

Re: digits and homology

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jeu. 08.05.2014 12:05

À: Chris Mungall <cjmungall@lbl.gov>;

Cc: Bastian Frédéric <frederic.bastian@unil.ch>; Niknejad Anne <anne.niknejad@unil.ch>;

Hi Chris,

In fact reviewing our evidences here below about

entity: UBERON:0002544|UBERON:2000271

I wonder how I could capture the potential homology claimed here:

1) <http://www.ncbi.nlm.nih.gov/pubmed/?term=17849442> (see fig. 2)

"in the Neoceratodus (Osteichthyes: Sarcopterygii) fin, expression of Hoxd13 closely matches late expression patterns observed in the tetrapod autopod. This evidence suggests that Neoceratodus fin radials and tetrapod digits may be patterned by shared mechanisms distinct from those patterning the proximal fin/limb elements, and in that sense are homologous. The presence of independently developing radials in the distal part of the pectoral (and pelvic) fin may be a general feature of the Sarcopterygii."

2) <http://www.ncbi.nlm.nih.gov/pubmed/?term=23434323>

"bony radials of lungfish fins have been compared to digits, but these notions have been controversial"

I guess, this is related to the currently closed issue

<https://github.com/obophenotype/uberont/issues/251>

Maybe a term 'distal radial' could report more precisely what is seen as 'fin radials and tetrapod digits' potential homology?

Does

UBERON:0010543(acropodial skeleton)|UBERON:...:(distal radial)

make sense here to capture this hypothesis?

Thank you Chris,

Cheers,

Anne

>
 > --- Message original ---
 > Objet: Re: digits and homology
 > De: Chris Mungall <cjmungall@lbl.gov>
 > À: Frederic Bastian <frederic.bastian@unil.ch>
 > Cc: Anne Niknejad <anne.niknejad@unil.ch>
 > Date: mardi, 06/05/2014 18:19:53
 >
 >
 > What's the hypothesis? If the hypothesis is a single radial is
 > homologous to a series of phalanges plus a single metapodial then use
 > the (awkwardly named) class for that grouping
 >
 > On 6 May 2014, at 4:27, Frederic Bastian wrote:
 >
 >>
 >> Hi Chris,
 >>
 >> thank you for keeping us posted. We're a bit confused: does it imply
 >> that radial bone should be annotated as homologous to metapodial?
 >>
 >> Frederic.
 >>
 >> On 03.05.14 20:03, Chris Mungall wrote:
 >>>
 >>> Just back from a phenoscape meeting. Turns out their curators have
 >>> been
 >>> interpreting terms like "digit" to mean purely the skeletal elements,
 >>> even though I've repeatedly made it clear that it includes skin,
 >>> muscle,
 >>> etc. They also assumed digit to include metapodials. This is pretty
 >>> reasonable terminologically, Kardong does this. However, it's not
 >>> what
 >>> the uberont class presently means.

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>>>
>>> This means that associations like "digit" homologous to "radial bone"
>>> are doubly wrong - or perhaps not wrong, just mixing levels
>>> inappropriately. See the bgee record below.
>>>
>>> We're going to keep existing classes with their existing meanings,
>>> but
>>> may add extra classes for things like the skeleton of digit 1 plus
>>> metapodial 1 combined. We may make classes for the whole segment too
>>> (this seems to be what EHDAA2 and EMAPA do).
>>>
>>> If you want to pitch in:
>>> https://github.com/obophenotype/uberontology/issues/420
>>>
>>> Just wanted to check how you're using these for expression annotation
>>>
>>> |   HOM ID: HOM:0000007
>>>   HOM name: historical homology
>>>         entity: UBERON:0002544|UBERON:2000271
>>> entity name: digit|radial bone
>>>   qualifier:
>>>   taxon ID: 8287
>>>   taxon name: Sarcopterygii
>>>   line type: SUMMARY
>>>   ECO ID:
>>>   ECO name:
>>> |
>>>
>>> confidence code ID: CONF:0000013
>>> confidence code name: congruent evidences of multiple experimental
>>> types, best confidence medium
>>> reference:
>>> reference title:
>>> supporting text:
>>> assigned by: Bgee
>>> curator:
>>> date:
>>>
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