Software/Tool Comparison Worksheet

Criteria	Evaluation
Name	Arthropod Easy Capture (AEC)
Website/Contact	http://sourceforge.net/projects/arthropodeasy/
Description	An arthropod-specific, specimen-level data capture application
Computer hardware **Operating system** **Supplementary software**	Web-based so can be accessed from any computer. Open source and available as an open-source download (AEC download and install).
Additional Hardware/software required	Optimized for use with the web browser Mozilla Firefox but works with others.
Features	The database has multiple Modes: Museum, Edit, Report, and Admin which can be accessed simultaneously by opening multiple browser windows.

In Museum Mode data entry personnel can rapidly enter label data into Taxon, Locality, Collection Event, Specimen, and Host information fields by selecting existing data through pull down menus or through use of auto-complete functionality of Firefox. New data are typed into structured forms with safeguards in place. Search boxes make it easy to find localities and the genera of both arthropods and their hosts.

In Edit Mode users can search for and modify data entered in Museum Mode including names of taxa, hosts, localities, and political divisions. Specimen data can be retrieved by number or by species name. Localities can be viewed through a hierarchy, searched on, and filtered to highlight those in need of georeferencing.

In Report Mode users can query data for export as delimited text for import into spreadsheets |

	and can obtain formatted text for individual species for use in taxonomic revisions. It is easy to obtain a customized "data dump" of all core fields and others, and specialized outputs are also available such as a list of unique coordinates for use in mapping software such as the Simple Mapper. In Admin Mode project leaders can very easily add or deactivate project participants, maintain contact information, and assign user names and passwords.
Market presence	Used for NSF-funded research including the Plant Bugs Planetary Biodiversity, Tri-Tropic Interactions TCN (http://tcn.amnh.org/), and Bee Database projects
Initial cost	Free: Open source
Maintenance cost	For creating labels: Purchase of matrix code label stock and maintenance of specialized printers at lead institutions
Ease of setup/ prerequisite skills	Setup of a Username and Password by an administrator allows immediate access to existing projects and their data. New projects require coordination with project managers to design labels with unique identifiers for newly added institutions, to customize the user interface to accommodate taxon-specific needs.
Continuing IT support required?	Major institutions and those submitting large grants coordinate with database managers to budget appropriately for ongoing upgrades to the software itself and to web integration done by partners including biodiversity portal Discover Life
Special skills required for maintenance	User friendly for routine use due to simple web-optimized interface and ability to access pre-existing taxon lists, locality, and host information through pull-down menus.
Challenges	Taxon authority files are complete and accurate for some arthropod groups, such as bee and plant bugs, but have not been uploaded into the system yet for other major groups. Shared access to locality and associated georeferences across projects reduces

| | duplication of effort but can result in redundant localities and inconsistent recording of data.

The host information module facilitates easy and reliable capture of label data on certain associates such as floral hosts and tools have already been developed to analyze and display these, but new projects may require customization to capture ecological data differing from the plant-insect associations for which the software was originally designed.

Data for diverse arthropods have been captured in the system including individual pinned specimens but also lot-based specimens in fluid. Depending on preservation type, user interfaces need to be modified appropriately for new projects. |
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