ROBOTIC TRACKING

Come fly with me

Sci. Robot. **3**, eaat8409 (2018)

Credit: AAAS

Wildlife telemetry provides animal location data that can be used to manage and study the behaviour of animal populations in the wild. Recent advances in electronic hardware design have led to a growth in the use of satellite- and GPS-based tracking systems, but their bulk still limits their application in tracking smaller species of birds and mammals. The most common approach for tracking smaller animals uses small radio transmitters with very high frequencies (VHF). However, VHF transmitters need to be tracked manually, and ideally from an elevated position using hand-held directional antennas, which makes tracking populations of small animal species challenging.

Oliver Cliff and colleagues have now created an autonomous wildlife tracking system that uses an unmanned aerial vehicle (UAV) to locate and track endangered swift parrots that have been tagged with VHF radio transmitters. The researchers — who are based at the University of Sydney, Australian National University, and the University of Technology Sydney — developed new algorithms for estimating the location of the birds. This data is fed into an information-based route planning algorithm that determines the most appropriate path for the UAV to follow. The performance of the system was evaluated through comparison with an experienced human tracker and showed comparable results, suggesting it could provide a useful approach for autonomous animal tracking.

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Published online: 12 November 2018
https://doi.org/10.1038/s41928-018-0171-4