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# Spatial ecology of the snakes *Malpolon monspessulanus* in a periurban plain in southern France

Grégory DESO<sup>1</sup>, Théo DOKHELAR<sup>2</sup>, Jean-Marie BALLOUARD<sup>3</sup>, Gonzalo Del BARRIO<sup>4</sup>  
Aloys CROUZET<sup>5</sup>, Sébastien CARON<sup>3</sup> & Xavier BONNET<sup>6</sup>

<sup>1</sup>AHPAM - Association Herpétologique de Provence Alpes Méditerranée, Maison des Associations, 384 route de Caderousse, 84100 Orange, Vaucluse-France

<sup>2</sup>Centre d'Ecologie Fonctionnelle et Evolutive, University of Montpellier, CNRS, EPHE, IRD, 34090 Montpellier, France

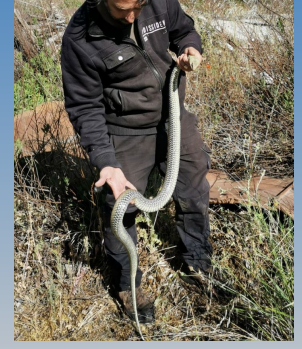
<sup>3</sup>SOPTOM - Station d'Observation et de Protection des Tortues et de leurs Milieux, Centre de Recherche et de Conservation des Chéloniens (SOPTOM-CRCC), 1065 Route du Luc, 83660 Carnoules, France

<sup>4</sup>Clinique Vétérinaire Sainte Anne, Route de Vedène ZAC Ste Anne Ouest 84700 Sorgues, Vaucluse-France

<sup>5</sup>La Rochelle Université. Technoforum | 23 avenue Albert Einstein | BP 33060 - 17031 La Rochelle - France

<sup>6</sup>CNRS - Centre d'Étude Biologique de Chizé, UMR-7372, CNRS-Université de La Rochelle, 79360, Villiers en Bois, France

\*Corresponding author e-mail: ahpam.contact@gmail.com



## INTRODUCTION

The Montpellier snake is a large protected species found in the Mediterranean regions of southern France, classified Near Threatened in the Provence-Alpes-Côte d'Azur region. Knowledge of its spatial ecology is currently very fragmentary. For the first time in France, we regularly monitored six individuals by radiotracking in an artificial wasteland bordered by highways, peri-urban and agricultural areas (Bédarrides commune, Vaucluse).

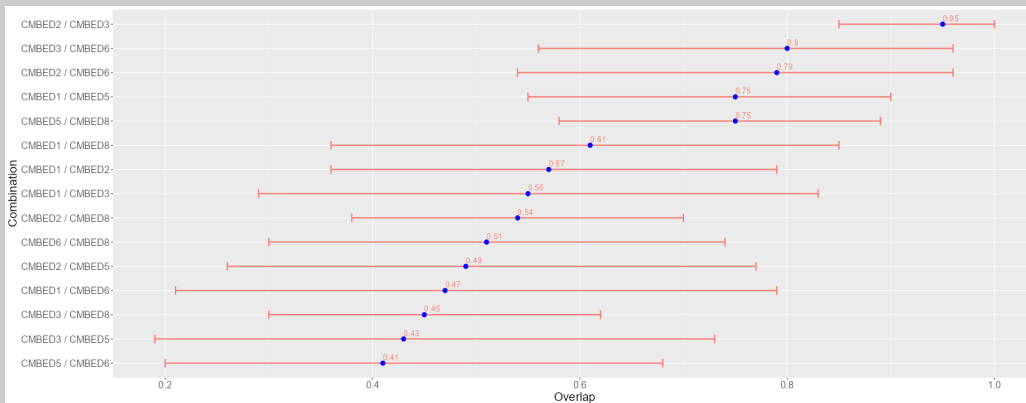
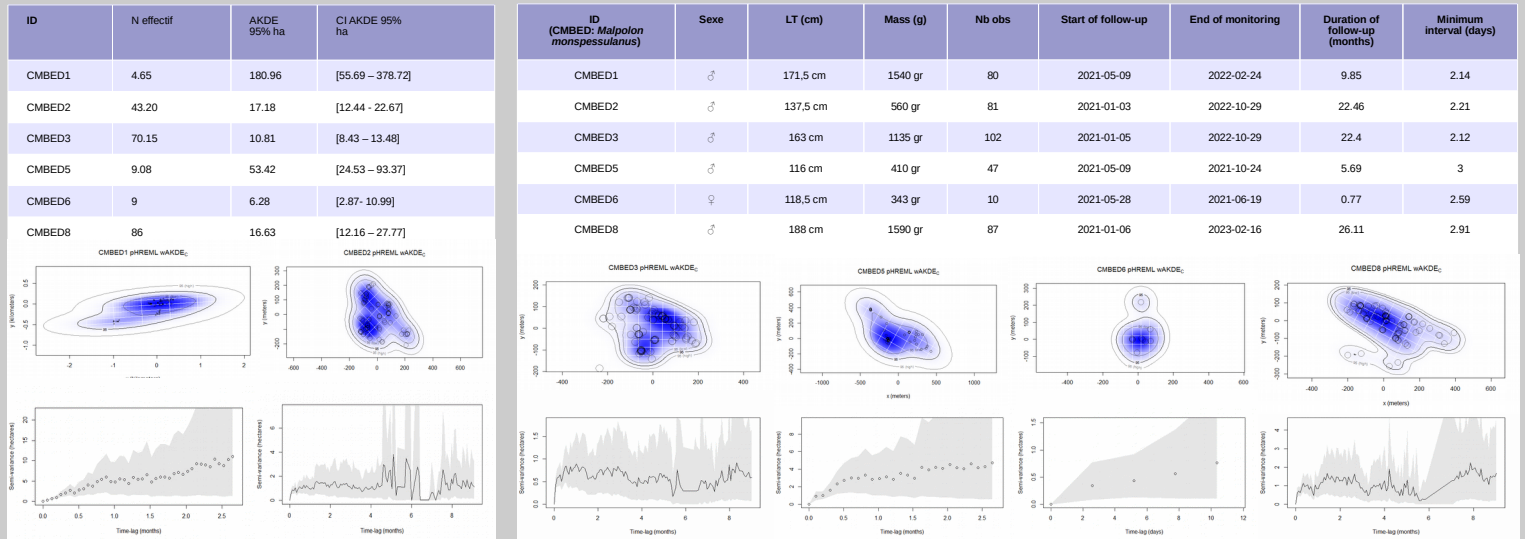
## Radiotracking method :

The snakes were fitted with VHF transmitters at a veterinary clinic; they were released and then precisely located using a Garmin MAP GPS in 2020 and 2022. With several students involved in the monitoring, we compiled up to 100 fixes per individual.

Fig 3: CMBED1 and Xavier Bonnet ; Fig 4-7: snake monitoring by Aloys Crouzet, Fabian Berthot, Valentin Lafond and Dorian Sausse

## Home Range :

Home ranges were estimated using weighted auto-correlated kernel density estimates (w-AKDE). In our dataset, neither the number of observations nor the duration of monitoring explained home range size (Spearman Rank Order Correlations  $-0.086 < R_s < 0.086$ ,  $P > 0.95$ ). Home range size varied greatly with strong overlapping among individuals.



## CONCLUSION

The industrial wasteland studied fully hosts the home range of most of the individuals. The large adult males monitored largely shared the space; the absence of any sightings of fighting suggests that cohabitation was common.

Several individuals passed under highways to reach gardens via drainage channels; some even crossed a fast-flowing river.

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