

Movements of the New Caledonian over-hunted flying foxes: implications for management of species and habitats

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Two species of flying-foxes, *Pteropus ornatus* and *Pteropus tonganus* (locally called Roussettes) are particularly over-hunted in New Caledonia. Indeed, despite a legal hunting season existing, flying-foxes are heavily harvested all the year for human consumption (by both Melanesians and Europeans), where it is considered as a great delicacy and as a real part of the New Caledonian culture and traditions. Paradoxically, scientific knowledge of this group of animals in New Caledonia is relatively scarce. Whereas populations have declined seriously, very few studies have been implemented on New Caledonian flying-foxes, which constitute a lack to plan sustainable use of the resource. First studies on movements of New Caledonian flying foxes are presented here. Using satellite telemetry (ARGOS and GPS systems) we quantified the movements of 16 *Pteropus tonganus* and *Pteropus ornatus* during 13-365 days. Distance travelled and directions varied between individuals. Overall fidelity to the roosting site where flying-foxes were captured is high, but several roosting sites were used. Maximum distances travelled were 118 km and the major southward direction observed appeared related to the seasonal flowering of *Melaleuca quinquenervia*. Nightly movement from roosting sites are 8-15 km.

These first original results show that movements of New Caledonian flying foxes will need to be particularly taken into consideration in future management approaches, especially in terms of management areas but also in terms of revision of laws.

Such mobility and nightly movements were most often unsuspected by locals. Also, these new scientific data bring into questions local traditional and popular believes.