

2019-03-15

Thoughts of mindmapping for teaching biodiversity presentation outline

Previous years presentations covered the following:

- Taxonomy & nomenclatural theory
- "Diversity-overview" style lectures

I'm gonna try to weave these together & fit it into 20 minutes.

So, why do we study the diversity of life on Earth? Because it's just fantastic! And we have a lot to gain from a knowledge / understanding of our living world, in areas such as

- medicine (plants)
- agriculture (plants & animals)
- epidemiology (evolution)
- fisheries / aquaculture (animals & plants)
- forestry

We depend on the living world, & the foundation to an understanding of it is taxonomy

Taxonomy is the science of naming & classifying living things. It is the most foundational science in life sciences & biology, because ...

20/07.

http://srvnvspp001.uct.ac.za/ipp/IPP00058

we have to know what organism we are working on... In the same way that giving organisms names is useful, giving people, places & things names is useful. We wouldn't get very far if we had to explain what, where or who we were talking about everytime.

I digress...

I said earlier that taxonomy is the science of naming & classifying organisms. These, then, are the two main branches of taxonomy as a science. Let's structure this lecture accordingly.

(But first another small aside: all taxonomic work is done today w/ the evolutionary theory of organisms origins in mind.. More on that later, but I mention it here as biological evolution is undeniably relevant in all aspects of what I'm discussing here today — & will thus come up again & again...)

cont.

Taxonomy, as earlier, is the science of naming and classifying organisms.

Naming organisms : Nomenclature

We have already explained why we name things. But how do we name things?

And, rather bluntly, what are we naming? We are naming species. What are species? Species are groups of organisms defined by various means.

(I'm gonna leave it there — I really don't think I have time in this presentation to discuss species concepts.)

If I bring them up w/o explaining when it will/might cause confusion)

So, back to the main stuff: how do we name species?

[... details of binomial names, nomenclatural bodies, taxonomic evidence

↳ binoculus vs Today ...]

~~Ruane van Maayk
Tony Verboom
Mike Cramer
Muhamma Muanya
Adam West
Eleanor Weideman
Lucy Smyth
Lara Wootton~~

Zout.

The second part of this talk, after nomenclature, is classification — the other branch of the science of taxonomy.

Classification involves grouping species into a hierarchy of taxonomic ranks. The main ranks (also from Linnaeus) are:

- Kingdom
- Phylum
- Class
- Order
- Family
- Genus
- Species

This classification idea, wherein species are grouped into natural groups...

out.

1105 FOSSAT?

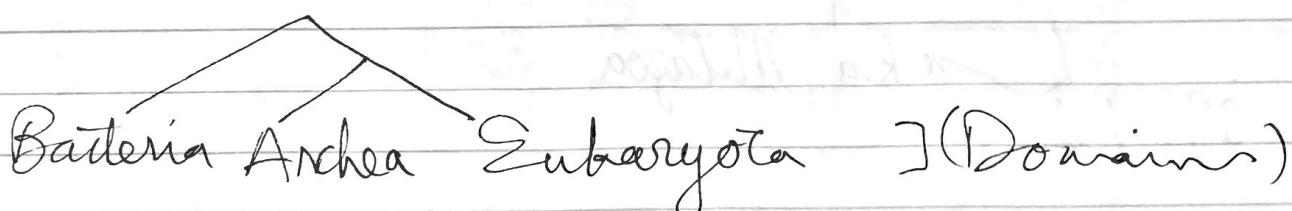
... that are reflected in nature is best explained through example.
understood

In fact — we have the perfect of
only example: life on Earth.

life on the Earth, also known
as the Tree of Life among biologists
(note: Ruan, you need to explain
or mention the Tol of phylogeny
earlier in the talk before this),
falls broadly into three "Domains"
(the rarely discussed rank above
"Kingdom"): Eukaryotes & the
Prokaryote domains Archaea &
Bacteria.

* Nova for heterozygosity *

→ Knud Wallin?



P.T.O.

~~STA 2007 2009~~

I am to mark assignments:

		F	H
no. 1	due	02-25	, 03-16
no. 3	due	03-03	, 04-07
no. 5	due	03-31	, 07-28
no. 7	due	04-28	, 09-15
no. 8	due	05-12	, 10-13

rent. wash. etc.

Bacteria & Archaea are single celled organisms → the simplest forms of life w/o true nuclei.

They are little germs.

Eukaryotes represent the most recognizable organisms/species.

EUKARYOTES (DOMAIN)

PLANTS FUNGI ANIMALS] (KINGDOMS)

+ PROTISTS

(waste basket kingdom)

NOT REAL,
BUT USEFUL

a.k.a Metazoa

Annelids

