

# Radio-tracking an Emperor Dragonfly (*Anax imperator*)

Levett, S & Walls, S. 2011. Tracking the elusive life of the Emperor Dragonfly *Anax imperator* Leach. *Journal of the British Dragonfly Society* **27**: 59-68.

## Objectives

Radio tracking is a popular technique for studying animal movement and behaviour, allowing you to locate individuals at any time, not just when they are visible. New lighter transmitters allow smaller species to be tracked, here we trial the method on the largest British Dragonfly species.



### Emperor Dragonfly *Anax imperator*

**Weight:** 1.2 – 1.5g  
**Length:** up to 82mm  
**Wingspan:** up to 102mm  
**Status:** Common, widespread

### PicoPip Radio Tag

**Cell:** Ag337  
**Weight:** 0.29g  
**Antenna:** 10 cm  
**Dimensions:**  
5mm x 7mm x 4mm

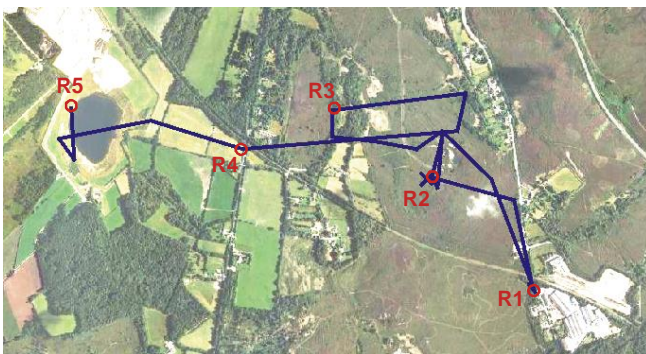
## Methods

- Eyelash adhesive and superglue was used to attach the tags
- Sika receivers and Yagi antennas were used to locate the Dragonflies every few hours
- A DataSika Datalogging receiver recorded presence/absence of dragonflies at the catch pond
- LightBug Archival tags recorded temperature and light levels throughout the study
- Ranges8 was used for analysis of locations

## Results

*Observations* - All dragonflies were able to fly with the transmitter attached and still exhibited territorial, patrolling and dispersal behaviour, travelling many kilometres.

*Tracking* - Dragonflies were tracked for up to 10 days each and the locations suggested two different behavioural patterns. Home range size was also analysed with incremental area analysis.



*Logging Behaviour* - Data collected by the DataSika gave activity patterns for the dragonflies. When this was compared to light and temperature data, a behavioural correlation could be seen.

Thanks to the British Dragonfly Society for their encouragement and the RSPB for allowing access to their land.



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