

Camelot—intuitive software for camera-trap data management

Camelot is a new open source cross-platform software application for managing camera-trap data. *Camelot* is designed to be both powerful and easy-to-use, and provides a number of innovative features, such as an extensible reporting system that facilitates integration with specialized analysis tools. *Camelot* is already being used by dozens of conservation groups and is compatible with existing data analysis tools such as *PRESENCE* and *camtrapR*.

Camelot addresses the challenges associated with managing and classifying the tens of thousands of images produced by camera traps during a survey. The application is the product of a collaboration between a software engineer and a conservation product manager. Importantly, *Camelot* is cross-platform, running on the Java Virtual Machine, which is available for Windows, macOS and Linux. Key features include: multi-user, scalability (*Camelot* has been tested with datasets of 2 million photos), both simple image and bulk import, species cataloguing (can be integrated with the Catalogue of Life; <http://www.catalogueoflife.org>), efficient species identification (optimized to reduce the time required for identification), simple installation and configuration, data validation (actively identifying many inconsistencies in data), user-defined reports (both purpose-specific and extensible reports, including reports designed for use with *PRESENCE* and *camtrapR*), and longitudinal data collection and reporting (based on sites, species or cameras, and not restricted to a single survey). For more information on the key features see <https://www.biorxiv.org/content/early/2017/10/18/203216>.

Camelot accommodates both the single researcher and research teams. The single researcher should find *Camelot*

easy to install and configure. Small- and medium-sized teams can benefit from having *Camelot* installed on a workstation or server, to which team members can then connect and access the application concurrently.

The reporting functionality of *Camelot* provides output that is compatible with both specialized tools and spreadsheet applications. With quick image import and species identification, *Camelot* can reduce the burden of processing images. The pre-defined reports are already compatible with existing conservation science software, and there is flexibility for creating customized reports that can be integrated into new software tools.

Input into design was provided by Benjamin Rawson of Fauna & Flora International, Vietnam. Fauna & Flora International camera trappers in Myanmar and Indonesia, especially Wido Albert, Grant Cornette and Patrick Oswald provided detailed feedback about usability and preferred report outputs, and Fauna & Flora International beta testers provided support and feedback.

The *Camelot* application, source code and documentation are available from <https://gitlab.com/camelot-project/camelot>. The *Camelot* community, for questions, support and discussion, is at <https://groups.google.com/forum/#!forum/camelot-project>.

HEIDI HENDRY *Fauna & Flora International—Vietnam Programme, Vietnam, Hanoi.*
E-mail heidi.hendry@gmail.com

CHRISTOPHER MANN *BitPattern Software Development, Sydney, Australia*