

Appendix A

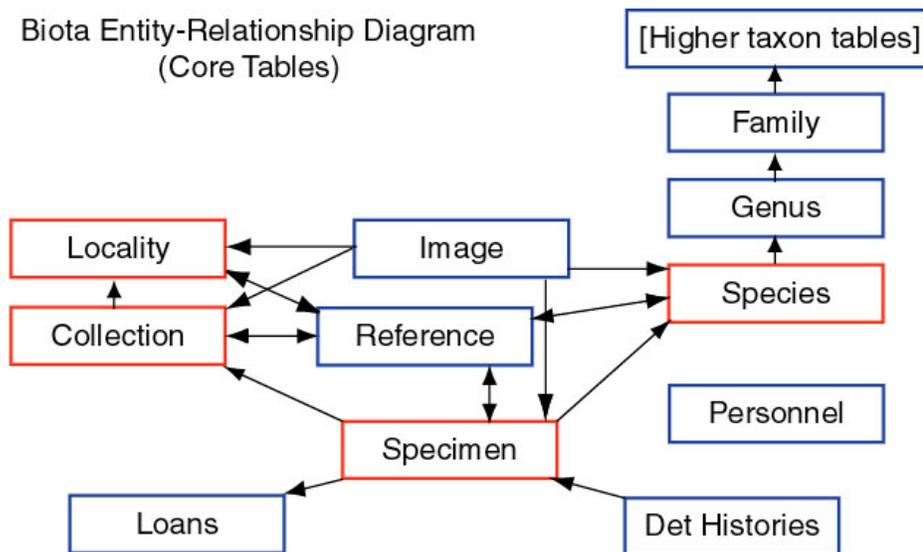
Biota Tables, Fields, and Relational Links

This appendix provides details of Biota’s tables and fields, and their relational links. For an overview of Biota’s structure and explanation of the links between tables, please see [Chapter 3](#), especially the section on “[Tables](#)” (repeated below) and “[Fields and Records](#).”

Overview of Tables

Core tables

The diagram below (in database jargon, an “entity-relationship” diagram), shows most of the links between Core Tables in Biota.



- **The taxonomic hierarchy** includes the *Specimen* table and a table for each of the seven obligatory levels of the Linnean classification system: *Species*, *Genus*, *Family*, *Order*, *Class*, *Phylum*, and *Kingdom* (see Chapter 11, “[Input—Table by Table](#)”).
- **The place hierarchy** has two levels. The *Collection* table records data for collecting events (including collector and collection date), whereas each record in the *Locality* table keeps track of the geographical site of one or more collecting events (see “[Collection Input](#)” and “[Locality Input](#)” in Chapter 11).
- **Literature references** are recorded in the *References* table. Reference records can be linked to records in the *Species*, *Specimen*, *Collection*, and *Locality* tables (see Chapter 20, “[References](#)”).

- **Names and contact data** for collectors, preparators, borrowers, Project participants, and authors of Notes are recorded in the *Personnel* table (see “[Personnel Input](#)” in Chapter 11).
- **To allow several projects to share the same Data File**, the *Project* table keeps track of project names and descriptions, and provides project-specific views of Auxiliary Fields (see Chapter 16, “[User-Defined Auxiliary Fields and the Project System](#)”). (Not shown in the diagram.)
- **To keep track of specimen loans**, the *Loans* table records which specimens have been loaned, borrowed, and returned (see Chapter 21, “[Specimen Loan System](#)”).

Peripheral Tables

In addition to the 14 Core Tables, Biota’s relational structure encompasses an additional 20 *Peripheral Tables* (see Appendix A, “[Biota Tables, Fields, and Relational Links](#)”). Peripheral Tables keep track of supporting or ancillary data related to Core Table records.

For data entry, you will generally not need to think about what data the Peripheral Tables record or how they are linked to each other or to the Core Tables. But you will need to understand them fully if you wish to import data into Peripheral Tables or export data directly from them.

- **Images** are saved in the *Image Archive* table, which is linked with the Species, Specimen, Collection, and Locality tables (see Chapter 19, “[Images](#)”).
- **Notes** are saved in the *Specimen Notes*, *Species Notes*, *Collection Notes*, *Locality Notes* and *Loan Notes* tables (see “[Notes Input](#)” in Chapter 11).
- **User-Defined Auxiliary Field names and Auxiliary Field values** for the Species, Specimen, Collection, and Locality tables are recorded in four *Field Name* and four *Field Value* tables (see Chapter 16, “[User-Defined Auxiliary Fields and the Project System](#)”).
- **Entry choice lists (pick lists)** are enabled by settings in the *Lists* table. The list values themselves are saved in the *List Items* table (see Chapter 17, “[Default Entries and Entry Choice Lists \(Pick Lists\)](#)”).
- **Field name aliases** for re-namable fields are also saved in the *Lists* table (see Chapter 18, “[Renaming Fields](#)”).
- **Specimen determination histories** are kept in the *Det History* table (see Chapter 22, “[Determination Histories](#)”).
- **Personnel groups are defined** by records in the *Group* table (see “[Entering Personnel Data: The 'Group' Tab](#)” in Chapter 11).
- **References are linked to Species, Specimen, Collection, or Locality records** through entries in the *Reference Links* table (see Chapter 20, “[References](#)”).
- **Projects are linked to Auxiliary Field names** by means of records in the *Aux Index* table (see Chapter 16, “[User-Defined Auxiliary Fields and the Project System](#)”).

Biota Fields and Relations: Table by Table

The Figures in this section are images captured directly from the “Design Environment” in Biota (not accessible to Biota users). The order of the fields is historical, not alphabetical, so you may have to scan down to find a field you are looking for.

NOTE: For detailed information on Field Types in relation to importing data into Biota, see [“Field Types and Field Lengths”](#) in Chapter 28.

Here are the conventions used in the following figures:

- **The Table Name** is at the top of each list of fields.
- **Boldfaced Field Names are indexed fields** (which allows faster sorts and queries on these fields, though all other except Text fields can also be sorted and queried).
- **Arrows show relations** between tables, through Key fields and Linking fields. The 4D convention is that the arrowhead appears at the “one” end of a “many-to-one” relation.
- **Field Type** is indicated in the second column of each Table as follows:
 - ◇ **A *nn*, where *nn* is an integer:** Alphanumeric field of length *nn* (e.g., A30 means an Alphanumeric field that holds up to 30 characters.)
 - ◇ **D:** Date field
 - ◇ **I:** Integer field
 - ◇ **L:** Long Integer field
 - ◇ **B:** Real number field
 - ◇ **T:** Text field (32,000 character limit)
 - ◇ **D:** Boolean field
 - ◇ **P:** Picture (Image) field
 - ◇ *****: Vestigial (deleted) field

Links to the Figures on the Following Pages

[Figure 1:](#) Specimen, Determination History, Loans, and Linked Peripheral Tables

[Figure 2:](#) Specimen, Species, and Linked Peripheral Tables

[Figure 3:](#) Species and Higher Taxon Tables

[Figure 4:](#) Collection, Locality and Linked Peripheral Tables

[Figure 5:](#) Personnel, Group, Project, and Aux Index Tables

[Figure 6:](#) Project and Auxiliary Fields System Tables

[Figure 7:](#) Reference System Tables, Image Archive Table, and List Items Table

[Figure 8:](#) The Lists Table (with explanation of the function of the table)

Figure 1: Specimen, Determination History, Loans, and Linked Peripheral Tables

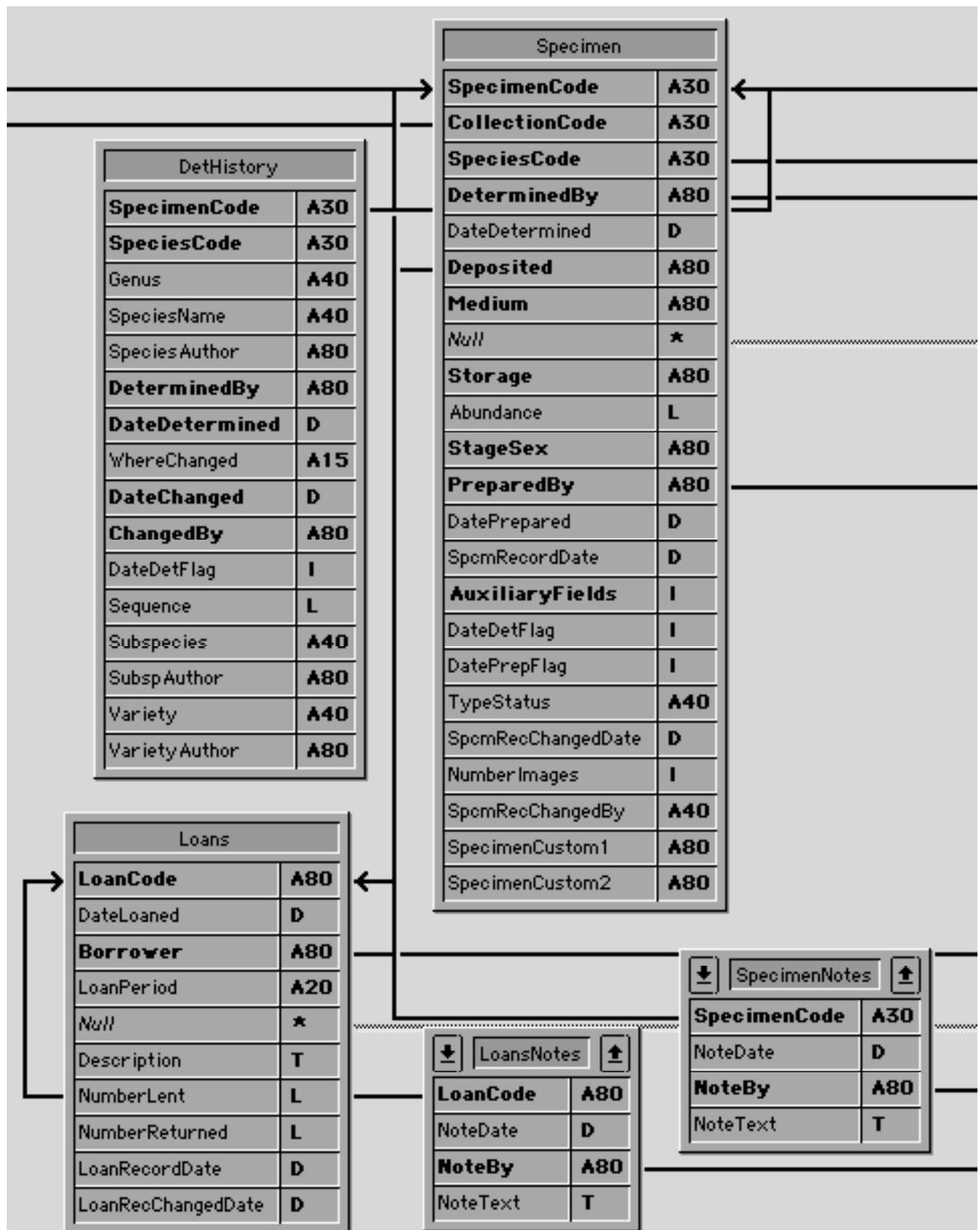


Figure 2: Specimen, Species, and Linked Peripheral Tables

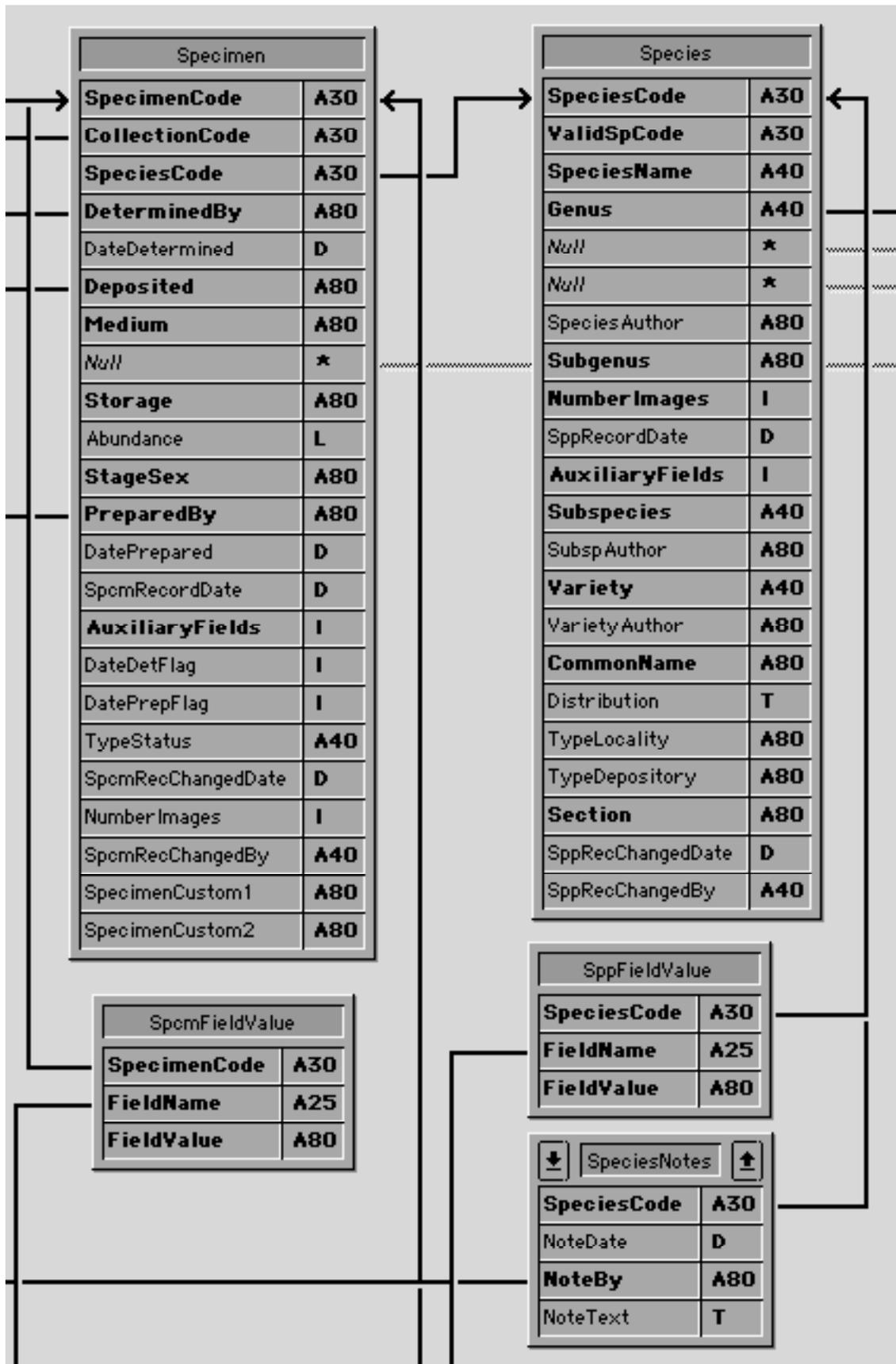


Figure 3: Species and Higher Taxon Tables

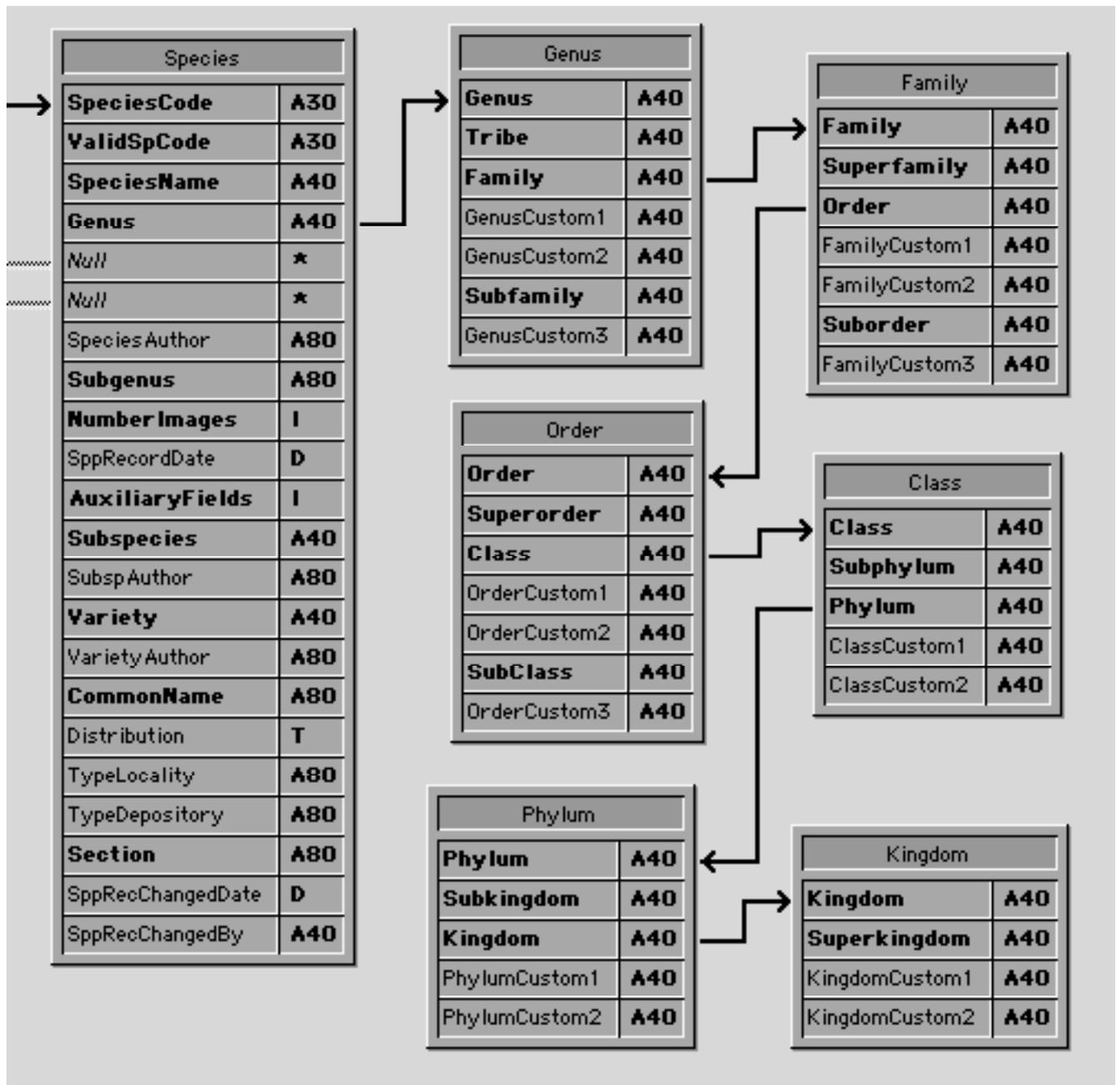


Figure 4: Collection, Locality and Linked Peripheral Tables

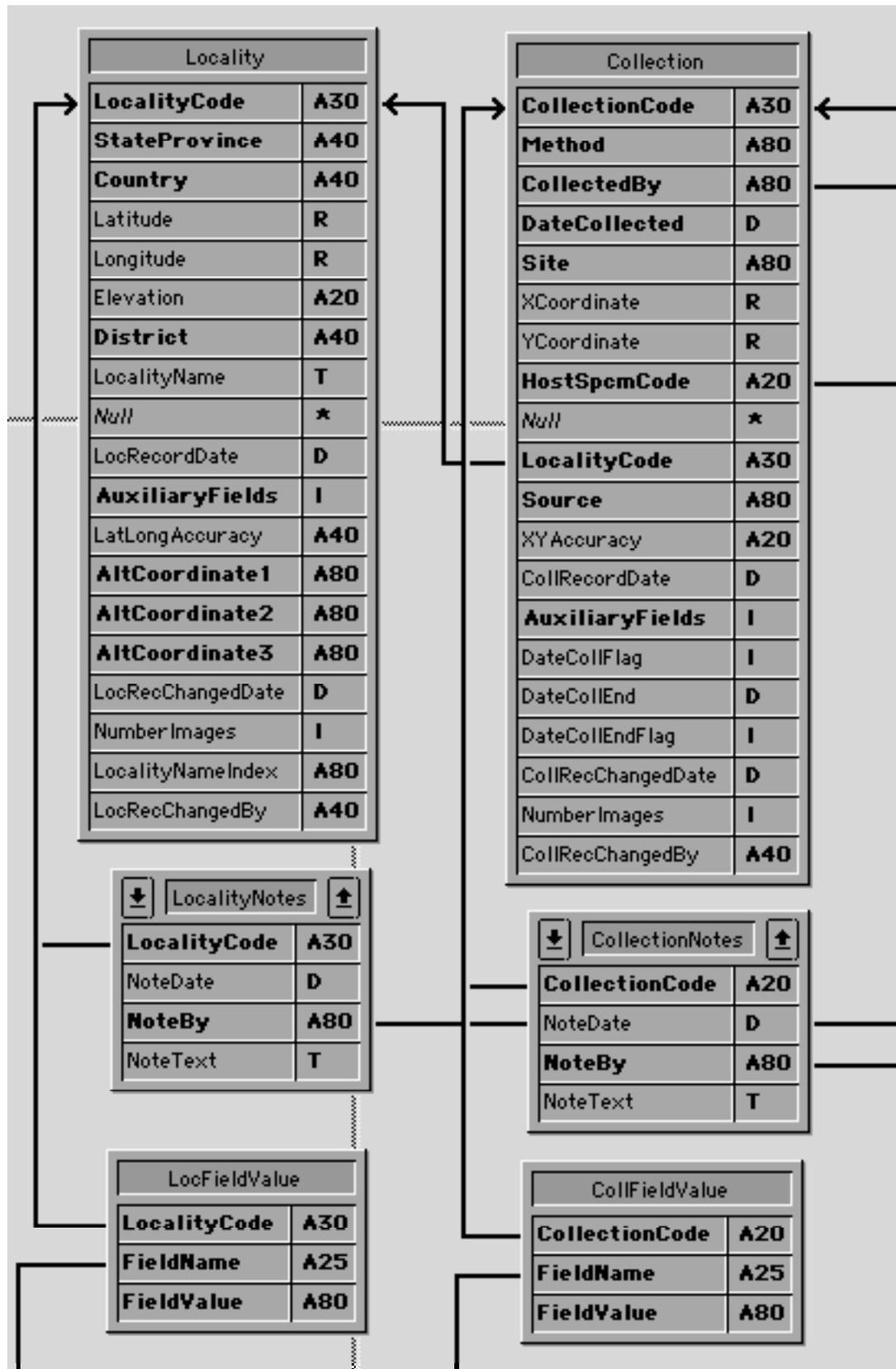


Figure 5: Personnel, Group, Project, and Aux Index Tables

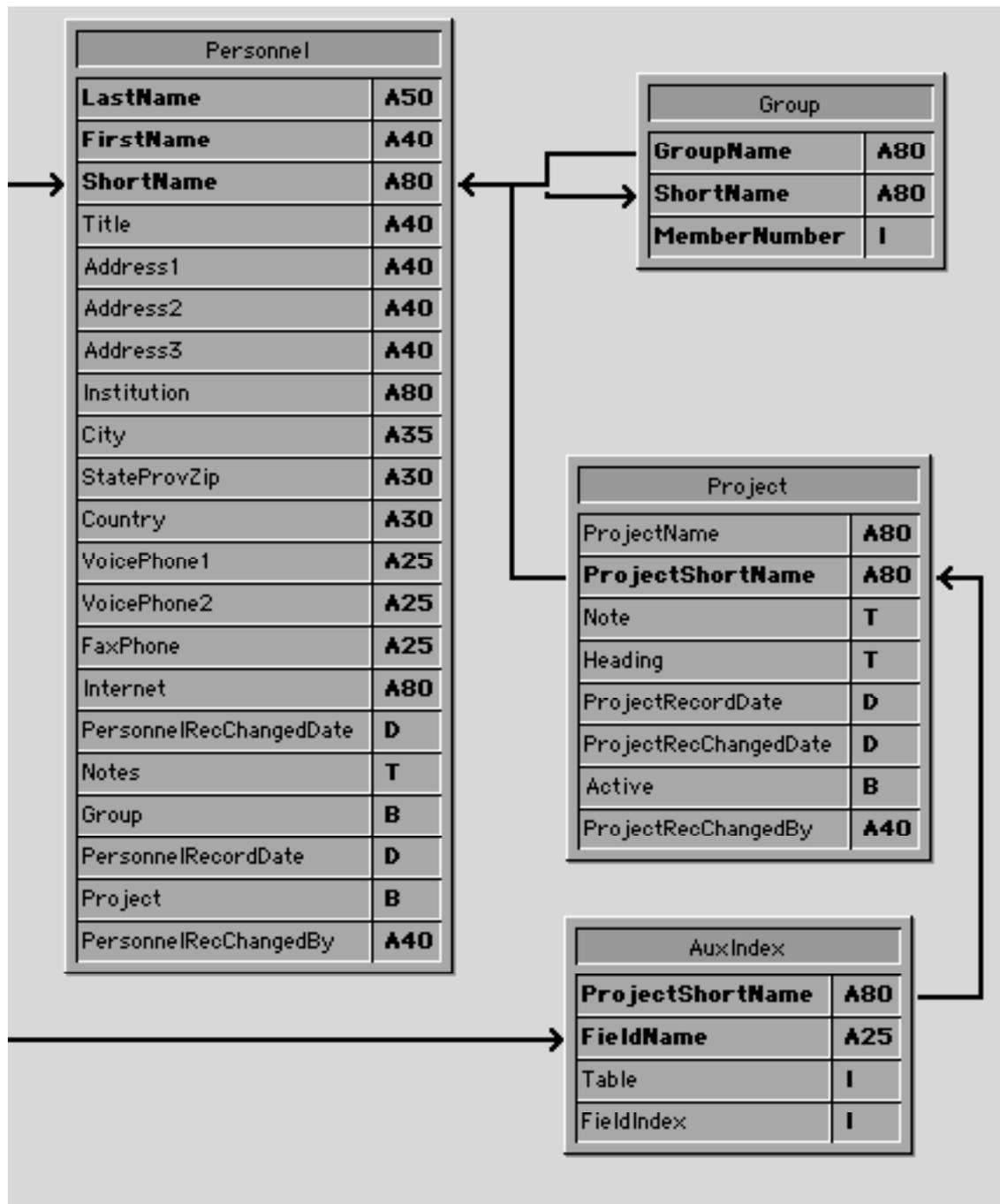


Figure 6: Project and Auxiliary Fields System Tables

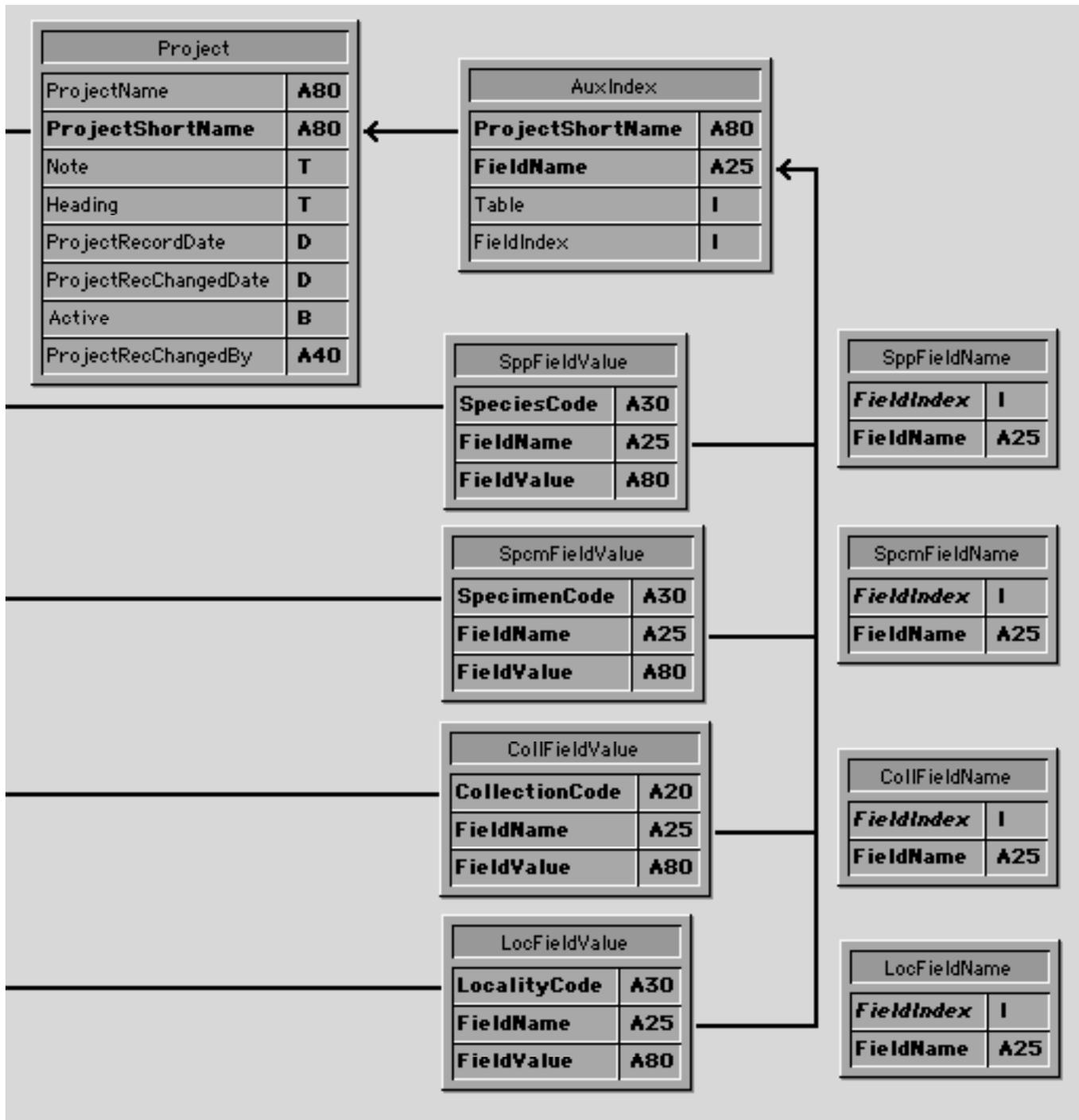


Figure 7: Reference System Tables, Image Archive Table, and List Items Table

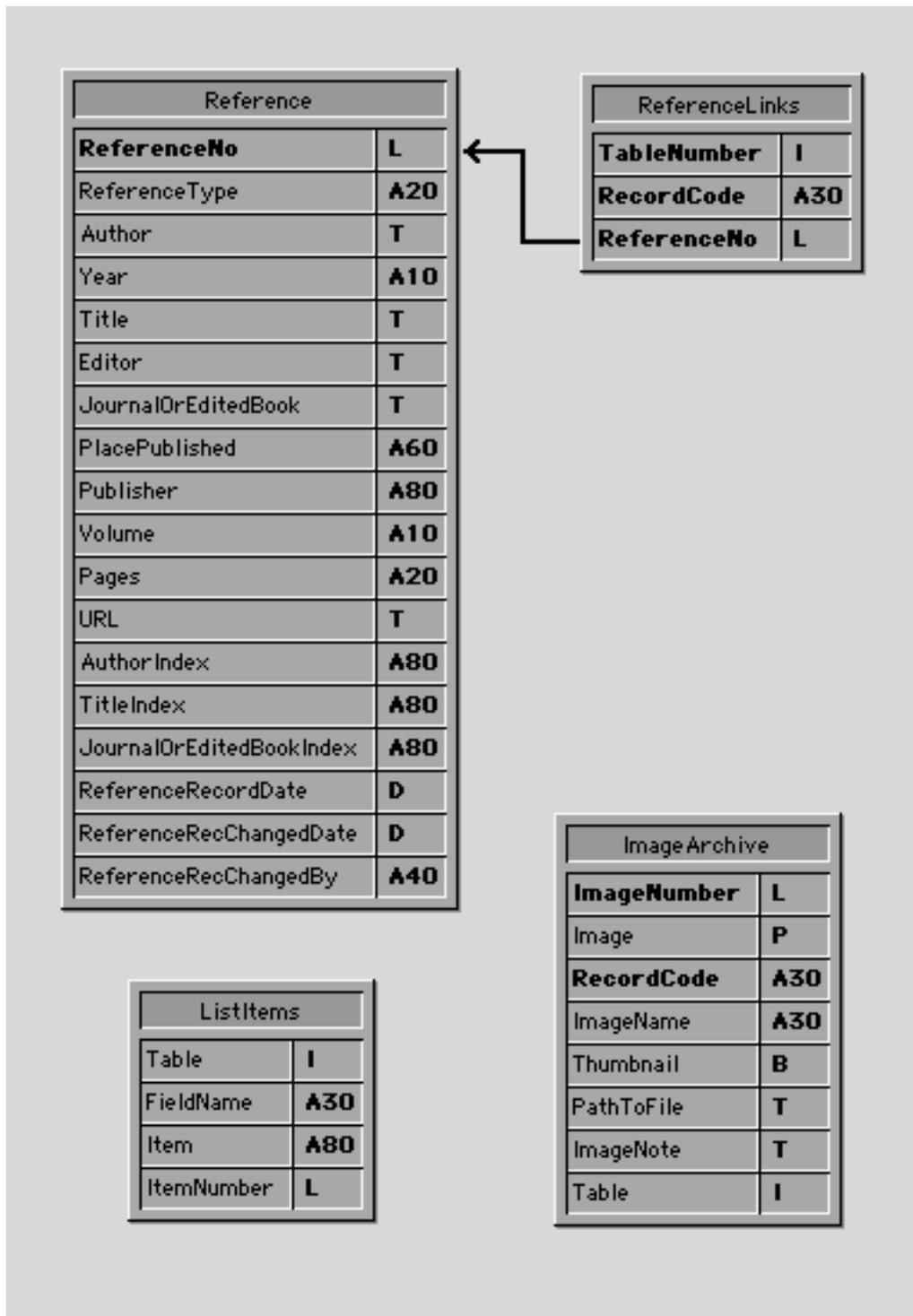


Figure 8: The Lists Table

The Lists table in Biota has two special purposes. It keeps track of Core Field Aliases that you define (see Chapter 18, “[Re-naming Fields](#)”) and it manages the Entry Choice Lists that you create (see “[Using Entry Choice Lists](#)” in Chapter 17).

For most users, the only reason you would ever deal directly with the Lists table is to transfer Lists records from one Biota Data File to another (to a new, blank one, for example). The procedure for exporting Lists records from one Biota Data File and importing them into another is detailed in Chapter 17, in the section “[Transferring Choice Lists to a Different Biota Data File.](#)”

This section details the fields, default values, and required records for the Lists table. You should study this section if you intend to create the required records for import into the Lists table using another application (e.g., a spreadsheet application) or if you want to modify exported Lists records before importing them again.

Unlike other Biota tables, each record in the Lists table has a special function, and must be *exactly three Lists records in every Biota Data File.*

- **The three Lists records must have consecutive integer values (1, 2, and 3) for the field [Lists] Record Number.**
- **Record 1 of the Lists table specifies values for “Long” Field Aliases** (see “[Renaming Core Fields: Setting Aliases](#)” in Chapter 18). Biota assigns default values for fields in this record when you create a new Data File (see “[Data Files](#)” in Chapter 2). Any Aliases you later assign replace the defaults.
- **Record 2 specifies values for “Short” Field Aliases.** Biota assigns default values for fields in this record when you create a new Data File. Any Aliases you later assign replace the defaults.
- **Record 3 specifies which Core Fields have Entry Choice Lists currently enabled.** A value of 1 means the List is enabled, a value of 0 means that the List is currently disabled (see “[Activating or Deactivating Choice Lists](#)” in Chapter 17). Biota assigns a default value of 0 to fields in this record when you create a new Data File (see “[Data Files](#)” in Chapter 2).

The diagrams below show the fields of the Lists table. All fields are alphanumeric with the exception of Record Number, which is an integer field.

Each alphanumeric field has the same character length as the field with the same name in Core and Peripheral tables shown earlier in this Appendix.

(See the next page.)

Lists	
SpecimenCode	A20
StageSex	A40
Medium	A40
Storage	A40
Deposited	A20
CollectionCode	A20
Site	A40
Source	A40
Method	A40
CollXY Accuracy	A20
LocalityCode	A20
LocalityName	A80
District	A40
StateProvince	A40
Country	A50
LatLongAccuracy	A20
SpeciesCode	A20
SpeciesName	A40
Species Author	A80
Subgenus	A40
ImageName	A30
Tribe	A40
Subfamily	A40
GenusCustom1	A40
GenusCustom2	A40
GenusCustom3	A40
Superfamily	A40
Suborder	A40
FamilyCustom1	A40
FamilyCustom2	A40
FamilyCustom3	A40

(Lists table continued)	
Superorder	A40
Subclass	A40
OrderCustom1	A40
OrderCustom2	A40
OrderCustom3	A40
Subphylum	A40
ClassCustom1	A40
ClassCustom2	A40
Subkingdom	A40
PhylumCustom1	A40
PhylumCustom2	A40
Superkingdom	A40
KingdomCustom1	A40
KingdomCustom2	A40
RecordNumber	I
TypeStatus	A20
Elevation	A20
CommonName	A80
Distribution	A80
TypeLocality	A50
TypeDepository	A50
SubSp Author	A80
Variety Author	A80
Section	A40
AltCoordinate1	A50
AltCoordinate2	A50
AltCoordinate3	A50
CollLatLongAccuracy	A20
SpecimenCustom1	A80
SpecimenCustom2	A80