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## Sex ratio in the Baka Pygmies

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Several external factors seem to influence the sex of new-borns. Although the biological mechanisms of transmission of external conditions to the regulation of sex during pregnancy are not known, it is thought that the sex ratio (SR) is in relation to the general state of the mother, particularly with her fertility and the caloric intake; the latter probably also influencing the first. Indeed, in population with low fertility rate the number of new-born males show a tendency to increase (positive SR) [1] whereas mothers living in unfavourable conditions seem to have more new-born females (negative SR) [2]. Forager societies are more subject to environmental conditions, so the study of SR in these societies can allow a better understanding of the relationship between environmental conditions and SR. We have analyzed the SR in the Baka Pygmies from Moange le Bosquet, a population in south-east Cameroon. Birth records had been kept for many years in Moange le Bosquet by nuns in a medical center of the catholic mission. They are available from 1980 to 1983 and from December 1987 until the present. The quality of the data allows to follow the SR during almost forty years and it enable to assess whether the SR changes through years, and also within the year in relation to the weather seasons and economic activities. SR in the Baka for all these years is 1.04 which is close to the average world value (1.07). When it is compare with other forager populations, the SR is lower than in the Ache (1.16), the Aka (1.22) and the !Kung (1.20) but is close to other Pygmy groups who live in similar environmental conditions, the Aka (1.09) and the Efe (1.09) [3]. Regarding long term variations, the SR varies from one year to the other, but it is interesting to note that during the last twelve years the SR becomes male-biased with three peaks of 1.5 and in only two years the SR was less than 1. We have reported that fertility in the Baka is falling down since 2010 [4]. Thus, a male-biased SR during the last period could be related to this drop in fertility. When SR is analysed after the month, a peak of male birth is observed between August and October with a SR higher than 1.4. Assuming the presence of relationships between environmental conditions and SR, it is interesting to note that the period of conception related to this strong bias toward positive SR is the month December-February which correspond to the dry season when fishing, a women activity, becomes an important contribution in the Baka economy.

**References:** [1] Mace, R., Jordan, F., & Holden, C. (2003). Testing evolutionary hypotheses about human biological adaptation using cross-cultural comparison. *Comparative Biochemistry and Physiology - A Molecular and Integrative Physiology*, 136(1), 85–94. [2] Trivers, R. L., & Willard, D. E. (1973). Natural selection of parental ability to vary the sex ratio of offspring. *Science*, 179(4068), 90–92. [3] Hewlett, S. (1991). Demography and childcare in preindustrial societies. *Journal of Anthropological Research*, 47(1), 1–37. [4] Ramirez Rozzi, F. V. (2018). Reproduction in the Baka pygmies and drop in their fertility with the arrival of alcohol. *Proceedings of the National Academy of Sciences*, 115(27), E6126–E6134.