

New data in France on *Nyctalus lasiopterus*

Marie-Jo Dubourg-Savage, Lionel Gaches, H el ene Dupuy, Jo el Bec, Yannick
Beucher and Alexandre Cherkaoui



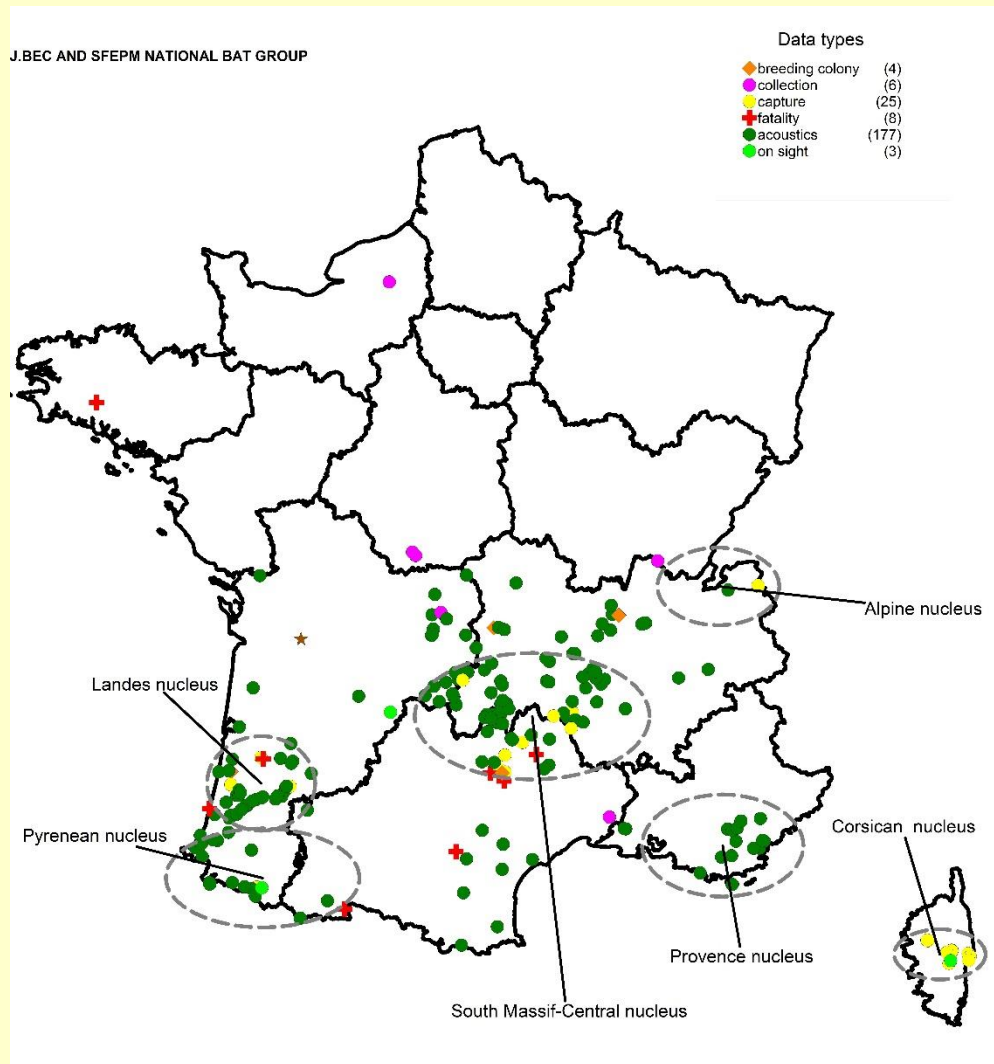
  Yoann Peyrard

Distribution in Europe and France



IUCN Red List 2017

Thanks to increasing use of bat detectors for impact studies, bat assessments for the Habitat Directive, survey programmes on forestry bats and fatality monitoring of wind turbines.



Updated data for France (July 2017)

Aim of the study



Improve knowledge on the species ecology in France to
improve conservation



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Objectives

1. Confirm the species breeding status in the area;
2. Determine its habitat preferendum (type and use);
3. Collect enough data to try and estimate its population and consequently have its conservation status on the French Red List modified (presently D.D.);
4. Produce enough evidence to try and avoid installing new wind farms in vital areas for the species conservation and communicate on its presence and importance for the region.

Global study area: the Massif central



Survey methods



- Mist-netting at a ford used as a drinking site, radio tagging and radiotracking

- Ultrasound recordings (manual and automatic)
- IR video devices for emergence counts
- Faeces sampling for future study on diet
- Hair sampling for isotope analysis
- Roosts characteristics



Obj.1

Breeding status



Presence of a breeding colony confirmed, parturition first half of June

Obj. 2

Habitat

← 1155 m a.s.l.



Habitat

Nursery roosts in the Viaur valley

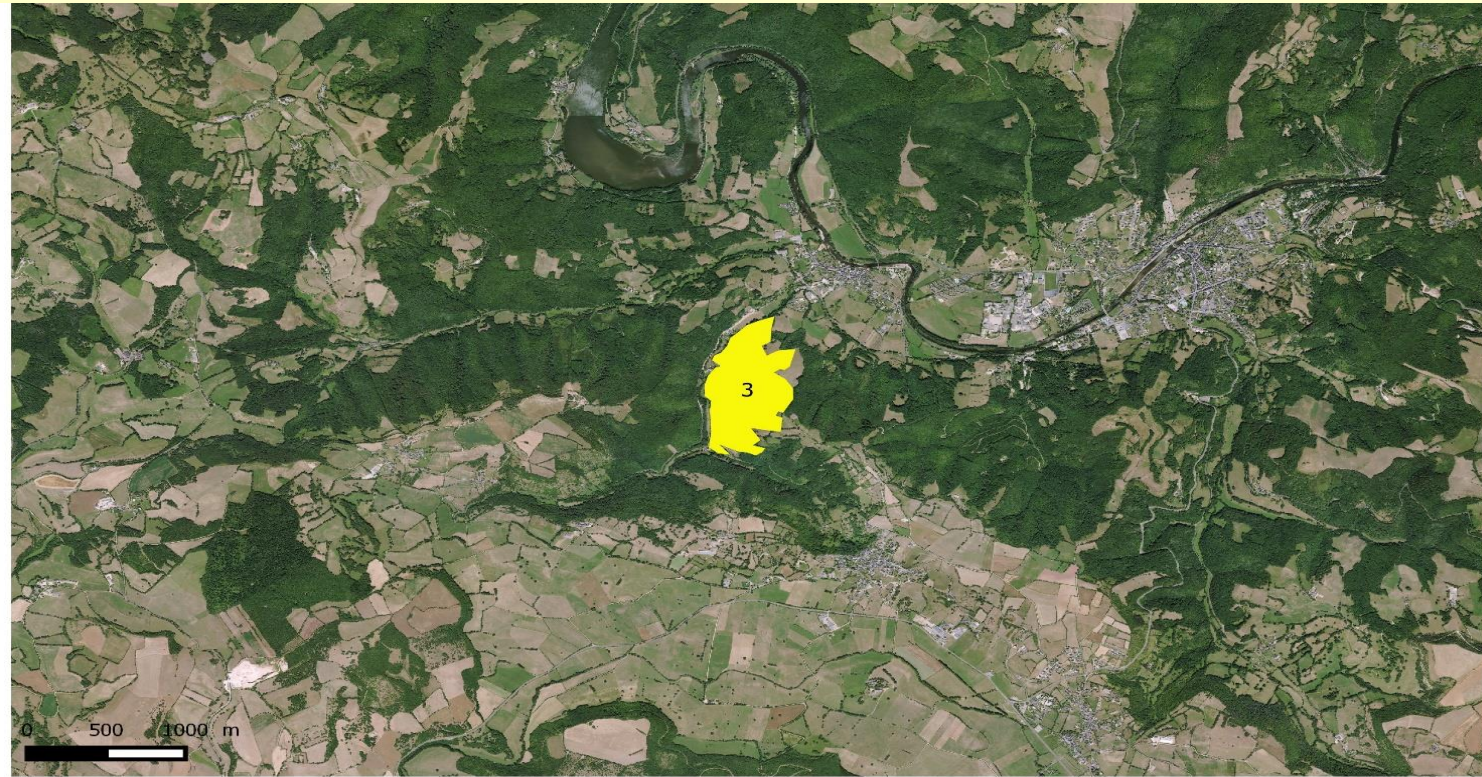


Total number of roosts per woodland (2012-2016)

22 maternity roosts out of 25 roosts in 7 beech woods (mean alt. a.s.l. 890 m)
and 1 isolated ♀ in a group of 3 old pollarded ash trees along a road.

Habitat

Male roosts in the Lot valley

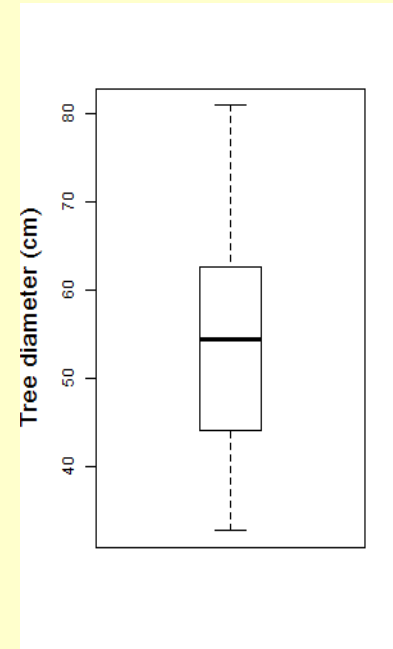
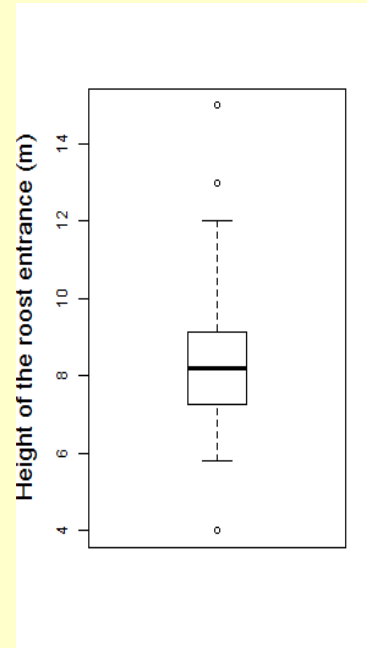
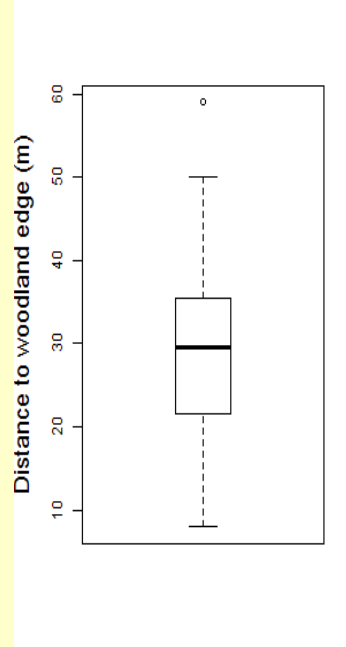


Number of occupied roosts (2012-2016) in each wood

3 male roosts discovered in the Lot valley (August 2016),
600 m a.s.l., in oaks

Habitat

Typology of trees (N = 24)



Obj. 3

« Population » size in the Lévézou

	2012	2013	2014	2015	2016	Total
N ♀	9	12	14	13	30	78
N ♂	1	0	1	1	0	3
N ♀ juv/imm	4	2	4	1	4	15
N ♂ juv/imm	1	3	0	3	5	12
Total	15	17	19	18	39	108

Number of mist-netted Greater Noctules/year

Maximum emergence counts

20/06/2015	13/08/2016
238	243

Obj. 3

Phenology of night activity

Usual time of emergence in June: 30 min before sunset

Foraging time: 3 - 4 hours

Return to roost: 1:00 to 2:00 a.m. (UTC+2)

Second bout of foraging: 2 h before sunrise to 30 min after (also temperature and prey availability dependent)

Obj. 3

Phenology of annual activity

Results based on continuous ultrasound recordings from late February to the end of October, mist-netting, radio-tracking and emergence counts.

01	02	03	04	05	06	07	08	09	10	11	12
no data	no data	beginning of flight activity arrival of migrants?	beginning of flight activity arrival of migrants?	parturition	parturition	young rearing young first flights	females leaving area? males singing	males singing young still around	males singing young still around	no data	no data

A commuting or migrating species ? ?

In the autumn the species is recorded along and in the Pyrenees,



and females appear in Catalonia.

Do the males from the Massif central migrate or do they hibernate undetected in their summer area?

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Obj. 4

Wind energy and communication

Improved knowledge on the species behaviour, presence and commuting routes may offer ways to reduce wind farm impact:

- avoid installing wind turbines in high risk areas
- determine periods and hours of wind turbines feathering or cutting-in speed.

Wood owners have been contacted and public information has already started on this rare and valuable species (bat night, information on fatalities due to wind turbines)

Perspectives

Threats

Wind energy development:

60 producing WTs in a 25 km radius and probably another 40 to come (in construction or planned).

Loss of habitat

Privately owned woodlands with no forestry plan in our study area but the development of « wood as renewable energy » could change the situation.

Perspectives

What makes a good nursery site in our study area?

- Beech woods on north facing slopes,
- Trees with many exit holes or long narrow cracks
- Numerous suitable trees within a small radius,
- Crown base as high as possible,
- Available drinking spots in the vicinity of nursery roosts.

Perspectives

Further research is needed

Although *Nyctalus lasiopterus* is considered as a flagship species in the new Action Plan for Bats in France (2016-2025), there is no special dedicated funding for it at national level.

We should find ways to finance 3 studies, on migration, genetics and diet for all subgroups of the Massif central population.

Our task is not finished ...

Acknowledgements

We would like to thank the numerous volunteers who helped us in finding and studying the Greater noctule during these 5 years, often all night through.

We are also grateful to Yoann Peyrard for his photographs at the ford and to the EXEN team who found the male roosts in the Aveyron.

And last but not least, to Dave Savage who helped us, not only on the field but also financially to make this study possible.



Thank you for your attention

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