

## Literatur

### Afrika

BURROUGH 2013

S. L. Burrough & D. S. G. Thomas, *Central southern Africa at the time of the African Humid Period, A new analysis of Holocene palaeoenvironmental and palaeoclimate data.* [Quaternary Science Reviews](#) **80** (2013), 29–46.

qsr80-0029-Supplement.pdf

The Holocene African Humid Period (c 14.8–5.5 ka) is now recognised in high-resolution records from western Africa as well as in tropical Africa north of the equator. Establishing a clear picture of Late Quaternary, including Holocene, environmental changes in central southern Africa is proving both difficult and contentious. This is because in dryland systems in particular it can be difficult to distinguish the effects of sub-millennial scale regional climatic variability from those of major externally-forced global climate changes, and because it is essential to distinguish records of environmental drivers from those of environmental responses. We analyse and review existing records for central southern Africa, and neighbouring areas affected by the same climate systems, to understand the primary controls of regional hydrological systems during the Holocene. We then present new data from Makgadikgadi basin barchan dunes that indicate mid-late Holocene aridity following a period of marked hydrological dynamism extending from the early Holocene. We suggest that present-day conditions in central southern Africa are relatively stable compared to the early and mid-Holocene and infer that this period of relative stability in the landscape has occurred since ca 2 ka. We explain Holocene hydrological changes through analysis of changing zonal climatic influences linked to Congo Air Boundary (CAB) and Intertropical Convergence Zone (ITCZ) dynamics, the effects of which filter into the region via complex drainage basin dynamics. It is proposed that, *sensu stricto*, the AHP was not a spatially uniform feature of early Holocene central southern Africa.

Keywords: African Humid Period | Central southern Africa | Kalahari | ITCZ | CAB | Holocene

### Aktuell

BARTON 2013

Robert A. Barton & Chris Venditti, *Getting human frontal lobes in proportion, Reply to Smaers.* [PNAS](#) **110** (2013), E3683.

Smaers states that his study (3) did not claim a significant ape-monkey difference, but merely “a trend in which apes, contrary to monkeys, consistently have positive residuals” (1). Thus, the “trend” is acknowledged to be statistically nonsignificant, yet we are asked to believe that it is biologically meaningful. In Smaers’s report (3) this nonsignificant result is referred to under the heading “Ape Uniqueness.” We cannot see why any faith should be placed in claims of quantitative uniqueness, or why “larger than expected” is an acceptable term in the absence of a statistically significant difference.

## MASCARO 2013

Jennifer S. Mascaro, Patrick D. Hackett & James K. Rilling, *Testicular volume is inversely correlated with nurturing-related brain activity in human fathers*. [PNAS 110 \(2013\), 15746–15751](#).

Despite the well-documented benefits afforded the children of invested fathers in modern Western societies, some fathers choose not to invest in their children. Why do some men make this choice? Life History Theory offers an explanation for variation in parental investment by positing a trade-off between mating and parenting effort, which may explain some of the observed variance in human fathers' parenting behavior. We tested this hypothesis by measuring aspects of reproductive biology related to mating effort, as well as paternal nurturing behavior and the brain activity related to it. Both plasma testosterone levels and testes volume were independently inversely correlated with paternal caregiving. In response to viewing pictures of one's own child, activity in the ventral tegmental area—a key component of the mesolimbic dopamine reward and motivation system—predicted paternal caregiving and was negatively related to testes volume. Our results suggest that the biology of human males reflects a trade-off between mating effort and parenting effort, as indexed by testicular size and nurturing-related brain function, respectively.

empathy | sperm competition

## RIDAURA 2013

Vanessa K. Ridaura et al., *Gut Microbiota from Twins Discordant for Obesity Modulate Metabolism in Mice*. [science 341 \(2013\), 1079](#).

[s341-1079-Supplement.pdf](#), [s341-1079-Tables.zip](#)

Vanessa K. Ridaura, Jeremiah J. Faith, Federico E. Rey, Jiye Cheng, Alexis E. Duncan, Andrew L. Kau, Nicholas W. Griffin, Vincent Lombard, Bernard Henricot, James R. Bain, Michael J. Muehlbauer, Olga Ilkayeva, Clay F. Semenkovich, Katsuhiko Funai, David K. Hayashi, Barbara J. Lyle, Margaret C. Martini, Luke K. Ursell, Jose C. Clemente, William Van Treuren, William A. Walters, Rob Knight, Christopher B. Newgard, Andrew C. Heath, Jeffrey I. Gordon

**Introduction:** Establishing whether specific structural and functional configurations of a human gut microbiota are causally related to a given physiologic or disease phenotype is challenging. Twins discordant for obesity provide an opportunity to examine interrelations between obesity and its associated metabolic disorders, diet, and the gut microbiota. Transplanting the intact uncultured or cultured human fecal microbiota from each member of a discordant twin pair into separate groups of recipient germ-free mice permits the donors' communities to be replicated, differences between their properties to be identified, the impact of these differences on body composition and metabolic phenotypes to be discerned, and the effects of diet-by-microbiota interactions to be analyzed. In addition, cohousing coprophagic mice harboring transplanted microbiota from discordant pairs provides an opportunity to determine which bacterial taxa invade the gut communities of cage mates, how invasion correlates with host phenotypes, and how invasion and microbial niche are affected by human diets.

**Methods:** Separate groups of germ-free mice were colonized with uncultured fecal microbiota from each member of four twin pairs discordant for obesity, or with culture collections from an obese (Ob) or lean (Ln) co-twin. Animals were fed a mouse chow low in fat and rich in plant polysaccharides (LF-HPP) or one of two diets reflecting the upper or lower (Hi or Lo) tertiles of consumption of saturated fats (SF) and fruits and vegetables (FV) based on the U.S. National Health and Nutrition Examination Survey (NHANES). Ln or Ob mice were cohoused 5 days after colonization. Body composition changes were defined by quantitative

magnetic resonance. Microbiota or microbiome structure, gene expression, and metabolism were assayed by 16S ribosomal RNA profiling, whole-community shotgun sequencing, RNAsequencing, and mass spectrometry. Host gene expression and metabolism were also characterized.

**Results and Discussion:** The intact uncultured and culturable bacterial component of Ob co-twins' fecal microbiota conveyed significantly greater increases in body mass and adiposity than those of Ln communities. Differences in body composition were correlated with differences in fermentation of short-chain fatty acids (increased in Ln), metabolism of branched-chain amino acids (increased in Ob), and microbial transformation of bile acid species (increased in Ln and correlated with down-regulation of host farnesoid X receptor signaling). Cohousing Ln and Ob mice prevented development of increased adiposity and body mass in Ob cage mates and transformed their microbiota's metabolic profile to a leanlike state. Transformation correlated with invasion of members of Bacteroidales from Ln into Ob microbiota. Invasion and phenotypic rescue were diet-dependent and occurred with the diet representing the lower tertile of U.S. consumption of saturated fats and upper tertile of fruits and vegetables but not with the diet representing the upper tertile of saturated fats and lower tertile of fruit and vegetable consumption. These results reveal that transmissible and modifiable interactions between diet and microbiota influence host biology.

#### SMAERS 2013

Jeroen B. Smaers, *How humans stand out in frontal lobe scaling*. [PNAS 110 \(2013\), E3682](#).

#### WALKER 2013

Alan W. Walker & Julian Parkhill, *Fighting Obesity with Bacteria*. [science 341 \(2013\), 1069–1070](#).

Intestinal bacteria from lean humans can confer protection against fat gain in experimental mice.

## Bibel

#### COLWELL 1933

E. C. Colwell, *A Definite Rule for the Use of the Article in the Greek New Testament*. [Journal of Biblical Literature 52 \(1933\), 12–21](#).

The opening verse of John's Gospel contains one of the many passages where this rule suggests the translation of a predicate as a definite noun. Καὶ Θεὸς ἦν ὁ λόγος looks much more like "And the Word was God" than "And the Word was divine" when viewed with reference to this rule. The absence of the article does not make the predicate indefinite or qualitative when it precedes the verb; it is indefinite in this position only when the context demands it. The context makes no such demand in the Gospel of John, for this statement cannot be regarded as strange in the prologue of the gospel which reaches its climax in the confession of Thomas.

#### SHANKS 2008

HERSHEL SHANKS (Hrsg.), *The Galilee Jesus Knew*. ([Washington 2008](#)).

Galilee is one of the most evocative locales in the New Testament—the area where Jesus was raised, where many of the Apostles came from, and where Jesus first began to preach. We've selected a number of articles to widen your knowledge of

this important region, focusing on how Jewish the area was in Jesus' time, on the ports and the fishing industry that was so central to the region, and on several sites where Jesus likely stayed and preached.

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## Klima

FUNG 2013

Inez Fung, *A Hyperventilating Biosphere*. [science 341 \(2013\), 1075–1076](#).

Seasonal carbon dioxide uptake and release patterns are changing as a result of global warming.

GRAVEN 2013

H. D. Graven et al., *Enhanced Seasonal Exchange of CO<sub>2</sub> by Northern Ecosystems Since 1960*. [science 341 \(2013\), 1085–1089](#).

s341-1085-Supplement.pdf

H. D. Graven, R. F. Keeling, S. C. Piper, P. K. Patra, B. B. Stephens, S. C. Wofsy, L. R. Welp, C. Sweeney, P. P. Tans, J. J. Kelley, B. C. Daube, E. A. Kort, G. W. Santoni & J. D. Bent

Seasonal variations of atmospheric carbon dioxide (CO<sub>2</sub>) in the Northern Hemisphere have increased since the 1950s, but sparse observations have prevented a clear assessment of the patterns of long-term change and the underlying mechanisms. We compare recent aircraft-based observations of CO<sub>2</sub> above the North Pacific and Arctic Oceans to earlier data from 1958 to 1961 and find that the seasonal amplitude at altitudes of 3 to 6 km increased by 50% for 45° to 90°N but by less than 25% for 10° to 45°N. An increase of 30 to 60% in the seasonal exchange of CO<sub>2</sub> by northern extratropical land ecosystems, focused on boreal forests, is implicated, substantially more than simulated by current land ecosystem models. The observations appear to signal large ecological changes in northern forests and a major shift in the global carbon cycle.