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► **To cite this version:**

Laura Piqué-Fandiño, Miquel Hernández, Fernando V Ramirez. Birth seasonality in the Baka Pygmies. European Society for the Study of Human Evolution, Sep 2019, Liège, Belgium. hal-02359579

HAL Id: hal-02359579

<https://hal.science/hal-02359579v1>

Submitted on 12 Nov 2019

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BIRTH SEASONALITY IN THE BAKA PYGMIES

Laura Piqué-Fandiño¹, Miquel Hernández¹, Fernando V Ramirez Rozzi²

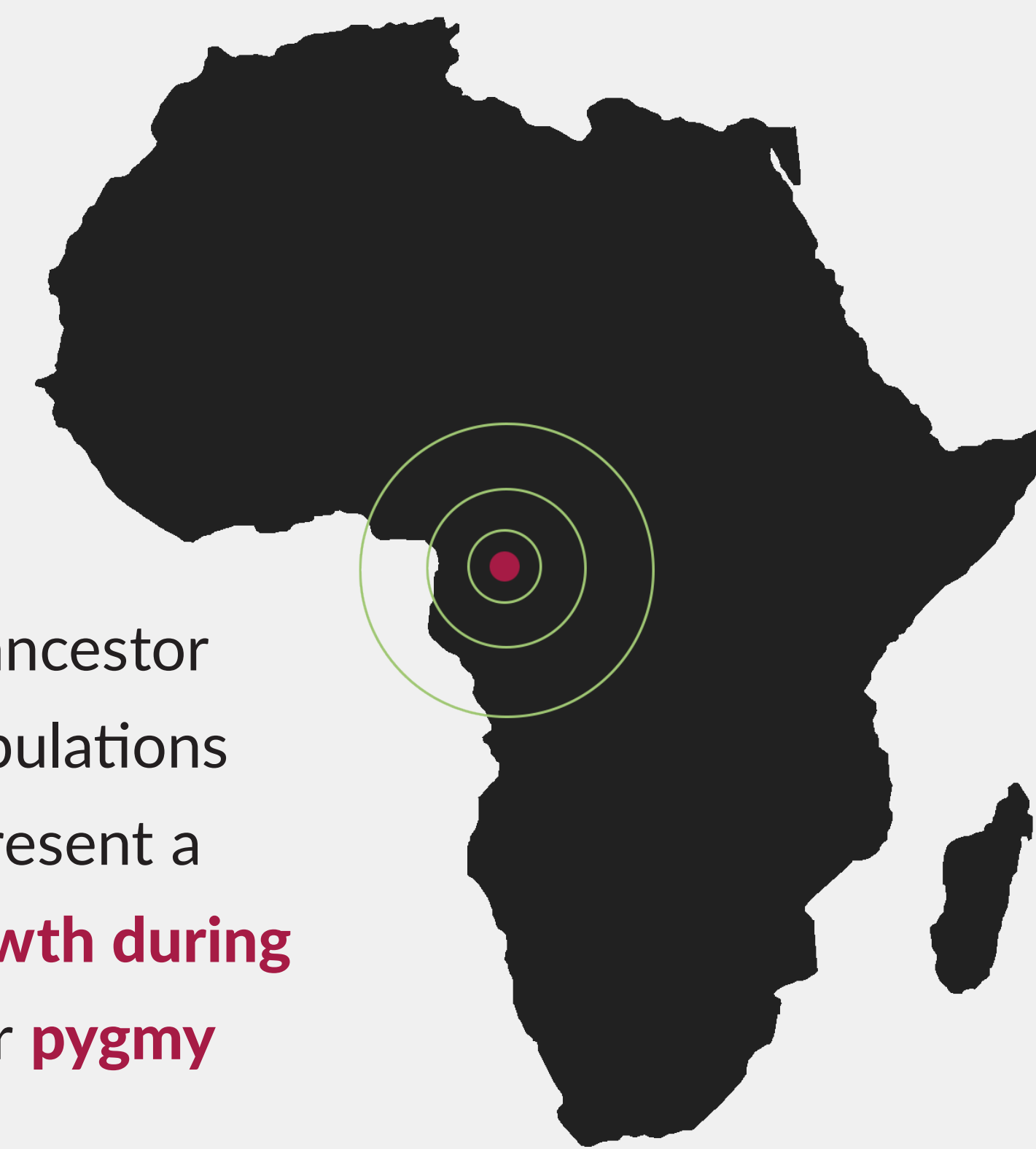
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INTRODUCTION

Patterns in births have been observed in all kind of human populations [1-3], but less studies have been focused on smaller hunter-gatherer populations. The patterns differ across populations, and are usually explained by environmental variables, in combination with social and economic factors [4]. The two main weather variables that have been related with fluctuations in births are **temperature** (behavioural and biological) and **rainfall** (farming seasons, scarcity of food). Also cultural factors such as **marriages**, **labour migration**, **religion festivities** or **holidays**, among others, have been related to birth patterns in western populations.



The Baka Pygmies in **Moange le Bosquet** are a **semi-nomadic** population living in **equatorial Africa** with an economy based on **hunts and gathers**. During the year they develop different economical activities. Pygmies share a common ancestor and splitted from Bantu-speaking populations at around **60,000 years BP** [5] and present a particular growth, **slower rate of growth during infancy** for Baka, which explains their **pygmy phenotype**. [6-8]



OBJECTIVES

- To assess the **presence of a specific pattern of birth seasonality** in the Baka Pygmies from Moange le Bosquet, Cameroon.
- To determine the **factors** that influence the pattern of birth in this population.

MATERIALS & METHODS

1,067 BIRTH RECORDS
from 1980-1982 and 1987-2017

The slopes graph represents the increase or decrease of births from one month to the following. We assigned 1 if the number of births increased, -1 if it decreased and 0 if it did not change. When the line is in the negative area, the number of births decrease, and it increases in the positive area. If it crosses the 0 going from negative to positive, it's a minimum, and from positive to negative, it's a maximum. The method was designed to minimize the effect of long term change in birth number over the years fluctuations, by looking only whether birth numbers increase or decrease between months.



Image 1. Baka Pygmy individual, taken by Dr. Ramirez Rozzi with informed consent from the individual.

RESULTS

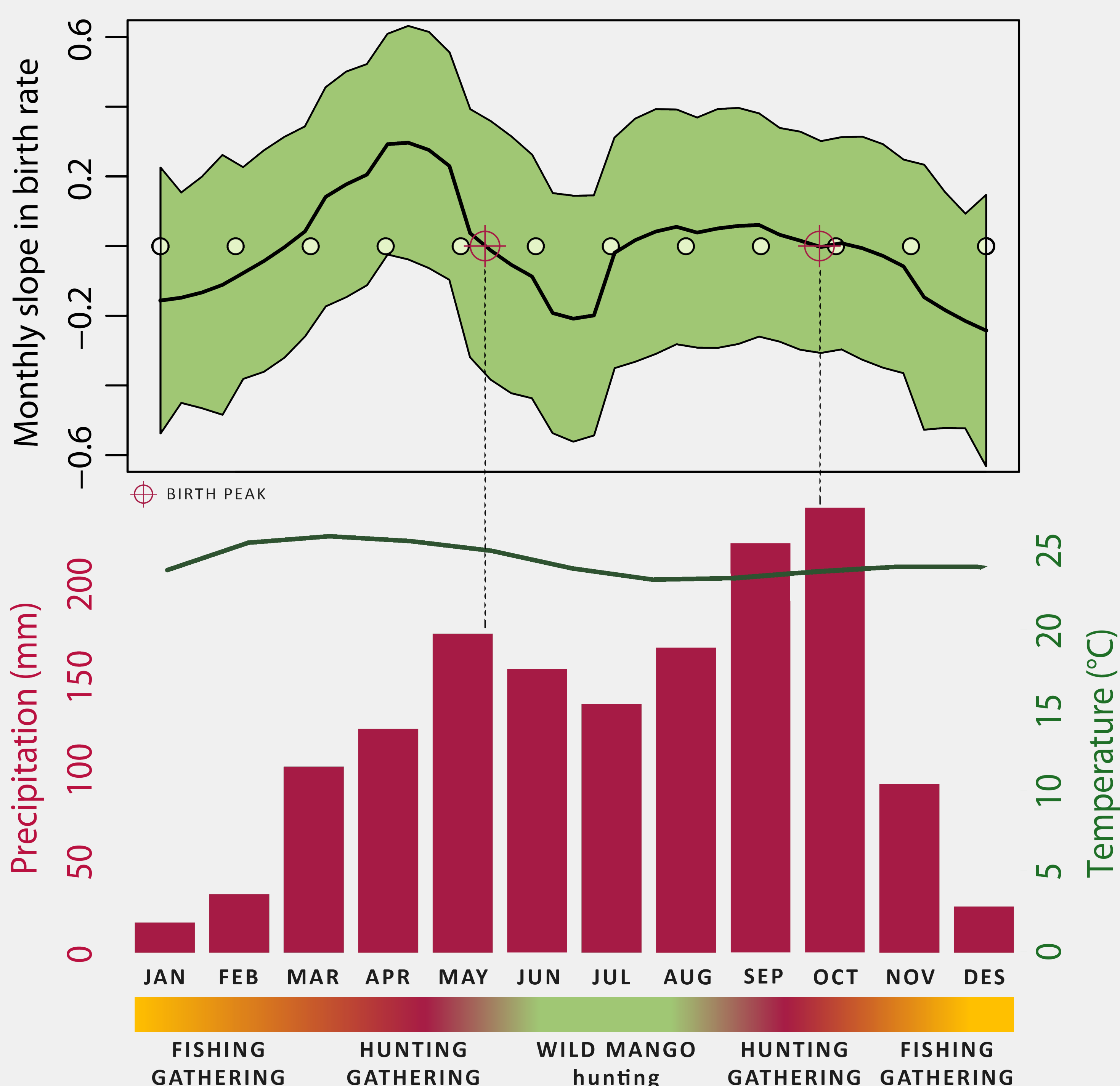


Figure 1. Monthly slope showing the increase /decrease of number of births within months. Monthly precipitation (mm) and temperature (°C) means from 1961-1990 from Batouri weather station. Seasons of different economical activities carried out by the Baka.

There is a **significant birth pattern** in the Baka Pygmy population of Moange le Bosquet ($P < 0,05$)

Months of **rainfall** peaks (May and October), correspond with peaks in birth (Fig. 1). The mechanisms through which rainfall affects births are unknown, but are not likely to be related to the farming cycle or food scarce because of the Baka's lifestyle.

Year-round oscillation in **temperature is too small** ($2,7^{\circ} C$) to affect conceptions or births. At least through the mechanisms described in previous literature.

Cultural factors like marriages or holidays are **ruled out** as factors causing the birth seasonality because of the characteristics of the population.

The **economical activities** developed by the Baka, such as hunting seasons and collecting wild mango, could affect season of birth.

CONCLUSIONS

The pattern of birth in the Baka Pygmy population in Moange le Bosquet, in South East Cameroon is seasonal, and it seems to be related to rainfall, and probably with economical activities.

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Acknowledgements

We thank Dr. Samuel Pavard for his great contribution to the study, as well as his advice and recommendations.

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