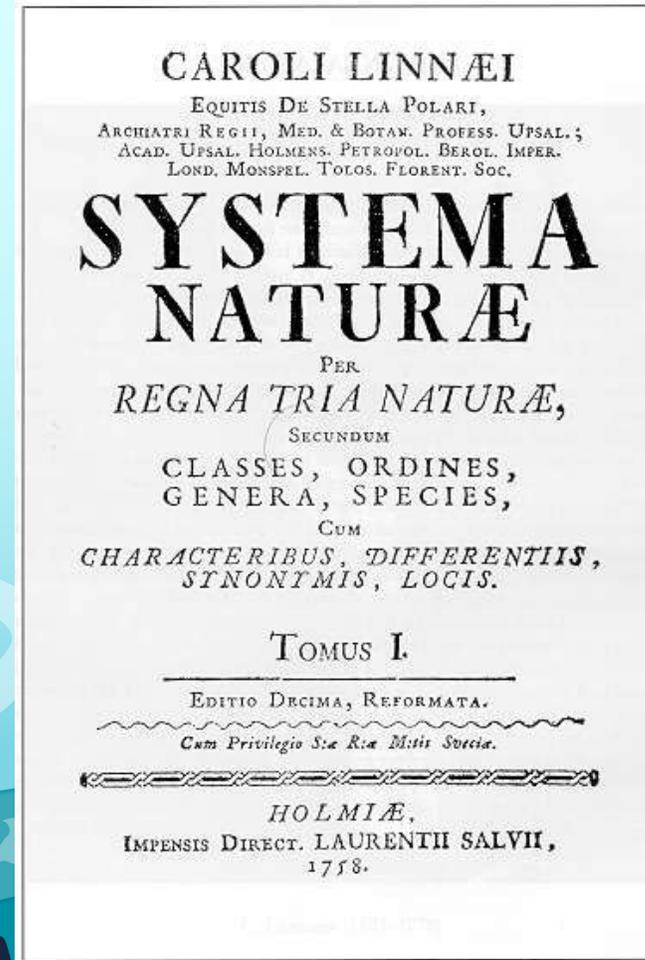
- The oldest name has priority
- Senior synonym
- Junior synonym
- Objective synonym
- Subjective synonym



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Starting point of zoological nomenclature: 1758 –



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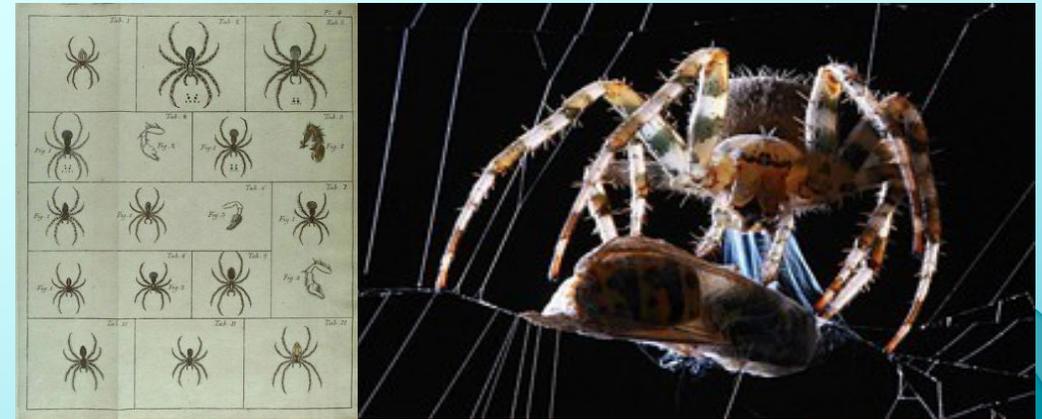
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Starting point of zoological nomenclature: 1758 – except...

International Code of Zoological

Nomenclature 3rd Ed. (1985)



Article 3. Starting point.—The date 1 January 1758 is arbitrarily fixed in this Code as the date of the starting point of zoological nomenclature. Two works are deemed to have been published on that date:

- (1) Linnaeus's *Systema Naturae*, 10th Edition; and
- (2) Clerck's *Aranei Svecici*.

Names in the latter have priority over names in the former. Any other work published in 1758 is deemed to have been published after the 10th Edition of the *Systema Naturae*.

Principle of Priority



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- Principle of the First Reviser
- If two or more items have the **same date of publication**, the **first** subsequent **author** who deals with the matter, **makes a choice** and publishes the decision in the required manner, the First Reviser, is to be followed. [Art. 24.2].

THE CODE: CRITERIA & PRINCIPLES



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- **Criteria**
 - Criteria of Publication
 - Criteria of Availability
- **Principles**
 - Principle of Priority
 - **Principle of Coordination**
 - Principle of Homonymy
 - Principle of Typification
- **Code of Ethics**
- **General Recommendations**



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The act of publishing a new zoological name thereby automatically and simultaneously establishes all the corresponding names in the relevant other ranks, with the same type

THE CODE: CRITERIA & PRINCIPLES



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- **Criteria**
 - Criteria of Publication
 - Criteria of Availability
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- **General Recommendations**



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Article 16.4.2: authors of new taxa must publish a statement of intent that **extant types will be deposited in a collection**

Article 73.1.4 “**Designation of an illustration** of a single specimen **as a holotype** is to be treated as **designation of the specimen illustrated**; the fact that the specimen **no longer exists or cannot be traced does not of itself invalidate the designation.**”



- **Criteria**
 - Criteria of Publication
 - Criteria of Availability
- **Principles**
 - Principle of Priority
 - Principle of Coordination
 - **Principle of Homonymy**
 - Principle of Typification
- **Code of Ethics**
- **General Recommendations**



Article 53.2. Homonyms in the genus group.

In the genus group, two or more available names established with the same spelling are homonyms.

Article 60.2. Junior homonyms with synonyms.

If the rejected junior homonym has one or more available and potentially valid synonyms, the oldest of these becomes the valid name of the taxon with its own authorship and date.

CASE STUDY 1



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- Discovered by Europeans in 1798
- Described as *Platypus anatinus* Shaw, 1799
- *Platypus*, is Latin derived from the Greek words ("platys", flat, broad) and ("pous", foot), meaning "flat foot"
- *anatinus* means "duck-like" in Latin.



CASE STUDY 1



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- A homonym was quickly discovered
- *Platypus* for the ambrosia beetle was established by Herbst, 1793
- *Platypus* Shaw 1799 is a **junior homonym** of *Platypus* Herbst, 1793



CASE STUDY 1



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- Independently described as *Ornithorhynchus paradoxus* Blumenbach, 1800.
- *Ornithorhynchus* is derived from ("ornithorhynchos"), which literally means "bird snout" in Greek.



CASE STUDY 1



MINISTRY OF HIGHER EDUCATION



- *Ornithorhynchus* Blumenbach, 1800 is a **junior synonym** of *Platypus* Shaw, 1799
- Therefore the correct name for the genus is *Ornithorhynchus* Blumenbach, 1800.

But the correct name for the species is *Ornithorhynchus anatinus* (Shaw, 1799).



Article 53.2. Homonyms in the genus group.

In the genus group, two or more available names established with the same spelling are homonyms.

Platypus Shaw, 1799 is a junior homonym of *Platypus* Herbst, 1793, so is rejected.

Article 60.2. Junior homonyms with synonyms.

If the rejected junior homonym has one or more available and potentially valid synonyms, the oldest of these becomes the valid name of the taxon with its own authorship and date.

Ornithorhynchus Blumenbach, 1800 is a junior synonym of *Platypus* Shaw, 1799, so steps in to fill the gap. (and the species name from Shaw, 1799, stays alive)

Article 52.1. Statement of the Principle of Homonymy:

When two or more taxa are distinguished from each other they must not be denoted by the same name.

Article 52.2. Operation of the Principle of Homonymy.

When two or more names are homonyms, only the senior, as determined by the Principle of Priority may be used as a valid name.

CASE STUDY 2



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- **Fairmaire (1869)** established the name *Syntarsus* Fairmaire for a genus of beetle (Coleoptera, Zopheridae)
- **Type species** of *Syntarsus* is *Syntarsus asperulus* Fairmaire, 1869 designated by **Dajoz 1980** for a colydiine from Madagascar.



CASE STUDY 2



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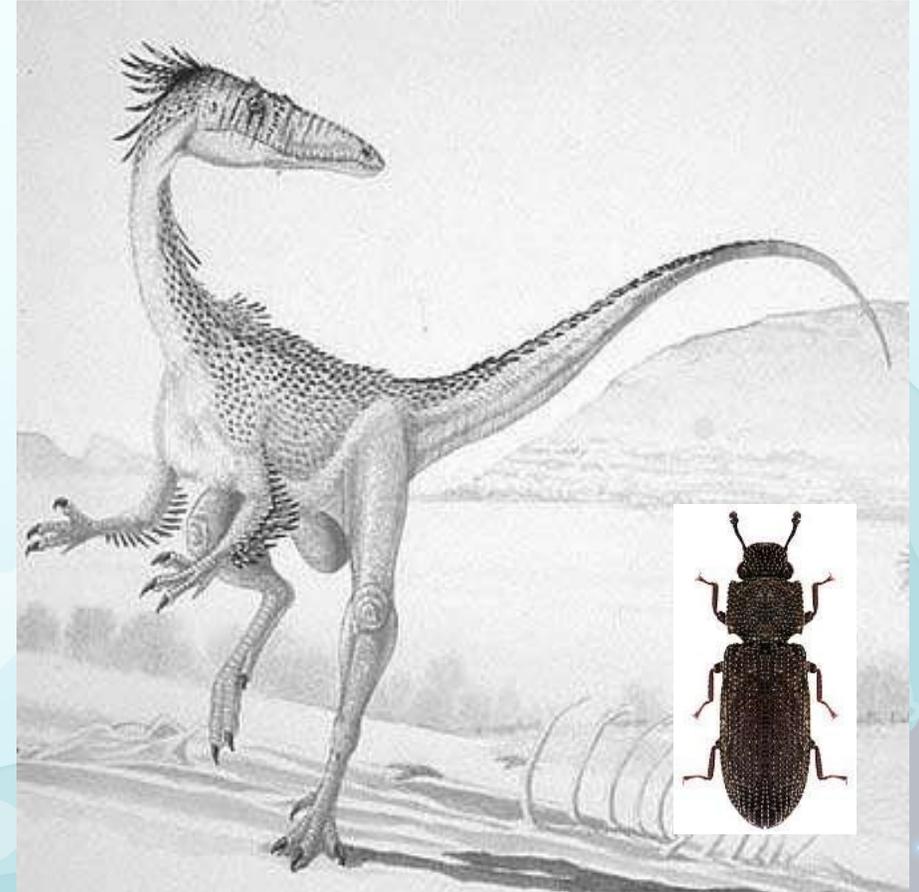


- One hundred years later, Raath (1969) named a genus of coelurosaurian dinosaur ***Syntarsus*** Raath, 1969
- Type Species: ***Syntarsus rhodesiensis*** Raath, 1969 from the Triassic of Zimbabwe.
- An additional species ***Syntarsus kayentakatae*** Rowe, 1989 described from the Jurassic of Arizona



CASE STUDY 2

- One hundred years later, ***Syntarsus*** was used as the name of the in-house journal of the National Museums and Monuments of Zimbabwe.
- This homonymy had gone unnoticed until....
- ***Megapnosaurus* Ivie, Slipinski & Wegrzynowicz, 2001** proposed (Greek: megas (big) apnos (dead) and sauros (lizard)) as a replacement name



Article 52.1. Statement of the Principle of Homonymy:

When two or more taxa are distinguished from each other they must not be denoted by the same name.

Article 52.2. Operation of the Principle of Homonymy.

When two or more names are homonyms, only the senior, as determined by the Principle of Priority may be used as a valid name.

***Syntarsus* Raath, 1969**, the dinosaur, must give way to ***Syntarsus* Fairmaire, 1869**, the beetle.

- **Article 23.2. Purpose.**

In accordance with the objects of the Code the Principle of Priority is to be used to promote stability and it is not intended to be used to upset a long-accepted name in its accustomed meaning by the introduction of a name that is its senior synonym or homonym.

STABILITY: Usage Vs. Priority



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Glyptodon (Owen 1838)



Megatherium Cuvier,
1796

The saga of how this nearly lost its name to one of these in 2005...

CASE STUDY 1



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- Weiss (1830)
 - found some fossils which he assigned to *Megatherium* Cuvier, 1796
- Geoffroy Saint-Hilaire (1833)
 - decided they were **not** *Megatherium* and established the name *Lepitherium* for these remains
- D'Alton (1834)
 - recognized that they **do not belong** to anything like a *Megatherium*

Megatherium Cuvier, 1796



MEANWHILE GLYPTODON WAS GETTING OFF TO A ROUGH START....



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- Owen in Parish (1838)
 - gave the name *Glyptodon* to a genus primarily based on an **isolated indeterminable tooth**.
- As **the tooth has been lost**, this name
 - is generally considered as a **nomen dubium** (impossible to determine whether a specimen belongs to that group or not).
 - In fact, **this tooth probably belonged** to what is currently known as ***Panochthus* Burmeister, 1866**, so **not a glyptodon at all.**

- Owen (1838)
 - established the name *Glyptodon clavipes* for a tooth and part of the skeleton of an impressive fossil animal from Argentina.
 - Glyptodons are now widely recognized...



CASE STUDY 2



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- *The name problem:*
- The name ***Lepitherium*** Geoffroy Saint-Hilaire, 1833 is the earliest available name for what is now recognized as a **glyptodon**
- Stability **would be threatened** if the priority of ***Lepitherium*** Geoffroy Saint-Hilaire, 1833 is maintained over *Glyptodon* Owen 1838
- In order to **conserve the name *Glyptodon* Owen, 1839** it is proposed that the names *Glyptodon* Owen in Parish, 1838 and *Lepitherium* Geoffroy Saint-Hilaire, 1833 be suppressed.



STABILITY: Usage Vs. Priority



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- **Article 23.2. Purpose.**

In accordance with the objects of the Code the Principle of Priority is to be used to promote stability and it is not intended to be used to upset a long-accepted name in its accustomed meaning by the introduction of a name that is its senior synonym or homonym.

Lepitherium Geoffroy Saint-Hilaire, 1833 is suppressed so *Glyptodon* Owen in Parish, 1838, can continue to be used.

CASE STUDY 3



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The Giant River Prawn

Macrobrachium rosenbergii (De Man, 1879)

Economical value

- One of the most commercially important crustaceans in the world:
- Widely fished in South and Southeast Asia
- Extensively cultured in Asia, America and Africa
- The overall production is 205,033 tons with a net value of US\$896,263,000.
- In the last decade, average *M. rosenbergii* production rose by some 35% in quantity and almost 20% in value.



STABILITY: Usage Vs. Priority

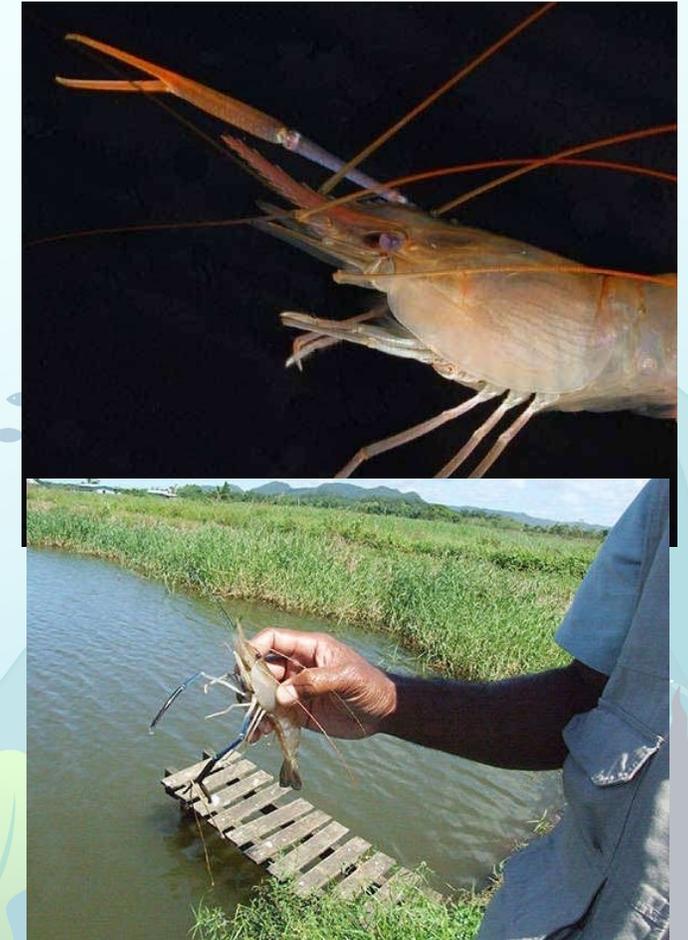


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Macrobrachium rosenbergii (De Man, 1879)

- First recorded in Southeast Asia by **Rumphius (1705)**
- Before Linnaeus' *Systema Naturae* (1758), thus does not provide nomenclatural priority



STABILITY: Usage Vs. Priority

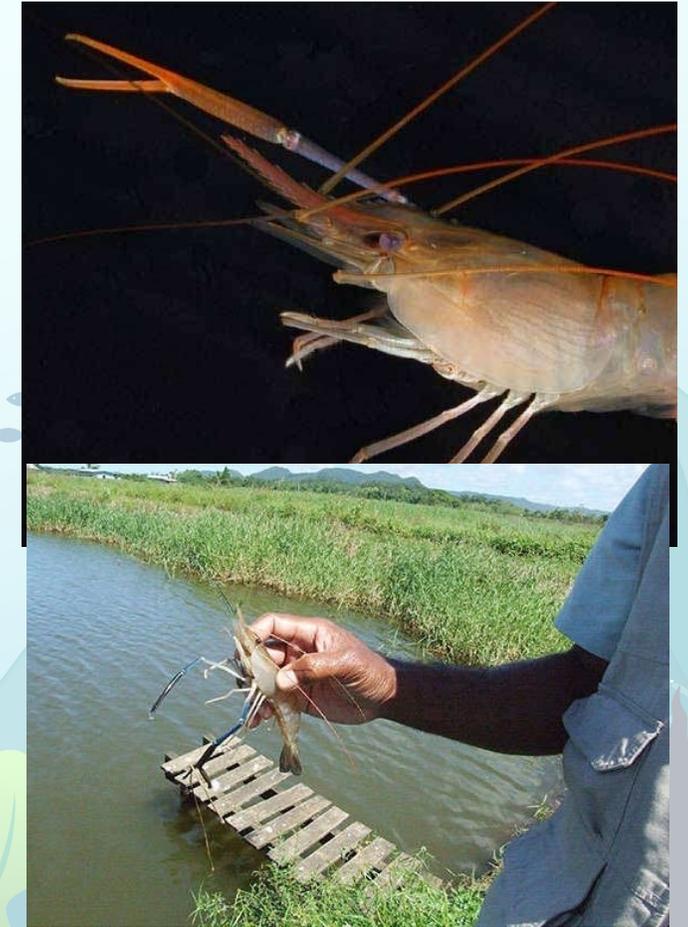


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Macrobrachium rosenbergii (De Man, 1879)

- described *Palaemon carcinus var. rosenbergii* from Andai, New Guinea (today Papua, Indonesia) on the basis of a single female.
- Believed it to be only a ‘variety’ (nowadays - subspecies) of *P. carcinus* Linnaeus, 1758 (American species).



STABILITY: Usage Vs. Priority

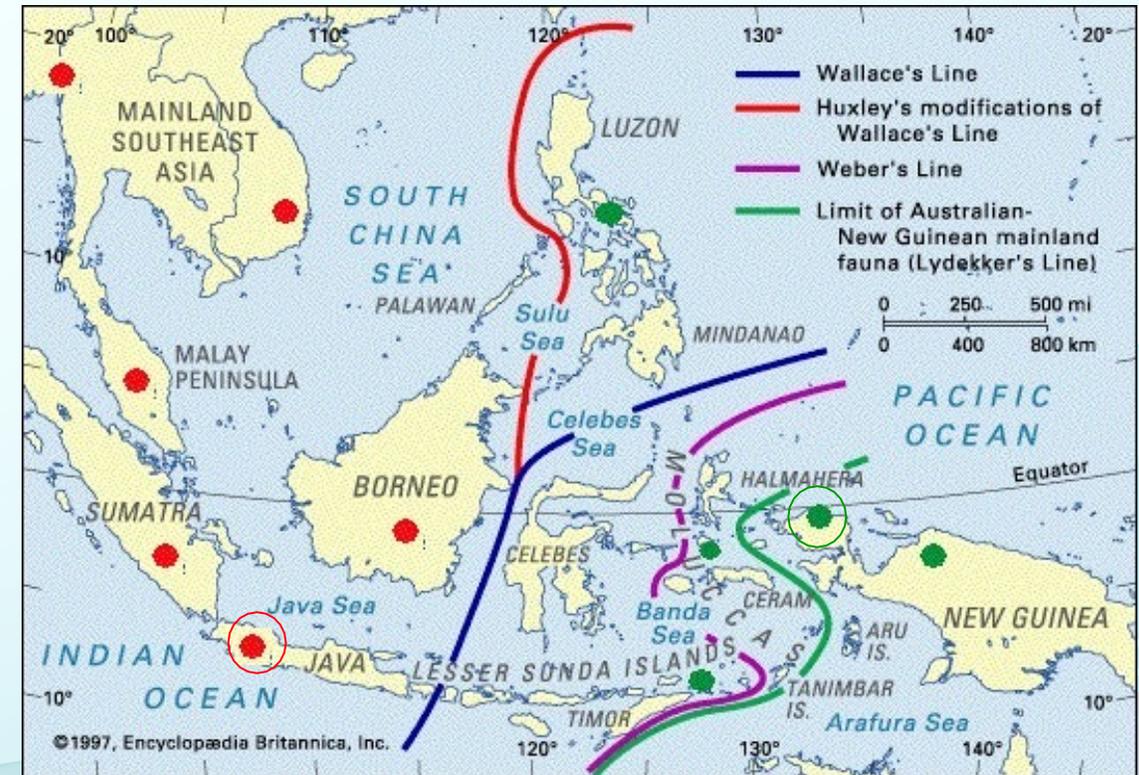


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Cowles (1914):

Noted 2 distinct forms in **Indian** and **Philippine** material, but continued to use the name ***P. carcinus*** for both.



STABILITY: Usage Vs. Priority

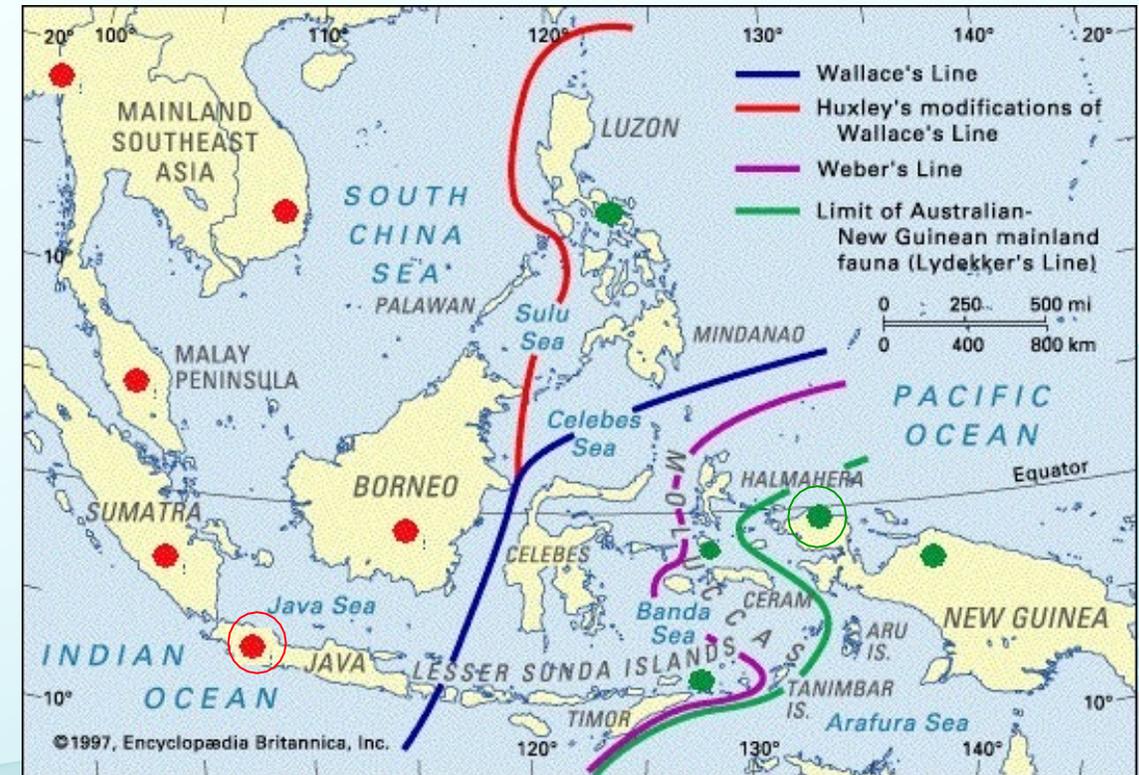


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Sunier (1925):

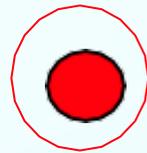
- showed that *P. carcinus* is a species in **America only**,
- proposed *Palaemon dacqueti* **Sunier, 1925**, for specimens from the Indo-West Pacific with
 - **Java as a type locality**



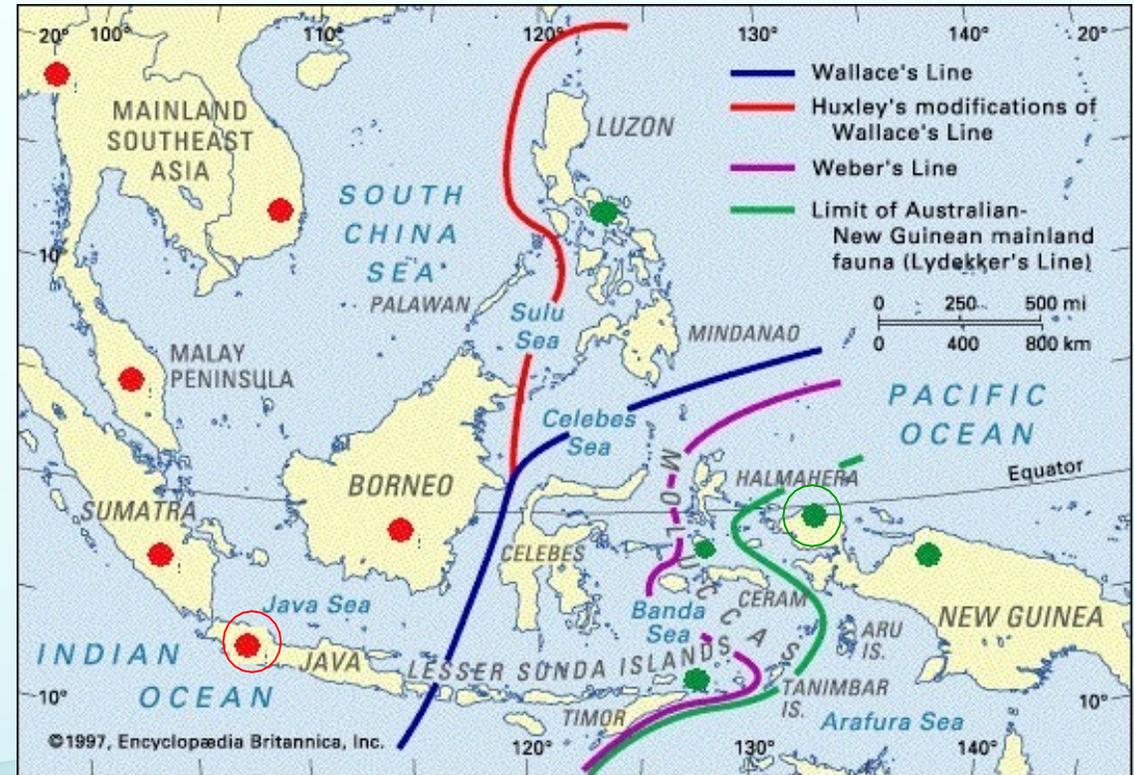
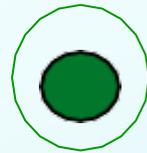
STABILITY: Usage Vs. Priority

Types for:

M. dacqueti



M. rosenbergii



STABILITY: Usage Vs. Priority



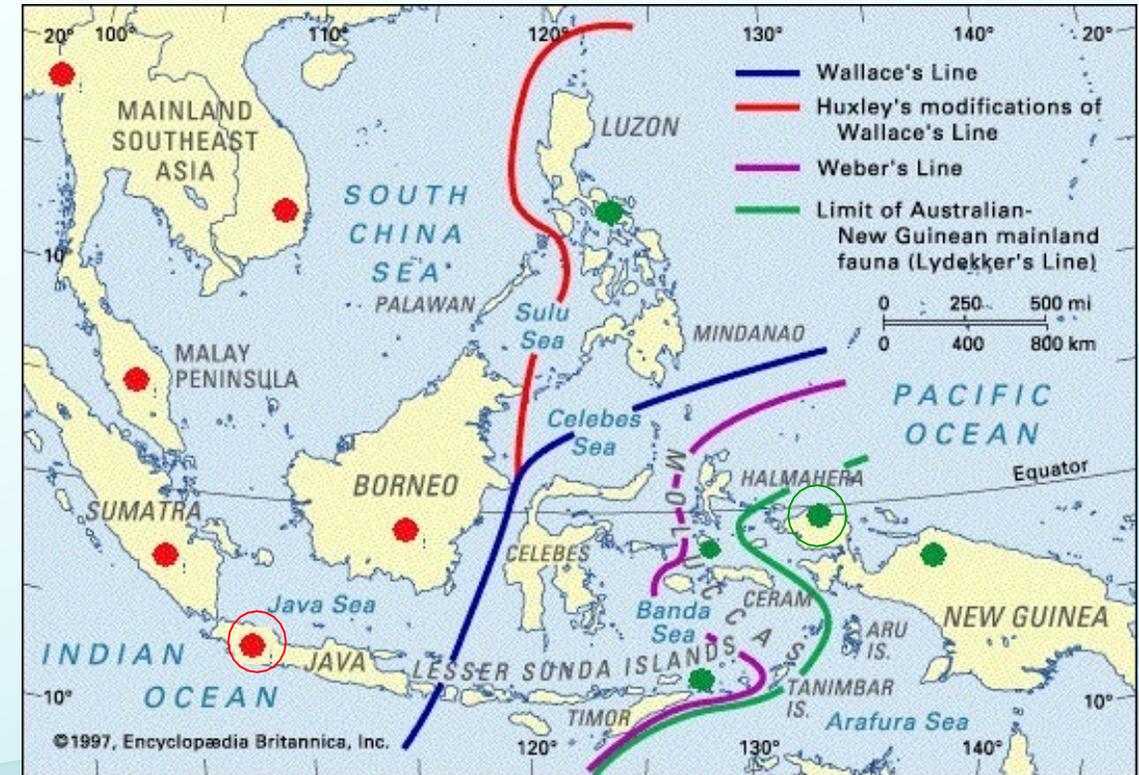
MINISTRY OF HIGHER EDUCATION



THE BIG PROBLEM:

The species of prawn that is predominantly fished, cultured and studied by biologists is the one to the **West of Huxley's Line** and is defined by a specimen (**lectotype**) of *Macrobrachium dacqueti*, but is universally known as *Macrobrachium rosenbergii*.

Substantial confusion will result if the names are changed.



STABILITY: Usage Vs. Priority



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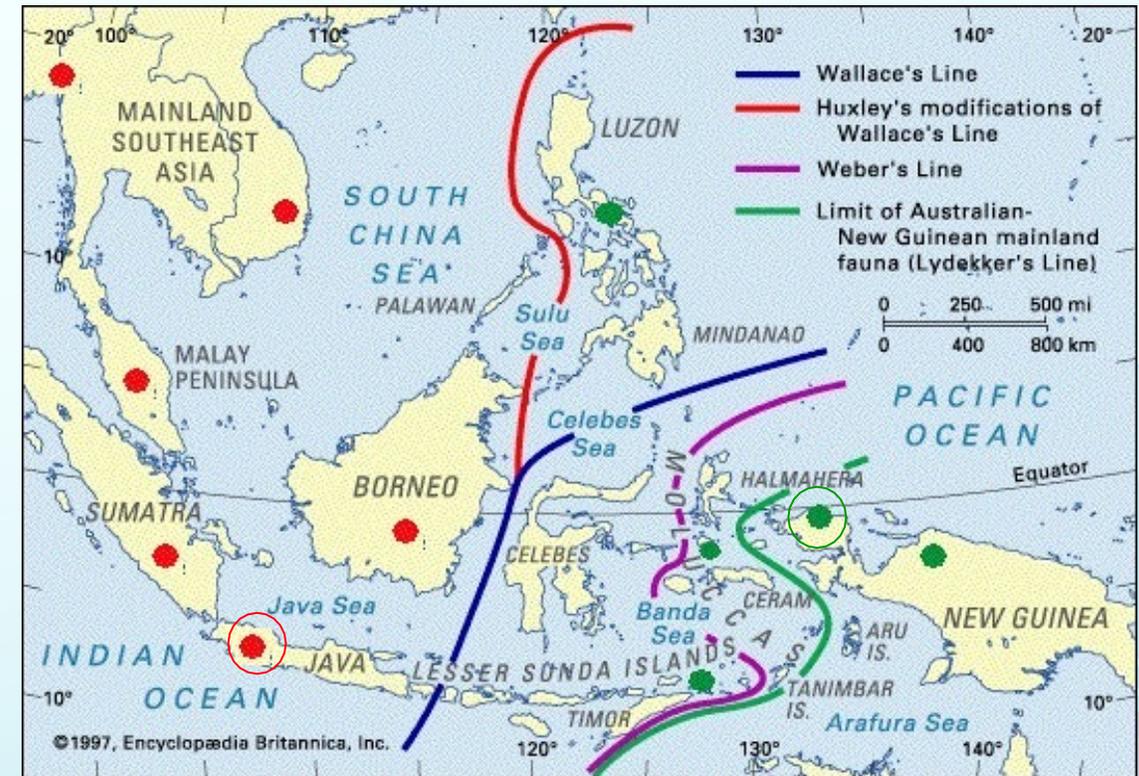


Proposal:

- Set aside the holotype of *Macrobrachium rosenbergii* (De Man, 1879) and;
- Designate the lectotype of *Macrobrachium dacqueti* (Sunier, 1925) as neotype of *Macrobrachium rosenbergii* in its place

M. dacqueti

M. rosenbergii



STABILITY: Usage Vs. Priority



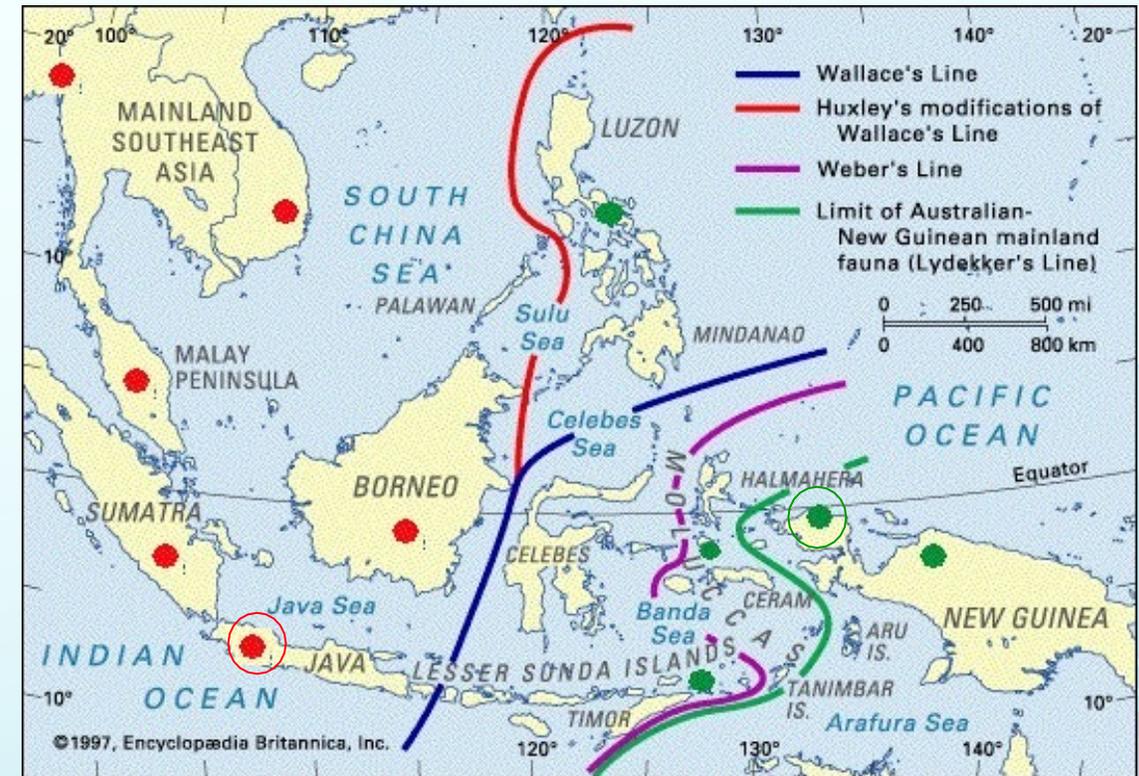
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If the Commission votes FOR the proposal

The name *M. rosenbergii* will be retained for the commercially valuable species.

The name *Macrobrachium dacqueti* will be taken out of circulation.



STABILITY: Usage Vs. Priority

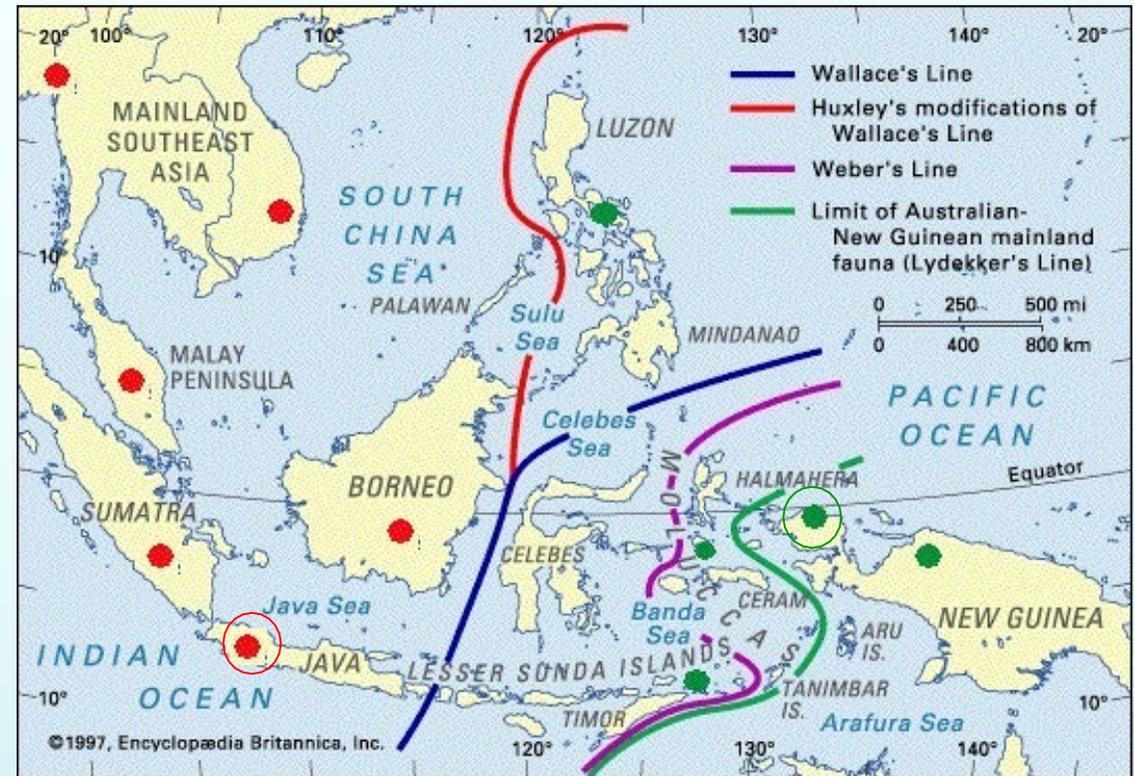
If the Commission votes FOR the proposal

For the species defined by the current holotype of *M. rosenbergii*, a new name has been proposed:

Macrobrachium wallacei (Wowor & Ng).

M. rosenbergii

M. wallacei

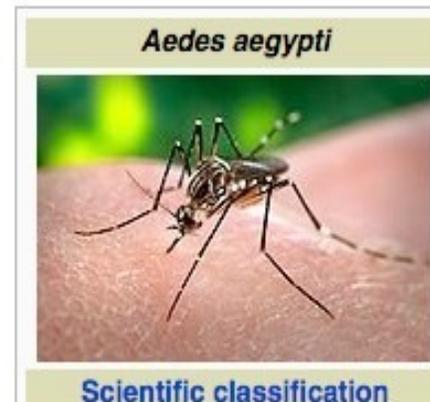


Yellow Fever and Dengue vector mosquitos *Aedes aegypti* changed to *Stegomyia aegypti* valid change under ICZN rules by Reinert et al. 2004

Aedes aegypti

From Wikipedia, the free encyclopedia

The **yellow fever mosquito**, *Aedes aegypti* (= *Stegomyia aegypti*, = *Aedes* (*Stegomyia*) *aegypti*), is a mosquito that can spread the dengue fever, Chikungunya and yellow fever viruses, and other diseases. The mosquito can be recognized by white markings on legs and a marking of the form of a lyre on the thorax. The mosquito originated from Africa^[1] but is now found in the tropics worldwide^[2].



Contents [hide]

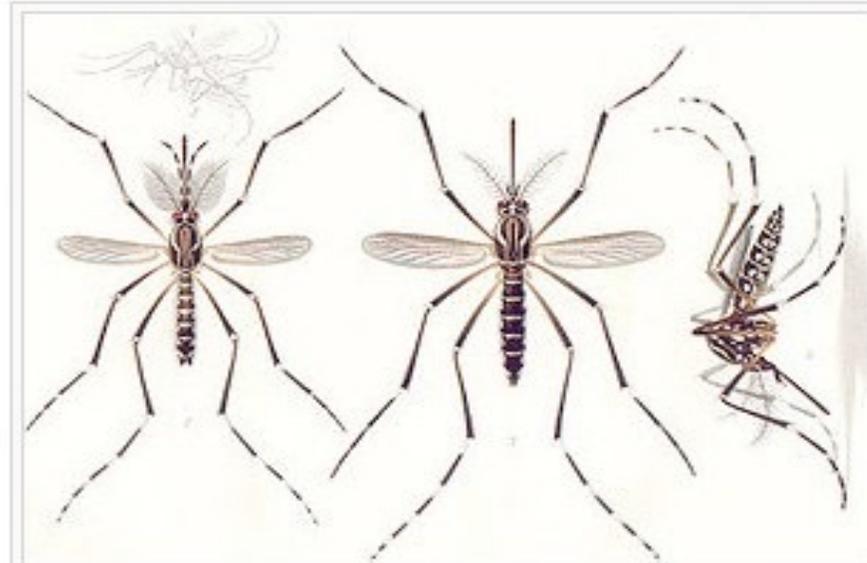
- 1 Spread of disease and prevention



Systematics and name controversy

[\[edit\]](#)

The yellow fever mosquito belongs to the tribe Aedini of the dipteran family *Culicidae* and to the genus *Aedes* and subgenus *Stegomyia*. According to the recent analyses, some authors raised the subgenus *Stegomyia* to the level of genus^[7], which was traditionally treated as a *subgenus* of the genus *Aedes*. Applied biologists are often resistant to changes to the scientific names of organisms with which they work. The name change has annoyed many medical dipterists^[8] and the reaction of some scientific journals as the *Journal of Medical Entomology* has even been to encourage authors dealing with aedine mosquitoes to continue to use the traditional names^[9]. Although the work of taxonomists is important and there are sound reasons to propose substantial modifications and to adopt new classifications and names, specially if they are based on clear scientific arguments.^[10]



Adults of the yellow fever mosquito *Aedes aegypti*, a typical member of the subfamily *Culicinae*. The male on the left, females on the right.



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***Journal of Medical Entomology* Policy on Names of Aedine Mosquito Genera and Subgenera**

JME* takes the position that more research (including molecular evidence) and interpretation are needed to develop a consensus on the reclassification of Aedini proposed by Reinert (2000) and Reinert et al. (2004). In particular, the nomenclatural implications need to be separated from their cladistic analyses. Accordingly, JME encourages authors dealing with aedine mosquitoes to maintain usage of the traditional names (<http://www.mosquitocatalog.org/main.asp>), except when the author has taxonomic reasons for not doing so. JME also will permit authors to adopt the newly proposed classification of Aedini (with 46 genera recognized by Reinert et al., 2004) if they are convinced of the case, e.g., for elevation of any particular genus. In such cases, authors are asked to include the previous binomial combination when the species is first mentioned in the text of any submitted paper, as in the following examples: *Stegomyia albopicta* (= *Aedes albopictus*, see Reinert et al. 2004), *Ochlerotatus triseriatus* (= *Aedes triseriatus*, see Reinert 2000).

The Editor-in-Chief and Subject Editors of JME (endorsed by the JME Editorial Board).



CASE STUDY 4



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- A species search engine
- iSpecies is a test of E O Wilson's idea of a web page for each species. The data displayed are generated "on the fly" by querying other data sources ([learn how it works](#)).
- Send comments to r.page@bio.gla.ac.uk, or visit the [iSpecies blog](#).

Search:

• **Montastrea**

• **Yahoo tags**

• stable isotopes trace metals zooxanthellae environmental regulation biomass florida keys reef coral montastrea caribbean reproduction

• **Genomics from NCBI**

• TaxId: [48497](#) Montastraea [stony corals] Sequences: [4222](#) nucleotide, [206](#) protein

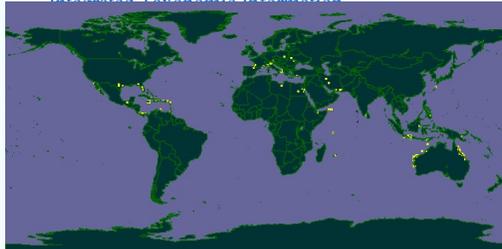
• [Barcodes of Life](#)

• [Global Biodiversity Information](#)

• [Facility](#) [Hexacorallians of the](#)

• [World](#)

• [Integrated Taxonomic Information](#)



• **Articles from Google**

• [of prolonged "bleaching" on the tissue biomass and reproduction of the reef coral Montastrea annularis](#) : [Physiological and Environmental Regulation of Stable Isotopes and Trace Metals in Montastrea annularis](#) : [Growth and form in the reef-building coral Montastrea annularis](#)

• [Reduced growth rate of Montastrea annularis following the 1987-1988 coral-bleaching event](#) [Recovery of the coral](#)

• [Montastrea annularis in the Florida Keys after the 1987 Caribbean "bleaching"](#) : [Depth-dependent photoadaptation by](#)

• [zooxanthellae of the reef coral Montastrea annularis](#)

• [View My Stats](#)

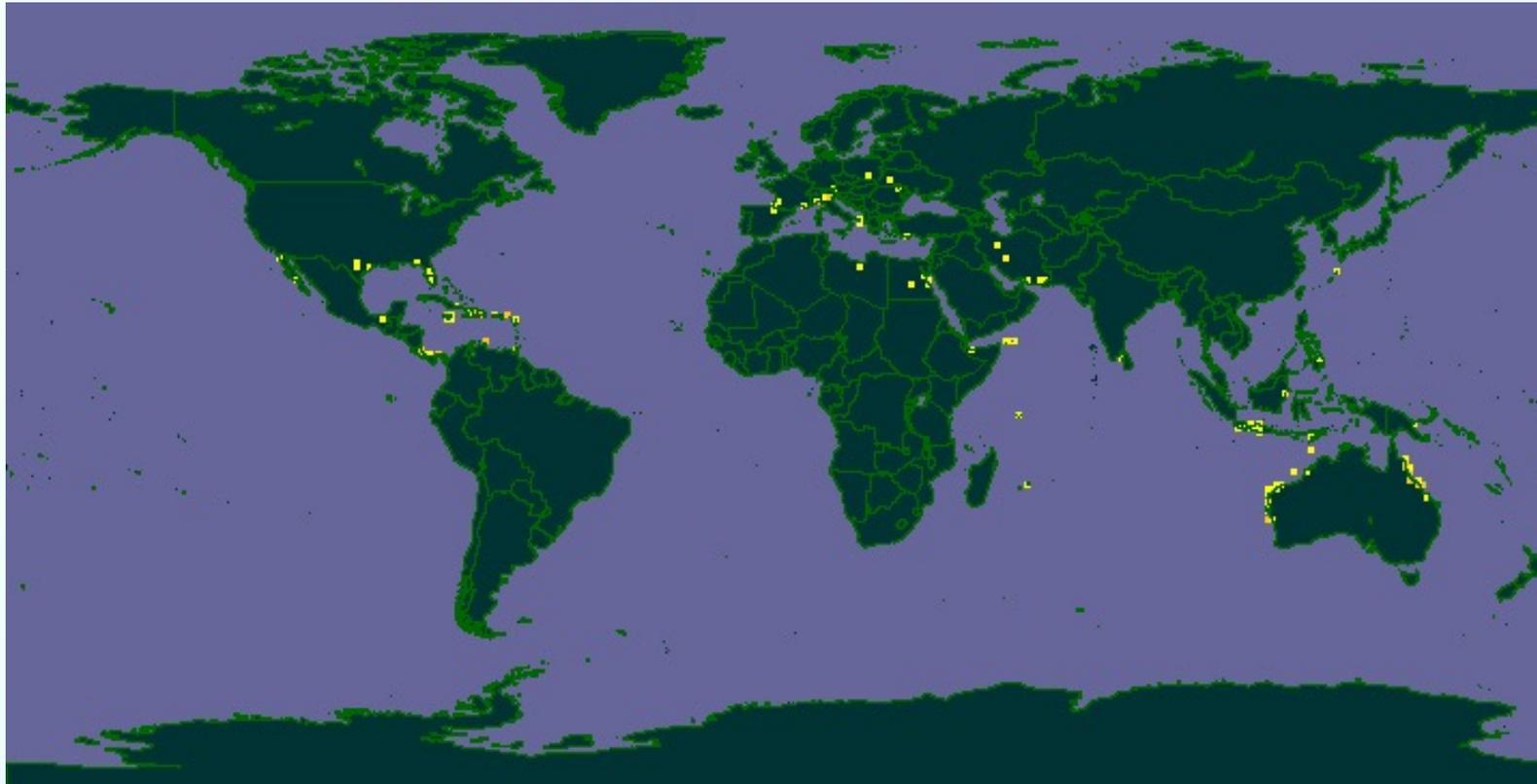
Nomenclature and biodiversity informatics: a common pantropical reef coral *Montastrea*

BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS

MONTASTREA OR MONTASTRAEA : SAME OR DIFFERENT? 1 GENUS OR 2?



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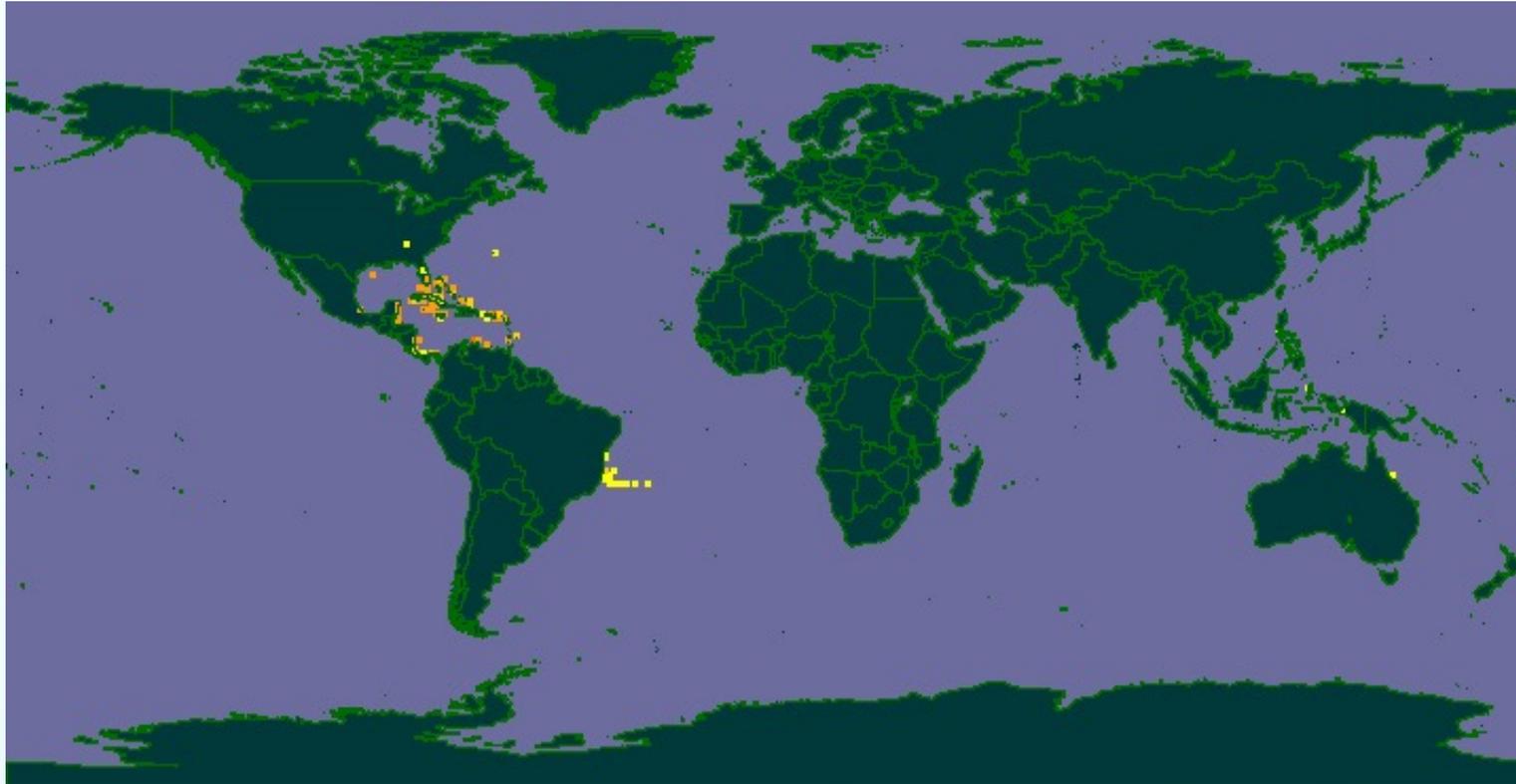
Biogeography of *Montastrea* from GBIF

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- ⊕ Family: Faviidae → see overview page
 - **Genus: *Montastrea*** → see overview page
 - ⊕ Species: *Montastrea colemani* → see overview page
 - ⊕ Species: *Montastrea serageldini* → see overview page
 - ⊕ Unconfirmed names
- ⊕ Family: Faviidae → see overview page
 - **Genus: *Montastraea*** → see overview page
 - ⊕ Species: *Montastraea annularis* → see overview page
 - ⊕ Species: *Montastraea annuligera* → see overview page
 - ⊕ Species: *Montastraea cavernosa* → see overview page
 - ⊕ Species: *Montastraea curta* → see overview page
 - ⊕ Species: *Montastraea faveolata* → see overview page
 - ⊕ Species: *Montastraea franksi* → see overview page
 - ⊕ Species: *Montastraea magnistellata* → see overview page
 - ⊕ Species: *Montastraea multipunctata* → see overview page
 - ⊕ Species: *Montastraea valenciennesi* → see overview page
 - ⊕ Unconfirmed names

One coral systematist working in Caribbean spells genus correctly IWP
coral systematists spell genus incorrectly