

# Changes from Version 1.2 to v.2.01 of the ABCD schema

Note that changes following v. 2.00 are documented on the ABCD Wiki:

<http://ww3.bgbm.org/abccdocs/>

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## ***General changes***

Extensions have mostly been made explicit, i.e. extensions of xs: types have been changed to types (particularly StringL\*, StringP\*, StringLP\* and anyURIP\* typed elements).

Representation is the name generally used for all elements distinguishing content by language (SDD). Types end in the suffix Repr.

All elements typed xs:string have been typed String to exclude empty (nullstring) elements (String is length >0).

Types containing enumerations end in the suffix Enum.

All attributes should be in lowercase.

## ***Changes of elements***

(incl. attribute additions and changes in bounding and/or type of the element)

**AcquisitionSourceText**

type changed from AltTextType to xs:string  
attribute Language added

**AccessionCatalogue**

type changed from OpenIDType to xs:string

**AspectText**

renamed to **Text**

**AssociatedUnitID**

type changed from OpenIDType to xs:string

**AuthorString**

deleted

**BiotopeClassification**

name changed to **ClassificationScheme**

**BiotopeData**

name changed to **Biotope**

**BiotopeMeasurments**

renamed to **MeasurementsOrFacts**

**BiotopeName**

name changed to **Name**

**BiotopeText**

name changed to **Text**

type changed from AltTextType to xs:stringL

**ChronstratigraphicTerms**

renamed to ChronostratigraphicTerms

**ContinentOrOcean**

deleted

(covered by NamedArea; hat been preserved for compatibility, but DwC now separates Continent from Waterbody)

**CountryName**

renamed **Name**

**CountryNameDerived**

renamed **NameDerived**

**DatasetDerivations**

deleted (rights, statements and contacts are now represented various elements under ContentMetadata)

**DateSupplied**

deleted, +/- replaced by Version/**DateIssued**

**Depth**

added attribute datum

**FactType**

included in **ParameterMeasured**

**GatheringAgents**

renamed **Agents**

**GatheringAgent**

added attribute sequence

**GatheringAgentsText**

made mandatory

**GatheringCode**

renamed **Code**

**GatheringMethod**

renamed **Method**

**GatheringDateTime**

renamed **DateTime**

**GatheringSite**

deleted (an intermediate container without direct function and clear semantic definition), all elements moved directly under **Gathering**.

**Genus**

(in **NameBotanicalType**, **NameZoologicalType**, **NameBacterialType**, and **NameViralType**)  
renamed to **GenusOrMonomial**

**Height**

added attribute datum

**Identification/Identifier/IdentificationSource**

made bounded

Comment: The **IdentificationSource** is a reference that actually states the identification, i.e. the entire identification event was taken from literature (or a comparable source). The description of this element was confused with that of the **IdentificationReference**, which actually is a reference that further circumscribes the taxon identified by the identifier (and thus can act as a "potential taxon's" 'sec.' reference).

**Identification/Identifier/Organisation**

typed **Organisation**

**IdentificationDate**

renamed **Date**

**IdentificationNotes**

renamed **Notes**

**IdentificationReference**

renamed **Identification/References/Reference**

**ImageIPR**

renamed **IPR**

typed **IPRStatementsRepr**

**ImageResolution**

added

Comment: resolution in dpi.

**ImageSize**

typed **ImageSize**

Comment: now only for pixel x pixel size. Filesize covered by new element.

**ImageURI**

changed to **Image/FileURI** and **Image/ProductURI**

**ISO2Letter**

renamed to **ISO3166Code**

**ISO3Letter**

deleted (NOTE: incorporated into **ISO3166Code**!)

**LithstratigraphicTerms**

renamed to **LithostratigraphicTerms**

**LogoURI**

moved to **ContactType**

explanation added

**MeasurementAccuracy**

renamed to **Accuracy**

**MeasurementAppliesTo**

renamed to **AppliesTo**

**MeasurementAtomised**

renamed **MeasurementOrFactAtomised**

**MeasurementDuration**

renamed to **Duration**

**MeasurementLowerValue**

renamed to **LowerValue**

**MeasurementMethod**

renamed to **Method**

**MeasurmentText**

renamed to **MeasurementOrFactText**

type changed from **AltTextType** to **xs:StringL**

**MeasurmentScale**

renamed to **UnitOfMeasurement**

**MeasurementUpperValue**

renamed **UpperValue**

**NameAuthorYearString**

(in **TaxonIdentifiedType**)

renamed to **FullScientificNameString**

**NamedAreaName**

renamed **AreaName**

**NamedAreaClass**

renamed **AreaClass**

**NamedCollection(s)**

renamed to **NamedCollectionOrSurvey**

**Organization**

(in **Identification/Identifier**)

renamed to **Organisation**

**OriginalSource**

deleted (the mandatory dataset identifiers have been moved to the level of the unit, other elements have either been deleted, moved directly under dataset, or are now represented by elements under **ContentMetadata**).

**ObservationMethod**

deleted (now covered by **Gathering/GatheringMethod**)

**PalUnit\***

Renamed: removed prefix PalUnit

**ParameterMeasured**

renamed to **Parameter**

typed StringL

PalaeontologicalUnit/**Preservation**/\*

renamed, Preservation prefix removed.

**PreviousCollectionName**

(in SpecimenUnit/SpecimenUnitHistory/.. / PreviousUnit/)

renamed to **PreviousSourceID**

**PreviousUnit**

added attribute sequence

**PreviousUnitID**

type changed from OpenIDType to xs:string

**ProvenanceCategory**

(in BotanicalGardenUnitType)

Added enumeration of ITF standard codes.

**Rank**

(in NameAtomised/Botanical)

assigned type RankAbbreviationType

**RecordBasis**

type changed from xs:string to RecordBasisType

**RecordRights**

renamed Unit/**IPRStatements**

type changed to IPRStatementsRepr

**ReferenceCitation**

renamed **TitleCitation**

**ReferenceDetail**

renamed **CitationDetail**

**ScientificNameString**

deleted

NameBotanical/**SecondEpithet**

renamed to InfraspecificEpithet

**SiteCoordinates**

added attributes 'begin', 'end', 'original'

**SiteFeatures**

deleted (entire structure)

**Slope**

deleted

(accommodated by BiotopeData/BiotopeMeasurements)

**SortPersonName**

(in PersonNameType)

renamed to **PersonNameLastFirst**

**SourceExpiryDate**

Renamed to **ExpiryDate**

Moved from enumeration under deleted element OriginalSource one level up (directly under Dataset)

Changed annotation, refers now to (potential) content of file, not to original database)

**SourceInstitutionCode**

renamed to **SourceInstitutionID**.

moved to UnitType

**SourceLastUpdatedDate**

deleted

replaced by Date\_Modified (note: this Darwin Core element refers now to content of the xml document, not necessarily to the original database)

**SourceName**

renamed to **SourceID**

moved to UnitType

**SourceNumberOfRecords**

deleted (referred to database, however, that reference becomes fuzzy once intermediate storage and/or processing is involved).

**SourceVersion**

deleted (may be re-introduced if the SDD project construct is to be used)

**SourceWebAddress**

deleted (is now represented by the AdministrativeContact of the DataSet or, if present, the AdministrativeContact for the Unit)

**SpecimenUnitHistory**

renamed **History**

**SpecimenUnitMark(s)**

renamed **Mark(s)**

**SpecimenUnitOwner**

renamed **Owner**

**SpecimenUnitPart**

renamed **KindOfObject**

moved from SpecimenUnit to Unit

**Strain**

(in NameBacterialType)

deleted (because it is not a name element under the respective Code of Nomenclature)

**StratigraphyText**

type changed from AltTextType to StringLType

**Supplier**

deleted

replaced by **TechnicalContact**

**TaxonIdentified**

made optional (because of introduction of alternative MaterialIdentified)

**TypifiedName**

(in NomenclaturalTypeDesignation)

type changed to ScientificNameType

**UnitAssociation**

renamed **Association**



**UnitAssemblages**

renamed **Assemblages**

**UnitCollectionDomain**

deleted (innecessary container element)

**UnitDescription**

renamed **Notes**

**UnitFacts/\***

deleted (covered by Unit/MeasurementAndFacts)

**UnitID**

type changed from OpenIDType to xs:string

**UnitMeasurements/\***

deleted (covered by Unit/MeasurementAndFacts)

**UnitPreparations**

renamed Preparation(s)

**UnitPreparation**

attribute sequence added

renamed Preparation

**UnitReference**

added attribute source

**UnitStateDomain**

deleted (innecessary container element)

**UnitStatements**

deleted

**URLS/URL**

(in ContactType)

changed to URIS/URI

**ReferenceType/URL**

changed to ReferenceType/URI

**ZoologyAge**

renamed **Age**

moved directly under unit

**ZoologyPhase**

renamed **PhaseOrStage**

made unbounded, introduced container

**ZoologySex**

renamed **Sex**

typed BasicSexCodeEnum

moved directly under unit

***New elements***

Datasets/Dataset/TechnicalMetadata/**TechnicalContact** [MicroAgent]

Datasets/Dataset/TechnicalMetadata/**ContentContact** [MicroAgent]

Datasets/Dataset/TechnicalMetadata/**OtherProviders/OtherProvider** [UUID]

Date/Time/**TimeZone**

BotanicalGardenUnit/**Cultivation**

BotanicalGardenUnit/**Propagation**  
BotanicalGardenUnit/**Perennation**  
BotanicalGardenUnit/**BreedingSystem**  
BotanicalGardenUnit/**IPEN**  
BotanicalGardenUnit/**LocationInGarden**  
ContentMetadata/**Description/\***  
ContentMetadata/**IconURI**  
ContentMetadata/**Scope/\***  
ContentMetadata/**Version/\***  
ContentMetadata/**RevisionData/\***  
ContentMetadata/**Owners/\***  
ContentMetadata/**IPRStatements/\***  
CultureCollectionUnit/**OrganismType**  
CultureCollectionUnit/**InfrasubspecificName**  
CultureCollectionUnit/**FormOfSupply**  
CultureCollectionUnit/**Serovar**  
CultureCollectionUnit/**Mutant**  
CultureCollectionUnit/**Genotype**  
UnitCollectionDomain/**PlantGeneticResourcesUnit**  
**PGRUnit/\***  
**Sequence/\***  
Gathering/**Permits/Permit**  
Gathering/**SiteMeasurementsOrFacts/SiteMeasurementOrFact**  
Gathering/**SiteImages/SiteImage** [Multimedia Type]  
HerbariumUnit/**DuplicatesDistributedTo**  
HerbariumUnit/**LoanIdentifier**  
HerbariumUnit/**LoanSequenceNo**  
HerbariumUnit/**LoanDestination**  
HerbariumUnit/**LoanForBotanist**  
HerbariumUnit/**LoanDespatchMethod**  
HerbariumUnit/**LoanDate**  
HerbariumUnit/**LoanReturnDate**  
Identifications/ ../TaxonIdentified/**ScientificName**  
Identifications/Identification/**Method**  
Identifications/Identification/**References** [as container]  
Identifications/Identification/**Result**  
Identifications/Identification/Result/**MaterialIdentified**  
Identifications/Identification/**ResultRole**  
Identifications/Identification/**Identifiers**  
Identifications/Identification/Identifiers/**IdentifierText**  
Identifications/Identification/Identifiers/**IdentifierRole**  
Identifications/Identification/**NonFlag**  
Identifications/Identification/**PreferredFlag**  
Identifications/Identification/**StoredUnderFlag**  
Identifications/Identification/**VerificationLevel**  
IPRStatements/**Citations/Citation**  
MultiMediaObject/**FileURI**  
MultiMediaObject/**ProductURI**  
MultiMediaObject/**CreatedDate**  
MultiMediaObject/**Creator**

MultiMediaObject/**CaptureEquipment**  
 MultiMediaObject/**Resolution**  
 MultiMediaObject/**FileSize**  
 MultiMediaObject/**ImageColorSpace**  
 MultiMediaObject/**ImageSize/\***  
 MeasurementsAndFacts/MeasurementAtomised/**MeasurementReference** [ReferenceType]  
 MeasurementsAndFacts/MeasurementAtomised/**MeasuredBy**  
 MeasurementsAndFacts/MeasurementAtomised/**MeasurementTime**  
 MeasurementsAndFacts/MeasurementAtomised/**IsQuantitative**  
 NameBacterial/**NameApprobation**  
 NameBotanical/CultivatedPlantNameElements/**TradeDesignationNames** [container]  
 NameViral/**Acronym**  
 DateTime/**PeriodExplicit**  
 SpecimenUnit/**SpecimenUnitOwner** [ContactType] (was formerly covered by Rights Type)  
 SpecimenUnit/Acquisition/**AcquiredFrom** [ContactType]  
 SpecimenUnit/SpecimenUnitHistory/**PreviousUnits** (Wrapper for PreviousUnit)  
 SpecimenUnit/SpecimenUnitHistory/**PreviousUnitsText**  
 SpecimenUnit/SpecimenUnitHistory/PreviousUnits/**PreviousUnitText**  
 SpecimenUnit/SpecimenUnitHistory/PreviousUnits/**PreviousSourceInstitutionID**  
 SpecimenUnit/**UnitPreparations** [container for now repeatable element]  
 SpecimenUnit/UnitPreparations/UnitPreparation/**PreparationAgent** [Contact]  
 TaxonIdentified/**Code** [xs:name]  
 Unit/**UnitContentContacts/UnitContentContact** [Contact]  
 Unit/**RecordURI**  
 Unit/**UnitExtension**  
 Unit/**GUID** [String]  
 Unit/**Owner** [Contact]

## ***Simple types***

### **AltTextType**

deleted

Comment: The idea behind this type was to have a "consists of" relationship of the free text entry with the corresponding atomised data items. At least in the present phase of standard development this seems to be overly prescriptive, furthermore, xml does not support this kind of relationship between elements.

### **OpenIDType**

deleted

### **PGRUnit/\***

created

### **RankAbbreviation**

created

enumeration added

### **RankType**

renamed to **HigherTaxonRank**

enumeration added

Comment: The type is used for the attribute of HigherTaxonType, i.e. taxon names of a rank above generic level.

## **RecordBasis**

created

enumeration added

## **GenusType**

renamed to **Monomial**

## **String**

normalised string required to be at least 1 character long (i. e. either element/attribute may be optional, but if they are required the content must not be an empty string) [Taken from SDD]

## **String255**

normalised string restricted to 1..255 character length (i. e. required, may not be empty string). [Taken from SDD]

## ***Complex types***

### **AgentType**

removed

Comment: AgentType was used only once (for GatheringAgent) and actually consisted only of a combination of two other complex types (PersonNameType and OrganisationType) with a free text field. It is thus superfluous and has been removed. The elements were moved into a sequence under GatheringAgent; the type extension for PrimaryCollectorFlag became a simple attribute of the element GatheringAgent.

### **anyUriP**

created (xs:anyURI extended with Preferred attribute)

### **SexCodeEnum**

added

### **ContactType**

renamed **Contact**

added element LogoURI (from former StatementsType)

### **CountryType**

renamed **Country**

removed attribute derived (already contains element CountryNameDerived)

### **DateTimeType**

renamed **DateTime**

added element TimeZone

### **PGRUnit**

created

### **HigherTaxonType**

renamed **HigherTaxon**

added sequence with name and rank instead of extension with rank attribute.

### **IdentificationType**

renamed **Identification**

Identifier/IdentificationSource made bounded.

Rearrangement: Inserted element **IdentificationResult** and added a **CHOICE** under which the elements TaxonIdentified and the MaterialIdentified were placed.

### **ImageType**

renamed **MultiMediaObject**

deleted attribute Original

added several new elements (see above)

**IPRStatements**

created (replaces RightsType and StatementsType).

**Label**

created (from SDD/UBIF)

includes representation for different languages

**LabelRepr**

created (from SDD/UBIF)

**MicroAgent**

created (from SDD/UBIF)

**NamedArea**

added attribute for sequence

**OrganizationType**

renamed to **Organisation**

contents changed

**RightsType**

deleted (replaced by IPRStatements)

**ScientificName**

created (converted to type, see TaxonIdentified)

**ScientificNameIdentified**

created (converted to type, see TaxonIdentified)

**StatementsType**

deleted (replaced by IPRStatements)

**StringL**

created (String type for xs:string of minimal length 1, extended with language attribute)

**StringL255**

created (string255 type, i.e. xs:string of length of 1 to 250 characters, extended with language attribute)

**StringLP**

created (String type for xs:string of minimal length 1, extended with language and preferred attribute)

**StringLP255**

created (string255 type, i.e. xs:string of length of 1 to 250 characters, extended with language and preferred attribute)

**StringP**

created (String type for xs:string of minimal length 1, extended with preferred attribute)

**StringP255**

created (string255 type, i.e. xs:string of length of 1 to 250 characters, extended with preferred attribute)

**TaxonIdentifiedType**

renamed **TaxonIdentified**

Rearrangement of elements:

Unchanged: InformalNameString and HigherTaxa

All other elements rearranged under an added **CHOICE** between InformalNameString (unchanged element) and the added element **ScientificName**. Further elements formerly

arranged in sequence unter TaxonIdentified are now in the ScientificNameIdentified, which in turn is an extension (for ABCD) of the ScientificName, which consists only of the name elements adhering strictly to the codes of nomenclature, namely:

- NameAuthorYearString (now renamed FullScientificNameString)
- NameAtomised (entire container)

FullScientificNameString is now mandatory.

The extension ScientificNameIdentified includes the non-Code items

- NameAddendum
- IdentificationQualifier

Comment: The arrangement allows to make FullScientificNameString mandatory if (and only if) a scientific name is given as the result of an identification event. It also facilitates the replacement of the ScientificName type or its use in other standards.

### **TelephoneDevice**

created (LStringType restricted to list of devices that can be reached by telephone number, e.g. voice, fax, voice/fax)

### **UnitAssemblageType**

changed from complex type to sequence of elements under UnitAssemblage

### **UnitAssociationType**

changed from complex type to sequence of elements under UnitAssociation

### **UnitDataType**

Renamed to **Unit**