LETTER

Dental microwear of cave bears: The missing temperate/boreal vegetarian ''carnivore''

Peigné et al. (1) infer from dental microwear analysis of cave bears from Goyet, Belgium, that these bears had an omnivorous diet, at least before entering dormancy. This deduction is based on a comparison with a set of modern carnivores with different diets. However, the taxa chosen as reference may have biased the conclusions. Indeed, the chosen herbivorous bears are specialized and do not consume the possible food likely available to cave bears. Panda bears are specialized bamboo eaters and spectacled bears consume essentially fruits and arboreal plant parts (2). In contrast, the vegetal part of the diet of temperate and boreal bears (brown bears and American black bears) is mostly composed of grass, nuts, berries, and underground plant parts (2). Because the microwear study did not include members of these two species in the comparison, it is still unclear how such plant diets would impact the dental microwear pattern. The low ^{15}N content of western European cave bear collagen points to a strongly vegetarian diet in contrast with that of coveal brown bears that exhibit isotopic signatures similar to those of pure carnivores (3, 4). However, the exact composition of this plant food and the possible seasonal and geographical variations in the diet of cave bears are yet to be determined. The dental microwear approach has a great potential to help resolve the riddle of cave bear diet, but it needs to be properly calibrated with reference bear samples with vegetarian diets from temperate and boreal environments.

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