

ART OF LIFE SCHEMA [DRAFT]

Title: Art of Life schema


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Abstract: This schema is designed for the cataloging and description of natural history illustrations from the [Biodiversity Heritage Library](#) (BHL), as part of the NEH funded [Art of Life project](#). The schema needs to support the needs of a wide variety of audiences, including 1) Artists 2) Biologists 3) Humanities Scholars 4) Librarians 5) Educators

Creators: Gaurav Vaidya, University of Colorado Boulder; Trish Rose-Sandler, Missouri Botanical Garden

Contributors: William Ulate, Missouri Botanical Garden; Robert Guralnick, University of Colorado Boulder; Andrea Thomer, University of Illinois at Urbana-Champaign

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Current Version: 1.0 [draft]

Replaces: n/a

Below is an overview of the schema elements, their definitions and use. The values for each element are shown in both their displayed and indexed form. Display is meant for human viewing while indexing is for search, cataloguing and retrieval of the illustrations via computer processing.

At the end of the document is a crosswalk designed to demonstrate how this schema maps to elements found in national and international schema standards. We also provide a set of visual resources that have been [marked-up according to the schema](#) so you can see how it performs in practice. We intentionally chose a wide variety of illustrations from the BHL corpus to test the robustness of schema. Suggestions on how both metadata terms and their values are expressed in the Art of Life schema are appreciated.

Alpha List of elements

Red=required

Agent	Copyright	Date	Description	Inscriptions
Source	Subjects	Title	Type	

List of elements with full description

General rules.

1. All string fields (whether controlled or not) can be repeated in multiple languages by using the xml:lang attribute.

Type (*required, repeatable*)

Definition: Identifies a general category for the visual resource

Use: At minimum one broad type is required and should be used to indicate the medium or technique of the visual resource. The values for broad type are controlled and should be one of ("maps", "drawings", "photographs", "prints", "paintings", "diagrams", "illustrations") . If the method of execution is unknown or if the visual resource represents more than 1 method (e.g. painting & drawing) then "illustration" should be the default value. The definitions of these types are below. Additional narrower types can be added as needed. Narrower terms can be used to describe a particular view (e.g. cross-sections), purpose (e.g. marginal illustrations), or a specific type of process (e.g. etchings) and should be taken from an existing controlled vocabulary such as the Getty's Art and Architecture Thesaurus.

Type

Definitions of Broad Types

illustrations Pictures, figures or diagrams that clarify or provide an example or visualization. They usually accompany a text; the term is most often used to refer to pictures in books or published journal. This term should be used as the default term when the method of execution is unknown or if the visual resource represents more than 1 method (e.g. painting & drawing)

photographs Refers to still images produced from radiation-sensitive materials (sensitive to light, electron beams, or nuclear radiation), generally by means of the chemical action of light on a sensitive film, paper, glass, or metal. Photographs may be positive or negative, opaque or transparent.

drawings Visual works produced by drawing, which is the application of lines on a surface, often paper, by using a pencil, pen, chalk, or some other tracing instrument to focus on the delineation of form rather than the application of color. This term is often defined broadly to refer to computer-generated images as well.

paintings Unique works in which images are formed primarily by the direct application of pigments suspended in oil, water, egg yolk, molten wax, or other liquid, arranged in masses of color, onto a generally two-dimensional surface.

prints Pictorial works produced by transferring images by means of a matrix such as a plate, block, or screen, using any of various printing processes. The category would include color and b&w prints, etchings, woodcuts, wood engravings, etc.

diagrams Graphic designs that explain rather than represent.

maps Refers to graphic or photogrammetric representations of the Earth's surface or a part of it, including physical features and political boundaries, where each point corresponds to a geographical or celestial position according to a definite scale or projection.. This would include maps topographic maps, sketches, climatic maps, forestry maps, etc.

EXAMPLES	Display	Index
	maps	<type>maps</type>
	forestry maps	<type>forestry maps</type>
	prints	<type>prints</type>
	color prints	<type>color prints</type>
	etchings	<type>etchings</type>
	cross sections	<type>cross sections</type>
	photographs	<type>photographs</type>
	documentary photographs	<type>documentary photographs</type>
	black-and-white photographs	<type>black-and-white photographs</type>
	paintings	<type>paintings</type>
	illuminations	<type>illuminations</type>
	diagrams	<type>diagrams</type>

Title (*required, repeatable*)

Definition: The title or identifying phrase given to an Image

Use: If a title is not clearly marked on the image itself, the cataloger should add a brief word or phrase that sums up the content of the image. In some cases, the title may be identical to an inscription or caption. More than one title may be given. The type attribute can be used to indicate the language of the title or its type.

EXAMPLES	Display	Index
	title = Sepsis annulipes	<title xml:lang="la">Sepsis annulipes</title>
	title = Orangutan	<title type="alternate">Orangutan</title>

Agents (*optional, repeatable*)

Subelements

name (*Attributes: type*)

dates (*Attributes: type*)

earliestDate

latestDate

role

Definition: person or corporate entity involved in the creation, design, production, or publication of a visual resource.

Use: recommend choosing values from a controlled vocabulary such as the Getty's Union List of Artists Names or Library of Congress' Name Authority File

EXAMPLES	Display	Index
	Publisher: John Curtis (1791-1862)	<agent> <name type="personal" vocab="LCNAF" refid="89015596"> Curtis, John</name> <dates type="life"> <earliestDate>1791</earliestDate> <latestDate>1862</latestDate> </dates> <role vocab="AAT" refid="300025574">publisher</role> </agent>

Description (*optional, repeatable*)

Definition: A free-text note about content of the image, including comments, description, or interpretation, that gives additional information not recorded in other categories.

EXAMPLES	Display	Index
	This illustration shows a scale, coloured illustration of Sepsis annulipes (now known as Encita annulipes) beside the Trifolium ochroleucum plant. Several dissections from Sepsis cylindrica Fab. (all these details are provided on the next page of this book and the subsequent page).	<description>This illustration shows a scale, coloured illustration of Sepsis annulipes (now known as Encita annulipes) beside the Trifolium ochroleucum plant. Several dissections from Sepsis cylindrica Fab. (all these details are provided on the next page of this book and the subsequent page).</description>

Source (required, not repeatable)

Definition: A citation for the book, journal or resource that hosts the visual resource

Use: This element will contain 2 subelements: name and refid. Name is used for the human-readable citation for the host book or journal expressed in a standard citation format such as MLA. Refid is used for the persistent url of the page in BHL where the image can be found online. Both the values for name and refid will be automatically populated by machine and do not need to be entered by the cataloger

EXAMPLES	Display	Index
	Butler, Arthur Gardiner. <i>Foreign finches in captivity</i> . HullBrumby and Clarke, limited,1889 (2nd edition).	<source> <name type="book">Butler, Arthur Gardiner. <i>Foreign finches in captivity</i> . HullBrumby and Clarke, limited,1889 (2nd edition).</name> <refid type="URI"> http://biodiversitylibrary.org/page/17195895 </refid> </source>
	Elliot, Daniel Giraud. <i>A review of the primates/ by Daniel Giraud Elliot</i> . New York, USA: American Museum of Natural History, 1913.	<source> <name type="book">Elliot, Daniel Giraud. <i>A review of the primates/ by Daniel Giraud Elliot</i> . New York, USA: American Museum of Natural History, 1913.</name> <refid type="URI"> http://biodiversitylibrary.org/page/10287449 </refid> </source>

Date (required, repeatable)

Attributes:

type

Subelements:

earliestDate
latestDate

Definition: Date or range of dates associated with the creation or publication of the visual resource.

Use: Dates meant for display should be expressed as free text and can include both numbers and text (e.g. between 1900-1903, 1876, circa 1888) while indexed dates should be numerical only and formulated according to ISO 8601 standards for data content, i.e. YYYY, YYYY-MM, or YYYY-MM-DD. (e.g. 1776, 1900-08, 1899-01-17). The subelements, earliestDate and latestDate, are included to accomodate date ranges. If the date is not a range but a single date then it should be repeated in both subfields.

Type attributes should be used to further qualify the date and will consist of one of two controlled values: publication or creation. The creation date is the date when the visual resource was originally created or executed. This date may be included as part of the artist's signature or can be ascertained from accompanying text in the book or journal that hosts it. If the creation date is unknown then the publication date becomes the primary date and should express the date when the book or journal volume that hosts the visual resource was published.

EXAMPLES	Display	Index
	Publication: June 1803	<code><date type="publication"> <earliestDate>1803-06</earliestDate> <latestDate>1803-06</latestDate> </date></code>
	Creation: circa 1950	<code><date type="creation"> <earliestDate>1945</earliestDate> <latestDate>1955</latestDate> </date></code>

Subjects (*optional, repeatable*)

Subelements

term Attributes: type

Definition: Terms or phrases that describe, identify, or interpret the visual resource.

Use: These may include generic terms that describe the work and the elements that it comprises, terms that identify particular people, geographic places, narrative and iconographic themes, or terms that refer to broader concepts or interpretations. Use of a Subject Authority, from which these data values may be derived, is recommended such as: AAT, TGN, LCTGM, ICONCLASS, LCSH, LCNAF, Sears Subject Headings.

EXAMPLES	Display	Index
	Personal Name: Carl Linnaeus	<code><vra:subject><vra:term type="personalName">Carl Linnaeus</vra:term></vra:subject></code>
	BuiltWorkPlace:Royal London College of Physicians	<code><vra:subject><vra:term type="builtWorkPlace">Royal London College of Physicians</vra:term></vra:subject></code>

	Scientific name: <i>Sepsis annulipes</i> Meigen, 1826	<vra:subject><vra:term type="dwc:scientificName" extent="Insect in colour">Sepsis annulipes Meigen, 1826</vra:term></vra:subject>
	Accepted name: <i>Enicita annulipes</i> (Meigen, 1826)	<vra:subject> <vra:term type="http://rs.tdwg.org/dwc/terms/#acceptedNameUsage" extent="Insect in colour" source="http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=144995">Enicita annulipes (Meigen, 1826) </vra:term> <vra:term type="http://rs.tdwg.org/dwc/terms/#acceptedNameUsage" extent="Insect in colour" source="http://sepsidnet-rmbr.nus.edu.sg/Themira_annulipes.html">Themira annulipes (Meigen, 1826) </vra:term> </vra:subject>
	Common name: sulphur clover	<vra:subject> <term type="vernacularName" extent="plant" >Sulphur clover</term> </vra:subject>

Alternately, DwC terms can be encoded as attributes, allowing the value to be used for free-form, explanatory text:

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<subjects>
  <term type="taxon" from="next page" extent="plant" pixels="467,278,1700,3342" scientificName="Trifolium ochroleucum Huds." acceptedNameUsage="Trifolium ochroleucum Huds." vernacularName="sulphur clover">Plant: Trifolium ochroleucum Huds.</term>
  <term type="taxon" from="next page; acceptedNameUsage from ITIS: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=144997" extent="insect in colour" scientificName="Sepsis annulipes Meigen, 1826" acceptedNameUsage="Enicita annulipes (Meigen, 1826)" vernacularName="black scavenger flies">Insect in colour: Sepsis annulipes Meigen, 1826 (now known as Enicita annulipes (Meigen, 1826) as per ITIS</term>
  <term type="taxon" from="next page" extent="Insect in dissection" scientificName="Sepsis cylindrica Fab.">Insect in dissection: Sepsis cylindrica Fab. (unknown, but possibly Musca cylindrica Fabricius, 1794, which is now known as Nemopoda nitidula (Fallen, 1820))</term>
</subjects>
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We would like

Inscriptions (optional, repeatable)

Subelements

position
text Attributes: type

Definition: All marks, caption, or written words added to the object at the time of production or in its subsequent history, including signatures, dates, dedications, texts, and colophons, as well as marks, such as the stamps of silversmiths, publishers, or printers.

Use: derived from the visual resource by direct observation. The location of the inscription may be specified by the position subelement. A type attribute may be used with the text subelement and options include: signature, mark, caption, date, text, translation, other

EXAMPLES	Display	Index
	top: <i>Fig. C.</i> bottom: <i>Radula of L. souleyetianum</i> <i>on a more reduced scale</i>	<inscription> <position>top</position> <text> <i>Fig. C.</i> </text> </inscription> <inscription> <position>bottom</position> <text> <i>Radula of L. souleyetianum on a more reduced scale</i> </text> </inscription>
	bottom center: <i>Pub: by J. Curtis</i> <i>Jan:1:1829</i> [Published by John Curtis January 1, 1829]	<inscription> <position>bottom center</position> <text xml:lang="en" type="date">Pub: by J. Curtis Jan:1:1829</text> <text type="translation">Published by John Curtis January 1, 1829</text> </inscription>

Copyright (required, not repeatable)

Attribute: refid

Definition: The copyright status of the visual resource.

Use: Copyright status will be determined by country and date of the original publication from which the visual resource originated. The values will be automatically populated from the BHL portal and do not need to be entered by the cataloger

EXAMPLES	Display	Index
	Creative Commons Attribution-NonCommercial 2.0 Generic (CC BY-NC 2.0)	<copyright refid=" http://creativecommons.org/licenses/by-nc/2.0/deed.en ">Creativ e Commons Attribution-NonCommercial 2.0 Generic (CC BY-NC 2.0) </copyright>
	Public Domain	<copyright refid=" http://creativecommons.org/publicdomain/mark/1.0/ ">Public Domain</copyright>

Crosswalk from Art of Life schema to other schemas

Art of Life	VRA Core 4.0	Dublin Core	LIDO	DwC/Audubon Core
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Type	vra:worktype	dc:type	lido:objectClassification:objectWorkType:term	
Title	vra:title:@type	dc:title	lido:objectIdentification:title:appellationValue	
Agents	vra:agent:name[@refid] vra:agent:dates[@type=life]:earliestDate vra:agent:dates[@type=life]:latestDate vra:agent:role	dc:creator dc:contributor	lido:event:eventActor:actorInRole:actor:actorID lido:event:eventActor:actorInRole:actor:name Actor:appellationValue lido:event:eventActor:actorInRole:actor:vitalDatesActor:earliestDate lido:event:eventActor:actorInRole:actor:vitalDatesActor:latestDate lido:event:eventActor:actorInRole:roleActor:term	
Description	vra:description	dc:description	lido:event:description	
Source	vra:source:name[@type] vra:source:refid[@type]	dc:identifier dc:source	lido:administrativeMetadata/resourceWrap/resourceSet/resourceRepresentation/linkResource	
Date	vra:date[@type]:earliestDate vra:date[@type]:latestDate	dc:dateCreated dc:dateIssued	lido:event:eventDate:date:earliestDate lido:event:eventDate:date:latestDate lido:event:eventType:term	
Subjects	vra:subject	dc:subject	lido:relations:subject	dwc:scientificName dwc:acceptedNameUsage dwc:vernacularName
Copyright	vra:rights	dc:rights	?	
Inscriptions	vra:inscription	dc:description	lido:objectIdentification:inscriptions:inscriptionTranscription [lang variants] lido:objectIdentification	

			:inscriptions:inscription sDescription	
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