Figure 1: Semantic extensions (highlighted in blue) to the Metacat data and metadata repository support improved precision and recall in searches for scientific data sets.
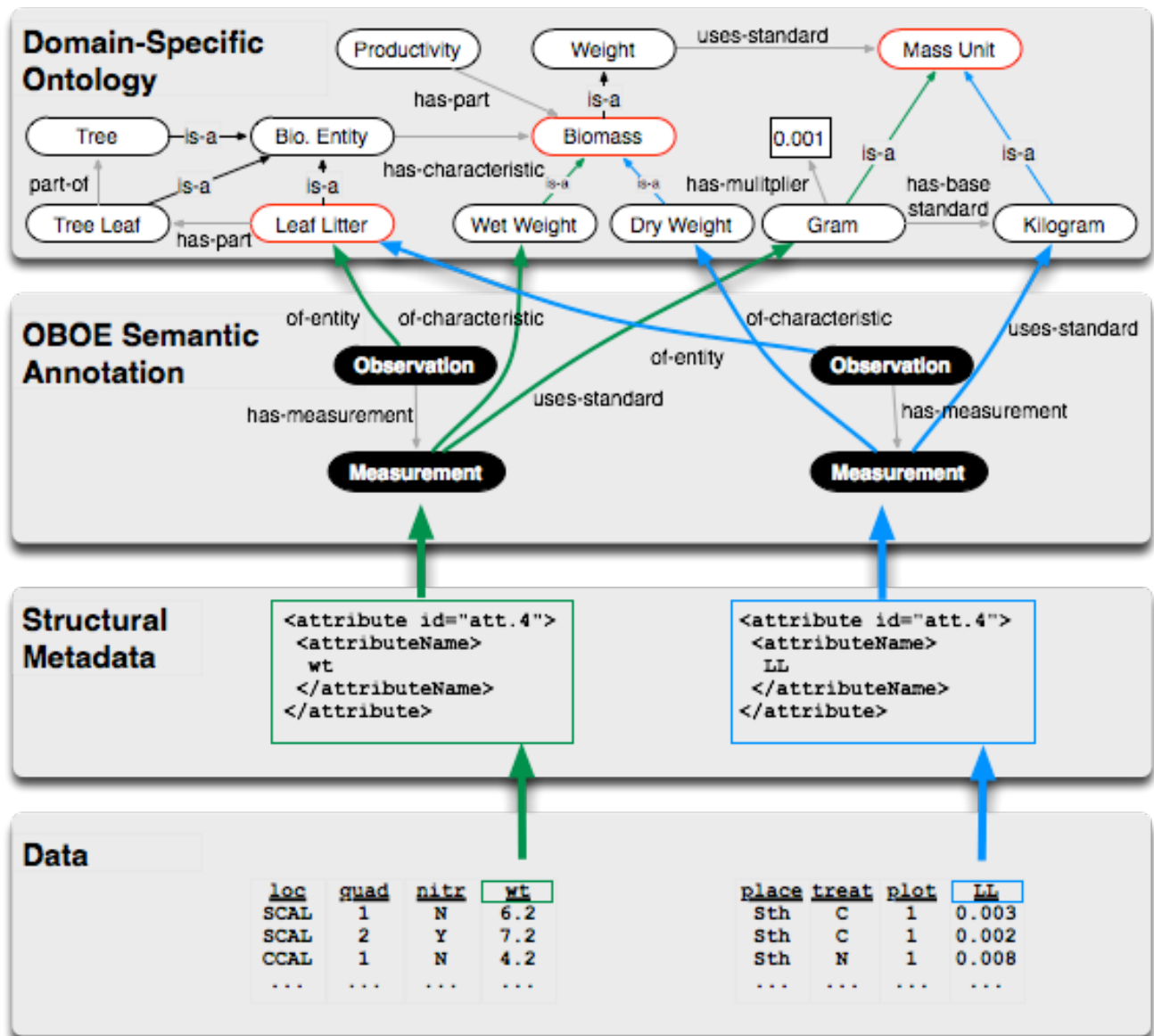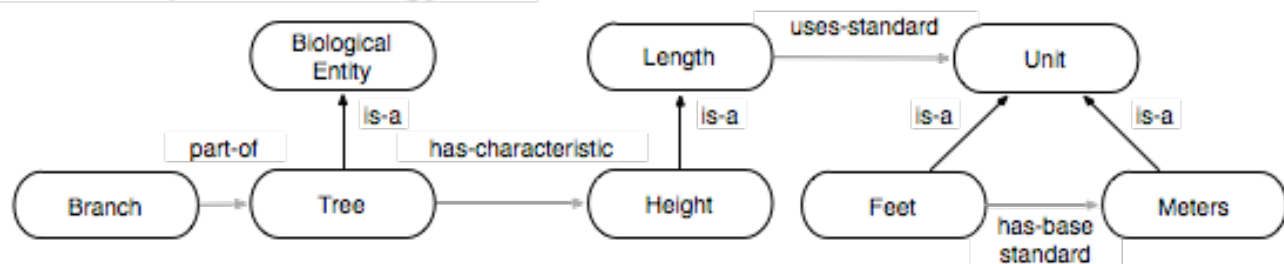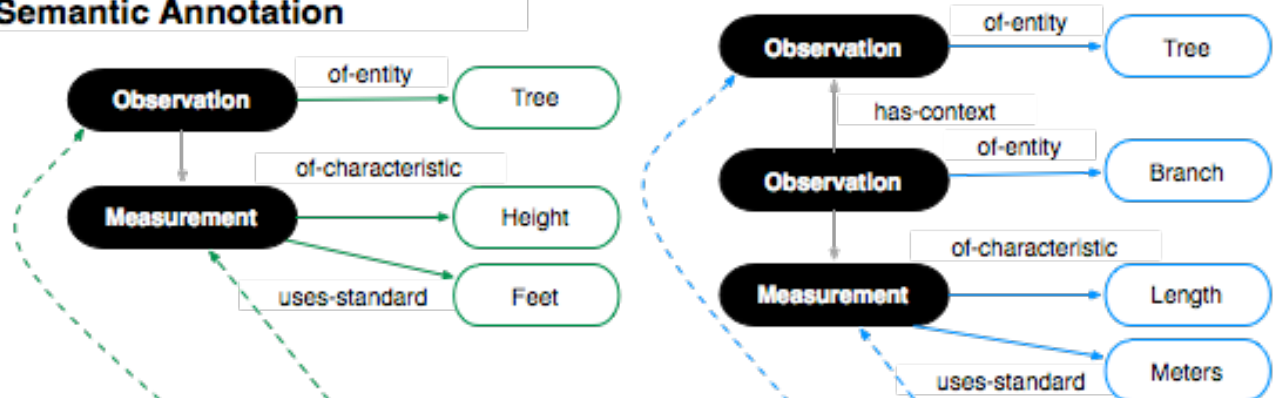
Figure 2. The components of our semantic-search framework including relational data, EML-based metadata, semantic annotations based on OBOE, and OBOE domain-ontology extensions.

Figure 3. Example annotations demonstrating more precise search results for observation-based structured query.