

Conference Abstract

What Went Where When? Representing Animal Movements as Simple Darwin Core Occurrences

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Abstract

To usefully describe sensor deployments on animals is a major challenge for advocates of data standards. Bio-logging studies also need to be documented in a standard manner to facilitate discovery and determine relevance? For systems aggregating biodiversity occurrence records, the use of the [Darwin Core](#) standard (Wieczorek et al. 2012) to express species occurrences is near ubiquitous. Bio-logging studies are universally multiple instances of species occurrences that output high quality spatial and temporal data recorded by specialists.

There are a lot of benefits to summarising these studies by means of a single, flat file record. Simple Darwin Core offers the ability to do this by representing the multiple occurrences as a date range in `dwc:eventDate` and a footprint polygon using `dwc:footprintWKT` for the area covered by the track. By also uniformly describing the species, the `dwc:basisOfRecord` as Machine Observation, and a controlled vocabulary to describe the type of bio-logging data, systems could offer an effective means of querying tracking data. It's important to look to other data standards initiatives relevant to bio-logging to ensure common usage of Darwin Core terms.

The [Atlas of Living Australia](#) is using an implementation of Simple Darwin Core to represent data from the bio-logging platform [ZoaTrack](#) as occurrence data to make it

discoverable via location or species-based searches. Other initiatives, for example Swedish LifeWatch follow a similar approach to represent data from the [Wireless Remote Animal Monitoring](#) (WRAM) Scandinavian bio-logging infrastructure. With endorsement from the community, the implementation could be useful as a type of metadata catalogue record, opening it for usage in application programmer interface (API) development and thus enabling machine interoperability between systems and users. In short, bio-logging systems and practitioners would be able to easily discover relevant studies by searching by location and/or species.

Keywords

Bio-logging standards, occurrence, Simple Darwin Core, tracking, tagging, interoperability, animal movement, footprint

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References

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