

Title: Curation of rapidly-evolving and potentially controversial hypotheses of anatomical homology

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The Bgee database (<https://bgee.org/>) reports literature evidence for historical homology on anatomical structures, i.e., which structures are believed to derive from a common ancestral structure in an ancestral species. This information is captured in structured annotations (see <https://github.com/BgeeDB/anatomical-similarity-annotations>), and enriches the Uberon ontology (<http://uberon.org>). It is used in Bgee to retrieve and compare gene expression patterns between animal species, and can be used by other resources to compare any anatomy-related information between species (e.g., phenotypes, development, evolutionary history). This manual literature curation work involves digging into ancient literature references to support homology models, and/or to report controversial hypotheses, as well as doing a follow-up of new hypothesis in quickly evolving diverse fields: developmental biology, zoology and paleontology. Here we describe how we capture and maintain up-to-date these annotations of homology between anatomical structures.

Keywords:

- curation
- evolution of animal anatomy
- developmental biology
- comparison between species
- ontology