

# Changes from Version 1.2 to v. 1.47 of the ABCD schema

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## Contents

General changes .....	2
Changes of elements.....	3
AcquisitionSourceText .....	3
AccessionCatalogue .....	3
AssemblageName .....	3
AssociatedUnitID .....	3
AuthorString .....	3
BiotopeText.....	3
ChronstratigraphicTerms .....	3
DatasetDerivations .....	3
DateSupplied .....	3
Genus .....	<b>Error! Bookmark not defined.</b>
Genus .....	3
IdentificationType/Identifier/IdentificationSource .....	3
IdentificationType/Identifier/Organisation .....	3
ImageIPR .....	4
ImageSize.....	4
ImageResolution.....	4
ISO2Letter.....	4
ISO3Letter.....	4
LithstratigraphicTerms .....	4
LogoURI .....	4
MeasurmentText.....	4
NameAuthorYearString .....	4
OriginalSource .....	4
PreviousCollectionName .....	4
PreviousUnitID .....	4
ProvenanceCategory .....	4
Rank .....	4
RecordBasis .....	4
RecordRights.....	4
ScientificNameString.....	5
SortPersonName .....	5
SourceExpiryDate .....	5
SourceInstitutionCode .....	5
SourceLastUpdatedDate .....	5
SourceName .....	5
SourceNumberOfRecords .....	5
SourceVersion .....	5
SourceWebAddress .....	5
Strain.....	5
StratigraphyText .....	5
Supplier .....	5
TaxonIdentified .....	5

TypifiedName .....	5
UnitID .....	6
UnitStatements .....	6
URLS/URL .....	6
New elements.....	6
Simple types.....	7
AltTextType .....	7
OpenIDType.....	7
PGRUnitType/* .....	7
RankAbbreviationType.....	7
RankType.....	7
RecordBasisType.....	7
GenusType .....	7
String .....	7
String255.....	7
TransformationChangeEnum .....	7
Complex types.....	7
AgentType.....	7
anyUriPType .....	8
ContactType .....	8
CountryType .....	8
DateTimeType.....	8
PGRUnitType.....	8
HigherTaxonType .....	8
IdentificationType .....	8
ImageType .....	8
IPRStatementsType .....	8
IPRStatementsLType.....	8
RightsType .....	8
ScientificNameType .....	8
ScientificNameIdentifiedType .....	8
StatementsType .....	8
StringLType .....	8
StringL255Type .....	8
StringLPType .....	9
StringLP255Type .....	9
StringPType .....	9
StringP255Type.....	9
TaxonIdentifiedType .....	9
TelephoneDeviceType.....	9
TransformationActionType.....	9
TransformationMetadataType.....	9
UnitDataType .....	9

### **General changes**

Separate (included) schemas now fulfil at least one of the following criteria:

- They represent a complex type that is used in several places in ABCD.
- They represent a complex type that may be re-used in other schemas.
- They contain a collection of types representing extensions for a specific collection domain.

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

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

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

### **AssemblageName**

renamed attribute of type extension from **Languge** to **Language**

### **AssociatedUnitID**

type changed from OpenIDType to xs:string

### **AuthorString**

deleted

### **BiotopeText**

type changed from AltTextType to xs:string

attribute Language added

### **ChronstratigraphicTerms**

renamed to ChronostratigraphicTerms

### **DatasetDerivations**

deleted (elements for rights and statements now represented various metadata envelop elements; Description was deleted entirely)

### **DateSupplied**

deleted, replaced by Transformation/**TimeStamp**

### **Genus**

(in NameBotanicalType, NameZoologicalType, NameBacterialType, and NameViralType)

renamed to **GenusOrMonomial**

### IdentificationType/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).

### IdentificationType/Identifier/**Organisation**

typed Organisation

**ImageIPR**

typed IPRStatementsLType

**ImageSize**

typed ImageSizeType

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

**ImageResolution**

added

Comment: resolution in dpi.

**ISO2Letter**

renamed to **ISO3166Code**

**ISO3Letter**

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

**LithstratigraphicTerms**

renamed to LithostratigraphicTerms

**LogoURI**

moved to ContactType

explanation added

**MeasurmentText**

renamed to **MeasurementText**

type changed from AltTextType to xs:string

attribute Language added

**NameAuthorYearString**

(in TaxonIdentifiedType)

renamed to **FullScientificNameString**

**OriginalSource**

deleted (the mandatory dataset identifiers have been moved to the level of the unit, other elements have either been deleted or moved one level up – under dataset. Content may furthermore be identified in TransformationHistory).

**PreviousCollectionName**

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

renamed to **PreviousSourceID**

**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 UnitIPRStatements

type changed to IPRStatementsLType

**ScientificNameString**

deleted

**SiteFeatures**

deleted (entire structure)

**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**

Renamed to **LastUpdatedDate**

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)

**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)

**Strain**

(in NameBacterialType)

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

**StratigraphyText**

type changed from AltTextType to xs:string

attribute Language added

**Supplier**

deleted

replaced by **TechnicalContact**

**TaxonIdentified**

made optional (because of introduction of alternative MaterialIdentified)

**TypifiedName**

(in NomenclaturalTypeDesignation)

type changed to ScientificNameType

**UnitID**

type changed from OpenIDType to xs:string

**UnitStatements**

deleted

**URLS/URL**

(in ContactType)

changed to URIS/URI

**ReferenceType/URL**

changed to ReferenceType/URI

***New elements***

Datasets/Dataset/**TechnicalContact** [Contact]

Dataset/**ContentContact** [Contact]

Dataset/**TransformationHistory** [set of Transformations]

Dataset/**OtherNetworks/OtherNetwork** [UUID]

DateType/**TimeZone**

SpecimenUnit/**SpecimenUnitOwner** [ContactType] (was formerly covered by Rights Type, ownership of observations is covered by IPRStatements)

SpecimenUnit/Acquisition/**AcquiredFrom** [ContactType]

SpecimenUnit/SpecimenUnitHistory/**PreviousUnits** (Wrapper for PreviousUnit)

SpecimenUnit/SpecimenUnitHistory/**PreviousUnitsText**

SpecimenUnit/SpecimenUnitHistory/PreviousUnits/**PreviousUnitText**

SpecimenUnit/SpecimenUnitHistory/PreviousUnits/**PreviousSourceInstitutionID**

CultureCollectionUnitType/**OrganismType**

CultureCollectionUnitType/**InfrasubspecificName**

CultureCollectionUnitType/**FormOfSupply**

CultureCollectionUnitType/**Serovar**

CultureCollectionUnitType/**Mutant**

CultureCollectionUnitType/**Genotype**

UnitCollectionDomain/**PlantGeneticResourcesUnit**

**PGRUnitType/\***

**SequenceType/\***

HerbariumUnitType/**DuplicatesDistributedTo**

Identifications/./TaxonIdentified/**ScientificName**

Identifications/Identification/**IdentificationMethod**

Identifications/Identification/**IdentificationResult**

Identifications/Identification/IdentificationResult/**MaterialIdentified**

Identifications/Identification/**IdentificationRole**

Identifications/Identification/**PreferredFlag**

Identifications/Identification/**StoredUnderFlag**

Identifications/Identification/**NonFlag**

ImageType/**ImageURIString**

ImageType/**ImageCreatedDate**

ImageType/**ImageCreator**

ImageType/**ImageCaptureEquipment**

ImageType/**ImageResolution**

ImageType/**ImageFileSize**

ImageType/**ColorSpace**  
**ImageSizeType**/\*  
NameBacterialType/**NameApprobation**  
NameBotanicalType/CultivatedPlantNameElements/**TradeDesignationNames** [container]  
DateTimeType/**PeriodExplicit**  
SpecimenUnit/UnitPreparation/**PreparationAgent** [Contact]  
Unit/**UnitGUID** [String]  
Unit/**UnitContentContact** [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

### **PGRUnitType**/\*

created

### **RankAbbreviationType**

created

enumeration added

### **RankType**

renamed to **HigherTaxonRankType**

enumeration added

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

### **RecordBasisType**

created

enumeration added

### **GenusType**

renamed to **MonomialType**

### **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]

### **TransformationChangeEnum**

added (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.

#### **anyUriPType**

created (xs:anyURI extended with Preferred attribute)

#### **ContactType**

added element LogoURI (from former StatementsType)

#### **CountryType**

removed attribute derived (already contains element CountryNameDerived)

#### **DateTimeType**

added element TimeZone

#### **PGRUnitType**

created

#### **HigherTaxonType**

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

#### **IdentificationType**

Identifier/IdentificationSource made bounded.

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

#### **ImageType**

deleted attribute Original

added several new elements (see above)

stored in separate file (ImageType.xsd)

#### **IPRStatementsType**

created (replaces RightsType and StatementsType).

#### **IPRStatementsLType**

created (extends IPRStatementsType with language attribute).

language attribute set to required

#### **OrganizationType**

changed to **OrganisationType**

#### **RightsType**

deleted (replaced by IPRStatementsLType)

#### **ScientificNameType**

created (converted to type, see TaxonIdentifiedType)

#### **ScientificNameIdentifiedType**

created (converted to type, see TaxonIdentifiedType)

#### **StatementsType**

deleted (replaced by IPRStatementsLType)

#### **StringLType**

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

#### **StringL255Type**

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

### **StringLPType**

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

### **StringLP255Type**

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

### **StringPType**

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

### **StringP255Type**

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

### **TaxonIdentifiedType**

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 under TaxonIdentifiedType are now in the

ScientificNameIdentifiedType, which in turn is an extension (for ABCD) of the ScientificNameType, which consists only of the name elements adhering strictly to the codes of nomenclature, namely:

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

FullScientificNameString is now mandatory.

The extension ScientificNameIdentifiedType 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 makes the ScientificNameType usable for other standards.

### **TelephoneDeviceType**

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

### **TransformationActionType**

created (common type with SDD)

### **TransformationMetadataType**

created (common type with SDD)

includes TransformationActionType and TransformationChangeEnum

### **UnitDataType**

Renamed to **UnitType**

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